The Effects of Conflicts Resulting From Artisanal Gold Mining to the Socio-Economic Lives of the People in Ikolomani Sub-County, Kakamega County, Kenya

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Abstract: Gold mining is a significant sector in the world economy and in at least 34 African Countries. Ikolomani gold mines are found in Kakamega County. Many countries worldwide have had conflicts resulting from artisanal gold mining. Most artisanal gold miners are from socially and economically marginalized communities and turn to mining in order to escape extreme poverty, unemployment and landlessness. Sometimes the gold is present, but in low and unexpected quantities especially considering the depth of the mines. The low quantity of gold is used for sustaining their lives. As a result of this, there are many conflicts from artisanal gold mining. The objective of this study was to examine effects of the conflicts resulting from artisanal gold mining to the socio-economic lives of the people in Ikolomani Sub-County, Kakamega County, Kenya. This study adopted the theory of cumulative and cyclical interdependence as its framework. The theory looks at individuals and their community as caught in a spiral web of opportunity and problems, hence, individuals and community resources are mutually dependent. The study employed descriptive and evaluation research designs. The study established that gold mining affected the socio-economic lives of the people more negatively than positively. The conflicts cause poor financial management (14%), poor health conditions (16%), school dropout (18%), physical and emotional injuries (27%), and environmental degradation (21%). The study recommends that policies should be implemented by the government in the exploring sector in Ikolomani Sub-County which will improve the working relationship among different stakeholders in the gold fields. There is need to improve on the economic amenities in Ikolomani by the government and investor by forging economic partnerships.

I. INTRODUCTION

Shilaro (2000) indicates that, the population in Ikolomani Sub-county is big, and poverty levels are high. Gold deposits are there, thus people are prone to turning to mining for survival. Miners mine in other people’s land. There are conflicts over land boundaries and ownership. Members of the community and the miners have had several conflicts generating from gold mining. In some cases, the government has been involved in conflict between the mining companies and the local communities in Ikolomani sub-county (Shilaro, 2000).

According to Mwaura (2005), there have been conflicts amongst the miners after they get low quantities of gold that is indivisible. On the same case, ownership disputes are evident as the land believed to have gold interests all miners. These disputes reoccur despite the fact that there are measures in place to curb them. It is therefore of prime interest in this study to understand the contribution of artisanal gold mining to conflicts, their impacts on the community on the socio-economic lives of the people, and the procedures for dealing with such cases. Thus, there was need to study the contribution of artisanal gold mining to conflicts in Ikolomani Sub-County, and come up with appropriate methods of resolving them.

II. THEORITICAL FRAMEWORK

This study adopted the theory of cumulative and cyclical interdependence as its framework. Cumulative and cyclical interdependence theory originated from the works of Myrdal (1997) who coined it as “interlocking, circular, interdependence within a process of cumulative causation”. Myrdal argued that personal and community well-being are closely linked in a cascade of negative consequences, and that closure of a factory or other crises can lead to a cascade of personal and community problems including migration of people from a community. Thus, the interdependence of factors causing conflict actually accelerates once a cycle of decline starts. For example, at the community level, resource use conflict leads to migration, closing retail stores and declining local tax revenue which leads to a deterioration of schools and leads back to poorly trained workers, resulting in firms not being able to utilize technology fully, which turns back to a greater conflict. This cycle also repeats itself at the individual level.

III. METHODOLOGY

This study adopted the theory of cumulative and cyclical interdependence as its framework. The theory looks at individuals and their community as caught in a spiral web of opportunity and problems, hence, individuals and community resources are mutually dependent. The study employed
The study adopted stratified random sampling for sub-locations, proportionate random sampling, and simple random sampling for miners, purposive sampling for village elders and assistant chiefs and purposive and convenience sampling for officials from NEMA and department of geology and mines. There are 1050 miners in the selected sub-locations where 10% were selected for the study. The study population constituted the 105 miners, 6 village elders, 3 assistant chiefs, 2 officials from the department of geology and mines and 2 from NEMA. Data collection methods included primary sources which were, Focus Group Discussions, Observations Checklists, Interviews Schedules and Questionnaires. Secondary Sources which were relevant documents and reports were used. Qualitative data from focus group discussions and interview guides was analysed using thematic narratives. Quantitative data was analysed using SPSS and MS Excel to give measures of central tendency, frequencies and percentages. Inferential statistics were used specifically the Chi Square to give the association among the variables.

IV. STUDY FINDINGS AND DISCUSSIONS

4.1 Introduction

The study sought to establish the impacts of conflict resulting from artisanal gold mining to socio-economic lives of people in Ikolomani Sub-county. In order to get answers to ascertain to this objective, the researcher enquired from the respondents their perception on a number of parameters. These issues included whether they have been affected by the conflicts, the positive impacts of the conflicts to their socio-economic lives, and the negative effects the conflicts resulting from artisanal gold mining have had in their socio-economic lives. The respondents in this objective included the miners, assistant chiefs, village elders and officials from the geology department.

4.2 Positive Effects of the Conflicts Resulting from ASGM to the Socio-Economic Lives of the people in Ikolomani

The study sought to ascertain whether there are any positive impacts of conflicts resulting from artisanal gold mining to the socio-economic lives of the people in the area.

Table 4.1 Positive Effects of the Conflicts Resulting from Artisanal Gold Mining to the Socio-Economic Lives of the people in Ikolomani

<table>
<thead>
<tr>
<th>Respondents response</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly agree</td>
<td>28</td>
<td>23</td>
</tr>
<tr>
<td>Agree</td>
<td>27</td>
<td>31</td>
</tr>
<tr>
<td>Neutral</td>
<td>10</td>
<td>11</td>
</tr>
<tr>
<td>Disagree</td>
<td>15</td>
<td>18</td>
</tr>
<tr>
<td>No response</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>Total</td>
<td>87</td>
<td>100%</td>
</tr>
</tbody>
</table>

(Source: Field Data, 2016)

A Chi Square conducted on the responses indicated that there were highly significant (P<0.01) variations in the response ($X^2_{1,0.05}$=1.33,10). When asked whether there are any socio-economic benefits of conflicts resulting from artisanal gold mining in Ikolomani Sub county, 28(32%) of the respondents strongly agreed, 27(31%) of the respondents agreed to the same, 10(11%) of the respondents were neutral, while the other distribution of 15(18%) of the respondents disagreed.

From the literature reviewed, a conflict can be defined as the balancing of power, interest and will. While it can be evident that most conflicts results into negation, in some instances conflicts bring in rare opportunities that can positively transform the community. Conflicts in Ikolomani as revealed in FGDs and interviews attracted persons from different professions to the area; both technical, socio economic and political experts came to the area. These people brought with them the wealth of experience in their respective field of concern and planted the same knowledge to the area. Ikolomani Sub-County has received a unique sense of exposure in Kakamega County. This exposure introduced the sub-county to potential traders, well-wishers, peace initiative and developmental non-governmental organizations. These experts peculiarly transformed the area through their provision of humanitarian activities.

According to the results from the FGDs and interviews, the conflicts attracted several non-governmental organizations and foreign governments’ attention to the area. Though the main aim of these NGOs and foreign governments is to understand the amount of gold deposits still remaining in the region, they affected the lives of the people. Prime among improved were education, medication and security. Their presence and operations provided employment to the people. Others engaged in setting up training institutions, schools, churches and construction of feeder roads to make the gold mining easier. The conflicts wakened the government’s response towards the need for providing security to the area and equally forced the government’s response towards the issues surrounding land distribution and the management of public land. The FGDs further revealed that the conflicts opened otherwise closed eye of the government on the need for construction of road network.

As Tummel (1981) observed, conflict is a balancing of power among interest, capability and will. It is a mutual adjustment of what people want, can get and are willing to pursue. The fighting groups keep releasing their tensions and sense of friction build up. Instead, they start understanding and respecting each other. The village elders confirmed that during several conflicts, the parties have accepted what was placed on the table and agreed to live harmoniously side by side.

4.3 Negative Impacts of Conflicts Resulting from Gold Mining in Ikolomani Sub County

The study sought to investigate the negative impacts of conflicts resulting from artisanal gold mining to the socioeconomic lives of the people in the area. This was necessary so as to compare the positive and the negative impacts to understand how the society has been impacted by the conflicts that result from artisanal gold mining.
4.3.1 Poor Financial Management by Miners

The research indicated that conflicts resulting from artisanal gold mining cause a lot of socio-economic harm to the people. Firstly, (12)14% of the miners believe that the conflicts from gold mining activities result poor financial management. The miners who are involved in conflicts are unable to utilize their money properly after earning it through a disputed way. During FGDs, the miners explained that the disagreements they have in this field make them unable to manage their money properly. Some people are always uncomfortable when the money is shared. Consequently, they do not plan on how to use the little money they get. They find themselves misusing the money. In some cases, the miners use the money to drink beer and the local brew referred to as *busaa*. They conflict when looking for the gold and when sharing. Thus, by the time they get the salary, they are stressed up. They end up drinking alcohol with an aim of reducing stress. During the FGDs, one of the miners pointed out that:

We dispute a lot when looking for the gold at the mines. By the time we put the money from mining in our pockets, we are usually much stressed. Thus, we prefer reducing the stress by drinking in the evening so that we can have the courage to report to the mines the next morning. (Informant; Lirhembe Sub-Location, 2016).

According to the village elders interviewed, most of the miners are very poor despite the fact that they get good money that can sustain their families. However, the disputes involved in gold mining make them alcohol addicts. They are unable to go to the mines when sober. They spend all the evenings drinking with their friends. According to Swee (2013), people tend to use alcohol and other drugs when they are stressed. They believe that the drugs will help them work with little or no pressure. Unfortunately, using drugs only makes them misuse the money. They are unable to plan for the money and their poverty levels heighten.

During the FGDs, the miners also pointed out that they have a lot of conflicts with their wives. The wives argue that the miners must be having money because they deal with gold. Unfortunately, the miners get little money from the low gold deposits in the field. As a result of the family conflict, the husbands are forced by the circumstances to look for mistresses locally known as *mpango wa kando*. They do that to escape from the daily conflict with their wives. Consequently, most of the miners have more than one family. They have to spend money feeding and sustaining their mistresses. The money that would otherwise be used to take care of the family is split and misused. During the interviews, one of the village elders said that:

These miners have women outside their marriage. They do that because their wives deny them conjugal rights claiming that they are taking money to other women. The women do not want to understand that gold mining does not guarantee money daily. They make their husbands unfaithful, and the little that was brought home is now taken to the new wife. (Shivagala Sub-Location, 2016).

The study found during FGDs with the miners that gold mining is associated with many beliefs. The miners argued that sometimes there is need to consult traditional specialist if
conflicts are continuous. For instance, the miners said that if they mine and someone hides the harvest of the day, they have to consult a witchdoctor to reveal the thief. The consultations are very costly. The miners pointed out that they are required to part with five thousand shillings every time they visit these specialists. On the same note, the miners revealed during FGDs that they sometimes require the assistance of traditional specialists to be helped to mine more gold than the others. They visit the witchdoctors secretly so that they can be given some charms to help them identify areas rich with gold. This is mostly done if the miners’ conflict on which area is likely to have more gold deposits than the other. Some prefer to get the assistance to be able to defeat their counterparts in identifying the treasure. During FGDs, one miner said that:

I have personally visited the traditional doctors three times. I was asked to give some animals including a hen and some money. Unfortunately, the deal did not help me. My colleagues who had suggested we start from the left side found gold while the side I had been advised to go by the mganga had nothing. I just lost the money because of disagreeing with my workmates. (Musoli Sub-Location, 2016).

In addition, the assistant chiefs interviewed added that the conflicts lead to money misuse when the parties plan to look for legal means to resolve their disputes. They go to the court and incur costs. On the same note, the village elders interviewed agreed that they charge the parties some money every time there is a gold related case. The person who is pronounced guilty by the elders must pay a fine. They use a lot of money to resolve the disputes resulting from artisanal gold mining. During the interviews, one elder said that:

Our culture demands that every person who wrongs his or her neighbour should pay a fine to appease the ancestors and make peace with the victim. The elders listening to the case must also be given something small to appreciate their work. Thus, conflicts resulting from gold mining, which occur on daily basis, are too costly. The parties use money that would be used in other uses in the resolution method. (Shivagala Sub-Location, 2016).

4.3.2 Physical and Emotional Injuries among the Conflicting Parties

Majority of the respondents 23(27%) believe that physical and emotional injuries result from conflicts coming from artisanal gold mining. When the parties disagree, they involve in physical fights and emotional torture.

Focus Group Discussions revealed that the conflicts instil fear among the miners and their families. The miners live in fear not knowing who has a vengeful plan because of arguments and quarrels resulting from gold mining. Interviews with the assistant chiefs indicated that some people who are involved in conflicts have opted to move out of the area as they are uncertain of their security. According to the interviews with the village elders, some people who were mysteriously killed had continuous quarrels with their colleagues at the gold mines. The village elders attributed 3 murders in 2015 to community conflicts resulting from gold mining.

According to results from the assistant chiefs and village elders interviewed, there is as well political corruption whereas the government has less need to build up institutional infrastructures and social amenities which will regulate and tax a productive economy outside the resource sector. Lack of these social amenities makes the economy remain undeveloped. This is visible in Shivagala village where gold mining is taking place, the conditions of roads and infrastructures are in poor conditions. Many extractive operations are illegal and are encouraged by corrupt multinational corporations in collusion with national governments and objections made by indigenous inhabitants are usually ignored. In terms of infrastructure, Ikolomani is poorly developed; there is also land grabbing, environmental degradation and social tensions.

Miners in Ikolomani are socially and economically disadvantaged since they lack the necessary equipment and knowledge required in mining, poor housings, poor and unequipped health facilities, underdeveloped economy and high level of poverty. From the observations, the study revealed that during rainy seasons, the prospectors drain the mines manually or use a generator and candles to light their way in the underground tunnels, this is quite dangerous since all the work is done manually. As a result, most people have been buried alive in the mines, while others have died after inhaling dangerous gases in the tunnels.

Mines often require a significant amount of land to operate, but communities may rely on that same land for housing, farming, ranching, or other purposes. Battles over land are often the result, with local communities losing out. A related problem is that governments usually neglect to consider the historical, cultural, or legal rights of indigenous peoples when negotiating with mining companies. Even when surface land rights are clearly titled to indigenous groups, governments often sell the land rights, effectively removing the land from indigenous control. About half of all gold is believed to come from native lands. The people are denied their ancestral rights, and this increases chances of future conflicts. These results are similar to a study conducted in the Peruvian highlands in 2013, where indigenous peoples have fought for more than a decade against the Newmont Mining Company and its plans to expand the Yanacocha gold mine, already the largest in Latin America. In the Bristol Bay region of Alaska, a proposed gold mine would interfere with indigenous ways of life by threatening the world’s largest salmon fishery (Arthur, 2012).
During the interviews with assistant chiefs and village elders, the study found out that the death of household members in working age means that the household is left with severely depleted earning capacity. This is often enough to push previously vulnerable households into extreme forms of poverty particularly amongst household with widows, orphans and disabled individuals, which may well become persistent if the household is unable to replace labour. During FGDs, a widow and a single parent said that:

My husband and my first son died through gold-related conflict. They were killed by unknown people because of gold related issues. They were the bread winners of the house. They worked to support me in the upkeep of the house. Now that my husband and my son are dead all the burden of the house is on me. The death of my husband and my son left me with severely depleted earning capacity to cater for myself and the children. This has brought severe extreme forms of poverty on me. (Informant; Musoli Sub-Location, 2016).

Another widow gave the following:

I am a widow and as you can see me sitting I am a disabled individual due to the injury I had during the conflict when some people attacked my husband saying he had stolen the gold they had harvested that day. They killed my husband in front of his children and me. I tried to defend him and they cut my leg, and that’s how I became disabled. My husband is dead as a result of the conflict, but I have no means of surviving than to depend on benevolent people and philanthropist in the community to survive. The burden on me is too high. I have to pay for my children medical bills, school fees, and feed them alone because of the death of my husband through the conflict. This has posed severe financial burden on me. (Informant; Lirhembe Sub-Location, 2016).

The narratives expressed in this study are in line with the findings of Justino and Verwimp (2006) and Brück and Binzel (2006) in their studies when they concluded that conflict leads to severe injuries, spread of infectious disease, and increases in permanent physical disabilities. This, according to them, may also result in large decreases in household welfare leading to poverty. Households may also have to draw on existing savings to pay for medical bills, which will pose severe financial burden on already vulnerable households.

4.3.3 School Drop Out among Children of Conflicting Parties

According to 16(18%) of the miners, children whose parents are involved in conflicts drop out of school if the parents decide to quit gold mining and they have no other survival means. During FGDs, the miners pointed out that there are children who have dropped out of school after the gold related conflicts. The parents decide to quit gold mining because they fear something might happen to them. Consequently, they do not have the money to take their children to school. During FGDs, one of the widows said that:

My husband was killed by his workmates as they were fighting for gold that they had just dug out. They are now in jail for murder. We depended on the money that he earned as we have no land to farm. In order to get support the family, I have to sometimes engage these two little children in selling onion in the nearby villages during the village market days. The little income they bring is used as supplement to my own. To be frank with you, sometimes I have to stop the children from going to school to help me on my small farm. This is where we get the foodstuffs which we sell part to get their school fees for them and use the rest for the upkeep of the house. (Informant; Lirhembe Sub-Location, 2016).

According to the village elders interviewed, the parents who have been killed because of gold related conflicts leave their families with no bread winner. Sometimes the mother has no means to feed and take the children to school. As a result, they have to stop schooling and help their parents to put bread on the table.

The result of this study is consistent with that of Akresh and Walque (2008) in their study which shows that conflicts have a negative effect on schooling outcomes of children, with exposed children completing half a year less the normal in their education. In the same vein, Shemyanika (2011) study supported the findings when it was noted that conflicts have negative effects on children education and presents evidence of the negative impact of conflicts on schooling in the case of Tajikistan. Sany (2010) findings also revealed that education services were also disrupted in conflict areas, where half of school-age children were deprived of education.

4.3.4 Environmental Degradation in Ikolomani as a Result of Artisanal Gold Mining Conflicts

Further, 18(21%) of the respondents argue that the conflict result to environmental degradation. Whenever there are conflicts because of a certain mining land, most of the times the land is left with dangerous holes since no one want to go and cover it as they fear for their safety.

According to the village elders interviewed, unrealistic demand are usually as a result of lack of information and communication between government, mining companies and local communities. The tensions related to the environmental fallout from mining activities in Ikolomani division are
clearly taking their toll. Conflicts stand offs between mining companies and anti-mining companies in the mining region, example the village members built their houses at the vulnerable areas near the mining site and this presents threat to their lives.

According to Berman(2005), alluvial mining is still carried out in small scale in spite of the improvement in technology and modern mining method. Although the gold exploring sector shows a steady healthy improvement, there is still the view that that it has yet to prove itself financially. Altogether, there were fifty–three operating mills in Kenya colony in 1939, most of which were in the Kakamega goldfield. In spite of this, the Second World War brought difficulties to the gold mining industries, chiefly in the way of shortages of machinery and skilled manpower; with the result that production began to decline more constantly over the next years (Berman, 2005).

Though Rosterman left behind its materials and promised to come back as soon as the Second World War ended, it did not come back since the war took longer than expected and also due to the fact that the quantity of gold in Ikolomani greatly went down. On the same note, there existed no appropriate policies on the necessary steps to be undertaken to carry out mining (Wrigley, 2008). Therefore, many companies arose as a result lack of clear regulations which lead to increase land degradation. These companies compete for the little remaining deposits with the locals. Consequently, the miners plan to fight with them and instil fear so that they stop mining (Tanja, 2008).

An official from the geology department pointed out that the mining company employees have been warned severally to stop coming in the area or they would be killed. Village elders from the sub locations also agreed with this and said that some of the employees have been attacked by the miners. In most cases, the company employs the locals to do the mining in their behalf. During FGDs, one of the former employees of the mining company who was attacked said that:

I was attacked at night. The attackers said that I had joined the enemy to take away their gold. They cut my hand and forced me to vow that I will never work for that company again. My friend whom we had been employed with refused to vow and was hacked to death. The company had to quit as no one was willing to die when working for them. (Informant; Shivagala Sub-Location, 2016).

Most miners do not have necessary knowledge to conserve the environment. There are numerous tunnels left open causing tension among the community members. When the members of the community complain to the miners, the miners are annoyed and fail to cover the land. They argue that those who are not mining are jealous. The conflicts worsen the situation because the non-miners are left with no say. Consequently, the communities around the Ikolomani area could suffocate from the toxic chemicals. Sodium Cyanide used to mill gold while it was being mined and processed. Children and animals also fall in these pits. This poses to them a health problem (OHCHR, 2008).

From the observations, the study revealed that the environmental guideline in the exploring of gold is not observed since the miners in their mission of finding gold tend to use dangerous means which degrades environment. The land is poorly dug to an extent that the topography becomes permanently damaged. Environmental guidelines are not followed since prospectors do their mining past their boundaries and sometimes they do the mining under someone’s house. This poses great danger to the owner of the house as it makes the house vulnerable to collapse. If the owner realizes such activities are being carried out under his or her house, it brings about conflict. Similarly, breaking environmental guidelines causes conflict between NEMA and the miners. Some of the people are persecuted and taken to jail for breaking the law. The families which relied on the jailed person suffer from the conflict between the individual and NEMA. The children stop schooling as they do not have school fees. All these occur because of gold mining in Ikolomani.

4.3.5 Poor Health Conditions among the Locals

Among the miners, 14(16%) indicated that the conflicts result to poor health conditions of miners as those who are involved in disputes have chances of becoming depressed. Information from the key informants indicated that, due to high levels of illiteracy, the labourers are also exposed to the health hazard. As a matter of fact, most people who are involved in gold mining do not have any academic qualification as revealed by this study. The companies rely on cheap labor as competency levels are not cross-checked. This has been a stumbling block to peaceful relations among the stakeholders such as ministry of lands, the human rights commission, health ministry and the companies.

During FGDs, the miners pointed out that the locals are still reluctant in adopting new technologies and attracting investors who have the required skills and equipment in gold mining. This is because they believe that the investors will take advantage of them and that they will only receive little profit or nothing in the end so they opt for traditional methods of exploring gold. These traditional means are risky and consume a lot of time and energy. Conflicts of interest presents itself for instance, African Barrick Gold Company was closed because the local community became hostile to the company due to political ideology and the view that the company wants to steal their resource at their own benefits.

As result of failed expectations between the miners and their wives, there are a lot of family conflicts. During FGDs, miners pointed out that sometimes their wives accuse them of having mistresses outside, locally known as mpango wa kando just because they spent more than one week in the gold
mines without earning anything. These conflicts pose public health problems as they make some miners to change their lifestyle. Many miners end up opting to work away from their homes and families. Thus, when they go home they will have something to give to their wives and children. Others are forced by the circumstance to be unfaithful because their wives deny them their conjugal rights on the basis that they are taking the money to other women. These circumstances encourage the growth of the commercial sex trade in Ikolomani, leading to the spread of HIV. The results are similar to a study by Ayofe (2009), indicating that some gold mines in South Africa report that one in three miners is infected with the virus. The disease is spread when the miners return home, infecting their spouses and unborn children.

Relating the findings from the narratives to the literature, it is realized that the literature supports the findings. For example, In relation to health, studies in the literature showed that conflicts have great effects on health of the community affected (Alderman et al., 2006; Alderman, Hoddinot & Kinsey, 2009; Bundervoet, Verwimp, & Akresh, 2009; Arcand & Wouabe, 2009; Baird et al., 2011; Akresh et al., 2011, 2012). All these authors agreed and concluded that conflicts intensity worsened people’s health during and after the conflict. Furthermore, the studies have established a robust negative association between armed conflict and child health (Bundervoet et al., 2009; Akresh et al. 2011; Baez, 2011; Arcand & Wouabe, 2009; Baird et al., 2011; Akresh et al., 2012). More so, a growing body of such research on the micro-level consequences of conflict finds that children and young adults are particularly vulnerable to negative shocks during conflicts (Swee, 2013). Looking at the current issue in Ikolomani, victims of conflict have health matters that might take a long time to heal.

V. CONCLUSION

The study concluded that the conflicts posed a significant environmental, economic and social challenge to the people. The conflicts affect the economic and social aspect of the community. Some people live in fear not knowing what might happen to them after disagreeing because of gold mining. The conflicts did not improve the lives of the people compared to the risks that it has posed to them.

VI. RECOMMENDATION

There is need to improve on the economic amenities in Ikolomani by the government and investor through forging economic partnerships. This will rejuvenate economic activates and improve on the livelihoods of the inhabitants. There is need to introduce new advanced technology by the help of the government or private sectors leased to the small scale miners in order for them to realize growth.

REFERENCES