

# Influences of Mineral Extraction on Economic and Social Wellbeing of Communities Residing Adjacent to Mines. The Case of Songwe, Tanzania

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## Abstract

This study assessed the economic impact of mineral extraction of New Luika Gold Mine (NLGM) on the livelihoods of local communities living close to the mine in Songwe District. Its specific focus was on how mineral activities stimulated economic growth in the locality. Both qualitative and quantitative research methods were employed to collect information from a sample size of 216 respondents. Data were analyzed by using Statistics Packages for Social Science (IBM SPSS Statistics 20) and content analysis for qualitative data. The findings revealed notable positive and negative influences on the livelihoods of the surrounding communities. Positive influences were registered on employment, education, health, and business improvements while the negative influences were connected to problems like pollution of all sorts and land degradation in nearby villages. As a way of maximizing the positive impacts through minimizing the negative impacts, the study concludes by suggesting the use of bottom-up approach in order to ensure that the investments done in the mining sector improves the livelihoods of the surrounding communities who are the custodian of the resources in question.

**Key words:** Mining, Livelihoods, Local communities, New Luika

## 1.0 Introduction

Mineral extraction is a worldwide potential economic activity contributing highly to the respective country's Gross Domestic Product (GDP). GDP is a monetary measure of the market value of all the final goods and services produced in a specific time period. During the past decades mining companies in many parts of the world have increasingly recognized that improving regional welfare is a pre-requisite for viable investment, a fact that may be reflected in the share price premium earned by responsible companies that promote regional skills and economic diversification (URT 2015).

According to Caselli and Michaels (2023), mining in South America particularly in Brazil was highly associated with an increase in mineral royalties paid to local governments and in public spending. However, the impact on the provision of local public services was minimal. Punam *et al*, (2015) emphasize that Africa has enjoyed a mineral boom for more than a decade. This has fueled exports,

government finances, and hope for a sustainable growth trajectory. Overall, the expansion of the extractive sector has enhanced its importance as a major source of income, raising hopes for sustainable growth in Africa. Gold is a large component of export earnings in some Sub-Saharan African countries. Along with an increase in gold production, government revenue from gold has been on an upward trend. A study by (Assan and Muhammed 2018) estimated the direct contribution of Newmont Ghana Gold Limited to the Ghanaian economy in the year 2009 as follows; 1.3 percent contribution to GDP; 9 percent to total gold export; 1 percent to domestic revenues and 4.5 percent to direct investment in Ghana. However, these elements are national and do not directly impact local communities. However, gold mining is capital-intensive and the country, studies show that the linkages are likely to be quite small. Akabzaa (2000) revealed that from the inception of Ghana's economic policy changes in 1983 to date, the mining sector has witnessed a considerable

investment boom and increased production, particularly in the gold sector.

During 2005–13, gold mining provided the government with US\$362 million per year on average in Mali, compared to US\$300 million per year in Ghana and US\$137 million per year in Tanzania. Therefore, much of the local benefit from the industry will depend on how much of this revenue finds its way back into the local community, and also on the quality of public sector expenditure. Although Africa's resource boom has underpinned growth in the region's commodity producers, questions remain on whether natural resource wealth has substantially improved the living standards of Africans. Africa's growth elasticity of poverty is one-third that of the rest of the developing world (Punam *et al.*, 2015). This slow pace of poverty reduction is frequently attributed to natural resource-led growth, the so-called natural resource curse. Examples abound of poor outcomes (on income poverty and social indicators) in African countries with abundant natural wealth. For example, in Zambia, a major copper producer, the incidence of poverty remained virtually unchanged, at 60 percent, during 2000–2010, despite a doubling of economic output in this period.

Non-monetary welfare indicators (controlling for per capita income) are also noticeably weaker in the region's resource-rich countries, such as Angola, Gabon, and Nigeria, pointing to the unmet potential of natural resource wealth. In Mali, for instance, large-scale mining accounted for about 7 percent of GDP in 2013, but less than 1 percent of the population was employed by the industry (Sanoh and Coulibaly 2015).

Thomas (2019) discloses that, mineral extraction in Tanzania plays a greater role in the national economy. Gold export accounted for USD1.3 billion of the total value of Tanzania's export in 2015 (i.e. 22 percent), representing more than 90 percent of the country's minerals export. Recently, mining contributes 3.5 percent of the GDP and is projected to reach 10 percent of the GDP by 2025. In 2015, Tanzania played a significant role in the global production of gold, accounting for about 1.5

percent of the world's gold mine output (URT 2015). However, all revenues are accrued to the central government (except for recent annual payments of US\$200,000 per mine), and there is no link between government transfers to the local authorities and the revenues raised from mining in those areas. Funds are allocated according to criteria and priorities unrelated to the location of mines or the source of the funds. The key beneficiary of mining is the government, which therefore is the conduit of benefits to the country as a whole, and the local communities as well (WBG 2015). Moreover, the end of a mining boom may leave communities with little capacity for alternate livelihoods. As a result, these companies tend to exaggerate the local and national benefits of their industries far from reality (Punam *et al.* 2015).

Maliganya and Renatus (2016) in their study have shown that the Tanzanian government is currently implementing the second phase of its poverty reduction strategy, known as "National Strategy for Growth and Poverty Reduction". The linkages between mining activities and poverty reduction cannot be gauged. This is especially true for local employment creation, revenue generation, and public service delivery. Despite the mineral wealth in Simanjiro District (Mererani mines), the local community around the mining center live in persisting poverty. Simanjiro has a poorer level of services than many other districts in Tanzania. Simanjiro was drawn out of Kiteto District in 1994, and there is still no District Designated Hospital, which means that people have to go to the regional hospital in Arusha. The rate of adult illiteracy in Simanjiro is among the highest in the country, standing at 85 percent, in contrast to the national average of 23 percent (OECD 2005).

Again, according to Chacha (2017), mineral extraction helped the general economy at the national level but at the local individual community faced social and environmental problems as it was found in the community lived around the North Mara Gold Mine in Mara.

Furthermore, what is clear is that settlements in the vicinity of mining sector operations are extremely poor in Songwe District as it is falling behind in

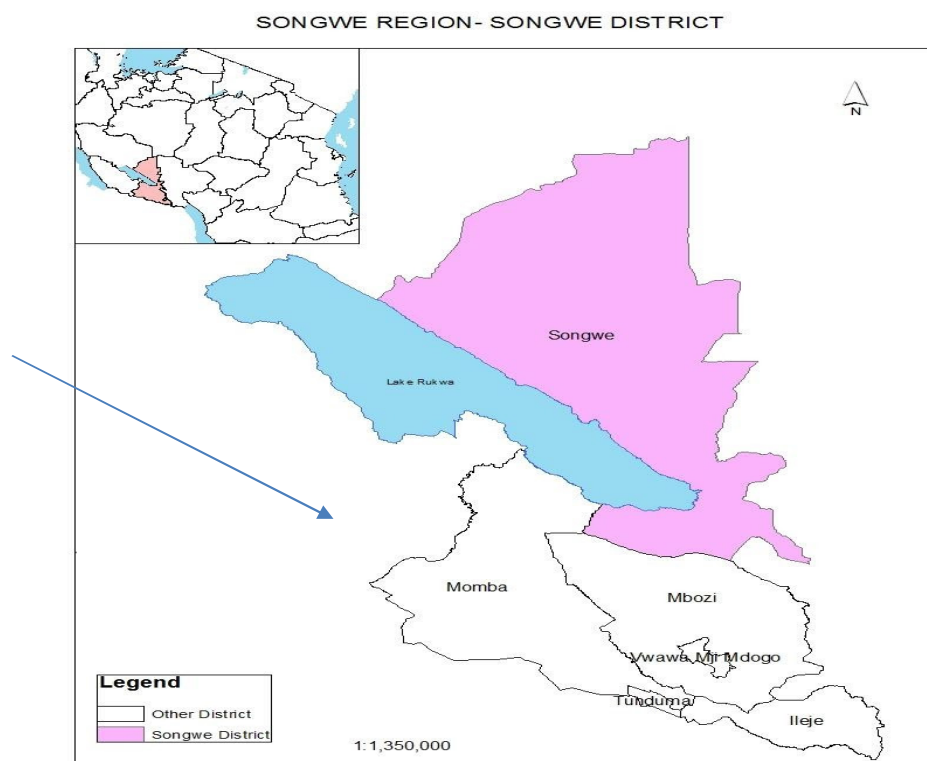
economic development among the districts in the Songwe Region. Living conditions of the local communities living near to Gold mine in Songwe District are manifestly substandard, lacking even the most necessities for human health (Songwe district profile report 2015). In light of the above empirical studies shortfalls; this paper wished to embark on exploring the factors behind the prevalence of poor living conditions of the local communities living close to mining centers in Songwe district. Furthermore, the study also aimed at assessing the influences of mineral extraction on the livelihoods.

## 2.0 Methodology

### 2.1 The study Area

The study was conducted in the Songwe district which is in the Songwe region. Songwe district is located along the latitude 8.4238°S and longitude 33.0290°E. It is among four districts which make up Songwe Region. Other districts are Ileje, Mbozi and Momba (Shanta Gold Ltd, 2016). The district is found in the northern part of the Songwe region. To the West is bordered with, Mlele (Katavi

Region) and Sumbawanga district (Rukwa Region), to the East is bordered with Chunya District, to the North is bordered with Sikonge District (Tabora Region), to the South is bordered with Mbozi District. Administratively, Songwe district is divided into 2 divisions and 18 wards which are further subdivided into 43 evenly distributed villages and 205 hamlets. Songwe division has more subdivisions than Kwimba division with 10 Wards, 25 villages and 117 hamlets while in Kwimba division, there are 8 Wards, 18 villages and 88 hamlets. The district has only one Constituent namely Songwe. According to the 2012 and the 2020 projected Population and Housing Census, the total population of Songwe District was 133,692 persons; out of that 67,603 were females and 66,189 were males. Major economic activities in Songwe district are agriculture, livestock, mining, fishing, forestry hunting and tourism. The 2012, Census revealed that, per capital income for Songwe district was TZS 268,000 per annum. This zone is characterized by hills and gentle slopes.



**Map.3.1 Map of Songwe District**

### Source: Songwe Region Profile (2015)

## 2.2 Research Design

The research design which was used in this study was a survey research design (Cross-sectional research). This research design enabled the researcher to collect data at one point in time, and the variables were examined once and the relationship between and among them was determined. Both qualitative and quantitative research methodologies were applied to obtain quantified and subjective data from the study area. The study focused on the community around New Luika mining company; the community has received benefits from the mining company in different ways including benefits from projects which were established, funded and or supported by the company. The community has also benefited from the mining company through local content and direct employment.

The target population for this study comprised the community members from four selected villages of Patamela, Saza, Maleza, and Mbangala around the New Luika mine and other small-scale mines in Songwe district together with the mining company workers or supervisors and government officials from district to village level. In this study, two major sampling procedures were used, simple random sampling technique and purposive sampling techniques. From these techniques, study participants who included the villagers or dwellers of the four selected villages near the New Luika mine were obtained.

The study used both primary data and secondary data. In depth-interview method was applied to elicit information from the respondents on how mining had impacted their livelihoods and the strategies or measures or suggestions they had so that gold mining could improve their livelihoods. Observation technique was also employed in checking different types of activities that are engaged in by the respondents in their everyday life. The focus of the study here relied more on their earning activities. Quantitative data was analysed using descriptive statistics (SPSS) and Microsoft excel. Qualitative data on the other hand was analysed using contents analysis. Validity and reliability of the findings was enhanced through Data triangulation.

## 3.0 Findings

### 3.1 Influences of Mining on Livelihoods activities

Economic activities are acknowledged to be crucial in rural livelihoods by the DFID Sustainable livelihood framework. Households in rural areas organize and pursue their livelihoods by engaging in income-generating activities, which are usually farming activities. In this study, respondents were asked to identify the dominant livelihood activities on which their livelihoods depended. Analysis results are as indicated in Figure below

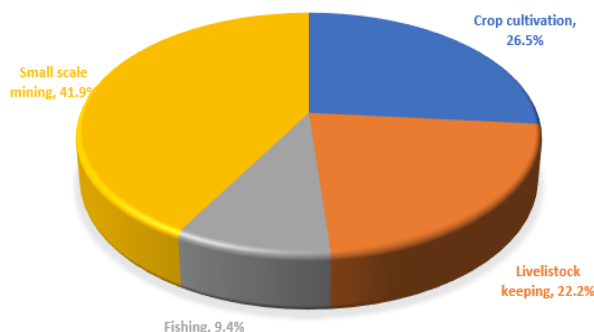


Figure 1. Respondents Livelihoods Activities

#### Source: Field Data (2024)

Although this is a rural community where agriculture is the main economic activity, in this locality the situation was rather different. As reflected in figure 1 above, the majority of the respondents engaged mostly in mining activities. The proportion of individuals who were engaged in crop cultivation was 26.5 percent while those in the livestock sector were 22.2 percent. Fishing activities was undertaken by only 9.4 percent of all the respondents. All these activities were in one way or another influenced by the presence of minerals and mining activities in the area.

#### 3.1.1 Small scale mining

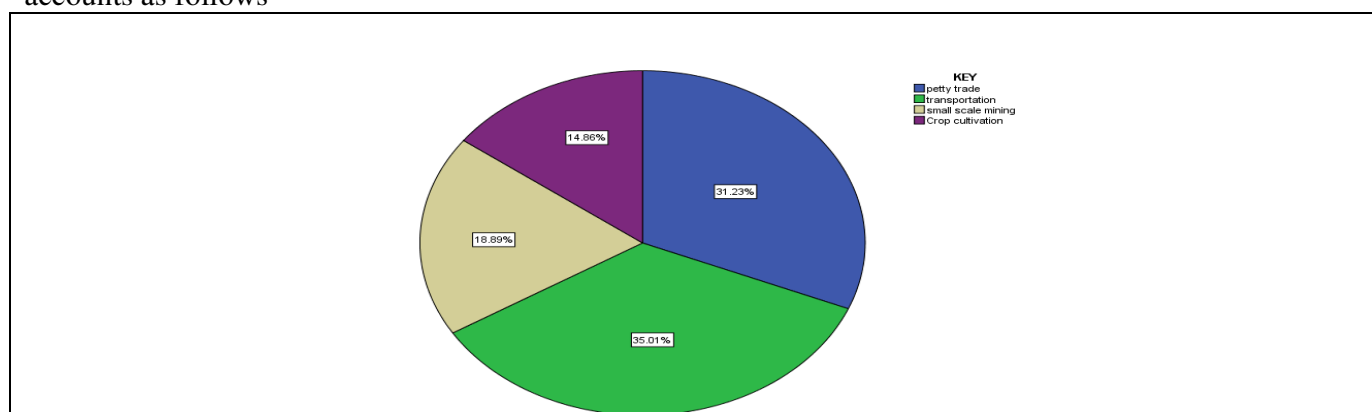
From the study findings, 41.9 percent of the respondents declared that small scale mining was influenced by the presence of the large-scale mining centers in the selected villages under study. It was reported that previously the indigenous people engaged in mining activities but the discovery of more gold deposits via exploration done by NLGM had influenced more small-scale miners around the mine. Areas around the mine were noted to be under the small-scale mining where the majority of the local community took it to be their income-generating activity. Hence, the proximity of the local community to the mines determined mining activity mostly favored economic activity and was as well lucrative compared to agricultural activities. The comment provided by one of the key informants interviewed accounts as follows

*“The opening of the New Luika Gold mine has helped us find new technology through knowledge transfer in mining, not only has caused knowledge transfer but also it has attracted small scale miners to newly opened areas near the large scale mines, however conflicts between the Mining company and the small scale miners are inevitable due to that encroachment”*,

The study through its findings took small-scale mining as a leading economic activity in the area of study arising from the fact of proximity. Small scale mining in the study area used mostly crude technology as many of the miners had invested low capitals on a subsistence basis.

#### 3.1.2 Petty Businesses

Petty businesses were undertaken by some of the inhabitants of the locality but were not given a due weight in comparison to Mining activities. Petty business involves buying and selling goods on small scale basis. It is the businesses that use low capital in their run-up. In the selected villages of the study area, it was noted that it was 31.2 percent of all respondents whose livelihoods depended on petty trading. Majority of people engaged in buying and selling goods to both the foreigners (including the mining company employees) and the indigenous community and could thus be sub categorized into livelihoods activities such as whole sale, retail sales and artisan as below;



**Figure 2.**Types of Respondents' businesses influenced by Mining activities



### Source: Field Data (2024)

As indicated above, most of the activities conducted by the respondents in the study area were in one way or another influenced by the operation of the Shanta mining company. Of the dominant business influenced was petty trade. The study noted that mining activity attracted many people to the mining centers who became the market for the established trade centers. There were established restaurants, shop hardware shops, M-Pesa and other telephone agency services, food vending, and about seven guest houses in the villages of Saza and Mbangala. The New Luika Gold mine could thus be explained as a strong magnet that attracted all these services to serve the mining company employees and the growing population in those villages. Both community members and mining company employees needed basic requirements like clothes, food materials, and shelter. Due to the increased demand for these

requirements, some people had invested in buying and selling the said items hence the business became their income-generating activity which predominantly influenced and stimulated by the presence of the mining centers. One of the village leaders who was also a key informant had this to say.

*“Young people are highly fighting for better life nowadays; they take goods from the Mbeya region and bring them here for selling. Some people are moving from different parts of the country seeking jobs in mines and so increase population in our villages, so the increase of population to these villages has created the market for people to engage in small businesses like food vending”.*

The observation made in this study showed that there were trading centers in the locality. Different petty trading activities were observed. There were shops for building materials, food materials, clothes and other home items.



**Figure 3. Some of the petty businesses conducted in Saza village**

**Source: Field survey, 2024**

From the study, it can thus be concluded that, petty businesses arose due to the presence of the mining centers which attract population from different areas whereby the attracted population becomes the source of market for various businesses. High demand for basic needs including food, the shelter made people invest by opening shops for clothes,

hardware, restaurants, guest houses, and different agent activities. The activities opened became the source of income in the study area.

### 3.1.3 Transportation services

Transportation is the movement of people and goods from one place to another. Transportation makes an

easy movement of goods and services in the given locality. In businesses, goods reach the consumers in time and so the businesses run smoothly. At the same, transport becomes an economic activity because those who engage in transporting goods are earning money as their service fees from the businessmen.

The analysis of the data collected from the selected villages surrounding the New Luika mining center indicated that 35.0 percent (see Figure 4.5) of the respondents mentioned transportation as an economic activity geared by the presence of mining activities in their villages. Transport in the villages was said to be influenced by the presence of mining activities because mining had attracted more people to move towards the mining centers. The increased population demanded the means of transport for easy mobility. Transportation as an economic activity created employment for many youths who were in motorcycle transportation (bodaboda).

One of the youth's key informants had this to say;

*"People who move from Saza village to Mbangala and Maleza using motorcycle pay ten thousand each, so if I get ten people per day, I am sure of getting a hundred thousand shillings. This has made the majority of us deal with transportation as it gives us our daily bread. We can also have money for doing other activities for our development"*

Therefore, the study found out that, the transport was among the economic activities which were stimulated by the presence of mining activities as many people engaged in this activity.

### 3.1.4 Crop Cultivation

Agriculture is among the dependent sectors of the economy for earning a living by the majority of Tanzanians. Crop cultivation in local communities particularly where the study was conducted was mainly for food production. Cash crops were also produced in the community for income rising among the households. 26.5 percent of the respondents in this study supported that, crop cultivation was among the economic activity influenced by the established mining company (Shanta Gold Mining Company). Crop cultivation conducted was for subsistence rather than for income generation. The crops cultivated were maize, beans, millet, cassava, potatoes, sorghum,

groundnuts, and few engaged in cash crops like simsim and sunflower. According to the Shanta Gold Mining Company Report (2018) Maize, Sorghum, Ground Nuts, Sweet Potatoes and Bambara were planted in local soils following an expert agricultural assessment carried out in collaboration with Export Trading Group ("ETG"). This initiative had since expanded exponentially and 350 local farmers with no prior knowledge received training and qualifications during the year in advance of harvesting their first demonstration farms. Overall, 800 farmers were now enrolled in the project, representing participation growth of 400%. Additionally, at the villages of Maleza, Mbangala, Saza and Patamela, 4 demonstration plots had been set up for livelihood training purposes. The established agricultural project had encouraged the participants to see farming as a business by combining food and cash crops to increase household income in a sustainable way.

Though the mining company had started agricultural projects to make the local community take part in crop cultivation, the response from the community was poor due to the seasonal rains and expenses of irrigation systems installation. This made the minority take crop cultivation as their major economic activity for livelihoods sustainability. It was therefore generally found that proximity to the mines was found a determinant of the kind of economic activities prevailed. This was that, closeness to the mines influenced diversified economic activities.

The influence of the New Luika Mining Company on small farming was observed in the kind of investment the company has done in order to boost them economically. One key informant from Maleza village asserted as follows; *"We have agriculture cooperative group initiated through fund supports from the mining company as the Corporate Social Responsibility (CSR), the group deals with sunflower cultivation in the villages of Patamela and Maleza"*. This indicates that the company supported crop cultivation through CSR with the aim of making them diversify their sources of income for their livelihoods.



**Figure 4.A demonstration farm in Maleza Village under the agricultural project**  
**Source: Shanta Co. Ltd Report (2023)**

### 3.1.5 Influences of Mining on Livestock Keeping

Livestock keeping was among the mentioned sources of livelihoods in the study area. Livestock was a source of income after being sold. The activity was supported by 22.2 percent of all respondents in the study area. Sukuma and Maasai people in the study area reared cattle mainly as source of income. Additionally, the attracted population in the mining centres was a market created for beef. There were observed butchery shops which indicated there was a much need of meat by the employees around the mining areas. It can therefore be concluded that, not only cattle rearing was for income earning but also for food security in the study area for livelihoods. Therefore, livestock was remarkably influenced by the mining activities arising from the fact that, the population attracted by the mining activities became the market for livestock products.

### 3.1.6 Influences of Mining on Fishing activities

Fishing in the study area took chance as the source of livelihoods in sense that it earned incomes to the fishermen and food venders in the mining centers. Fishing was reported by 9.4 percent of all respondents among the sources of livelihoods in the study area. Fishing took place in Lake Rukwa, thereby the population due to the mining activities

became a market for fish. Remarkably, women engaged most in selling fish around the mining areas something which encouraged men engage in fishing activities. It thus concluded that, fishing got its pace in the study area due to the availability of created market. The created market was the population grew due to the presence of mining activities.

## 4.0 Conclusion

Findings of the study have shown that mineral extraction activities had attracted population of different backgrounds from different areas of the country. Before the establishment of the NLGM the indigenous community members predominantly engaged in agricultural activities and small scale mining for their livelihoods. After the establishment of the mines in the study area, together with the population influx people had to diversify sources of livelihoods. The population growth led to the increased demand of the varied items for man's survival including the basic needs. This made it must to have demand and supply correlations. There were established petty businesses to outfit that. Mobility of people made it necessary to establish transportation of both people and other business supplies. Small scale miners also increased their operations alongside with the



Large scale mines. Modern agriculture was introduced as CSR to the nearby villages from the NLGM to make the indigenous have ability towards sustainable agriculture for their livelihoods.

Basing on the above findings it can be concluded that mineral activities do attract many people to the mining centres raising the population in those areas. The population leads to the increased demands which forces people to diversify sources of income. Population increase creates market for different business activities which stimulate and speed other activities like fishing, livestock keeping, and transportation. The study findings revealed notable contributions to employment, education, health, and markets from NLGM, including the construction of Maleza dispensary, Mbangala dispensary, and the supply of desks to schools and renovations in different schools. Again, the influenced economic activities like petty businesses and transportation earned income to the people engaged in those activities. With gained income, households were able to spend on the improvement of their livelihoods. Mining activities were the most preferred economic activities by the households in the study area. NLGM seemed to have a lot of influence on mining employment, and indirect employment through market creation whereby the people engage in petty businesses.

Correspondingly, CSR was being implemented in the study area, expressly in the education and health sectors. Importantly, respondents recognized the NLGM's support for community health and education. However, there were negative perceptions of the company among community members in the study area. This was seen when community members mentioned environmental impacts specifically, the pollution of all sorts and degradations. As a result, the impacts could either directly or indirectly affect the sustainability of economic development, in nearby communities.

To do away with negative community perceptions of the NLGM and ensure the effective functioning of CSR activities by the company within local communities, a bottom-up approach in planning and decision-making will be of great importance as

it will address communities' needs in a restored way. This gives chances for full participation by the community and other key stakeholders in the decision-making processes to reflect their needs. The involvement of the local community will make clear communication channels at all levels in this regard.

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