

## CURTAILING ILLEGAL MINING OPERATION IN NIGERIA

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**ABSTRACT:** *Nigeria as a nation is blessed with relevant resources of solid mineral that have the capacity to lure investors and business investments to enhance growth economically in the nation. These resources go from Copper, Columbite, Iron, Tin, Gold, Diamond, and so on. Unfortunately, this resource gifts is being underplayed by continuous unlawful mineral mining by people including nationals of other countries, believed to be financed by illegal investors. The Nigerian government may have lost billions of naira in years, owing to unlawful and unjust activities of operators in her mineral sector. Unlawful and unlicensed mineral mining started getting obvious immediately after Nigeria got independence in 1960. The federal government primarily own mining rights but it releases licenses for exploration work, mineral mining and its sales. Where there is no adequate policy, unlawful mineral mining continues unchecked federal government may lose royalties and revenues accruable to it. This paper presents the loopholes and the ways to curtail the activities of illegal mining of minerals in Nigeria.*

**KEYWORDS:** illegal, mining, government, foreigners, mining rights, minerals, Nigeria, license, reform, services, monitoring.

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### INTRODUCTION

Illegal mining is the mining operation that is carried out without consent permit or allowance of the federal or state government, especially of when rights to land , licenses to mine, or transport mineral allows (Dozolme, P., 2018). Illegal mining can be a house-hold task, as is the case with locally- skilled mineral mining, or it can belong to large-sized structured crimes supported by illegal mining syndicates (Huerbsch B. and Spiro J., 2016)and ( Sieber N. and Brain J. 2014). More than 80 percent of small-sized mining activities can be categorized as illegal, on a global standard (Hentschel T., Hruschka F., and Priester M., 2003). Even though, strategied to imbibe “mining with sense and resposibility” illegal mining persists which includes big companies partially (Castilla O., Amancio N. and Lopez F., 2015).

Furthermore, the materials and methods which are environmentally unfriendly but used in mining put the health of people in the community in big danger. At the dependence of their superiors, the mining labourers, working mostly in the North West and South West zones of Nigeria use shovels, diggers, axes and hoes to dig for minerals which is far different from the mechanized mining that involves mineral mining and its processing in order to give it added value. Illegal miners extract minerals, in their rawest form and also smuggle them out of the country to buyers who are willing without any interception by Nigeria Customs Service securities.

These Illegal and unsafe mining activities take place in rural areas, like in the towns and villages where labour is relatively cheap. The villagers are hired or employed to dig for minerals, but due to their crude methods, they sometimes experience the collapse of mines that results in several deaths. Most times, they form craters on the land from the digging they create, which are wide and deep. These formed craters or trenches become “mining ponds” when it rains, which is very dangerous because of the acidic and poisonous metallic residue from the mining operations. The dug trenches are abandoned once mining is over. The Katsina and Zamfara States are the evidence of acute lead poisoning that is caused by the processing of ore, contaminating the local river where they fetch drinking water, affecting more than 3,500 children and killing over 400 adults. Media reported at the time indicated that lead concentration in the atmosphere of some homes reached 23,000 parts per million which was well above the 400 parts per million threshold considered safe by Ministry of Mines and Steel Development (MMSD).

Another dangerous angle to illegal mining, in the mining communities is armed conflict, banditry, crime widespread violence and kidnapping due to gang rivalry over the resources of mining. The Inspector General of Police in Nigeria hence banned mining in Zamfara State 2 (two) years ago where over 80% of illegal mining for Gold occur. Illegal mining and gang violence escalated to the point where all mining activities in the State were discontinued and halted on the orders of the IG (Inspector General of Police). Nonetheless, conflict, violence, death as a result of illegal mining operation continues to thrive which supports and encourages illegal migration from all over West Africa.

An exploration license is not a mining lease; the title implies that the holders should report minerals that they find within a 20 square kilometres area. But too often, they become Illegal miners without the rights to mine any mineral. Even when licenses are issued to mine limestone, for example, the practice has been to mine other minerals without reporting it. The time has come for the federal government to pay more attention to the mining sector and minimize loss of revenue. Every dime will count in view of the parlous state of the economy. At the moment, our minerals contribute less than 1% to GDP. How can we scale up the value chain in terms of exploration, mining and processing? Where are the lapidaries — mining labs used for processing and cutting precious stones such Emerald, Topaz, Amethyst and Onyx? Beyond artisanal output, we need large scale and industrial licensees to mine commercial quantities of our minerals. With all the minerals that Nigeria is blessed with, we should aim to compete in the international market by standing up to the economic saboteurs and implementing relevant government policies – all the policies are available in black and white; getting the job done does not require any rocket science.

Nigerian government should avoid red tape and unnecessary bureaucracy which are usually our biggest headaches in implementing strategic reforms; clearly, the Honourable Minister needs the support to succeed so that the mining sector can become a shining example. The number one market in the world for Diamond, Emerald and Amethyst is in Antwerp, Belgium and it is controlled by the Jews. To become a global player, the Ministry can create an institutional framework of collaborations and partnerships with organizations: the Nigeria

Chapter of the Extractive Industry Transparency Initiative (NEITI), the Nigeria Police, Nigeria Immigration and Customs Service should come together under a Presidential Task Force (PTF) that is subject to the approval by the President, in order to combat the menace of illegal mining. The proposed PTF intervention must focus on the multi-dimensional nature of illegal mining, as part of its mandate to curb: economic sabotage, armed violence, conflict, crime, illegal immigration, public health crisis and national security implications.

In West Africa, Illegal mining created problems in Liberia, Sierra Leone and Republic of Congo several years ago; but, it was the incessant smuggling of Diamond that became the albatross of Sierra Leone that resulted in armed conflict, bloodshed and heavy losses in tax revenues. Rebels sold Diamonds in Sierra Leone in the 1990s, from the areas they controlled, at the height of the civil war, in what became the “Blood Diamonds” saga known to the world as the purchase of arms. This illegal export of Diamonds was estimated by the United Nations to worth about \$125 million each year.

As long as illegal mining has a market to run, the practice will proceed. The campaign to arrest and prosecute illegal miners should be intensified. However, while enforcement of the law is a good thing, paying fair price to artisanal miners or their employers will also do the trick. With the right incentives, fairness and equity, small scale operators (artisanal miners) and industrial licensees should come together under the close supervision (Ehi B., 2020).

## **THE METHOD OF ILLEGAL MINING AT THE SITE**

Illegal mineral miners absolutely depend on raw and unmechanized tools like shovels, spade, digger, axes, hoes, machetes, metal containers, and other local materials for exploiting and forming holes. They also engage some modern materials like rock blaster and petrol-pumping machine to drain water out of the pits of mining. The relay method of the drilling of rocks and its evacuation of waste and overburden after blasting is absolutely done manually. The agile mineral workers injected different types of drugs and chemicals into their bodies or consume them orally, so which made them work.

## **LEGAL AND ILLEGALITY OF MINING OPERATIONS IN NIGERIA**

The issue of legality or illegality is a variable of the existing environmental polity and the agent behind any law, constitution in a nation. In Nigeria, the federal government is in control of all the resources of mineral inside the country and hence decreed the law that forbids any non-public person or group of persons from mining any mineral without being permitted by the right governmental bodies. A non-public mineral miner intending to be permitted is duely registered and certified by the C.A.C. (Corporate Affairs Commission) in F.C.T.(federal Capital Territory), Abuja, and is also expected to apply for a mining lease from the FMSMD (Federal Ministry of Solid Mineral Development). This application is to be attached with the right survey plans that describe the area and the captured location of the mining site. The body hence determines the right royalty to be disbursed to the government.

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Unlawful mineral miners are not uninformed about the process of mineral exploitation inside the nation, despite being illiterates. They are not in the dark of the laws that persists, but, intentionally down-play on such laws with impunity, and sometime with back-ups from corrupt agents of the federal parastatals.

## **EFFECTS OF ILLEGAL MINING ACTIVITIES IN NIGERIA**

### **1) The Physical Environment:**

Surface mining activities generally alters and influences the originality of landscape of the mining location because of cutting into the ground, excavating and dumping of waste debris. If a rejected mining location has been left unused, such becomes a with 'eye-sore' features which looks like erosional structures found in the desert. These features is a function of how much of those materials have been extracted from the area and the depth of the proposed mineral. These landscape changes are obviously distinct in mine sites that consist of rocks that are hard, which have steep slopes and for which few material is left for refilling, like the quarries of stones. In Pandogari mining location, in Niger/Plateau, there was waste dumps abandoned at the time of kick-starting the mine, and the polje-likewells that often causes ground water drainages. The mining operations also altered the channels of water on surface. Most brooks and major river tributaries were re-channeled from the wells of mining which also affected the regime of near-by rivers. Furthermore, rain storm which washed mined minerals found their ways into the near-by streams that eventually caused high river turbidity and alkalinity. According to (Akinyede et al, 2003), and (Walter Lichem, 2003), about 5000 people die each annually from diseases that relates to water. The fact remains that unlawful mineral miners are unmindful of any consequence of their activities to the environmental, and therefore has no solution option of remediation. The influencing of the soil composition and landscape at the mining location also disturbs the ground-water channels and trends. There is a consequent loss of the quality of groundwater due to the percolation of poisoning wastewater, and also in the leaching of stock-piles, dumps, and the mine site.

### **2) The Biological Environment:**

The operation of mineral extraction causes noise pollutions on their neighbouring locations especially from the drilling and blasting of mineral plai-bedded rocks. Also is the the explosive sound, the noticeable vibrations that amounts to an added mobile overburden on the environment that annoys neighbouring residents and poses inherent damage to lives of animals. For instance, the vibration and noise effects of the mining activities on the animals compel them to migrate from their original ecosystem which have negative effect on the bio-physical cycle. Plant lives are also altered from the clearing of large portion set-aside for mining operations; the aspects of aerosol ( small dusts and smokes) propagated from explosions of rocks that settles on the vegetations, hence affecting the procedural path of plant manufacturing their food which can lead to slow growth of such plant lives.

### **3) The Aquatic Environment:**

The aquatic habitat can be interrupted by significant changes in the conditions and factors of surface water, while groundwater level disturbances can be altered by wetlands. Of note, is

that weak ecosystems in severe locations are especially vulnerable to lasting variation or phase-out. Lastly, on the economic part, despite the fact that of idle youths find bliss at such mining locations, the negative impact on the aquatic-foods security is very high. Productive portions of land that are wrecked and made unfit for farming for length of years deny the farmers privileges to such rare land, therefore causing a reduction in production of food. Years after mine-abandonment there is still a great alteration of the chemical and physical properties and fertility of soil during re-cultivation for farming (Jaiye D., 2013).

### **Monitoring and Surveillance of Mining Activities in Nigeria**

The deliberate effort of the government to curb the criminal operations of unlawful miner workers in the nation, has prompted the Ministry of mines and Steel Development to purchase and distributed six surveillance vehicles (at the rate of 8.5 million naira each) to improve the surveillance activities of officers at the mines locations of the Nigeria. They can gain entry into mines sites which other vehicles cannot access. The intention to purchase the vehicles was to meet standard of mining vehicular monitoring anywhere in the world, and these paved way for each state of the federation to ensure adequate surveillance. It has been investigated that one of the challenges hindering the regulatory agencies in the mineral sector was the weakness of the officers in mining to get into the remote, distant and far locations where unlawful mining activities thrives.

The ministry is therefore to provide antidotes to those challenges confronting activities of mining and aimed at improving the revenue mete to government from the mining activities, advancing the regulatory duties of the government, as well as reducing the trend and rate of unlawful mining activities in the nation.

With this on ground, surface mining operators are to become compliant with the regulations and mining laws in order to achieve sustainable growth and development of the Nigeria's minerals sector. The aim was to put on ground a usual contact with the mining operators in the bid to sort out operational challenges and find ways of addressing them (Onoja N., 2013).

### **THE REPORTS OF NIGERIA EXTRACTIVE INDUSTRIES TRANSPARENCY INITIATIVE (NEITI) ON ILLEGALITIES**

The Federal government of Nigeria may have lost up to N4 billion in three years, caused by unlawful mining activities and fake practices of organizations performing in the mining sector of the nation as reported through audit by the Nigeria Extractive Industries Transparency Initiative have revealed. The various instances through which these organizations have played-down on the government of Nigerian include taxes escapade, mining without license, unlawful practices, continuous smuggling of solid minerals out of the country and non-disbursement of revenues.

#### **1) Activities of Unlicensed Miners and Exporters**

NEITI reported that operations of miners without license are rampant in the mining sector which has led to many loss of revenue for the government. The Ministry of Mines and Steel Development (MMSD) also affirmed that over two million people in Nigeria make gains from unlawful mining in the nation. Furthermore, the NEITI has made report that huge

parcels of lands may constitute a profound problem to utilizing the regulations and laws that are identified to the mining industry. Most of these laws have not been tailored to achieve adequate compliance and monitoring, that are reachable to best practices and universal standards. Illegal miners, including African and Asian based immigrants, currently populate the industry with uncertified mining locations in different parts of the country, even though the Mines Inspectorate and Mining Police do monitor all industrial operators. Also affirmed by NEITI is that six states in Nigeria have been noted as the top places for the unlawful solid mineral mining in the nation. Niger State leads the six state with up to 10 illegal mining locations where minerals such as Gold, Mercury, Lead, Zinc are consistently exploited, unlawful. Following is Plateau State that has seven illegal mining locations. Ebonyi and Imo States have five illegal mining locations each, while Zamfara and Enugu states have four mining placements from where earth based minerals, are mined illegally. The background need is that mining organizations must get registered and apply for permits, especially from the Ministry of Trades, prior to exportation solid minerals. This is captured in The Nigerian Minerals and Mining Act 2007. Contrary to this are illegal exports that are carried out by some operators without remittance of revenue. The major buyers of mined minerals that are outsourced from local miners have led to decreased relevance, leakages of payment to government and falsified records of transactions.

## 2) **Contradictions in Data**

Analysis of the NEITI solid minerals audit reports done by the Premium Times Centre for Investigative Journalism, showed

NEITI discovered discrepancies between the data that are reconciled some extractive companies and those of government bodies, especially not captured by regulatory agencies, like the audit report they showed in 2015 and 2016 on Solid Minerals. The reports also showed that about 13 percent derivation funds to solid-mineral producing states were not paid into government coffers.

## 3) **Non - Payment of Royalties**

It was found out in 2014 that data of export reported by companies were not the same with what government bodies manifested. The report given in 2016 showed some solid minerals activities of which three organizations resisted the team of auditors and decided not to attend meeting reconciliations. In addition, it was shown that some internationals do not have a trtax payment record of in the nation that could be tracked, like deciding not to have bank accounts in Nigeria that is English, but in the language they prefer. For instance, the Mercury Mining Investment, owned by the Chinese and is situated on the Benin-Ore road, Ofusu, Ondo State has not kept its activities records and books in its Nigerian premise. Cases like these make verification, validation and reconciliation of royalties and other fee payments to the relevant government agencies difficult.

## **Consequences of the Mining Sector in Nigeria**

NEITI reported Nigeria as being endowed with well over 34 solid minerals deposits throughout the country that are economically viable which includes Iron Ore, Copper, lead, Tin, Granite, Gold, Coal, Gypsum, Kaolin, Sapphire, Sand, Clay, Bitumen, Laterite, and so

on. Comparing Nigeria with other nations that has the close capacity to it, signals indicates great underdevelopments in Nigeria's mining prowess.

Numerical increment occurred in the Nigeria's Gross Domestic Product (GDP) of the country through the mining sector's contribution which not more than 0.5 per cent. This is however drastically low the 4-5 per cent obtained in the 1960s and 1970s. With the prominent problem of the nation's government to attain its monetary needs and meet its stipulated plan of diversification, economically. The mining sector maybe the latest pillar of redemption, with its capacity to produce about 8 trillion naira annually (Akintunde B., 2020).

### **SOLUTION OPTIONS, REFORMS AND ROADMAPS FOR GROWTH AND DEVELOPMENT OF THE MINING SECTOR IN NIGERIA**

Major challenges to the growth of the sector which include:

- i) Insufficient geosciences data;
- ii) Inadequate mineral production data and information;
- iii) Inadequate infrastructure;
- iv) Lack of major industry participants;
- v) Limited engagement and leverage of industry stakeholders;
- vi) Poorly organized institutions lacking in technical talent;
- vii) Lingering opacity;
- viii) Lack of regulatory enforcement;
- ix) Security issues;
- x) Poor investor perception;
- xi) The issues of lack of clarity in governing laws;
- xii) Conflicts between different levels of government in terms of rights to issue mining licenses and allocation of revenue from the sector.

The Committee envisaged that the revitalization of the sector to achieve a world class mining industry which can serve as a source of the economic development and revenue diversification can be achieved by the following:

- i) Proactive communication of the strategic plan established in the Roadmap to stakeholders including other branches of government, community activists, potential investors etc;
- ii) Creation of an investor friendly regulatory environment;
- iii) Coordinated infrastructure investments;
- iv) Establishment of community partnerships;
- v) Provision of investment funding;
- vi) Institutional reform;
- vii) Improved Geoscientific databases
- viii) Use of mining as a developmental catalyst (Shasore O. (SAN.), 2016).

### **REASONS FOR ILLEGAL MINING, NON – COMPLIANCE (POLICY RECOMMENDATION)**

Nigeria has much to profit from realigning its policy and legal structure towards locally small sized miners, who presently mine the lion share of mining of solid minerals operations. The Mining Regulations and Act include a series of impetus to lure larger investors. Presently,

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local mineral miners are extracting and processing high valued minerals like Gold using hazardous processes, without enough privilege to land space, machineries, and funding, even though the income and revenues they make are going not taxed. Miners required to form cooperatives in order to access extension services which is shortly given attention by The Minerals and Mining Act and Mining Regulations to meet the needs of locally small sized miners . The right time to get the structure of mining impetus is now so that locally small sized miners can better contribute their quota to development of local and national economy, without impacting negatively on the environment and human health which is what is happening presently. The policy and law recommended below purpose to activate and enlighten the formalization of locally small sized miners which focuses mainly on licensing and 'permission to land matters which are priorities to Ministry of Mines and Steel Development (MMSD). These include:

**i) Strengthen Access to Land**

Numerous mineral deposits are embedded on lands that have been officially approved to titled land holders which are mainly small- and medium-sized mining organizations, since Nigeria has scarce large-size mining organizations until date, (GEUS Scoping Study, note 134). Several locally small sized miners do not acquire land title, i.e. Mining Lease to the lands where they exploit minerals. The reason may be the deficiency to get a lease, or someone has acquired such land titles already. These issues have affected mining activities, without the guarantee that they can recoup their investment. (SDC Experiences with Formalization, note 36). Furthermore, locally small sized miners cannot get credit to procure mining equipment and sophisticated machineries. In Nigeria, these problems are entrenched in the nation's entangled land tenure system.

**ii) Improve Locally Small Scale Mining Licensing Process**

The most basic background of formalization involves the power to acquire a mineral title which can aid mineral miners to advance their activities. Presently, Nigeria's Mining regulations and Acts do not permit locally small sized miners to get Mining Lease, in that it is a tedious and expensive procedure. In addition to the registration fee, the mineral lease application requires a pre-feasibility study, proof of more than enough capital and technical expertise and informations such as survey about the site of the lease. As a test of locally small sized miners, the law has finalized that mineral rights should be easy to dish out, simple to understand by the mineral miners, and empower them to move up to the next level of mining activities (UNECA Compendium, note 1).

**iii) Strengthen Access to Credit**

One of the most elementary limits to the capacities of locally small sized miners is to scale up their tools, equipment and get involved in mining activities that are safe and financially sustainable. With constrained cash at hand, miners cannot invest in equipment and supplies without linking to credit. Presently, locally small sized miners rely on what are sometimes referred to as shylock-lenders for materials and supplies, which compel them to trade-off their mineral to the lenders at under-market prices which forms a dependence cycle that is a hinderance to the changes made in mining practices. Strengthening access to credit enhances



huge gains because it allows mineral miners to be part of the bigger market and also to provide noticeable balance since they are entitled to make timely investments (Artisanal and Small-Scale Gold Mining, 2017).

**iv) Improve Access to Markets**

The Nigeria Minerals and Mining Act requires all minerals got under a small size Mining Lease to be sold to a licensed appropriate Mineral Buying Centre. The majority of locally small sized miners sell their minerals to buyers that are not licensed. Many miners are compelled to sell their minerals on the minesite to middlemen or retailers who have already borrowed them cash through loans for different financial needs. This enables the middlemen to fix their mineral price for which is often under-value of market. One of the primary purchasers of locally small sized miners are the foreign nationals (HarunaYahaya and co., 2010), with bought minerals that are illegally transported out of Nigeria on the black market. There can also be unclerness concerning the drifting price of the market and the methods for gauging mineral produce, making the dividends of making the walk to town strenous for locally small sized miners to measure. Direct or indirect market privilege is important for mineral miners to receive a fair deal of prices and avoid the black or night market (UNEP Analysis of Formalization Approaches, note 56). Strategies to play down on the black market streamlines under two categories which are: (1) Using government ministries to bring the market to the locally small size miners; and (2) Rejoinding private action impetus to bring the miners to the market.

**v) Strengthen Community Education and Outreach**

Training, Education and enlightenment creating is a major part of scheme to decrease some hazardous mineral exposure. The interest on health can play a beneficial enhancement part. to speed up the formalization of locally small sized miners. Enlightenment creating is especially relevant for accessing unavoidable number of people which includes women and children. This would be a logical first step toward safeguarding livelihoods (Maconachie and Hilson, Safeguarding Livelihoods or Exacerbating Poverty, note 3). MMSD's Safer Mining Programme has been aiming locally small sized miners about sustainable and safer operations.

**vi) Improve Coordination Among Institutions And Stakeholders.**

The Federal Ministry of Mines and Steel Development has total right over solid mineral operations while the Federal Ministry of Environment has power over environmental impact assessment, its degradation and exposure to poisonous chemicals. The Federal Ministry of Health has also been engaged in 'safe the situation' and providing antidote to poisoning

**vii) The Cooperative Barrier:**

The steps involves legally forming a cooperative and registering it with MMSD's headquarters, The Federal Capital Territory, Abuja, which imposes additional steps and fees. Under the Minerals and Mining Act and Regulations, degradation, locally small sized miners are strongly advised and enlightened to form a cooperative in order to proceed with their operations. Locally small sized miners must be part of a registered cooperative in order to

have access to extension services from the appropriate ministry (Minerals and Mining Act, note 69). Ministry holds the perspective that the only way for locally small sized miners to acquire a lease is through a registered cooperative. Different states have their requirements for forming a cooperative, which includes enacting of bylaws, payment of a registration fee, and so on.

**viii) Collect Royalties From Artisanal Mining Company**

The economic impetus must be strategically positioned for all parties in order to successfully encourage the formalization of locally small size miners. Presently, a 3 percent royalty is needed to be paid on mined mineral under Section 99 of the Mining Regulations and Section 33 of the Mining Act, to be organized by MMSD's Inspectorate of Mines. locally small size miners who are not registered with MMSD are assumed not to be paying royalties to government, even though it is likely that they make some payments to certain officials at the local, state or local government level (Civil Society Legislative Advocacy Centre, 2012). Also, who fall short of this would be mandated to a kind of double payment which runs under an official royalty system. The problem is hence how not to discourage locally small size miners from acquiring mineral licenses. But, advertently if locally small size miners registers and make payments duly, they will be well off, compared to miners who are not yet licensed..

**ix) Strengthen Extension Services**

There are methods and processes that can help miners decrease utilization of hazardous mining chemicals, or desist from using them entirely, but miner workers are not aware of these options on how to imbibe them. Extension services in mining can play a key role in broadcasting tried and tested ways (Report to the UNEP GC Meeting, note 54). Section 91 of the Mining Act authorises MMSD to make available the provision of extension services to locally small size miner's cooperatives in different service capacities.

In 2013 MMSD's Safer Mining Programme addressed some of these miners' cravings, as the concerning dishing out of clothing and safety kits for mining, performance of field best ways of practising mining.

**CONCLUSION**

Illegal mining has been a plague and unsafe to the mining economy of Nigeria. This has continued with little and no royalties paid to the Federal Government. It is experienced in small-scale (Artisanal Mining) and in large-sized arranged criminality arrow-headed by illegal mining bodies. Most times, these crude unlawful practices are harmful to the environment and ecology, especially where it occurs in the rural areas (towns and villages). Also noticed with it is the increase in the rate of armed conflicts, banditry, crime widespread violence, gang rivalry and kidnapping.

It is expedient for the Nigeria Extractive Industry Transparency Initiative (NEITI) in collaboration with the Nigeria police, Nigeria Immigration and Customs Service to for alliances under a Presidential Task Force (PTF) to combat the menace.

To further curb this disaster, Nigeria government should enforce the laws that ban any non-public persons or cluster of person from exploiting mineral without getting due license by the right government parastatal.If unchecked, the effect of illegal mining activities in Nigeria could cause:

- Physical distortions of the environment, of which illegal miners do not have plans for mitigation, especially on host community, groundwater regime and disposal of produced wastes generated from mining.
- Biological disturbances to the ecosystem through noise, vibrations, dusts that affects plants and animals progress.
- Aquatic imbalance that leads to water-food shortages

The policies framework that could be recommended, especially to the small-size Artisanal mining workers who are involved in the bulk of solid minerals mining activities include:

- Strengthen their access to land, and soften the imposition and effects of the land tenure system on them.
- Improve the licensing process, especially regulating licensing fee moderately.
- Strengthen their ability to get easy credit for meeting market demands.
- Improve on their access to the market and given simple mining lease, to avoid selling to unlicensed buyers.
- Provide community training to them on the consequence of poisoning and pollution of mining to health issues.
- Register them under a structured cooperative body to help their activities.
- Incentives should be provided to mining, especially to those that makes informal payment under the royal system.
- Strengthen their access to extension services on cleaner mining technologies and its alternatives provided.

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