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Crisis of Natural Resource Governance in Nigeria's Extractive Industry: Examining the Phenomenon of Artisanal Mining/Quarrying

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Crisis of Natural Resource Governance in Nigeria's Extractive Industry: Examining the Phenomenon of Artisanal Mining/Quarrying

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I. Introduction

Governance is, arguably, the most crucial challenge of government and politics in contemporary states. It refers to the capacity of the state to develop and leverage civic synergies to enable her effectively oversee its jurisdiction, enforce its values, implement its policies, control its population, as well as harness and exploit its resources for the advancement of the common good. The challenge of governance among states in the world today has seen variously affirmed in the notions of 'governance crisis, 'governance deficit' and 'governance failure' (RGI, 2013; ELI, 2014; Okoli & Orinya, 2014). It also prominently resonates in the 'state failure' literature (King & Zeng, 2001; Hoeffler, 2009).

Governance is in a very deplorable state in many developing countries. This is principally as a result of weak government and civil society institutions. The situation in Africa appears much more hopeless and precarious. In many African polities, there exists a plethora of 'ungoverned, 'ungovernable' and 'had-to-govern' civic spaces (cf. McLean & McMillan, 2003:226). These are spheres within the civic realm that are more or less devoid of a 'regulated life'. A case in point is the natural resources domain, which has been largely under-governed or ill-governed in most countries of the Continent (Ezirim, 2010).

Natural resources refer to Nature-given material assets that can be harnessed by mankind to sustain life and create wealth. They include all organic valuables accruable from the earth, land, waters, the wild (forests) and natural vegetation. Examples of such resources include minerals, metals, wildlife, fish, timber, wood, sand, clay, to mention but a few. These resources are freely supplied by Nature in both subsistence and surplus quantities for human exploitation and use.

Over the years, management of natural resources has posed a huge challenge to many countries. Most resource-rich countries in Africa have no established and viable natural resources governance regime (UNEP, 2013). Where such a system exists, it has often been characterized by inefficiency and mismanagement (Darby, 2010). In this regard, it has been observed that:

> Some countries negotiate poor terms with extractive companies, forsaking potential long term benefits. Many countries do not collect resources revenues effectively. And even when resource revenues do end up in government coffers, they aren't always spent in ways that benefit the public (RGI, 2013:3).

Hence, while some African countries may not have an effective mechanism for natural resource governance, a good number of them operate natural resource system that are too grossly inefficient to guarantee peaceful, equitable and sustainable resource exploitation (UNEP, 2013). With particular reference to Nigeria, natural resource governance has been pertinently problematic, especially within the sphere of the extractive industry. The solid minerals sub-sector of the extractive industry in Nigeria has hardly been properly harnessed and regulated; thus giving a lot of room for unwholesome and unsustainable exploitation of resources and resulting in untoward environmental and economic consequences. It is against this backdrop that this paper examines the phenomenon of artisanal mining/quarrying as a critical manifestation of crisis of resource governance in Nigerian extractive industry.

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II. Conceptualizing and Contextualizing Governance

Governance is a system of engendering control and regulation in any public domain. It encompasses governmental and non-governmental measures geared towards ensuring guided and regulated life in governmental, civil and corporate practices. According to Roba, Gibbons and Mahadi (2013:1):

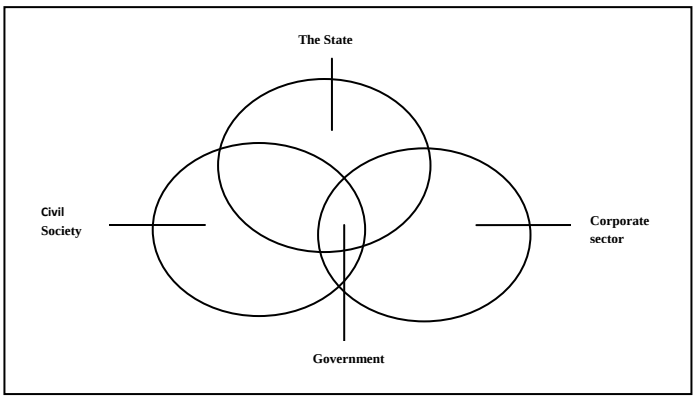
> Governance is the means by which society defines goals and priorities and advances cooperation. It includes policies, laws, decrees, norms, instruments and institutions. Governance is not the province of government alone, and includes informal institutional arrangements like voluntary codes of conduct for private businesses, professional procedures and partnerships among all sectors. These include numerous and varied arrangements but an essential element is that they mobilize diverse constituencies to agree on common goals and help realize them.

Table 1 : Definitions of Governance

Definition	Source
Governance is the system of values, policies and institutions by which a society manages its economic, political and social affairs through interactions within and among the state, civil society and private sector. It is the way a society organizes itself to make and implement decisions - achieving mutual understanding, agreement and action. It comprises the mechanism and processes for citizens and groups to articulate their interests, mediate their differences, and exercise their rights and obligations. It is the rules, institutions and practices that set limits and provide incentives for individuals, organization and firms.	UNDP (2004): Strategy note on Governance for Human Development
Governance refers to the rules, processes and behaviours by which interests are articulated, resources are managed, and power is exercised in society. The way public functions are carried out, public resources are managed and public regulatory powers are exercised is the major issues to be addressed in its context.	The European Commission (2003): Communication on Governance and Development
Governance is the traditions and institutions by which authority in a country is exercised for the common good. This includes (i) the process by which those in authority are selected, monitored and replaced (ii) the capacity of the government to effectively manage its resources and implement sound policies, and (iii) respect of citizens and the state institutions that govern economic and social interactions among them.	World Bank (http://goworldbank.org/MKOGR 258V).

Source: Compiled by the authors, 2015.

Governance is a multi-stakeholder process involving a variety of actors, ranging from the state, the private sector to the civil society. It is the mutual engagements and intermediations among these three spheres of society in realizing the common good that define the essence of governance. Figure 1 highlights the organic relationship between the various spheres of governance within the societal context.



Source: Authors (2015).

Figure 1 : The Organic Context of Governance

As indicated in figure 1, governance derives from the dynamic interactions and negotiations among the stakeholders from the state, the private sector and the civil society. The process is superintended by the government in whose stead governance acquires civic mandate. The core principles of governance have been identified as transparency, responsibility, accountability, participation and responsiveness. Table 2 highlights the main concern/thrusts of these principles.

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Table 2 : Core Principles of Governance

Principle	Explanation
Transparency	Openness and frankness of actions, processes and procedures; open access of information, etc
Responsibility	Conscientious conduct; actions that fulfils good conscience, rule of law , etc
Participation	Mutual stake-holding, inclusion and civic ownership of the process
Accountability	Stewardship; being accountable to stakeholders
Responsiveness	Ability to serve the needs and aspirations of the society

Source: Adapted from UNEP (2013:14).

III. Nature of Natural Resource Governance

Natural resource governance is a fundamental aspect of contemporary development question in developing countries (Ibeanu, 2009; Ezirim, 2010). As a development issue, it "is considered within the framework of power, process and practice; and how these shape natural resource access, control and use" (Mandondo, 2000:1). According to Roba et al (2013:1):

> Natural resource governance is defined as rules and regulations that determine (or govern) natural resources use and the way these rules and regulations are developed and enforced… It is thus about relationships and who has the power and responsibility to make and implement decisions.

Simply put, natural resources governance refers to the application of the governance concept and principles in determining how natural resources are exploited and utilized by relevant stakeholders. It encompasses norms, rules, institutions and mechanisms that regulate the decisions and conducts of governments, organizations and individual stakeholders in relation to natural resource access, control, allocation, exploitation and use. The natural resource governance concept is predicated on the assumption that natural resources are more optimally harnessed, but also more equitably, more efficiently and more sustainably exploited within a framework of control and regulation (Darby, 2010).

Natural resources governance is an important aspect of contemporary environmental governance praxis. It is a critical issue in Africa, a Continent that is currently undergoing a dialectical transition in relation to resource management. As observed by UNEP (2013:5), the Continent can be said to be adapting to a number of concurrent environmental challenges associated with population growth, urbanization, climate change, and the impacts of conflicts. This adaptation process requires a new, pragmatic ways of organizing environmental governance in such a manner that natural resources are managed and accessed by different users peacefully, equitably and sustainably.

IV. Theoretical Framework: The Stakeholder Theory of Corporate Governance

Stakeholder theory of corporate governance was developed by Freeman (1984) to emphasize that firms owe corporate accountability to a broad-range of stakeholders. A stakeholder can be defined as "any group or individual who can affect or is affected by the achievement of the organization's objectives" (Abdullah & Valentine 209:91). The theory derives its epistemological foundations from a wide range of disciplinary traditions including philosophy, ethics, political theory economics, law and organizational science (Abdullah & Valentine, 2009:91).

Stakeholder theory is premised on a number of assumptions, viz:

- firms have a network of relationships to serve;
- the purpose of a firm is primarily to create wealth for its multiple stakeholders;
- firms have obligations to society;
- firms should be socially responsible (Abdullah & Valentine, 2009; Yusuf & Alhaji, 2012).

The crux of the stakeholder theory is that businesses should be responsible and responsive to competitive cooperate and extra-corporate interests and/or concerns. The interests refer to the needs of the investors, shareholders, employees, suppliers, customers, partners, government, organized labour, host communities, and the general public. These have been categorized into consubstantial, contractual and contextual stakeholders (Rodriguez, Ricart & Sanchez, 2002).

Table 3 : Three Categories of Corporate Stakeholders

Category	Elements
Consubstantial stakeholders	Shareholders, investors, employees, strategic partners
Contractual shareholders	Suppliers, customers, sub-contractors, financial institutions
Contextual stakeholders	Public administration, civil authorities, local communities, public opinion leaders, general public.

Source: Rodriguez et al (2002).

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Applied to the purpose of the present discourse, stakeholder theory recommends a resource management paradigm that recognizes and serves the diverse needs and interests of relevant stakeholders in such a manner that makes for equitable, efficient and sustainable exploitation and utilization of natural resources. This affirms the need for a strategic synergy between the government, the corporate sector, the local communities and the civil society in effectuating natural resource governance in Nigeria.

V. Nigeria's Natural Resource Profile: *Gratia en Abundancia*

Nigeria is a typical instance of a natural resource-rich country. The country parades over forty (40) different species of natural resources that are commercially viable and globally competitive (RMRDC, 2014). These resources are graciously but arbitrarily distributed by Nature across the various states and geo-political zones of the country.

Nigeria's natural resources can be broadly categorized into liquid and solid minerals. Liquid minerals include fresh water, natural gas, crude oil and allied hydro-carbon resources. Solid minerals on the other hand include metals, stones, sand, clay, etc. In addition to the above broad categories, there are other water-based, wild-based and land-based natural resources, such as game (wildlife), timber, wood, fish, rangeland and farmland, among others. Table 3 shares some vital insights in this regard.

Table 4 : Dimensions of Natural Resources

Mining	Coal, columbite, salt, lime stone, gold, diamond, and allied solid minerals
Quarrying	Sundry stones, sand, clay and cognate solid minerals
Petroleum	Crude oil, natural gas
Forestry	Timber, wildlife (game), eco-tourism resorts, fuel-wood, charcoal
Water	Fish, fresh water, aqua-life, etc
Land	Rangeland, farmland, flora

Source: Author (adapted from Darby, 2010:13; FAO 2014).

Nigeria's natural resource base is characterized by immense diversity and abundance. The extractive sector has been dominated by the ebullient petroleum industry, which has been the mainstay of the country's political economy for decades. This sector also hosts the agricultural and solid minerals sub-sectors that have been so grossly neglected by successive governments since the era of oil and gas boom (Okoli, 2015). Within these sub-sectors, there is a bourgeoning mining/quarrying industry that is, incidentally, largely operated by artisans and small scale investors (ELI, 2001). The activities of illegal extractors have also predominated in the mining/quarrying sub-sector. By and large, Nigeria's natural resource profile reveals a richly endowed resource base that has been so poorly harnessed and exploited. The reason for this state of affairs is the absence of a robust natural resources governance regime capable of delivering the good.

Table 5 : Nigeria's Natural Resources across the 36 States and the Federal Capital

Abia	Glass-sand, limestone, salt, shale, ballclay, galena, granite, marble, laterite, bentonite, phosphate kaolin, pyrite, feldspar, petroleum, lignite, gypsum, sphalerite
Adamawa	Granite, clay, gypsum, limestone, uranium kaolin coal, trona, barite, marble, magnesite, laterite
Akwa-Ibom	Clay, sand, granite, coal, petroleum, naturalgas, kaolin, limestone, lignite
Anambra	Clay iron stone, natural gas, petroleum, sandstone, kaolin, pyrite, lignite
Bauchi	Kaolin, trona, gypsum, casiterite, mica, clay, tantalite, galena, gemstone, sphalerite, sand, barite, columbite, zinc, lead, monazite, feldspar, graphite, wolfram, coal, agate, tantalite, rutile, tungsten, copper, talc, ilmenite, zircon
Bayelsa	Salt, petroleum, natural gas, silicasand, bentonite, petroleum, limestone, glass-sand
Benue	Gemstone, barite, feldspar, marble, mica, galena, sphalerite, sand, clay, coal gypsum, kaolin, anhydrite, brick clay, crushed and dimension stone, fluorspar, wolframite, bauxite, magnetite, limonite
Borno	Silicasand, natural salt, sapphire, topaz, mica, gypsum, feldspar, granite, potash aquamarine, limestone, kaolin, bentonite, laterite, refractory clay, trona, gold, cassiterite
Cross River	Salt, limestone, coal, manganese, mica, ilmenite, gold, quartz, glass-sand, tourmaline, petroleum, natural gas, kaolin, mica, clay, spring water, talc, granite, galena, cassiterite, goethite, uranium, barite

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Delta	Kaolin, gravel, sand, natural gas, petroleum, ballclay, bauxite, granite, clay, spring water
Ebonyi	Sphalerite/Galena, salt, limestone, ballclay, refractory clay, gypsum, granite
Edo	Copper, gold, marble, granite, gypsum, petroleum, lignite, limestone, ceramic clay
Ekiti	Clay, quartzite, lignite limestone, granite gemstone, bauxite, cassiterite, columbite, tantalite feldspar, kaolin
Enugu	Crude oil, ballclay, iron-ore, petroleum, gypsum, coal, sand, ceramic clay
FCT	Kaolin, limestone, sand, uranium, coal, halite, clay, gypsum, granite
Gombe	Graphite, Kaolin, limestone, sand, uranium, coal, mica, dolomite, clay, and, talc
Imo	Crude oil, shale, natural gas, kaolin, sand, limestone, salt, marble
Jigawa	Glass-sand, granite, clay, kaolin, iron ore, quartz, potash, talc, limestone
Kaduna	Muscovite, granite, gold, manganese, clay, graphite, sand, zircon, kyanite, cassiterite, ilmenite, gemstone columbite
Kano	Clay, laterite, cassiterite, columbite, ilmenite, galna, kaolin, gemstone, silica, monazite, wolframite, thorium, granite, hylite, beryl, amethyst, gold
Katsina	Gold, manganese, feldspar, black tourmaline, amethyst, quartz, kaolin, mica, gypsum, silimanite, clay, granite, sand, uranium asbestos, tourmaline, serpentine, chromite, ilmenite, diamond, graphite, iron ore, potash
Kebbi	Salt, iron ore, gold, feldspar, marble, limestone, feldspar, dolomite phosphate, mica, cassiterite, granite, coal, kaolin
Kogi	Clay, iron ore, gemstone, marbel, limestone, feldspar, dolomite, phosphate, mica, cassiterite, granite, coal, kaolin
Kwara	Clay, kaolin, sand, quart, dolomite, marble, feldspar, god, tantalite, cassiterite, granite, limestone, tantalite
Lagos	Sand, bitumen, gravel petroleum, laterite
Nasarawa	Amethyst (Topaz garnet), barytex, barite, cassirite, chalcopyrite, clay, columbite, coking coal, dolomite/marble, feldspar, galena, iron-ore, limstone, mica, salt, sapphire, talc, tantalite, tourmaline quartz & zireon
Niger	Gold, lead/zinc & talc
Ogun	Bitumen, clay, feldspar, gemstone, kaolin, limestone & phosphate
Ondo	Bitumen, clay, coal, dimension stones, feldspar, gemstone, glass-sand, granite, gypsium, kaolin, limestone & oil/gas
Osun	Columbite, gold, granite, talc, tantalite & tourmaline
Oyo	Aqua marine, cassiterite, clay, dolomite, gemstone, gold, kaolin, marble, silimonite, talc & tantalite
Plateau	Barite, bauxite, betonite, bismuth, cassiterite, clay, coal, emeral, fluoride, gemstone, granite, iron-ore, kaolin, lead/zinc, marble, molybdenite, phrochlore, salt, tantalite/columbite, tin & wolfram
Rivers	Clay, glass-sand, lignite, marble & oil/gas
Sokoto	Clay, flakes, gold, granite, gypsium kaolin, laterite, limestone, phosphate, potash, silica sand & salt
Taraba	Lead/zinc
Yobe	Soda ash & tintomite
Zamfara	Coal, cotton & gold

Source: RMRDC (2014).

VI. Nigeria's Natural Resource Governance Deficit: Insights from the World's Resource Governance Index (RGI)

The Resource Governance Index (RGI) is an initiative of the Revenue Watch Institute, an International Non-Governmental Organization (I.N.G.O) that seeks to "promote the effective, transparent and accountable management of oil, gas and mineral resources for the public good" (RGI, 2013:ii). RGI measures the quality of governance in the oil, gas and mining sectors of 58 counties, assessing the quality of key governance components, namely: institutional and legal setting, reporting practices, safeguards and quality control, and enabling environment (RGI 2013:1). The index is predicated on the understanding that proper governance of natural resources is key to the sustainable development of countries with abundant oil,

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gas and minerals (cf. Nwala, Adekunle, Franklyn & Owolabi, 2014).

RGI ranks the focal countries as either 'satisfactory', 'partial', 'weak', or 'failing' within the aggregate score range of 100 to 1. Within this standard range, 10-71 is rated satisfactory, 70-51 is rated partial; 50–40 is rated weak; while 40-1 is rated failing. The 2013 edition of RGI lists Nigeria among the group of countries with a very weak performance in terms of natural resources governance. Table 3 is instructive in this regard.

Table 6 : RGI's Bright versus Poor Countries in Terms of Resource Governance Rating

THE BRIGHT		THE POOR	
Country	Composite Score	Country	Composite Score
Norway	98	Vietnam	41
United States	92	Kuwait	41
United Kingdom	88	Angola	42
Australia	80	Nigeria	42
Brazil	77	Papua New Guinea	43
Mexico	76	Egypt	43
Canada	75	Yemen	43
Chile	74	China	43
Colombia	74	Sierra Leone	46
Trinidad and Tobago	73	Malaysia	46

Source: RGI (2013:4-5).

Table 3 indicates that Nigeria scored 42 on the standard aggregate range of 100 to1. The implication of this record is that Nigeria was maintaining a gross governance deficit in natural resources management. Although Nigeria's assessment in the 2013 RGI was hinged upon the performance of her hydrocarbon (petroleum) sector, indications are rife to the effect that her performance in the mining/quarrying sector would be much more damning. It is to this important sector of the Nigerian natural resource domain that we now turn.

VII. Artisanal Mining/Quarrying in Nigeria: Nature, Drivers and Implications

Artisanal mining/quarrying is a pattern of natural resources extraction that is based on rudimentary and under-skilled operational modality. According to Abu-Sada (2002: 52), it is a mining activity in which a person labours at extracting certain minerals by rudimentary means and with a minimal capital or equipment. Artisanal mining/quarrying is characterized by a number of features, among which are that:

- it is essentially rudimentary and not mechanized;
- it is more or less subsistent in scale;
- it is largely informal and illegal;
- it is operated with minimal capital and equipment;
- it is operated by under-skilled artisans and local peasants;
- it is under-regulated;
- it is characterized by low productivity;
- it is labour intensive;
- it is marred by operational inefficiency;
- it is under-developed;
- it is environmentally hazardous and unsustainable.

Artisanal mining/quarrying is an important source of livelihood in the contemporary world. According to Abu-Sada (202:52-53):

> Globally, an estimated 13 to 20 million men, women and children from over fifty developing countries are directly engaged in the artisanal mining sector, and an estimated 100 million more are indirectly dependent on the sector for their livelihood.

Nigeria's mining sector is dominated by artisanal practice. As observed by ELI (2014:1), "unlike countries such as Ghana and Burkina Faso, Nigeria does not have a well developed large scale mining sector, and the majority of mining in the country is carried out by artisanal and small-scale miners". The peculiar artisanal character of the Nigeria mining sector has been vividly captured thus:

> Over 90% of mining activities in Nigeria are Artisanal and Small-scale Mining (ASM) of which 75% are carried out illegally. The sector is unguided and unregulated. The policies in place are inadequate and miners are untrained. This makes ASM to adopt poor quality operational techniques that cause environmental disaster and losses of substantial revenue through exports as well as royalties and taxes (Opafunso & Alaba, n.d:1).

Artisanal mining in Nigeria is informal by nature. This implies that it largely operates outside the extant laws and regulatory regime (ELI 2014). As pointed out by ELI (2014:1), "while the current laws and regulations do address artisanal and small-scale mining activities, mainly by focusing on extension services, they do not provide meaningful incentives and assistance for formalizing miners". The instruments have also failed to provide proper dis-incentive for unwholesome and opportunistic mining/quarrying.

Consequently, there is a prevalence of unregulated and do-as-you-please mining/quarrying artisanship in the different parts of Nigeria. This has often led to adverse environmental and public health consequences. For instance, "in 2010, unregulated

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small-scale mining in the northern states of Zamfara gave rise to an epidemic of childhood lead poisoning, with at least four hundred (400) children under the age of five dying within a six-month period" (ELI, 2014:1). The Zamfara incident underscored the vulnerability of the rural poor in the face of livelihood crisis occasioned by state neglect and associated structural imperatives. As succinctly observed by Abu-Sada (2012: 63):

> The lead-poisoning epidemic occurred within a context of poverty, inequality, high gold prices, and lack of essential public health services. High gold prices were a result of the recent global financial crisis. This created an opportunity for local villagers and subsistent farmers to supplement meagre incomes. However, without adequate safety measures or essential public health services, their efforts resulted in tragedy.

The structural materialism of lead-poisoning in Zamfara state is a subject of political epidemiology (Okoli, 2014b). The thinking in that regard is that such an occurrence is a product of human vulnerability occasioned by dire socio-economic and livelihood conditions that is made possible by governance failure. Suffice it to note that the general failure of governance by the Nigerian state was responsible for bringing about the scenario that culminated in the tragedy.

Artisanal mining/quarrying has been most prevalent in the northern part of Nigeria, with a pocket of states in the southern part of the country also taking their fair share of the incidence. Table 5 chronicles some critical flashpoints of artisanal mining/quarrying in Nigeria.

Table 7 : Some Critical Flashpoints of Artisanal Mining/Quarrying in Nigeria

State	Resources being mined
Bauchi	Clay gemstone, sand, copper
Benue	Gemstone, marble, sand, clay, diamond
Ebonyi	Salt, granite, refractory clay, sand
Edo	Gold, marble, granite, ceramic, clay
Kaduna	Granite, gold, clay, sand, gemstone
Kebbi	Salt, iron ore, gold, limestone, granite
Kogi	Clay, gemstone, marble, limestone, granite, sand
Plateau	Gemstone, glass-sand, salt, clay, sundry
Niger	Limestone, granite, old, marble, gemstone
Zamfara	Gold, granite, clay

Source: Authors, 2015.

The impacts of artisanal mining/quarrying in Nigeria have been dire. It has been associated with adverse economic, ecological, health and humanitarian consequences that negate sustainable human security in the affected population in particular and national security in general. Some of these consequences include loss of life, population displacement, human injury, environmental degradation (land, air water, pollution), as well as economic losses. The complications of the practice have been overly evident in the public health hazards that are associated with it. A case in point is the lead-poisoning incidents in Zamfara (2010) and Niger (2015), which led to huge death tolls and complex public health emergency. There have also been cases of mine collapse or implosion, leading to human casualties in some parts of Nigeria (Okoli, 2014a).Table 6 highlights the various dimensions of adverse impacts and complications of artisanal mining/quarrying in Nigeria.

Table 8 : Collateral Impacts of Artisanal Mining/Quarrying in Nigeria

Impact	Empirical Indicator(s)	Instances(s)/Remark (s)
Health impact	Lead and Mercury exposure leading to health complications and deaths	(i) 2010 lead poisoning in Zamfara State killing 400 children in 6 months (ii) 2015 lead poisoning in Niger State killing 60 children
Environmental impact	Toxic pollution of air water and land; destruction of flora and fauna; ecological instability leading to landslides, erosion and tremors; landscape degradation; radiation hazards	Abandoned mines in Osun, Kogi, Zamfara and Ebonyi States have often engendered land degradation, leading to erosion, landslides, etc
Social impact	Communal strife and violence over resource access, equity, ownership, entitlements and control	Contestations over ownership and control of mining sites have led to violent conflict in parts of Ebonyi and Kogi States

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Economic impact	Loss of public revenues through forgone export duties royalties and taxes	Most artisanal mining activities are scarcely taxed in Nigeria
Gender impact	Complicated victimhood for women and children	Lead poisoning in Zamfara and Niger States mostly affected woman and children

Source: Authors, 2015.

Despite the above adverse affects of artisanal mining/quarrying, a number of gains have been ascribed to it. This includes employment/job creation, income generation and sustenance of livelihood. These economic opportunities have made artisanal mining a flourishing enterprise in Nigeria. In recent times, the practice has been bolstered by high prices of precious metals and stones as well as industrial minerals, a sheer lack of viable alternative livelihoods for the teeming rural population, and a ready supply of rudimentary equipment for small-scale mining (ELI, 2014). Complicated by the apparent inability of the government and community authorities to effectively control and regulate the activities of the mining sector, artisanal mining in Nigeria have become a common livelihood practice that is highly lucrative for the practitioners but detrimental to the society. This underscores the imperative of effective regulation of the practice in Nigeria.

VIII. Evaluating Governance Crisis in the Nigerian Artisanal Mining Sector

The crisis of governance in the Nigerian artisanal mining sector has been evidenced by the lack of simple and transparent legal and fiscal framework, weak institutional structures, lack of capacity to implement extant regulations, and lack of political will to effectuate relevant policies (ELI, 2014:1-2). The situation has been complicated by lack of organization and stability among miners, improper mining regulations, illiteracy paucity of technical and financial capital, and livelihood insecurity among miners (ELI, 2014:2).

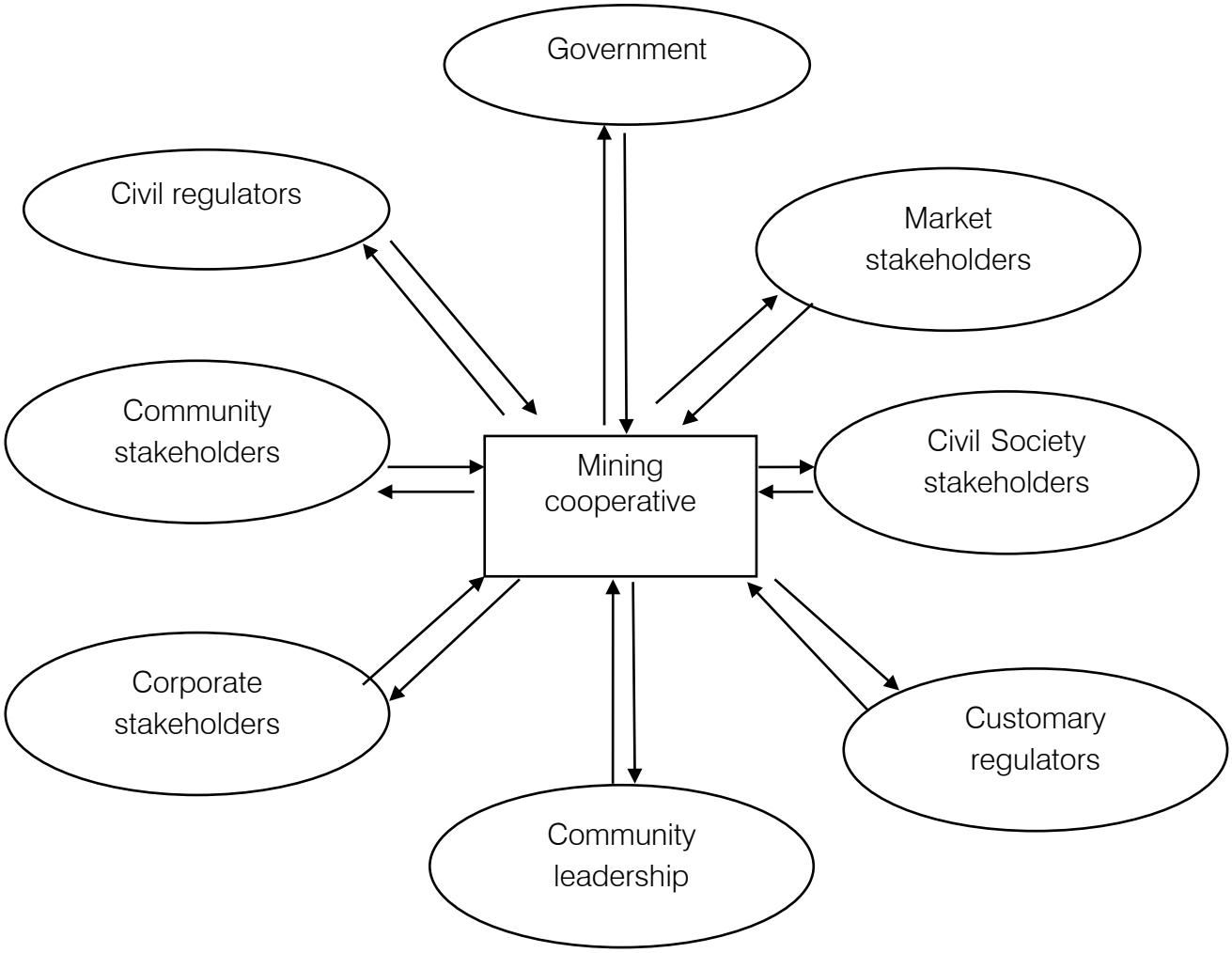
The absence of a viable regulatory mechanism in the artisanal mining sector means that there is no incentive for best corporate practices among the miners. It also implies that there is no deterrence in respect untoward mining activities. Formalizing and regularizing the activities of artisanal miners have been problematic. Existing legislations merely emphasize on the provisions of extension services to miners without any concrete plan to support them financially and technically. The requirement that artisanal miners form co-operatives in order to enable them access technical assistance from government through the instrumentality of the Ministry of Mines and Steel Development (MMSD), now Ministry of Solid Minerals (MSM), has since proved counter-productive. Artisanal miners who could not readily organize themselves into such platforms naturally relapse into informal and illegal practice (ELI 2014:2).

The operational efficiency of the existing fiscal, institutional and legal frameworks to harness and regulate artisanal mining has been, in the main, marred by the ineptitude, corruption and laxity of those mandated to enforce them. The failure of community leadership systems to mediate and moderate the activities of artisanal mining in their domains adds to the complex scenario to accentuate the artisanal mining escapade.

IX. Towards Effective Regulation of Mining Sector in Nigeria

Effective regulation of artisanal mining and quarrying in Nigeria requires a multi-stakeholder approach based on mutual and synergistic entrustment. Under this regulatory regime, artisanal miners are required to form self help co-operatives in line with their sectoral interests in specific localities. Each mining co-operative is to work in synergy with the government, local authorities and other relevant stakeholders in ensuring that exploitation of natural resources is not done in a manner that jeopardizes the common interest of all parties – the common good. The end of this is the evolvement an equitable and safe natural resource management regime that will fairly distribute the gains and pains of resource exploitation to all stakeholders and ultimately ensure sustainable societal well-being. This model of natural resources governance is sketched in figure 2.

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Source: Authors, 2015

Figure 2 : Mutual Multi-Stakeholders Entrustment Model of Natural Resource Governance

X. Conclusion

Natural resources constitute a critical aspect of wealth of nations. The manner these resources are managed hold critical implications for national sustainability of states. Where natural resources are well managed through an efficient governance regime, the outcome is economic vibrancy and prosperity for the nation. But where the resources are mismanaged through abusive or unregulated exploitation, the result is the paradox of 'resource curse' or 'unfortunate fortune'.

The natural resource domain in many developing countries has been a difficult and volatile terrain. The vacuum of governance in the sector has often engendered the dialectics of conflict, violence, corruption, crime and disaster. This has impeded national sustainability in many resource-rich nations. Nigeria is a natural resource endowed nation. However, her heritage in terms of resource gifting has not brought her any sustainable fortune owing to poor management of her abundant natural resources. Crass deficiency in terms of the state's extractive and regulatory capacities, as well as dysfunctionality of the basic institutional cum legal frameworks of governance, is at issue in this regard.

This paper has demonstrated that resource governance deficit has been the bane of efficient and sustainable exploitation of natural resources in Nigerian mining sector. The paper observed that the prevalence of artisanal mining/quarrying in Nigeria within an unguided and under-regulated operational regime is an indication of crisis of natural resource governance. Bereft of relevant effective institutional, policy, fiscal and legal operational mechanisms of regulation, artisanal mining/quarrying in Nigeria has been operated at huge social, economic, ecological and humanitarian costs that threaten economic and human security. To ensure that this sector is effectively managed in the interest of national sustainability, a multi-stakeholder approach to resource governance based on mutual entrustment is a desideratum.

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References Références Referencias

1. Abdullah, H and Valentine, (2009). Fundamental ethics theories of corporate governance. *Middle Eastern Finance and Economics*, 4, pp.88-96.
2. Abu-Sada, C. (2012). Dilemma, challenges and ethics of humanitarian action: Reflection on Mzdecins Sans Frontire's Perception Project. McGill-Queen's Press.
3. Adekeye, J.I.D. (N.d). The impact of artisanal and illegal mining on the environment in Nigeria. Draft paper, Centre for Peace and Strategic Studies, University of Ilorin, Ilorin-Nigeria.
4. ELI (2014). Artisanal and small-scale gold mining in Nigeria: Recommendation to address mercury and lead exposure. Publication of Environmental Law Institute, Washington, D.C. (ELI Project No 121001).
5. Freeman, R.E. (1984). *Strategic management: A stakeholder approach*. London: Pitman.
6. Hoeffler, A. (2009). State failure and conflict recurrence. Draft Chapter for Peace and Conflict, 2011 (Book Project) Centre for the Study of Africa Economic University of Oxford.
7. Ibeanu, O. (2009). Oil, environment and conflict in coastal zone of West Africa, in O. Ibeanu and J. Ibrahim (eds), *Beyond resource violence*. Abuja: Centre for Democracy and Development (CDD), pp. 1-34.
8. King, G. and Zeng, L. (2001). Improving forecasts of state failure. World *Politics: A Qquarterly Journal of International Relations*, 53 (4) pp 623 – 658.
9. KPMG (2012). Nigerian mining sector. Publication of KPMG, Nigeria.
10. McLean, I. and McMillan, A. (2003). *Oxford concise dictionary of politics*. London: Oxford University Press.
11. Nwala, K.J. Adekunle, A.Y. Franklyn, A.S. Owolabi, J.C. (2014). Wireless sensor and actuator networks as a protective means for pipeline vandalism in the Nigeria Delta region of Nigeria. *COMPUSOFT (An International Journal of Advanced Computer Technology),* 3 (1 1), pp 1317 – 132.
12. Okoli A.C. (2015). How Nigeria can effectively manage her resource for inclusive growth and national development. Draft essay submitted to Centre for Management and Development (CDM), Abuja-Nigeria.
13. Okoli, A.C. (2014a). Disaster management and national security in Nigeria: The nexus and the disconnect. *International Journal of Liberal Arts and Social Science*, 2 (1) pp.21-59.
14. Okoli, A.C. (2014b). Politics and Epidemics: A discursive reflection on political epidemiology. *International Journal of Liberal Arts and Social Science*, 2 (7), pp.176-180.
15. Opafunso, Z.O and Alaba, O.C (N.d). MNE515-Artisanal and Small-Scale Mining (ASM); Course brief, Federal University of Technology, Akure, Department of Mining Engineering.
16. RGI (2013). *The 2013 Resource Governance Index: A measure of transparency and accountability in the oil, gas and mining sector.* Publication of the Revenue Watch Initiatives, New York.
17. RMRDC (2014). Raw Material Research and Development Council, Abuja-Nigeria.
18. Roba, G., Gibbons, S., and Mahadi, Y. (2013). Booklet 1: Strengthening natural resource governance in Garba Tula. International Union for the Conservation of Nature (IUCN).
19. Rodriguez, M.A; Ricart, J.E, Sanchez, P. (2002). Sustainable development and sustainability of competitive advantage: A dynamic and sustainable view of the firm, *Creativity and Innovation Management*, 11(3), pp. 135-146.
20. UNEP (2013). Governance for peace or natural resource. A review of transitions in environmental governance across Africa as a resource for peace building and environmental management on Sudan. United Nations Environmental Programme, Nairobi, Kenya.
21. Yosoff, W.F. and Alhaji, I.A. (2012). Insight of corporate governance theories. *Journal of Business and Management,* 1 (1), pp.52 – 63.

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