

Can mining drive development? Examining the impact of mineral exploration in Plateau State, Nigeria

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Abstract

Extractive industry activities in Nigeria is seen with expectations as a catalyst for development. This is against the evident mineral endowments, with historical records of the maximized benefits of mineral exploration and the economic gains that is attached to various mineral resources that are in huge commercial deposits. However, mining or non-oil mineral exploration has economic gains and its challenges. The study examined the identified impact that impede on development. The impact constitutes challenges that are consequences of not taking the necessary actions in addressing the causal factors associated with the adverse effects of mining or extractive activities. Data were generated from stakeholders: regulators and private business entities that are industry's practitioners that have also engaged in various aspects within the extractive industry value chain. Key Informant Interviews and Focus Group Discussion were explored in providing extensive insight by examining the impact of extractive activities on development. Findings revealed that transparency of industry's actors, accountability of operational and policy actions, the enabling law which is the resource governance framework, lack of diligent engagement in developing a community development agreement, absence of host community benefits, poor environmental consideration were revealed. Recommendations pointed to reforming the Nigerian Mineral Mining Act, 2009 as amended and section 44(3) of the 1999 constitution which gives exclusive rights to all minerals to the federal government.

Keywords: Accountability, development, mining, non-oil, transparency

1. Introduction

Understanding the impact of mineral exploration holds an important insight that appertains to identifying the causal factors that either drives or retard development. The main objective of this study was to assess the dimensions of mining activities, and provide insights to how it affects development outcomes. Core concerns to these are transparency of the industry actors, accountability of policy and operational actions, it also includes the existing resource governance framework that is the enabling law, the absence of host community benefits, community development agreement, poor environmental consideration and how these factors have impeded on the desired development anticipations.

There are political economy conditions that have effects on institutional processes, especially, the regulating agencies. This affects the performance and function(s) of these agencies in the extractive industry sector. Equally, the economic dimension significantly contributes in a combination of ways that encapsulate the regulators, the private business entities interests, and how the market operates. This conditions, however, has no clear delineation to how the political economy scape interacts, most of the factors that spur any exchange are triggered by industry activities which can happen in isolation, while other conditions can necessitate for a mutually inclusive form of engagement.

This description characterised the broader perspective of interaction that occurs between the regulating agencies, industry actor(s) and (or) the market determinants. All these factors are responsible for impacting on mineral exploring activities, and are also determinants to how it enables or retard development. Most concerns relating to mineral exploration has to do with transparency of industry's actors, and also with accountability of operational and policy action by industry stakeholders. Chindo and Naibi (2020) conducted a study on mineral extraction

activities in Nigeria with emphasis on the community. Poor management of land resources was identified as being responsible for generating environmental problems. It noted that mineral extraction carried out by different categories of miners has an immediate impact on the environment and host communities. Salifu, and Ibeogu (2022) emphasised the importance of accountability for the use of revenue generated from the sector for the general public good. It underscores the need for government agencies to improve on the management of natural resource revenue in Nigeria.

Other dimensions of transparency and accountability focused on government agencies' need to curb corruption in the Nigerian extractive industry (Emmanson & Ajayi, 2021). The socio-economic impact of Tin mining on the Jos Plateau was also examined to highlight the impact and how the effects are being ameliorated by the government. Positive impact includes increase in individual and household income, job creation/increased self-employment. While negative impacts covers land degradation, loss of farmland/ disruption of agricultural activities, inflation and exposure to radiation from mineral. These have significant impact on the lifestyle or wellbeing of the people. (Onyeka, Chukwu, & Adebayo, 2024).

The general encompassing principles that deals with resource governance pertains to institutional operations and the practices that a society employ to use shared resources. The way resources are managed considers cultural history and practices, and how a society incorporates innovative, cutting-edge approaches in managing their resources. (United Nations Committee of Experts on Public Administration (CEPA) (2018). These are the essential components of resource governance that ensure for the proper operations of either private business organization or entities, as well as the regulating government agencies.

Enabling laws that regulates the extractive industry vest the power of such functions with the federal government, which is by the provisions of the Nigerian Mineral and Mining Act 2007 and 2009 as amended grants exclusive rights to all resources, institutions and agencies play a vital role in the extractive sector. Multinational corporations (MNCs) are the end users of these minerals with access to international capital and technology, giving them an advantage in setting prices or demand for mineral commodities. Local communities, civil society organizations, traditional rulers, community leaders, and landowners also have a crucial role to play in resource governance. These stakeholders (in) action has way of directly or indirectly impacting of the mineral exploration activities.

Effective management of natural resources is a crucial concern in developing countries today. Resource governance encompasses the power dynamics, processes, and practices that shape access, control, and use of these resources (Ahlborg, & Nightingale, 2018). As Roba, Gibsons, and Mahadi (2013) notes, this governance is determined by rules and regulations that govern natural resource use, and how these guidelines are developed and enforced. Ultimately, resource governance is about deciding who holds power and responsibility for making and executing decisions.

The underlying assumption of resource governance is that natural resources are best utilized when there is strict control and regulation, leading to more equitable, efficient, and sustainable exploitation (Bansard, & Schröder, 2021). Stanley (2019) highlights the importance of developing appropriate and effective rules, enforcing them, and holding decision-makers

accountable, while Caulfield (2019) characterizes resource governance as a multifaceted system that involves principles, institutions, and practices used by society and its members to manage shared resources.

To define development, Sakalasoorya (2020) states that all definitions of development found in literature share common characteristics, as they relate to effectiveness and efficiency. Effectiveness refers to the degree of goal attainment, while efficiency is an indicator of the resources used to achieve such goals. Sakalasoorya (2020) explains that development has various meanings that change depending on the context. For example, the development needs of starving populations differ from those with sufficient nutrition.

However, development is often confused with economic growth measured solely by increases in per-capita income or gross national product, regardless of its distribution and the degree of people's participation in effective growth (Haslam, 2021). Ige, (2021) asserts that development means the conditions for the realization of the human personality and evaluates it based on three linked criteria: poverty reduction, unemployment reduction, and inequality reduction. Madu, (2017) believes that development involves not only economic growth but also equitable distribution, and provision of healthcare, education, housing, and other essential services to improve the individual and collective quality of life.

The extractive industry is defined as primary activities involved in the extraction of non-renewable resources. Dorin, Diaconescu, and Tapor, (2014) defined the mining industry, being one of the sectors in the EI as a very important force in the global economy, occupying a primary position in the supply chain of resources. International Labour Organisation, (2014) defined the extractive industries as having the opportunities to provide to developing countries by raising the much needed resources that can be invested in human development. EI offers many developing countries opportunities to prosper if they extend their reach into rural areas as an employer, an investor, and a purchaser of goods and services.

2. Theoretical Framework and Empirical Review

2.1 Mining and Development

Common property theory is adopted as a theoretical framework for this study. It highlights the different strategies to govern resource commons produce effects that can be assessed along different dimensions, in terms of ecological or social sustainability of the resource system, contributions to livelihoods of those who rely on these resources or equity allocation of benefits. (Hilborn, 2007; Ainsworth, Pitcher, & Rotinsulu., 2008; Sudtangkong & Webb, 2008)

This theory challenges the conventional notion that private property rights or state ownership are the only viable approaches to resource management. The theory argues that when communities have a sense of ownership, control, and responsibility over a resource, they are more likely to manage it in a sustainable manner. The theory emphasizes the importance of local knowledge, social norms, and collective decision-making in governing common resources.

There are traceable empirical studies on mining in general. Mdee (2015) conducted a study on “potential of artisanal and small scale gold miners for economic development in Tanzania”, it looked at the potential availability of mineral deposits for many decades as an avenue for

improving the economic development of the local artisanal miners in Tanzania. Using qualitative approach (interviews), necessary reports were collected and analysed, and a model was developed, showing the way artisanal and small scale miners carry out their daily activities. The study utilized a fishbone diagram concept to summarize all factors associated with ASM operations, which if properly handled could increase their socio-economic situation. Socio-economic percentages in growth were also measured considering the distribution of small-scale gold mining centres in Tanzania. Lack of modern technological equipment, the informal or legal status of PML (private mining lease) owners and pit owners and operators, capital intensity of the project, and material handling constitute key challenges. In archiving socio-economic development which includes sourcing food, shelter, or other materials locally rather than importing it; providing employment to youths, and supporting the development of local entrepreneurs and businesses that can serve the needs of local communities.

David et al. (2016) conducted an empirical analysis of the contribution of the mining sector to economic development in Nigeria. The study harnessed time series data to evaluate the impact of the specified key sectors; crude petroleum and gas, solid mineral, manufacturing, and agriculture on the economic development proxied by per capita income. The scope of the study includes 1960-2012, which are fifty-three observations for each indicator.

The study concluded that solid minerals have the potential to contribute significantly to the economic development of a country. The potential benefits include increase income level and decreased unemployment, as well as indirect benefits in the form of local or international purchases of mining inputs. Result from this empirical analysis provide strong evidence indicating that the value of solid minerals has a great contribution toward economic development in Nigeria. However, the difference from this research varies significantly in terms of the objectives, variables, methodology, and the context of the scope of the study which also constitute a significant departure from this study and a gap.

Onditi, (2019) in their research examined factors behind Norway's natural resource success outcomes. Norway's performance can be taken as a refutation of the resource course model. It is not only in terms of economic development that Norway has performed well in recent decades. The study conducted was about Norway's success in the natural resource outcome which extends to resource governance, but a departure from our study includes the cross-national statistics and survey and a host of critical components of value addition to petroleum. Even though the study centres on the success of natural resources, it differs significantly from the aims and objectives of this study as it primarily focused on the oil sector while the emphasis of this research is on the non-oil extractive industry. The scope, context, variables, and methodology vary constituting points of departure from this research.

3. Methodology

This study adopts the qualitative approach. The use of key informant interview (KII) was scheduled for two groups, regulatory agencies, both state government and federal ministry and agency's respondents were interviewed. Focus group discussion (FGD) was conducted for two separate artisanal miners from Wase Local Government Area (LGA) while the other is from Jos South Local Government Area (LGA) respectively.

The regulating agencies includes: (i) the Plateau State Ministry of Environment and Mineral Development (PME &MD); (ii) Ministry of Mines and Steel Development (MMSD); (iii) Nigerian Extractive Industry Transparency Initiative (NEITI); (iv) Mining Cadastral Office (MCO). (v) Former Governor of Plateau State

Industry actors included those that are categorized under the regulated which are (i.) Plateau Indigenous Miners Association (P I M A); (ii) Tin Shed Operator (TSO); (iii) Mineral Buying Centre (MBC); (iv) Traditional Leader (TL) from Kuru, District in Jos South LGA; (v) Youth Leader (YL) from Zurak, in Wase LGA. In addition, two groups of artisanal miners, comprising of eight discussants (FGD) held in Jos-South and Wase Local Government respectively (Creswell, 2014). All are drawn based on the World Economic Forum (2017) specification which classifies stakeholders' type, influence and effect. They constitute the actors in the extractive industry sector in Plateau State which is the scope of this study. Purposive sampling methods was used for the procedure to identify and reach the participants.

The study experienced saturation before the interviews were concluded with the 12 categories of actors that were identified Alder and Alder's study (as cited, in Creswell, 2014) as responses on the issues gravitated towards similar perceptions and perspectives, as they were interviewed. Saturation occurs when there is no new information on the subject of the research and continuing data collection only confirms the emergent themes and conclusions (Faulkner & Trotter, 2017). Informed consent was verbally obtained from all the participants. They were notified of their rights to participate, refuse to participate, or stop participating in the study at any stage they chose. They were all willing participants. The data were analysed from the main theme.

4. Results and Discussion

The impact of mineral exploration in Plateau State is significant and has far-reaching consequences that affects the country's environment, economic and social development. Central to issues of mineral exploration impact pertains to: transparency and accountability, and corruption and mismanagement.

Implications of policies and action

Responding to the question regarding the policies and action, the former executive governor of Plateau state mentioned his position concerning this, and when asked, "if it can be said that the impact of mineral exploration on development has not been positive", he said:

...Yes it has not, rather it has negatively. Since the British companies, amalgamation tin mines excavated the land has left open ponds. In summary, there is poor development drive of the EI sector, there is backwardness in terms of technological, and technical empowerment of the people...The role state government take giving the exclusive legislative list, and the Federal Government control of the minerals. Restructuring the entire country...in doing so, solid minerals should not be left out as an exclusive right of the Federal Government...There have to be an understanding for the state government participating in resource governance. The current set of government should a take look in consistency with government action...

Plateau Indigenous Miners Association (PIMA) responded to the researcher's question concerning the theme in the same manner, and he said:

...The Chinese companies are the big players in the mining industry today, they liaise with the federal government at Abuja before reaching their location of business in the state...The community has less or no inputs at all to say because the community has insignificant input between the federal government and the Chinese multinationals. In this sense...the issue of a meaningful community development is not feasible... Another issue has to do with ecological concerns which have to do with land devastation without reclaim...The Chinese big companies pay less attention to it leaving the host communities in deplorable and vulnerable condition because at the end...communities don't have the capacity to reclaim the devastated land caused by mining...

Transparency and accountability action

When the representative of Plateau State Ministry of Environment and Mineral Development (PSME &MD) was asked by the researcher concerning the impact “when comes to the development”, would you say that these present actions which includes compliance with the provisions of Mining and Mineral Act, of 2007 and the transparency standards as stipulated by NEITI in the extractive industry has brought about the desired development?

...the unfortunate thing that we have even thought about is that we felt the colonial administration's era cheated us, but at the end and in comparison with the present engagements I found out that they were more transparent than this present crop of actors. ... There is no social responsive project that is linked to any mining company...like the many that we saw from the colonial administration...Well, we have found out that there is little or no much transparency, if you have laid your hands on the NEITI report of 2021 you will find out that at a point they declared billions of naira in terms of royalty that miners are not paying... He also said if 13% is going to oil producing areas the non-oil mineral producing areas should have their own. It seems as if the oil producing areas benefit more than the solid mineral producing areas...why is it so? Now the former OPADEC law that transformed into NDDC is actually there today, we have the Petroleum Information Act and the Ministry of Niger Delta...So you can see what they are gaining from the Ministry because it is entirely in charge of the Niger Delta development...There are opportunities and benefits that the Niger Delta are getting... then the Petroleum Industry Act (PIA) these are benefits for the people of the oil producing states...and those things are responsible for the development of their areas. But what are we having here in the solid mineral producing areas?

Respondent from Mining Cadastral Office (MCO) also shared his opinion when asked about their requirement before issuance of licence, he said:

...we have a case sometime that we refused to grant licence to a company on the basis that the community refused to grant the company a consent letter...so you can see that it is an important prerequisite that must be fulfilled...

Technical and financial assistance

The researcher asked the respondent from the Mineral Buying Centre (MBC) if his organization has ever received any technical or financial assistance from the federal or state government. He replied by saying:

... Not at all...there has never been a time that such assistance was extended to us...

A related dimension to the impact of mineral exploration on development was asked by the researcher, “If the respondent who is a Tin Shed Operator (TSO) do add any value to the mineral you buy”? He said:

...No, because we don't even have the knowhow to do so...It is a something that you need to know the process...and we don't have the knowledge or information to do so... All we do is to buy and remove the impurities in the material before selling our products...

Another respondent who is a representative of Nigerian Extractive Industry Transparency Initiative (NEITI) was asked how mineral exploration impact on development, he said:

...When it comes to value addition which is part benefit of mineral exploration and development it is very poor, it is below 5%...There are minerals we have here that are used for off shore drilling but it will surprise you to know that companies still import rather than to buy locally... As I mentioned...weakness in policy implementation has generated poor transparency, accountability, and compliance issues which is a major problem in the industry...

Community development project

Respondent from a focus group from Wase LGA replied when asked “Have your immediate community received any development in terms of community project as a result of the mining activity”?

... I don't know of any, honestly i have not seen anything of that nature.

A representative of the Federal Ministry of Mines and Steel Development (MMSD) what is the impact of mineral exploration, and he gave an exemplified reply and said:

...There is the issue of environmental or ecological concern...miners must reclaim the land after exploration...But we have experienced citizen resistance when we attempted to reclaim a mining pond at Barkinladi LGA...their reason was that the open ponds serves them as a source of water for both consumption and for irrigation purposes...So they mobilized and refused the reclaiming of the existing ponds... Even with the harmful trace of element in the water the people refused for the reclamation. This makes us not to be doing well in terms of the ecological factors you are asking about... The issue of value addition like I said is also poor...

Respondents from a focus group in Jos South LGA when asked if the impact of mining activities has provided the desired benefits for the host communities? He opined that:

...To be honest with you, artisanal mining is the only thing most of the people are committed to...and it is a major source of employment...It is important for you to know that within Kanikon alone, you have mothers, daughters, sons, and fathers both young and old...of all ages that are involved... There are also food vendors, and people that sell even clothes am sure you must have seen them there. So this is the major and only benefit that serves our community.

A traditional leader responded to a related question on the impact, which relates to federal or state government's economic / social intervention program for your community?

...Not one, rather people are harassed occasionally...this illegal mining thing is used ...from time to time against our people who conduct themselves accordingly in carrying out their business...

From the responses above there is overall negative impact of mineral exploration on development Plateau state. Respective opinions gravitates towards impacts such as (Implications of Policies and Action) backwardness in technological and technical

empowerment of the people. The existing resource governance framework excludes the state government from an even participation and such act does not conform to the stipulated provisions of the theoretical framework adopted for this study which is 'common property theory'. Multinational Corporation (s) like the Chinese exerts influence by liaising directly with the federal government. This results in edging out community consideration thereby resulting to poor inputs by host communities / state, inadequate social responsibility / community development programs.

On transparency and accountability of action, land degradation due to lack of reclamation and remediating mechanism of excavated land(s) has escalated the ecological concerns. Other related issues are poor disclosure and poor royalty remittances by private companies to government. Less attention is paid in terms of benefits to solid minerals as compared to oil which signifies a bias in the attitude of the federal government. Aspects of technical /financial assistance has also experienced significant neglect. Value addition, policy implementation, transparency, accountability, and compliance has also been poor. These conditions generated by impact of mineral exploration activities has not propelled development to the desired or expected level that is commensurate in value to what has been mined from Plateau state.

Matters that pertains to community development has been abysmally lacking. There is no attention as a result of mineral exploration given to host communities, opinion suggests that there is no program that is aimed at improving the economic livelihood of members of these host communities.

5. Conclusion

There is significant evidence from the consensus of thoughts which indicates a negative impact as a result of examining the mineral exploration in Plateau state. This has broad consequences on how it drives development, it has also shown that the positive impact are limited, it includes employment that the availability which these mineral resources provides, and it improves on per capita income of both individual and household. There are poor ratings regarding aspects of importance that has to do with the dimensions of transparency, accountability, and themes that addressed critical areas of the research. The study recommends that:

- i. The causal factor that is responsible for the identified negative impact on mineral exploration is the existing resource governance framework. It is responsible for enabling for the provisions in the Nigerian Mineral Mining Act, 2009 as amended and section 44(3) of the 1999 constitution which gives exclusive rights of all minerals to the federal government directly thereby edging out the state government from participating in the governance process. Such provisions need to be reformed.
- ii. The prerequisite of granting mining licences should be attached to critical development objectives. This should be made mandatory stating specific mineral enrichment program that every company that desire to operate in the Nigerian extractive sector must align with the goals of such plan.
- iii. Lastly, it is necessary to have a deliberate effort that is intentional about an economic protectionist policy for the solid mineral sector. This will prevent it from replicating the mistakes that affected the optimization of the oil extractive sector in Nigeria.

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