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MINING, DEVELOPMENT AND HUMAN SECURITY IN NIGERIA(2015 – 2019)

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Abstract

The study examined the intricate relationship between mining, development and human security in Africa with focus on Nigeria between 2015 – 2023.The extractive industry has impacted on development and human security across Africa. The study deployed content analysis to gather and analyze data. Critical human security was used as theoretical framework for the study. The findings of the study revealed that mining activities have impact on development of the political economy of Nigeria; the paper also found out that mining affects human security negatively as it drives violent conflicts which affect human security and a root cause of several displacements across Nigeria which has disrupted livelihoods and negatively impacted sustainable development. The study also found out that the extractive industry has the capacity to contribute immensely to the development of Nigeria and Africa. The study thus concludes by observing that the extractive industry can be pivotal in creating a new frontier for Africa's development if it can be adequately exploited by governments who should take adequate measures against the rise of non-state actors in the extractive industry and the consequent human security breaches they cause.

Key Words: Mining, Development, Human Security, Extractive Industry, Conflict

Introduction

Mining has played a pivotal role in the development of societies from time immemorial. Mining of mineral resources has been a key facilitator of the political economy of nations. It has contributed to employment; poverty reduction; infrastructural development; and expansion of the

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local economies of scale in the areas of their extraction; and through the interaction of the aforementioned to the GDP and general economic growth of nations.

On the global scale mining has been instrumental to the growth of national economies in different countries of the world as it has provides key opportunities for nations to act on its natural endowments in terms of exploitation of its solid minerals as it attempts to navigate through the challenge of engineering a developmental process for the growth of their political economies. According to the National Mining Association of America (2022) U.S mining directly and indirectly generated more than 1.2 million full-time and part-time jobs in 2021 including employees and the self employed; generated more than $80 Billion to the national economy which includes wages and salaries of employees; and paid a tax of about $40 billion to the government. Mining related economic activities contributed $40 billion whopping dollars to the United States political economy to develop infrastructure, social amenities such as education and extensive health care and financing entrepreneurship that sets United States of America ahead of other nations in the area of economic development.

Extractive industries associated with mining continue to play key roles in the development of advanced countries such as Australia, Canada, Finland, and Sweden amongst others. These developed countries have benefited immensely from mineral extraction as they use their extractive industries extensively as a platform for broad based industrial development for their countries expanding finance and revenue for the prosecution of governmental activities (Buitelaar, 2001).The benefits of mining have not only benefited the national economy but has equally benefitted the areas where the mining activities take place. Promoting the local economies of scale and economic well being of the people (UNDP, 2001).

It is important to also note that developing countries are not left out in the exploitation of the inherent capacity of mining to contribute towards the development of their economies. UNDP (2001) note that in recent years developing countries in understanding the concept of mineral led development are to trying to harness the opportunities in mining by establishing governmental structures to facilitate rapid and visible development accruable from the mining sector with a 10 – 30 years projection. An example of the above is Chile which has been ranked among the group

of 'high human development'(39th on world global development index) countries through bold initiatives to exploit its copper (it currently accounts for 35% of worlds output) which has brought relative prosperity, reduction in unemployment and attraction of migrant workers with the attendeant benefits to the local economies of scale of the country (UNDP,2001).

In Africa mining of gold and other precious stones have been ongoing for ages serving as part of the evolutionary pedestal for the phased transition of African economies into modernity and the international global economy that is facilitated by the interaction of production and exchanges that occur amongst internal factors of production in national economies. Mining has contributed substantially to the development of copper belt countries of Southern Africa (Democratic Republic of Congo formerly called Zaire, Zimbabwe and Zambia); Ghana (formerly called the Gold Coast) and Botswana amongst others. In fact Botswana is regarded as one of the most successful countries in Africa that have exploited the potentials in mining activities to develop its economy. Botswana is a major producer of gem diamonds. Botswana is regarded to have one of the highest economic growth rates in the world averaging 9% annually (Larmont,2001).

Conditions to Translate Mineral Wealth to Human Development

As identified by the world Bank there are conditions that are necessary to convert mineral wealth into human development based on its studies of mining activities around the world which suggest that for every dollar a company spends on mining activities it generates another USD2.80 elsewhere in the economy thereby providing a stimulus for the economy as minerals companies forge linkages with industries that supply goods and services and those that process mineral output enhancing injections of hard currency that strengthens the balance of payments, along with royalty payments and corporate taxes that boost government revenues (Weber-Fahr et al,2001). Some of these conditions include:

a) developing minerals potentials and attracting exploration and development investment;
b) establishing an attractive investment climate and progressive minerals policies;
c) developing a domestic mineral-sector infrastructure;
d) creating and sustaining mineral wealth while protecting environmental quality and other social and culturalvalues;

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e) sharing the surpluses or economic rents from mineral production equitably among different levels of government, local communities and mining companies;
f) converting non-renewable resources (mineral wealth) into renewable ones by investing in physical and human capital, and doing so in a way that also help protect the interest of future generations;
g) maintaining a stable economic environment that identifies and address the impact of exchange rate on mineral mining activities; and
h) dealing with the potential impact of the mining sector on crucial issues of governance, in particular corruption, revenue sharing amongst component units in the country and conflict management.

The above are essential requirements for the exploitation of the mineral sector into a strong economic sector producing necessary output that help to shape the strength of the political economy of any given nation.

Even though mining is a development tool when appropriately exploited.Its exploitation has created challenges to human security fuelling insecurity and intractable conflicts that remain unresolved as a result of the exploration and exploitation of mining related activities. Across the globe mining has caused devastating effect on the environment; mass displacement of individuals as a result of conflict over mining rights and exploitation and large scale conflicts.Samanlangi,Yusuf, llwandri, and Fantoni ((2024) observe that conflicts often arise between mining companies, governments and local communities over issues such as evictions, environmental damage and pollution which can hinder sustainable development. The conflicts that emanate out of mining activities have the capacity to derail the developmental quest of a country and create conflict situations that make the environment unconducive for flow of labour and investment capita that is essential in the exploitation of mineral resources for economic growth.

Objectives of the Study

The general objective of the paper is to find out the impact of mining on development and human security in Africa with particular reference to Nigeria. However the specific objectives of the study include:

1. to find out the impact of mining on development on the political economy of Nigeria;
2. To find out the impact of mining on human security in Nigeria; and
3. To find out the potentials of mining on the development of Nigeria and other African countries.

Methodology

Content analysis was used to gather and analyze data in this study. This includes the examination of government documents, journals, text books, news papers and other secondary sources of data.

Theoretical Framework

The critical human security framework was adopted as the theoretical framework for the paper. The critical human security framework emerged out of the inability of the traditional security theory to deal with emerging issues in nations that has to do with the wellbeing of the individual. It emerged as a response to the deficiency of the human security theory which emphasized state security based on military threats, territorial integrity, and national interests. The concept of human security first emerged in contemporary literature with the UNDP Human Development Report of 1994.Human security emphasize the wellbeing of the individual as an integral part that constitute security and adequate attention needed to be given in order to resolve it. It identifies issues such as poverty, disease, and environmental degradation (UNDP, 1994).

The critical human security framework developed alongside the human security theory as they both converge on how the individual's wellbeing is an important component of security (Newman, 2010).They both challenge the state centered explanation of security based on the defense of territory by the military of a country. Critical human security looks at issues such as identity, social justice and human rights which are cardinal in promoting and understanding the

role the individual plays in the overall security architecture of a nation. It suggests that human security is essential towards achieving sustainable development in the socio-economic arena. It argues that practices in the socio-economic space should align together to promote long term security for individuals and communities (Chenoy and Tadjbakhsh, 2007)

The critical human security framework is relevant to this study as it provides an analytical tool within whose lens the impact of mining on development and human security can be adequately visualized by addressing the analytical confusion in the human security framework (Newman,2010).As critical human security centre's its assumptions alongside human security on the wellbeing of the individual as against the state centric view of traditional security theory it is well situated to examine the impact of mining on the development of the country and how mining activities affect the well being of the people in terms of how Dudley Seers describes development (what has being happening to poverty?;what is happening to unemployment?; and what has been happening to inequality?) as a function of individual's development which put together form the aggregation of what constitute national development in the political economy of a country (Ayodele,2022).

The theory provides the lens to examine the relationship between mining, and development and mining and human security on the other hand and how development that is measured from the level of individual participation in the economic process is affected by the effect of mining activities which can include conflicts, displacement, loss of livelihood and environmental degradation (Renner, 2002)

Conceptual Review

Mining

Mining is a special activity that involves the digging of the earth in the search of precious and valuable minerals that have economic value. Mining is an ancient activity that is as old as man as it originated from time immemorial. Mining has been defined by Donnelly (2018) as the extraction or abstraction of mineral deposits from the surface or subsurface of the earth. These materials mined are precious to the survival of humanity as societies continue to depend largely on valuable minerals that are mined for the use of man in society.

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Mining is said to have its earliest beginnings to Neolithic times (8000 – 2000 BCE) when stone tools where developed for this purpose while surface underground mining in parts of Africa (Swazi land) dates back to thousands of years and in Czechslovakia (Europe) many centuries before the Common Era. Mining is an old institution that has contributed towards the growth and development of different societies contributing to their political economy by providing avenue for engagement of with the gifts of nature to facilitate economic exchange and production that is crucial for the survival of man on the earth. However modernization has improved modern mining through the development of processes and procedures that enhance quality of the mineral mined and its profitability. Best standard modern mining processes include prospecting for iron ore bodies, analysis of profit potential, extraction of the minerals , and reclamation of land after a mine is closed where necessary (Agricola,George,Hoover, and Herbert,1950).

Clark and Mero (1965) define mining as the process of extracting useful minerals from the surface of earth including the seas. They observe that minerals with few exceptions are an inorganic substance occurring in nature that has a definite chemical composition and distinctive physical properties or molecular structure. Conversely in more practical terms Tenesse Department of Labour and Workforce Development (2022) note that mining simply refers to quarrying , or production of coal, cobalt, copper, cobalt, fluorspar amongst others and all other by products of any other mineral produced. Donnely (2018),Clark and Mero (1965) and Tenesse Departmrnt of Labour and Workforce Department (2022) all converge on the definition of mining as involving the extraction of valuable and important mineral resources from the earth. Mining to this end can be described as the extraction of mineral resources from the earth through the use special techniques

For profit and wellbeing of the miners , the local economy and the country at large. Mined products such as gold, gem stones, silver, gold ,copper. Iron ore amongst others are mined for profit and they invariably add value to the political economy of any given specific area. Iron ore is regarded as one of the most common minerals in the world and the backbone of industrial development as it is used for steel production. Austraia, Brazil, the US and Canada hold the largest iron deposit in the world (Mining and Minerals Today,2025).

According to Casely (2018) he stated that as reported by the British Geological Survey from statistic on mining in the world from 1913 they identified five most mined minerals in the world to include: Coal an important source of fuel for rail transport whose global reserve is enough to last for 150 years China leads globally in the production of coal; iron ore critical to industry and construction has a massive deposit of 4.6 billion tones, the largest iron producing countries include South Africa,USA and China; bauxite a key element in aluminum production, the five largest producers of bauxite in the world are India, Guinea, Brazil, China, and Australia; phosphate rock which is essential in the production of fertilizer and match boxes, China is the largest producer of phosphates globally; and gypsum a major component for construction materials such as cement has an upward global demand and increase in its production to meet with global demand for it, China is the largest producer of gypsum globally. From the fore-going it can be observed that mineral mining contributes its fair share to the development of countries across the globe providing employment for the populace, revenue for government, and stimulus for the economy (Buitelaar, 2001).Other most mined minerals globally include iron ore, bauxite, gold, copper, sand, gravel, oil, gold, silver, gypsum, coal, copper, and phosphate rock amongst others (Casely, 2018; Mining and Minerals Today, 2025).

Development

Development is a multifaceted concept that has been defined variously by different scholars depending largely on their backgrounds, aspirations and even professions. Pearson (1992) observe that development does not refer to one particular perspective on social , political and economic betterment but rather a hybrid term that is used to describe a couple of strategies socio-economic and environmental transformation from a current state to a desired state. Development in its most simplistic form can be described as progress from one level to another. As Pearson (1992) observes development has to do with advancement in affairs in any endeavor of life. This is so when development is viewed from the angle of growth and progress of society.Rabie (2016) describes development as an economic concept that has positive connotations. He argues that development involves the application of certain economic and technical measures to utilize available resources to instigate economic growth and improve people's quality of life. Development has to with the quality of life of the people facilitated by

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access to basic necessities of life which is on the basis of indexes used to evaluate the quality of standard of living amongst the citizenry.

Seers (1969) defines development by suggesting that to comprehensively understand the term development then certain parameters must be examined which include evaluation of what is happening to poverty, unemployment and inequality. He argues that development is when a country experiences a reduction or elimination of the key indices in the evaluation of quality of life of the people which are poverty, inequality and unemployment. In agreement with Seers (1969) Owens (1987) suggested that development refers to a state of progress or human development. In essence he emphasize that development can only be said to occur when there is appreciable level of progress in areas that are used to measure the quality of life of the citizenry. He argues that development does should implicitly refer to human development.

On his part, Mathur (1985) views development as enhancing the capacity of people in the grassroots to influence their future for the better by doing what needs to be done to expand and optimize resources for their desired change. In agreement with Mathur (1985) UN (2011) view development as the enlargement of the range of people's choices to make development more democratic and participatory. Both the UN (2020) and Mathur (1985) identify role which the people can play in facilitating development. The role involves ability to influence political processes. Ibezim (1999) notes that development in a nutshell is government's ability to improve the welfare of the citizenry to move from one state of desirability to a higher state of desirability through deliberate, conscious and strategically focused design and implementable programmes and projects. This definition is consistent with Rabie (2016) who views the fluidity in the term development to include a desirable state of progress deliberately engineered. However Moti (2018) views development a constant process of transformation. He argues that it is a dynamic process denoting a state of ceaseless change. His argument aligns with Owens (1987) who views development as a state of progress and human development. Like Moti (2012) he doesn't see development as static .He sees development as a progress in motion. Development has to do with the advancement the quality of life of the people.

Human Security

Human security emerged in the 1990s' as a response to the failure of the traditional security theory which emphasized state centric concept of militarism and its protectionism as an institution of the state entrusted with that responsibility. The term human development was first coined and used in the UNDP Human Development Report of 1994.Human security emphasizes the wellbeing of the individual as a vital component that should be attended to which is crucial to the attainment of security in the community (UNDP,1994).

According to Tadjbakah and Chenoy (2007) human security is an extension of mere existence (survival) to well being and dignity of human-beings. His position is consistent with that of UNDP 2011 as it argues that human security is important to the existent and survival of man in the community. Important to note is that it is when individuals are secured and have a sense of security that they can be able to positively contribute towards the growth and development of their societies. Social Security in terms of economic capacity to meet the basic necessities of life is essential in evaluating the level of development of any particular society. Social security issues such as poverty, inequality and unemployment (Seers, 1969) represent an aspect of developmental paradigm that constitutes human security.

Arcudi (2006) observes that human security as an alternative to the traditional state based concept of security recognizes the individual as the centre of attention for security. He suggests that state practices should reflect the wellbeing of the individual as the centre of attention for security than priotising focus on its security borders through unilateral military actions. Like Tadjbakah and Chenoy (2007) he tries to make a correlation between the security of the state and the security of the individual. He argues strongly that the security of the individual reflected in the promotion of his well being is essential in entrenching the security of the state therefore focus and attention should be given to issues that promote individual security by the government.

Thakur (2006) views human security as the quality of life of the people of a society or polity. He notes that anything which degrades their quality of life such as demographic pressures, diminished access to stock or resources amongst others is a security threat. Conversely anything which can upgrade their quality of life such as economic growth, improved access to resources

,social and political empowerment enhances human security and by implication the security of the community. His position links the quality of life of individuals as a key determinant of the security. Development which is propelled by enhanced quality of life therefore is an important factor in determining the quality of security available at the national and supra national levels of a country.

On their part Ginkel and Newman (1994) describe human security in policy terms as an integrated ,sustainable ,comprehensive security from fear ,conflict ,ignorance, poverty social and cultural deprivation and hunger resting upon positive and negative freedoms. Their view aligns with Japan Review of International Affairs (2000) which views human security as freedom from pervasive threats to people's rights, and safety of lives.Alligning with Ginkel and Newman (1994) Leaning and Arie (2001) state that human security is an underlying condition for sustainable human development. He links human security with sustainable development. In essence the well being of the individual in terms of what is happening to poverty, inequality and unemployment (Seer (1969) key parameters for evaluating development).

Mining has had an ambivalent effect on development and human security in Africa and Nigeria. Individuals have engaged in mining primarily to reflect the position of the basic assumptions of human security which emphasizes the well being of the individual as an important component of national security. Mining in some places in Africa have adversely affected human security as extraction activities have triggered degenerative conflicts that have put development of those areas on hold and engendered massive human crisis leading to displacements and even warfare as experienced in the Democratic Republic of Congo, Sierra-Leone, Liberia amongst others that have been negatively impacted by the outcome of the struggle over mining rights, acquisition and other related transactions (Samanlangi et al,2024;Ojewale,2022;Marais et al,2022).

Impact of Mining on Development and Human Security in Africa

The impact of mining in Africa cannot be overemphasized. It has contributed to the growth and development of the urban areas, provided employment; facilitate industrialization and revenue generation for governments. Even though it has such negative impacts like environmental degradation, generation of conflicts that have affected the concept of human security and

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facilitation of moral decadence in some places it remains to be understood that mining has contributed towards the building of modern Africa and its exploitation still continuously contribute to the economies of several African countries**.** Bville and Bishoge (2024) in examining the critical roles mining plays in Africa's development report that mining operations and businesses across Africa have beneficial and negative effects on communities, eco systems and economies. They state that mining contributes to eliminating extreme poverty; reducing hunger; improving human health and education in communities; generate foreign revenue and creates jobs which allow governments to enhance their socio-economic infrastructure. In making a correlation between mining and development they establish that mining has positive impact on the development of African countries as it positively influences socio-economic indices such as poverty, employment, government revenue and infrastructure amongst others.

In alignment with Bville and Bashoge (2024) Hilson (2020) argue that mining in Africa helps economic development by strengthening industries, earning foreign currency , generating capital , developing towns and large cities , diversifying the economy ,stimulating construction activity and supplying energy. Mining is therefore playing a pivotal role in stimulating key aspects of the economy such as foreign currency earning, capital development and supply of energy that are essential in enhancing ,creating ,enabling and facilitating economic growth. These key aspects are important in the growth of the national economy from one level of progress and advancement to another (Owens, 1987).Consistent with the above position on the impact of mining on development in Africa Wincewicz-Bosy,Dymyt and Wasowska (2021) aver that mining do not only provide raw materials for industries but also support construction, innovation and food production which are important aspects for the growth of any country's economy.

In contrast to Bashoge (2024) and Wincewicz-Bosy et al (2021), Marais et al(2022) and Ojewale (2020) in evaluating the impact of mining on Africa argue that mining has increasingly been linked to armed groups, crimes ,political instability, and ethnic violence in different countries in Africa such as Democratic Republic of Congo (DRC),Sierra-Leone, Liberia, South Sudan, South Africa, and Uganda. The above provides the nexus that links mining to the role it plays in human security. They establish that mining do negatively impact on the well being of individuals .communities and the country where they operate through the loophole it creates for conflict and

its exacerbation into full blown crisis as have been seen in some of the above mentioned countries. Mining therefore affects human security negatively through the fall out that is directly linked to its activities. Furthermore Sefi et al (2017) presents the picture of the effect of mining on human security by observing that that mining contributes to environmental challenges such as climate change, deforestation and habitat destruction, soil erosion ,human wild life conflict and biodiversity loss which all aggregate together individually or collectively to negatively affect livelihood and sustainable development. From the foregoing it can be established that there is a link between livelihood which is essentially the reflection of the well being of the individual and sustainable development.

According to Bville and Bashoge (2024) Africa is blessed with substantial amount of mineral resources and some of these mineral resources that are mined include: tanzanite, gold, diamonds, uranium, platinum, and coal. Markwitz et al (2016) observe that out ten top gold and diamond producing countries in the world six are in Africa and they include South Africa, the Democratic Republic of Congo (DRC),Botswana, Ghana, Angola, and Namibia. From the above it can be observed that mining of minerals play a pivotal role in the economies of African countries where they contribute substantially to the revenue of the government.

Impact of Mining on Development in Nigeria (2015 – 2023)

Nigeria has a large deposit of mineral resources that is being mined across the country. Nigeria's mineral resources were one of the attractions for colonial interest in the country. Prior to independence and the oil boom of the 1970's solid minerals such as coal, tin and columbite contributed to the economy of Nigeria. Coal was the source of power generation and main source of energy for railway transport. At a point in time it Nigeria was the largest producer of tin and columbite.All these three important minerals generated earnings that helped strengthened the country's economy (Udefuna, 2013).In fact coal and tin were the highest foreign exchange earners for the country during the colonial period (Adekeye,1999).This made solid minerals mining to be a major driver of economic growth in the country and development with latent potentials to contribute more to the economic development of the country. The above was however before the oil boom era of the 1970's. However the money from petroleum led to the

neglect of the sector through what is popularly called the "the Dutch disease" otherwise used to describe neglect of profitable venture and this crippled the great inroads the solid minerals mining was making and diminished its inherent economic potentials (Auty,1993).

It is important to note that the above analysis represent the impact of mining on the development of Nigeria before independence and the oil boom of the 1970's.This study is restricted to examining the impact of mining on Nigeria's development and human security in a post oil boom era specifically from 2015 – 2023.According to MSMD (2016) Nigeria has 44 different minerals across 450 different locations in the country. The table below shows mineral deposits across states that are mined for economic purposes.

Table 1 Solid Minerals Deposit by States in Nigeria

S/N	State	Mineral Type	Number of Deposits	
1	ABIA	Glass sand, limestone, salt, shale, ball clay, galena, granite, marble, laterite, bentonite, phosphate, kaolin, pyrite, feldspar, lignite, gypsum, sphalerite, clay	18	
2	ADAMAWA	Granite, clay, gypsum, limestone, uranium, kaolin, coal, trona, barite, salt, marble, magnesite, laterite		
3	AKWA IBOM	Clay, glass sand, salt, silica sand, granite, coal, kaolin, limestone, lignite	09	
4	ANAMBRA	Iron stone, clay, sand stone, kaolin, pyrite, lignite	06	
5	BAUCHI	Trona, kaolin, cassiterite, gypsum, mica, tantalite, galena, iron ore, gemstone, silica sand, sphalerites, barites, columbite, lead/zinc, muscovite, quartz, tin, glass sand, salt, monazite, feldspar, graphite, wolfram, coal, stone aggregate, tantalum, rutile, tungsten, copper, talc, ilmenite, zircon	32	
6	BAYELSA	Silica sand, salt	3	
7	BENUE	Bentonite, crude salt, limestone, glass sand, gemstone, barites, feldspar, marble, mica, slilica sand, galena,	30	

		quartz, lead/zinc, clay, coal, gypsum, kaolin, anhydrite, calcium, sulphate, brick clay, crushed and dimension stone, fluorspar, wolframite, bauxite, shale, magnetite, ilmenite, brenite		
8	BORNO	Natural salt, silica sand, topaz, sapphire, mica, quartz, gypsum, uranium, iron ore, magnesite, feldspar, granite, aquamarine, nepheline, limestone, kaolin, bentonite, laterite, refractory clay, trona, gold, tin, potash	23	
9	CROSS RIVER	Limestone, salt, coal, manganese, mica, ilmenite, gold, quartz, glass sand, tourmaline, kaolin, tin ore, sharp sand, clay, talc, granite, galena, lead/zinc, goethite, muscovite, uranium, barites, rutile	23	
10	DELTA	Laterite, kaolin, gravel, silica sand, ball clay, bauxite, granite, sharp sand, clay	09	
11	EBONYI	Lead/zinc, salt, limestone, ball clay, refractory clay, gypsum, granite, silver	08	
12	EDO	Charnockite, copper, gold, marble, granite, gypsum, diorite, lignite, limestone, ceramic clay	10	
13	EKITI	Lignite, clay, charnockite, quartz, limestone, granite, gemstone, bauxite, cassiterite, columbite, tantalite, feldspar, kaolin	13	
14	ENUGU	Coal, lead/zinc, limestone, barites, kaolin, iron ore, silica sand, salt, laterite, clay	10	
15	GOMBE	Limestone, coal, lignite, gypsum, clay	05	
16	IMO	Kaolin, laterite sand, limestone, salt, marble, shale	06	
17	JIGAWA	Potash, talc, glass sand, granite, laterite, kaolin, silica, iron ore, quartz, limestone	10	
18	KADUNA	Gemstone, gold, granite, Muscovite, manganese, clay, graphite, sand, zircon, kyanite, tin, columbite, ilmenite, bismuth, lithium, wolframite, cassiterite, talc, feldspar, rutile	20	
19	KANO	Thorium, wolframite, monazite, granite, hyalite, beryl, amethyst, gold,	20	

		tin, clay, laterite, cassiterite, columbite, galena, ilmenite, phyrochlorite, kaolin, gemstone, silica, silver		
20	KATSINA	Gold, manganese, laterite, feldspar, black tourmaline, amethyst, quartz, kaolin, mica, gypsum, sillimanite, clay, granite sand, uranium, asbestos, tourmaline, serpentine (chrysotile asbestos), chromites, ilmenite, diamond, graphite, iron ore, potash, silica	24	
21	KEBBI	Bauxite, clay, gold, salt, iron ore, feldspar, limestone, quartz, manganese, kaolin, mica	11	
22	KOGI	Iron ore, gemstone, clay, sand, marble, limestone, feldspar, dolomite, phosphate, mica, cassiterite, granite, ornamental stone, coal, kaolin	15	
23	KWARA	Kaolin, silica, clay, dolomite, quartz, marble, feldspar, gold, tantalite, cassiterite, granite, limestone	13	
24	LAGOS	Bitumen, silica sand, sharp sand, gravel, laterite	05	
25	NASARAWA	Emerald, garnet, sapphire, topaz, barites, Galena, monazite, zircon, glass sand, coal, cassiterite, gemstone, amethyst, beryl, chrysolite, salt, kaolin	18	
26	NIGER	Gold, kaolin, ball clay, limestone, granite, glass sand, iron ore, red clay, feldspar, graphite, cyanite, silica sand, quartz, asbestos, marble, talc, gemstone	17	
27	OGUN	Gypsum, limestone, quartz, tar sand, kaolin, feldspar, silica sand, mica, granite, clay, phosphate	11	
28	ONDO	Bitumen, gold, marble, clay, diorite, lignite	06	
29	OSUN	Talc, granite, clay, dolomite, ilmenite, feldspar, quartz, limestone, mica	09	
30	OYO	Aquamarine, amethyst, tourmaline, dolomite, marble, talc, clay, feldspar, granite, ilmenite, iron ore, kaolin, quartz	13	
31	PLATEAU	Tin, columbite, tantalite, cassiterite, gemstone, dimension stone,feldspar,	30	

		monazite, clay, kaolin, dolomite, mica, zircon, marble, ilmenite, barites, talc, galena, quartz, bismuth ore, gamet, tourmaline, copper, topaz, bauxite, silica, sharp sand, granite, gravel, rutile		
32	RIVERS	Silica, glass sand, clay	03	
33	SOKOTO	Limestone, gypsum, kaolin, potash, granite, laterite, salt, clay, silica, phosphate	10	
34	TARABA	Salt, trona, barites, uranium, bauxite, sand, granite, clay, fluorspar	09	
35	YOBE	Gypsum, diatomite, clay, sand, bentonite	05	
36	ZAMFARA	Gold, lead/zinc, clay, sand, barytes, iron ore, lithium, wolframite, manganese	09	
37	FCT	Marble, granite, dolomite, iron ore, lead/zinc, feldspar, gold, clay, laterite, sand	10	

MSMD,2016

The table above represent minerals that are mined according to states across Nigeria. Six of the seven states with the highest deposit of solid minerals that are being mined are in the north while one is in the south of the country. The states with the highest number of solid minerals are Bauchi,Benue,Plateau,Katsina and Borno (all in the north) and Cross River (a state in the south of the country).

Amedu, Chidinma, and Amuezuoke (2023) observe that the contribution of the mining sector to the revenue of the Federal Government is negligible compared to the potentials the sector has even though it is a source of employment for millions of people across the country. Revenue is a yardstick for measuring the contribution of any sector to the development of the economy of the country. How much is generated by a sector to help fund the activities of government to a large extent determine the value of its assessment on how much it contributes to the development of the country.

Olayinka and Ajibola (2016) in analyzing the importance of mining to the country's economy note that mining revenue is significant in enhancing government finance to finance public activities. This view by Olayink and Ajibola (2016) is supported by Adegbulugbe et al (2019) who state that taxation from the mining sector contributes in sustaining Nigeria's fiscal stability. On his part Badeji and Adesida (2018) stated that the mining sector is contributing to financial inflow into the Nigerian economy.Olayinka and Ajibola (2016), Adegbulugbe et al (2019) and Badeji and Adesida (2018) all converge that mining contributes to the financial inflow into the economy of the country. They observe that activities that go on in the mining sector generate revenue through taxes that contributes to governments overall finance that is required to run the activities of government.

On his part Adegbite and Akoja (2018) state Nigeria has an underdeveloped mining sector which has limited impact on overall economic growth due to inadequate infrastructure, policy disparities, regulatory impediments and limited access to financial resources. He argues strongly that the mining sector is not contributing as expected to the development of the economy because of absence of certain essential variables that is needed to stimulate the role it can play in stimulating the economy for growth and development.

Amedu et al (2023) in their studies on the impact of the mining sector on development in Nigeria x-raying its contribution to revenue revealed that mining contributes minimally to the revenue of the federal government due to challenges that exists in the exploitation process. He identifies these challenges to include illegal mining, smuggling, inadequate infrastructure, environmental concerns and regulatory complexities. Conversely some of these challenges he identifies such as illegal mining, smuggling, and environmental degradation bridge the concept of human security. They are activities that affect the well being of individuals either involved or within the zones where mining takes place.

Impact of Mining on Human Security in Nigeria

Mining activities have impact on the well being of the individual, considering the definition of human security as the promotion of the well being of the individual as defined by the UNDP Human Development Report of 1994 where the concept of human security was first conceived.

The concept emphasized that issues that have to do with the individual's quality of life is essential in achieving security in the community and the country at large. Issues such as reduction in poverty, access to health care, education, portable water and decent pay by the individual where identified as crucial to security of the country (UNDP,1994).Ojakorotu (2024) in discussing the impact of mining on security in Nigeria observed that illegal mining which is an integral part of the mining regime in Nigeria drives banditry and violent local conflicts in the North Western region of the country. He argues that there is a co relationship between mining in Nigeria and insurgency, wanton economic ,social crises that threaten internal security and limit sustainable development of the region and other regions were mining operations is carried out across the country. His argument presents a parallel between mining and human security in the country. It emphasize that there is a relationship between mining, banditry and violent conflicts in the North West of Nigeria especially Zamfara State which has become the hot bed of terrorist non-state actors who control mining activities in the areas they have occupied. Mining as the driving force of these conflicts has triggered and sustained large scale disruption of livelihood of the local population many of whom have become displace while others cannot farm, while another good number have either being kidnapped or killed as a result of the activities of criminal gangs whose main interest is access, control and exploitation of mining fields (Marais et al,2022;Ojewale ,2020;Sefi et al ,2017).

On their part Awogbami,Ogunyemi,Adebayo, and Raimi (2024) establish that multiple environmental hazards associated with gold mining activities significantly affect the health of both miners and non-miners in Nigeria (Osun State, South West Nigeria one of the mining centres in the country).They identify mining risk factors on the wellbeing of the individual and community to include water and air pollution , noise and unsafe mining practices. These risk factors impinge on the ability of individuals to contribute meaningfully to the security architecture of the community as the risk factor takes its toll on their productivity, social security and even mental health.

It is important to note that the link between mining of valuable minerals to violence negatively impacts the tenets of human security across Africa and Nigeria in particular. For instance the mining of diamonds and gold across West Africa, Colombo-Tantalite (Coltan) in the Democratic

Republic of Congo and gold in Indonesia have contributed substantially to enabling violent conflicts in the areas of mining and even beyond the geographical landscape of the mining zones. In addition traffic in traffic in the products of valuable minerals that are mined is believed to have helped finance Al-Qaida terrorist operations which has base across Africa. The exploitation of these minerals have created negative impact on human security as the conflict over diamond and gold in West Africa ,Coltan in Congo, and the products of illegal minerals transactions by Al-Qaida in all the countries of their operations have destabilized the communities and strengthened the phenomenon of ungoverned areas or territories (Ballentine and Sherman,2003;Le Billion,2003;Rose,2002).The phenomenon above validates the resource curse theory as some of these conflicts occasioned by the exploitation of valuable minerals linger on for a very long time because of the ability of proceeds of mineral wealth to finance continuity of violent conflicts , strengthen initiatives to breach peace processes and undermine discipline among security forces.

Conversely mining of valuable minerals become inimical to human security and development as proceeds from mineral exploitation is used to purchase arms by non-state actors and other criminal gangs. The after effect of this include mass casualty amongst security forces in the prosecution of legitimate means to address the activities of these non-state actors; and mass displacement of civilians either as refugees or internally displaced persons. In addition, mining impacts human security through environmental degradation causing irreversible damage to water, arable land, forests, wild life, hunting and fishing grounds which affects the quality of life and affects livelihoods and sustainable development (Renner, 2002).In fact Collier (2002) argue that as studies have shown micro-economic dependence on mineral wealth increases a country's socio-economic vulnerability and weakens its government. Of course this cannot not be unrelated to the fall out of mining activities that negatively impacts human security.

However, human security challenges that emerge through mining can be adequately addressed and reviewed in order to exploit the potentials it has in contributing to the development of the country. From the fore-going therefore it can be established that mining activities in Nigeria have negatively impacted human security as advocated by the UNDP 1994 Human Development Report. However Adekeye (2010) in his studies on the impact of conflict on Nigeria's mining

sector revealed that benefits derived for developing the mining sector outweighs the besetting challenges that is affecting the sector.

Discussion of findings

The findings of the study revealed that mining activities have impact on development of the political economy of Nigeria. This is consistent with Badeji and Adesida (2018) who stated that the mining sector is contributing to financial inflow into the Nigerian economy

The paper also found out that mining affects human security negatively in Nigeria as it drives violent conflicts which are root causes of several displacements across Nigeria which has disrupted livelihoods and negatively impacted sustainable development. This is in agreement with Ojakorotu (2024) who asserts in his examination of the impact of mining on security in Nigeria observe illegal mining which is an integral part of the mining regime in Nigeria drives banditry and violent local conflicts in the North Western region of the country and other regions where mining operations is ongoing.

Lastly, the study found out that the extractive industry has the capacity to contribute immensely to the development of Nigeria and Africa. This is consistent with Wincewicz-Bosy et al (2021) who aver that mining do not only provide raw materials for industries but also support construction, innovation and food production which are important aspects for the growth of any country's economy.

Conclusion

The study thus concludes by observing that the extractive industry can be pivotal in creating a new frontier for Nigeria Africa's development if its potentials can be adequately exploited by governments who should take adequate measures against the rise of non-state actors in the extractive industry and the consequent human security breaches they cause.

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