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Alternative Livelihoods: Small Scale Mining in Hope Fountain, Umguza Rural District, Zimbabwe

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Abstract

The study interrogates small scale mining as an alternative livelihood in Hope Fountain, Umguza District ward1. Interviews, questionnaires, FDGs and field observations were used to collect data. A sample of 48 small scale miners was used. Key informant interviews were also conducted with community leaders such as the ward councillor and a village head, as well as representatives from EMA and the MMMD.

The study reveals that to a larger extent, small scale mining is a preferable alternative livelihood in Hope Fountain, but lack of adequate support and stringent legislations from the government and other relevant stakeholders as well as lack of business skills on behalf of the small scale miners themselves is presenting challenges to the sustainability of the livelihood.

Keywords: Small scale mining, livelihoods, sustainability, rural development, environment, exploitation

1. Introduction

There has been controversy and debate with regards to the contribution of small scale mining to sustainable development and rural livelihoods as well as discord over why people engage in artisanal and small-scale mining in sub-Saharan Africa (Astorga and Duran, 1994; Hilson, 2002; Banchirigah, 2006; Mabheha, 2010; Hilson and Van Bockstael, 2012) [5, 27, 34, 30]. Whilst several explanations have been put forward, most are ungrounded or incapable of explaining why the sector is expanding so rapidly (Hilson and Garforth, 2012) [29]. The observation that a growing number of rural Africans are pursuing non-farm employment has fuelled considerable scholarly debate, (Bryceson, 1996; 1999; 2002) [10, 13] and Ellis (2006) [21]. As Barrett *et al.*, (2001) [6] point out, in rural sub-Saharan Africa, diversification is the norm, and very few people collect all of their income from any one source, hold all their wealth in the form of any single asset, or use their assets in just one activity. Similarly, although Zimbabwe also has an agro-based economy, with most communal rural communities practicing rain-fed agriculture (Rockström, 2004), Dreschler (2001) [20] estimated that the number of people deriving their livelihood from artisanal mining in Zimbabwe could be well over 2 million. Therefore diversification to alternative livelihoods is also evident in Umguza district, primarily known for agriculture and woodlots, (Mbiba 2015; Matose, 2008 and Mudzengerere, 2015) [39, 37, 40]. Despite the increase in small scale mining activities, there is a dearth of information highlighting the contribution of small scale mining as an alternative livelihood activity in Umguza district. The general notion that rural people depend solely on subsistence agriculture is therefore challengeable (Mabheha, 2010) [34]. It is against such a background, therefore, that the study sought to expose the contribution of small scale mining as an alternative livelihood in Hope Fountain, Umguza district.

The Sustainable Livelihoods Framework (SLF) guided the study as it provides basic principles along which poverty focused initiatives should be understood (Allison & Horemans 2006) [3]. The framework was vital in interrogating the overall research objectives, how, why and the extent to which small scale mining in Hope Fountain is an alternative livelihood in a district dominated by agriculture. While all the other ideas on rural development focused on agriculture as a priority to rural development, the sustainable rural livelihoods approach does not (Mazibuko 2015) [38]. The sustainable livelihoods approach recognizes the fact that people engage in a variety of activities for their livelihoods, (Chambers and Conway 1991) [16]. Ongoing research on 'multiple livelihoods' and 'livelihoods diversification' maps these wide-ranging trends, showing how rural households mix agricultural and non-agricultural activities or migrate to urban localities (Ellis 2006) [21].

2. Method

2.1 Research methodology and data collection

A descriptive research design was used in this research and categorised under the interpretive research philosophy. This research philosophy allowed for a qualitative inquiry into the respondents' views and experiences about small scale mining,

the extent

to which it is an alternative livelihood, challenges to its sustainability as well as its positive and negative impacts. A case study of small scale mining as an alternative livelihood in an agro-dominated district (Mbiba 2015; Matose 2008; Mudzengerere, 2015) ^[39, 37, 40] made it a case worth investigating.

Qualitative approach was employed in gathering the perceptions of the respondents from villagers and small scale miners of Hope Fountain in Umguza District and to gather their ideas and views on how, why and to what extent small scale mining was an alternative source of livelihood for them, and the challenges in sustaining the activity as a livelihood, their recommendations and their views on how best practice can be achieved from the source of livelihood.

2.1.1 Data Collection

Data was collected through interviews with 48 small scale miners in 3 villages, that is Hope Fountain Village A1 (Gasela Village) with 52 households, A2(Ngwenya Village) with 39 households and A3 (Mlala Village) with 63 households. The total number of household in the 3 villages was 154, of which the councilor indicated that each had an average of 3 people bringing to a population of 462 people. 48 small scale miners were respondents of this research, therefore, being more than 10% of the total population in the 3 villages, as well as 6 key informants. From the 12 villages in the ward, and the research sampled 3 villages with an estimated total of 462 people. The research was therefore able to reach 48 small scale miners, being more than 10% of the total population and 6 key informants, and then drew conclusions from those. The Key informants purposively sampled were Officials from the Environmental Management Agency (1) as well as the Ministry of Mines and Mining Development (1), ward counsellor (1) and Village heads (3). According to Sekeran (2012) in descriptive research anything from 10% to 20% of the population in question is representative enough to warrant the generalisations of results. Chambers (2001:26) also elaborates that researchers rarely survey entire population because the cost of a census is too high and more so because of the difficulty of carrying out the research on each and every subject of the population. The small scale miners were identified by being found doing small scale mining activities in small scale mines and also through questioning them on their livelihood activities.

3. Results

3.1 Distribution by Gender

From the research, forty eight interviews were held with to small scale miner owners as shown in figure 1 below. From these 2 respondents were females being 4 % of the population and 46 were males being 96% of the sample population.

Table 1: Distribution by gender of the respondents

| Gender | Percentage of respondents |
|---------|---------------------------|
| Male | 96% |
| Females | 4% |

Source: Fieldwork 2017

The findings indicate that this sector is largely dominated by males than females. Other studies that have been conducted

elsewhere at a global level that is in India, Australia and Canada show a similar pattern being reflected on by the findings of the current study. The findings of this study are also in line with studies conducted by the World Bank (2003) in South Africa and Ghana which indicate that there are fewer job opportunities for women in the mining sector. Moretti (2005: 5), however, observed that limited female participation is not exclusively a matter of personal preference but the outcome of men's nearly complete domination of the contemporary space of production and social reproduction.

Tradition and culture also prevent women from engaging in small scale mining. In Zambia, there is a cultural belief that if women engage in gemstone mining, the ancestral spirits will drive the gemstones deeper or make them completely disappear as (Kaingu, 2003, cited in Mabhena,2010) ^[34].

It has also been noted that often small scale mining is a dangerous and physically demanding activity, leading to a gender division of labour in which men undertake the 'heavy jobs' and women take care of most day-to-day chores (Lahiri-Dutt, 2008) ^[33]. Hinton *et al.*, (2003: 13) ^[32] noted that the key factors in determining gender roles and status of women in small scale mining include 'women's and men's access to and control of, resources; their ability to attain knowledge of resources, their decision-making capacity or political power; and beliefs or attitudes that support or impede the transformation of gender roles.

A UNIFEM study found that only 6 per cent of women miners had been able to obtain a loan to invest in their mining operations. This was attributed to women's lack of collateral for loans and the negative attitudes of (mostly male) bankers towards women engaging in business. The fact that many women lack formal education may further stifle their ability to deal with formal lending institutions, (Hentschel *et al.*, 2003) ^[22]. This is consistent with the SLF, that the problem with such structures as the courts and legislative bodies is that they are not always effective in rural communities and other deprived communities, and some people have little knowledge about their rights, hence most people in these areas are not protected and often left vulnerable by the actions of other structures (DFID, 1999) ^[19].

In some instances women engaged in small scale mining indirectly through in buying and selling of food stuffs and clothing, of which gold panners are the major customers as noted by Mabhena (2010) ^[34] and also through the researcher's field observations. Women's roles were also noted to be sieving and preparing food as, in line with the findings of Ncube *et al.*, (2015) ^[43] in their study of artisanal small-scale mining's potential ecological disaster in Mzingwane District. It can thus be concluded from the findings that men continue to dominate mine related work than women due to a number of reason, some highlighted above.

Theoretically, it can be noted from the SLF, that there are certain structures that prevent women from fulfilling their capabilities. Livelihood strategies also need to be understood in the context of other elements of the framework which hinder or enhance livelihood outcomes. For this reason, the framework gives emphasis to analyzing the institutions and organizations that impinge (as both barriers and opportunities) on livelihood strategies.

3.2 Average monthly income

The majority of the small scale miners expressed that they had no fixed income as the majority were employed on “shares”, which was commonly referred to as *ebhantini* meaning that their monthly income was determined by the production derived from the ore belt they were pursuing. This after deduction of milling costs and other expenses that would have been incurred by the miner owner or the sponsor from the extraction of the ore from underground until the treated bullion is finally sold.

The researcher also learnt that only the blasters and the managers were on a fixed pay as they were skilled people, while the rest of the mine employees were paid on shares. On the other hand, the freelance miners, those that were not employed in any specific mine but worked in disused mines, unregistered and opencast mines and got their income regularly as they did not have to wait to get paid by anyone but determined their own pay through the frequency of their milling.



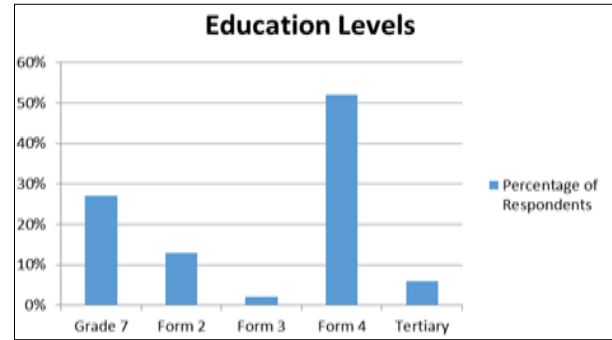
Source: Own fieldwork 2017

Fig 1: Monthly Income

From the figure 1 above, the researcher gathered that those small scale miners that were in the \$ 500-600 per month range were either mine owners or those that were in a syndicate. The majority fell in the \$200-300 a month range, most common for those small scale miners that were employed in certain mines, while the ranges immediately below or above that (\$300-400 and 100-200) were consistent with the freelance miners *otshaketsha*. According to Hentschel *et al.*,(2003) ^[22] miners are generally unskilled and earn little.

3.3 Level of education attained by respondents

The level of education attained by the respondents indicated that the majority had reached primary and secondary education. Research findings indicate that 27% of the respondents had completed grade 7 only, 13% had completed Form 2, 2% had completed form 3 only and 52% had reached form 4 while 6% had attained tertiary qualifications,(see figure 2 below).



Source: Own fieldwork 2017

Fig 2: Level of education

The research findings are in line with those of Ncube *et al.*, (2015) ^[45] that the majority of miners have a primary and secondary level of education. Bhebhe (2009) argues that most children, especially boys, drop out of school to venture into gold panning and therefore have limited livelihood options. Formal employment demands higher qualification than primary and secondary education. Due to these low academic qualifications, these miners would have failed to widen their employment opportunity base (Ncube *et al.*, 2015) ^[45]. Additionally, from a livelihoods perspective, small scale mining is often poverty driven and located in rural areas as miners are generally unskilled and earn little,(Hentschel *et al.*, 2003) ^[22].

Evidently, from the Focus Group discussions, the miners identified their low levels of education as one the reasons for why small scale mining was a preferable alternative livelihood for them. This is consistent with the findings of Heemskerk, (2002) ^[23]; Amankwah and Anim-Sackey(2003) ^[4]; Siegel and Veiga (2010), that, due to the low barriers to entry in terms of capital needs, required skills and formal educational requirements, small-scale mining operations offer excellent opportunities for the evolution of indigenous entrepreneurs.

From the theoretical perspective (SLF) in pursuit of different livelihood strategies, it is important for one to have the skills, knowledge, ability and good health to sustain a livelihood (Scoones 1998; DFID 1999) ^[45, 19]. Human capital is defined in terms of skills, knowledge, ability and good health as these are critical determinants of a sustainable livelihood for any household or individual.

Rakodi (2000) argues that lack of human capital in the form of skills and education affects the ability to secure a livelihood that is well remunerated. However, with regards to human capital in small scale mining, the majority of these miners are unskilled, lack knowledge and have little appreciation education, investment and the environment (Veiga & Hinton 2002). Human capital in this regard, therefore, is of utility in understanding how the various skills and knowledge of mining are being utilised to pursue different livelihood adaptation strategies.

3.4 Sustainability of small scale mining employment

From the research, four employment positions were evident in small scale mining operations:

3.4.1 Freelance

These are unregistered, or illegal producers who to extract the mineral either from areas without any assigned entitlement or from properties of large-scale mines (Ali 2009). These may operate for several days inside mines

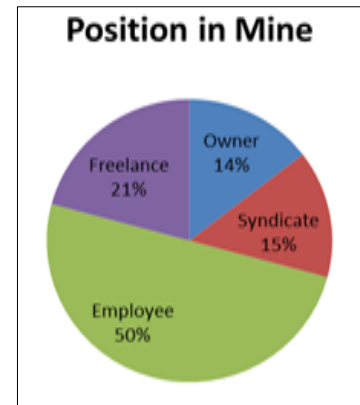
owned by other miners or large-scale companies, under serious hazardous conditions and are referred to as *ninjas* in Mongolia (Ali, 2009), *machuqueros* in Colombia (Navia, 2005), *galamsey* in Ghana (Hilson 2005; 2006; Hilson *et al.*, 2007) *makorokoza* (Maponga and Meck 2003) or *otsheketsha* in Zimbabwe (Mabhena 2010, 2012) [34].

These made up 21% of the total respondents and the monthly income ranged from around \$200-500 a month depending on the quality of the site they would have mined in. They expressed that their monthly income was not predictable as the tonnage of ore '*istofu*' could be well full of residue only without gold, commonly referred to as '*impara*'. These use the traditional methods of extraction underground, using homemade chisels they load the gold ore into cement bags and start the taxing job of taking it out of the tunnels as also noted by Mabhena (2010) [34], in a labourous process commonly referred to as '*ukumbhombha*'. From the interviews, it emerged that the *otsheketsha* wished to register particular claims that they had identified. Consistent with Mabhena (2010) [34], they expressed police also conduct raids as the activity is regarded as illegal and hence they have to play hide and seek with the law enforcement agents. They expressed interest to register their claims but felt that the prospecting licenses (\$200-300), pegging costs (around \$300-\$500) and the Environmental Impact Assessment Report from EMA (around \$150 per claim) were too high and some other conditions for them to operate such as putting a fence around claims, providing sanitation facilities, providing onsite accommodation, buying protective clothing for workers and keeping a record of all gold produced, were all too much to follow religiously. These prerequisites were confirmed by the key informants from EMA, Mr Nkululeko Mathobela, the Ecosystems Protection Officer at EMA, as well as Mrs. Chitepo, the Umguza Environmental Officer, who indicated that their mandate as EMA was to enforce the Environmental Management Act and these perquisites were the basis of the Act when it comes to mining. This is consistent with the guiding theoretical framework of this research, the SFL, that financial capital refers to access to money that is needed in maintaining livelihoods. Two main sources of financial capital are listed in the Sustainable Livelihoods Framework as available stocks and regular inflows of money (DFID, 1999) [19]. With little or no access to capital to legalise their livelihoods, the freelance miners face a great challenge in the sustainability of their activities.

3.4.2 Owner

These are individuals that would have identified, registered and pegged their claims and then hire workers to extract the ore, usually paid on commission. In line with the findings of Mabhena (2010) [34], these are those with financial capital have pegged vast tracks of land. Having a large claim demands more panners so as to work the claim effectively. Those with little savings and in some cases from illegal panning activities, employ between five and ten young men to dig for gold in the claim. In line with the SLF, owners control the land on which their mines are pegged and thus control the means of production. Natural capital refers to natural resource base. Natural capital includes land, water, forest, air quality, soil and biodiversity, which form the basis of all sustainable livelihoods, particularly for economically deprived communities whose livelihoods is often directly dependent on natural resources (Scoones

1998; Kollmair and Gamper 2002) [45]. Different types of natural capital can be utilised to support livelihoods. The adoption of a Sustainable Livelihood Approach gives an opportunity to focus on structures governing the distribution and access to natural capital as it can have a direct impact on the people's livelihoods of people (DFID 1999) [19]. The mine owners made up 14% of the respondents.



Source: Fieldwork 2017

Fig 3: Position in mine

3.4.3 Syndicates

Syndicates were those claim owners that came together to register a claim and then sought the help of a sponsor commonly referred to as '*ezinkulu*' to finance the ore extraction or provided capital themselves. This concept was also identified by Mabhena (2010) [34] that the word 'syndicate' usually implies a group of artisanal miners working together to extract ore and sharing it equally after processing, thus suggesting a horizontal network. After selling the bullion, the 'costs' of production are deducted (including the costs of food for the workers upkeep etc) after which the sponsor takes his share of the remaining profit, usually half while the rest is used as the 'shares' to pay the employees. These findings are also consistent with Mabhena (2010) [34] who asserts that the 'sponsor' can take 50 per cent of recovered gold, while the other 50 per cent is shared equally among miners. It is common for the 'sponsor' to be the owner of the mill to which ore is taken for processing and to be a holder of a gold-buying license, controlling production and trade. Thus, through syndicates small scale mining can be oligopolistic, controlled by a few powerful individuals.

3.4.4 Employees

These are employed to work in the mines from which they are paid through 'shares'. They spend at least 8 hours in small scale mining activities and have no other sources of income and are very mobile, moving from one registered mine to another as there are no written down contracts but gentlemen's agreements. From the interviews and FDG, their monthly income ranged from between \$200-\$400 as shares after deductions on a good milling day. From the FDGs and interviews, it emerged that they have no negotiation powers whatsoever over better pay or safety clothing and can be dismissed anytime at the owner's discretion.

3.5 Mine registration and sustainability of operations

From the 48 respondents, 23% of the respondents indicated

that they operated in unregistered mines, while 77% that their mining activities were carried out in registered mines. The

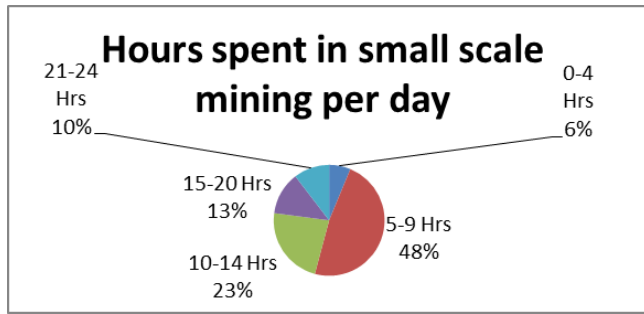
miners operating in unregistered mines are the freelancers, who gave various restrictions that prevented them from formalizing their mines and enabling them to sustain their livelihoods. These can be seen to be in sync with processes and structures inherent in the SLF. The processes involve the relationship between different structures and people (Kollmair and Gamper 2002). These include policies, legislation, institutions culture and power relations which all have a strong influence on livelihoods (DFID 1999) ^[19].

The DFID (1999) ^[19] makes a point that the processes that are supposed to promote sustainable livelihoods for the poor are sometimes the ones restricting them from opportunities and advancement. Sometimes the laws of the country can hinder self-development for the rural poor, such as the over legislated small scale mining sector as noted by Dreschler (2001). Furthermore, the general feeling from interviews and FGDs with small scale miners was that the various restrictive policies (Gold Trade Act; the Mines and Minerals Act Chapter 21:05, Statutory Instrument 109:90, Mining Management and Safety Regulatory, 1990) and institution that govern artisanal small scale mining in Zimbabwe curtails the freedoms and capabilities of the small scale mining communities from the study area from achieving their fullest potential in local mineral resource exploitation and therefore compromise rural development as well as livelihoods resulting from small scale mining.

The registration status of mines is significant in the sustainability of the small scale mining livelihoods in that it determines whether one is allowed to trade gold or not, or whether one is eligible to get assistance from government in terms of loan, machinery and technical assistance. From interviews with the Ministry of Mines and Mining Development, the Matebeleland North Provincial Mining Engineer, expressly explained that the ministry had the mandate to regulate mining operations, being the custodians of the claims that are given to small scale miners. He also explained that the ministry was there to determine who is supposed to mine and who is not, to process applications and most importantly to provide technical assistance and services to the miners on how to mine, as well as the provision of loans and machinery through the RBZ. However, for one to be eligible for all these benefits, the mine has to be registered, account for and sell their gold to Fidelity, the official government gold buying agent.

Amount of time spent in small scale mining

The research findings indicate that small scale mining is the only livelihood that the respondents are engaged in as they are full time miners. From the research findings, 48% of the respondents indicated to working 8hrs a day, these mainly being those employed in small scale mines. Furthermore, 23% indicated that worked between 10-14 hours, 13% worked 15-20hours a day, while 10% worked 21-24 hours. Variation in hours depended on the positions of the respondents as the freelance miners were prone to longer hours so as to maximize profits, while the syndicates and owners, guaranteed of regular fixed pay, worked relatively shorter, supervisory hours.



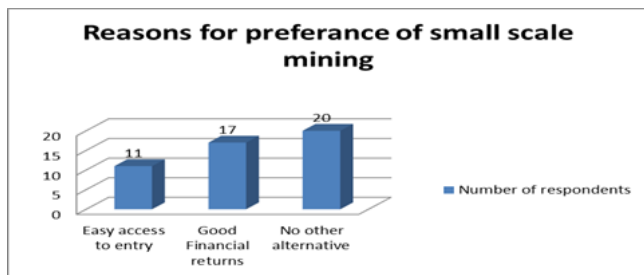
Source: Own fieldwork 2017

Fig 4: Hours spent in small scale mining activities per day

The findings are consistent with those of Ncube *et al.*, (2015) [45] that high percentages of miners are engaged in full-time panning. From the FGDs, the miners admitted that theirs was a physically taxing job which left a man drained of all his energies such that there was no possibility them doing any other form of livelihood, as one miner put it ‘*kudla emzimbeni ndoda*’, meaning that the activity was heavily taxing on the human body leaving one drained of all his energies as evident below in figure 11.

Reasons for preference of small scale mining

The research findings indicate that the majority small scale miners, 42%, were forced into the activity as they had no other alternative to turn to, due to factors such as the high levels of unemployment in the country. Additionally, 35% of the respondents identified the good financial returns associated with the activity as choices of preference while 23% identified the easy access to entry as a the major contributor to their choice.



Source: Own fieldwork 2017

Fig 5: Reason for preference of small scale mining

The research findings are consistent with the World Bank-hosted, International Roundtable on Informal Mining of 1995 where Conference delegates reached a consensus that small scale mining is poverty-driven, attracting individuals with few, if any, alternative income-earning opportunities (Barry, 1996), the conviction being that the sector provides rapid re-entry into the labour market in the absence of significant formal sector employment. This is also consistent with a report published by the United Nations Economic Commission for Africa, that increasing numbers of people have turned to small-scale mining to seek alternative livelihoods in many cases impelled by growing economic

crises, and the effects of structural adjustment, particularly in sub-Saharan Africa, which increased unemployment (UNECA, 2003: 2). Banchirigah (2006) reinforces these findings, arguing that throughout sub-Saharan Africa, ASM has proved to be an indispensable source of income for those made redundant under reform, providing scores of people from the public sector and large-scale mining industry with jobs. The findings also buttress the findings of Ncube *et al.*, (2015) [43], that the main reasons driving respondents to panning are lack of employment, inadequate income and drought. These findings are confirmed by Lungu and Shikwe (2007), who found that the need for income force most people into this dangerous venture.

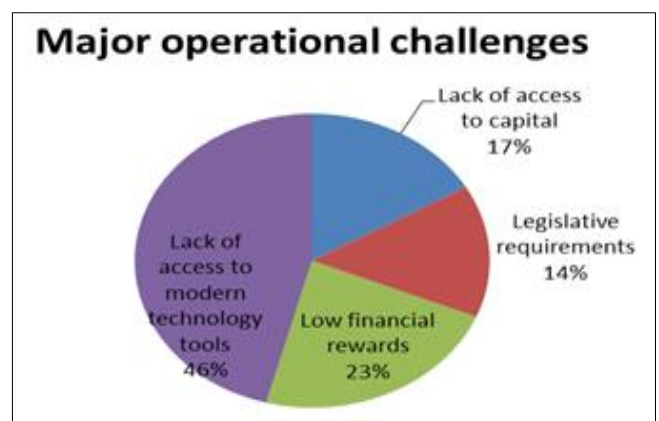
The miners expressed that they had coping strategies for all the challenges they faced in their operations. When asked what they would do should minerals run out or should they lose their jobs, 84% of the respondents indicated that they would definitely find another claim and continue mining. Some even laughed off the questions that gold could run out.

This is a vast gold territory; gold can never be totally exhausted. If gold deposits diminish in one area, another area will definitely open up and we will be there in no time.
(Interview,13/07/17)

During FGDs, miners expressed that the activity had become part of their lives such that there was little ever any chance of them diverting to another livelihood.8% miners indicated that if gold ran out or they lost their jobs then they would look for another job, even different from mining so as to survive. 4% of the respondents said they would go back home and look for a different kind of job altogether, citing safety concerns in mines as well as the uncertainty of pay.

Major small scale mining operational challenges

From the research interviews,FGDs as well as field observations, it was evident lack of modern machinery was a great challenge to small scale mining operations and as a result, 46% of the respondent identified this as the greatest challenge to small scale mining operations (see figure 13 below). Low financial rewards were identified by 23% of the respondents as the major challenge, while lack of access to capital was identified as the greatest operational challenge by 17% of the respondents.14% of the respondents identified legislative requirements as the greatest challenge to their operations; these mainly being the unregistered miners.



Source: Fieldwork 2017

Fig 6: Greatest operational challenges

Interviews with Key informants indicated that indeed the lack of modern technology tools was a challenge to small scale mining operations. From interviews with the Ministry of Mines and Mining Development, the Matebeleland North Provincial Mining Engineer, small scale miners were still using traditional methods of extraction which reduced their productivity. The key informants from EMA also concurred that small scale miners lack capital to invest in environmental friendly technologies, and as a result, their activities are ecologically disastrous

Technology unlocks the potential of small-scale miners to run viable mines. Access to processing facilities at Shamva Mining Centre enabled miners to increase productivity and improve the viability of their mines (Dreschler, 2001). Small-scale miners, like any other entrepreneurs, require a complete package of business development services to thrive and grow. In addition to technology, they require skills in business planning and management, mining methods, sustainable environmental management, access to credit, and profitable markets.

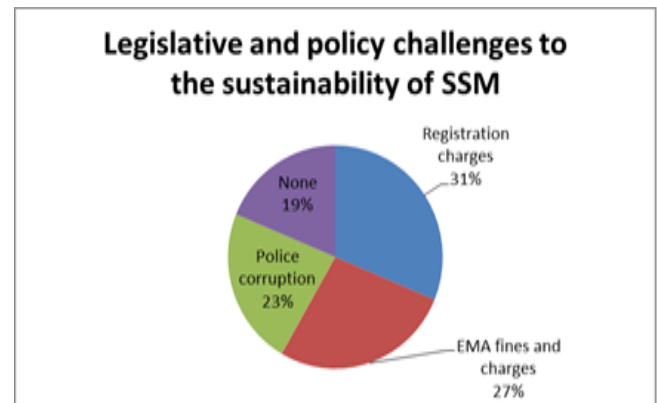
Many financing institutions consider the small mining sector to be too risky for them to be a part of. Financial institutions that are willing to deal with small scale miners tend to charge high interest rates. This challenges the viability of many projects. However, in practice, access to credit and formal banking is difficult for small scale miners, and they face serious problems obtaining it. These dynamics, it is argued, often spring poverty traps, situations where individuals “remain in chronic poverty because they are unable to self-finance investments needed to generate high returns because of the lumpy nature of the risk inherent to those investments and because they are unable to obtain external finance because of weak credit and insurance markets” (Barrett and Swallow 2006, p. 3) [6].

3. Challenges to the Sustainability of small scale mining livelihoods

The research also sought to identify the challenges of the sustainability of small scale mining, and get perceptions of both the small scale miners as well as the key informants in influential positions. Scoones (1998) [45] discussed five major indicators of livelihood sustainability: the creation of working days, poverty reduction, well-being and capability, livelihood adaptation and natural resource base sustainability. Households that are unable to cope in the face of short / long-term changes are vulnerable and unlikely to achieve sustainable livelihoods (Chambers, 1987; Carney, 1998) [14].

The small scale miners identified registration charges as well as EMA fines as the greatest hinderance to the sustainability of their operations. From the research findings, 31% of the respondents asserted that the charges for registering mines was beyond their reach, seeing that the majority of them were new enterprises that were just emerging. A further 27% of the respondents expressed that EMA requirements and fines were detrimental to the sustainability of their livelihoods. From the focus group discussions, it emerged that EMA charged anything up to \$10 000 as fine for failure to comply with the Environmental Management Act. The miners also expressed that EMA had the propensity to totally shut down a mines operations due to non compliance. An additional 23 % of

the respondents, mainly the unregistered miners, attested to police brutality and corruption as a threat to the sustainability of their livelihoods, in what they perceived as an extension of the 2006 Operation *Chikorokoza Chapera/Isitshaketsha Sesiphelile*. Consistent with Mabheba (2010) [34] findings, the miners expressed that police also conduct raids as the activity is regarded as illegal and hence they have to play hide and seek with the law enforcement agents. At times they bribe the police officers and are left free to pan, but sometime they are systematically targeted by the police whenever they get broke and as such, they always have a certain amount to bribe for their freedom (see figure 16 below).



Source: Own fieldwork 2017

Fig 7: Legislative and policy challenges to the sustainability of small scale mining

Research findings indicated that 19% of the respondents asserted that they did not face any legislative or policy challenges. These were mainly the mine owners whose paperwork was in order and who at some stage had got assistance from the government. They asserted that these laws were meant to protect them from the poachers ‘*otsheketsha*’ and also to protect the environment.

From interviews with key informants, they all concurred that in one way or the other, the charges imposed on small scale mining operations by the Ministry of Mines and Mining Development, EMA and the RDC, was exorbitant considering the amount of profits realized by the miners as well as the costs incurred in production. It was clear that at sometimes the miners would work on a negative balance as the charges and fines exceeded what was produced. They raised concern on the applications of these laws as a one size fit all, for all miners be it small or large scale.

4. Recommendations and conclusion

Various measures were proposed by all the respondents as being key to further enabling sustainable livelihoods from small scale mining.

Findings indicate that mechanisation of small scale mining through advanced technological tools was seen as the way forward by the majority of respondents. The lack of advanced technology tools was seen as the major hindrance to better profits which also compromised chances of investment.

The research found reduction of registration fees, requirements and fines such as those charged by the Ministry of Mines and Mining Development as well as EMA, as a way forward that would see more small scale mines being registered, thereby making them eligible to get

assistance from government as well as them being able to sell their gold to the reserve bank.

The provision of loans and technical assistance to small scale miners from the government, so that they can invest in their businesses and boots production was also given as a step towards sustaining the activity as a livelihood

The study therefore concludes that small scale mining is a preferred alternative livelihood in Hope Fountain that is worth mentioning. Small scale mining has sustained the livelihoods of the majority of the population in the area and has become the mainstay of the community's economy. Though fraught adverse social and environmental concerns, the livelihood cannot be wished away and has improved the lifestyle of the majority. The research findings indicate that through institutional support from government and all relevant stakeholders, through the provision of machinery, loans and technical assistance, the livelihood can be very much sustainable. However, without such, the livelihood will continue facing the challenges that it is currently facing, though being preferred by the majority in the area of study. There is need to create systems and institutions that will encourage women to venture into small scale mining activities, such that there is an equal representation and equal opportunities for all in the mining sector. The research recommends that government and all relevant stakeholders reduce the financial requirements and conditions for mine registrations as the exorbitant prices encourage illegal mining and gold trade which robs the country of revenue and foreign currency. There is also need for government to financially and technically assist small scale miners in their operations so as to boost productivity for the benefit of families, communities and the country at large.

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