# MINE CLOSURE NARRATIVES IN BLYVOORUITZICHT GOLD MINE IN WEST RAND, SOUTH AFRICA

BY

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## DECLARATION

I **MMBONENI STEVEN MAGADZU**, declare that the thesis **"MINE CLOSURE NARRATIVES IN BLYVOORUITZICHT GOLD MINE COMPAY IN WEST RAND, SOUTH AFRICA"** hereby submitted for the **MASTER'S DEGREE QUALIFICATION IN DEVELOPMENT STUDIES**, at the University of the Free State is my independent work, and I have not previously submitted similar work for qualification at another institution of higher education.

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## ABSTRACT

Mine downscaling and closure have been common in the South African mining industry in the past two decades. Like in other countries, the downscaling and closure of mines has a severe impact on the lives of the mineworkers, local communities and the country's economy. This study investigates the life experiences of former mineworkers after job loss due to mine closure. Semi-structured interviews were conducted telephonically with former mineworkers from the Blyvooruitzicht Gold Mine in the West Rand, South Africa. Interviewees were recruited through snowball sampling and were asked to tell their life stories about their mine employment and adjustment after the mine's closure. The study reiterated that local economic activity in mining communities mainly results from mining activities. The study shows that since mine closure also threatened the livelihood of former mineworkers and local communities, mine closure contributed to psychological distress, loss of severance packages, dysfunctional families, corruption, lawlessness, crime, relying mainly on grants for survival and other related social problems. The study recommends intervention through psychosocial support by the government, the mining company and other stakeholders. Capacity-building and quality skills need to be provided to allow labour mobility beyond mining. The profiling of individual families of the former mineworkers to collectively plan and respond appropriately to the needs of individual households in mining areas should be prioritised.

**Keywords**: Mine closure, Mineworkers, Livelihoods, Narratives, Impacts, Blyvooruitzicht Gold Mine

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| | |
|---|---|
| APEC | Asia-Pacific Economic Cooperation |
| CALS | Centre for Applied Legal Studies |
| CCMA | Commission for Conciliation, Mediation and Arbitration |
| CDS | Centre for Development Support |
| COM | Chamber of Mines |
| DMR | Department of Minerals Resources |
| EMP | Environmental Management Plan |
| EMPr | Environmental Management Programme |
| ICMM | International Council on Mining and Metals |
| LHR & FIDH | Lawyers for Human Rights & International Federation for Human Rights |
| MDA | Mining Development Agency |
| MHSA | Mine Health and Safety Act |
| MPRDA | Mineral and Petroleum Resources Development Act |
| NEMA | National Environmental Management Act |
| SAHRC | South African Human Rights Commission |
| SASSA | South African Social Security Agency |
| SLP | Social and Labour Plan |
| TB | Tuberculosis |

# CHAPTER ONE: INTRODUCTION

## 1.1 Introduction

The incidences of mine downscaling and closure are recorded internationally, and its unintended consequences are severe (Asia-Pacific Economic Cooperation [APEC], 2019; Bainton & Holcombe, 2018; Lawrence, 2006; Lawrence, 2002; Mancini & Sala, 2018; Morar, 2011; O'Faircheallaigh & Lawrence, 2019; Owen & Kemp, 2018; Pini, Mayes & MacDonald, 2010; Rao & Pathak, 2006; Strambo, Aung & Atteridge, 2019; World Bank, 2002; World Bank Group, 2018). These consequences include the impact on local economies, increased poverty, loss of essential services and outmigration (Bainton & Holcombe, 2018).

Globally, responsible mine closure is affected by a lack of legal criteria (Vivoda, Kemp & Owen, 2019). As a result, applicable mine closure practices and government policies are critical for sustainable development (Andrews-Speed, Ma, Shao & Liao, 2005). Most mining companies experienced financial difficulties during the mine closure stage; therefore, research advocates for a change in focus, from the "front-end approach" to the "back-end approach" (Lawrence, 2006; Vivoda et al., 2019). The practice shows a lack of balance between the "enabling" and "restrictive" fundamentals of regulatory frameworks (Vivoda et al., 2019). The regulations on mine closure focus less on the social aspect of mine closure and more attention is offered to physical aspects (Vivoda et al., 2019).

Mining activities in South Africa provide opportunities for the country's economic growth and development. When mines cease to operate, it has an overwhelming effect on the state economy, including people's social and economic well-being in mining communities (Ackerman, Van der Waldt, & Botha, 2018a). Subsequently, the unexpected closure of mines threatens the livelihoods of local mining communities, socially and economically.

## 1.2 Problem statement

Mine closure has been a challenge, as more people lose their livelihood in mining communities. There is a need for clear, strict policies and guidelines to address specific social issues in mining communities. Research findings indicated that more research experts

are needed to focus on social issues, as the field is neglected (Bainton & Holcombe, 2018; Ledwaba & Nhlengetwa, 2015).

Although mines provide economic opportunities for individuals and families' livelihoods, mine closure is increasingly diminishing the livelihood of the mining communities, leading to the breakdown of livelihood outcomes. The collapse in livelihood outcomes has a severe impact as it destroys existing household assets and capital (Ackerman, Van der Waldt, & Botha, 2018b). For those reasons, the study on mine closure narratives in Blyvooruitzicht Gold Mine in the West Rand, South Africa, is worthy of being conducted to contribute to the body of knowledge in research.

## 1.3 Aims and objectives of the study

The study investigates how former mineworkers sustain their livelihoods after losing their jobs in the mining industry.

Considering the study aim above, the objectives of the study were as follows:

- To interpret international and national literature on the consequences of mine downscaling and closure in the mining industry.
- To analyse relevant legislative frameworks on mine closure in South Africa.
- To explore life experiences and challenges facing former mineworkers after mine closure in Blyvoor.
- To explore the livelihood options considered by former mineworkers to support themselves and their families after mine closure.
- To make recommendations for the alleviation of the long-term effects of mine closure in South Africa.

## 1.4 Definitions

The study uses some of the following key concepts:

- **Closed mine:** A mine where all mining activities have stopped and the owner, agent, manager or permittee continued to take responsibility for complying with closure regulations and the mine owner’s obligations permit for the mine (International Council on Mining and Metals [ICMM], 2019).

- **Closure plan:** The plan is developed to manage the mine site when mining operations stopped and the activities planned to accomplish the goals. The plan is developed before the mining operation start and periodically updated throughout the mine's life (APEC, 2018).
- **Decommissioning:** A process occurring at the end of the mining operation where the infrastructure and services are removed (ICMM, 2019).
- **Divestment:** The process of selling all or part of the mining assets. The process can happen at any project stage and include the transfer of ownership, infrastructure, liabilities and closure responsibility (ICMM, 2019).
- **Local community:** The communities that can be directly or indirectly affected by mining activities and are at risk of being impacted by mine closure (ICMM, 2019).
- **Livelihood:** A means of living with associated activities, assets and capabilities (Krantz, 2001).
- **Orphaned or abandoned mine:** A mine site without clear ownership or a responsible person. Usually occurred due to bankruptcy of the company that formally owned the mine. The site has no closure measures conducted and contains different environmental issues (APEC, 2018).
- **Rehabilitation:** The process of returning land to a productive and self-sustaining state, considering the beneficial use of the land and its surrounding areas (ICMM, 2019).
- **Sudden closure:** When a mine closed permanently before the initially planned closure period (APEC, 2018).
- **Temporary closure:** The suspension of mining operations, but the mine site is maintained with the intention that mining operations will restart when the market recovers (APEC, 2018).

## 1.5 Research methods

This section presents the research methods followed in the study.

### 1.5.1 Study area

Blyvooruitzicht Gold Mine Company (Pty) Ltd (shortened as Blyvoor in the study) is located 80 kilometres outside Johannesburg in the West Rand area, in Merafong City Local Municipality in Gauteng (see Figure 1.1). The area was identified by obtaining information

from the Mining Development Agency (MDA), which has experience working with retrenched former mineworkers and understands cases and areas where mine companies are closed. Most mining employees were housed in the company home and the hostels within Blyvooruitzicht New Village, where the people are currently residing. The mining company was responsible for all essential services, including infrastructure development (Lawyers for Human Rights & International Federation for Human Rights [LHR & FIDH], 2016).

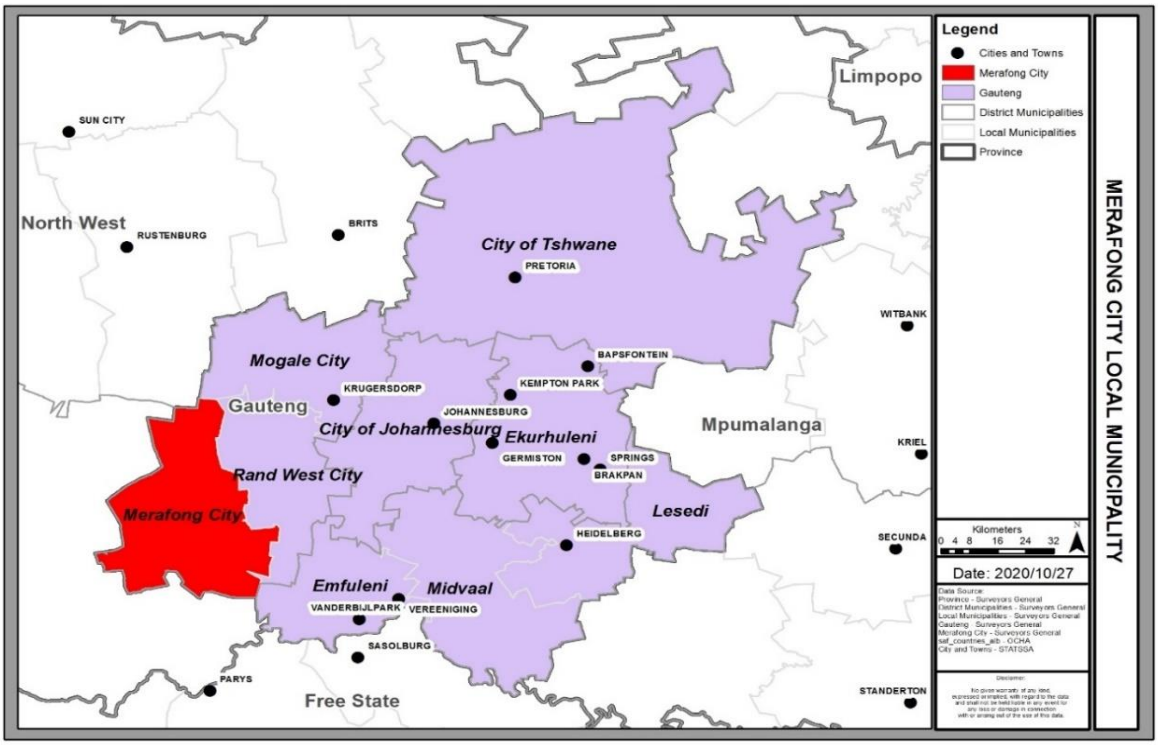


***Figure 1.1: The location of Merafong City Local Municipality in South Africa map (Source: Stats SA/Census, 2011)***

In 2009, the mine experienced financial difficulties and could not cope with the mine closure processes' obligations, including socio-economic issues. People lost their jobs and former mineworkers never received their pay (LHR & FIDH, 2016). The mine got liquidated, which led to the mine being abandoned and closed without the mineworkers' knowledge. The Blyvoor mine was liquidated after a name and ownership change, as indicated in the timeline (see Figure 1.2). The community in Blyvooruitzicht village is currently in crisis. People live in the shadows of an abandoned mine, abject poverty and fear of social decay (LHR & FIDH, 2016).

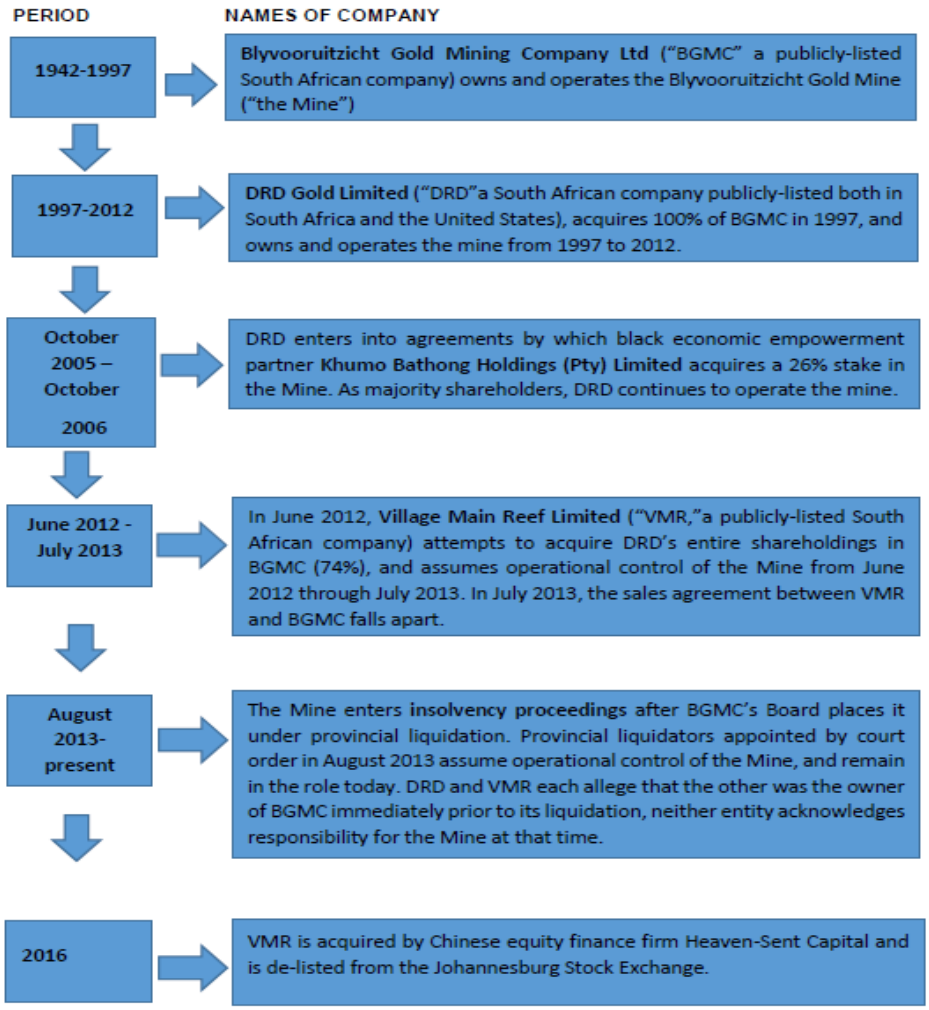


***Figure 1.2: Blyvooruitzicht Gold Mine Company Timeline (Source: modified from LHR & FIDH, 2016).***

The Merafong City Local Municipality Integrated Development Plan (IDP) indicated that the population was 88 843 with 6 652 households during the 2016 Statistics South Africa Community Survey, which shows a decrease in population of 197 520 estimated during the 2011 census. Most of the settlement structures were built to accommodate people working in the mining industry, such as hostels. The population decreased due to the outmigration of labours laid off by the mining company and the closure of other mine shafts. Labourers who lost jobs migrated to other economically active areas elsewhere in Gauteng (Merafong City Local Municipality IDP, 2020/2021).

### 1.5.2 Research approach and design

The study follows a qualitative research approach. Qualitative research can be described as an approach that mostly focuses on the use of words rather than numbers in the collection and analysis of data (Bryman, 2016). Concerning the practical application, qualitative research considers research as a process rather than an event and allow flexibility during the research project (Maree, Creswell, Ebersohn, Eloff, Ferreira, Ivankova, Jansen, Nieuwenhuis, Pietersen & Plano Clack, 2016). Since the research process is central in qualitative research, developing an in-depth understanding of the case or many cases is critical for the researcher. It also focuses on understanding real-life situations where interface occurs and relevant strategies that can be used that enable trustworthiness of the research design and data analysis (Maree et al., 2016). It is for those reasons that a qualitative research approach was chosen for this study.

The study employs an exploratory case study research design, focusing on the details of a single case. Considering the features of exploratory research, the relevancy of this inquiry is confirmed by Reiter (2013), who mentioned that exploratory research cases are chosen based on their analytic richness. The identified cases should reveal a high level of clarity and allow the researcher to use their ideas and expertise and understand reality (Reiter, 2013). Exploratory research is cost-effective and, if done thoroughly, the level of credibility increases (Reiter, 2013).

### 1.5.3 Sampling and data sources

This study used non-probability sampling, where the researcher uses their judgement to select a sample. In qualitative research, the researchers can be seen developing some creativity when conducting sampling in qualitative research. The results cannot be generalised, but can be analytically generalised to a broader theory on specific results (Yin, 2009; in Ishak & Bakar, 2014).

For this study, the researcher used purposeful sampling and snowball sampling. “The logic and power of purposeful sampling lies in selecting information-rich cases for study in depth” (Patton, 1990:169). The procedure to assist in locating information-rich participants (former mineworkers) involved approaching well-situated people (community leaders) for recommendations for possible participants. Snowballing added more participants with rich information by asking several people who else to interview. The following selection criteria

were considered for this study. The interviews were conducted with 16 former mineworkers who lost their job in the mining industry due to mine closure. Only former mineworkers who worked at Blyvoor for at least one year were interviewed.

### 1.5.4 Data collection technique

In this study, data collection was conducted through telephone interviews with former mineworkers.

The study used narrative interviews. The main aim of narrative interviewing is to generate a detailed account of events or experiences (Riessman, 2008). The narrative interview allowed former mineworkers to share their unique experiences in their own words, with few interruptions by the researcher.

The interview was arranged using phone contacts and physically through word of mouth, following regulations enacted for the Covid-19 pandemic. A research study information leaflet and consent form was explained telephonically and the participants verbally consented to participate in the telephone interview. Participants were allowed to suggest a date and time when they preferred to be interviewed telephonically. Permission was requested from all interviewed participants for the interview to be audio recorded before the start of the interview, while the researcher also took notes.

The study employed semi-structured interviews. The advantage was that participants could respond freely with great depth, given that there is more flexibility (Bryman, 2016). For example, Bryman (2016:370) said: “The interviewee has a great deal of leeway in how to reply.” The longest interview lasted 54 minutes. The researcher probed for clarity when key points were raised during the interviews but allowed the flow of conversation as notes were taken on key points that needed follow-up after the interview.

The two main guiding questions were: “Tell us the story of being employed at the mine?” and “Tell us your story after losing your job at the mine?” Although probing is important in the interview flow, the above questions guided the interview and assisted the researcher in generating more data.

### 1.5.5 Data analysis methods

The collected data for the study were analysed using thematic data analysis. Thematic analysis is defined as "a method for identifying, analysing and reporting patterns (themes) within data" (Braun & Clarke, 2006:79).

The following steps were followed: transcription of collected data, coding and analysis. The researcher ensured that proper transcription for individual cases of each narrative interview was covered in full. To illustrate the key themes, direct quotes are provided.

The researcher gave attention to the coding process and this was done through engaging in a thorough process of coding, which was inclusive and comprehensive, to ensure quality coding processes (Braun & Clark, 2006). The researcher read all the transcripts, labelled key ideas in coding, identified main themes, and then wrote up the results.

## 1.6 Research ethics

Ethical issues act as a foundation for any research project and cannot be ignored. They are intended to protect the researcher and the participants. The new South African Health Act (Act 61 of 2003) stipulates that an independent accredited research ethics committee must approve all research with human participants (Terre Blanche, Durrheim & Painter, 2006). Ethical clearance was sought and approval number (UFS-HSD2020/0653/3006) was granted by the General Human Research Ethics Committee (GHREC) of the University of the Free State (UFS).

For this study, the researcher ensured that ethical principles were followed, including:

### 1.6.1 Informed consent

All the interviewed participants were informed about the study's aim and objectives, with the information in the information leaflet and consent form, explained telephonically to the participants. This also included the voluntary participation and withdrawal of the participant without providing any reason (Terre Blanche et al., 2006). The researcher informed the participants that the GHREC approved the study of the UFS and the approval letter was available. The information was explained telephonically due to the challenge of the countrywide lockdown and compliance with Covid-19 regulations. The interviews were conducted with the participants over the phone as a result of Covid-19 regulations. During

the interview, the researcher used an audio recorder with the permission given by the participants. Research should be conducted voluntarily with the informed consent of all the participants. In a study, research participants need to be given enough information to decide whether they want to be part of the study or not (Bryman, 2016).

### 1.6.2 Harm to the participants

In this study, no participants were exposed to any kind of cruelty. Any research that poses a risk to harm participants is not allowed and cannot be tolerated (Bryman, 2016; Terre Blanche et al., 2006). For instance, physical harm, loss of self-esteem and "inducing subjects to perform reprehensible acts" (Diener & Crandall, 1978:19; cited in Bryman, 2016:526). In social research, a researcher should guarantee that no harm can happen to any participants in the research process.

### 1.6.3 Confidentiality

The principle of confidentiality is central in social research, and violation of private information in the name of research is unacceptable (Bryman, 2016). Confidentiality remains a critical ethical issue, and in this study, all the information collected during data collection through telephone interviews is safely stored and password protected. Similarly, the participants in the study were guaranteed of remaining anonymous. Likewise, during the interview process, anonymous participant numbers were used to hide participants' identities when data was used (Terre Blanche et al., 2006).

### 1.6.4 Deception

In social research studies, deception is wrong and should be avoided (Terre Blanche et al., 2006). In this study, research participants were not deceived into taking part. The researcher ensured that participants were clear on and understood the purpose of the study so that they could freely choose and commit to taking part without the researcher raising participants' expectations.

## 1.7 Outline of the study

The study is structured into five chapters. This chapter introduced the study and background, problem statement, aim and objectives, defining concepts, methods and research ethics. Chapter 2 (Literature review) presents the international and national literature on mine closures relevant to the study's aim and objectives. Chapter 3 (Mining legislation and policy

analysis) focuses on South African mining legislation relevant to the mine closure. Chapter 4 (Research findings and analysis) presents the empirical data analysed by the researcher. Chapter 5 (Discussions of the findings, conclusion and recommendations) presents the discussions, the interpretation of findings from the analysed data, consolidates the study findings, highlights key recommendations and limitations, and further study recommendations.

## CHAPTER TWO: LITERATURE ON MINE CLOSURE

*"The commonly used term 'mine closure' belies the fact that mining projects continue to have impacts for decades, and in some cases for generations, after mineral extraction ceases."* (O'Faircheallaigh & Lawrence, 2019:65)

### 2.1 Introduction

Many mines never close (Vivoda et al., 2019). The lack of closure continues to be a severe global challenge. Research on the social aspects of mine closure is limited. Evidence suggests limited technical literature and expertise in the social aspects of the mine closure domain (Bainton & Holcombe, 2018). Svobodova (2019) also argued that long-term evidence of post-closure outcomes is absent because of the lack of case studies. Although mines provide economic opportunities for individuals and family livelihoods, mine closure increasingly places pressure on the mining communities' assets, leading to the breakdown of livelihood outcomes (Ackerman et al., 2018b).

This chapter focuses on two areas: the global literature and the South African literature on mine closure. The global literature also has two subsections: key issues to consider and the mine closure's negative consequences. These consequences usually present themselves towards the end of the mine project's life cycle. For example, the problems can include impacts on socio-economic, political, cultural and institutional issues.

### 2.2 Mine closure: International literature

Mine closure refers to the official planning processes, including decommissioning, mitigating the impacts and mines legacies, rehabilitating land and, ultimately, the mine relinquishment, and ending other related agreements (Vivoda et al., 2019). However, Bainton and Holcombe (2018:468) argued that, from a social perspective, mine closure processes are chapters or moments in the "ebb and flow" of life within the local communities. This period of mine closure can last for years, with permanent legacies from one generation to the next.

Several factors contribute to mine closure and often include the volatility in the price of commodities, increasing operational cost, low reserves, adverse geotechnical situations, failure of equipment, a breach in environmental regulations and safety, change in government policies, pressure from the community and flooding (Laurence, 2006; Nehring

& Cheng, 2016; Owen & Kemp, 2018). Subsequently, most governments require mines to have closure plans inclusive of all related risks, costs and other requirements. However, many mines find implementing such plans difficult.

### 2.2.1 Planning for mine closure challenges

The International Council on Mining and Metals (ICMM, 2019) stressed that mine closure planning should form part of the mine's life cycle core business. In practice, this is not easy. For example, Grant and Lacy (2016) argued that the main problem with mine closure planning is that mining industries do not see mine closure planning as their core business activity. Typical problems of the mining industry related to mine closure include the following (Grant & Lacy, 2016):

- A lack of ownership by the site management team, who disregards mine closure issues.
- The mine closure stage is considered to be too far into the future.
- Mine closure is regarded as someone else's problem, regardless of most mining companies' clear mine closure policy.
- Many changes in regulations related to mine closure.
- Different professionals asked to integrate the mine closure plan into mine planning which never occurred.

Overall, the mining industry's problem follows a front-end approach (Vivoda et al., 2019). The front-end approach ensures that the mines secure their licences and keep communities satisfied. By the time closure arrives, the front-end approach to budgeting means that little money is available to deal with closure problems outside environmental requirements. Several broader problems also exist at the community level. Morrison-Saunders, McHenry, Wessels, Sequeira, Mteghad & Doepel (2015) emphasised that post-closure plans should involve the stakeholders.

### 2.2.2 Mine closure regulation challenges

The lack of legal requirements to guide responsible mine closure of large-scale mines is a global challenge (Vivoda et al., 2019). Lack of regulation and tools to guide mine closure is problematic. The absence of regulation threatens the successful closure of the mine and the resolution of social and environmental challenges (Owen & Kemp, 2018). Bainton and

Holcombe (2018) argued that fewer regulations exist on the social aspects of mine closure. The social aspects of mine closure do not receive adequate attention in regulations, compared to mine closure's environmental and technical aspects (Vivoda et al. 2019). Furthermore, available literature concerning social aspects of mine closure often focuses on the mining companies' role (Vivoda et al., 2019). The available literature includes the state's role and mining companies' practice of regulation towards the last phases of the mine's life, which receives less attention (Vivoda et al., 2019).

### 2.3. The consequences of mine closure: International level

In 2002, the World Bank (2002) said that many communities around mines and mining countries would face substantial mine closures. The consequences could be disastrous. The host communities experienced a social and economic collapse, while governments dealt with liabilities like closure costs and regulation (World Bank, 2002). Below are the discussions of eight consequences related to mine closure and downscaling.

#### 2.3.1 The economic impact and single industry-town

Mine closure impacts negatively on the economy and local communities. O'Faircheallaigh and Lawrence (2019) pointed explicitly to the adverse effects of mine closure on local businesses. The closure could be seen as the end of an important economic driver, which subsequently collapsed or destroyed the local and national economy. Mine closure contributes to a low standard of living and poverty because of the loss of revenues, shortage of local budgets and infrastructure collapse (Rao & Pathak, 2006; Morar, 2011). The evidence suggests that developing economies experience a more significant impact from mine closure than the developed economies (APEC, 2018). This is evident because of alternative job opportunities and social security available in developed economies (APEC, 2018). The devastating effect of mine closure in areas that relies on a single economy could be threatening. If the community depends only on the mine for its economic survival, the impact of closure could be higher (Laurence, 2002).

#### 2.3.2. Impact on employment and poverty

The loss of jobs resulting from mine closure affects communities (Morar, 2011; Pini et al., 2010; Strambo et al., 2019). For instance, when mineworkers have a home loan, losing a job may lead to families losing their homes (O'Faircheallaigh & Lawrence, 2019; APEC, 2018). The most severe and enduring consequence of mine closure is the shortage of employment

and the time it can take to find another job after downscaling (Haney & Shkaratan, 2003; Morar, 2011). Morar (2011) argued that job loss across Europe had less impact on national unemployment figures than the local and regional levels, where the impact was high, e.g. in traditional mining countries such as Germany, Russia, Ukraine and Romania (Morar, 2011).

Rixen and Blangy (2016) indicated that the initial phase in the mine "life cycle" makes the economy "boom", which is associated with the acceleration of jobs and investment in host communities. On the other hand, the last or post-mining phase is associated with a sudden "bust", where economic prospects cease and trigger outmigration. As the mine develops, people see career opportunities; however, the opposite commonly occurs when the mine ceases its operations (Lawrence, 2006).

Communities and governments benefit from the mining industry, such as job creation and revenues from taxes (APEC, 2018; Rixen & Blangy, 2016). Nevertheless, when mine closure happens, the transition can be challenging. The loss of employment, social programmes and taxes will have lifelong adverse effects (APEC, 2018; Haney & Shkaratan, 2003; Morar, 2011). It is possible to reduce the transition challenges through communication, economic development projects, reskilling and other related closure activities.

### 2.3.3. The environmental impact

A looming wave of mine closure was predicted in the past decade, and 25 mines were estimated to close in developing countries (World Bank, 2002). However, many developed countries were also under pressure of addressing mining legacies due to unplanned mine closure, which led to exposure to risky environments, sites containing hazards and unrehabilitated land (World Bank, 2002). According to O'Faircheallaigh and Lawrence (2019), it is difficult to find a fully rehabilitated environment after mine closure in many cases. Many communities have to live with the environmental consequences of mine closure, e.g. water contamination from mining activities (Owen & Kemp, 2018). However, each stage in the mine life cycle has environmental and social consequences after closure (Rao & Pathak, 2005).

Many mining companies revert to placing their mines under "care and maintenance". Care and maintenance mean that mining operations stop, but the mining industries have no

obligation to officially close the mines (Vivoda et al., 2019). This, in turn, leads to mines increasingly deferring environmental liabilities and social impact (Vivoda et al., 2019). Subsequently, additional problems result from care and maintenance programmes – an example of the mine placed under care and maintenance is, Cullen Valley Mine in Australia (Sedgman, 2016). There is also a growing divestment trend by big mining industries selling their mining assets when the resources get depleted (Vivoda et al., 2019). However, the small mining companies are usually not financially well resourced and struggle to deal with liabilities for rehabilitation and closure. In the end, the government and taxpayers have to foot the bill when mines are finally abandoned (Vivoda et al., 2019). The abandonment of mines creates a build-up of undesired consequences of environmental and social issues and increases financial liabilities for the coming generations (Roche & Judd, 2016).

### 2.3.4. The demographic changes

Mine closure contributes to outmigration. In Ukraine, outmigration was observed during survey time and it was reported that 37% of the population was away for an extended period linked to employment elsewhere (Haney & Shkaratan, 2003). The increased levels of unemployment contribute to the trends of the outmigration of the active population. Young people and skilled workers are usually the first to move (Morar, 2011).

### 2.3.5. Impact on municipal and social services

Haney and Shkaratan (2003) argued that the municipalities experience a dual impact caused by mine closure. The dual impact includes loss of revenue and income tax. As a result, the municipalities must continue providing services with increasing expenditure from unemployed people (Haney & Shkaratan, 2003).

The World Bank (2002) argued that most mining communities rely on facilities and infrastructure offered and serviced by local mines. For example, mines often own houses, healthcare facilities, educational facilities, transportation systems, telecommunication, and water and sanitation services before being private. However, the mines stop caring for these services (Vivoda et al., 2019). The withdrawal of mines has severe effects on the communities and the municipalities.

### 2.3.6. Impact on cultural identities

Owen and Kemp (2018) argued that when a landscape is disrupted and transformed by mining activities, people's interaction with the land changes. Mining eventually has implications for people's identities and connections. For example, there is evidence of land dispossession and isolation (Owen & Kemp, 2018). Mining disrupts the "place attachment" of local people (Owen & Kemp, 2018). The evidence also indicated that place attachment to some people who moved to the mining area is more profound than the original drive contributing to their movement at the beginning (Owen & Kemp, 2018). This could be influenced by social interaction that emerged in their life in the mining area, such as marriage.

### 2.3.8. Impact on land and water resource

Vivoda et al. (2019) highlighted that the impact on land and water resources could last longer and that land use can be affected due to mine closure. The lack of access to the land because of mine closure has negative consequences for the communities in rural areas as they rely on the land for their livelihood and, subsequently, food security (Mancini & Sala, 2018).

## 2.4. Mine closure in South Africa

Although mine closure is a global issue, in South Africa, mine closure is worsened by the abandonment of mines, continued care and maintenance mothballing, and continuous selling of mines to emerging companies that do not have enough resources to comply with the regulations. There are about 6 000 abandoned mines in South Africa (Cornelissen, Watson, Adam & Malefetse, 2019). The country and communities are experiencing persistent problems caused by pollution emanating from the legacy of past mining. Only 40 of 249 asbestos mines in South Africa have been rehabilitated by the government, costing around R800 million (US$65 million) (Cornelissen et al., 2019). Marais (2013b) emphasised that, although there has been an improvement in South African regulation associated with mine closure, findings concerning integrated planning are disappointing due to trust and government failure to endorse new regulations.

### 2.4.1 The consequences of mine closure in South Africa

Mining activities in South Africa provide opportunities for the country's economic growth and development. Mines contributed R361.6 billion in South Africa's gross domestic

product in 2020. It also employed 451.427 individuals in the first three quarters, 8.588 less than the average of 1.87% in 2019 (Mineral Council of South Africa, 2020). However, mine closure has demoralising consequences, which can be outlined as follows:

#### 2.4.1.1 Loss of employment

In many instances, the mine is the sole provider of employment in many mining areas, and more people rely on mines for their livelihoods (Edwards & Maritz, 2019). Therefore, mine closure negatively affects communities (Mhlongo & Amponsah-Dacosta, 2016; Siyongwana & Shabalala, 2018). Between 1996 and 2011, about 80 000 people lost their jobs in the Free State Goldfields due to the decline in mining activities. Subsequently, employees who lost their jobs had to leave the mine-owned houses they occupied (Marais & Nel, 2016).

When mines close, it is difficult for the former mineworkers to find job opportunities elsewhere due to a lack of skills needed outside mining industries (Siyongwana & Shabalala, 2018; Ntema, Marais, Cloete & Lenka, 2017). Mining communities experience mine closure negatively because closure threatens their livelihoods (Ndeleki, 2018; Ackerman et al., 2018a). When mines cease to operate, it has an overwhelming effect on the state economy, including people's social and economic conditions in mining communities (Ackerman et al., 2018a).

#### 2.4.1.2. Impact on the municipality

Municipalities experience several consequences of mine closure (Marais, 2013a). In the past, mine houses were usually owned by the mining company, which took the responsibility of paying rates and taxes to the municipality (Marais & Cloete, 2013). Subsequently, the municipality could receive payments on time without collecting payments from individuals owning a house. However, when the mines privatised the houses, the municipality collected rates and taxes from individuals. Furthermore, there was also an increase in the number of people who fail to pay for their services (Siyongwana & Shabalala, 2018). In turn, the failure to pay or collect municipal revenue has negative consequences for municipalities to maintain the infrastructures and generate profit for investments.

#### 2.4.1.3 Demographic changes

When people are retrenched and become unemployed due to mine closure, the population in the mining area decreases (Edwards & Maritz, 2019; Marais & Cloete, 2013). The decrease in population influences demographic changes. For example, the demographic impact includes a lower level of employment and a reduced number of skilled workers. Mine closure forces the former miners to migrate and leave the mining area to seek employment in other areas. Consequently, migration is due to limited job opportunities, a low standard of living, a decline in the local economy and the loss in foreign exchange (Siyongwana & Shabalala, 2018).

#### 2.4.1.4 Impact on the environment

The environmental damage due to mining activities presents significant challenges (Stacey, Naude, Hermanus & Frankel, 2010). Mining affects the people's quality of life and the survival of livelihoods of members of the community. As a result, mine closure destroys the mining communities' livelihood assets, which leads to the failure of their coping strategies and livelihood outcomes (Ackerman et al., 2018b). Edward and Maritz (2019) argued that improper and delayed management of the environment affected by mining operations could affect land usage in the future. Besides, Zvarivadza (2018) argued that a positive legacy should be left behind for the communities by mining companies to maintain a better standard of living after mining operations ended.

#### 2.4.1.5 Impact on infrastructure maintenance

In many cases, the mining industry provides infrastructure, which includes buildings and roads. In some instances, mines have relationships with local municipalities to provide infrastructure (Marais, Pelser, Botes, Redelinghuys & Benseler, 2005). The standard of living decline due to loss of employment, which is worsened by mine closure. Deteriorating housing conditions and poor service delivery affect the people's living standards (Siyongwana & Shabalala, 2018).

#### 2.4.1.6 Business closure

The local business is affected by mine closure and business closures are frequent. Local buying power also declines because of people's outmigration and lack of job opportunities in the area (Siyongwana & Shabalala, 2018). Subsequently, people travelled long distances to nearby towns to buy essential goods (Siyongwana & Shabalala, 2018).

#### 2.4.1.7 Illegal mining

Mine closure contributed to illegal mining activities (Nhlengwetwa & Hein, 2014; Marais, 2013a; Siyongwana & Shabalala, 2018). The increase in illegal mining is caused by mine downscaling and closure (Marais, 2013a). This is evident in the case of the Free State Goldfields closure of the shafts, and even though the mine shafts were closed, illegal mining continued (Marais, 2013a). Illegal mining threatens national security and socio-economic development (Mineral Council South Africa, 2020). Subsequently, illegal mining results in an illegal market where the government loses royalties, income tax and value-added tax (Mineral Council South Africa, 2020).

#### 2.4.1.8 Psycho-social impact

Mine closure causes emotional distress to the individuals who lose employment in mines and their family members (Siyongwana & Shabalala, 2018). The following quote by Siyongwana and Shabalala (2018:8) provides evidence: "When my husband lost his job, I felt like killing myself", while the former mineworkers said that: "When I lost my job at the mine, I felt like someone I loved had died… I requested my family to pray every day so that God would re-open the Pilgrim's Rest mine."

The community can be traumatised by mine closure, especially in remote areas where local mines become the "de facto" government, caused by the local government's weak structures (Marais, 2013a). The trauma is the result of the lower production of non-mining activities and the limited mobility of labour.

## 2.5. Conclusion

Although mine closure is inevitable, it remains a global challenge. Most countries face the complex challenges of addressing the negative legacy issues of abandoned mines caused by mining industries. The increase in the number of abandoned mines results from inadequate regulations, leading to more mines not being closed officially.

The failure to properly close the mines can have severe negative consequences on individuals, households and host communities. Since mines, in many cases, provide economic opportunities and essential services, mine closure can have a devastating effect on the surrounding communities. The mining company is responsible for including a mine

closure plan throughout the mine life cycle to manage mine closure and related costs and risks. It is also essential for mining industries to have a sustainable plan for socio-economic development after mine closure.

# CHAPTER THREE: LEGAL FRAMEWORK

*"This 'pass-the-parcel' approach to the custodianship of the closure plan, where the 'gift' ends up in the hands of the weakest, seriously undermines the value and integrity of the forward planning approach to mine closure." (Humby, 2014:8)*

## 3.1 Introduction

The preceding chapter gathered previous work covering mine downscaling and closure. This chapter reviews applicable regulations and policies related to mining downscaling, closure and related challenges.

For successful mine closure, a clear legal framework aligned with international regulation is required. Again, the regulator's shortage of appropriate skills and knowledge for mine closure contributes to unsuccessful closure (Van Druten & Bekker, 2017). The other contributing factors include unexpected downscaling, failure to plan for downscaling, a lack of trust, weak governance, political tensions and interference on government agencies' roles (Marais, 2013b). The legislative framework could assist with resolving the socio-economic consequences of mining activities of the affected communities.

## 3.2 A review of South African mine closure legislation

Before 1956, there were no legislation and requirements related to mine closure. The legislative framework for mine closure was developed to respond to the impact of abandoned mines and mine closure (January & Lee, 2019). Swart (2003:490) stipulated many scenarios of closure as follows: "closure, temporary closure (care and maintenance), abandoned mines, the selling of environmental responsibilities, derelict and ownerless mines, conditional closure, partial closure, closure under other regulations, as well as offshore closure."

The scenarios burden the government due to inconsistency related to liability for both society and the environment. The government has to take responsibility for rehabilitating the damage related to mine closure (January & Lee, 2019). According to Swart (2003), the recently developed "closure scenarios" bring confusion and make mine closure even more difficult.

In the following subsections, the main pieces of legislation, policies and plans linked with mine closure and their challenges are discussed as follows:

### 3.2.1 The Minerals Act 50 of 1991

The Minerals Act was passed just before the new democracy in South Africa to regulate issues related to the environment. The Act enforces the protection of the negative impact on the environment and ensures that the mining-affected areas in South Africa are properly rehabilitated (Swart, 2003).

Section 38 of the Act indicated that the permit holder is responsible for rehabilitation of the affected land by following Section 39 of the environmental management programme and integrating planning on daily mining operation and its life cycle until closure. The government has agreed with the mining industry on a polluter's pay principle of the incurred land or environmental damage (Swart, 2003).

With the introduction of the Mineral and Petroleum Resources Development Act (see Section 3.2.8), the Mineral Act was repealed and changed all South Africa's mineral rights of custodianship to the government and its citizens away from the private sector (Republic of South Africa [RSA], 2002).

### 3.2.2 The 1996 Constitution of the Republic of South Africa

The Constitution supersedes all other legislation and acts as the highest framework for all other regulations managing mine closure (RSA, 1996a). Most legal practitioners frequently cite Section 24 of the Constitution when discussing mine closure (Centre for Applied Legal Studies [CALS], 2016; Swart, 2003).

Although Section 24 is cited chiefly concerning mine closure legislation, more attention is given to the environment while the social aspects are neglected. Mining operations would have provided benefits during the mine life cycle, but if the land is not rehabilitated, communities' livelihood options may be limited or practically destroyed by lack of land use planning during the mine closure stage (January & Lee, 2019).

In the Constitution, Section 24(a) states that everyone is entitled to the environment free from harm to their health, including their wellbeing (RSA, 1996a). Subsequently, a

relationship was recognised between mine closure and Section 24 of the Constitution. CALS (2016) and Swart (2003) supported the idea of a healthy environment and government preventing harm to the environment. Section 24b (iii) (RSA, 1996a) highlighted that the environmental protection for current and future generation is key and promote sustainable use of resources for socio-economic advancement. The South African mining industry is obliged to follow the Constitution and accurately comply with mine operations and closure plans concerning other people's rights.

### 3.2.3 The Mine Health and Safety Act 29 of 1996

In Section 2 and Section 5, the Mine Health and Safety Act state an employer must do all stages of the mine, consisting of decommissioning and closure maintenance of safety and a healthy environment (RSA, 1996b).

The medical record and the requirements to trace the health of employees who are exposed to risks are covered in Section 12 and Section 13 of the Act. The record should be kept safe until the mine is closed, then the record can be given to the Department of Labour. Again, all employees are required as standard criteria to perform medical examinations for exit certificates. Then exit certificate will be offered to each employee with the details in terms of exposure to radiation, silica dust and noise, including the presence of any other occupational disease; this information is contained under Section 17 of the Act. However, the legislation is silent about the start of occupational diseases such as silicosis and silent about former employees' rights on the issue (January & Lee, 2019).

### 3.2.4 The 1998 White Paper on Local Government

The *White Paper on Local Government* focuses on transforming the local government through developing transitional frameworks and programmes in South Africa (RSA, 1998a). This is to improve people's lives and satisfy South African citizens' societal, financial, and material necessities in a sustainable manner (RSA, 1998a).

In line with the Constitution of the Republic of South Africa, the White Paper is required to deliver the following (RSA, 1998a):

- Provide all services in a sustainable way to the communities.
- Govern and democratically account to local communities.

- Support socio-economic advancement.
- Ensure a safe and healthy environment.
- Promote full participation by communities and civil society groups on issues of local government.

However, local government is failing to perform its required developmental duties (Siddle & Koelble, 2016). The local government is faced with poor financial management, poor service delivery and a high level of corruption (Siddle & Koelble, 2016). Seeing that South Africa's development goals are not reached, the framework guiding local government functions needs drastic change (Siddle & Koelble, 2016).

### 3.2.5 The 1998 Minerals and Mining Policy for South Africa

As the economy in South African depended mainly on the mining industry, the country's mining industry experienced challenges towards the twenty-first century. The challenges and opportunities influenced change in policy on labour legislation, employment equity and environmental regulation (Department of Minerals and Energy [DME], 1998). In addition, competition from mineral-rich countries for the commodity in the markets and investments influenced policy reform in South Africa (DME, 1998). In September 1998, a White Paper, namely *A Minerals and Mining Policy for South Africa*, was approved by Cabinet with six broad themes. The discussion will focus on two broad themes that involve environmental management and people issues. Concerning people issues, discussions focused on health and safety, housing needs and downscaling issues' sub-themes.

Regarding the environmental management theme, the idea of safety and a free environment was emphasised for future use. The mining activities disturbed the environment differently. Subsequently, the White Paper identifies three key areas for policy and regulation as follows (DME, 1998): the impact of exploration on the environment; the impact the environment has over the life of a mine involve mine closure and financial assurances for rehabilitation of mine site; and maintaining rehabilitation measures where mining activity has ceased. The facilitation of environmental programmes is centralised and the DME is leading (DME, 1998).

The people issues theme discussed health and safety, housing needs and downscaling issues. The White Paper indicated that the South African mining industry has unacceptably high fatalities, injuries and diseases. People could suffer the loss of livelihood due to retrenchment because of injuries and diseases. A call for the government to consider the issue of cost to society, particularly of the disabled and ill mineworkers and ex-mineworkers in rural communities, was emphasised in the White Paper (DME, 1998). These persons need to be cared for because they have little chance of getting employed again and may depend on disability grants or pensions.

Concerning housing needs, the White Paper indicated that the housing condition in the mining industry was bad and impacted the health, productivity and wellbeing of many mineworkers. The hostels for black workers were arranged based on race and ethnic lines that signal discrimination. The upgraded hostel accommodation also provides for married quarters. The employees in the mine received at least a three-room house, including municipal service, for a token fee per month (Marais, 2013a). Some of the migrant labours who qualified for low-income housing received mortgage loans from the mine house. The mining houses also provided housing subsidies with the option of a month's payment or once-off deposit (Marais, 2013a). It is not common in the world's major mining countries for the employer to provide accommodation.

Concerning downscaling, in South Africa, the mining industry shed jobs due to mine downscaling and closure. Subsequently, mine downscaling is seen as a destructive process, and workers and their families bear the burden of suffering in rural areas. The social plan strategy to structural job losses is recommended by the Labour Market Commission and includes different interventions (DME, 1998). This is an attempt to better social disruption created by the structural loss of employment. The White Paper emphasised that the social plans must be driven by the stakeholder rooted in collective agreements and social consensus.

### 3.2.6 The National Environmental Management Act 107 of 1998

The National Environmental Management Act (NEMA) focuses on the principle of sustainable development and sets criteria for managing the environment in an integrated manner, as indicated in Section 24 of the Act (RSA, 1998b; Swart, 2003). The government at all levels, including all its state organs, must cooperate, consult, and support. NEMA

addresses environmental protection issues, including the socio-economic advancement of mining communities (January & Lee, 2019; RSA, 1998b). NEMA requires the financial provision from mining companies to cover rehabilitation (Van Zyl, Bond-Smith, Minter, Botha & Leiman, 2012), activities for closure and remediation of latent or residual impact on the environment (January & Lee, 2019).

Watson and Olalde (2019) argued that initiatives were made concerning NEMA's regulation of care and maintenance in 2015. The Financial Provisions Regulation required the applications to place mines on care and maintenance for no longer than five years before its review. However, in 2017 the requirement was removed on drafted regulations, ending in unregulated care and maintenance (Watson & Olalde, 2019).

### 3.2.7 The National Water Act 36 of 1998

The National Water Act ensures the protection of the nation's water resources, its use, developmental, conservational, managing and controlling in a manner that considers factors such as current and future basic need are met; promote equality in accessing water (Swart, 2003); enhance socio-economic development; protection of aquatic ecosystems and biological diversity (Van Zyl et al., 2012); reduce and prevent pollution and contaminating water sources; meet international requirements and encourage the safety of dam including the flood and drought management (Swart, 2003).

### 3.2.8 The Mineral and Petroleum Resource Development Act 28 of 2002

The Mineral and Petroleum Resource Development Act (MPRDA) introduced changes concerning mining companies' rights and responsibilities (RSA, 2002; Cawood, 2004). The new legislation aims to address the past disparities in the mining rights and long-term environmental effects of mining, but it also addresses the socio-economic situation of the mining-affected areas (RSA, 2002; Marais, 2013a).

When applying for prospecting rights, Section 41(1) of the MPRDA requires the applicant to make prescribed financial provisions to rehabilitate negative environmental impacts before the minister approves the Environmental Management Plan as required by Section 39(4) of the Act. The financial provision should cover planned closure, premature closure and post-closure monitoring and maintenance. Furthermore, the requirements to maintain and retain the financial provision remain in force until the minister issues a closure

certificate to the holder (RSA, 2002). Likewise, Section 43(4) states that a closure application should be submitted before closure can commence, together with an environmental risk report.

Chapter 2 of the Act contains the following fundamental principles (RSA, 2002):

- The state is the owner and custodian of mineral wealth and completely owned mineral rights;
- Ensuring increased benefits from mineral production to promote economic growth;
- Equal access to mineral resources and ensuring benefits to historically disadvantaged persons.
- The mining activities should promote development in rural areas through job creation.
- The mineral developers should adhere to sustainable development principles.
- The mining rights holder should contribute to socio-economic development through social and labour plans (SLPs) (discussed in Section 3.2.11)

The Act acknowledged that the administrative and regulatory regime must meet international standards (Cawood, 2004). In terms of the Mineral Act, the disposal of state-owned mineral rights was allowed to the private sector. When the Mineral Act was repealed through the promulgation of the MPRDA by the government, other changes were observed when comparing the legislation. While the Mineral Act focused more on the environment and ignored the social aspects, the MPRDA included the social aspects. The MPRDA also ensured equal access to natural resources by South Africans; the rehabilitation of affected land by mining should consider the principles of sustainable development and the empowerment of historically disadvantaged persons (RSA, 2002; Cawood, 2004).

The Act, as amended, has strict requirements for mining companies (Humby, 2014). For example, Section 100 of the MPRDA stipulated that the state award the right to mine if the applicant complies with the Broad-Based Black Economic Empowerment (BBBEE) Charter for the mining industry and submits SLPs. However, legal flaws still exist that allowed mining companies to avoid closure requirements costs, such as defects in closure liabilities (Humby, 2014). Many flaws in mine closure result from a lack of law enforcement by the government and interference in state institutions (Humby, 2014; Marais, 2013b). Although

there is a strict legislative environment addressing mine closure and downscaling, the findings concerning integrated planning are disappointing and caused by distrust and the government's inability to enforce new available legislation (Marais, 2013b; SAHRC, 2016).

The complex social issues emerging when mining operations end can be difficult to handle (Humby, 2014). Marais (2013b) argued that the new legislation has contributed to allocating funds for local development initiatives in the Free State Goldfields. However, resolving the long-term consequences of mine closure is questionable (Marais, 2013b).

Van Druten and Bekker (2017) argued that Section 41 of the Act, as implemented through the DMR (2005) guidelines for financial provision, required mine closure financial assurance. The mining rights holder determines the obligation for closure and then DMR received a financial provision report from the mining rights holder (Van Druten & Bekker, 2017; Van Zyl et al., 2012). However, due to a lack of accurate assessment, shortfall, over-provision and lack of consistency in applying regulatory requirements, accuracy is usually questioned (Van Druten & Bekker, 2017; SAHRC, 2016).

### 3.2.9 The National Environmental Management Air Quality Act 39 of 2004

The National Environmental Management Air Quality Act emphasised prevention and control of dust pollution as also being imposed by the 1991 Minerals Act (Swart, 2003). Disposing of other assets made by the mine in a specific situation is not allowed and is addressed in Section 32 of this Act. Therefore, the following acceptable closure process will allow for assets disposal. However, in the case of abandoned mines, the owner, according to the definition, will take responsibility for ensuring all prevention regulations until a closure certificate is granted.

### 3.2.10 Environmental Impact Assessment regulation

The Department of Environmental Affairs (DEA) (2014) emphasised that the mining companies are obliged to conduct environmental evaluations, evaluate the effects on socio-economic aspects and cultural heritage as mandated by mining rights.

The socio-economic aspects are combined with the environmental aspects in the Environmental Management Programme (EMPr) and Environmental Management Plan (EMP) (January & Lee, 2019). However, when looking at the determinations of mine

closure financial provision, the focus is on post-closure "environmental" aspects and silent about the social aspects of closure (January & Lee, 2019). The DEA (2014) emphasised that the amended Environmental Impact Assessment (EIA) regulations in 2014 outlined a closure plan with no references made to social closure. The EIA regulations are clear with what mining companies are responsible for, such as environmental damage and pollution. However, public participation in social aspects is limited.

### 3.2.11 Social and labour plans

The SLPs were introduced for the transformation of the South African mining industry. The MPRDA mandates the SLPs to resolve mine closure socio-economic challenges and assist mines and municipalities with integrated planning (RSA, 2002; Marais, 2013b; January & Lee, 2019).

Redressing socio-economic issues in the mining industries has been facilitated by submitting an SLP by mining companies as part of the application of their mining rights (RSA, 2002). The SLP remains a requirement until a certificate of closure is issued. The integrated development plans for local municipalities and plans for local economic development were supposed to be integrated by SLPs (Marais, 2013b). The objectives of SLPs are as follows:

- Job promotion and advancing social and economic wellbeing of all South Africans.
- Transformational changes associated with ownership in mining industries.
- Socio-economic advancement in local communities where mining industries operate, including labour-sending localities (Marais, 2013b).

The SLP turned out to be more than corporate social investment programmes (Marais, 2013b). Further, critics were that SLP projects are mostly linked with the types of implemented projects and the quality as part of SLP instead of enforcement; and whether the projects resolve current issues and mine closure related impact issues. Marais (2013b) considers SLP guidelines as weak concerning downscaling and mine closure due to its attention being given mostly to the employees instead of focusing on the impact it has on communities.

When facing downscaling, mining companies need to form a "future forum" where stakeholders meet and discuss the impact of downscaling on all stakeholders affected. A post-mining land use agreement is reached (January & Lee, 2019). Again, the strategy for saving jobs, avoiding declining employment and giving options for securing jobs in the case where job losses are inevitable, such strategy is required from the mining companies (January & Lee, 2019).

January and Lee (2019) highlighted that, regardless of SLP criticism, other mining industry professionals agreed that SLP could be useful as a tool for mine closure and implementation. Concerning community benefits from mining companies, the CALS supported the community position to approve or disapprove the rights to mine based on the benefits given to mine employees and the mine-affected communities (CALS, 2016). For example, the Xolobeni community disapproves of the proposal for mining rights in their land (Huizenga, 2019).

Regarding housing and living conditions, SLPs advocate for homeownership. The mine hostel should be converted into family units and single quarters. This increases human settlement around the mine. Subsequently, even though Section 100(1)(a) of the MPRDA state that housing plans and standards of living should meet required standards (Department of Mineral Resources [DMR], 2010), the approach to settlement need to be reconsidered, particularly in situations where the mine causes an increase in settlement and the risks involved in transferring houses to individuals (Marais & Cloete, 2013). The mining houses facilitated the process of family housing for migrant labourers who qualified to receive mortgage loans during the late 1980s (Marais, 2013a).

### 3.2.12 The 2018 Broad-Based Socio-Economic Empowerment Charter for the Mining and Minerals Industry

Many South Africans were marginalised and were prevented from owning means of production and participating in the mainstream economy because of the apartheid government's exclusion policies (RSA, 2018b). The 2018 Mining Charter aims to uphold equal access to mineral resources by all South Africans, including an increasing opportunity for historically disadvantaged South Africans. Also, the Mining Charter aims to promote sustainable jobs while advancing the socio-economic wellbeing of communities near the mine, including main labour sending localities (RSA, 2018b).

The main vision for the revised document was to enhance transformational changes, growth, development of the mining and mineral industry. At the same time, its mission focuses on giving effect to both Section 100(2) (a) of the MPRDA and Section 9 of the Constitution (RSA, 2018b). This was done to harmonise government transformation policies.

January and Lee (2019) noted that the main sections in the Mining Charter associated with mine closure are the ownership of the mine, development of the mining community, human resources development, preferred procurement processes, and growth and sustainable development. The Mining Charter required 30% black ownership (according to the Mining Charter's definition, black people were disadvantaged historically). Its composition included employee share ownership programmes with 8% allocation, mining communities also allocated 8% and 14% to black entrepreneurs, respectively; it is also expected of a mining company to pay 1% of turnover to black shareholders at any given financial year. Mining Charter III promote sustainable socio-economic advancement in local communities, which is fundamental to social closure planning.

### 3.4. Conclusion

The legislation outlined in this chapter is associated with mine closure and downscaling – their development contributing to the strengthening of vulnerable mining-affected communities. Previously, the developed legislation concentrated more on the environmental aspects while neglecting the mine closure social aspects in communities.

The Constitution stipulated that the people are entitled to their rights, such as a safe environment. All legislation developed should be aligned with the country's highest law, the Constitution. With the development of new legislation that governs mining operations, the MPRDA addressed the environmental and socio-economic consequences experienced by the mining-affected communities. Although it is observed that there are some challenges with law enforcement by the state and political interference, the legislative requirements should be followed and implemented. For instance, the development of SLPs should be done with the participation of community members.

# CHAPTER FOUR: RESEARCH FINDINGS

*"Mine decline thus brought with it some form of social disruption."* (Ntema et al., 2017)

## 4.1 Introduction

Following the South African policy and guidelines on mine closure and downscaling discussed in Chapter 3, the South African government made a fundamental shift on mining policies by enacting the MPRDA aligned with the international mine closure standard. The Act could help to address both social and environmental problems in mining areas.

This chapter presents an analysis of the findings from the data gathered during the interviews. Data analysis was conducted to assist in identifying trends, relationships and themes in the research. The findings are presented thematically, with the main themes classified for interpretation as follows: finding and holding a job in the mining industry, losing a job when a mine closed, reactions after a job loss when the mine close, and the means of adapting after closure.

## 4.2 Biographical data of the respondents

The biographical data in Table 4.1 present the research participants' personal information. This also clarified the study context of the participants.

***Table 4.2 Biographical data of the participants***

| Interview Number | Gender | Age | Education level | Marital status | Current location | Reason for losing a job | Years worked in the mine |
|---|---|---|---|---|---|---|---|
| 1 | Male | 60 | Grade 7 | Married | Gauteng | Retrenchment | 25 |
| 2 | Female | 50 | Grade 11 | Single | Gauteng | Retrenchment | 3 |
| 3 | Male | 59 | No school | Married | North West | Retrenchment | 33 |
| 4 | Female | 53 | Diploma | Married | KZN | Retrenchment | 3 |
| 5 | Female | 40 | Grade 7 | Single | Gauteng | Retrenchment | 2.5 |
| 6 | Male | 45 | Grade 7 | Married | Gauteng | Liquidation | 15 |
| 7 | Male | 51 | Grade 12 | Married | Gauteng | Liquidation | 24 |
| 8 | Male | 60 | Grade 12 | Married | Gauteng | Liquidation | 35 |
| 9 | Male | 59 | Grade 12 | Married | Gauteng | Liquidation | 32 |
| 10 | Male | 47 | Grade 12 | Married | Gauteng | Liquidation | 18 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| . 11 | Male | 35 | Diploma | Single | Gauteng | Retrenchment | 0.5* |
| . 12 | Male | 58 | Grade 9 | Married | Gauteng | Liquidation | 31 |
| . 13 | Male | 56 | Grade 8 | Married | Gauteng | Liquidation | 16 |
| . 14 | Male | 40 | Grade12 | Married | Gauteng | Liquidation | 7 |
| . 15 | Male | 68 | Grade 7 | Married | Gauteng | Liquidation | 42 |
| . 16 | Male | 59 | Grade 8 | Married | Gauteng | Liquidation | 33 |

* Note: Only after the interview had commenced did it become clear that the participant did not meet the inclusion criteria related to the length of employment. However, the interview covered pertinent themes, so it was included.

Participants tended to be male, older and married. Retrenchments and liquidations were equally common. The participants had little post-school education. Concerning the period of involvement with the mining industry, the length of service varied significantly – from six months to 42 years.

### 4.3 Finding and holding a job in the mining industry

The themes below presents how the participants find and hold on to their jobs in the mining industry.

#### 4.3.1 Getting a job through a contact

There was a picture sketched of common behaviour practised by men who experienced hardship and vulnerability in the household. The established relationships between different contacts provided opportunities for those searching for a better life. Family circumstances forced some of the participants to start looking for a job. One respondent said:

> *"I had to look for a job at an early age due to the challenges experienced in the household. You would find that you had to look after your family for a living." (16)*

As the above quote shows, the main drivers for searching for employment were household needs and lack of income. Although searching for a job was like looking for job opportunities, the mining industry was a big employer and well-known in rural communities. Five participants (1, 6, 7, 11 and 14) reported how they got their job in the mining company.

*"...I asked a friend how I can find a job in the mine. A friend told me that I have to go to Thohoyandou or Tzaneen to look for a job." (1)*

*"...the guys informed me that in Blyvoor mine – Carletonville, all people who know how to play sports would get a job in the mine." (6)*

Other mining companies invest in infrastructure for sport. The mining company seemed to recognise sporting activities as useful for the wellbeing of its employees.

4.3.2 Inequality

Three participants (2, 9 and 14) indicated that, in many workplaces, the employees did not receive the same treatment and black people received very poor treatment compared to white people. White people still receive better jobs and there were no equal rights. There were also views that the situation in the workplace has not changed after democracy. Other participants (9, 14 and 16) reported that even if a black person was doing the same job as a white person, the white person's income would be more. Three participants (2, 9 and 14) highlighted the economic inequality and poor treatment of black people based on the colour of their skin.

*"There was what I could recall a colour bar at the door. I am trying to say that you were either expected to do a clerical job to a specific category if you are a black person. We were limited to the workplace area and how you can move up to a particular class." (9)*

*"When they see us, they just see tools. We could pretend and tried to be high, but we will never be equal with the whites." (14)*

*"We used to work with whites doing the same job, but the whites earn more than blacks." (16)*

With regard to wages, it is evident that financial inequality was very much practised against black employees. Black employees experienced oppression as even if they performed better in their jobs, their efforts were not recognised.

4.3.3 Injury on duty and sickness

Three participants (1, 11 and 15) indicated that the mining company's compensation and care for the mine workers injured in the workplace were inadequate. A respondent reported

that the mining company decided to retrench the respondent without compensation due to injury in the workplace. Subsequently, the respondent reported the case to the Commission for Conciliation, Mediation and Arbitration (CCMA), wherein, in the end, a decision was taken where a respondent returned to work. Other concerns expressed during the interviews are:

> *"In 1982, while I was working as a Team Leader underground, my eyes got injured in the workplace. My problem was that the mine never paid me anything for being injured in the workplace." (15).*
> *"What is painful is that some of them had injuries in the mine, such as lung problems and most of the people who were my colleagues and worked underground raised that problem." (11)*

The above quotes show that injuries and health issues in the workplace were severe and the respondents felt the mining company did little or nothing to help them. The respondents said that the mining companies ignored workplace injuries and the mineworkers were not cared for by their employers. The former mineworkers' wellbeing was experienced as of less concern to the mining company.

4.3.4 Frequently changing company names and ownership

Participants 8, 10, 13 and 16 mentioned frequent changes in the name and ownership of the mine. The changes brought uncertainty to some of the participants. Although the participants had no role in changing the company name or ownership, any change affected the participants directly or indirectly. It became problematic when the new company owner did not meet the participants' expectations. The participants assumed more positive experiences in their lives when there were changes in the mining company, but the situation worsened.

> *"The Blyvoor changed from Rand Mine to Blyvoor Gold. It changes again to DRD Gold. It also changed and was owned by Village Main Reef Limited from DRD Gold." (8)*
> *"When the new owner bought the mine, we thought we would be relieved of our burdens. Unfortunately, their arrival worsened the situation." (13)*

The company changing of names and ownership occurred as a sign of instability and bankruptcy problems facing the mining company. Changes in ownership are common in mine decline areas, but as the respondents noted, this creates uncertainty.

### 4.4. Losing a job when the mine close themes

The consequences of losing a job due to mine closure include:

#### 4.4.1 Unemployment

All participants reported a severe problem of finding other employment after retrenchment and liquidation in the mining industry. Most respondents who lost their job at liquidation were old (see Table 4.1). In addition to old age, most participants only possess the skills to work in the mine and other workplaces prefer young people with diverse skills. All the participants reported that finding another job is difficult. They are only waiting for Blyvoor to reopen because the new owner promised that, even if they are old, the locals and people who lost jobs will be the first to be employed when the mine reopens.

> *"I am told 'Ke tsofetse, Ke madala' [translated: you are weak and old] in other mines. You are over 45 years." (10)*
> *"Almost 85% of people staying in Blyvoor are old, ranging from the age of 50 years upward and fewer people are at 40 years of age." (16)*

Other participants (2, 7, 9, 11 and 16) reported a delay in reopening the mine and people who lost their job are getting too old to work. The former mineworkers were impatient with the delay to reopen the mine. Subsequently, the delay triggers panic and uncertainties that the former mineworkers could lose opportunities for earning a livelihood again.

#### 4.4.2 Difficult to cope with job loss

This is one of the sensitive themes that emerged during the interview with the participants. All the participants showed how they struggled due to job loss and lack of income when the mine closed. The closure of the mine brought agony in the life of former mineworkers. This theme has a close relationship with the participants' reactions (see Section 4.4). Some of the participants (2, 3, 8, 9, 14 and 16) reported that they could not pay for their children's education and, subsequently, the children drop out of school. Most interviewed participants

(interview numbers) reported experiencing financial difficulties and cannot afford to pay for their essential needs within the household.

> *"The main challenge I faced was not knowing where the plate for food will come from." (8)*
> *"I found it very difficult because I had a loan that I took from the bank I am still paying for the loan even now." (4)*
> *"I had a challenge with my bond account's repayment because I could not afford to pay." (16)*

The failure to pay for a mortgage bond due to lack of income threatened the life of former mineworkers to own a shelter for their families. This situation could leave the former mine workers' families stranded while the financial institutions such as the banks demand bond repayments and threatening to repossess the property.

The experiences of coping with job loss and loss of income complicate all the interviewed participants' lives. All the participants showed different reactions after losing their jobs and the discussion is covered under themes that cover the reactions later in this chapter.

### 4.4.3 Retraining

Although mining companies usually provide mining-related training to the mineworkers, when the mine experiences downscaling and closure, training on skills needed outside mining is important.

Participants 2, 3 and 4 also raised the issue of training. Of the three participants, two indicated that the training never achieved its intended outcomes because they never got their credentials and the work tools promised during skills training. The English language used for training was a barrier to one of the participants and deprived the participant of the opportunity to be trained on other skills. The participant revealed that the training appeared to be focused on one skill identified by the employer, without the participants being allowed to choose for themselves. The following provides a sense of the concerns raised by the respondents:

*"The training was conducted by a company called MQA [Mining Qualification Authority], but we never received our certificates." (4)*

*"It is something that stressed us too much, especially people who were trained on skills, because we were having hope that they have lost their job at least the skills will assist them in bringing support in their household, you see." (2)*

*"Even by the time in the mine when they said they are taking us to school, I would have loved to do a certificate for a motor mechanic. I was disadvantaged because I did not go to school. I did not go to school because they speak English. Things are being communicated in English. They do not speak in Setswana as we speak in Setswana now." (3)*

The training disappointed the participants as they could not apply the skills due to a lack of formal documentation and trade tools. The interviewed participants expected valuable support from the mining company through skills development, which created more problems than the participants' solutions.

### 4.4.4 Family disintegration

Four participants mentioned examples of family disintegration (1, 6, 13 and 15) and indicated that they experienced marital problems. Some interviewed participants reported that if you are a man and not working, there are always tensions in the household, and "your wife could disrespect you". The following response points to this problem.

*"Right now, I am staying alone. My wife is married somewhere and I am staying alone." (1)*

*"The situation affected me because I ended up separated from my wife." (6)*

Sustainable jobs seemed to bring families together, and the former mineworkers' job losses caused separation in other families. In contrast, one participant (16) strongly indicated that, although it is common that when a man lost a job, women leave or divorce their husbands with him, the situation was different – his wife stayed and supported the family.

*"In many instances, your wife could leave you. Fortunately, I am still staying with my wife." (16)*

The belief that women leave you if you lose your job could be proven wrong. Even though losing a job could cause family problems, some women value their family and, therefore, choose to stay in their family, hoping that the situation will change one day.

4.4.5 Cutting of essential services in the Blyvoor community

The participants experience various challenges under this theme, including the electricity provider (Eskom) and the municipality suspending basic electricity, water, sanitation and maintenance services.

*Electricity cut.* Participant 7 reported that the mining companies paid for the electricity they were using, and since the mine closed, no one was paying for electricity. Eskom decided to cut the supply of electricity in the Blyvoor mining community. Although the power cut problem was experienced frequently, especially at night, the participants indicated that it was due to cable theft by the Zama Zamas (illegal miners). The issue will come up again under the theme of crime in Section 4.3.8. The participants indicated that they tried to negotiate with Eskom not to cut the electricity. The case ended in the North Gauteng High Court in Pretoria and the ruling was in favour of the Blyvoor community. The participant also indicated that the court instructed Eskom to install prepaid electricity and individual households in the Blyvoor community should pay for their electricity.

*Water cut.* Concerning water, the participants indicated that a similar situation like Eskom happened, where a case between the municipality and the Blyvoor community appeared in the North Gauteng High Court in Pretoria. The interviewed participants also reported that Lawyers of Human Rights represented the Blyvoor community in all the cases. The court again ruled in favour of the community, stating that the municipality cannot deny the Blyvoor community access to water. The court instructed the municipality to open the water in the Blyvoor community.

> *"The water in the Blyvoor community was closed by the Merafong City Local Municipality, claiming that there could not provide their services on a private property." (10)*

*Sanitation and maintenance.* Regarding sanitation, the interviewed participants indicated that they experienced sewage spills every time in the Blyvoor community and no one conducted

maintenance. The participants reported that they sometimes tried to fix the blockages themselves, but the environment smells bad. Although people are still staying in the area, the area is run down. The participants indicated that the municipality could no longer assist the community, citing private-owned land. The municipality has stopped even the collection of waste.

> *"In the Blyvoor community, the living conditions are not conducive to staying in because there were always sewage spills in the street due to sewage pipes' blockages. We tried to fix it ourselves, but it was not easy sometimes. The municipality did not come to conduct essential maintenance." (13)*

It is evident that when the mining area ceases to operate, all the basics services usually covered by the mining company also stopped. The former mineworkers could do little to sustain what the mining company did to support its workers.

4.4.6 Unpaid money for years of service

Some participants (10, 11, 13 and 16) indicated that many former mineworkers did not receive their money for years of service from the mining company – especially those affected by liquidation. Of the 16 participants, 11 participants worked in the mine for more than 15 years. Again from the 16 participants, one participant indicated that he never worked anywhere else but in the mine for 33 years.

> *"We did not even receive the money for our services." (10)*
> *"...I did not receive my money for service. At one stage, one of the union leaders once said, a car is bought with its wheels' if we want our money for service, we will get it from the new mine owner." (13)*

The former mineworkers are faced with situations where they cannot receive the money for the period worked in the mining company before the mine gets closed.

4.4.7 Keeping the database of former mineworkers and prevent them from getting job opportunities

This theme emerged independently during interviews with three of the participants. The theme shows that three participants (6, 14 and 15) revealed that the mining companies kept

personal records for former mineworkers in their system and kept their records active, disadvantaged them from getting other employment. The following quotes from the respondents reflect in this situation:

> *"When I tried to look for a job in other mines, I am told that I am working in Blyvoor mine because the system still shows that I am working. However, I am not working and I am not receiving any payments." (6)*
> *"The mine was supposed to provide me with something that showed that I worked in the mine. Unfortunately, the mine simply said, 'it is a [K-word]. We used him, let him go and die where he came from.' However, our names are still in the system as the mine is still in the liquidation process." (15).*

The participants are vulnerable to find other job opportunities because their chances of being employed are limited. Furthermore, the same mining company that kept the interviewed participants' records is not employing the affected former mineworkers who lost their jobs due to mine closure. The mining company does not support the affected participants with anything, and the participants are stuck with the previous employer who took away their freedom. Keeping records of former mineworkers without their knowledge and guidance caused more problems to the welfare of the interviewed participants. The welfare of the affected interviewed participants was not possible until they received their freedom.

#### 4.4.8 Crime

The theme crime comprised three sub-themes: corruption, cable and underground pipes theft, lawlessness, and safety and security in the community.

*Corruption.* One of the main sub-themes under crime highlighted by the interviewed participants was corruption. This was the point of focus by six participants (2, 3, 7, 8, 11 and 14), who said they were affected by corrupt activities in their life experiences. The repeated mentioning of the theme of corruption by the participants demonstrates the seriousness of the problem. One respondent said.

> *"Even if I decide to take this money, it is going to kill me. It will kill me because I will be living the tears of the people I worked with for more than 30 years. If you*

*thought that I would take money for bribery and sold the people, I am not like that, sorry." (7)*

The respondents also reported that corruption is rooted everywhere in South Africa. The participant said advertising for a position is a formality because the employer has already selected the appointees. The participants indicated that they appoint friends, relatives and those who are not known have to pay bribes to be awarded the jobs in the mining companies.

*"It is an entrepreneurship for the people." (11)*

The participants also reported that it became a norm to pay money that you do not have unless it is by God's grace, which is unusual when looking for a job.

*"…again to make things worse, is the corruption that we are having here in South Africa, that everywhere, you must know somebody inside, otherwise forget, you will hand in your CV, but if that CV does not go straight to the hands of the person who is hiring, forget." (2)*

Corruption is also common in mining companies and the government. One of the interviewed participants strongly argued and stated that,

*"…surprisingly, the liquidated company, DRD Gold, is busy with the slime dams of Sibanye Gold. How is that possible? The same company that was liquidated operating. What was their reason to be liquidated if it could still function and continue with the work? It is corruption." (14)*

Corruption hurts the former mineworkers' lives because corruption could trigger conflict in communities around the mines. It seems the corrupt leaders preferred to employ non-South Africans, knowing that they could easily rob them of their money without being questioned. Subsequently, the situation could lead to rivalry between unemployed former mineworkers and employed non-South Africans.

*Electricity cable and underground pipes theft***.** This sub-theme under crime emerged during interviews with five participants about cable and underground pipe theft (7, 8, 9, 10 and 16).

The participants reported that the Zama Zamas are the ones stealing underground electric cables. The abandoned mine attracted Zama Zamas and they wanted to control the area. The participant reported the trend of events conducted by the Zama Zamas when stealing electric cables and other underground pipes. The participants reported that they started by stealing all the cables in the mine plant. When all the cables in the plant have been stolen, they move to the houses and steal cables at night. When the cable finishes, they adopt a new strategy of digging all underground pipes except water pipes. The Zama Zamas sell the electric cable and other pipes for scrap.

Evidence of this theft of underground cables and pipes is visible in the many trenches in the area. The participants indicated that in the Blyvoor community, people experience cellphone theft. Also, the respondents reported an incident of rape against a woman. This shows that the act of crime moves from one criminal act to the other in the area.

> *"So, the cable was finished now. They started digging all the old pipes on the ground. The only pipes that they were leaving were the water pipes." (9)*
> *"The mining company was also claiming that the Zama Zamas has finished the cable and damaged the infrastructure underground." (10)*

The illegal act committed by the Zama Zamas in the abandoned mines is exacerbated by a lack of responsibility and poor planning by the mining companies and the government. The criminal act is being normalised and people viewed crime as normal activities that lack punishment.

*Lawlessness.* The other key sub-theme under crime mention by the interviewed participants is lawlessness. Three participants (8, 11 and 14) raised this issue and indicated that most people in authority committed lawlessness activities because they know they are protected. The participants said that the South African government is weak because it failed to enforce the law in the mining industry. The participants felt that the government allowed mine owners who failed to close the mine properly to continue operating somewhere else in the country.

> *"Unfortunately, regulations are broken, especially in South Africa, because if you are whoever who knows whomever, you can do whatever you want." (14)*

Lawlessness could promote disrespect for rules and regulation that governs the country's operations and may also compromise state security, which eventually affects the wellbeing of the most vulnerable, such as the poor.

*Safety and security in the community*. The last sub-theme under crime reported by the participants was the safety and security in the Blyvoor community. Five participants (1, 7, 10, 12 and 16) indicated that the area was unsafe, especially at night. The participants even reported that the police refused to patrol in the area during the night because it is too dark at night, and then it was not safe. Although it was not safe, the community members decided to patrol the area at night to protect their assets and their safety. Most of the community members in the area were living in fear of the Zama Zamas.

> *"…some of our community members lost their lives because Zama Zamas shot them at night in the Blyvoor community. However, others were lucky to survive." (16)*
> *"It was better if you have left because at night in the area it was not nice, and I decided that it is better if I went home." (1)*

4.4.8 Eviction from the mine houses

One of the central themes that many interviewed participants reported was eviction from the mine houses. This theme was also the focal point for seven of the 16 interviewed participants (2, 4, 6, 7, 8, 10 and 16). The participants' frequency of focus on the issue demonstrated that most of the interviewed participants have no place to go. Most participants indicated that they could only move out of the houses once they received their outstanding money. Some of the participants also reported that the property developer bought the mining houses from the liquidator. Accordingly, the property developer will renovate the houses and the former mineworkers have to pay R3 500 rent per month to stay in the houses. The participants reported that the community refused to pay rent for the houses.

> *"We ended up approached the Layers of human Rights because we were about to be evicted in the mining houses." (10)*
> *"The community 'panicked because they have no place to go. We decided that there is nowhere to go because they owed us." (16)*
> *"…I don't have a title deeds for this house, any time they can chase me away, where will I go?" (2)*

The former mineworker feels entitled to the mining houses because they claimed that the mine owner vanished without paying them their money for years of service. The evidence proved that the former mineworkers are connected to the area and are not willing to leave even if they are aware that they do not own the house.

4.5 Reactions after a job loss when the mine closed

This theme captures each interviewed participant's difficulties in dealing with the emotions experienced after losing jobs. A mixture of emotional states includes shock, disappointment, stress, unhappiness, pain, hopelessness, loss of trust, frustration, anger, vulnerability, disrespected and depression. The participants' reactions show that they did not receive any psychosocial support. And it was not easy for the participants to seek psychological help because they did not have the money. One participant also indicated that when you are hurt and share your problems, it helps because you feel relieved. The participants were also shocked when they discovered that the mine owner had vanished while working underground. The former mineworkers were left frustrated and to make the situation worse, the mine owner disappeared without paying their monthly salaries. As indicated in the previous section on struggling to find a job, age tends to add more stress to the interviewed participants, considering that young people are preferred to be hired over older people.

During the initial interviews, the participants were not comfortable sharing their experiences. At the same time, the participants tried to reflect on their emotional state when the mine closed. One said:

> *"…to be affected by liquidation was very painful because you know you have a job, but the next day you wake up with no job… it was very stressful and painful to lose a job." (14)*
>
> *"Again, if I were not strong physically because most people had passed on because they had experienced stress and other problems, I would have been passed away too because of stress. I was strong mentally to deal with depression and other challenges." (10)*
>
> *"I am the one who is grateful because, if you are crying and crying inside, you will die crying." (8)*

*"You took people to work, but at the end of the day, you could not afford to pay them. It is painful." (7)*

Different reactions were evident among the interviewed participants. Knowing that you worked for the mining company and losing your job without any compensation could leave you with nothing but a mixture of feelings such as agony and helplessness.

### 4.6 Adapting after mine closure

The theme presents alternative means considered by the participants after a job loss when the mine closed.

#### 4.6.1 Family support

This theme emerges from five interviewed participants (2, 5, 11, 14 and 16) who reported receiving family support. The participants reported that since they lost their jobs when the mine closed, they could not find stable jobs and their family was assisting with food and other needs lacking in the households. The importance of family support could be seen when days are darker. Lack of family support could destroy the livelihood of individuals and families.

*"I used to assist my family with the money and now I had to request money from the family." (11)*

*"My sister assisted me when I needed help, mostly when I failed to pay for my children's school fees." (14)*

Family ties can be strengthened when needed support is provided. Some of the participants indicated that they experience difficulty getting support because they were the ones who used to provide support before losing the job.

#### 4.6.2 Temporary jobs

This theme captures all the interviewed participants' means of adaptation after job loss. All the participants reported relying on "piece jobs" (informal, temporary jobs) to survive. Although finding a permanent job was challenging, finding a piece job was not easy either. The participants indicated that they looked for any job, but their ages caused a problem as they are old. Most of the piece jobs never lasted and participants ended up being vulnerable and unable

to support themselves. The vulnerability makes the participants accept any job, even if it is risky, low paying and tough.

> *"I survived through a piece of job. I sometimes dig trenches, the one I indicated that I get paid R15 per meter. When I got R15, I could buy a meal to have food on the table and buy toiletries." (13)*

With limited skills, a low level of education and old age, a person cannot find better job opportunities. People are likely to be vulnerable to meet basic needs.

4.6.3 Renting of space inside the house for income

Three participants (2, 6 and 15) reported that they survived from the income received from renting rooms inside the house. Although the tenants helped the interviewed participants with their livelihood, they indicated that they were not convinced that renting their house would be a long-term solution. The tenants' unguaranteed stay threatens their livelihoods because, if the tenants leave, the participants will no longer receive any income. The participants could not warn the tenants of any wrong act committed because they fear leaving. The interviewed participants depend on them for their survival.

> *"I am renting out two bedrooms in the three-bedroom house. The tenants pay R400 per room in a month so that I can be able to put food in the table." (6)*
> *"…because the house that I am staying in belongs to the mine. It has three rooms, I divide one room and at least I have got two tenants, you see." (2)*

Renting rooms inside the house is observed as economic diversification by the interviewed participants affected by mine closure. Their lives depend on the survival strategy needed when opportunities are limited.

4.6.4 Depend on South African Social Security Agency (SASSA) Grant

This theme emerges from three interviewed participants (1, 2 and 5) who reported they depend on SASSA grants to survive. The abuse of SASSA grants is a well-known issue. Although grants should meet the beneficiaries' needs, grants are used to support families in many cases. Most of the families are poor and cannot afford to buy the household's needs, so they depend on the available income in the household, which is grant money.

*"I am getting a pension now." (1)*

*"I relied on child support grants for survival…" (5)*

The household's shortage of income influences people to consider SASSA grants as an alternative way to support their families when households are in distress.

## 4.7 Conclusion

This chapter presented the findings that emerged from the analysis of the former mineworker's life experiences after reduction due to mine liquidation and closure. The chapter started with the participant's biographical information and followed by interpretation of findings under broader themes, which are finding and holding a job in the mining industry, losing a job when a mine closed, reactions after a job loss when the mine closes and the means of adapting after closure. The lessons learned from the findings are: first, although finding a job brought happiness in the life of the former mineworkers, economic inequality, ill-treatment of the sick and injured, and changing of ownership destroyed the wellbeing of former mineworkers. The mining company was perceived as more interested in the gains the company received from its former mineworker's efforts than the welfare of the former mineworkers.

Secondly, retrenchment, liquidation and mine closure were poorly handled. This was because there was no formal communication concerning liquidation and closure to the former mineworkers, who were shocked when they heard about this from the newspapers, posters and rumours. The situation had negative implications in the life of the former mineworkers and their families because the company's senior managers and owners vanished without saying anything. The plans of former mineworkers got shattered due to a lack of income and service benefits.

Concerning skills training, other former mineworkers received substandard training that did not equip them enough to compete outside mining jobs. As required by MPRDA and Social and Labour Plan, the mining industries were obliged to facilitate quality skills training for the mineworkers. There is also the problem of housing. Evidence suggests that former mineworkers stay in the mining houses with a threat of being evicted by the liquidator, but they are not ready to be removed. However, no provisions were made to accommodate the former mineworkers and their families. Regarding the database of former mineworkers, keeping

records of former mineworkers active by the mining company deprived them of the opportunity to get another job in another mining industry.

Thirdly, the devastating reactions presented by former mineworkers after job loss was heart-breaking. The reactions picture revealed that lack of psychological support such as counselling needed by the former mine worker and their families from the mining company and the government remains a challenge. Lastly, the lack of planning for economic diversification and law enforcement of the mine closure policies is problematic. The former mineworkers survived through support from their relatives, temporary jobs, renting rooms inside the house and social security grants intended for the beneficiaries to survive. The literature and interviewed participants prove that the former mineworkers struggled to cope after retrenchment when the mine closed.

## CHAPTER 5: DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

*"The expectation of local efforts to address mine downscaling alone is unrealistic, as the magnitude of such downscaling is too vast." (Marais, 2013:503)*

### 5.1 Introduction

The research aim was to investigate how former mineworkers sustain their livelihoods after losing their jobs in the mining industry. Considering that the mine life cycle is unpredictable and closure is inevitable, it is significant to understand the impact mining operations have on former mineworkers' lives. The impact includes the social and economic aspects of the study area. The mining industry is a major employer and contributes to nearby communities' socio-economic development when the mine is active. Nevertheless, serious concerns become the same socio-economic development of the host communities during mine and after mine.

What do former mineworkers' mine closure stories tell us about them? Evidence suggests that mining-dependent communities experienced significant disruption during the mine downscaling and closure in Blyvoor. Sixteen former mineworkers shared their life experiences of working in the mine and how they survive after losing their jobs to mine closure. Several themes emerged from their narratives; finding and holding the job in the mining industry, losing a job when the mine closed, reactions after a job loss when the mine closed and adapting after mine closure. The themes were analysed and presented in Chapter 4. This chapter discusses the identified study findings, main conclusions, limitations and recommendations for future studies.

### 5.2 Research findings summary

Table 5.1 below summarises the research findings by broader themes and sub-themes.

***Table 5.1: Research findings summary table***

| BROAD THEMES | SUB-THEMES |
|---|---|
| 1. Finding and holding a job in the mining industry. | • Getting a job through a contact<br>• Inequality<br>• Injury on duty and sickness<br>• Frequently changing company names and ownership |

| | | |
|---|---|---|
| 2. | Losing a job when the mine close themes. | • Unemployment<br>• Difficult to cope with job loss<br>• Retraining<br>• Family disintegration<br>• Cutting of essential services in the Blyvoor community<br>• Unpaid money for years of service<br>• Keeping the database of former mineworkers and prevent them from getting job opportunities<br>• Crime (corruption, electricity cable and underground pipes theft and lawlessness)<br>• Eviction from the mine houses |
| 3. | Reactions after a job loss when the mine closed. | |
| 4. | Means of adapting after mine closure. | • Family support<br>• Temporary job<br>• Renting of space inside the house for income<br>• Depend on South African Social Security Agency (SASSA) Grant |

5.3 Discussion of the findings

This section presents a discussion of the findings from the interviews, organised by broad themes. The discussion integrates findings with literature and relevant mine closure policy.

5.3.1 Finding and holding a job in the mine

Most of the participants indicated that they got their job through contact with people they know. Some participants indicated that they found their job in the mine together with their wives. There was a limited chance for women to find a job in the mine. Women were confined to work mainly in the kitchen and were not allowed to work underground. The following study findings were discussed under the broad themes:

The poverty and suffering experienced by the vulnerable members of the communities influenced people to network and search for a job. Networking or connection is the key influence in securing a job. This statement is confirmed by Calvó-Armengol and Zenou (2005), who indicated that workers could obtain a job directly or through personal contacts. Cappellari

and Tatsiramos (2015) argued that the increase influences the rate of finding a job in the number of employed contacts. As a result, forming non-familial contacts with the quality network also increase wages for highly skilled workers.

Sometimes it is not what you know but who you know that matters for success in the labour market. Contact with different people in society creates opportunities to find a job in the mining industry. Research also argued that networking could be effective for people looking for a job with weaker and stronger relationships in their network (Van Hoye, Van Hooft & Lievens, 2009).

Inequality remains a challenge in many workplaces and the country. This view agrees with a 2019 Statistics South Africa report, which found that South Africa is one of the countries with the highest rate of inequality in the world. One of the participants indicated that women occupy low-paying jobs in the mining industry. Similarly, respondents reported that black and white male employees were also not paid equally.

The third finding shows that mineworkers experienced injury and different occupational diseases such as tuberculosis (TB). The South African mining industry's unacceptably high rate of fatalities, injuries, and diseases has been emphasised as a challenge that should be improved (Department of Minerals and Energy, 1998). Some of the participants reported that the mining company did not care about the mineworkers who get sick. The mining company seemed to care less about the former mineworkers who experienced injuries and diseases while still working for the mine. One of the participants who suffered from TB, an occupational disease, was told to go home and be allowed to come back when he was healed, without any compensation for health treatment from the mining company. One participant (1) said: “I was told that when I am healed from TB, I can come back, so when I went back to the mine, I discovered that the mine was retrenching people; retrenching people until the manager left and then the mine was closed.”

Lastly, the participants also revealed that changing company names is common in the mining industry. Most of the participants indicated how changing company names and ownership affected their wellbeing. Research confirms that a change in mine ownership occurred (Marais, 2013; Marais et al., 2016). Subsequently, two implications were identified: the loss of trust between the mining houses and the municipalities; and a change in the mining approaches and

relations within the community (Marais, 2013). The other implication is that most of the participants continue to suffer because they lost their service benefits believed to be transferred to the new owner (discussed under Section 5.2.2).

### 5.2.2 Losing a job when the mine closed

Employment brings freedom to individuals and families, so becoming unemployed takes away freedom. Former mineworkers ended up living in abject poverty. Losing a job means no income, which eventually leads to individual and family problems such as depression (see Chapter 2).

Losing a job came as a shock to the former workers. The mining company was not prepared to share the information about mine closure with the workers. This finding is consistent with Ackerman et al. (2018a). They argued that the mining company made no preparation for job loss and resultant poverty, and losing a job also shocked the mining communities. As a result, Morojele and Maphosa's (2013) findings supported the idea and showed that the retrenchment shocked everyone as it was least expected. Again, the situation also suggests a lack of psychosocial support for the welfare of affected mineworkers. The former mineworkers experienced psychological trauma and were subjected to difficult conditions.

Concerning training, discussions with the respondents suggest that the retrenchment process was flawed. Mining companies did not provide quality training for new skills that prepare former mineworkers to seek jobs in other sectors. Ackerman et al. (2018a) supported the idea by maintaining that although the MPRDA proposed plans for skills development and job creation, miners affected by closure poorly benefited from these interventions. It seems the training provided was for compliance and not to benefit the affected retrenched mineworkers. Since the mine closure issue is unavoidable, retraining of new skills should not wait for workers to be affected by reduction or liquidation. The Centre for Development Support (2006) confirmed the shortage of skills by the mineworkers as the main problem identified from relevant literature, which limits labour mobility.

Mine closure destroys family structures. Some of the participants indicated that they separated from their partners due to the mine closure. Subsequently, children are faced with the challenges of having an absent father or mother in their life. Strengthening families is

fundamental in the well-being of individuals, family and the community. So, the lack of a clear plan to properly close the mine seems to continue collapsing family structures.

Regarding basic services, access to water, electricity and sanitation is problematic in the Blyvoor community. The Merafong Municipality was not prepared to provide service to the people who are not paying for services. The mining companies paid for water, electricity and sanitation provision where the former mineworkers stayed before the mine closure. Now that the mine is closed, it seems no one is willing to pay for services.

A significant finding relates to unpaid money for years of service. Although few respondents reported receiving retrenchment packages, those who received them were not satisfied with the package and claimed it was too small. This is in line with Morojele and Maphosa (2013), where it was shown that some of the retrenched former mineworkers expressed dissatisfaction with the retrenchment packages given. In addition, former mineworkers also claimed that they were inadequately compensated.

Most of the respondents never received their retrenchment packages. Losing a job is one thing, but losing your severance package or service money worsens the frustration of former mineworkers. This has severe implications for most families' sustainability and people continue to stay in the mining houses, claiming entitlement of the houses because they could not get their severance package. This was a double blow to former mineworkers' lives, losing a job and severance package. The retrenched workers were responsible for paying their accounts and supporting their families, but those left were struggling to cover their basic needs and were suffering.

An unexpected and important finding relates to the mine keeping a database of former mineworkers and prevent them from getting job opportunities to work in other mines. Some of the respondents were blocked from accessing other work opportunities because their records were kept active in the mine database. The practice seems the mine employees' records are kept in a central database linked to other mining companies. The situation ended up frustrating some of the former mineworkers. Whenever looking for a job in the mine and producing his identity document, the participant's record showed that he was employed, which was incorrect as he was not working and received no income. These were the participants who were affected by the liquidation of the mine when the mine closed.

In mining areas, corrupt leaders and organised crime groups in private and public institutions also cause major problems. The respondents identified the following sub-elements of criminal acts as critical:

- Corruption – According to the respondents, people in authority destroy morals for personal gain. The demand for bribery by people in authority to get employment threatened the lives of individuals, households, and society. Some of the retrenched mineworkers were required to pay a bribe to get a job in the mining industry. This is confirmed by Zvarivadza (2018), who argued that corrupt acts manifest themselves where there is money, so law enforcement agencies should be applied without fear or favour.
- Theft of electricity cables and underground pipes is also important because stealing electricity cables is a serious challenge in South Africa. This threatens the socio-economic development of the communities and the country. Again, stealing underground pipes in exchange for money from recycling firms is a problem.
- Lawlessness: Research shows that there is no longer respect for the rule of law. People in authority no longer obeys the rule of law, which is influenced by poor monitoring by the regulatory institutions. For example, mine owners who fail to close the mine or abandon the mine continue operating other mines.

Last, eviction from the mine houses, based on the research findings in Chapter 4, shows that most of the retrenched mineworkers have no place to go. The research argued that the rights to housing by the former mineworkers is lost when the mine closed (Ackerman et al., 2018a). Some respondents indicated that they would continue to stay in the mining houses and could only move out of the house when they received their retrenchment packages.

### 5.3.3 Reactions after a job loss when the mine closed theme

Following a job loss resulting from retrenchments and liquidation of the mine, the former mineworkers suffered psychologically. All respondents reported that they were unaware that the mine would close and the mine owners had disappeared. The MPRDA requires the mine owner to take responsibility for any environmental liabilities until the closure certificate is issued (RSA, 2002). Their employer did not inform the participants about selling the mine; instead, the employer decided to sell and left without making the employees aware. Although

the participants reacted differently (see Section 4.4 in Chapter 4), the psychological impact was severe, as most of the former mineworker was left stranded with no work and place to go.

### 5.3.4 Adapting after mine closure themes

Family plays an important role in strengthening another family during difficult times. This finding reflects that of Siyongwana and Shabalala (2018), who also found that the ex-miners received support from their relatives. The means of survival with no income and a shortage of jobs can be devastating. Some male participants reported that the situation would have been worse if their wives had not worked in other mines and sectors. Therefore, they relied on their wives for survival in their household. Some men indicated that they felt uncomfortable to be supported by their wives, but they had no choice because finding a job was difficult. While other relatives helped, support from a relative was not always guaranteed as they also have their family responsibilities. The implication was that the situation in the household changed as there was a shortage of food in the household, and supporting children with their basic things was a struggle. This agrees with Siyongwana and Shabalala's (2018) finding, which illustrated parents' concerns who could not afford to cover their children's educational needs, leading to the children dropping out of school and long-term effects on already distressed parents.

For instance, children had to change school from paying to non-paying schools, family outings were suspended, and in extreme cases to those in tertiary education, their studies ended up getting suspended. All these were caused by a shortage of income and were done to try to balance the pressure facing the household that the situation might change.

Second, piece jobs (temporary jobs): Based on the analysis and found in Chapter 4, most former mineworkers depended on temporary jobs for their survival as a means of livelihood. Their age also threatened the respondents' survival strategy, and most of the respondents are above 50 years, which rendered them unemployable in the mining industry and other sectors. Concerning temporary jobs, some participants indicated that they sometimes do the following to get money to survive: dig the holes for sewerage and trenches for putting cables; deliver building materials when bought in hardware; stock and sell clothes, collect scrap and cans for recycling, electrical wiring, a motor mechanic. Others said they are just staying at home doing nothing because they are old. All these activities for temporary jobs depend on whether you get the opportunity to be hired or not, and it is not guaranteed. One of the participants also indicated that it is possible to go out looking for a temporary job and come back without getting anything for days. This is

a frustrating situation as lack of chance to get a temporary job could make the participant and the family suffer from hunger. Economic diversification seemed to be a challenge with most of the former mineworkers.

Third, renting space inside the house for income: The lack of income severely affects individuals and families. Some participants realised that the only way they could survive is to partition one room into two rooms to rent out a space for income. The respondents indicated that the income is not guaranteed as the tenants can leave anytime. Looking for income to survive sometimes is not by choice but forced by the circumstances. The participant indicated that the houses they were renting belonged to the mining company, which allocated the houses for them to stay in. This implies that they were renting the houses that they do not own but were temporarily allocated to them when they worked for the mine. Seeing that life was difficult without income, the participants decided to rent out the space of the house for their survival.

Lastly, depending on the South African Social Security Agency (SASSA) Grant: This indicates that more people relied on social security grants for their survival. The grants meant for care for the elderly, children or people with disabilities are now used to support households. This proves that when life choices are limited, the available means of survival is an option, which is the availability of grant money. One of the participants confirms using grant money to add on the money to buy stock to sell. Although families of the retrenched former mineworker tried to look for alternative means of livelihood, some of the families survived from the grant.

## 5.4 Main recommendations

Based on the study findings, it is recommended that:

- Social facilitation of dialogues focusing on social aspects of mine downscaling and closure with the former mineworkers should be conducted by the mining company and the government. This should create a safe space for sharing views and challenges. The perspectives generated could inform required intervention and policy direction in the mining industry.
- The mining company and government should facilitate household profiling, targeting individual families of the former mineworkers to collectively plan and respond appropriately to the needs of individual households in mining areas.

- Mining should provide capacity-building to the retrenched mineworker or family members affected by mine closure. Capacity-building can change the negative circumstances of the household and in labour-sending areas – quality training in skills relevant to economic demand and able to improve labour mobility.
- Provide psychosocial support to all individuals and families of former mineworkers affected by retrenchment and liquidation when the mine closed. Counselling service is key in strengthening families.
- Government and other stakeholders should facilitate implementing a family restoration programme for the families affected by the mine closure.
- The mining industry and government should encourage and support their own houses by the mine employees at their place of birth. This would discourage mushrooming of settlement in mining areas with low economic opportunities.
- Mining closure is perpetual, so the mining industry and the local government should have an integrated plan early on for the estimated cost and responsibility that the local municipality may inherit. This should include all the infrastructure that the mine owns and services that the mine provides, such as mine houses and basic services.

## 5.5 Limitations and scope for future research

This study uses a qualitative case study approach. The implications of using a case study were known in advance – that the findings could not be generalised, but this does not lessen the significance of the findings for this mining locality. Also, the research focus was never to generalise the findings. The research aim was to investigate how former mineworkers manage to sustain their livelihoods after losing jobs in the mining industry. With an in-depth analysis of former mineworkers' stories from the Blyvooruitzicht Gold Mine Company locality, the findings contribute to the existing literature on social aspects of mine downscaling and mine closure in local communities.

Regarding primary data collection, the impact of the Coronavirus 2019 (Covid-19) pandemic and government-mandated lockdowns to restrict its spread had a pronounced impact on the collection of data in 2020. Primary data was collected through semi-structured in-depth interviews, but the lockdown restrictions imposed to minimise the risk of Covid-19 infection reduced the rate of participation by potential respondents. The General Human Research Ethics Committee of the University of the Free State recommended telephone interviews instead of

the common face-to-face interview when data was collected. This was to prevent harm that the impact of the Covid-19 pandemic could cause to the participants. Preventing harm to the participants is one of the key ethical issue requirements (Bryman, 2016; Terre Blanche et al., 2006). Some participants cancelled their appointments for interviews because they preferred face-to-face interaction.

Family disintegration resulting from mine closure affected most of the retrenched former mineworkers whose well-being was seriously impacted. Therefore, the researcher recommends that future research focus on how family disintegration and mental health may cause further difficulty securing a livelihood after retrenchment in the mining industry. The proposed future research is important because it may lead to other mine closure research on further livelihood challenges the retrenched mine workers face.

## 5.5 Conclusions

In conclusion, the study concludes by stating that mining closure threatened the livelihood of the former mineworkers. Mine closure is an event that destroyed individuals and families within their communities and other areas where former mineworkers reside. The negative consequences imposed by mine closure left the mining communities hopeless and in poverty. Although mining contributed to the social and economic upliftment of the host communities, its undesired impact takes away the freedom of the former mineworkers and their families. Furthermore, depending on a single sector for economic development, such as mining, increases economic change and transition vulnerability. Then, similar to growth in mining, the local and regional economic impacts resulted from mine downscaling cannot be ignored (Marais et al., 2016).

## REFERENCES


Ackerman, M., Van der Waldt, G. & Botha, D. 2018a. Mitigating the socio-economic consequences of mine closure. *The Journal of the Southern African Institute of Mining and Metallurgy,* Volume 118, pp 439-447.

Ackermann, A., Botha, D. & Van der Waldt, G. 2018b. Potential socio-economic consequences of mine closure. *The Journal for Transdisciplinary Research in Southern Africa,* 14(1), pp 1-11.

Andrews-Speed, P., Ma, G., Shao, B. & Liao, C. 2005. Economic responses to the closure of small-scale coal mines in Chongqing, China. *Resources Policy,* Volume 30, pp 39-54.

Asia-Pacific Economic Cooperation, 2019. *Mine Closure Checklist for Governments.* [Online] Available at: https://www.apec.org/Publications/2018/03/Mine-Closure---Checklist-for-Governments [Accessed: 26 April 2020].

Bainton, N. & Holcombe, S. 2018. A critical review of the social aspects of mine closure. *Resources Policy,* Volume 59, pp 468-478.

Bryman, A. 2016. *Social Research Methods.* International edition. Oxford: Oxford University Press.

Calvó-Armengol, A. & Zenou, Y. 2005. Job matching, social network and word-of-mouth communication. *Journal of Urban Economics,* 57(3), pp 500-522.

Cappellari, L. & Tatsiramos, K. 2015. With a little help from my friends? Quality of social networks, job finding and job match quality. *European Economic Review,* Volume 78, pp 55-75.

Cawood, F. 2004. The Mineral and Petroleum Resources Development Act of 2002: A paradigm shift in mineral policy in South Africa. *The Journal of The South African Institute of Mining and Metallurgy,* pp 53-64.

Centre for Development Support. 2006. Towards a post-mining economy in a small town: Challenges, obstacles and lessons from South Africa. Bloemfontein: Centre for Development Support.

Centre for Applied Legal Studies, 2016. *The Social and Labour Plan Series Phase1: System Design Trends Analysis Report.* [Online] Available at: https://www.business-humanrights.org/sites/default/files/documents/CALS%20Social%20and%20Labour%20Plans%20First%20Report%20Trends%20and%20Analysis%2030%20March%202016%20%28002%29.pdf [Accessed: 02 July 2020].

Cornelissen, H., Watson, I., Adam, E. & Malefetse, T. 2019. Challenges and strategies of abandoned mine rehabilitation in South Africa: The case of asbestos mine rehabilitation. *Journal of Geochemical Exploration,* Volume 205, pp 1-10.

Department of Mineral and Energy (DME). 1998. *White Paper Minerals and Mining Policy for South Africa,* Pretoria: Government Printers.

Department of Minerals Resource (DMR). 2010. *Social and Labour Plan guidelines for the Mining and Production Industries,* Pretoria: Department of Minerals and Energy.

Department of Environmental Affairs (DEA). 2014. *Environmental Impact Assessment Regulation,* Pretoria: Government Printers.

Edwards, J. & Maritz, A. 2019. Social aspects of mine closure: The elephant in the room in AB Fourie & M Tibbett (eds), *Proceedings of the 13th International Conference on Mine Closure,* pp 305-316. Perth, Australian Centre for Geomechanics. https://doi.org/10.36487/ACG_rep/1915_25_Edwards.

Everingham, J., Rolfe, J., Lechner, A.M., Kinnear, S. & Akbar, D. 2018. A proposal for engaging a stakeholder panel in planning post-mining land uses in Australia's coal-rich tropical savannahs. *Land Use Policy,* Volume 79, pp 397–406.

Grant, C. & Lacy, H. 2016. Developing Anglo American's integrated closure planning system requires people, process and technology working together*, in AB Fourie & M Tibbett (eds), Proceedings of the 11th International Conference on Mine Closure,* pp 581-594. Perth, Australian Centre for Geomechanics, https://doi.org/10.36487/ACG_rep/1608_43_Grant.

Haney, M. & Shkaratan, M. 2003. *Mine Closure and its Impact on the Community: Five Years After Mine Closure in Romania, Russia and Ukraine. Policy Research Working Paper 3083,* Washington: World Bank.

Huizenga, D. 2019. Governing territory in conditions of legal pluralism: Living law and free, prior, and informed consent (FPIC) in Xolobeni, South Africa. *The Extractive Industries and Society,* Volume 6, pp 711-721.

Humby, T. 2014. Facilitating dereliction? How the South African legal regulatory framework enables mining companies to circumvent closure duties. *Proceedings of the Ninth International Conference on Mine Closure.* Sandton, South Africa. Weiersbye, I.M., Fourie A., and Tibbet, M. (eds), Australian Geomechanics, Perth.

International Council on Mining and Metals (ICMM). 2019. *Integrated Mine Closure Good Practice Guide, 2nd Edition.* [Online] Available at:

https://www.icmm.com/website/publications/pdfs/closure/190107_good_practice_guide_web.pdf [Accessed: 21 April 2020].

January, M. & Lee, H. 2019. Discounting social mine closure planning in A.B. Fourie & M Tibbett (eds), *Proceedings of the 13th International Conference on Mine Closure.* Perth, Australian Centre for Geomechanics pp 317-332.

Krantz, L. 2001. *The Sustainable Livelihood Approach to Poverty Reduction. An introduction.*. [Online] Available at: https://www.sida.se/contentassets/bd474c210163447c9a7963d77c64148a/the-sustainable-livelihood-approach-to-poverty-reduction_2656.pdf [Accessed: 02 November 2020].

Laurence, D. 2002. Optimising Mine Closure Outcomes for the Community – Lessons Learnt. *Minerals & Energy,* Volume 17, pp 27-34.

Laurence, D. 2006. Optimisation of the mine closure process. *Journal of Cleaner Production,* Volume 14, pp 285-298.

Lawyers for Human Rights [LHR] & International Federation for Human Rights [FIDH]. 2016. *Blyvooruitzitcht Mine Village: The human toll of state and corporate abdication of responsibility in South Africa.* [Online] Available at: https://www.lhr.org.za/wp-content/uploads/2020/01/Blyvoor-HRIA_Final-Low-Def.pdf [Accessed: 29 October 2020].

Ledwaba, P. & Mutemeri, N. 2018. Institutional gaps and challenges in artisanal and small-scale mining in South Africa. *Resources Policy,* Volume 56, pp 141–148.

Ledwaba, P. & Nhlengetwa, K. 2015. When policy is not enough: Prospects and challenges of artisanal small-scale mining in South Africa. *Journal of Sustainable Development Law and Policy,* 7(1), pp 25-42.

Mancini, L. & Sala, S. 2018. Social impact assessment in the mining sector: Review and comparison of indicators frameworks. *Resources Policy,* Volume 57, pp 98-111.

Marais, L. 2013a. The impact of mine downscaling on the Free State. *Urban Forum,* Volume 24, pp 503-521.

Marais, L. 2013b. Resources policy and mine closure in South Africa: The case of the Free State Goldfields. *Resources Policy,* Volume 38, pp 363-372.

Marais, L. & Cloete, J. 2013. Labour migration, settlement and mine closure in South Africa. *Geography,* 98(2), pp 77-84.

Marais, L., Cloete, J., van Rooyen, D., Denoon-Stevens, S. & Nel, V. 2019. Place attachment and social disruption in Postmasburg, a rapidly growing South African mining town. *GeoJournal*, Volume 84, pp 71-83.

Marais, L. & Nel, E. 2016. The dangers of growing on gold: Lessons for mine downscaling from the Free State Goldfields, South Africa. *SAGE,* 31(1-2), pp 282-298.

Marais, L., van Rooyen, D., Nel, E. & Lenka, M. 2016. Mine closure, the resource curse and Marikana flue: Responses to downscaling in Mathlosana and Matjhabeng, Bloemfontein: University of the Free States.

Marais, L., Pelser, A., Botes, L., Redelinghuys, N. & Benseler, A. 2005. Public finances, service delivery, and mine closure in Koffiefontein (Free State, South Africa): From stepping stone to stumbling block. *Town and Regional Planning,* Volume 48 (special edition), pp 5-16.

Merafong City Local Municipality (IDP). 2020/2021. *Merafong City Local Municipality Draft Integrated Development Plan (IDP) 202-2021 (Review 2016-2021).* [Online] Available at: https://merafong.gov.za/datafiles/pdf/2020-2021/Doc/IDP/IDP%20Document%202020/Draft%20IDP%20Document%202020-2021%20May.pdf [Accessed: 29 July 2021].

Mbilima, F. 2019. Extractive industries and local sustainable development in Zambia: The case of corporate social responsibility of selected metal mines. *Resources Policy. https://doi.org./10.1016/j.resourpol.2019.101441,* pp 1-19.

Mhlongo, S. E. & Amponsah-Dacosta, F. 2016. A review of problems and solutions of abandoned mines in South Africa. *International Journal of Mining, Reclamation and Environment,* 30(4), pp 279-294.

Minerals Council South Africa. 2020. *Facts and figures pocketbook.* [Online] Available at: https://www.mineralscouncil.org.za/industry-news/publications/facts-and-figures [Accessed: 10 May 2021].

Morar, C. 2011. Several social impacts of mine closures in the disadvantaged areas of Bihor County, Romania. *Forum Geografic. S.C.G.P.M,* 10(2), pp 303-311.

Morojele, R. N. & Maphosa, F. 2013. Return, reintegration and survival: The case of Basotho labour migrants retrenched from South African mines. *Botswana Journal of African Studies,* 27(49), pp 272-289.

Morrison-Saunders, A., McHenry, M.P., Wessels, J.A., Sequeira, A.R., Mteghad, H. & Doepel, D. 2015. Planning for artisanal and small-scale mining during EIA: Exploring the potential. *The Extractive Industries and Society,* Volume 2, pp 813-819.

Ndeleki, C. N. 2018. *The effects of mine downscaling (and closure) on the socio-economic development of mining communities: The case of Oranjemund. Masters in Development Studies,* Bloemfontein: University of the Free State.

Nehring, M. & Cheng, X. 2016. An investigation into the impact of mine closure and its associated cost on life of mine planning and resource recovery. *Journal of Cleaner Production,* Volume 127, pp 228-239.

Nel, E. L., Hill, T. R., Aitchison, K. C. & Buthelezi, S. 2003. The closure of coal mines and local development responses in Coal-Rim Cluster, northern KwaZulu-Natal, South Africa. *Development Southern Africa,* 20(3), pp 369-385.

Nhlengwetwa, K. & Hein, K. 2014. Zama-Zama mining in the Durban Deep/ Roodeport area of Johanessburg, South Africa: An invasive or alternative livelihood? *The Extractive Industries and Society,* Volume 2, pp 1-3.

Ntema, J., Marais, L., Cloete, J. & Lenka, M. 2017. Social disruption, mine closure and housing policy: Evidence from the Free State Goldfields, South Africa. *Natural Resources Forum,* Volume 41, pp 30-41.

O'Faircheallaigh, C. & Lawrence, R. 2019. Mine closure and the Aboriginal estate. *Australian Aboriginal Studies,* Issue 1, pp 65-81.

Owen, J. & Kemp, D. 2018. *Mine closure and social performance: an industry discussion paper. Centre for Social Responsibility in Mining, Sustainable Minerals Institute,* Brisbane: The University of Queensland.

Patton, M. 1990. Qualitative evaluation and research methods (pp 169-186). Beverly Hills, CA: Sage.

Peck, P. & Sinding, K. 2009. Financial assurance and mine closure: Stakeholder expectations and effects on operating decisions. *Resources Policy,* Volume 34, pp 227–233.

Pini, B., Mayes, R. & McDonald, P. 2010. The emotional geography of a mine closure: A study of the Ravensthorpe nickel mine in Western Australia. *Social & Cultural Geography,* 11(6), pp 459-574.

Rao, P. M. & Pathak, K. 2005. Socio-economic impacts of mine closure: A case study using satellite imagery. *International Journal of Environmental Studies,* 62(5), pp 555-570.

Republic of South Africa (RSA). 1991. *Republic of South Africa (RSA). 1991. Mineral Act No 50 of 1991,* Pretoria: Government Printer.

Republic of South Africa (RSA). 1996a. *Constitution of the Republic of South Africa (Act 108 of1996),* Pretoria: Government Printer.

Republic of South Africa (RSA). 1996b. *Mine Health and Safety Act (MHSA) 27 of 1996,* Pretoria: Government Printers.

Republic of South Africa (RSA). 1998a. *The White Paper on Local Government,* Pretoria: Government Printer.

Republic of South Africa (RSA). 1998b. *The National Environmental Management Act (NEMA) No. 107 of 1998,* Pretoria: Government Printer.

Republic of South Africa (RSA). 2002. Mineral and Petroleum Resources Development (MPRDA) Act 28 of 2002. Pretoria: Government Printer.

Republic of South Africa (RSA). 2018b. *Draft Broad-Based Socio-Economic Empowerment Charter for the Mining and Mineral Industry, 2018.* [Online] Available at: https://www.greengazette.co.za/notices/mining-charter-2018-publication-of-the-draft-broad-based-socio-economic-empowerment-charter-for-the-mining-and-minerals-industry-2018-herein-referred-as-the-draft-mining-charter_20180615-GGN-41714-00611.pdf [Accessed: 02 July 2020].

Rixen, A. & Blangy, S. 2016. Life after Meadowbank: Exploring gold mine closure scenarios with the residents of Qamini'tuaq (Baker Lake), Nunavut. *The Extractive Industries and Society,* Volume 3, pp 297–312.

Roche, C. & Judd, S. 2016. Ground Truths: Taking Responsibility for Australia's Mining Legacies. [Online] Available at: http://www.mpi.org.au/wp-content/uploads/2016/06/Ground-Truths-2016-web.pdf [Accessed: 30 April 2020].

Sedgman. 2016. Cullen Valley Mine. Care and Maintenance Mining Operations Plan. [Online] Available at: http://www.castlereaghcoal.com.au/wp-content/uploads/2015/09/A399-D-07-RT_001-CVM-Care-Maintenance-MOP_20160218.pdf [Accessed: 29 October 2020].

Siddle, A. & Koelble, T. A. 2016. Local government in South Africa: Can the objectives of the developmental state be achieved through the current model of decentralised governance? Research Report No 7. [Online] Available at: https://icld.se/app/uploads/files/forskningspublikationer/siddle-koelble-icld-report-7.pdf [Accessed: 30 October 2020].

Siyongwana, P. Q. & Shabalala, A. 2018. The socio-economic impacts of mine closure on local communities: Evidence from Mpumalanga Province in South Africa. *GeoJournal. https://doi.org/10.1007/s10708-018-9864-5.*

South African Human Rights Commission (SAHRC). 2016. *National Hearing on the Underlying Socio-economic Challenges of Mining-affected Communities in South*

*Africa.* [Online] Available at: http://www.sahrc.org.za/home/21/files/SAHRC%20Mining%20communities%20report%20FINAL.pdf [Accessed: 29 July 2021].

Stacey, J., Naude, A., Hermanus, M. & Frankel, P. 2010. The socio-economic aspects of mine closure and sustainable development: literature overview and lessons for the socio-economic aspects of closure – Report 1. *The Journal of the Southern African Institute of Mining and Metallurgy,* Volume 110, pp 379-394.

Statistics South Africa (StatsSA). 2019. *Inequality Trends in South Africa: A multidimensional diagnostic of inequality*. [Online] Available at: http://www.statssa.gov.za/publications/Report-03-10-19/Report-03-10-192017.pdf [Accessed: 15 June 2021].

Strambo, C., Aung, M. T. & Atteridge, A. 2019. *Navigating coal mining closure and societal change: Learning from past cases of mining decline,* Sweden: Stockholm Environment Institute.

Svobodova, K. 2019. Life post-closure: Perception and use of rehabilitated mine sites by local communities, in AB Fourie & M Tibbett (eds), *Proceedings of the 13th International Conference on Mine Closure,* pp 333-344. Perth, Australian Centre for Geomechanics. https://doi.org/10.36487/ACG_rep/1915_27_Svobodova.

Swart, E. 2003. The South African legislative framework for mine closure. *The Journal of The South African Institute of Mining and Metallurgy,* pp 489-492.

Terre Blanche, M., Durrheim, K. & Painter, D. 2006. *Research in Practice. Applied methods for the social sciences.* Second edition. Cape Town: University of Cape Town Press.

Van Druten, E. V. & Bekker, M. 2017. Towards an inclusive model to address unsuccessful mine closures in South Africa. *The Journal of the South African Institute of Mining and Metallurgy,* Volume 117, pp 485-490.

Van Hoye, G., vanHooft, E. A. J. & Lievens, F. 2009. Networking as a job search behaviour: A social network perspective. *Journal of Occupational and Organizational Psychology,* Volume 82, pp 661-682.

Van Zyl, H., Bond-Smith, M., Minter, T., Botha, M. & Leiman, A. 2012. *Financial Provisions for Rehabilitation and Closure in South African Mining: Discussion Document on Challenges and Recommended Improvements,* Cape Town: WWF-World Wide Fund For Nature (Formerly World Wildlife Fund).

Vivoda, V., Kemp, D. & Owen, J. 2019. Regulating the social aspects of mine closure in three Australian states. *Journal of Energy & Natural Resources Law,* 37(4), pp 405-424.

Warhurst, A. & Mitchell, P. 2000. Corporate social responsibility and the case of Summitville mine. *Resources Policy,* Volume 26, pp 91-102.

Watson, I. & Olalde, M. 2019. The state of mine closure in South Africa – What the numbers say. *The Journal of the Southern African Institute of Mining and Metallurgy,* Volume 119, pp 639-645.

WorldBank. 2002. *It's not over when it's over: Mine Closure Around the World.* [Online] Available at: http://siteresources.worldbank.org/INTOGMC/Resources/notoverwhenover.pdf [Accessed: 28 April 2020].

Yang, P. & Davis, G. 2018. Non-renewable resource extraction under financial incentives to reduce and reverse stock pollution. *Journal of Environmental Economics and Management,* Volume 92, pp 282-299.

Zvarivadza, T. 2018. Large scale miners – Communities partnerships: A plausible option for communities survival beyond mine closure. *Resources Policy,* Volume 56, pp 87-94.

ANNEXURES
ANNEXURE ONE: ETHICS APPROVAL LETTER

UNIVERSITY OF THE FREE STATE
UNIVERSITEIT VAN DIE VRYSTAAT
YUNIVESITHI YA FREISTATA

UFS
UV

**GENERAL/HUMAN RESEARCH ETHICS COMMITTEE (GHREC)**

01-Jul-2020

Dear Mr Jan Cloete

**Application Approved**

Research Project Title:
**Mine closure narratives in South Africa**

Ethical Clearance number:
**UFS-HSD2020/0653/3006**

We are pleased to inform you that your application for ethical clearance has been approved. Your ethical clearance is valid for twelve (12) months from the date of issue. We request that any changes that may take place during the course of your study/research project be submitted to the ethics office to ensure ethical transparency. furthermore, you are requested to submit the final report of your study/research project to the ethics office. Should you require more time to complete this research, please apply for an extension. Thank you for submitting your proposal for ethical clearance; we wish you the best of luck and success with your research.

Yours sincerely

**Dr Adri Du Plessis**
**Chairperson: General/Human Research Ethics Committee**

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ANNEXURE TWO: INFORMED CONSENT

UNIVERSITY OF THE FREE STATE
UNIVERSITEIT VAN DIE VRYSTAAT
YUNIVESITHI YA FREISTATA
UFS UV

**RESEARCH STUDY INFORMATION LEAFLET AND CONSENT FORM**

**DATE**

June 2020

**TITLE OF THE RESEARCH PROJECT**

Mine closure narratives in South Africa

**RESEARCHERS' NAMES AND CONTACT NUMBERS:**

| | | |
|---|---|---|
| Boitumelo Joy Alec | 2004056350 | Contact number |
| Mmboneni Steven Magadzu | 2016345080 | Contact number |

**FACULTY AND DEPARTMENT:**

Faculty of Economic and Management Sciences
Centre for Development Support

**STUDY LEADERS' NAME AND CONTACT NUMBER:**

| | |
|---|---|
| Prof Lochner Marais (0404707) | 051 401 2978 |
| Mr Jan Cloete (0851348) | 051 401 3599 |

**WHAT IS THE AIM/PURPOSE OF THE STUDY?**

To gather stories on how former mineworkers manage to sustain their livelihoods after losing jobs in the mining industry

**WHO IS DOING THE RESEARCH?**

Two students who are doing research for the degree Master of Development Studies.

**HAS THE STUDY RECEIVED ETHICAL APPROVAL?**

This study has received approval from the Research Ethics Committee of UFS. A copy of the approval letter can be obtained from the researcher.

**Approval number:** Insert approval number

**WHY ARE YOU INVITED TO TAKE PART IN THIS RESEARCH PROJECT?**

We have been referred to you by someone else who has lost their job in the mining industry and taken part in the study. As someone who has experience in working in the industry and losing your job, we would like to hear your story.

**WHAT IS THE NATURE OF PARTICIPATION IN THIS STUDY?**

Participation will be in the form of two interviews. The first will be for one hour, telling us your story. After we have had time to write up your story, we will return to ask some more questions to clarify some information. The second interview should only take about 20 minutes

**CAN THE PARTICIPANT WITHDRAW FROM THE STUDY?**

Participation in the study is voluntary, there is no penalty for non-participation, and you are under no obligation to consent to participation. If you do decide to take part, you will be given this information sheet to keep and be asked to sign a written consent form. You are free to withdraw at any time and without providing a reason, and upon your request, the information you have provided will be destroyed.

**WHAT ARE THE POTENTIAL BENEFITS OF TAKING PART IN THIS STUDY?**

Unfortunately, we cannot provide you with any benefits, material or otherwise, for your participation in the project. Your story will, however, help us understand the impact of job losses in the mining industry.

**WHAT IS THE ANTICIPATED INCONVENIENCE OF TAKING PART IN THIS STUDY?**

Beyond the 80 minutes it will take to take part in the two interviews, we do not foresee any inconvenience or risk.

**WILL WHAT I SAY BE KEPT CONFIDENTIAL?**

Your name will not be recorded, anywhere and no one will be able to connect you to the answers you give. Your responses will be given a pseudonym, and you will be referred to in this way in the data, any publications, or other research reporting methods such as conference proceedings. Your answers will only be viewed by the interviewer and their supervisors. Your responses may be reviewed by people responsible for making sure that research is done correctly, such as members of the Research Ethics Committee. Otherwise, records that identify you will be available only to people working on the study, unless you give permission for other people to see the records.

**HOW WILL THE INFORMATION BE STORED AND ULTIMATELY DESTROYED?**

All electronic information will be stored on a password-protected computer. Future use of the stored data will be subject to further Research Ethics Review and approval if applicable. The information will be deleted after five years have passed.

**HOW WILL THE PARTICIPANT BE INFORMED OF THE FINDINGS / RESULTS OF THE STUDY?**

If you would like to be informed of the final research findings, please contact the interviewer. Should you require any further information or you have concerns about how the research has been conducted, please contact the supervisors.

**Thank you for taking the time to read this information sheet and for participating in this study.**

**CONSENT TO PARTICIPATE IN THIS STUDY**

I, _____ (participant name), confirm that the person asking my consent to take part in this research has told me about the nature, procedure, potential benefits and anticipated inconvenience of participation.

I have read (or had explained to me) and understood the study as explained in the information sheet. I have had sufficient opportunity to ask questions and am prepared to participate in the study. I understand that my participation is voluntary and that I am free to withdraw at any time without penalty. I am aware that the findings of this study will be anonymously processed into a research report, journal publications and/or conference proceedings.

I agree to the recording of the interview.

I have received a signed copy of the informed consent agreement.

Full Name of Participant: _____

Signature of Participant: _____ Date: _____

Full Name(s) of Researcher(s): _____

Signature of Researcher: _____ Date: _____

ANNEXURE THREE: INTERVIEW SCHEDULE

**Phase 1:**

***Question 1*** (20 min): Tell us the story of being employed at a mine *(Briefly explain how you initially got a mining job, how long you worked in mining, when did you lose the mining job and how you lost that job? What were the consequences for you and your family after losing this mining job?*

Answer these questions by making a trying to allocate time frames to the main activities.

***Question 2*** (40 min): Tell us your story after losing your job at a mine (*Did you apply for other jobs? (Discuss the various applications and levels of success). How easy was it to find another job? What various activities did you undertake to provide? How successful have you been in finding an alternative livelihood after your mining job? How easy or difficult was it to make a living after mining?)*

Answer these questions by trying to allocate time frames to the main activities.

**Phase 2:**

All interviews will be transcribed and follow-up questions will be clarified with the participants

***Questions (20 min):***

1. How prepared were you to make a living after mining?
2. What helped you to make a living after mining?
3. What skills did you not have to make a living after mining
4. Document the following:
   - The age of the worker
   - Where the interview was conducted
   - Gender
   - Is the person married?
   - Is there evidence of having been or still is a migrant worker?

ANNEXURE FOUR: LETTER FROM LANGUAGE EDITOR


# Jacqueline Kraamwinkel

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**30/07/2021**

**To whom it may concern**

This is to certify that the **MINI DISSERTATION** titled **MINE CLOSURE NARRATIVES IN BLYVOORUITZICHT GOLD MINE IN WESTRAND, SOUTH AFRICA** by **MMBONENI STEVEN MAGADZU** student number **2016345080** has been copy-edited and proofread* by a professional language editor in accordance with the requirements of the partial fulfilment of the degree **MASTER MASTER OF DEVELOPMENT STUDIES (MDS)** at the **CENTRE FOR DEVELOPMENT SUPPORT FACULTY OF ECONOMIC AND MANAGEMENT SCIENCES** at the **UNIVERSITY OF THE FREE STATE BLOEMFONTEIN.**

**Sincerely,**

**Jacky Kraamwinkel**

BA (English and Psychology) – UJ
BA (Hons) English Literature – UJ
PEG membership no: KRA002

**Certification valid for version signed of by language editor only.*