

# KEY FACTORS THAT LED TO THE DERAILMENT OF THE AJAOKUTA STEEL PROJECT

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## ABSTRACT

A review into the factors that militated against the success of the Ajaokuta Steel Project in Nigeria is reported. The Acts setting up the Iron and Steel Industry, the Chronological development in this Sector and the research publications of scholars in this Sector were reviewed. Several factors as identified by these scholars as negating the success of the Ajaokuta Project were noted. Against the background of the body of knowledge inherent and available in these reports, the **Key Factors** that led to the derailment of the Ajaokuta Steel Project were identified.

**Key words:** Ajaokuta Steel Project, Project Derailment, Key factors.

## 1. INTRODUCTION

### 1.1 PREAMBLE, THE ACT AND STATUTORY RESPONSIBILITIES OF THE NIGERIAN STEEL DEVELOPMENT AUTHORITY.

#### 1.1.1 PREAMBLE

Nigeria lies approximately between latitudes 4<sup>0</sup> N and 14<sup>0</sup>N, and between longitudes 3<sup>0</sup> E and 15<sup>0</sup> E. Nigeria has an estimated current population of about 140 million making it the most populous country in Africa and the tenth most populous in the world. The country's economy has witnessed increasing growth in recent years with the gross domestic product increasing by 6.1% from 2006 to 2007. Nigeria has a long, but discontinuous history of mining and the country was a prominent exporter of tin, columbite and coal. Mining is administered through the Ministry of Mines and Steel Development which is promoting private-sector led development and has initiated deep and wide ranging reforms of the mining sector. These include: i) A new mineral policy that will encourage greater private sector participation in an environment of orderly and sustainable development for the exploitation of solid mineral resources. The focus of this new policy is to take full advantage of the increased international commodity prices and the global resurgences of exploration activities and: i) Achieve a substantial increase in GDP contribution by the minerals sector; ii) Generate quality geoscience data; iii) Formalise Artisanal and Small Scale Mining (ASM) operators; iv) Achieve poverty reduction through ASM operations; v) Generate employment opportunities; vi) Create wealth through value addition; vii) Increase capacity of mineral based industries; viii) Attract private investment capital; ix) Facilitate capacity building opportunities in the solid mineral sector. x) Signing into law of a new Minerals and Mining Act 2007 to ensure security of tenure, competitive Fiscal terms and the encouragement of an industry led by private investors. A Mining Cadastre Office (MCO) to administer mining titles "with integrity and in a transparent manner on a 'first come first served' basis." Certain basic facilities favourable for conducting business exist in the country. These Include: A fairly developed infrastructure such as road network, deep ocean ports and jetties.[1]

The Lokoja- Okene Iron Ore deposit (Central Nigeria) The most notable iron ore occurrence in this region include Itakpe, Ajabanoko, Ochokochko, Tajimi, Agbado-Okudu, Ebiya, Ero, Echakaraku, Ozenyi, Udiarehu and some others. They occur as bands and lenses of banded (and sometimes Oolitic) iron formation dipping between 21 and 85 and mostly conformable to the host rocks (gneisses and amphibolites). The tabular ore bodies, up to 45m thick, and extending for distances from hundreds of meters to over 5km, are developed to a depth of over 300m, and are often displaced by small to large faults, The ore are mostly magnetite and/or hematite with quartz, biotite and amphiboles in the groundmass, iron content ranges between 15% and 65%, averaging 30-36%. important geological and chemical characteristics of the most notable ore deposits are: (i) Rich ores with more than 50% Fe, and constitutes about 4.5% of the total reserves. (ii) Medium grade ores, with 30-50% Fe, and constitutes about 85.4% of the reserve. (iii) Lean ore, with 25-30% Fe, which constitutes 13.1% of the reserve. The Itakpe cut-off grade is 20% Fe. [1]

### 1.1.2 THE ACT AND RESPONSIBILITIES

An Act to establish the Nigerian Steel Development Authority as a statutory corporation to be responsible for establishing, developing and operating a Nigerian iron and steel industry, and other matters ancillary thereto commenced on 14th April, 1971:

#### 1. Establishment of the Authority

- (1) There shall be established a body by the name of the Nigerian Steel Development Authority, which shall be a body corporate with perpetual succession and a common seal.
- (2) The Schedule to this Act shall have effect with respect to the membership and procedure of the Authority and the other matters there mentioned.

#### 2. Responsibilities and functions of the Authority

- (1) Subject to and in accordance with this Act, the Authority shall be charged with the responsibility for-
  - (a) the construction, operation and maintenance of a national iron and steel plant or national iron and steel plants in such a place or such places in Nigeria as the Federal Government may require;
  - (b) the procurement of materials for the construction, operation and maintenance of the plant or plants in question; and
  - (c) the development of the application and use of iron and steel generally.
- (2) In connection with the discharge of its responsibilities under subsection (1) of this section, the functions of the Authority shall be to-
  - (a) examine from the technical and economic point of view in all its aspects the feasibility of establishing in Nigeria a national iron and steel plant or national iron and steel plants on the basis of locally available raw materials, imported raw materials or both, to consider suitable processes, possible sites and other factors relating to the establishment of the said plant or plants and to make recommendations as to the viable economic conditions for the establishment thereof;

- (b) conduct, manage and co-ordinate (in collaboration with the Federal Ministry of Power and Steel and its departments) surveys, mining operations and other necessary activities for obtaining in Nigeria materials of the kind needed for iron and steel production;
- (c) establish facilities and conduct tests and operations for ascertaining and improving the qualities and performance of the materials and processes for iron and steel production, and of iron and steel products;
- (d) design, erect and construct in Nigeria a national iron and steel plant or national iron and steel plants and provide and carry out incidental services and works;
- (e) to train managerial and technical staff for the running of the said plant or plants and for the carrying on of the various surveys, services and other activities incidental or related to the plant or plants and its or their establishment;
- (f) conduct research and development in the technology and other aspects of iron and steel production and in the application of iron and steel products;
- (g) operate and manage the said plant or plants and incidental services and sell iron and steel products;
- (h) utilize the by-products of the said plant or plants;
- (i) develop and manufacture iron and steel products and equipment to be used for the purposes of and in relation to basic engineering;
- (j) collect information on the supply and demand and prices of iron and steel products in Nigeria and elsewhere in order to determine how the development of industries in Nigeria is hereby affected;
- (k) effect the standardization of iron and steel products for economic production and utilization and for the purpose of facilitating the co-ordination of specifications;
- (l) make recommendations to the Minister on the formulation of policies relating to the development of the iron and steel industry and related industries in Nigeria; and
- (m) carry on all such other activities as are necessary or expedient for the discharge of its responsibilities under subsection (1) of this section. [2].

**Areas of statutory responsibilities and functions of the Federal Ministry of Mines and Steel Development are:** i) Advising government on Mining Policy and Matters affecting Mining and Quarrying Industries in the country; ii) Ensuring that Lands delineated for Mining and Quarrying purposes contain economic deposits; iii) Harnessing the Solid Mineral Resources, in order to accelerate economic , social and political growth of the nation; iv) Prompt issuance of permits, licences, and leases on Mining and Quarrying activities; v) Enforcement of all Laws and Regulations for the orderly and safe exploration of Solid Minerals; vi) Overseeing the relevant Parastatals engaged in Mineral Exploration; vii) Collection of fees, rents and royalties due to government as a result of Minerals prospecting and exploitation by Companies; viii) Acting as a repository and store of all geological occurrences and exploratory data nationwide; ix) Progressive geological mapping of the Country at various scales to maintain up-to- date knowledge of the geology of the Country and documentation of the Minerals resources; x) Developing a reliable and accessible National Earth Science Database, conducting research and publishing minerals commodity, mining technology, mineral economics and marketing strategies; xi) Conducting minimal exploration and evaluation of the Country's Mineral resources, using geological, geophysical, and geo-chemical techniques; xii) Dissemination of geo-scientific information to stakeholders and the public in the form of maps,

reports, publication, e.g. Geological Map of Nigeria, Annual Reports, Bulletins, Records occasional papers and unpublished (file) reports; xiii) Acquisition, packaging and dissemination of geo-scientific data as the means by which stakeholders and investors will become aware of the mineral potentials of the Country, and consequently be attracted to investment in any clearly defined potentially economic mineral deposits in the Country; xiv) Acting as Consultants to both public and private sectors on engineering projects, such as Dams and construction, natural hazards and other environmental issues, etc; xv) Playing the role of a regulator, facilitator, accelerator and a monitor in the development of the Solid Minerals Sector; xvi) Develop national policies on Solid Minerals that will give attractive incentives which are globally competitive for prospective investors; xvii) Regularly reviewing Mineral Laws and Regulations that will ensure a level playing ground and security of tenure for all investors in the Sector; xviii) Standardizing procedures for the processing of applications to meet the demand of the expanding mineral industries; xix) Regularly monitoring and inspecting the minefields by the professional staff so as to ensure compliance with the provisions of the 1999 Constitution of the Federal Republic of Nigeria and the Minerals and Mining Act 1999; xx) Organizing a National Consultative Forum (NCF) on Solid Minerals Development, twice a year, to rub minds and articulate views on policy issues relating to orderly and accelerated development of Solid Minerals in Nigeria and xxi) Organising Consultative Forum on Service Delivery with Stakeholders/Customers on Solid Minerals, once a year. [3]

Agencies under the Ministry of Mines and Steel Development are: i) Ajaokuta Steel Company Limited; ii) Council of Nigerian Mining Engineers and GeoScience; iii) Metallurgical Training Institute, Onitsha; iv) National Iron Ore Mining Company; v) National Metallurgical Development Centre, Jos; vi) National Steel Raw Materials Exploration Agency; vii) Nigerian Geological Survey Agency (NGSA); viii) Nigerian Institute of Mining and Geosciences; ix) Nigeria Mining Cadastre Office and x) The Nigeria Extractive Industry Transparency Initiative (NEITI) [3]

## 1.2 CHRONOLOGICAL DEVELOPMENT

Feasibility study on the establishment of an iron and steel plant was conducted by Soviet experts in 1967. Award of Contract for carrying out detailed Geological studies to M/S Technoexport of the defunct U.S.S.R. was done in 1970. And 1971 saw the formation of Nigerian Steel Development Authority (NSDA). Also, 1973 saw the commissioning of M/S V/O Tiajpromexport of the defunct USSR to carry out Preliminary Project Report on Iron and Steel Industry in Nigeria. In the same year, Iron ore deposits were discovered at Itakpe, Ajabanoko and Shokoshoko. The Preliminary Project Report by M/S V/O Tiajpromexport was submitted in 1974 and accepted by Government of Nigeria in 1975. Consequent on this, M/S V/O Tiajpromexport was commissioned to prepare the Detailed Project Report (DPR) for Ajaokuta Steel Project. 1977 saw the submission of the Detailed Project Report (DPR) by M/S V/O Tiajpromexport and acceptance of (DPR) in 1978 by the Federal Government of Nigeria. 1979 saw the signing of the Global Contract with M/S V/O Tiajpromexport for the preparation of working drawings, supply and erection of equipment, structures and materials, and the training of personnel for the Ajaokuta Steel Project. This was followed by the formation of Ajaokuta Steel Company Limited; Award of site levelling work to M/S Fougerolle (Nig.) Ltd; Award of Contract for the construction of the Erection Base to M/S Julius Berger (Nig.) Ltd.[1] Laying of the Foundation Stone of the Ajaokuta Steel Plant was done in 1981 by Mr. President, Alhaji Shehu Usman Aliyu Shagari. This followed with the award of Contract for Civil Work (Lot. II) to M/S Bilfinger + Berger; Contract for Civil Work (Lot.III) to M/S Dumez (Nig.) Ltd and Contract for Project Monitoring and Technical Services to Pan African Consultancy Services & Mecon India Ltd. (PACS-MECON). 1981 also saw the commissioning of the Erection Base and first Priority Housing Units by Alhaji Shehu Shagari, the then President of the Federal Republic of Nigeria.[1]. 1982 saw the commissioning of EOT Cranes in the Light Section Mill by the Vice-President, His Excellency, Dr. Alex Ekwueme. In similar vein, 1983 saw the charging of 132KV Sub-Station for Electrical Power Supply and the lighting of the Reheating Furnace of the 320mm Light Section Mill.[4]

Ajaokuta Steel Project is located on 24,000 hectares of sprawling green-field land-mass. The Steel Plant itself is built on 800-hectares of land. The chosen Technology for Steel Production is the time tested Blast-Furnace – Basic Oxygen Furnace route for Steel Production. The Ajaokuta integrated steel complex was conceived and steadily developed with the vision of erecting a Metallurgical Process Plant cum Engineering Complex with other auxiliaries and facilities. The complex is meant to be used to generate important upstream and downstream industrial and economic activities that are critical to the diversification of our economy into an industrial one. Ajaokuta Steel Plant is therefore aptly tagged as the **“Bedrock of Nigeria’s industrialization”**. [5]

### 1.3 GOVERNMENT'S IMPROVEMENT EFFORTS

The Nigerian government in 2003 signed a \$3.6 billion concession agreement with Solgas Energy Limited for the rehabilitation of the Ajaokuta Steel Plant. Under the Agreement, Solgas will rehabilitate, modernize, commission, and operate the Ajaokuta Steel plant as well as build and operate multiple electricity generating plants and a gas processing plant. The electrical power generation plants will generate 2,300 Megawatts within 18 months and are expected to provide 110,000 jobs, while the steel and gas processing plants will provide approximately 9,000 and 10,000 jobs respectively. The steel plant will provide steel at 55.0 percent cost of worldwide steel production, and is the largest steel plant in Africa. The operation of the Ajaokuta steel plant and the gas and electricity plants will be a leading factor in the industrialization of Nigeria. Over the next ten years, Solgas will finance the multiple projects and be responsible for the operation of the steel, gas processing and the electricity power generating plants. At the end of the ten-year term, Solgas will transfer possession and control of the plants to the Nigerian government, unless further extended by mutual agreement. Prior to the signing ceremony, Nigerian President Olusegun Obasanjo said, the extensive negotiations, which led to the final agreement, were a useful lesson for Nigeria on the rehabilitation of a national project and how it might apply as a model for the rehabilitation of other national projects. President Obasanjo also assured Solgas that the government would fulfill its part of the agreement to enable the successful execution of this project. The electrical plants that Solgas will provide represents a new concept in power generation developed by Solgas. Likened to the comparison of stacked PC computers versus large mainframe computers, Solgas use of smaller stacked turbine generators provides considerably more flexibility. This concept of power generation is particularly applicable in underdeveloped countries where fuel is plentiful and electrical grid systems are rare. The gas processing plant will take associated gas and process it for liquid propane gas (LPG) and dry natural gas as well as other by-products. This associated gas is currently being flared, and the processed products, namely LPG and dry natural gas, will be used for power generation and steel production at Ajaokuta. All plants will be operating within two years after the start of the project, which began this month. The American content in all of the projects is quite high. About 88 percent of the expenditures will be spent with U. S. corporations over the next two to three years. These expenditures will not only be made in the steel, power generation, and gas processing industries, but also extend into many other non-related industries. It is also possible that as many as 4,000 American expatriates will be required to fulfil Solgas obligations under the terms of these projects, including a large training segment. These positions would include all facets of the projects, both skilled and unskilled, as well as, domestic and international. When asked why Solgas would consider a project of this magnitude in Nigeria, Solgas officials stated the business climate has changed considerably under President Obasanjo’s administration and that new opportunities exist today that were almost unthinkable ten years ago. Solgas Energy Limited is an Isle of Man Company with offices in Abuja, Nigeria, Ajaokuta, Kogi state, Nigeria, Houston, Texas, Uvalde, Texas and Isle of Man. [6]. With the return to democracy in 1999, the need to diversify the revenue base of the country became paramount. A new national focus and strategy on mining evolved such that in 2007, the Nigerian Minerals and Mining Act (the Act) was enacted to revitalize the Nigerian mining industry. There are over 40 different types of minerals spread across the country, including gold,

barite, bentonite, limestone, coal, bitumen, iron ore, tantalite / columbite, lead/zinc, barites, gemstones, granite, marble, gypsum, talc, iron ore, lead, lithium, silver, etc. However, not all the minerals are available in commercial quantities. As part of the strategies to reform the sector, the Ministry of Mines and Steel Development (MMSD) has identified seven (7) strategic minerals, namely, Coal, Bitumen, Limestone, Iron Ore, Barites, Gold and Lead/Zinc for priority development. [7] The Federal Government has said that it has concluded plans to develop and implement a comprehensive Backward Integration Policy for the iron and steel sub-sectors of the Nigerian economy. The Minister of Industry, Trade and Investment, Mr. Olusegun Aganga, who said this during a one-day stakeholders' forum on 'Transformation of Minerals, Iron and Steel Sub-Sector for Industrial Revolution in Nigeria', in Lagos, on Thursday, noted that the Initiative was in line with the Nigeria Industrial Revolution Plan (NIRP). The stakeholders' forum, which was organised by the Ministries of Industry, Trade and Investment and Mines and Steel Development, provided the platform for all players in the iron and steel sub-sector to fashion out workable and sustainable plans of action to leverage the BIP to support the development of critical industries across the country. Aganga said, "What we have done today is to bring together all the stakeholders in the metal sector, which is critical to industrialisation, to look at how we can develop and attract more investors into the sector through the right policies and strategies. We cannot just sit down in Abuja and develop a policy for the sector without the full engagement, input and involvement of key players in the sector." "When you look at the current situation in the iron and steel sector, Nigeria spends about \$3.3 billion annually in the importation of steel and yet we have iron ore in the country. Currently, we have some cold rolling mills in the country. We want to implement the Backward Integration Programme in iron ore so that we can become a net exporter of iron ore just as we have done with cement." The minister added, "The success we have achieved with the BIP in the cement industry proves that we can replicate that in at least 15 sectors of the economy. That is what we can do as a country to be able to diversify our economy, create more jobs and move from a poor to a rich economy. "Just as we have done in the cement, sugar and automotive sectors, our objective is to co-develop a holistic backward programme that will make Nigeria number one in Africa and top 10 globally over time." He said that the NIRP had been strategically developed and linked with sectors of the economy where the country currently had competitive and comparative advantage such as mines and steel and agri-business, among others. He said, "There is no doubt that industrialisation is central to national development. As a country, we have undertaken several initiatives in the past to accelerate our industrial development. However, what makes NIRP different from previous initiatives is that it is the first industrialisation road map to be simultaneously strategic, holistic and integrated. "In the past, we have made the mistake of relying on exporting raw materials and in the process exported jobs. This is what the industrial revolution plan is trying to change. We will work together with all the stakeholders, including state governments, manufacturers and ministries, departments and agencies of the government to drive the implementation." Also speaking, the Minister of Mines and Steel Development, Arc. Musa Sada, said there was the need for increased collaboration between the ministries of Mines and Steel Development and that of Industry, Trade and Investment in order to utilise the nation's abundant industrial minerals to boost industrialisation. Sada said, "Steel is expected to remain the world's most engineering material for some time to come due to its versatility. The annual steel production in Nigeria is estimated at about 3.5 million tonnes while the country imports about 17 million tonnes of steel and allied products annually. Local steel production is only via 100 per cent melting of scrap steel." "We want to see the iron and steel sector play a major role in the industrial development of Our country. In order to achieve this, we need to partner the Ministry of Industry, Trade and Investment by keying into the NIRP to create the critical value chains that will drive sustainable industrial development." [8]

#### 1.4 HOPES AND ASPIRATIONS

"The Steel industry will give reliable defence for Nigeria and generate wealth and necessary capital to develop her economy as well as manufacture of military hardware; African High command will get a booster for this industry which has been on proposal ever since by OAU".[9] The Steel Industry in Nigeria cannot be under emphasized for the development of the country and its impact in the Gross Domestic Income for the Nation. Nigeria and every other country in West Africa are blessed with a lot of natural resources. there is no gainsaying that the country is one of the richest in mineral resources such as gold, steel, Bauxite, Crude oil and many more. In every country of the world, Iron and Steel industry are the fundamental bedrock of any economic development or civilization. They form the pioneer wheel of construction and rapid changes of the whole world to a global village.[10] Entry made in the visitor's Book by the then President and Commander-in-Chief of the Nigerian Armed Forces, Major General Ibrahim Badamosi Babangida after a one-day working visit to the Ajaokuta Steel Complex on Thursday 28 November, 1985 read: " we had a most educative and instructive visit . The completion of this project is A MUST to the industrial take off of this nation. It must be supported" [11]. Minister of Solid Minerals, Dr. Kayode Fayemi, has said that President Muhammodu Buhari is very passionate about the completion and effective operation of the Ajaokuta Steel Company, located in Kogi state. Fayemi who stated this Monday in Ajaokuta during a one day official visit to the company, said the new government is taking a holistic look at the company to ensure that the steel complex works for the benefit of Nigerians. "I want to let you know that the President is very passionate about the Ajaokuta steel company. We will take a look at the company holistically with a view of making it work for the benefits of Nigerians.[12] The sole Administrator of the company, Engr. Isah Joseph Onobere, had earlier said that since the termination of the Russian contract, the original designers of the company, in 1994, no significant progress was made in the fortunes of the company. Onobere called on the FG to ensure the timely completion of the company, saying that the minister's visit after few months in office, is a clear demonstration of government's good intention to complete the steel plant. He described the much taunted obsolete nature of the technology adopted by the Ajaokuta steel company as borne largely out of ignorance and campaign of calumny against the Nigerian state, "The campaign is to ensure that the company perpetually remain a dumping ground for steel products from the developed nations.[12]

### **1.5 DISAPPOINTMENTS**

In her bid to promote technological growth, Nigeria in the early 1960s conceived a vibrant economy with the steel industry as the foundation for industrial development. The commissioning of experts from the then Soviet Union, by the Nigerian Government to carry out further studies, resulted in the establishment of the Ajaokuta Steel Plant for steel making through the Blast Furnace route. The inability to actualize this led to the construction and commissioning of the Delta Steel Company, Direct Reduction route to steel making in the Niger Delta. The depletion within three years after commissioning of the Liberian/Guinean Ore which provided feedstock for the Delta Steel Company, led to the necessity to seek other sources of raw materials. The next alternatives were the Brazilian Companhia Vale do Rio Doce and Feijaio Ores which apart from the peculiarity in their operational characteristics were not readily available due to scarce foreign exchange. The only available choice was the locally available ore at Itakpe which was originally not suited for direct reduction operations. This marked a major turning point in the historical quest for the production of iron and steel in Nigeria and particularly from this locally available iron oxide raw material in Nigeria, keeping the dream of steel production alive. [13] A vibrant iron and steel sector is necessary for the infrastructural and technological development of any nation. Nigeria is blessed with all the raw materials required for steel development including iron ore, coal, natural gas and limestone. At the third national development plan

(1975 – 1980) specifically between 1976 and 1978, Nigeria commenced the construction of two integrated iron and steel plants located at Ajaokuta (ASC) and Aladja (DSC) and three rolling mills at Oshogbo, Jos and Katsina. The 1.3 mtpa ASC is based on blast furnace/basic oxygen furnace (BF/BOF) technology with rolling product capacity of 5.2 mtpa. DSC has a 1.0 mtpa steel melting plant for the production of 0.96 mtpa of billets and 0.32 mtpa of rolled products, while supplying 210,000 tonnes of billets each to Osogbo, Jos and Katsina rolling mills. These projects were expected to kick start a vibrant iron and steel sector in Nigeria. However, due to several factors including political, technical, logistical and managerial challenges, all these publicly-owned iron and steel companies folded up in Nigeria. The privately-owned iron and steel companies, which are mostly rolling mills that depend on the integrated mills for billets are now threatened due to lack of raw materials. The publicly-owned iron and steel companies (ASC, DSC and the three inland rolling mills) were privatized in 2000- 2005, but most of them are still moribund, except DSC that functions below her capacity. Except all these challenges are tackled, iron and steel development in Nigeria will be a mirage. [14] Ajaokuta Steel Company Limited (ASCL) was conceived to be the driving force of the nation's quest for technological advancement. Works on Ajaokuta Steel Company commenced under the administration of Alhaji Shehu Shagari in 1979 and by the time of its commissioning in 1983, the project had achieved about 95 percent completion rate. However, since its commissioning in 1983, it has been embroiled in controversy. Part of the criticism against the project is that its machines are obsolete in addition to having an outdated blast furnace model of steel production plant. However, as at 1983 when it was commissioned, the following rolling mills of the steel plant were in operation: Light, Billets, Wire rod, medium section and structural mills. It was assumed then that profits generated would provide the needed funds for the completion of the remaining five percent of the blast furnace. Unfortunately, after President Shagari's removal from office in 1983, the steel plant was abandoned, while most of its engineers trained in Russia to work in the plant, left to join other companies, while some retired. The four mills in Ajaokuta Steel Company between 1985- 1987 started optimal production, unfortunately international politics played a devastating blow to the dream of steel development in the country. Former President Olusegun Obasanjo during his administration also tried to revitalize the steel plant by concessioning it to Global System Steel Holdings Limited (GSHL) in 2005, despite criticisms from steel workers and labour leaders. The Indian firm was allegedly accused of going against the concessional agreement, which led to a faceoff between the firm and the company's workers. The agreement was terminated in 2008 by President Umaru Musa Yar'Adua , who set up an Interim management Committee (IMC) to oversee it.[15] One of the most important factors responsible for Africa's development crises could be traced to its inability to organize its technological development, a development that has much to do with the development of the iron and steel industry.[16] A comparative analysis of the Nigeria's Direct Reduction – Base Iron producing Plant installed more than three decades ago at Ovwia- Aladja near Warri, Delta State of Nigeria with similar modules elsewhere showed that while similar modules installed elsewhere attained more than 50% of its installed capacity in two to four years, Nigerian module could not be adequately run to recordable installed capacity utilization after more than two decades of installation. Ajaokuta Steel Plant and other Steel Ventures were also analyzed with dismally appalling findings. The role played by the Metallurgical & Materials Profession in the trying years of the Metallurgical & Materials Industry is to say the least disappointing. [17] When it was reported recently that the iron



and steel senior staff association of Nigeria (ISSAN) said that the "death" of the steel industry in the country, aggravated the nation's unemployment rate. We could not help but totally agree with this statement because Nigeria's economy, which has been driven by oil and gas wealth for decades has practically blinded past and present Nigerian governments to the array of opportunities in the steel industry that has the potential to address a lot of problems for the country. Rather than use the enormous oil and gas wealth to develop other sectors and industries of the Nigerian economy, our political leaders over the years preferred to satisfy their self-centred hidden agenda that are often to the detriment of the general masses. While making the above comment about the steel industry in Nigeria, the Deputy-general Secretary of the Association, Mr. Adewale Okesola stated that unless the steel industry was revived, unemployment problem in the country would persist. He said that the Ajaokuta Steel Company alone, if revived could employ no fewer than 140,000 Nigerians. In his words: "if Ajaokuta alone can absorb so much unemployed Nigerians, then we can be sure that the other steel firms, if revived would employ much more. So let the Government ensure the revival of the Steel companies scattered around the country. By the time Ajaokuta and Delta Steel companies; Osogbo, Jos and Katsina Rolling Mills are revived, we will not be talking of unemployment in the country.[18] In an extra-ministerial agency, the Nigerian Steel Development Authority (NSDA), was established by Decree No.9, to focalise efforts ruired to actualise a steel plant in the country. Besides, the discovery of large deposits of iron ore at Itakpe in 1972 by the Soviet aero-magnetic survey team, catalysed the formal signing of a global contract in 1975, with Tiajpromexport (TPE), a Soviet state firm, for an integrated steel plant of 1.3 million tonnes of long products. However, the actual work on the Ajaokuta Steel Company commenced in 1979 during the administration of Alhaji Shehu Shagari. Record, however, showed that the Ajaokuta steel plant was inaugurated in 1983 when it had achieved almost 95 per cent completion, with most of its vital rolling mills, including light, billets, wire rod, medium section and structural mills, operational. However, since its inauguration in 1983, the plant has been embroiled in managerial inaptitude and controversy, ranging from allegations of obsolete machines and outdated blast furnace model. Despite its initial completion, the plant had suffered years of neglect under successive administrations. In 2005, the efforts by the President Olusegun Obasanjo's administration through the concessioning of the plant to Global System Steel Holdings Limited (GSHL), an Indian firm, also failed to revive it. The agreement was terminated in 2008 by the late President Umaru Yar'Adua's administration. [19]

The major short comings of Government's Steel Development Programmes are: a) budgetary allocation through which the rolling mills and Delta Steel plant were to meet their working capital requirements were grossly inadequate, and budgetary releases were subject to long delays thereby leaving no room for effective operation. b) the decision to embark on two giant, capital intensive steel development projects and three rolling mills at the same time, without due consideration for the nations resource profile. Nigeria was then an agrarian economy with weak industrial sector. C) government's import liberalisation policy of large scale importation of steel products was contrary to the general argument that could have allowed the steel sector project sufficient time to find their feet before being exposed to international competition and d) the dislocation effects of the structural adjustment programme (SAP) further afflicted the steel sector projects. [20]

The metallurgical, mining and materials division of the Nigerian Society of Engineers has called on the Federal Government to revive the steel industry in the country. The group, in a communiqué issued at the end of its annual conference, said the National Iron Ore Mining Company, Itakpe; Ajaokuta Iron and Steel Complex and other steel industries should be urgently resuscitated for liquid steel production in order to support the development of the country's automotive industry. The communiqué, which was signed by the National Chairman, MMMD, Mr. Friday Apeh, and National Programme Coordinator, Dr. Jamiu Odusote, stated that this would open up development of other materials for the automotive sector. According to the group, the Automotive Industrial Development Plan by the National Automotive Design and Development Council and others should be implemented and investment confidence in the automotive industry should be enhanced. The group stated, "No nation can industrialise and by the same token run a viable automotive manufacturing sector without developing and actualising her iron and steel production capability. The automotive industry uses up to 75 per cent by weight of steel components. "In many countries around the world, the automotive industry plays both strategic and catalytic roles in economic development in respect of contribution to the GDP, economic linkages, Small and Medium Enterprises, job creation and skills development."The group said that to encourage the patronage of components and vehicles produced locally

by parts manufacturing and assembly plants, tariffs should be increased on imported similar items. The local content development strategy should be crafted and as a matter of urgency, the government should develop policies that promote technically competent suppliers who can keep abreast of developments in the industry with respect to technical competence, history of industrial performance and adherence to industry regulatory policies,” the group said. [21]

## **2.0 SUMMARY OF LITERATURE REVIEW**

Through thorough geological surveys, adequate raw materials in terms of iron ore, dolomite and other raw materials suitable for the production of iron and steel were identified. Appropriate Acts to backup Iron and Steel industry were enacted: i) Nigerian Steel Development Authority Act (that came to effect on 14 April 1971). This Act established the Authority and Responsibilities and Functions of the Authority . ii) Mineral and Mining Act 2007. Preliminary Project Report (PPR) on Iron and Steel by M/S V/O Tiajpromexport in 1973 and report was accepted by Government in 1974. This was followed by the Detailed Project Report (DPR) which commenced 1975 and was accepted in 1978. 1979 saw the Global Contract with M/S V/O Tiajpromexport. 1981 saw the commissioning of the Erection Base and first priority Housing units by Alhaji Shehu Shagari (The then President of The Federal Republic of Nigeria). In 2003, Nigerian Government signed \$3.6 Billion Dollar concession agreement with Solgas Energy Ltd of USA. This was to put 129,000 Nigerians and 4000 Americans to work. The Electrical Generation Plants were to generate 2,300 MW within 18 months of the contract and expected to provide 110,000 jobs, whilst the Steel and Gas Plants were to provide approximately 9,000 and 10,000 jobs respectively. The Steel Plant was to provide steel at 55% cost of world steel production. None of these dreams was met. In another development, The Ministry of Mines and Steel Development (MMSD) identified seven (7) strategic minerals, namely: coal, Bitumen, Limestone, Iron ore, Barites, Gold and Lead/Zinc. The annual steel production in Nigeria is about 3.5 million tonne while the importation for same period is about 17 million tonne.

The Hopes and Aspirations of Nigerians was that the emergence of the Steel Industry was to give reliable defence for Nigeria through the manufacture of military hardware and generate necessary capital for development of her economy. The African High Command was to get a booster from the emergence of this industry.

The Projects namely: Ajaokuta Steel Company; Aladja Steel Company; Jos, Katsina and Osogbo Rolling Mills were expected to kick start a vibrant Iron and Steel Sector in Nigeria, but most of them are still moribund. Reasons for folding up include: i) political, ii) Technical, iii) Logistical and iv) Managerial challenges. Yet other critics of the Ajaokuta Project hinged its moribund status on obsolete machines and outdated Blast Furnace model of steel production plant. As at commissioning of Ajaokuta in 1983, the Project was at 95% completion. It was assumed then that profits generated from its operations would provide the needed funds for the completion of the remaining five percent of the Blast Furnace. This never happened. The steel plant was abandoned, while most of its Engineers trained in Russia to work in the plant left to join other companies, while some went on retirement. Also, international politics dealt a devastating blow to the dream of steel development in the country. The "death" of the steel industry in the country, aggravated the nation's unemployment rate. Other shortcomings of Government's steel development programmes are: i) Inadequate Budgetary allocation and delays in budget release. ii) Decision to embark on the construction of two Steel Companies and three Rolling Mills at the same time without consideration for the nation's resource profile; iii) Government's import liberalization policy of large scale importation of steel products, hence not protecting the infant Steel Companies/Rolling Mills in Nigeria. iv) The dislocation effects of the Structural Adjustment Programme (SAP) further afflicted the Steel Sector projects.

### **3.0 DISCUSSIONS**

The Geological Surveys conducted by the defunct USSR were authentic and accurate representation of the raw materials status and availability for the Ajaokuta Iron and Steel Project in Nigeria. Equally of

interest are the appropriate Acts to back Iron and Steel Industry, namely: i) Nigerian Steel Development Authority Act of 14 April 1971 and ii) The Mineral Mining Act of 2007. That Ajaokuta Steel Company went into moribund status is not due to lack of the required Acts or the Authority/Responsibilities and functions of the Authority, but due to implementation, control and enforcement failures. The Preliminary Project Report (PPR) and the Detailed Project Reports (DPR), were equally factual and authentic, and the signing of the Global Contract with M/S V/O Tiajpromexport in 1979 was done in good faith and with the correct sense of judgement. The Literature Review reveals that as at the point of commissioning the Ajaokuta Steel Project in 1983 by the then President, Alhaji Shehu Shagari, the Project was at 95% Completion. The review equally revealed the anticipated completion of the outstanding 5% via the profit to be generated by the company. But this anticipation was not realized. The review further identified numerous factors that militated against the success of Ajaokuta Steel Project, namely: i) multiple and simultaneous execution of Ajaokuta Steel Company side by side with Delta Steel Company, Aladja, Jos, Katsina and Osogbo Rolling Mills without due regard to the Nation's financial profile. ii) Political (local and international) iii) Technical iv) Logistical and v) Managerial challenges. While agreeing with (i) above, it must also be noted that this point was not much of limitation considering the accelerated pace of development of the Ajaokuta Steel Company to 95% completion between 1979 and 1983. That is to say, the much desired funds and Budget for the various Projects were available as and when due. So point (i) was not a major setback between 1979 and 1983. Point (ii) above, Political factor is seen to be one of the crucial factors that crippled the Ajaokuta Project. The first General Manager of the Company was a Technocrat, but the Chairman, Deputy General Manager (Commercial) and some Board members were politicians who lost elections and were therefore rewarded with these positions as compensation by the Ruling party. Consequently, the Ajaokuta Steel Project was run as an extension of the Ruling party's assets. This led to large scale overstaffing, over-invoicing in contract procurement and large scale asset mismanagement with little or no regards to capital subvention from the Federal Government

and Internally Generated Revenue. This attitude which was representative nationwide actually led to the military intervention of 31 December 1983. On the other hand, the international political divide between the West (Western Europe +United States of America) and the East (Defunct USSR) during the cold war years had its toll on the Ajaokuta Steel Project between 1984 and 1988.. Due to the reckless management of the Ajaokuta Steel Project, the anticipated profit from production that was needed to complete the 5% outstanding work on the Blast Furnace was not available. Hence Nigeria looked forward to IMF and World Bank through the Paris Club and London Club for the much needed funds in Dollars to accomplish the Ajaokuta Project. But this request was turned down because the West saw the Investment in Ajaokuta as a conduit for Western financial resources to flow into USSR pocket. Points (iii) and(iv)above, namely Technical and Logistical factors were not actually seen as negating the success of the project in the early phase of the project, because due and adequate personnel have been properly trained in USSR and India. On the other hand, point (v) above, namely Managerial Challenges appear to be the biggest cog in the wheel of development of Ajaokuta Steel Project. Inexperience in running modern enterprise requiring tracking of capital and profit taking vis- a-vis cost minimization techniques in conjunction with point (ii) Political factor above, led to the failure of the Ajaokuta Steel Project. Other factors identified in the Review as militating against the success of Ajaokuta Steel Project include: vi) Obsolete machines and outdated Blast Furnace model of steel production; viii) Government's import liberalization policy on large scale importation of steel products and viii) The dislocation effects of the structural adjustment Programme (SAP). It could be argued that point (vi) above, namely Obsolete machines and outdated Blast Furnace Model have not actually militated against the success of the Ajaokuta Steel Project. These so called obsolete machines are still functional and giving good product results in Russia. Besides the Blast Furnace system gives Sponge Iron which is very valuable (which cannot be obtained in other methods like the Direct Reduction method at Delta Steel Company, Aladja). If the obsolete machine Technology at Ajaokuta was the issue, why did Delta Steel Company , Aladja based on the Direct

Reduction Process with modern machines also failed? Clearly, it can be said that the issue leading to failure of Ajaokuta are more embedded in managerial and political issues rather than obsolete state of machines and outdated Blast Furnace model. Point (vii) Government's import liberalization policy on large scale importation of steel product came on the hill of large scale government re-investment in Ajaokuta and the steel sector with a view to revamping that sector proved abortive. Government had to send clear message to the Iron and Steel Sector as a wakeup call to either perform or ship out. In economic or business this appears to be the right thing to do by creating a competitive stimulus. It could also be argued that point (viii) the dislocation effects of the structural adjustment programme (SAP) was not only peculiar to the Ajaokuta Steel Company. SAP was a Government policy that affected all sectors of the Nigerian economy. With prudent managerial strategy and good sense of political judgement, Ajaokuta Steel Project would have survived the rough weather and emerged successful. The way forward for the Ajaokuta Steel Project is for the current Nigerian Government to : i) Package an Integrity embedded Managerial Team for Ajaokuta Steel Company; ii) Renegotiate/review the Global Contract on the Ajaokuta Steel Project with the Russian Government and iii) formulate a Blue print to re-kick-start the Ajaokuta Steel Project with visible and measurable milestones/ indicators.

#### **4.0 CONCLUSION**

The Key factors that led to the derailment of the Ajaokuta Steel Project have been identified as

- i) Managerial Challenges and ii) Local and International politics. The Ajaokuta Steel Project can be resuscitated through the i) enthronement of an Integrity embedded Managerial Team and ii) a re-negotiation/review of the Global Contract with the Russian Government.

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APPENDIX



SOURCE: [11]