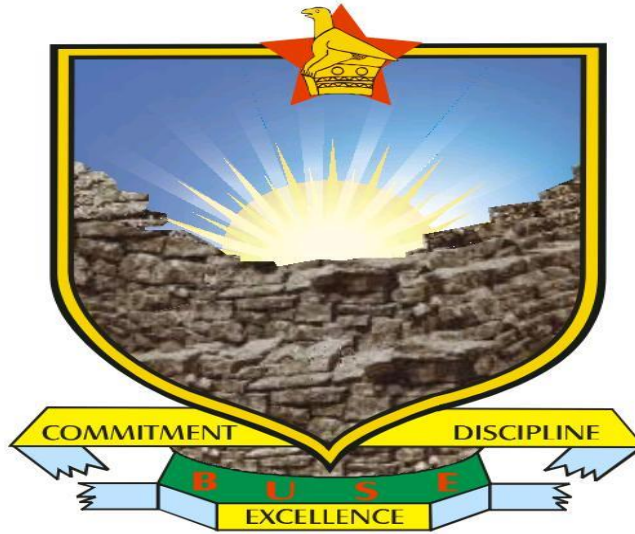


BINDURA UNIVERSITY OF SCIENCE EDUCATION

DEPARTMENT OF NATURAL RESOURCES

FACULTY OF AGRICULTURE AND ENVIRONMENTAL SCIENCES

**ASSESSING THE EFFECTS OF SMALL SCALE MINING ON LIVELIHOODS OF
COMMUNITIES IN WARD 17, KENZAMBA IN MAKONDE DISTRICT**



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*DISSERTATION SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR
THE BACHELOR OF ENVIRONMENTAL SCIENCE HONOURS DEGREE IN NATURAL
RESOURCES MANAGEMENT.*

December 2022

APPROVAL FORM

The undersigned certify that I have read this project and have approved its submission for marking after confirming that it confirms to the Department of Natural Resources' requirements.

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SUPERVISOR

DATE

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SIGNATURE

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DEDICATION

I dedicate this work to my dearly beloved parents, Mr. and Mrs. Dube, as well as to my younger brother, Thembelani Dube. Thank you so much for your prayers and encouragement.

ACKNOWLEDGEMENTS

I want to start by thanking the All-Powerful God for providing me the courage to complete this task. I want to express my thanks to my family, especially to my parents, Mr. and Mrs. Dube, and to my younger brother. My sincere thanks also go to Dr. Gotosa, my academic supervisor; I appreciate all of your assistance, counsel, feedback, and suggestions. In the world of academia, you have improved me. Not forgetting my brother-in-law Mr. Chinovhiringa in ward 17, Kenzamba, community people and stakeholders for their support, interest, and cooperation in the research project. Their dedication and hard work in supporting me contributed to the success and accomplishment of this study project. I want to thank my friends at Bindura University as well.

ABSTRACT

The purpose of the study was to evaluate how small-scale mining affected livelihoods of people in ward 17, Kenzamba in Makonde district. To obtain information for this qualitative study's research questions, questionnaires and interviews were used. Small-scale and larger-scale miners were among the 50 participants. The study's findings demonstrated that a number of factors combine to explain why people engage in small-scale mining, which gave the researcher the information needed. The research found that people indulge in small-scale mining because of abundance of mineral deposits, unemployment, recurrent droughts and others. Small-scale mining has contributed to income generation, employment creation and as a source of food . In order to create jobs and lower unemployment in Kenzamba, the study advised the government, non-governmental organizations, and wealthy people to get involved. Also the government should raise training and public awareness so that people in Kenzamba would be educated about planting of drought tolerant crops and irrigation practices so as to curb recurrent droughts. Additionally, it is important to enhance already-existing commissions and organizations like the lands commission, minerals commission, and environmental protection agencies to help monitor and protect the environment and natural resources from unauthorized mining activities. To assist

people in using the proper procedure to obtain a claim, the procedures, timeline, and cost associated with the award of a mining claim should be improved and decreased. To ensure safe mining, procedures should be expedited and miners should receive the proper training before beginning work. The consequences of small-scale mining should also be made clear to both miners and local residents. This will lessen the detrimental consequences it has on livelihoods.

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List of Acronyms

MMA- Mines and Mineral act

MMAB- Mines and Mineral Amendment Bill

ASM – Artisanal Small scale mining

EMA- Environmental Management Agency

CHAPTER 1

INTRODUCTION

1.1 Background to the study

Zimbabwe is among the top countries with the largest mineral deposits and has one of the largest known mineral deposits. This has resulted in most people opting for small scale mining or artisanal mining. Artisanal miners work in groups called syndicates, which are made up of individuals with kinship links, extended family members, friends who have known one another since they were children or coworkers who have spent a lot of time together at various mine sites. The miners include some wage workers who are sponsored employees. Although the miners primarily consist of male members (because to the intense manual labor involved), they also engage in vending, act as sponsors who recruit workers, and buy or sell gold for local or international gold smuggling networks.

When agriculture alone cannot ensure a secure way of life for some, such unemployed youths who depend on it as a source of income due to Zimbabwe's high unemployment rates, small-scale mining allows the rural poor a chance to diversify their livelihoods. Additionally, it provides a path for capital accumulation due to the industry's pervasive use of exploitative labor relations (Haggard 1990). Scale mining may be profitable for a season or an entire year, but it may also be negatively impacted by a drop in commodity prices or a challenge in locating the mine. Although some were from cities, most were from rural areas. However, the rise in urban emigrants to mining regions highlights how land reform liberated rural areas for new means of subsistence and natural resource extraction. (Mkodzongi and Spiegel 2019). Some people have actually amassed enough money from small-scale mining to buy agricultural assets like livestock and farm equipment, as well as to cover their children's education costs and take care of their extended family. Others have purchased mining gear that they could charge other miners to rent from them. The most prosperous ones had evolved into rural entrepreneurs running a variety of small businesses, including grocers, butchers, pubs, and grinding mills. This indicates that the miners are engaging in a new process of "accumulation from below" and social divergence.

Since Zimbabwe's fast-track land reforms, artisanal gold mining has increased as a source of income that is further invested in domestic needs like agriculture and other necessities at a time

when the nation is going through a socioeconomic crisis characterized by high unemployment and money shortages (Mkodzongi 2021). But the growing importance of gold mining in agricultural areas has given rise to new class dynamics and worries about labor exploitation (Mkodzongi et al., 2019). The nation's economic crisis, significant unemployment, ongoing droughts, and legislation governing such mining are further factors that contributed to the expansion of small-scale mining in Zimbabwe.

1.2 Problem statement

Due to the difficult living conditions, which compel people to diversify into artisanal gold mining, Zimbabwe's economic downturn, high unemployment rate, frequent droughts, gold rush, and regulations have made this industry the main source of incomes. Most of the families in Kenzamba, Makonde District depends on small scale mining as it sustains their livelihoods. Therefore this research seeks to explore information on how small scale mining has affected the livelihoods in this community. The activity, like many other districts and regions in Zimbabwe, had negative effects on the socioeconomic situation and the district's structural and environmental makeup. The district is rich in gold, bauxite, diamond, and manganese minerals. However, the district is primarily used for mining gold. Small-scale mining predominates in the area, and the majority of miners use crude equipment and unlawful methods to conduct their activities. The majority of small-scale miners in the area are locals who have no alternative means of support, little to no education, and little hope of finding a job in the formal economy.

1.3 Justification of the study

In Zimbabwe, small-scale mining is significant economic activities that supports livelihoods and helps the country's economy recover (Huntington and Marple-Cantrell 2022). Because of the negative macroeconomic scenario, it is projected that small-scale mining will likely continue to expand and put pressure on the limited amount of land and natural resources. People continue to engage in unlawful mining practices despite the government having established a task force to end the practice due to financial challenges. As a result, the study's findings will be utilized to help small-scale miners understand how their operations are affecting the livelihoods of local residents.

1.5 Main objective

To determine the effects, contribution and strategies for sustainable livelihoods in Ward 17, Kenzamba small scale mining area

1.6 Objectives

1.6.1. To determine the effects of small-scale mining on livelihoods

1.6.2. To determine the contribution of small-scale mining to livelihoods

1.6.3. To determine the factors that led people into small scale mining

1.7 Research questions

1.7.1 What are the effects of small scale mining on livelihoods?

1.7.2 What is the contribution of small scale mining to livelihoods?

1.7.3. What are the factors that led people into small scale mining ?

CHAPTER2

LITERATUREREVIEW

2.1 Definition of the study

The small-scale mining (also known as artisanal mining, or ASM) business is made up of workers from all over the world who use basic tools to extract minerals from the earth. These minerals range from gold and gemstones to critical metals like cobalt, tin, tungsten, and tantalum (De Haan, Dales, et al 2020). When compared to larger corporations, small-scale mining refers to operations carried out by lone individuals or intimate groups. Small-scale mining (ASM) is defined as mining conducted by one or more individuals, groups, families, or cooperatives with little to no mechanization, frequently in the unregulated market ((Dorner, Franken et al. 2012). Due to the tiny concession areas and generally informal legal status on the production site, the ASM sector typically has higher labor intensity than Large Scale Mining (LSM) and requires lower investment levels.

2.2 Small scale mining in Africa

30% of the world's mineral reserves are thought to be located in Africa. According to some estimates, Africa's mineral export revenues account for roughly 70% of the continent's gross domestic product (Alden and Alves 2009). Large companies account for the majority of the official mining earnings because this industry is managed and formed but does not help the ordinary public. However, small-scale mining, which is unregulated and not recognized by formal legislation, dominates the most frequent mining operations in many African countries.

To enhance rural livelihoods and stop environmental deterioration, there are initiatives being made and increasing requests for formalizing this sector. Published studies indicate that Africa's mining regulations have been continuously revised to reflect the challenges the industry faces. According to the World Bank (2019), there are still insufficient complete, accurate, and trustworthy data to support policy interventions in the small-scale mining sector, whether they involve formalization or when and wherever minerals are found, the bulk of Africans get involved in mining. Because these are transient and unofficial places of business, they are not eligible to receive medical care. For miners, this is a severe problem because of their health.

Additionally prevalent in these communities are crime, prostitution, and STDs.(Buss, Rutherford et al. 2021).

2.3 Small scale mining in Zimbabwe

Due to the economic crisis, small-scale mining in Zimbabwe continues to be the main source of employment and foreign currency flows (Spigel 2009).Therefore small-scale miners play a crucial role in the country's economy. However, this industry is still generally unorganized, or at least only partially so. Small-scale mining operations in Zimbabwe are now many households' main source of income despite their informal nature. This sector remains problematic for governance due to its largely informal practices and the large number of miners involved (Van Bockstael 2014). Younger populations in and around mineral-rich areas like Mazowe (Mashonaland Central) and Kenzamba (Makonde, Mashonaland West) are quickly turning to an alternative that is more lucrative: artisanal and small-scale mining as a result of unemployment rates that are generally skyrocketing high and successive droughts that greatly affect subsistence farming. In other situations, some young individuals, especially men, go from distant locations to establish a base in gold-rich regions and then return to their hometowns only after closing a significant gold deal. Zimbabwean mines and mining development has called attention to small-scale miners' conduct infractions and urged authorities to make sure they are according to the law. (Mawowa 2013).

Zimbabwe, unlike a number of other nations, allows small-scale mining, which refers to operations carried out by lone individuals or small groups as opposed to larger corporations (Hilson 2002). In Zimbabwe, small-scale mining is accepted and even often promoted because it helps the economy of the nation.

The 1961 Mines and Mineral Act, which governs mining law in Zimbabwe, allows anyone to apply for a mining license as long as they are a permanent resident of Zimbabwe (Robb Jr 2011). Small-scale mining has been made more popular as a result, with the goal of utilizing the country's abundant mineral resources. More than 4,000 gold deposits may be found in Zimbabwe, which also boasts the second-largest quantities of high-grade chromium ores and platinum group metals.

Additionally, the legislation gives the minister of mines and mining development the authority to request payments from miners in return for providing them access to Zimbabwe's mineral resources. In order for the government to profit from its mineral deposits, a certain amount is needed (Azapagic 2004). However, some miners are not receiving their payments on time. The industry has contributed to a bad safety record because there have been several accidents (Haslam, Hide et al. 2005). For instance, nine miners vanished and are presumed dead after the Wanderer gold mine collapsed.

The Mines and Minerals Amendment Bill was introduced to Parliament in 2015 in an effort to modernize the outdated Mines and Minerals Act and address current issues facing the mining industry. However, due to difficulties in fully recognizing ASM work and its associated difficulties, the Bill that has yet to be implemented has caused disagreements among stakeholders and authorities in the mining sector for years (Kamlongera 2020).

The ambiguous definition of ASM has created opportunities for misuse of their labor in the nation. A small-scale miner is merely defined in section 41(1)(b) of the MMAB as "a holder of a mining location who is not a large-scale miner"; no attempt has been made to go beyond that. Anyone may apply for a mining license under the Mines and Mineral Act as long as they are a permanent resident of Zimbabwe (Murombo 2013). However, artisanal miners are unable to secure a mining license. Many people cannot pay the charges. A prospecting license is \$100, but hiring a mining consultant to value a claim will set you back \$300 to \$500. (Muzika 2018). Artisanal miners face a stampede by numerous government agencies that regulate the mining industry in addition to the cost barrier. Among them are the Zimbabwe Republic Police, the EMA, the Zimbabwe National Water Authority (ZINWA), the Ministry of Mines and Mining Development, and local government authorities. They are all in place to make sure that various regulations are followed, about which the majority of ASM employees have complained that they are challenging to follow.

2.4 Sources of livelihoods in Kenzamba

Besides small scale mining being the major source of livelihood in Kenzamba, there are some sources which sustain their livelihoods for instance farming drought resistant crops (Leonard). Small grains are generally resistant to dry conditions and therefore much reliable. Due to the

unpredictable nature of their rainfall, the Kenzamba use common kinds of bulrush millet and finger millet. Where seasonal rainfall are unpredictable, it is usual practice to intercrop millet and sorghum. It is deemed suitable for large-scale cattle and game ranches, with the addition of drought-resistant crop production, including millet sorghum. Cereals are crucial in ensuring the nutritional intake of tiny grains grown by dry land farmers, including millet, which is a healthy food for kids, the elderly, and people recovering from illness. The most prominent millet species in Kenzamba in terms of cultivated land and contribution to food security is pearl millet. People frequently mention both seasonal and permanent migration in some impoverished farm towns. Both men and women relocate to places where there are more opportunities to work as domestic workers, petty traders, and laborers.

2.5 Contribution of small scale mining to livelihoods

A significant factor in reducing poverty is small-scale mining. This is because mining has proven to be a pillar of the local economy and has supported people's livelihoods (Mwaipopo, Mutagwaba et al. 2004). However, small-scale mining is typically carried out in an unsustainable manner, and in some situations, the costs of doing so—including environmental costs—far outweigh the advantages

The expansion of transportation, enhanced food security, and the development of new businesses and jobs, such as food vending, have all been facilitated by mining activities (Mwakesi, Wahome et al. 2020). For instance many business opportunities have been established at Kenzamba shops because of small scale mining and other people who are mostly women are being employed in shops. Therefore mining enhanced ability to meet day to day needs and also generate income to the people.

Small-scale mining gives local farmers more opportunity to make money by bringing a market for their goods closer to them. Local households involved in mining and food vending appeared to have benefited the most since they integrated farming with selling food to the miners, opening up market opportunities. Women in the mining regions stopped working in agriculture and started working in business (Schwartz, Lee et al. 2021). The majority of households have at least one family member who is actively working in mining, achieving the first Sustainable Development Goal of eradicating poverty.

2.6 Challenges caused by small scale mining

Small scale mining puts local communities' livelihoods in peril and forcing them to experience livelihood dispossession. Mining operations have an impact on local communities' utilization of land and ecosystems (Conde 2017). The ecosystem's quality has been greatly reduced by emissions from mining and mineral processing, including dust, noise, waste water, and heavy metals, which have also caused problems with public health (Masindi and Muedi 2018). Other disruptions involve the usage of land and water, which lessens the profitability of other industries including tourism, agriculture, and aquaculture. Space is transformed right away when a mine enters the area. Land must be cleansed of all houses, possessions, and people before extraction can begin.

Due to an increase in the size and quantity of mining pits, particularly in regions that were not adequately rehabilitated, some people have lost their land (Worlanyo and Jiangfeng 2021). Additionally, small-scale mining forced families to give up their agricultural land, which resulted in poor living conditions and lower crop yields. Due to an increase in the quantity and size of mining pits, particularly those that were not properly rehabilitated, some communities have lost their land.

CHAPTER3

METHODOLOGY

3.1 Description of the study area

The research was conducted in Kenzamba, ward 17, which is situated about 73 kilometers from Chinhoyi town. It is located at an elevation of 971 meters above sea level. 17, 47 South Latitude and 29, 6 East Longitude are its coordinates. Agro-ecological region 3 includes Kenzamba, a dry area in Makonde district that receives 450 to 600 mm of total annual precipitation. It is distinguished by its poor, sandy soils, which make it challenging to produce food.

3.2 Research design and sampling techniques

This study took a qualitative method because it examines different social environments and the people who live in them to find answers to problems. A total of 50 households were selected from the population in the area. Ten of the chosen were non-small scale miners in Kenzamba, while 40 of the chosen were small scale miners who work in ward 17 of Kenzamba. Using random sampling methods, the informants were located. A random selection of miners from a list of mine workers was made during the distribution of the questionnaire.

3.3 Data collection

Both secondary and primary data were gathered for the study. Primarily, closed-ended questions were utilized to gather primary data.

3.4 Primary data collection

Researcher-generated data, such as surveys, interviews, and experiments designed particularly to understand and address the issue under study.

3.5 Questionnaires

The questionnaire was created by the researcher and distributed at random to chosen small-scale miners. All respondents used the surveys, which guaranteed secrecy by ensuring respondents' anonymity. The approach gave the researcher the flexibility to modify or modify new questions to match respondents' comprehension. Due to the clarity of the questions and responses, questionnaires also offer data that is very simple and quick to analyze.. The small-scale miners in

the ward 17, Kenzamba were chosen at random to receive the questionnaire that the researcher had created. The questionnaire was administered to 40 small-scale miners who represented the entire small-scale mining population in ward 17, Kenzamba, and was pretested twice on five miners who assisted in the question-editing process. In addition to using unstructured interviews, the researcher also used questionnaires. The approach gave the researcher the flexibility to modify or modify new questions to match respondents' comprehension.

3.6 Key informants interviews

Interviews with key informants were done to gather more delicate information.

3.7 Secondary data collection methods

The researcher also employed secondary data collection strategies to complete the research investigation. The researcher employed case studies, published literature, the internet, a library, and these sources to learn more about the research study. The purpose of adopting secondary data collection techniques was to show the history of small-scale mining.

3.8 Data analysis

The raw data collected from the questionnaire and interviews entered on excel, prepared for analysis and was coded. The data which was coded was analyzed using SPSS and presented as tables, pie charts and bar graphs.

CHAPTER4

RESULTS

4.1 Effects of small scale mining to livelihoods

40 small-scale miners and 10 non-miners who participated in the survey were asked about the impact of mining on their quality of life in Kenzamba. Only 40 people including both small-scale and non-small-scale miners replied on the 50 sample size being represented by the sample population. The findings demonstrated that residents in Kenzamba believed that one benefit of small-scale mining was that it provided jobs for a significant number of people. People that depend on the activity for their living, such as vendors who sell their wares to the miners, have been able to supplement their income.

Additionally, revenue generation has improved people's living situations by allowing them to access essential goods and services, which has increased their wellbeing. The findings also demonstrated that people may afford to educate their kids since small-scale mining generates income.

Due to the activities, young people in Kenzamba frequently skip class in order to engage in small-scale mining in an effort to get wealthy quickly or overnight. As a result, there have been a number of school dropouts in this region. This is due to the fact that these kids can support themselves thanks to their new employment as small-scale miners. This has also led to some street kids being taken from parental care, which is a serious setback for mining communities. Additionally, mining towns have higher rates of violent and serious social crimes than other places, including drug misuse, prostitution, armed robberies, and adolescent pregnancies.

The destruction of farmland as a result of small-scale mining was also cited by the respondents, which has an adverse effect on the contribution of agricultural products. By destroying large tracts of land, diverting labor from food crop farming to mining activities, and—most importantly—displacing farmers as a result of their mining activities, they are responsible for the low food production that threatens food security not only in the area of operation but throughout the country.

The creation of trenches has also led to the death and injury of people and animals in the area. This has affected other people's livelihoods as some of the families' breadwinners fall and dies in the trenches. Only a few of the people answered not being aware of the consequences or effects of mining activities on their livelihoods.

positive effects of small scale mining	negative effects of small scale mining
employment creation	high rate of social crimes
income generation	increased school dropouts
	creation of trenches which kill people
	low food production due to displacement of farmers

Figure 4.1 effects of small scale mining on livelihoods

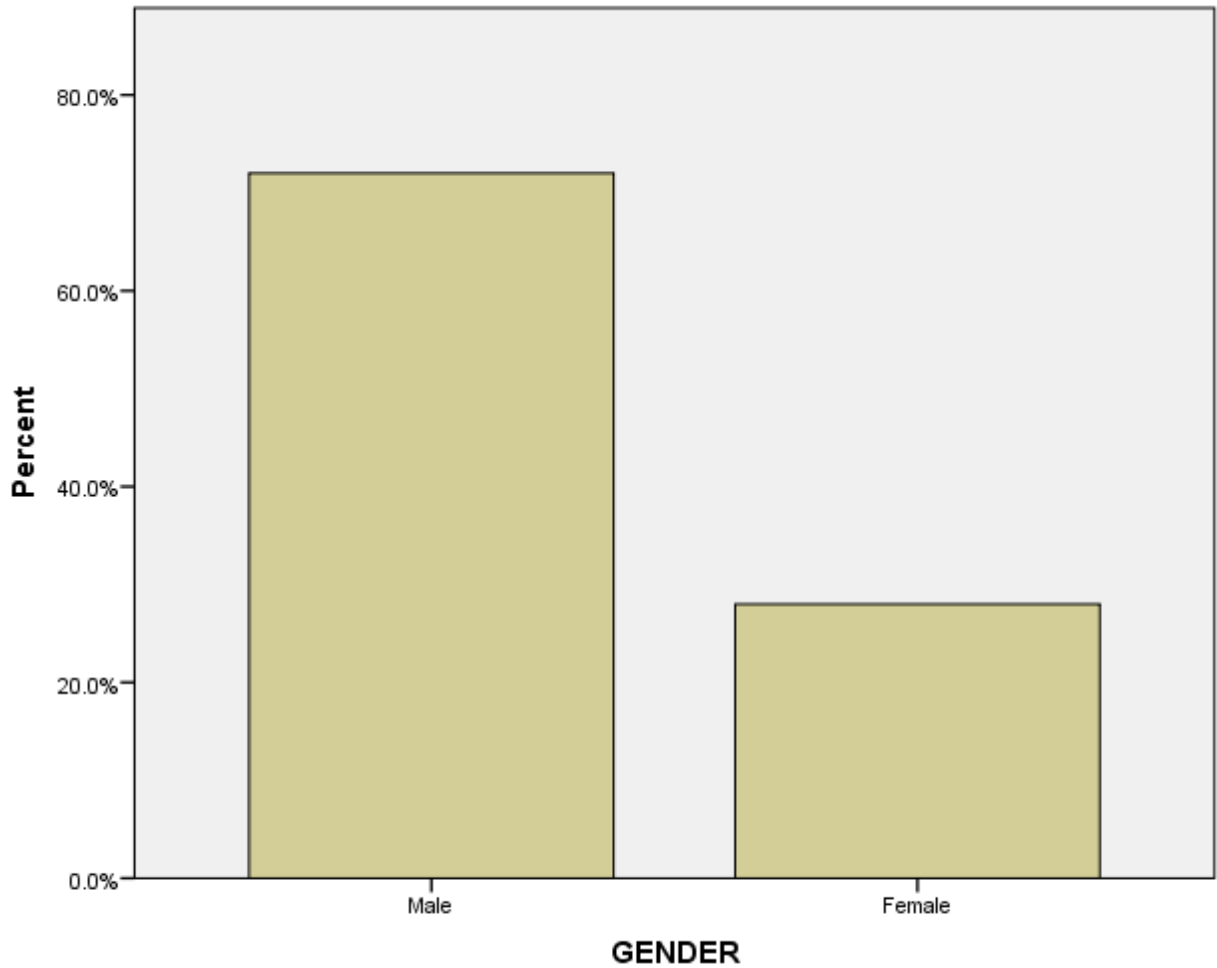


Figure 4.2 gender distribution of small scale miners

There were more men than women among the responses. According to the aforementioned bar graph, 74% of respondents were men and 26% were women. This demonstrates that more males than women work in small-scale mining.

4.3 Contribution of small scale mining to livelihoods in Kenzamba

The majority of respondents (57%) claimed that small-scale mining provided their households with income. About 32% claimed that small-scale mining helped to create jobs. Just 11% of respondents said small-scale mining helped put food on the table as shown in fig 4.3

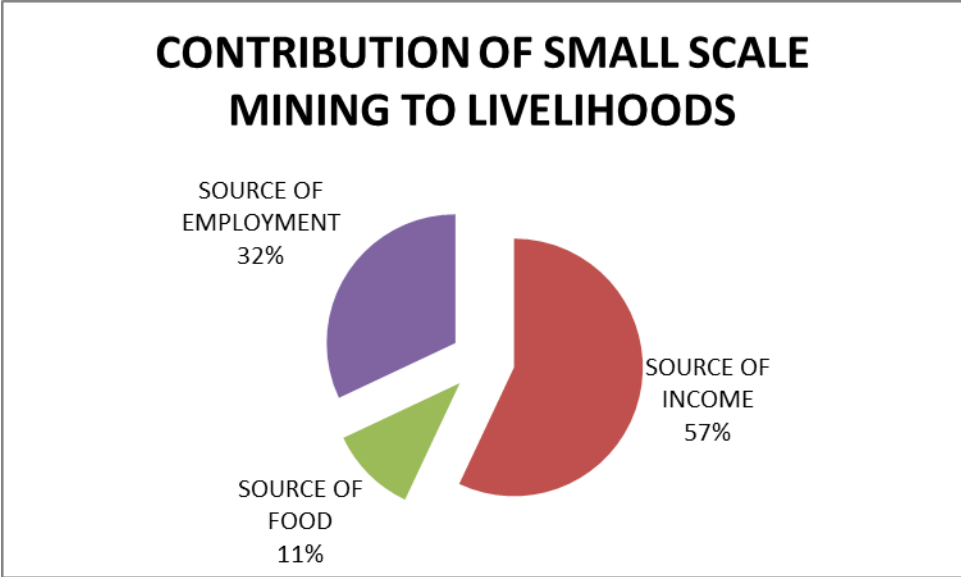


Figure 4.3 contribution of small scale mining to livelihoods

Push factors for indulging into small scale mining

The drivers for their decision to mine on a small scale were recognized by small scale miners. The majority of small-scale miners (41%) claimed that mineral reserves are plentiful in Kenzamba. 32% of respondents said they were unemployed, while 20% blamed recurring droughts and other issues 7% (fig 4.4)

Figure 4.4 shows the factors which leads people into small scale mining in Kenzamba

From the field work, the picture below shows the place in ward 17, Kenzamba where people are practising small scale mining. It also shows that other miners who were mining.



The picture above shows the small scale miners on a break. From the picture, it can be noted that

the miners are young adults practising small scale mining

CHAPTER 5

DISCUSSION

5.1 Effects of small scale mining on livelihoods

The findings of this study demonstrate that small-scale mining in Kenzamba has an impact on livelihoods that is both positive and bad. The study also showed that small-scale mining benefits people's livelihoods since it has boosted miners' standards of life by creating jobs and money and giving many others a viable option to mining (people who depend on miners for a living). Those with low or bad business performance, according to Hilson's qualitative research from 2001, rely on unlawful mining to help raise money to develop their businesses. Nevertheless, it has negatively affected livelihoods by increasing the rate of social crimes, increasing school dropouts, creating trenches which kill people and animals and low food production due to displacement of farmers. Similarly, Madzimore (2015) noted that the operations of illicit gold miners have resulted in serious environmental issues, including the destruction of farmlands and the construction of trenches that act as death traps for people.

5.2 Contribution of small scale mining to livelihoods

According to the study's findings, 57% of the questioned households engaged in small-scale mining for pay, which contributes to income. The results of the study showed that the most significant source of income generation was small-scale mining. Artisanal gold mining has increased in the years following Zimbabwe's quick land reforms, according to Mkodzongi and Spiegel (2019), despite the country's socioeconomic crises being characterized by significant unemployment and money shortages. Agriculture and other domestic needs are further funded with this income. According to 32% of the small-scale miners who work in mining to prevent people from moving to towns, the study's findings also demonstrated that small-scale mining helped to create jobs. Only 11% of Kenzamba's residents, according to the research, work in mining to provide for their families. According to Opoku-Ware (2010), poverty predisposes people to engage in small-scale mining, whether legally or illegally, to make a living. The money they receive from mining is used to buy food for their family.

5.3 Factors which led people into small scale mining

According to the survey, a variety of factors, including the abundance of mineral reserves, drive people to engage in small-scale mining, as reported by 41% of respondents. Because there are so many mineral reserves in Kenzamba, people there engage in small-scale mining. The report also revealed that 32% of people are unemployed, which has prompted them to engage in small-scale mining. Lack of employment has also been cited by the (World Bank 2013) as a significant factor in people choosing to engage in illegal mining. The small-scale miners said that their mining provided them with employment. 20% of the respondents said they had no choice but to engage in mining because they would receive low yields from other sources due to Kenzamba's infrequent rainfall and occasional droughts.

According to the research results more men are involved in small scale mining than women. This is because the extracting of the minerals from the ground is hard therefore more men can practise small scale mining than women.

CHAPTER 6

6.1 Conclusion

The study showed that small scale mining affected livelihoods both negatively and positively in ward 17, Kenzamba. The respondents indicated that small scale mining improved their standards of living by creation of employment and income generation however their livelihoods is being affected negatively too as small scale mining leads to increased social crimes, increased rate of school dropouts, creation of trenches which kill people and others. The majority of the respondents in the study relied on small scale mining as a source of income generation, creation of employment for the unemployed and as a source of providing food to the table. From the respondents, it is evident that there are more mineral deposits in Kenzamba and also the recurrent droughts drive people into small scale mining therefore there is need to educate the people in Kenzamba about irrigation and planting of drought tolerant crops so that they will not only rely on small scale mining only.

6.2 Recommendations

The analysis clearly shows that the repercussions of small-scale mining are mostly persistent droughts and a lack of employment. The establishment of enterprises or organizations to create jobs and lower unemployment in Kenzamba should be supported by the government, non-governmental organizations, and wealthy individuals. Additionally, the government should promote education and public awareness to inform residents of Kenzamba about the need to cultivate drought-tolerant crops and practice irrigation to reduce the frequency of droughts. Additionally, in order to monitor and safeguard the environment and natural resources from illicit mining activities, it is crucial to strengthen already-existing commissions and organizations like the lands commission, minerals commission, and environmental protection agencies. The processes, timeframe, and cost involved in the grant of mining claims ought to be enhanced and cut down to help people obtain claims through the proper channels. Procedures should be accelerated, and miners should be properly trained before starting work, to ensure safe mining. Both miners and locals should be made aware of the effects of small-scale mining. By doing this, the damaging effects it has on livelihoods will be lessened.

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APPENDICES

Chi-square test between household size and reasons for small scale mining

Correlations

		HOUSEHOLD SIZE	REASON FOR SMALL SCALE MINING
HOUSEHOLD SIZE	Pearson Correlation	1	-.211
	Sig. (2-tailed)		.141
	N	50	50
REASON FOR SMALL SCALE MINING	Pearson Correlation	-.211	1
	Sig. (2-tailed)	.141	
	N	50	50

Correlations

		HOUSEHOLD SIZE	REASON FOR SMALL SCALE MINING
Spearman's rho	Correlation Coefficient	1.000	-.201
	HOUSEHOLD SIZE Sig. (2-tailed)		.161
	N	50	50
REASON FOR SMALL SCALE MINING	Correlation Coefficient	-.201	1.000

	Sig. (2-tailed)	.161	.
	N	50	50

Appendix2

THE QUESTIONNAIRE

Questionnaire number.....

My name is Tanya Lindell Dube and I am studying a Bachelor of Environmental Science degree in Natural resources management at Bindura University of Science Education. This questionnaire is designed to carry out a project on the effects of small scale mining in Kenzamba, Chinhoyi. Information obtained will be highly confidential. Your cooperation will be highly treasured and appreciated.

*Tick where appropriate.

1. Gender a) Female b) Male

2. Age group

Youth (15-24years)	
Adults 25-64years)	
Seniors 65+ years)	

3. Marital status

Married b) Single

4. Household Size.....

5. Head of family.....

6. Education

a) None

b) primary

c) Secondary

d) post-secondary

7. Reasons for practicing small scale mining? a) Source of income

b) Source of food

c) Source of employment

8) If no to source of income, what is the other income source?

9) If no to source of food, what is the other source of food?

10) Is mining your only source of livelihoods? YES NO If no then state your other source of livelihoods.....

11) Status in the small mining sector? a) Self-employed b) employee

12) What led you into small scale mining? a) Lack of employment

b) Recurrent Droughts c) Abundance of gold deposits

d) Other

13) How do you engage small scale mining activities? a) Fulltime b) Part Time

c) Occasionally d) Seasonally

14) Did you receive any form of training for small scale mining? a) No b) Yes

15) Do you have operational mining right for carrying out your activities? (a) Claim

(b) Lease (c) Special grant none

If none are you aware and willing to acquire mining rights?

.....

16) What are the problems encountered in accessing mining rights.....

.....

.....

17) What has really changed since indulging the mining activity?

a) Increased household income b) children accessing better education

c) Improved investment in agricultural enterprises

d) Reduction in employment search in towns

18) What are the contributions of this mining activity to livelihoods?

a) Employment creation b) supporting small businesses

c) Improved standard of living

19) Are the people in the local communities happy with your operations?

a) NO b) YES

THANK YOU

Appendix3

KEYINFORMANTSINTERVIEWS

Key informants interviews were used to collect more sensitive information

SMALL SCALE MINERS INTERVIEW GUIDE

1. What led you into small-scale mining in Kenzamba?
2. Do you have operational licenses to mine claims?
3. What are social dangers of small scale mining?
4. What are the contributions of small scale mining to livelihoods?
5. Can you elaborate the processes you go through until you came up with fine gold to the market?
6. Should small scale mining activities be legalized or not?

NON-SMALL SCALE MINERS INTERVIEW GUIDE

1. For how long have you been residing in this area?
2. What made you not to go for small-scale mining?
3. Should artisanal small scale gold mining be banned?
4. In your own view what led people into small-scale mining?
5. What are the contributions of small scale mining to livelihoods in this community?

