

## **A SOCIOLOGICAL ANALYSIS OF THE IMPACT OF SOLID MINERALS MINING ON COMMUNITY DEVELOPMENT IN NASARAWA STATE: A STUDY OF AWE LOCAL GOVERNMENT AREA**

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**ABSTRACT:** *Nigeria's economic history shows that the solid minerals sector was a major player in the country's economy before the discovery of oil, contributing about 12 per cent to the Gross Domestic Product (GDP). Generally, the exploitations of solid minerals always take place in communities where they are deposited. The activities involved in the process cannot be divorced from the social interactions and relationships between the miners and host communities. It has been observed that mining activities have great degrading effects on physical environment of the host communities, which can negatively affect the socio-economic development of the mining communities and cause serious health hazards for the members of the communities. The thrust of this research is to examine the impact of mining activities on the development of the host communities particularly, now that the economic policies of Nigerian government is focusing more on mining as a better alternative source of revenue for government. This study employed survey research design approach to analyze causal explanation. For the purpose of this study, three mining communities in the study area were selected using cluster sampling, namely Abuni, Azara and Mairago. The principal methods of data collection used are closed-ended questionnaire, in-depth interview and Focus Group Discussion (FGD). Based on the research questions, the analysis of data is both quantitative and qualitative. The study revealed that mining sector has the potential for creating jobs, greater GDP and huge exports but a greater amount of Nigerian miners are artisanal small scale operators, who conduct explorations of minerals without adequate equipment. The study discovers that there has been cordial and harmonious relationship between the host communities and mining companies in the area under study. The study concludes that mining companies has contributed to community development in the area according to their capacity. It therefore recommends among others that the potential of solid mineral sector notwithstanding, there is the need for environmental impact assessment of the host communities before any mining activity to reduce environmental hazards. Establishing and maintaining mutual trust between people and the mining companies should be the main goal of the community partnership. The mining companies should always recognize the need for cooperation with the community and to encourage members of the community to be involved in their own development.*

**KEYWORDS:** Sociological, Impact, Solid Mineral Mining, Community Development

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## **INTRODUCTION**

### **Background to the Study**

Nigeria's economic history shows that the solid minerals sector was a major player in the country's economy before the discovery of oil, contributing about 12 per cent to the Gross Domestic Product (GDP) (Federal Republic of Nigeria, Ministry of Solid Minerals, 2016).

They observed that then, the exploitation of different solid minerals deposits in commercial quantities in various states of the federation guaranteed jobs and enormous revenue in taxes and royalties. Among key mineral deposits in the country are tin, iron ore, columbite, limestone, gold, gypsum, kaolin, lead, zinc and bitumen, among others. However, it is noteworthy that the discovery of oil and the massive inflow of foreign currency in the 70s altered Nigeria's economic priorities and relegated the solid mineral sector. According to them, the neglect results in the nation's economic statistics indicating that the solid mineral sector is currently contributing less than 0.3 per cent to the GDP. For instance, the Nigeria Extractive Industries Transparency Initiative (NEITI, 2016), recently reported that the sector contributed only N113 billion to the nation's coffers in five years. Canada, Australia and South Africa, among other countries, had explored such endowment to meet their economic needs and developmental challenges.

Generally, the exploitations of solid minerals always take place in communities where they are deposited. The activities involved in the process, cannot be divorced from the social interactions and relationships between the miners and host communities. This is to create a conducive atmosphere and environment for mining activities on one hand, and to enable the miners play a significant role in the development of the host communities on the other. This is with a view to ameliorating the devastating and degrading effects mining activities may have on the environment and overall, socio-economic development of the communities as well as the living condition of the community members.

However, there has been clear indications that adequate attentions have never been given to the community development component of the social responsibility of mining policy in Nigeria, which has left several host communities of mining sites, degraded, impoverish and hostile to miners and their activities, this is inimical for the general development of the mining industry.

The focus of this research will be to look into the impact of mining activities on the development of the host communities in Nasarawa State that has a very large deposit of solid minerals with a particular reference to Awe Local Government Area of the State as the study area. Besides, attention is given to the relationship (as it affects community development) between the mining companies and the host communities,

### **Statement of Research Problem**

It has been observed that mining activities have great degrading effects on physical environment of the host communities, which can cause serious health hazards for the members of the mining communities. There are incidences of child labour, and social relations have been affected.

Policies and efforts have been made towards the development of the solid mineral sector in Nigeria; notwithstanding, less attention has been paid to the relationship between the miners and their host communities. This has resulted to a haphazard development or complete lack of development in the mining communities. Besides, most mining communities experience environmental degradation, pollution, and loss of arable land that affect the general socio-economic well-being of the people living in those communities. This can cause hostility between them and the mining companies or miners. In essence, there has been a gap in the relationship between the communities and the mining industry, which may go a long way to affect the overall development of the industry.

The thrust of this research is to examine the impact of mining activities on the development of the host communities particularly, now that the economic policies of Nigerian government is focusing more on mining as a better alternative source of revenue for government.

### **Research Questions**

The following questions are proposed to guide the study:

- i. What is the impact of mining activities on the host communities?
- ii. What are the roles of mining companies in community development in the area?
- iii. How is the relationship between the mining companies and the communities in the area?

### **Objective of the Study**

The general objective of this study is to examine the impact of solid minerals mining on community development in Nasarawa State, with a particular reference to Awe Local Government Area, as the study area. The specific objectives of the study include the followings:

- i. To assess the impact of mining activities on the communities in the study area
- ii. To examine the roles of mining companies in the development of mining communities.
- iii. To examine the relationship between the host communities and miners in the study area.

### **Significance of the Study**

The reality of present economic situation in Nigeria has made the government to look at other alternative sources of revenue, prominent among which is the solid mineral sector. As a result, efforts are being made to revive the sector and make it viable as a foreign exchange earner for the country. This research will go a long way in contributing to the process of resuscitating the sector as it will promote cordial relationship between the mining communities and the mining companies/miners, which will in turn engender a suitable atmosphere for the development of the sector.

Besides, it will assist the Nasarawa Government to form more robust community development policies for mining communities. It will by extension serves as a guide and framework for community development policies for other states of the Federation where solid minerals are exploited or mined.

It will serve as a blue print for mining companies on what should be their roles in community development particularly in the host communities.

In other to achieve these, the researchers will share the findings of the research with stake holders like the ministry of steel and mining, Nasarawa state government, Nasarawa Chamber of Commerce, Mines and Agriculture, mining community leaders and mining companies in the state.

## **Scope of the Study**

This research work basically focuses on the impact of solid minerals mining on community development in Nasarawa State, with a particular reference to Awe Local Government Area. However, the study will be limited to mining communities in the area

This study will examine issues related to relationship between the miners and their host communities as it affects community development in the area. Problems associated with the development of the communities shall be looked into and only adults (men and women) who are indigenes of the area shall be used as respondents.

## **Conceptual Clarification:**

### **Solid Minerals Mining**

Solid minerals mining can be considered to be the extraction of valuable non-renewable minerals or other geological minerals from the earth, usually from an Ore body, lode, vein seam, reef or placer deposits. These deposits form a mineralized package that is of economic interest to the miners.

According to Adeoye (2016) the federal ministry of steel and mines reported that Nasarawa State has a commercial quantity of many solid minerals deposit that include: Mica, Barite, Clay, Columbite, Cassiterite, Marble, Iron ore, Lithium, Wolframite and Gemstones. NEITI (2016) added that majority of these solid minerals are yet to be exploited.

### **Community Development**

United Nations Organization (U.N.O) (2014) regards community development as a process in which community members come together to take collective action and generate solutions to common problems. This is a broad term that covers the practices of civic leaders, activities that involve citizens and professionals to improve various aspects of community, and typically aiming at building stronger and more resilient communities.

In another vein, The International Association for Community Development sees community development as a practice that promotes participative democracy, sustainable development, protection of fundamental human rights, economic opportunity, equality and social justice through the organization, education and empowerment of people within their communities, whether these are of locality, identity, or interest, in urban and rural settings.

Community development seeks to empower the community members with skills and capacity to effect changes within their communities. Thus, community development covers a broad spectrum of human endeavours that every member must be involved. Besides, community development has a way of promoting harmonious co-existence among people living in the community.

In essence, community development must be separated from community based programme; community research, and other forms of community interventions. The most significant feature that distinguishes community development from other community work is its values and principles which revolve around an inclusive participation of community members including miners and mining companies.

## LITERATURE REVIEW AND THEORETICAL FRAMEWORK

### Community Development

There is no standard definition for community development as in other fields like physics, biology and chemistry. The term has been defined by various authors in different ways.

In 1963, the United Nations defined community development as “processes by which the efforts of the people themselves are united with those of government authorities to improve the economic, social and cultural conditions of communities, to integrate these communities into the life of the nation and to enable them contribute fully to national development” (Chitere, 1994:15). Haines 2009:38 in Ferguson and Dickens 1995:5 on the other hand sees community development as “...asset building that improves the quality of life among residents of low to moderate – income communities where communities are defined as neighborhoods’ or multi-neighborhood areas”.

\*Grewe 2003:17 in Wilkinson 1972, 1991 sees community development in terms of “social relationship by suggesting improved social interaction and communication, increase cooperation and ultimately helps individuals identify common interest and address local issues”.

Community development is a technical assistant from the village level that encourages people to work together to improve their well-being and enabling people to locate strategies for organizing self-help activities. The emphasis of community development is not physical facilities but people.

Community development is concerned with every aspect of a community. Therefore it is said to be a holistic process used to address the entire needs of the community using multi-faceted methods or approaches toward meeting these needs (Grewe, 2003).

The community engagement and development mineral council of Australia in its leading practice sustainable development program for the mining industry (2006) is of the opinion that community development is basically about providing for communities with the aim of empowering them to meet their own needs and ambitions in the present and future. For instance, many mining companies contribute to a host community by providing employment, opening doors for business opportunities, providing community donations and sponsorships amongst others.

Though the definitions of community development are numerous and diverse, they are all connected by certain key concepts: people, self-help/self-improvement, capacity building, geographical location and improvement in the quality of life.

Community development is viewed as a process, a method, a programme and a movement. As a process, community development is done in stages which must reflect a shift from a state of dependence on external resources of grassroots people to a state of self-reliance.

As a method, it is a means of working towards a desired end. As a programme, it involves a series of activities to achieve development objectives. As a movement, it can be encouraged by society and community leaders to bring about progress (Chitere, 1994).

### **Solid Minerals Mining in Nasarawa State**

Nigeria is endowed with an abundance of a variety of mineral resources scattered round the country in varying quantity. These resources include high value metallic resources (gold, coltan, lead-zinc, iron-ore, cassiterite, etc), industrial resources (limestone, barite, clays, etc) and energy minerals (coal, lignite, bitumen, etc). Presently, the mining sector contributes 0.3% to national employment in the country, 0.02% of exports and an approximation of N400 billion to Nigeria's GDP. This is a major decline from the early 80s' when the contribution was much larger in terms of percentage (Ministry of Mines and Steel Development, 2016).

Nasarawa state, which is reputed to be the home of solid minerals, has a huge deposit of mineral resources scattered round the 13 local government areas. Some of these minerals include: cassiterite, granite, barite, salt, lime, zinc, lead, clay, silica, aquamarine, sapphire, amethyst and several others too numerous to mention. In 2016, Nasarawa State produced a total of 73,360,157 tons of solid minerals (State Disaggregated Mining and Quarrying Data, 2016).

Most of the mining activities that take place in Nasarawa state are artisanal. Artisanal mining, also known as subsistence mining is a small scale mining usually done independently without the intervention of registered mining companies utilizing local tool and resources. This kind of mining is done without the use of modern technologies, protective mining equipments and protective gadgets (Benabo, 2014). Many of the miners also lack the necessary technical skills and training needed for mining.

### **Sociological Implication of Solid Mineral Mining**

Mining has a lot of positive aspects like job creation, road rehabilitation, and water supply, amongst other but can pose as a major threat not only to the environment but also to the socio-economic aspects of life. These threats sometimes outweigh the benefits and can be more intense depending on the method of mining and regulations on waste management.

Activities involved in mining often create a lot of environmental problems which may include erosion, formation of sinkholes, and loss of biodiversity, contamination of soil, groundwater, and surface water. Besides creating environmental problems, the contamination resulting from leakages of chemicals also affect the health of community members, a notable example was the recent lead poison experienced in some states of Nigeria (Nuss and Eckelman, 2014). Ryan (1991) added that habitat destruction is one of the main issues of mining activities. Moreover, animals can be poisoned directly by mine products and residuals.

Aigbedon and Iyayi (2007) observed that the mining activities cause such a colossal damage to the environment and the wellbeing of community members in mining areas. Therefore, they pointed out that the involvement and active participation of mining companies in the development of their host communities will go a long way in checking the environmental hazards and effects they have on the communities. However, they observed that the participation of miners in community development in their host communities is not adequately coordinated and in so many instances not in existence at all in Nigeria.

Environmentally, mining results in "scarification of the land, hydrological effects upon run offs, groundwater and stream, air pollution from smelting of ore and health hazards" (Benabo, 2014:117). In other words, mining can lead to air and water pollution, land and forest degradation, emission of toxic waste, soil erosion and impact soil quality. Sociologically, mining can have a major impact on people's lives, values, norms and social well-being. These

effects can be manifested through migration, human displacement and resettlement, poor access to clean water, noise pollution, impact on cultural resources and landscape, insecurity, impact on livelihood and public health. However, emphasis shall only be placed on the sociological impacts of mining.

- Impact on social values: Mining activities may create jobs, water supply, schools, etc especially in poor rural communities, but the benefits of these projects (whether tangible or intangible) if not evenly shared may result to social tension and disagreements especially if the host community feel they are not being fairly treated or compensated. When mining activities begin in a community, it is important for the miners or mining company to ensure that they respect the norms and values of the land and not violate the rights of individuals within the community or the community in entirety. They should be mindful that the community has the rights to control land use, rights to a safe environment, right to be free from threats and violence and also the right to be fairly compensated for any loss (Guidebook for evaluating mining projects EIAs, 2010).
- Insecurity: Mining exposes miners to very hazardous conditions like mercury poisoning \*\*\*from...., asphyxiation from cave-ins, .... Unfortunately, the dangers they are exposed to is more severe because the miners, particularly artisanal miners often lack the necessary protective gadgets and equipment to work with and are thereby exposed to accidents in the workplace and even deaths; most of which are not reported or documented (African, Caribbean and Pacific region-European commission's (ACP-EU), 2011).
- Child labour: mining and quarrying are very dangerous forms of work especially for children. It affects the child physically, psychologically and morally as they have to contend with "heavy and awkward load, the strenuous work, the unstable underground structure, the heavy tools and equipment, the toxic dust and chemicals and the exposure to extremes of heat and cold" (International labor office, 2011:33). Some children particularly the girl child are cajoled into prostitution. Many miners including child miners get injured or die while involved in mining activities. They are usually lowered into narrow tunnels which cave- in, they are forced to carry loads heavier than they can handle or sit for hours breaking large boulders into small gravel.
- Pollution (Noise, air and water) and vibration: Mining activities usually produce a lot of noise vibration. The noise often comes from the engines, power generators, drilling, blasting, crushing and other activities that require the use of heavy machineries or tools. Noise can be very stressful, discomfoting and frightening to human and animals as well. Vibration on the other hand can result in cracks in the building. Furthermore, air pollution that relates to mining involves the use of dangerous chemicals which may produce black smoke and emit bad smell. Dust particles can also be produced during blasting, crushing and loading (Yeboah, 2008).
- Affects public health: dangerous substances are usually used and also produced while mining. These substances can cause minor and terminal illnesses and even result in death.
- Human displacement/migration: individuals and sometimes a whole community may be required to move elsewhere and settle down as a result of large scale mining. They

not only lose their homes but their lands and livelihood. Social institution and power relations may also be affected (Guidebook for evaluating mining projects EIAs, 2010). On the other hand, mining can lead to migration of people into the mine area.

- Affects agriculture: the aftermath of uncontrolled contamination can be translated to other areas of economic activities like agriculture. Mining activities that involves the use of chemicals depletes the soil of essential nutrients making it unsuitable for agriculture, thus depriving some community members of their means of livelihood. Deforestation which is sometimes practiced to clear mining area can also affect agriculture through erosion and loss of habitat for birds and wild animals (Yeboah, 2008).
- Affects cultural resources/landscape: Mining can affect “sacred landscapes, historic infrastructures and natural landmarks”. This can occur as a result of partial or complete degradation and excavation of soil leading to mining pits and trenches; unauthorized removal of artifacts/monuments (Guidebook for evaluating mining projects EIAs, 2010) and devastating the beautiful sceneries through the destruction of forest resources or natural vegetation.

## **Theoretical Framework**

### **Social capital theory**

Hustedde (2014) asserts that development workers are aware that social relationships are crucial for team work and successful community action. In other words, in community development, it is an accepted principle that social relationship is required for unity, mutual support and successful community initiative. He therefore defines social capital as the set of resources which includes trust, norms and networks that are fundamental to social relations. Trust, equality and reciprocity are norms that are regarded as part of social capital. A climate of trust and reciprocity can be established between a community and organizations/external agent who work within the community. This is especially achievable if the organization /external agent provides basic necessities or mutual aids for the host community, the host community is more likely to support the external agent/agency in some ways.

On the other hand, the organization for economic cooperation and development (OECD, 2001:41) see social capital as “network together with shared norms, values and understanding that facilitates cooperation within or among groups”. Every society is guided by norms which may not be obvious until they are broken. Values such as trust, respect for the safety of others and security are essential in every social group. When put together, they form a network and understanding which enhances trust and enables people work together.

Hustedde (2014), opines that social capital theory can serve as a guide for community practice in various ways. One of which is through identifying a community with low levels of capital and creating opportunities for people to know each other and establish new levels of trust through shared interest.

Social capital is interested in social relationship and must consist of norms like trust, equality and reciprocity. These traits can obviously be detected in the relationship shared between the mining/mining agency(ies) and the host community. An improvement in community development particularly in the areas of job creation and infrastructural development has been

experienced in Awe Local Government Area courtesy of the mining activities that occur there. This development has not only resulted in poverty alleviation but in youth empowerment too.

On the other hand, the miners/mining companies have also benefited from the community in terms of security and protection. They have attested to having a very peaceful co-existence and have been provided protection for their lives and properties by community established vigilante groups. This trends shows trust, networking, reciprocity, equality which makes social capital theory most appropriate for this study.

## RESEARCH LOCATION

Nasarawa state came into existence on 1<sup>st</sup> October 1996. It was carved out of Plateau state. The creation of Nasarawa state was as a result of many years of agitation arising from strong political feelings of marginalization and neglect. The state at its creation in October 1996 had ten (10) local government areas with the state capital located at Lafia by November 1996 and still remains the capital till date. Three local government areas were later created making the total of thirteen (13) local government areas in the state namely Akwanga, Awe, Doma, Karu, Keana, Keffi, Kokona, Lafia, Nasarawa, NasarawaEggon, Obi, Toto, and Wamba local government area respectively. The state covers a total land area of 27,137.8 Sqm.

Awe local government covered a total of 2,282 square kilometres and had a total population of 112,574 by the 2006 Census. It is bounded by Obi Local government in the north, Guma local government of Benue State in the south-east and in the north-east by Wukari local government of Taraba State as well as Keana local government and Quan-Pam local government of Plateau state in the south-west and north-east respectively. Awe local government seems to be the hottest spot of solid minerals mining in the state owing to large deposits of mineral resources. The major mineral resources found in Awe are salt, coal, barites, limestone, gemstone, iron, columbite etc.

The predominant ethnic groups in Awe LGA are Hausawas, Jukuns, Fulanis, Kanuris, Ankwai, Tivs and Alagos. All these heterogeneous groups have their cultures and traditions and have contributed immensely to the growth and development of the locality. Marriage among persons of different ethnicity has been a common feature of communal relationships in the area. The major economic activities of Awe have been agricultural activities. Majority of the inhabitants are peasants farmers who produced for both domestic and commercial purposes. Some of these agricultural products are maize, yam, cassava, millet, rice, guinea corn, tomatoes, beniseed, beans etc.

Apart from agricultural activities, other economic activities in the area include mining industry, fishing, hunting, tailoring, blacksmithing, transportation, weaving and other petty trades that serve as sources of income to the dwellers of the area.

The study area is characterized by a tropical sub-humid climate with two distinct seasons: The wet season lasts from about the beginning of May and ends in October; the dry season is experienced between November and April. Annual rainfall ranges from 1100mm to about 2000mm. About 90% of the rainfall between May and September (the wettest months), begin around July and August.

## **METHOD AND PROCEDURE**

This study employed the qualitative survey research design approach to analyze causal explanation. The study is social phenomena in nature which can be successfully analyzed using social approach. The general principle is that the research strategy or strategies, and the methods or techniques employed, must be appropriate for the questions you want to answer” (Robson 2002, pp.79-80). The survey is used in ascertaining the nature and patterns of solid minerals mining and its sociological implication on community development in Awe local government area of Nasarawa State, North Central Nigeria.

The universe of enquiring is people living in the area, age eighteen (18) and above. The study area had a total population of 112,574 by the 2006 Census which comprise of men and women, miners, community leaders, who resides in the mining communities that constitute the study area.

For the purpose of this study, three mining communities in the study area were selected using cluster sampling, namely Abuni, Azara and Mairago. The sampling method used for the closed-ended questionnaire is quota sampling where 15 respondents were selected per community totalling 45. The advantage of this method is that there is no need for call-backs, and travelling distances and times are much more reduced. From each community 10 respondents were selected using purposive sampling procedure to form a focus group. On the whole, three focus groups were selected representing three communities where there are mining activities. FGD, participants were selected from different group of people in the area such as Youth Associations, Community Development Associations, Traditional/Customary group, Farmers and Mining Operators. Again, one community leader was selected from each community and one representative per mining companies engaging in solid minerals mining for the in-depth interview (3 community leaders and 3 mining operators).

The principal methods of data collection to be used in this study are closed-ended questionnaire, in-depth interview and focus group discussion (FGD). These methods of data collection are chosen in order to ensure effective participation of the research subjects and also because the study is an exploratory one and needed flexible methods of data collection that will permit probing of respondents and participants in order to appreciate the underlying assumptions and beliefs that inform their views on the subject matter.

Based on the research questions, the analysis of data is qualitative and content analyses of the information from the FGD were carried out to provide valuable in-depth to the analysis. However, closed-ended questions also permit quantitative analysis of the views of the respondents.

## **DATA PRESENTATION AND ANALYSIS**

This section deals with the presentation and analysis of the data collected on the field of study. Meanwhile, it is stated in the methodology, that in-depth interview and focus group discussion were utilized in the research. The key questions asked are arranged in the appendix. In this method of research, the data are analyzed both in quantitative and qualitative methods. Some of the questions required a comparison of the past and present experiences of the respondents as relates to community development of the area. This made for the evaluation of the prospects of solid minerals mining for sustainable community development.

Answered to these questions varied, as individual understood them as well as their perception and knowledge about impact of solid minerals mining on community development in the area of study. However, most of the respondents were of the opinion that solid minerals' mining holds greater prospects for community development in Nasarawa State.

Meanwhile, the data are presented in two categories, based on the methods of data collection used for the research i.e. closed-ended questionnaire are presented quantitatively using frequency and simple percentages, while in-depth interview and focus group discussion were analysed qualitatively.

### Closed-Ended Questionnaire

This concerns the presentation and analysis of data collected through the closed-ended questionnaire involving forty-five (45) respondents, 15 representing each of the three communities in the Local Government Areas of the study.

### Demographic Data

This section deals with the population distribution of respondents into sex, occupation, and how long have they stayed in the study area. These are presented in the table below.

**Table 1.1: Distribution of Respondents by Sex**

SEX	FREQUENCY	PERCENTAGE
MALE	30	66.7
FEMALE	15	33.3
TOTAL	45	100

SOURCE: FIELD SURVEY OCTOBER 2017

From the above table, it is clear that 66.7% (30) of the respondents are male, while 33.3% (15) of them are female. This classification becomes necessary, so as to know the responses of both male and female on the subject of study.

**Table 1.2: Distribution of Respondents by Occupation**

OCCUPATION	FREQUENCY	PERCENTAGE
CIVIL SERVANT	05	11.1
TRADING/ARTISAN	16	35.6
FARMERS	18	40
CRAFTS/MINING WORKERS	06	13.3
TOTAL	45	100

SOURCE: FIELD SURVEY OCTOBER 2017

The table above shows that 11.1% of the respondents are civil servants, 35.6% is traders and artisans, 40% are farmers, while 13.3% respondents are crafts/mining workers. It must be noted that all categories of respondents are located within the study area.

**Table 1.3: Distribution of Respondents by how long they have stayed in the area**

YEARS	FREQUENCY	PERCENTAGE
Less than 10 years	14	31.1
10-15 years	20	44.4
16 years and above	11	24.4
TOTAL	45	100

SOURCE: FIELD SURVEY OCTOBER 2017

In the above table, it is indicated that 31.1% (14) of the respondents have stayed in the area for less than 10 years, 44.4% were there 10-15 years and 24.4% have been there for 16 years and above. This grouping becomes necessary to ensure that experienced and knowledgeable respondents are used for the interview.

### Presentation of Responses of the Respondents on Key Issues of Study

This section contains respondents' perception on key issues under study. This is presented in the tables below.

**Table 2.1: RESPONDENTS DISTRIBUTION AS WHETHER THE COMMUNITY DEVELOPMENT IN THE AREA HAS IMPROVED**

RESPONSES	FREQUENCY	PERCENTAGE
AGREE	28	62.2
DISAGREE	15	33.3
INDIFFERENCE	02	4.4
TOTAL	45	100

SOURCE: FIELD SURVEY OCTOBER 2017

In the table above, it is shown that 62.2% (28) respondents agree that there is general improvement in the communities in the area, while 33.3% (15) respondents disagree, only 4.4% (02) respondents were not sure of whether there are development or not. Here, it is clear that there are indices of development in the communities.

**Table 2.2: RESPONDENTS DISTRIBUTION ON WHETHER SOLID MINERALS MINING IN THE AREA CONTRIBUTED TO THE RATE OF COMMUNITY DEVELOPMENT**

RESPONSES	FREQUENCY	PERCENTAGE
AGREE	32	71.1
DISAGREE	10	22.2
NOT SURE	03	6.7
TOTAL	45	100

SOURCE: FIELD SURVEY OCTOBER 2017

In table above, 32 respondents (71.1%) maintained that solid minerals mining has helped in community development of the area, 22.2% (10) respondents disagree and 6.7% were not sure of the contribution of solid minerals mining in the area.

**Table 2.3: RESPONDENTS DISTRIBUTION ON WHETHER SOCIAL RELATIONS HAS BEEN IMPACTED BY MINING ACTIVITIES**

RESPONSES	FREQUENCY	PERCENTAGE
AGREE	28	62.2
DISAGREE	15	33.3
NOT SURE	02	4.4
TOTAL	45	100

SOURCE: FIELD SURVEY OCTOBER 2017

The table above shows that 28 (62.2%) respondents agreed that social relations has been affected by mining activities in the area, 15 (33.3%) disagreed, while 02 (4.47%) were indifferent. Therefore, it holds that solid minerals mining have brought about social changes in the social life of the people in the area.

**Table 2.4: RESPONDENTS DISTRIBUTION ON WHETHER ECONOMIC OPPORTUNITIES IN TERMS OF JOB CREATION HAS BEEN ENHANCED BY SOLID MINERAL MINING**

RESPONSES	FREQUENCY	PERCENTAGE
AGREE	32	71.1
DISAGREE	12	26.7
NOT SURE	01	2.2
TOTAL	45	100

SOURCE: FIELD SURVEY OCTOBER 2017

The data in the table above indicates that 71.1% (32) respondents agreed that solid minerals' mining has enhanced economic activities particularly in creating jobs for the people. However, 26.7% (12) respondents disagreed, while 2.2% (02) respondents were not sure.

**Table 2.5: DISTRIBUTION OF RESPONDENTS ON WHETHER SOLID MINERALS MINING CREATED ENVIRONMENTAL CHALLENGES**

RESPONSES	FREQUENCY	PERCENTAGE
AGREE	36	80
DISAGREE	08	17.8
INDIFFERENCE	01	2.2
TOTAL	45	100

SOURCE: FIELD SURVEY OCTOBER 2017

In the above table, 36 respondents (80%) indicated that solid minerals mining in the area had created environmental challenges, 08 respondents (17.8%) disagreed, while 01 respondents (2.2%) were indifferent. In view of this, it holds that solid minerals mining if not properly managed as in the case in the area would pose environmental problems.

**Table 2.6: DISTRIBUTION OF RESPONDENTS ON WHETHER SOLID MINERALS MINING AFFECTED AGRICULTURE IN THE AREA**

RESPONSES	FREQUENCY	PERCENTAGE
YES	32	71.1
NO	08	17.8
I CAN'T SAY	05	11.1
TOTAL	45	100

SOURCE: FIELD SURVEY OCTOBER 2017

In the table above, it is clearly expressed that solid minerals mining in the area has to a large extent affected agriculture. Mining activities that involves the use of chemicals depletes the soil of essential nutrients making it unsuitable for agriculture thus depriving some community members of their means of livelihood. Deforestation which is sometimes practiced to clear mining area can also affect agriculture through erosion and loss of habitat for birds and wild animals (Yeboah, 2008). 32 respondents (71.1%), with 08 (17.8%) respondents disagreeing and 11.1% of respondent were neutral.

**Table 2.7: DISTRIBUTION OF RESPONDENTS ON WHETHER SOLID MINERALS MINING HAVE NEGATIVE IMPLICATION FOR PUBLIC HEALTH AND SAFETY IN THE AREA (NOISE, AIR & WATER POLLUTION, ACCIDENT)**

RESPONSES	FREQUENCY	PERCENTAGE
YES	34	75.5
NO	07	15.5
I DON'T KNOW	04	8.9
TOTAL	45	100

SOURCE: FIELD SURVEY OCTOBER 2017

The above table shows that 34 respondents (75.5%) were of the opinion that solid minerals mining have negative implication on public health and safety, like people are exposed to noise, air, and water pollution. Also cases of landsliding and other forms of health hazards, while 07 respondents representing 15.5% said that proper management reduced any form of negative implication on public health and safety. Meanwhile 04 respondents representing 8.9% did not know.

**Table 2.8: RESPONDENTS DISTRIBUTION ON WHETHER SOLID MINERALS MINING IN THE AREA CONTRIBUTED TO INFRASTRUCTURAL DEVELOPMENT OF THE COMMUNITY (ROADS, ELECTRICITY, ETC)**

RESPONSES	FREQUENCY	PERCENTAGE
YES	32	71.1
NO	10	22.2
NOT SURE	03	6.7
TOTAL	45	100

SOURCE: FIELD SURVEY OCTOBER 2017

In table above, 32 respondents (71.1%) maintained that solid minerals mining has helped in infrastructural development of the community in the area of roads, electricity and other

facilities, 22.2% (10) respondents disagreed and 6.7% were not sure of the contribution of solid minerals mining to infrastructural development in the area.

**Table 2.8: RESPONDENTS DISTRIBUTION ON WHETHER SOLID MINERALS MINING IN THE AREA CONTRIBUTED TO SOCIAL SERVICES IN FORMS OF SOCIAL RESPONSIBILITY TO THE COMMUNITY (EDUCATION, HEALTH FACILITIES ETC)**

RESPONSES	FREQUENCY	PERCENTAGE
YES	16	71.1
NO	26	22.2
NOT SURE	03	6.7
TOTAL	45	100

SOURCE: FIELD SURVEY OCTOBER 2017

In table above, 32 respondents (71.1%) maintained that solid minerals mining has helped in community development of the area, 22.2% (10) respondents disagree and 6.7% were not sure of the contribution of solid minerals mining in the area.

In a nutshell, the position of the majority of respondents in the close-ended questionnaire maintained that solid minerals mining had impacted community development in the area in various ways and holds greater prospect for maintaining sustainable development of the state. However, further presentation and analysis of data are presented below in the Focus Group Discussion.

### **Focus Group Discussion**

As indicated in the methodology for this study, this involves group discussion among the people in the study area. However, three groups (each group made up of 10 persons representing the three selected communities in the local government area under study), were used for the discussion. Semi-structured questions were used to guide the discussion.

The very first question asked the respondents was a general one on what is the impact of mining activities on your communities? Answering this question, almost all the respondents held that solid minerals mining in our society is quite profitable, that mining activities had brought positive development in the community. They stressed further that there are many advantages everywhere in the communities from business opportunities to employment for both men and women. Reason being adduced is that mining activities have attracted investments and migrants to their place and therefore exposed them to developmental strides. Besides, respondents in group two added that solid minerals mining have reduced their level of poverty and empower youth in the area. On the other hand, most respondents in other groups explained that mining activities also have negative impact. That most young people have left school because of what they are getting from mining and even children are involved, because everyone is looking for money and how to survive. Again farming activities has been abandoned by young people for mining business because it gives quick and more money. Many farmers have sold their farmlands for mining activities even though there is vast land for agriculture. Sometimes the

chemicals used in mining affects our crops and cause pollution. Conclusively solid minerals mining in the locality has both positive and negative impact.

On the question of what are the roles of mining companies in community development in the area, almost all the respondents agreed and maintained that mining companies have played a significant role in bringing development. According to them, in the past, due to distance from the state capital, the local government have suffered setbacks in development, but due to activities of mining companies attention of the State government has been drawn to the area, they pay tax, royalties to the local government and increased funding for development. In some instances, mining companies has helped in water supply by given us boreholes, partnering with the communities and government in providing electricity. Some even construct roads that link various communities in the local government area. Other areas we have not seen their support are in the area of establishing school and also hospital. 'Actually to a large extent, they are trying' if we have more support from government, we would have developed more than this'.

They observed that as good as the intention of miners may seem, government should not leave them without adequate supervision. They commented thus, 'you cannot be safe in the hands of people looking for their own money, they are working to maximize their profit and if they are not monitored they can leave the communities without paying back or being socially responsible'.

Reacting to the relationship between the mining companies and the communities in the area, most of the respondents observed that there has been peaceful co-existence, everyone going about their business without rancour and there is no unnecessary agitation from the community unlike other places where there are mineral deposits. The number one priority of any community is to ensure that lives of individuals and properties are secured. We provide adequate security for the mining companies, 'no theft, no vandalization and no record of conflict between us and mining companies.'

Also, we formed local vigilante groups to provide adequate security for the companies because it is our people that are working there. We attend community meetings together where issues of development are discussed with the representatives of the mining companies.

On what are the measures currently used by the state, local government to improve safety and protect the environment and attract investors, all the respondents except one observed that the measures were not only adequate, but also not yielding results. According to them, mining activities in the area has grown beyond the level of subsistence, it is becoming more sophisticated. We are talking of mining in the 21<sup>st</sup> century and all what our governments are doing is to be having conferences in Abuja and Lafia without coming down to see what is on ground. Solid minerals mining can sustain the state without the federal allocation but because there are money every month to share, they are just paying lip service to diversification of economy particularly solid minerals. There are more stakeholders meetings, workshops in different locations of the world by government but not backed up with concrete actions to maximize the benefits of solid minerals mining and some are completely detach from the people. The residents in various localities are not enlightened on how to participate and work together with the mining companies in order to enhance development in their communities. Most of the mining companies' developmental programmes are not organized and loosely coordinated for lack of proper monitoring and supervision by the government.

Because of the level of enlightenment of the residents, mining companies takes advantage of them by 'settling' the community leaders at the expense of farmers whose land has been taken over for mining activities. Sometimes the farmers are paid stipend without proper quantification in the context of what is involved.

On whether the mining companies contribute to community development in any physical ways, roads, electricity, and schools?

Mining companies have been able to provide basic infrastructure in their area of operations. The respondents observed that even though there is little improvement, the mining companies operations are more artisanal and still local. There is limit to what they can do, depending on their capacity. Corruption has been a bane of their effectiveness, it is either they complain of lack of funds or equipment to work with or money are given to the traditional rulers, community leaders to 'silence' them. These funds did not reach the community or being diverted to private pockets. The government lack political will to make them functional and therefore mining companies are not able to provide the needed development in the community as expected.

On the question of whether people should be allowed to participate in their development activities, all the respondents agreed to the fact that people should be allowed to participate in meetings and programmes aimed at bringing development to their area. As observed by one of the respondents 'we need to help ourselves for development purpose since the government and the mining companies cannot do it alone'. Respondents explained that community development matters should not be left in the hands of mining companies alone, but this should be done by 'carrying the people along' and the level of involvement should be well spelt out without any ambiguity. Rather than waiting for mining companies that constantly complained of lack of funds and more particular about their profits, there should be a kind of partnership between the people, community and the mining companies in order to address development challenges. 'We cannot afford to leave our community development to the mining companies alone; it should be everyone business and concerns'. This observation agrees with the position which states that the essence of community development is to return to the day when developmental programmes and projects are participatory in nature and everyone assumes responsibility for the general health of their community not just a selected few, not just the local government administration, not just the mining companies, but absolutely everyone living in the community.

## **IN-DEPTH INTERVIEW WITH MINING COMPANIES**

### **Are you licensed to mine in the area?**

Yes through the Federal Ministry of Solid Minerals, State and Local Governments.

**What are the procedures of acquiring mining field?** We buy mining fields, land from owner through the community leader. Even if they are farming, we allow them to harvest before commencing any activities.

### **What is your relationship with the host communities?**

There is understanding and cordial relationship. It is a matter of negotiation, if will locate a mining field, we talk with the community leader who in turn talk with the owner of the land. They will tell us what is required and then will pay and settle them. Thereafter, there are no problems. The communities have been so supportive, in that they provided security for all our

activities. We have regular meetings with the community leaders on issues bordering our operations and also the development of the community.

**Does your company have any social responsibility towards the community?**

Yes we partner with the community in various developmental projects like construction of feeder roads, electricity in conjunction with the government in a form of private-public partnership. Scholarships for children in schools.

**Has your company contribute in any way to the community development?**

One major way is to create employment and reduce poverty among the people. Several men and women are involved in the activities, even though more of artisanship, because here we only mine and not processing. For processing we haul to Lagos, and Jos which is close by owned by Chinese. There are some that are engaged as middle men, buying and selling products, it has improved the economy of the community. Food vendors, craftsmen are now actively engaged.

**Do you think mining activities have any negative impacts on the community?**

Not really, the advantages far outweigh the disadvantages. Even though, we cannot deny the fact that there are environmental challenges associated with mining in the area but to a large extent we are managing it in the best possible way. Mining activities that involves the use of chemicals depletes the soil of essential nutrients making it unsuitable for agriculture, thus depriving some community members of their means of livelihood. However, we usually pay compensation to farmers.

**How do you manage cases of emergency since it appeared there is no hospital around?**

We are fully at alert in case of any emergency, after applying first aid, we have a vehicle that can quickly move the victim to the nearest hospital in the State capital.

**What are the challenges of mining in the area?**

Our challenges include perennial problems of lack of adequate infrastructures, inadequate equipments and lack of manpower development and lastly, government policies and implementation.

**IN-DEPTH INTERVIEW WITH COMMUNITY LEADERS**

**As the host community, what is your relationship with mining companies?**

‘Ba ma sala’. We have good and cordial relationship with mining companies. We work hand in hand and if there is any problem we resolve it amicably without any rancour.

**How do you allocate land for mining?**

Lands are allocated according to demands. After ascertaining that you have license from the appropriate authority, and identify a prospective mine field, we would talk to the owner of the land if is willing to sell it and if he agrees, the company will be asked to pay and thereafter commence activities. No land is forcefully allotted to any person without due process.

**What are the impacts of solid minerals mining in your community?**

For us in this community, solid minerals mining has been a blessing in spite of problems associated with it. It has helped our people in providing means of livelihood outside farming. It has improved our economic opportunities and attracted people from other places to our community. Some of our people are gainfully employed and businesses are thriving.

**Apart from creating employment, has mining companies contributed to community development in any physical ways, roads, electricity, or schools?**

Yes, in many ways. Mining companies have contributed immensely in poverty reduction in the area. They have helped us in constructing feeder roads linking the communities to the state roads; we have electricity even though in partnership with government but no school nor hospital constructed.

**Do mining activities lead to environmental challenges, water pollution and affected farming in your area?**

Yes. This occurred from partial or complete degradation and excavation of soil leading to mining pits and trenches. The dangers we are exposed to is severe because our people often lack the necessary protective gadgets and equipment to work with and are thereby exposed to accidents in the workplace and even deaths; but not much because everything happens according to God's will. Sometimes, we have contamination of soil, groundwater, and surface water but our people are being advised to be careful.

**What are the dangers or hazards associated with solid minerals mining in your area?**

Sometimes we noticed tasty water, pollution and chemical deposits on farmlands that affect soil fertility. When we noticed it, we have to move to another land since there is availability of fertile land in our community.

**We noticed children are also involved in the mining activities, how do you reconcile this with their educational development?**

This is a way of training them to be responsible by engaging in work as a child. The money they realized will be given to the parent who will help them to keep it for 'sallah celebration' and other things, but they are not allowed to spend it 'uselessly'. It does not affect their education, because they combine it together. After school, they go to work or weekend and during the holidays.

Meanwhile, the summary of findings of this research work, in addition to the conclusion and recommendation are presented in the next section.

**SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATION**

**Summary of Findings**

The mining sector has the potential for massive jobs, greater GDP and huge exports but a greater amount of Nigerian miners are artisanal small scale operators, who conduct explorations of minerals without adequate equipment.

Some of them got mining licenses for mineral exploration, but embarked on extracting minerals; these are two different things. Companies are not closely monitored to ensure that they contributed immensely to the economy through taxes, rates, royalties and employments. Solid minerals mining can be described as having massive window for wider economic activities. We are aware that deep-rooted shortcomings in the design and implementations of key policies have effectively left mines operators to supervise themselves. This has fueled pervasive lawlessness in the mining activities and constituted serious environmental harm to mining communities; we must take steps to check such harms while maximising the potential of the mining sector.

Generally, it must be pointed out that there has been cordial and harmonious relationship between the community and mining companies. The operating environment of mining companies in the study area is artisanal and far from what is obtainable in other parts of world. Mining companies have contributed to community development in the area according to their capacity.

Mining activities are associated with environmental hazards including the destruction of the ecosystem, air and water pollution in case of coal mining and solid waste disposal problem. But these hazards can be reduced when environmental impact assessment is carried out before the beginning of mining activities.

On the whole, it can be deduced that the solid minerals mining holds a greater prospects for community development in the area.

### **Conclusion**

Solid minerals sector used to be a major player in Nigeria's economy before the discovery of oil, contributing more than 12 per cent to the country's Gross Domestic Product (GDP). The exploitation of different solid minerals deposits in commercial quantities in every state of the federation guaranteed jobs and enormous revenue in taxes and royalties. Among key mineral deposits in Awe local government are salt, coal, barites, limestone, gemstone, iron, columbite, limestone, lead, zinc among others. However, the economic priorities of the state are not taking full advantage of solid mineral sector to increase its revenue base. The community, local government and Nasarawa state should explore such endowment to meet their economic needs and developmental challenges.

The mining sector has the potential for massive jobs, greater GDP and huge exports but a greater amount of Nigerian miners are artisanal small scale operators, who conduct explorations of minerals without adequate equipment.

### **Recommendation**

Based on the findings of the study, the researchers offer the following recommendations:

- i. Nasarawa state could link up with private investors to form partnerships to realize the objectives of community development.
- ii. The potential of solid mineral sector notwithstanding, there is the need for environmental impact assessment of the host communities before any mining activity to reduce environmental hazards. The environmental impact assessment ensures that

- the hazards are identified and measures are put in place to reduce its effect on the environment.
- iii. Suitable and reputable companies should be given license to explore the resources. Such companies should also be closely monitored to ensure that they contribute immensely to the economy through taxes, rates, royalties, employments and community development.
  - iv. Government should pay special attention to policies and strategies that would address challenges faced by small and medium enterprises in the mining sector.
  - v. Solid mineral sector must be well structured. There is an urgent need to formalize the artisanal and small scale mining sector by formulating policies aimed at integrating them. There is also the need to provide them with training and the right equipment; they should also be enlightened on safe mining practices.
  - vi. Government must determine the guiding principles to convert the gains of mining sector to community development and evaluate the effectiveness of strategies implemented.
  - vii. There should be shifting of initiative, decision making and responsibility downward within the people of the community. Identifying their felt-needs and ensure their participation.
  - viii. Establishing and maintaining mutual trust between people and the mining companies should be the main goal of the community partnership. The mining companies should always recognize the need for cooperation with the community and to encourage members of the community to be involved in their own development.
  - ix. Increase mining companies accountability to the community.
  - x. Use of safety devices such as ear muff, safety boots, safety glasses and helmets should be encouraged to protect those on mining fields.

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**REFERENCES**

- Adeoye, K. (2016) *Solid Minerals in Nigeria: An Overview*, Ibadan, University Press.
- Acp – Eu Joint parliamentary assembly session document. The social and environmental impact of mining in the Acp. (Working document). PDF [www.europarl.europa.eu/documents](http://www.europarl.europa.eu/documents)
- Aigedon K. and Iyayi E.A (2012) ‘Using Participatory Theatre in International Community Development’ *Journal of Community Development (January, 2012) 47(1)*.
- Benebo, N. S. (2014). *Appropriate mechanisms for environmental protection and sustainable development in Nigeria: An advocate’s viewpoint*. Abuja: Petra digital press
- Child labor statistic – ILO.Children in hazardous work. What we know. What we need to know. International programme on the elimination of child labour (IPEC). 2011. International labour office Geneva. PDF [www.ilo.org/documents/wcms\\_099577](http://www.ilo.org/documents/wcms_099577)
- Chitere, P. O. (1994). *Community Development: its conceptions and practice with emphasis on Africa*. Nairobi: Gideon Were press. Leading practice sustainable development program for the mining industry. 2006.
- Community Engagement and Development-Mineral council of Australia. PDF [www.minerals.org.au/resources/CED](http://www.minerals.org.au/resources/CED)
- Guidebook for evaluating mining project EIAs - Environmental Law alliance... 2010. chapter 1 overview of mining and its impacts. PDF <http://www.elaw.org/full-guidebook> NB: page 3-18
- Grewe, N. R. (2003). *Social capital and local development: an exploration of three forms of community-based social capital*. Social capital and local development–iowa state University Digital repository. (Dissertation). PDF [Lib.dr.iastate.edu/cgi/viewcontent](http://lib.dr.iastate.edu/cgi/viewcontent)
- Haines, Anna. (2009). *An introduction to Community Development*. In Rhonda Phillips and Robert H. Pittman (Eds). *Asset-based Community Development*. Retrieved from <http://loomio-attachment.s3.amazonaws.com...>
- Nigerian Extractive Industry and Transparency Initiative (NEITI) (2016) *A Grim Picture of Nigeria’s solid minerals and Mining Industry*, Abuja, NEITI.
- Nigeria’s mining and metal sector. Investment promotion brochure. August 2016. Ministry of mines and steel development. Federal Republic of Nigeria. [PDF] Nigeria’s ministry of solid minerals. V13. Cdr-ministry of mines and steel... [www.minesandsteel.gov.ng/2016/09](http://www.minesandsteel.gov.ng/2016/09)
- Nuss P.K & Eckelman M. (2014) *Community Development Strategy in Developing Societies*, London, Oxford University Press.
- Phillips R. & Robert H. P. (2009). *An introduction to Community Development*. In Rhonda Phillips and Robert H. Pittman (Eds). *A framework for Community Development and Economic Development*. Retrieved from <https://loomio-attachment.s3.amazonaws.com...> [PDF] what is social capital – OECD.org. <http://www.oecd.org/insights> [PDF] read citation on the mineral resources of...Nasarawa State Government. [www.nasarawastate.gov.ng/CITATION](http://www.nasarawastate.gov.ng/CITATION)
- Ronald J. H. (2009). *An introduction to community Development*. In Rhonda Phillips and Robert H. Pittman (Eds). *Seven theories for seven community developers*. Retrieved from <https://loomio-attachment.s3.amazonaws.com...>
- Ryan P.M (1991) ‘Mining and Community’, *The Communities Matrix, Making Waves, Volume 15, Number 2*.
- State’s Disaggregated Mining and Quarrying Data, 2016. PDF [www.nigerianstat.gov.ng/pdfloads](http://www.nigerianstat.gov.ng/pdfloads)

United Nations Organization (U.N.O) (2014) A Collective Approach to Supporting Capacity Development, New York City, U.N.O.

Yeboah, Yaw Joseph. (2008) Environmental and health impact of mining on surrounding communities: A case study of AngloGold Ashanti in Obuasi. Master degree Thesis Kwame Nkrumah University of Science and Technology. PDF  
<http://www.elaw.org/system/files>

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