

## Solid Mineral Resources: Alternative Source of Revenue for the Nigerian Economy

<sup>1</sup>Danmola, Rasaq Akonji and <sup>2</sup>Abba Moahommed Wakili.

<sup>1</sup>Department of Economics, Lagos State Universtry, Ojo, Lagos State, Nigeria.

<sup>2</sup>Federal College of Education, Yola, Adamawa State, Nigeria.

**Corresponding Author: Danmola, Rasaq Akonji**

---

### Abstract

The mining of solid minerals in Nigeria accounts for only 3% of its GDP, due to the influence of its vast oil resources. The domestic mining industry is grossly underdeveloped and that necessitate the need to import mineral resources that could be produced at home such as bitumen, iron ore, salt etc. The Nigeria government is presently controlling the sector but given rights to corporate organizations to mine and sell mineral resources. This paper tries to expose the potentiality in solid mineral resources as viable alternative to the petroleum sector, which production in Nigeria is unpredictable and the crisis in the region that produce the oil make unreliable as source earning for the country. This paper further shows areas where full private ownership or in partnership with federal, state or local communities can be encouraged, so as to fully developed the sector and generate a reasonable foreign exchange for the government and serve as an input to other sectors of the Nigerian economy. The study intends to provides additional sources of revenue for the government in view of the crisis in the oil producing region of the country and the study further show the available revenue generating options available to the government of Nigeria.

---

**Keywords:** solid minerals, government revenue, government policies, locations of solid minerals, economic growth.

---

### INTRODUCTION

Nigeria maintained a dominant economy in Sub Sahara Africa after South Africa and the 10<sup>th</sup> largest producer of crude oil in the world with about 2.4 million barrels of crude oil per day. Before the Arab Israel war of 1970s, Nigerian economy was basically an agriculturally-based economy and with some little commercial activities. Since then, oil sector have taken over the economy and more than half of the government's revenue and over 80% of export earnings were derived from oil sector. It should be noted that more than half of the population and 10% of gross domestic product GDP are derived from agricultural sector.

Presently, the total population of over 140 million and with a land mass of over 900,00km were endowed with abundant natural resources that cut across the length and breadth of the country. In fact, there is no state in the federation that is not blessed with one form of mineral resources or the other. The abundant mineral resources are it metallic, non metallic and/or industrial are available in commercial quantities. But, since independence, there is lack of proper utilization of resources and even some of the resource remains untapped and this may be attributed to the lack of adequate capital to annex the resources or unseriousness on the part of government to look toward the side of solid mineral resources sector. Apart from these, there are also problems of adequate infrastructural facilities, technical competence and

huge investment capital involved in the exploration of the resources.

Currently, the country is exploiting numbers of mineral resources to satisfy the socio economic development starting from the common water to crude oil, bitumen, coal and gas reserves estimated about 105 trillion cubic feet and all these are from the physical component of the physical environment and could be divided into renewable natural resources and non renewable natural resources. The renewable natural resources include solid and liquid minerals, whose supply is finite and exhaustible.

In 1999, the federal government of Nigeria created ministry of solid mineral development and which has motivated a lot of interest in the sector and provide alternatives sources of foreign exchange to the country and coupled with the fact that petroleum products are unreliable and which is attributable to the crisis in Niger Delta region areas of the country. With the establishment of solid mineral resources ministry, the prospect in the sector become brighter and the foreign exchange from the sector will improve with time.

It should be noted however, that Nigeria is blessed with abundant solid mineral resources that could be beneficial to varieties of industries in the country. These solid mineral resources include Coal, Gold, limestone, bitumen, tin, iron ore, salt among others

and these solid mineral resources cut across the states of the federation. The research carried out even revealed that it cost much more in the exploitation of crude oil than prospecting for solid mineral resources. It was even a common knowledge that most of the Asian countries like Japan, Malaysia, South Korea etc that enjoy high growth rate and dominate exports are not oil driven and most of their earnings come from non oil sector and yet, these countries cannot be compared with Nigeria that has vast solid mineral resources that can be used to propel development in the country.

The problem that necessitated the study could be viewed from the fact that over the years Nigeria's government have been experiencing series of crisis in the oil producing areas of Niger delta region of Nigeria and coupled with the fact that U.S being the major buyer of Nigeria's Crude oil is thinking of alternative source of Energy supply apart from crude-oil, and these situations make it imperative for the country to look in direction of alternative source of revenue for the country. It has also been acknowledged the fact that instability in revenue may distort economic planning and this has serious implications for economic development.

#### **Existing Policies on Solid Mineral Resources**

Nigeria's government through the her former solid mineral resources minister Mrs. Dieziani Alison Madueke (2000), told the investors that government has put in place some tax incentives such as

- 1) Reduction of company profit tax from 35% to 30%
- 2) Reduction of capital gain tax from 20% to 10%
- 3) She added that there would also be an increase in the initial annual capital allowances from 20% respectively for investors
- 4) Tax holiday for 3 years for new mining companies

Nigeria solid mineral deposits have been discovered in commercial quantities and it believed that they are crucial to the industrialization and development of the country. It should be further noted that Nigeria has Bitumen of estimated reserves of about 45 billion barrels, Coal of 3 billion tons, Iron ore of estimated reserves of 2.5 billion tones etc.

The management of mineral resources project (M.M.R.P) a subsidiary of World Bank in conjunction with the ministry of solid mineral resources has started initiating a move for laying a solid foundation for economic growth in the sector. To this end, 120 million US dollar loan was secured from the World bank to established the Nigeria institute of mining and Geosciences (NIMG) in Jos, Plateau state, which is currently admitting students

for postgraduate programmes, so as to raise required manpower for the growth of the sector and with this, the country will no longer import needed manpower in the sector.

#### **OBJECTIVE OF THE STUDY**

The objective of this paper is to source for alternative sector in the area of solid mineral revenue for foreign exchange earnings for the government in view of uncertainty in crude oil market caused by the crisis in the Middle East and coupled with the frequent crisis in the oil producing communities in Nigeria.

Secondly, the paper intends to fashion out policies frame work upon which the solid mineral resources sector can be fully developed, so that government can full explore the sector to meet our developmental needs.

The rest of the paper is organized as follows: sections 2 discuss mineral resources recurrences and deposits in Nigeria. Section 3 reviews the existing literatures section 4 present the problems in mineral resources exploration, section 5 discuss the strategies for the exploration of solid mineral resources in Nigeria section 6 Summary and Conclusion.

#### **SOME SOLID MINERAL RESOURCES IN NIGERIA**

- i) Bitumen: the total amount of bitumen deposit in Nigeria is about 45 billion tones. The figure double the total existing crude oil reserve in the country, but it is quite unfortunate that most of the bitumen presentably used in road construction in Nigeria is being imported.
- ii) Coal: Nigeria coal is of high quality because of its low sulfur and ash content and therefore it is environment friendly. There are about 2.8 billion tones in identified 17 coal field and over 700 million tones of proven reserves.
- iii) Rock salt: The demand for the table salt, chlorine sodium bicarbonate, hydrogen etc exceeds one million tones. This huge amount is being annually used to import these chemicals by chemical and processing companies, but it has been discovered that we have salt springs at Awe(plateau state), Abakiliki and Uburu (Ebonyi state). Also rock salt is also available in Benue state.
- iv) Iron ore: there are over 2.5 billion of iron ore deposits found in Kogi, Enugu, Niger, Zamfara and Kaduna states. At present iron ore is being mined at Itakpe (Kogi state), although some rolling mills like Aladja, Oshogbo, Jos and Katsina are being set up by the federal government but iron ore deposits has not being fully exploited in Nigeria and if fully exploited can serves as a source of foreign exchange for the country.

- v) Talc: An estimated reserve of over 100 million tones of talc has been discovered in Niger, Kogi, Kwara, Ogun, Taraba and Kaduna states. There are only two medium size talc processing plants currently operating in Nigeria and both are in Nigeria. The Nigeria's talc has varieties of colors ranging from white through milky white to gray. The talc industry represents one of the most versatile sectors of the industrial minerals of the world, which Nigeria as a country has not benefited from the sub sector in some significant level.
- i) Gold: there are proven reserve of both alluvial and primary gold in the southern part of Nigeria, located in the south western part of the country. The deposits are mainly alluvial and currently being exploited on a small scale. Private investors are invited to stake concessions on these primary deposits.
- ii) Gemstones: gemstone mining are booming in various part of Plateau ,Kaduna and Bauchi states for years, some of these gemstone include sapphire, ruby, aquamarines emerald, tourmaline, topaz, garnet etc. good prospects exist in this area for variable investment
- iii) Kaolin: An estimated reserve of 3 billion tones of good Kaolinitic clay has been indentified in many localities in Nigeria.

**Source: Nigeria's Home of Solid Mineral Resources, by Super Adm 17<sup>th</sup> April, 2007**

### Volume of Solid Mineral Deposit in Nigeria

It is not enough to identify the occurrences of certain mineral resources in different places, it is equally important to ascertain whether such mineral resources are available in commercial quantities and enough to propel growth in the economy. From the information collected from the federal ministry of solid mineral development, Nigeria coal corporation, Enugu and central bank of Nigeria, survey, it is quite evident that most of the solid mineral resources are in commercial quantities and they are evenly spread across the geo political zones and states in the country, and this can be further be shown thus:

Table 1: Estimates of Available Solid Minerals in Nigeria at 2009

| Solid mineral | Quantity(metric tones) | State                      |
|---------------|------------------------|----------------------------|
| Talc          | 40million              | Niger, Osun                |
| Gypsum        | 1billion               | Kogi, Ogun, Kaduna         |
| Iron ore      | 3 billion              | Kogi, Enugu, Niger, FCT    |
| Lead/zinc     | 1<br>0 million         | Former East central States |
| Bentonite     | 0.7 billion            | Niger                      |
| Barite        | 8 million              | Taraba, Bauchi             |
| Bitumen       | 42 billion             | Ekiti, Ondo                |
| Coal          | 3 billion              | Former East central        |

Source: federal ministry of solid mineral development

### REVIEWS OF RELATED LITERATURE AND EMPIRICAL FINDINGS

Recent studies assert that natural resources abundance particularly mineral resources have adverse effects for economic growth. To support this resource curse hypothesis, Jeffrey D. Sachs and Andrew Warner,( 1977) concluded in their findings that countries with abundant natural resources have tendency to grow slower in their economics than those countries without substantial natural resources , their paper examined the trend for 20 years period of 1970-1990. They concluded that having controlled for many variables, mineral resources are found not to be important for economic growth i.e there is a negative relationship between resources abundance and economic growth. Early scholars including the sixteen century political philosopher Jean Bodin, (1576, reprinted 1962) asserted as much, when he claimed that "men of a fat and fertile soil are most commonly effeminate and cowards; whereas contrariwise a barren country make men temperate by necessity and by consequences careful vigilant and industrious". This further reinforced "resources curse" hypothesis and that mineral resources cannot propel economic growth even in the surplus countries and of course countries should look beyond her resources.

But even in 1950s and 1960s, through Dutch disease model of 1970s and 1980s, there have been different shades of opinions regarding the reliability of the natural resources in propelling the economic growth of a country, for example, Hirschman 1958, seers 1964 and Balwin 1966 promoted the view and that," forward and backward linkages" from primary exports to the rest of the economy would be small. The essence is that emphasis should be placed on manufacturing sector as opposed to the natural resources production which would lead to more robust division of labour and hence to a higher standard of living. Dutch diseases models demonstrated that the existence of sector dominated by natural resources have the tendency of affecting the distribution of employment in the entire economy and equally lead to the pulling of resource in and out of non traded sectors. This sectoral shift can affect long term growth in the economy.

Another line of argument was in the area of political economy. According to Gelb 1988, in particular stresses that government typically earned most of the rents from natural resources exploration. Others even argued that natural resources abundance inevitably leads to greater corruption and inefficient bureaucracies, or that high rents from natural resources distract government from investing in the ability to produce growth supporting public goods, such as infrastructure. In another related review, is that, resource abundant economy that engage in export resources are more likely to follow some state

led development policies including import protection. Lane and Tornell 1995, argue that a windfall coming from term of trade improvement or a discovering of natural resources deposits can lead to a “feeding frenzy” in which competing factions fight for the natural resources rents and even end up inefficiently exhausting the public good.

But according to Gavin Wright and Jesse Czelusta 2003, to them they subject the hypothesis to proper scrutiny and conclude that it is inappropriate to equate development of mineral resources with terms such as “windfall” and “bonus” and that mineral production cannot be regarded as mere depletion of a fixed natural endowment and they demonstrated that so called non renewable resources have been progressively extended through exploration, technological progress and advances in appropriate knowledge and indeed solid mineral constitute a high-tech knowledge industry in many countries. Investment in such knowledge should be seen as a legitimate component of a forward looking economic development programme.

The above submission was further reinforced in the work of David Romer 2006, using quantitative analysis to establish a relationship between growth rate mineral resources and land. He concluded that the growth path can be either positive or negative. If it is negative in the sense that resources and land limitation can cause output per worker to decline and that the declining in the resources and the land per worker are drags on growth but technological progress is a spur to growth. If the spur created by technological progress is larger than the drags exerted by resources and land, then there is sustainable growth in output per worker.

In respect to Nigerian economy, a further line of argument is that resources per say are not the problem, it's just that they tend to have volatile world prices and volatility is the problem. The fact that natural resources especially oil prices is more volatile than other mineral resource; this probably translates into greater ex-ante uncertainty for countries that relies on crude oil as major sources of exchange earnings.

#### **PROBLEMS IN EXPLORATION OF SOLID MINERALS IN NIGERIA**

Having realized that mineral resources enjoy a stable price at the international market and the fact that enough measures have not being taken to exploit the situation in Nigeria, it become imperative to examine problems associated with the exploration of solid minerals resources in Nigeria and such problems are being identified as follows:

Firstly basic infrastructures such as good roads, electricity and communication facilities at mining site are grossly inadequate to attract the private sector.

The social capitals required for the successful operation of the sector are not theirs and government is doing nothing in that direction.

Secondly there is the problem of lack of market for the distribution of chemicals for processing mineral products. There is still problem of distributional channel on how the communities will easily distributed to the end users.

Thirdly the capital requirement for the successful operation of the sector is quite enormous and private sector may not be able to raise such capital and for the fact that there is no financial institution such as Solid mineral development bank to provide enabling environment for the development of the sector. More so in the area of man power, the Nigerian institute of mining and Geosciences(NIMG) Jos, Plateau state, established by the Federal government in collaboration with the sustainable management of mineral resources project(SMMRP) and still at infancy, such institution cannot meet manpower requirement in the sector.

Furthermore non diversification of the economy has become a big problem in Nigeria, since crude oil was discovered at Oloibiri, Bayelsa state in 1956. Today, Nigeria is a mono culture economy with the sale of crude oil accounting for over 90% of all rational revenue and without any attention to other sectors, like solid mineral resources in which their prices are quite stable at the international market. More so, the activities of illegal miners left much to be desired, most of the mining going on today cannot be accounted by the Federal government. In fact there is no record for such activities and the significant amount that would have been part of government's revenue was lost to the activities of illegal miners.

In addition to the above, the laws governing the mining business in Nigeria does not help matters, the laws are so retrogressive and repugnant to natural justices. The laws give the federal government absolute rights over land and mineral resources in Nigeria. Those laws include land act use of 1978 as amended in 1993, the petroleum act of 1969 as amended in 1991 and the national waterways decree of 1997. The above laws hamper mining activities in Nigeria and work against the growth of the sector. More so, the issue of government over bearing influence in the sector cannot be ignored. It becomes impossible to effectively implement and monitor policies, check corruption, abuses of offices, hoarding, wasting of resources etc. it is known fact that when government is talking or planning for revenue diversification and economic programmes, it does so in a ways designed to favourably exploit various economic sectors for revenue gains so as to consolidate authority.

Lastly, general ignorance concerning the existence of minerals resources in their various localities and the economic potentials of such mineral resources in each state of the federation need to be look into. Attention is only on crude oil and nobody show any seriousness about the exploration of mineral resources in their different states of country.

#### **STRATEGIES FOR THE EXPLORATION OF SOLID MINERAL RESOURCES IN NIGERIA**

Firstly the notorious policy of derivation principle being adopted by the federation government of Nigeria should be replaced with the policy of resource control. The policy of derivation as it is being adopted presently has been unfair to states in the Niger delta region where crude oil is explored and mostly accounted for. The policy of derivation has been manipulated to favour majority ethnic groups and at detriment of minority groups that produced the resources. But a situation where individual states were allowed to control their resources and royalties being paid to the centre and this will make them look inward and explore their own resources in their domain, rather than relying at the centre for the sharing of the proceeds from the crude oil.

Secondly, even where the ownership of solid mineral resources is still rested with the federal government a competitive business environment should be created so that the private sector will be the driver of the operation. The activities of the federal government should be limited to the regulation of their activities, so that they conform to the already laid out policies and regulations.

Moreso, security of tenure for leases must be guaranteed, while discretionary allocation of mining license must be abolished. The interest of the community should be protected. The Federal government may even go into joint ventures with some private sector investors, bringing the state, local government and communities where minerals are located into the venture. Furthermore, to accelerate the exploration of mineral resources at different communities, community development agreement should be entered into between the government, community and the operator, which shall ensure adequate environmental protection and rehabilitation programme, so as to avoid clashes with the companies that mines the resources as in the case of the exploration of crude oil where there is a constant clashes between the host communities and the oil companies.

Lastly, it is expected that environmental protection fund should be created to ensure adequate protection of any ecological problems that may arise in the course of exploration.

In course of the preparation of the this study, the authors only relied on the estimations provided from the Ministry of Solid Mineral Resource, which was then newly created from Ministry of Petroleum Resources, and the paper was prepared based on the information received from the ministry of Solid Mineral resources and the information may not necessarily 100 percent accurate.

#### **SUMMARY AND CONCLUSION**

This paper has critically examine the alternative revenue source available to the government in view of volatile nature in the world oil prices, occasioned by what is happening both at the local and international level and Nigeria as one of the respected country in the Sub-Sahara African and cannot remain a mono culture economy. The solid mineral resources have provided alternative sources in view of the availability of varieties of solid mineral resources that are available in different states of the federation. In view of this therefore, investment in crude oil production should be reduced and diverted to the Solid mineral resources and which not only available in commercial quantities but also enjoy relatively stable prices when comparing with the crude oil price. The policy of privatization and commercialization in the sub sector of Solid mineral resources be intensified with vigor and ensure whether wholly or partial private participation or in conjunction with the government and the host communities, so as to ensure peaceful operation of the companies that may involve in the sub sector.

To conclude this paper, we will like to borrow from statement credited to Mr. Ohno Ruhl( Former World bank director) in Nigeria, he stated that the estimated production value in Nigeria's solid mineral sector increased from 35 million us dollars(N5.2bn) to 35 million us dollars(N20.02bn) between 2005 and 2009. This fact will be complemented by the first large scale goldmine that will be operational in Osun state between now and 2012. He further stated that the federal government should provide an atmosphere where investors could harness the enormous potential in the sector. He said that there should be good policy, legislation, regulation, stability, consistency and predictability to make this reality and conclude that the sector will not just create jobs, but also divest from oil. The submission of the world bank chief confirm the findings of the writers and further reinforce the need by the federal government to look in the direction of solid mineral resources as an alternative source of income and foreign exchange earner for the country.

#### **REFERENCES**

Clement Ikpatt and Ibanga, N.H (2003). Nigeria's mineral resources: A case for resource control, a paper presented to Nigeria delta congress.

Ovazulike, M.D (2002). The solid mineral resources of Nigeria: maximizing utilization for industrial and technological growth. a conference paper presented at Abubakar Tafawa Balewa university, Bauchi 11<sup>th</sup> sep. Nigeria Bureau of Public Enterprises (2007): scope and status of privatization activities in the solid mineral sector of the Nigeria Economy (a survey conducted by bureau of public enterprises.

The Changing faces of Nigeria's Mining Sector: a publication of sustainable management of mineral resources project an arm of federal ministry of mines and steel development (December 2010).

Mabogunje, A.L and Oguntinyinbo, J.S (1978) Geographical perspective on Nigerian development IGU Regional conference.

Udo .K R (1978). A comprehensive geography of West Africa, African publishing company.

Obaje, N.G (2009).Geology and mineral resources in Nigeria, published by Springer.

The Nigeria's home of solid mineral resources published by super adm 17<sup>th</sup> April, 2007.

Nigeria ministry of solid minerals development (1997). Brief on Nigeria's mining potentials. Ministry of Solid Minerals development.

Nigeria Ministry of Solid mineral development (1996)

[www.teahcoal.org](http://www.teahcoal.org)

[www.indexmundi.com](http://www.indexmundi.com)