



## Harnessing Local Mining of Mineral Resources: A Panacea for Socioeconomic Growth in Hong Local Government Area, Adamawa State, Nigeria

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### Abstract

*This study examined how local mining of mineral resources can contribute to the socioeconomic growth of Hong local government Area. The specific objectives were to investigate the causes of local mining and to determine its effects on socioeconomic growth. Questionnaires were administered to 246 participants. While the data were analysed using both descriptive and inferential statistics. The results showed that significant factors causing local mining in Hong include poverty, unemployment, high dependency rate, low technology levels and poor mining management. However, harnessing local mining can increase individual income, create jobs, improve infrastructure and boost government revenue in the study area. The study therefore recommended effective law enforcement on mining activities for socioeconomic development. It also suggested improving mining technologies for better resource utilisation and encouraged women's participation in mining activities to support sustainable development.*

### 1. Introduction

Globally, no nation operates in complete self-sufficiency or total dependence on others for its economic requirements. Each nation possesses varying degrees of resources, whether natural or human, which are essential for economic development. Consequently, countries strive to optimize these resources to maximize utility and enhance national income, thereby promoting economic growth and development. Over the years there is a strong assertion that natural resources endowment has a positive

impact on the country's growth and development in the area of foreign exchange generation, fiscal revenue, job creation and infrastructural facilities with reference to Botswana and Chile. However, Victor (2016) argued that resource abundance often killed off the parts of the economy that were more innovative, and had more linkages and greater technological externalities. It was added that mining of natural resources impact communities with high level of inequality, environmental damages, fostering corruption,

rent seeking, frequent banditry and armed conflicts as well as supporting non democratic regimes with reference to African countries (Jeffrey and Andrew 2001; Gary and Susana, 2014).

Nigeria as a country is substantially endowed with both human as well as natural resources. Over 40 different minerals resources spread across 450 different locations in the country. These several high-value ccombustibles, metals and non-metals mineral resources include; Kyante, Silver, Bismuth, Cassiterite, Columbite, Wolframite. Magnesite, Molybdenite, Rutile, Lead/Zinc, Marble, Limonite, Gypsum, Coal, Limestone, Clay/Kaolin, Bentonite, Barite, Phosphate, Glass sand, Salt, Diatomite, Iron Ore, Diamond, Copper, Gold, Platinum, Chromite, Uranium, Manganese, Vanadium, Tantalum and Cobalt, Zirconium, Vermiculite, Gemstones, Oil and Gas, Bitumen, Talc/Asbestor, Mica, Manganese etc (Adeola, 2020)

All the geo- political zones are enormously endowed with natural resources. Recently, it has been discovered that the north-eastern region is embedded with abundant resources beyond expectation (Aurora, 2020). Many of these resources are exploited locally without proper adherence to economic and physical effects to both human and ecological system. The process of mineral mining locally is greatly affecting the environment. Though the enormous mineral resource deposit portrays potentials for industrial and technological way to development. The manner in which the resources are exploited portrays great danger for the communities where the resources are found. Moreover, the local exploitation usually leads to depletion of mineral quantity and loss of economic value. However, if properly harnessed it will go along way towards improving revenue, employment generation and economic growth at large.

Adamawa state is one of the north-eastern states of Nigeria that is also endowed with abundant resources such as gypsum, Zirconium, Bentonite, Kaolin, limestone, tantalite, cassiterite, zinc, bitumen, uranium,

platinum, barite, lead, diamond and goal (NAN, 2016). These resources are deposited across towns and villages of Ganye, Lamurde, Hong, Mubi, Shelleng just to mention a few, and are mostly exploited locally without considering the economic and physical effects on both human and the land at large. Their major concerns are to generate income and employment. Despite the deposit of these mineral resources and engagement in the local mining, their socio-economic well being is abysmal. However, many studies have shown that exploration of mineral resources leads to socio economic growth and development (Morris and Baartjes, 2010; Gary and Susana, 2014; Chuks, Anyah and Akpi, 2017; Channabasavaiah and Venkata, 2021) but little has been documented in relation to Hong Metropolis. To these ends, this study is hinged on the following specific objectives;

- i. examine the causes of local mining in the study area; and
- ii. determine the effects of harnessing local mining on income generation, employment generation, access to infrastructure, and government sources of revenue.

## 2. Conceptual Issues

### 2.1 Meaning of Mining

Since the pre- colonial era there are earth natural resources use for making weapons and working tools craftsmen and industries. These weapons and working tools were made from raw materials extracted from the earth. The extraction of these raw materials or geological materials which are of economic value from the earth is known as mining. The mining is of different type; it could be surface, underground, placer or in-situ mining. In other words, the extraction could be from an ore body, lode, vein, seam, reef or placer deposit. In Nigeria, we have several minerals deposit being mined such; coal, tin, columbite, gold, crude oil, lead, zinc, gemstones etc therefore, mining is the process of extracting economically valuable minerals or other geological materials from the earth surface (Balasubramanian, 2016).

## 2.2 Mineral Resources

Many writers have conceptualised the meaning of mineral resources base on its nature and intrinsic value. These are some of the conceptualised definitions. Adeola (2020) defined Mineral resources as an essential natural occurring materials or commodity found on or in the earth in such small amounts which are mined for their potential uses or their intrinsic values. In other words, Mineral resources are materials of economic interest found in or on the earth's crust in such quality, quantity and form that can be considered for economic extraction (Chukwu, 2024). According to chemist, a mineral resource is a naturally occurring substance, representable by a chemical formula, that is usually solid and inorganic, and has a crystal structure. It can also be seen as an inorganic substance in form of metal and non-metal that occur naturally in the earth's crust, finite and non-renewable in nature which constitute the vital materials for many basic industries and socio-economic development of the populars. In other words, mineral resources are naturally occurring solid chemical substance that form through geological processes and that has a characteristic chemical composition, highly ordered atomic structure, and specific physical properties. Hence, mineral resources are defined as natural concentrations of minerals or bodies of rocks that are, or may represent, of potential economic interest due to their valuable properties. That part of mineral resources, which can be economically profitable extracted is called a mineral reserve. Kovalevska et al, (2014).

## 2.3 Socio-economic Effects

According to Sach *et al* 2001, socio economic impact simply refers to those effects that the industrial activities imparted to the communities social – economical or cultural, directly or indirectly, partially or in totality, for better or worse. Socio economic effects simply refers to the positive or negative influence of action or inaction that transform people's circumstances, families, communities with

respect to their economic, cultural, social, health, physical and atmospheric conditions. This means it covers health and well being of the people, sustainable wildlife harvesting, land access and use, protecting heritage and cultural resources, equitable business and employment opportunities, population sustainability, adequate services and infrastructure, adequate sustainable income and lifestyle.

When we talk about socio economic effects, it covers both positive and the negative effects of social and economic transformation that occurred as a result of the activities taking place in the study area. . (Morris and Baartjes, 2010).

However, for the purpose of this study, socio economic effects have been narrowed to the positive effects that emanate as a result of mining activities in the study area. These include the employment opportunities, income generation, government revenue and infrastructural development.

## 2.4 Empirical review

Gary and Susana (2014) in a study titled 'the Contribution of the Mining Sector to Socioeconomic and Human Development', a sample of five low income and middle-income countries. For this same group of countries, the level of well-being, as measured by the Human Development Index, has shown strong improvement over the prolonged rapid growth period, faster than countries not dependent on extractive (mining or oil) industries, and substantially more in the past five years. These results largely hold when the HDI is decomposed into its education and health components. Mineral-dependent countries have also made strong progress in attaining the MDGs albeit at about the same rate as countries without mineral industries. Finally, it is clear that mineral-rich countries can get more out of their mining sector than mines. In many countries, substantial linkages and employment have been developed from mining operations, and tax revenues are increasing to build national and local capital, both physical and human. Channabasavaiah and Venkata

(2020) in a study Income and Employment Generation through Mining Industry in India. It was found that the mining sector contributed about 2.4 percent to Indian's GDP, the average daily labour employed was fluctuating from 12,444 to 16,659 persons in manganese and iron ore sectors in India.

In another study by Sarita (2001) titled "Gender and Society" found that women's employment on mines has brought about positive benefits to the entire mining community by augmenting the households needs and encouraging sustainable development. So also, Channabasavaiah and Venkata (2021) in a study titled 'Income and Employment Generation through Mining Industry in the state of Karnataka and Ballari District'. The study focuses on Manganese and Iron ore production and dispatch for a period of 10 years (2008 – 2018) in Karnataka and in Ballari district also focus on average daily employment and revenue generated by mining sector. The study found that in Ballari district over the period of these ten years the average daily employment of workers at Manganese Ore and Iron Ore sector were 1842 and 5690 respectively. While in Karnataka district over the period of these ten years the average daily employment of workers at Manganese Ore and Iron Ore sector were 2117 and 7380 respectively. Moreover, the average royal collected per year is 1693.37 Rs. In crore.

Moreover, in another study by Sihlangu (2015) on examining the socio-economic impact of mining on the livelihoods of Amajuba District mining communities. The study utilised qualitative research methods for collecting relevant data. Using multi-stage sampling methods, community members' names were clustered and randomly selected to participate in the study. In-depth interviews and focus group discussions were used to collect data. It was found that the mining companies located in the study area are not largely efficient and effective in their operations as far as socio-economically uplifting the communities in which they operate. They faced incomplete infrastructure development, lack of proper beneficiation plans and systems, lack of

skills development plans and poor public participation in locality development processes.

Grant (2017) in a study titled 'the contribution of Education to economic Growth' analysed using level of education/earnings and social and private rate of return to investment and found that the contribution of education to economics growth the primary levels have higher rate compared to the higher (ND/NCE/Degree). Furthermore, Samuel and Bright (2023) in a study titled "the impact of mining on the Ghanaian Economy" the study employed a systematic methodology in gathering and analysing data from various sources. It was found that mining has been a significant driver of economic in Ghana, contributing to the economy's GDP through foreign exchange earnings, investment, and sectoral linkages. It highlights the positive impact of mining on employment, generation, both directly and connected to mining activities and indirectly in other ancillary services. It was also discovered that mining is a crucial source of government revenue through tax, royalties, and dividends, supporting government budgets, infrastructural development, and social programmes. However, it causes social disruption, conflicts, and community development initiatives.

Moreso, according to World Bank, (2020) report, it was found that mining as a source of revenue generation has been an instrument of for infrastructural development and investment in social services, which are bedrock of economic progress and societal well-being. In addition, Aryee (2016), affirmed that mining sector is a catalyst for economic diversification and industrialisation of an economy. This is because it stimulates the growth of related sectors such as manufacturing, construction and transport sectors. This their interdependencies created employment opportunities general economic growth. Ghana extractive industries Transparency Initiative, (2021) also asserts that mining revenue in Ghana helps in addressing social disparities and promote inclusive development through building schools, hospitals, healthcare

facilities, scholarship provision and social assistance to the vulnerable.

According to Akongwale et al (2013) in a study titled 'the role of solid minerals on economic diversification in Nigeria, where they employed both descriptive and inferential analytical techniques. It was found that the solid mineral sector in Nigeria can immensely contribute to the economic growth of Nigeria. Moreover, it revealed that the development of the solid mineral sector could help in ameliorating poverty in Nigeria through job creation; especially, given its integral linkages with other sectors of the economy.

Nguyen, Nguyen and Pham (2024) in a study titled Population aging and economic growth: Evidence from ASEAN Countries found that advanced aging population usually identified with declining work capacity and income generation. This shows that population aging normally reduced both labour force participation and income streams of the workers causing stunted economic growth. Furthermore, David et al (2016) in an Empirical Analysis of the Contribution of Mining Sector to Economic Development in Nigeria, used Autoregressive Distributive Lag Model (ARDL) and error correction model. The empirical analysis provided strong evidence indicating that the value of solid mineral and other specified sectors (value of agriculture, value of crude petroleum and gas and value of manufacturing) have a great contribution toward economic development in Nigeria. Specifically, the results also suggested that economic development in the long run and short run is positively associated with value of solid mineral and value of agriculture over the scope of the study. Hence, solid minerals have the potential of contributing significantly to the economic development of a country via economic benefits which include; the direct benefits that come in the form of income and employment, as well as the indirect benefits that come in the form of local or international purchase of mining inputs.

Francess, Enock and John (2020) in another study titled causes and Effects of Illegal Gold Mining (Galamsey) Activities on

School Dropout and Residents at the Tutuka Circuit in Obuasi Municipality in Ashanti Region, Ghana using descriptive statistics with a sample of 122 participants. The result revealed that the causes of illegal mining are; high level of illiteracy, lack of employment skills, high cost of schooling, and child labour. Moreover, the children were making money upto GHC 100 per day more than the minimum wage of GHC 9.68 in the country. Dikgwatlhe and Mulenga (2023) studied the perception of local communities regarding the impacts of mining on employment and economic activities in South Africa. Data collected for this study was analysed using statistical analysis. A sample of 690 residents in different local mining communities of four provinces in South Africa were used. The study revealed a positive impacts and benefits to the community from the mining operations in their areas, including increased direct and indirect employment and improved quality of life.

In conclusion, all these empirical findings concentrated much on the application of secondary data in their analysis. Moreover, emphasising the sectoral contribution of the economy at large, neglecting the harnessing of the mineral mining activities and its contribution at the micro levels. To this end, this study focused on the impacts of harnessing local mining of mineral resources on the socio-economic growth of Hong Metropolis in Adamawa state, Nigeria.

#### **4. Methodology**

##### *4.1 Sample and Sampling Technique*

Since the population of the targeted respondents is unknown, a sample size calculator was used in determining the sample size using 95% confidence interval; 5% margin of Error with 80% population proportion. This gave us a sample of 246. This sample of 246 respondents were sampled across some selected areas of the study through multi-stage sampling procedure. The multi-stage sampling procedure employed was as follows; firstly, the study areas were stratified into wards because it was widely dispersed.

**Table 1. Sample Proportion Per Ward in the Study Area**

S/No.	Wards	Sample
1	Bangshika	60
2	Hong	71
3	Husherizem	62
4	Shangui	53
<b>Total</b>		<b>246</b>

Source: Author's computation, 2024

The study area has twelve wards, namely; Bangshika, Daksiri, Garaha, Gaya, Hildi, Hong, Husherism, Kwarhi, Mayolope, Shangui, Thilbang and Uba. Secondly, purposeful sampling was made for the selection of Bangshika, Hong, Husherism, Shangui because the majority of the local mining is located within those axes; Finally, to avoid biasness a systematic sampling procedure was employed in selecting the required proportionate sample size of the respondents per ward as presented in table 1.

#### 4.2. Method of Data Analysis

Both descriptive and inferential statistics were used in the analysis of data. The descriptive statistics include use of frequency tables, bar chart, pie chart, and funnel chart to present and describe the collected data. Inferential statistics (Binary logistic regression) was used to analyze objective one while Likert scale table was used to analysed objective two.

#### 4.3. Model Specification

##### 4.3.1 Binary Logistic Regression Model for Objective one

Binary logistic regression model was employed to examine the causes of local mining on in the study area. The model was adopted from the works of Billah (2022) with little modifications. The logit regression model (logit model) is applicable to a broader range of research situations than discriminate analysis. The term “logit” refers to the natural logarithm of the odds (log odds) which indicates the probability of falling into one of two categories on some variable of interest (Wooldridge, 2009). According to Harrell (2001), binary logit has only two categories in the response variable, that is, event B and non-event B.

Harrell (2001) also asserts that the model shows how a set of predictor (explanatory) variables (X's) are related to a dichotomous response variable  $Y(\ln (P_i/1 - P_i))$ . The dichotomous response variable  $Y=0$  or  $1$  with  $Y=1$  denotes the occurrence of the event of interest while  $Y=0$  denotes otherwise. The dummy variables, also known as indicators and bound variables, characterize dichotomous responses. In this study, since only two options were available, namely “Local mining” or “non local mining” a binary model was set up to define  $Y=1$  for situation where the response in favour of local mining and  $Y=0$ , not in favour of local mining. Assuming that  $\mathbf{X}$  is a vector of explanatory variables and  $\mathbf{P}$  is the probability that  $Y=1$ , two probabilistic relationships as stated by Wooldridge (2009) can be considered as follows:

$$P(Y=1) = \frac{e^{Bx}}{1+e^{Bx}} \quad 1$$

$$P(Y=0) = 1 - \frac{e^{Bx}}{1+e^{Bx}} = \frac{1}{1+e^{Bx}} \quad 2$$

Both equations present the outcome of the logit transformation of the odds ratios which can alternatively be represented as:

$$\text{Logit} [\theta(x)] = \text{Log} \left[ \frac{\theta(x)}{1-\theta(x)} \right] = \alpha + \beta_1 x_1 + \dots \dots \beta_k x_k \quad 3$$

Thus, allowing its estimation as a linear model for which the following definitions apply:  $\theta$  = logit transformation of the odds ratio;  $\alpha$  = the intercept term of the model;  $\beta$  = the regression coefficient or slope of the individual predictor (or explanatory) variables modeled and;  $X_i$  = the explanatory or predictor variables comprises of all the independent variables

(Poverty level, High unemployment rate, High dependency ratio, Low level of technology, Mining mis-management, and Laxity of law enforcement) for objective one. The logit regression in this study can be specified as:

$$Y_i = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \dots + \beta_n X_n + U_k \quad 4$$

## 5. Result and Discussion

This section discussed the result ascertained in the course of the research, covering the socio-economic demographic of the respondents, causes of local mining in the study area, and socio-economic effects of harnessing local mining in the study area.

### 5.1 Socio Economic Demography of the Respondents

#### 5.1.1 Gender, Income and Households' Demography of the Respondents

Table 2 shows that most of the respondents were male totalling 58% of the total sample. This signified that male culturally being the bread winners of the households are those engaging in various forms of business activities in order to fend for their families can easily be part and or have details on the activities of the local mining activities in the study area.

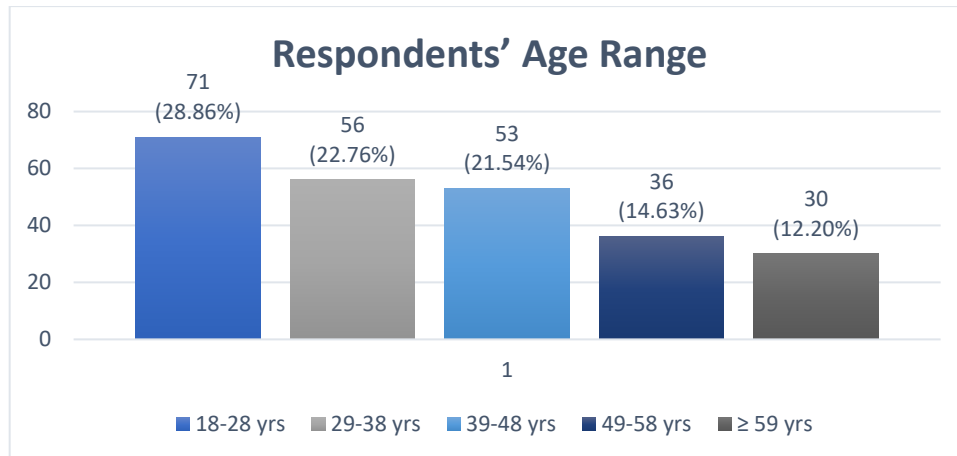
**Table 2. Showing Gender, Income and Households' Demography of the Respondents**

Details	Frequency	Percentage (%)
Gender of the respondents		
Male	142	57.72
Female	104	42.28
Respondents' Monthly Income level		
≤ ₦15,000	37	15.04
₦16,000-₦30,000	46	18.70
₦31,000-₦60,000	78	31.71
₦61,000-₦90,000	43	17.48
≥ ₦91,000	41	16.67
Respondents' Household members		
≤ 5 Members	63	25.61
6 – 10 Members	54	21.95
11 – 15 Members	47	19.11
16 – 20 Members	43	17.48
≥ 21 Members	39	15.85
Total	246	100%

Source: Field Survey, 2024.

The finding is in line with the study of Sarita (2001) which affirmed that male counterpart are much informant about the issue of mining activities in general, however, the local mining has become a window for women engaging in economic activity and contributing positively to economic development. Moreover, Most of the respondents are generating more than ₦30,000 monthly. This is more than the monthly minimum wage of the government workers in the country. Therefore, their

engagement in the economic activities or the local mining is a reasonable source of living in the study area. This finding also is in line with the study of Channabasavaiah and Venkata (2020) which affirmed that mining is a source of income to household. Furthermore, the more than 53% of the respondents have household members above 10. This will definitely necessitate their extra efforts to find ways of feeding their families as well as providing some basic needs.

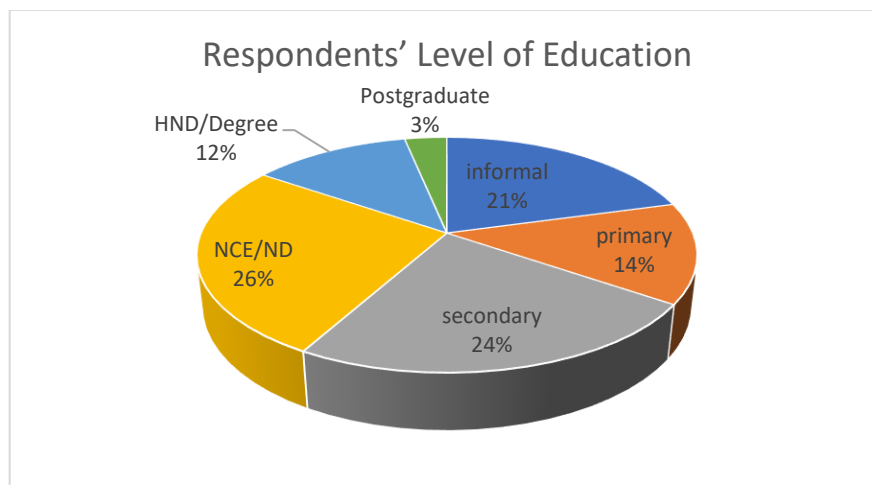


Source: Field Survey, 2024.

Figure 1 Showing Respondents' Age Range

From figure 1, it shows that majority of the respondents were of the youthful age. This also signifies that local mining requires people of youthful ages. This can put them at advantage side of knowing much about the local mining

in the study area. This finding also is in consonant with the study of Nguyen, Nguyen and Pham (2024) that found that youths are the majority when it comes to engaging in economic activities.

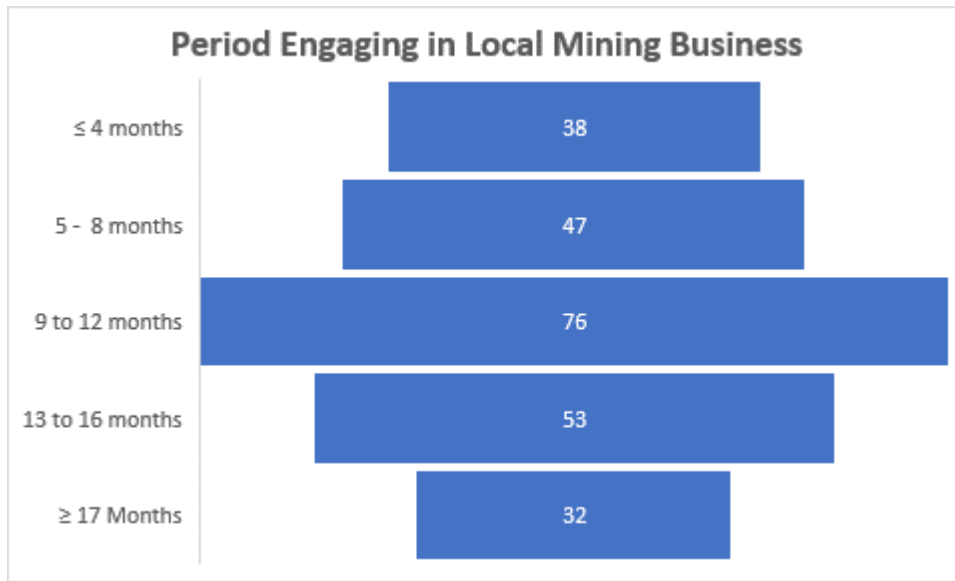


Source: Field Survey, 2024.

Figure 2 Showing Respondents' Level of Education

The result in figure 2 indicates that local mining in the study area employed a significant portion of those attended formal education. The result showed that mining activities alone, even without public works, can effectively reduce the number of unemployed people in the study area. This is because those that finished NCE, HND/Degree and Post graduate studies totalled 41% while 59% which is the highest

comprises secondary, primary and Informal education. Hence, it is also another source of employment opportunity to both the higher and the lower level learners. This finding is in support of Abdul-Razak and Gavin 2019; World Bank 2018 that education level influences individual ability to benefit in mining activities



Source: Field Survey, 2024

Figure 3 Showing Respondents' Period Engaging in Local Mining Business

As regard to figure 5.3, the local mining has been a source of employment as well as income to many households for more than a year. Out of the 246 total respondents, 38 have been in the local mining for almost 4 months, 47 spent 8 months, 76 spent 12 months, 53 spend 16 months while 32 have being in the system for more than 17 months. The respondents' long stay in the mining activities may result to a tremendous change in their socio-economic activities in the study area. This is because their engagement in mining activities reduces unemployment and has created a source of income.

#### 5.2 Determining Factors Encouraging Local Mining in the Study Area

Table 5.2, showed that an increase in the poverty rate by 1 unit corresponds to a 3.913 increase in the rate of local mining in the study area, it is also statistically significant 0.05%. This implies that poverty rate is one of the factors that encourage local mining in the study area. Similarly, a 1-unit increase in the unemployment rate leads to a 4.971 increase in local mining; it is also statistically significant at 0.05%. Hence, it is one of the factors encouraging local mining in the study area. These findings are in support of the works of Francess, Enock and John (2020).

**Table 3. Logit Regression on Factors Encouraging Local Mining in the Study Area**

Y (Encourages local mining)	Coefficient	Odds ratio	Std Error	Z-value	P-value
Constant	52.731	6.321	12.121	4.350	0.0421
Poverty rate( $x_1$ )	3.913	2.765	2.230	1.755	0.0012
Unemployment rate( $x_2$ )	4.971	3.324	1.411	3.523	0.0462
Dependency ratio( $x_3$ )	1.282	1.012	1.931	0.664	0.0487
level of technology( $x_4$ )	0.081	1.525	0.958	0.085	0.0031
Mining mis-mgt( $x_5$ )	1.524	1.123	2.640	0.577	0.0498
Law enforce. laxity ( $x_6$ )	0.361	0.987	0.421	0.857	0.0532
Prob> chi <sup>2</sup> = 0.0000					
Log likelihood = -76.37					
Pseudo R <sup>2</sup> = 0.637					
No. of Obs= 246					

Source: Researchers' Computation, 2024.

Furthermore, a one-unit increase in the dependency ratio and level of technology results to an increase of 1.282 and 0.081 in local mining, respectively and they are all statistically significant at 0.05%. Lastly, a one-unit increase in mismanagement and laxity in law enforcement increases local mining by 1.524 and 0.361, respectively. However, laxity in law enforcement is not statistically significant, because its probability value is 0.0532 which is greater than 0.05%. Moreover, this study is in consonants with the works of Sihlangu (2015) as well as Samuel and Bright (2023).

All independent variables except laxity in law enforcement are statistically significant. These findings indicate that factors such as poverty rate, unemployment rate, dependency ratio, low technology level, and mining mismanagement are critical determinants that encourage local mining in the study area.

### 5.3 Harnessing Local Mining and Socio-Economic Growth in the Study Area

Table 4 shows that harnessing local mining will increase income level of miners, employment generation, infrastructural facilities as well as government revenue in the study area.

**Table 4. Harnessing Local Mining and Socio-Economic Growth in the Study Area.**

S/N	Statements	SA(%)	A(%)	U(%)	D(%)	SD(%)
1	Harnessing Local Mining will Increases income level in the study area	121 (49.19%)	90 (36.59%)	15 (6.10%)	6 (2.44%)	14 (5.69%)
2	Harnessing Local Mining will Increases employment level in the study area	52 (21.14%)	158 (64.23%)	24 (9.76%)	5 (2.03%)	7(2.85%)
3	Harnessing Local Mining will Increases infrastructural facilities in the study area	70 (28.46%)	150 (60.98%)	15 (6.10%)	7 (2.85%)	4 (1.63%)
4	Harnessing Local Mining will Increases government revenue in the study area	41 (16.67%)	93 (37.80%)	20 (8.13%)	60 (24.39%)	32 (13.01%)

Source: Field Survey, 2024

Since the percentage of those that responded positively (Strongly Agreed/Agreed) on harnessing local mining will increases income level in the study area were 49.19% and 36.59% respectively, this is greater than the negative (Disagreed/Strongly Disagreed) responses. Likewise, 21.14% and 60.98% responded positively that harnessing local mining will increases employment level in the study area. So also 28.46% and 60.98% responded positively that harnessing local mining will increases infrastructural facilities in the study area. Lastly, 16.67% and 37.80% strongly agreed that harnessing local mining will increases government revenue in the study area. All the positive responses are greater than the negative responses. This implies that harnessing local mining to become lawfully, technologically and

economically guided will really bring about positive transformation in the study area. These findings are in support of the works of Channabasavaiah and Venkata (2020) and Dikgwatlhe and Mulenga (2023).

### 5. Conclusion

Following the research findings, the study concludes that poverty rate, unemployment rate, dependency ratio, level of technology and mining mismanagement are the significant determinant factors that causes local mining in Hong local Government area. Meanwhile, harnessing local mining can invariably increase income level of individuals engaged in the mining activities, it will also serves as employment generation avenue, improves

infrastructural facilities as well as government revenue in the study area.

Based on the research findings, the study recommends that: there is need for effective law enforcement by the authorities on the mining activities to avoid resources mismanagement and enable legal mining activities in the study area for socioeconomic development.

There is need for introducing and application of mining technologies in the study area to enable effective utilization of resources in the study area;

There is inclusive need of women to be encourage and integrated into mining activities at all levels to arguments households demand for a sustainable development.

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