

GRANITE MINERAL EXPLOITATION IN SELECTED HOST COMMUNITIES OF EBONYI STATE, NIGERIA, 1996 – 2017

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Abstract

Ezza, Ikwo, and Izzi communities of Ebonyi State are richly endowed with granite mineral deposits. This resource has been exploited by both indigenous and expatriate mining companies for decades. Having hosted both indigenous and expatriate mining companies for decades, one will have thought that the resources and the operations of these companies ought to have contributed to the socio-economic development of these communities. Unfortunately, this has not been the case. The paper, therefore, examines the role the granite deposit and mining have played in the socio-economic development of these communities between 1996 and 2017. The study utilizes both primary and secondary sources while content analysis and historical analytical research approaches were employed in the analysis of data. The paper submits that granite mineral exploitation in Ezza, Ikwo, and Izzi has adversely affected the socio-economic development of the host communities. We, therefore, recommend that favourable terms and conditions of agreement as well as adequate government regulation of the mining companies be implemented to make for the socio-economic development of the host communities.

Keywords: Granite Mineral, Exploitation, Host Communities, Ebonyi State, Nigeria.

Introduction

Nigeria is blessed with abundant mineral resources. The country is endowed with over 40 different solid minerals at approximately 450 locations. They include but are not limited to lead, zinc, iron, tin, tantalum, nickel, manganese, gold, marble, milestones, gemstones, talc, kaolin, halite, barite, and granite, among others. These mineral resources are found in different parts of the country and are used for industrial and infrastructural development (Olade, 2019: 1). Like most state in the country, Ebonyi State is very rich in solid minerals. The availability of these precious stones has led to the proliferation of both illegal and organized mining activities in the state. Mining of mineral resources, granite inclusive has witnessed an increase in demand in recent times due to an increase in the demand for it by domestic, agricultural, and industries, among others.

Studies have investigated the diverse impacts of granite exploitation in Nigeria. Their findings suggest that despite the health, environmental, and physical challenges posed by the activity, granite mineral exploitation has led to the growth and development of the host communities. Their argument is hinged on the socio-economic benefits the industry offers the host communities, for example, Melodi and Ogunyemi (2017) argue that granite stone quarry engagement has had a socio-economic impact on workers' livelihood in Ondo and Edo States, Nigeria. They argue that in these two states, quarry workers have experienced an improved standard of living as a regular benefit of their engagement with a monthly income of N60, 000 or less per month. Consequently, their social statuses have improved significantly as a considerable number of the beneficiaries moved from an average status to a better one (Melodi and Ogunyemi, 2017: 13). Similarly, Ogbiji and Ogbiji (2016) in their assessment of quarry industries and socio-economic

development in some selected communities in Cross River State of Nigeria, suggest that quarry industries in five select communities in Cross River State have significantly resulted in the socio-economic development of the host communities.

According to their findings, a significant number of the surveyed population agreed that the quarry companies have adequately employed members of the community as staff, provided them adequate representation on the company's management, gave their communities monetary and material royalties, and availed them opportunities leading to the emergence of distributors, contractors, and middleman on the company products. Hence, they conclude that the industry contributed to the socio-economic development of Akamkpa Local Government Area of Cross River State. Their position, however, seems to contradict major indices of development which they also observed were absent in the select communities. Their findings in this regard reveal that the quarry companies had not built any primary and secondary schools for the communities nor awarded scholarships to deserving indigenes for higher education. Other entitlements of the communities such as vocational training, healthcare services, potable water systems, and pollutant-free environments had been denied to the people by the mining companies (Ogbiji and Ogbiji, 2016:12).

Again, Salawu and Sadiq (2020) in their study on the socio-economic effects of Artisanal Quarries in the Kaduna Metropolis seem to project the economic benefits of quarrying enterprise such as employment opportunity and amount of income per worker above the obvious non-translations of the monetary benefits to the general improvement on the people's welfare in the study area. Findings of their study reveal that out of 396 respondents, 198 respondent (50%) were on monthly income of between N20, 100 – N30, 000; 120 respondents amounting to 30% of the respondents earned between N30, 100 – N40, 000; 59 respondent which translate to 15% earn between N40, 100 – N50, 000 while 20 respondents representing 5% earned over N50, 000 (Salawu and Sadiq, 2020: 5).

In Ebonyi State, Ukommi, Agha and Ekpenyong (2013) have argued that the extractive activities of the Crushed Rock Quarrying Industry in Ishiagu, Ebonyi State have resulted in a reduction of youth unemployment rate, youth violence, poverty; and increased access to education and skills acquisition, improved healthcare, among other social infrastructure. They, thus conclude that the above dividends resulted in the socio-economic and political development of the study area. Similarly, in the Ezza, Ikwo, and Izzi communities of the Abakaliki area where intensive granite quarrying takes place, a lot of benefits abound. Uga (2014:40), for example, observed that these communities witnessed mass employment opportunities for both skilled and unskilled workers. He maintains that the development engendered improvements in the standard of living of the people, income generation, and infrastructural development. This, to a very large extent, suggests socio-economic development, he concludes.

Specifically, Obasi (2020: 43) argues that among the peoples of Enyigba and Ameka mining communities of Ezza, mining activities have contributed greatly to their socio-economic development. He posits that the industry has attracted markets, schools, police posts, health centres, and the provision of electricity in the villages. Additionally, he claims that the influx of foreign trading nationals from China, Lebanon, Ghana, and Togo, among others, has propelled the villages to economic growth. Of very importance to the present study are the works of Uga and Obasi. However, on the contrary, the present research argues that the operation of mining industries has not impacted the host communities positively during the period under review, hence, their underdevelopment.

Theoretical Framework

Development may be conceived to encompass four different but inseparable variables: growth, modernization, improved quality of life, and self-sufficiency. In this order, development is believed to have occurred in any economy when growth which entails a steady increase in the volume and variety of economic output leads to the adoption of advanced technologies (modernization), improved quality of life that ensures a regular satisfaction of necessities of life, and self-sufficiency in the production and availability of the resources that guarantee improved general welfare of the larger population. Conversely, underdevelopment means evident manifestation of lack of economic growth, prevalence of poverty, absence of modernization, and high rate of dependency among the people (Ray Bromley, 1992: 250).

Amartya Sen's theory of development is adopted to determine the correlation between granite mineral exploitation and the underdevelopment of the select host communities. Sen's theory centres on the concept of freedom as the foundation of human development which shifts the focus from a purely economic view of development to one centred on enhancing individual freedoms. According to him, what constitutes development should be the prioritization of people's well-being and their ability to make meaningful choices in life with wealth and economic growth as means and not as ends in themselves (Sen, 2001:310). Amartya Sen distinguishes between negative freedom (freedom from coercion) and positive freedom (real opportunities to improve one's capabilities). In his view, both types of freedom are essential for human development because while negative freedom protects individuals from abuse and oppression, positive freedom empowers them to fulfil their potential and make valuable life choices (Sen, 2001:312). For him, there exists five forms of substantive instrumental freedoms that contribute to human development: political freedoms, economic facilities, social opportunities, transparency guarantees, and protective security which enable people to participate in governance, access economic resources, receive education and healthcare, ensure transparency and accountability, and have a safety net in times of vulnerability.

Sen's theory of development emphasizes the need for the actualization of the five forms of freedom as the basic foundation of human development relates significantly to the issues of underdevelopment in Ezza, Ikwo, and Izzi granite-producing communities despite some monetary and infrastructural benefits the quarry firms have offered them. For instance, considering real freedom and well-being, granite-producing communities in Abakaliki appear quite removed from development status due to their limited access to basic services such as healthcare, education, clean water, and economic opportunities which the quarry companies should have statutorily made available to them consequent upon the exploitation of their natural solid mineral resource. Similarly, in these communities, income and revenue generation by both the indigenous and expatriate firms have not truly translated into better living conditions for the larger population because the revenues are not adequately reinvested in their economy to address the fundamental needs of the communities. Positive freedom, as defined by Amartya Sen as the real opportunities that individuals have to improve their capabilities are limited in these communities due to factors such as inadequate access to education and skills training. Sen's argument for protective security is also suitable for understanding the recurring health, safety risks, land degradation, and environmental pollution that confront quarrying workers and the host communities in Ebonyi State who were hitherto free from these challenges until the commercialization of the solid mineral.

The Study Area and Economy Before 1996

Abakaliki is the capital of Ebonyi State. It is also the biggest city in the state with a population of 149,683.24 according to the 2006 population census. Abakaliki metropolis is delineated into six zones namely: Abakpa Market Area, Kpiri Kpiri Area, Rice Mill Area, Hausa Quarters Area, Timber Shed Area, and New Layout Area (Molokwu, Nwose, Alozie, 2023:83). Abakaliki comprises six clans including Ezza, Ikwo, Izzi, Mgbo, Orri, and Igbo Assa. While the Orri group has been argued by some scholars to be of non-Igbo stock, the other five are subgroups of the Igbo cultural group (Alphonsus, 1989:3). The study, however, focuses attention on the Ezza, Ikwo and Izzi communities which evidence suggest to have descended from one grand ancestor, Anakiwha whose son, Unaenyi gave birth to Ekuma Enyi and who in turn gave birth to five children of which three were male: Ezekuna, Noyo and Nodo; the founders of Ezza, Ikwo and Izzi clans respectively (Alagu, 1989:7).

Geologically, Abakaliki features different types of sedimentary rocks namely shale, argillaceous sandstones, siltstones, mudstones, granite, and others. A considerable number of Ezza, Ikwo, and Izzi villages including Enyadiogu, Ezzagu Iboko, Umuoghara, Enyigba, and Ezza Inyimagu are naturally endowed with an abundance of granite stone; a plutonic igneous rock having visibly crystalline texture; generally composed of feldspar and mica and quartz. This geological asset has long attracted the interest of mining companies whose activities have had diverse significant effects on the economy of the host communities. Granite quarrying operations in these host communities mostly involve the removal of overburden, drilling, blasting, and crushing of the rock which could be done by individuals using manual techniques or small and medium-scale quarry industries utilizing heavy machinery. These activities have not only provided employment opportunities and revenue generation to both the inhabitants of the communities and the government of Ebonyi State but also a key source of building and road construction materials.

Before the predominance of the quarry industry in the late 1990s in Abakaliki, agriculture, and trade were the major economic activities in the area. Both big-time farming and peasant farming were prevalent, with chiefs and powerful individuals playing significant roles. In Izzi, Chiefs Idika Igboji and Nwiboko Nwobodo were observed to have invested and contributed much political and economic influence to the growth and expansion of agricultural activities in the zone (Uga, 2014:40). Agricultural activities in Izzi and other communities in Abakaliki operated based on leader – subject relations due to marked differences between the two classes. The people of Abakaliki, just like other Igbo communities, participated actively in the cultivation of such crops and vegetables as yams (ji), water yam (mbala), cocoyam (nkashi), cassava (ogodo, akpu), pepper (igbakpo, uza); and melon (white, ashi, yellow, (akpu eli), fluted pumpkin (ugboma), okro (okwuoro), groundnut (ashiboko) and others (Uga, 2014:40). However, among the yams cultivated in Southeast Igbo communities, the Abakaliki yam mounds and yams, particularly the Ezza, were remarkably the biggest. As Anyanwu (2004:64) asserts, Ezza's farming skills during the period were proverbial and legendary. Consequently, their expertise in the profession made Njoku remark that, “among the Igbo, farming was a passion and a universal pursuit. But it was the Ezza who had the upper hand in this pursuit being the greatest yam farmers (2004:64).”

Another major crop reputed for its mass production in Abakaliki is rice. Various arguments have been advanced by scholars about the actual date rice cultivation began in Nigeria and from where it was introduced. However, Iwuagwu cited in (Okonkwo, 2021:3) wrote that in Southeastern Nigeria, rice was introduced to the people of Abakaliki, Afikpo, and Ohaozara by the Colonial Department of Agriculture in 1942. In Abakaliki, Delane E. Welsh cited in (Agu, 2017:72) noted that it was precisely in Echara Ikwo that rice was first introduced in 1942 from the British Guiana. Rice production in Abakaliki was patterned

along gender lines, but in some cases, men and women worked together. While the women did the threshing and transplanting of seedlings to the fields, the men did the hoeing (Agu, 2017:72). Okonkwo, et al (2021:3), citing Ottenberg, noted that the introduction of rice in Abakaliki faced severe oppositions from the local farmers who claimed, out fear and a native doctor's divination in 1950s, that rice cultivation spoils yam crops or retards their yields. Nevertheless, rice became sufficiently domesticated in Abakaliki and was necessitated by some factors. While Okonkwo et al attribute the reason to the impact of the Second World War, Agu (2017:72) suggested hunger occasioned by the effects of the Nigeria-Biafra war, 1967 – 1970. Nevertheless, evidence suggests that rice production in recent times in not just Abakaliki but Nigeria has not been sufficient to tally with the consumption demands of the people. Given this, Okonkwo et al (2021:1) argue that it is a result of a total lack of political will to harness the large and fertile hectares of land available in Abakaliki areas for rice cultivation.

An appendage to farming in Abakaliki was the rearing of domestic animals such as fowl, goats, sheep, dogs, and cows, among others. Allen (1930) observed that in Abakaliki, “almost every man possessed at least one sheep and goat, and very many cows.” Although cow rearing was not significantly pronounced among the Igbo, in some rural communities of Abakaliki, the people reared dwarf cows called muturu for consumption during ceremonial occasions (Ottengberg, 2005:107). In Izzi, it was much more evident among the youth and women of Umuezenyi and Igbegu villages (Agu 2017:57). Unlike the type imported from Northern Nigeria, muturu were Tsetse fly resistant and were not milked. In addition to the ceremonial and economic values of its meat, it was also essentially used for rituals ((Ottengberg, 2005:20).

Abakaliki's economy also depended heavily on trade. Agricultural commodities produced in the zone, especially yam and rice, were extensively marketed within and outside Abakaliki areas. Abakaliki yams attracted massive traders to Eyim Ifuma, Ebonyi River, Cross River, Itu River, Afikpo, Calabar, and Aro trading ports where they were exchanged for other commodities. The Abakaliki people also transacted businesses with far-distance traders in their daily and Igbo four-day weekly markets. The Ezza Ekeimeoha market was famous in this regard. It was attended by people from within and outside North-eastern Igboland, including Umon and Akunakuna traders from Cross River, Uburu, Abiriba, and Aro traders. Goods bought and sold in the Ekeimoha market were mostly agricultural products such as yams, cocoyam, livestock, and palm produce. Also sold, were products of wood carvers like kitchen utensils, and blacksmithing products such as hoes, machetes, and diggers. Other products that featured in the market were brought by traders from other communities. Chief among them included Dane guns, clothes, hats, iron pots, and tobacco. Slaves and Akarama were bought from Umon and Akunakuna traders, gunpowder from Aro traders, iron rods from Abiriba and Uburu, and horses from Igala and Uburu (Anyanknwu, 2004:75). In addition to farming and trade, Abakaliki economy also prospered on local manufacturing industries such as pottery, mat making, wood carving and blacksmithing which depended on natural resources found in the locality.

However, by the mid-20th century, another indigenous industry involving the exploitation of a natural raw material emerged in Abakaliki. It was the granite industry. The emergence of commercial granite exploitation in Abakaliki began after a series of mining explorations in some regions of Nigeria. These were followed by the passage of regulations guiding mining generally and quarry in particular. In 1903 and 1904, the British Colonial Administration established the Mineral Survey of Southern and Northern Protectorates of Nigeria respectively but was disbanded in 1909 and 1913 consequent upon the appointment of an Inspector of mines in 1908 (Uga, 2014:37). With the creation of Inspectorate of Mines in 1919 starting from Naraguta in present-day Jos North Local Government of Plateau State, the Department of Mines was legally

empowered to execute all laws relating to mineral prospecting and mining in Nigeria. However, it was the Mineral Ordinance of 1946 that prescribed the legal basis for the development of solid mineral exploitation (Uga, 2014:37). Different types of solid minerals had peculiar regulations governing their entire operations from exploration to utilization of the by-products. For the granite mineral, there existed the Explosives Act of 1964, the Quarries Act of 1969, and Allied Regulations Cap. 385 LFN 1990, Allied Regulations of 1969 Cap. 117 LFN 1990 and Nigerian Mining Corporation Act of 1972, Cap. 317 LFN. 1990(FGN, 1996: 31).

In Abakaliki, evidence points to Trade Afrik Nigeria as the first indigenous firm to acquire a mining lease from the Federal Ministry of Mines and Power for granite mineral exploitation. Later, other firms such as G.U Oguike, PECUNO and Spera 'in' Deo and Ebenezer Company Nigeria Limited acquired quarry licenses from Trade Afrik for the same purpose. But, due to financial challenges and poor patronage, they suffered a serious decline (Uga, 2014:39). In Ishiagu, the Nigeria Railway Corporation embarked on the same project at Amalokpa hill site, Amony and Ezia to villages in 1945 and 1952 respectively (Chukwu, 2010: 153). The corporation also faced similar challenges with the other companies in Abakaliki at the time. But with the introduction of the Reconciliation, Reconstruction, and Rehabilitation (3Rs) Policy of General Yakubu Gowon-led military administration after the end of the Nigeria – Biafra war in 1970; granite mineral exploitation began to revive. This was a result of the activities of an Italian construction firm, SEGEEN Nigeria Limited, and its Chinese counterpart, Reynolds Construction Company Limited (RCC) which were awarded contracts in 1971 to construct a fresh highway from Enugu to Abakaliki and to build the Enugu Airport presently known as Sir Akanu Ibiam International Airport Enugu, respectively (Ministry of Aviation Handbook, 1988). By the time these two projects were completed in 1976 and 1980, the granite industry had begun to make a significant impact on the economy of Abakaliki.

Before 1996, both the indigenous and expatriate firms had employed about 40 and 535 workers respectively in the ratio of 36:4 and 300:235 for skilled and casual labourers in the two categories of companies. While the skilled workers including drivers, technicians, and clerks were employed full time with a pay package of about (N4.00) four naira every two weeks, the unskilled worker's job placement was on casual contracts and received about (10 kobo) ten kobo per day. (Uga, 2014:61). During this period, the socio-economic impact of granite exploitation on the host communities was quite minimal as production, distribution, and revenue generation were still limited. Nevertheless, the people continued to make progress in other sectors of the economy.

Granite Mineral Exploitation and the Host Communities since 1996

From 1996, there was resurgence in granite quarrying activities in Abakaliki. Chief among the reasons for this include technological improvement in the use of modern machinery, funding, and the emergence of Abakaliki as an administrative state capital. Specifically, with the creation of Ebonyi State in 1996, and the new status of Abakaliki as the state capital, the first Executive Civilian Governor of the state, Governor Sam Omiyi Egwu, expedited action to give the capital city a befitting infrastructural development. The source of materials used for the project was mainly from the granite industry. With this development, by 2007, there existed about 120 quarry companies in Abakaliki that employed 1005 and 100 skilled and casual workers respectively (Nuribo et al, 2012: 43).

During this period, granite mineral exploitation witnessed significant growth leading to an increase in revenue generation for the indigenous and expatriate companies; and the host communities. For the host communities, the increase in income resulted from the job opportunities the industry offered the people. It

also created room for self-employment in micro and medium enterprises such as restaurants, healthcare outlets, General Mobile Service (GSM) sales and repairs, photography, hair salons, relaxation joints, and other related services within safe distances. In addition to the above, Marlum Nigeria Limited in partnership with Trade Afrik Nigeria Limited trained and employed 30 indigenes of the quarry-producing communities out of about 200 persons who were trained as motor mechanical and electrical engineers, plumbers, draughtsmen, telecommunication technicians, vulcanizers, masons, and tailors (Uga, 2014:61). The job opportunities above assisted in raising the standard of living of the people.

Besides the benefits above, the granite mining companies saw the provision of social amenities in the various communities where the industries were localized. In Onuebonyi, for example, the community was provided with classroom blocks, boreholes, markets, and in some cases, compensations in the form of scholarships for direct victims of granite exploitation. Again, the presence of granite in these communities attracted government interest in investing in productions that use the mineral resource as a raw material. For instance, in Nkalagu, the Federal and Eastern Nigeria Government in collaboration with two British organizations- the Government Colonial Development Corporation and the Private Tunnel Portland Cement Company Ltd, established Nigerian Cement Company Ltd (NIGERCEM) along Abakaliki-Enugu road, 30 miles west of Abakaliki town in 1957 (Simon 2005:160). By 1960, the company had employed about 500 workers even though the majority of them were strangers and not indigenous inhabitants. In addition to the number above, the majority of the local people, between 100 and 150 persons were engaged as menial workers. (Ottengberg, 2005:161). Just like Trade Afrik Nigeria Limited, and other quarry companies mentioned earlier, NIGERCEM, built a Universal Primary Education (UPE) school for the community, a facility for the senior staff and workers' union. NIGERCEM productions also encouraged the local people to build permanent cement block houses in Abakaliki town with the revenue earned from the industry.

The relationship between the granite mineral exploitation companies and the host communities was based mainly on a five-year-reviewable Memorandum of Understanding (MoU) or Community Development Agreement. For instance, Trade Afrik Nigeria Limited operated in Izzi communities based on the MoU that empowered the company to carry out its activities in Onuebonyi-Izzi within one kilometre square coverage; assist the host community in socio-economic development, and be responsible for tackling environmental challenges in the area (Uga, 2014: 40). The above was further reviewed in the early 2000s and extended the boundaries of the company's activities to three square kilometres, placed more emphasis on provision of education infrastructure, sinking of boreholes, construction of road networks to link the host communities, Land reclamation and introduction of toll-charges by the host communities (Uga, 2014: 44). Other companies such as G.U Oguike, PECUNO and Spera 'in' Deo and Ebenezer Company Nigeria Limited, Consolidated Construction Company (CCC), Dengroupco, Crush Stones Industries Ltd (C.S.L), Monier Construction Company (M.C.C), and others had their own Memorandum of Understandings with their host communities where they operated. The essence of the Community Development Agreements contained in the MoUs was to ensure the all-round development of the host communities. However, available evidence suggests that the reverse had been the case in these host communities.

Granite Mineral Wealth and Underdevelopment of the Host Communities, 1996 – 2017

Despite the amount of income and number of social infrastructures that Enyadilogu, Ezzagu Iboko, Umuoghara, and Ezza inyimagu communities of Abakaliki, Ebonyi State have benefitted from granite exploitation, these communities can be reliably argued to have suffered immense socio-economic underdevelopment contrary to the views of some scholars. Although, rivers, streams, and ponds in Abakaliki

are naturally unsafe for drinking given the presence of some toxic minerals found in the region; granite mineral exploitation has exacerbated the condition of these water bodies thereby making the plight of the inhabitants worse. As Whitehead cited in (Ogbonnaya, and Philip, 2020: 62) noted, granite mineral exploitation introduces more harmful metals such as arsenic, copper, lead, iron, cadmium, cyanide, and nickel into water surfaces, poisoning fish, plants and polluting drinking water supplies.

Until 2013 when Guinea worm disease was finally eradicated in Abakaliki (World Health Organisation 2014), the activities of granite mineral companies compounded the health challenges of the people. Similarly, among the host communities where granite exploitations took place, Okolo, Oyedotun, and Akamigbo (2018:204) argue that there was a high tendency of acid rock drainage, a natural process whereby sulphuric acid is produced when sulphides in rocks are exposed to air and water. They assert that the process has caused severe contamination and degradation of the quality of their water supplies and endangered aquatic life and human health in these communities. Specifically, the victims have suffered destruction of their internal organs, fatigue, mental and central nervous dysfunctions, and lung and kidney disorders (Obasi, 2020:43). Obasi and Akudinobi (2015:5) have also reported a high frequency of miscarriages, infertility, selenosis in infant, physiological and mental imbalance among the inhabitants of the host communities.

During excavations, some people sustained varying degrees of injuries from flakes of blown-up bedrock. Most times, these victims hardly received adequate treatment due to their poverty status. The amount of dust caused by granite exploitation in Abakaliki has also contributed significantly to deteriorating the health of the workers, inhabitants, and crops around the exploration sites. Individuals in these communities have been made vulnerable to Silicosis and pneumoconiosis by inhaling 71 percent dose of silica-filled air most of the day which can, in most cases, result in death (Aloh, et al, 2017:1). In Umuoghara quarry sites, evidence abounds suggesting a high prevalence of silicosis among the workers (Uga, 2014:68). The foregoing situation seems to have been aggravated by the complete nonchalant attitude of the quarry company owners towards the provision of protective devices such as respirators, nose and mouth masks for the workers. A study by Aloh et al (2017:13) on the occupational health hazards associated with continuous exposure to quarry activities among quarry workers in Ebonyi State reveals that 81.6% of the total population investigated suffered ailments due to dust inhalation, 57.1% (physical injury), 56.1% (noise pollution), 56.1% (chest pain), 38.8% (occasional cough), among others. In Umuoghara and other intensive quarrying sites, J. O. Agwu, et al (2020: 75) observed the production of varying levels of noise that exceeded the WHO standard and caused the people hearing impairment such as Noise Induced Hearing Loss (NIHL). These and other challenges posed by the industry have deterioratingly exerted on the individual well-being of most granite quarry workers.

The level of damage caused by granite exploitation in these communities has not just affected their health but also their performance in farming activities. In Africa, current statistics reveal that agriculture serves as the chief backbone of most economies and provides sustainable economic engagements for about 60% of the entire population (Enyim and Nweze, 2013:124). In Nigeria, agricultural activities absolve even more than the percentage above. Abakaliki, being an agrarian community engages actively in the cultivation of yams, rice, cassava, and other crops. However, due to the activities of the companies, most yam, rice, cassava, and vegetable farms around granite quarrying sites have been destroyed by harmful gaseous emissions, chemical discharges, and excavations that contribute little or no value to the economy of the people. High concentrations of arsenic, copper, lead, iron, cadmium, cyanide, and nickel in the soil and

water of most farmlands caused by granite exploitation have resulted in low yields of rice, yam, and other crops in nearby quarrying sites.

According to Nwugbala (2023), very often, farmers who cultivate around quarry sites usually complain of poor harvests as a result of either pollution of the water and soil or erosion. Due to the increasing shortage of arable lands consequent upon quarrying activities in Abakaliki, the challenge of food insecurity has become a threat not just to the host communities but also to the Abakaliki urban. To cushion its effect, especially among the urban dwellers, most households resorted to urban agriculture whereby they utilized every available space in their compounds or plots of land to grow some crops or rear animals. Despite their efforts, Enyim and Nweze (2013:136) observed that urban agriculture in Abakaliki has contributed little to poverty reduction among the people. The food insecurity among both the rural and urban dwellers of Abakaliki had also been attributed to the 'get quick money syndrome' among the vibrant youths of the host communities. The majority of this class of people who had dropped out of school due to lack of funding, took to menial jobs at the quarry sites to make daily cash rather than engaging in farming which they view as an occupation for old men and women.

As Chukwu (2010:159) wrote about Amony village, Ishiagu where a large expanse of fertile land was damaged by the Nigerian Railway Corporation (NRC) in 1945 in the course of constructing a railway station to link their granite site, Onuebonyi-Izzi is also a typical example of where hundreds of hectares of unproductive lands have emerged as a result of granite exploitation activities (Ozioma, 2023). Among many households that lost portions of their farmlands to granite exploitation, the poverty ratio has been on the rise. Ozioma (2023) recounted bitterly how she had not been able to fend for her family since some portions of her late husband's farmland near the Umuoghara quarry site were taken over in 2011 for quarry activities. The impact of the health challenges and destruction of the arable farmlands of the host communities could be argued to have significantly outweighed any economic benefits from the industry. Even though several income-earning opportunities have resulted from the industry, yet, the monetary benefits are to translate into a general improvement in the welfare of the larger communities.

Similarly, the granite companies' indifference towards the implementation of the contents of various Memoranda of Understanding signed with the host communities has contributed immensely to the communities' socio-economic underdevelopment. The above had been compounded by the fact that most of the MoUs between some companies and communities were so exploitative that even when their contents were implemented, their impacts hardly engendered any significant socio-economic development in these communities. Given the above, granite companies in Abakaliki have been referred to as, "imperialists, colonizers, and over-ambitious business groups who remained ungrateful and unjust to the host communities (Chukwu, 2010:159)." The situation above seems to have been made worse by the attitude of the Ebonyi State Government which collects about two million naira from the quarry companies every month as haulage fees and other dues, yet, without adequate reinvestment of such funds for the development of the host communities (Agwu, 2020: 8).

Due to the failure of the granite mining companies to keep to the terms and conditions of the Community Development Agreements or Memorandum of Understanding, the host communities were left at the mercy of the exploitative company owners. The management of NIGERCEM preferred the non-indigenes and Europeans to handle key positions in the company while relegating the indigenes to menial jobs that hardly earned them sustainable livelihoods (Ottengberg, 2005:161). In the case of the Marlum Nigeria Limited partnership with Trade Afrik Nigeria Limited which trained about 200 persons in different vocations, only

30 percent of the numbers employed were indigenes of the quarry-producing communities while the rest came from other communities of the state. Evidence also suggests that there exists a high number of school dropouts and illiteracy among households of the various host communities in which granite exploitations are prevalent. In this regard, women and children have been the most affected victims. A major contributory factor to this development has been attributed to the high rate of poverty among the people. Most granite industry workers who dropped out of school found it difficult to pay their school fees and in their quest for a means of livelihood resorted to any job at the granite production sites.

According to Obasi, in Enyigba and Ameka communities of Abakaliki where granite productions are prevalent, 60% of the populations surveyed were young primary and secondary school drop-outs (2020:42). In most cases, since this group spent their lost school hours in the granite quarrying sites, they became exposed to drug abuse, sexual harassment, sexually transmitted diseases, or unwanted pregnancies that are widespread in those areas (Philip, 2020:42). For Onyekwere (2023), these companies have not been faithful to their promises about education. In some communities, agreements reached with host communities concerning educational facilities had been flouted by the company owners while in some communities, the few that were built had not been managed well to deliver the needed services.

Other social infrastructures such as hospitals, bore hole water, and roads have also not received adequate attention from the granite quarrying companies. Since Trade Afrik Nigeria Limited built a secondary school block in 2012 at Onuebonyi Boys High School Abakaliki, the company has not executed similar projects in the community. Some of the social infrastructural projects executed in these host communities have been made possible by the royalties from lorry drivers. For instance, in Umuoghara, the leadership of the community used part of the toll fees which accumulates into millions of naira annually to provide water bore-hole facilities for the people in 2008 (Uga, 2014: 80). However, one major challenge has been poor management of the community fund. Jideofor (2023) reports that in most villages, one particular project done by the community after a long while was usually used to claim that the money in the community pulse for projects has finished; there is no accountability and transparency at all. Nevertheless, in 2007, the government of Ebonyi State began some construction and road projects using quarry products. Among them include the International Conference Centre, Abakaliki International Market, 160 Unity Bridges, New Capital City Development Ochoudo City, and several ring roads in Abakaliki. Between 2011 and 2017, the government of David Nweze Umahi built concrete roads across and beyond the Abakaliki metropolis including Ezzamgbo – Abakaliki, Ogoja – Abakaliki, Onueke – Abakaliki, Afikpo – Abakaliki, Amasiri – Afikpo, and Edda – Amasiri roads. Flyovers were also erected at strategic locations at Ezzamgbo, Presco junction, Amasiri, and Edda, among others for traffic and economic conveniences. Before these periods, the above-mentioned infrastructures had not been in existence even with the presence of the granite mining companies.

Conclusion

While some scholars have argued that granite quarrying has led to socio-economic development in certain regions of Nigeria, evidence from host communities in the Abakaliki area suggests a different narrative. Without a doubt, granite mineral exploitation in the selected host communities of Abakaliki, Ebonyi State, from 1996 to 2017, has indeed brought some economic benefits to the region. However, when the overall impact of the industry on the socio-economic development of these communities is examined, a troubling pattern of underdevelopment emerges. The high prevalence of respiratory illnesses, hearing impairment, mental disorders, guinea worm, and diarrhea among the local inhabitants has had a profound impact on the well-being of the people. Again, dwindling agricultural activities, increasing rate of food insecurity, high

frequency of school dropout among the youth, and the failure of the granite mining companies to fulfil their commitments outlined in Memoranda of Understanding (MoU) with the host communities, community leaders and state government's failure to reinvest enough revenues from the industry to the development of the host communities have exacerbated the poverty level of the people in these areas. Hence, the socio-economic benefits derived from granite mineral exploitation in the Abakaliki region since 1996 appear to have fallen far short of development indices. Thus, in the light of the concept of development, as defined by Amartya Sen's theory which emphasized the enhancement of individual freedoms and well-being, the industry has not engendered significant socio-economic development of these host communities.

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