



# **An investigation of the entering process into the small-scale diamond mining market in the North West Province of South Africa**

**R Zuidersma**

 **orcid.org/0009-0000-4923-026X**

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requirements for the degree *Master of Business  
Administration* at the North-West University

Supervisor: Mr JC Coetzee

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## DECLARATION

I Roelof Zuidersma declare herewith that the mini-dissertation entitled An investigation of the entering process into the small-scale diamond mining market in the North West Province of South Africa, which I herewith submit to the North-West University in partial compliance with the requirements set for the degree: Master of Business Administration is my own work, has been text-edited in accordance with the requirements and has not already been submitted to any other university.

Signature

A handwritten signature in black ink, appearing to be 'R. Zuidersma', with a long, sweeping horizontal line extending to the right.

## **ACKNOWLEDGEMENTS**

Completing this study could not have been possible without the expertise of Mr. Johannes Coetzee, my beloved research supervisor.

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## ABSTRACT

The small-scale diamond mining industry in the North West Province of South Africa is experiencing a sustained decline, creating an urgent need to investigate pathways for new entrants into the market. Strategic planning is essential for navigating regulatory complexity, policy uncertainty, administrative burdens, and the need for effective community engagement, all while remaining compliant with existing legislation. Despite these challenges, the small-scale mining sector continues to play a vital role in local economic development, employment creation, and community sustainability, with several towns historically built around diamond mining activities. The contraction of this sector has therefore had significant socio-economic consequences for these communities.

This study aimed to determine how newcomers can enter the small-scale diamond mining market, identify the primary challenges they face, and examine the strategies employed to overcome these obstacles. Semi-structured interviews were conducted with existing small-scale diamond miners, using pre-distributed questions to ensure consistency. The interviews were transcribed and analysed using Atlas.ti, enabling the identification of key themes and categories related to regulatory challenges, operational management strategies, and prospects for future growth.

The findings reveal that compliance with mining legislation and achieving operational sustainability are the most significant challenges confronting the sector. Participants reported that navigating complex and frequently changing mining policies often requires the support of specialised consultancy firms, highlighting institutional barriers to entry for newcomers. The study further indicates that long-term sustainability in small-scale diamond mining is closely linked to regulatory compliance, technological adaptation, and responsible resource management. Participants emphasised the need for clearer, more supportive, and context-sensitive regulatory frameworks to reduce uncertainty and encourage formalisation within the sector.

From a broader policy perspective, the study underscores the importance of regulatory reform that balances environmental protection, economic viability, and social development. Improved policy coherence, streamlined administrative processes, and targeted support for technology adoption could enhance productivity while promoting sustainable mining practices. By addressing these issues, policymakers can strengthen the resilience of the small-scale diamond mining sector, support community livelihoods, and contribute to inclusive and sustainable economic development in mining-dependent regions of South Africa.

**Key Words:** SMALL-SCALE MINING, DIAMONDS, REGULATION, LEGISLATION, MPRDA, NEMA, ECONOMY, COMMUNITY, EMPLOYMENT.

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# CHAPTER 1      ORIENTATION AND PROBLEM STATEMENT

## 1.1 Introduction

Diamonds could be mined primarily from two different deposits. The first method is to retrieve it from the primary deposit of Kimberlite pipes and fishers. The second method retrieves it from alluvial deposits. These deposits were formed when alluvial systems weather away the Kimberlite and transport the material to new locations. These diamonds are found in the river deposits known as gravel (Wilson & Henry, 2006:302).

These river gravel deposits could be found all over South Africa. The challenge is to find a deposit that has diamonds that are economical to mine. Large mining operations have been undertaken to mine these deposits, yet most large organisations have closed their mining operations due to being unable to mine economically. According to Khumalo (2021), large organisations such as De Beers, which dominates the diamond industry in South Africa, primarily mines Kimberlite. This enables them to mine a single area for a prolonged time. On the other hand, Alluvial mining operations relocate on average once every 15 months as needed to a more profitable area.

These alluvial mines played a significant role in South Africa's economy. They produced up to three percent of the total diamonds produced in South Africa. In 2004, nearly 2,000 small diamond mining organisations employed up to 25,000 people. In 2021, only these 220 organisations remained, and they employed 5,720 people (Parker, 2023).

Interdependent diamond producers claimed that this sector's declined due to poor legislation and overregulation. It is essential for these organisations to manage their way through this uncertainty. They had to manage changing environments, bureaucracy, imposing regulations, and lack of investment while being profitable (Khumalo, 2021).

Therefore, the study focused on how they approached new projects and ensured they achieved their goals. It was important for these organisations to have a strategic plan and to make accurate risk assessments before investing in this sector. The strategic proposal process of being awarded a mineral right is crucial for the private diamond industry to be sustainable and ultimately achieve growth. According to the Mineral and Petroleum Resources Development Act, (Act 28 of 2002), organisations/individuals need to submit estimated financial reports of the project, basic assessment reports or environmental assessment reports and environmental management reports, mine work programs or prospecting work programs, among others. This is all part of the

strategic planning that organisations should do before they are authorized by the Department of Mineral and Petroleum Resources to conduct mining activities.

## **1.2 Background to the study**

Old prospecting methods were the first exploration technique used for alluvial diamonds. These methods involved observing drainage channels and excavating these areas with a pick and shovel. After the initial discovery of alluvial diamonds, the gravel was assessed for profitability, and the richer gravel runs were exploited immediately.

Today, multiple methods for target selection exist, but none are universally applicable. Furthermore, heavy earth-moving equipment has improved the excavation process and the processing of gravel. These organisations use remote sensing, geophysical surveys, drilling and pitting, and bulk sampling (Wilson & Henry, 2006:305).

According to the Mineral and Petroleum Resource Development Act (Act 28 of 2002) (MPRDA), organisations are required to have a valid Mining Permit, Prospecting Right or Mining Right to mine/prospect for alluvial diamonds.

The Mineral and Petroleum Resource Development Act 28 of 2002 stipulates that the following documentation needs to be compiled and submitted to the Department of Mineral and Petroleum Resources and Department of Water and Sanitation in their respective time frames to be awarded a mineral right:

- Regulation 2.2 Plan of the proposed mineral right area.
- Financial statements to determine the applicant's ability.
- Geological report.
- A Prospecting Works Program/Mining Works/Program (PWP/MWP).
- Environmental Impact Assessment (EIA).
- Environmental Management Program (EMP).
- A Quantum of Financial Provision (QFP).
- Rehabilitation Program.
- Water use application if necessary.

Thus, before any organisation could start prospecting or mining, all of the documents mentioned above should have been compiled and submitted to the Department of Mineral Regulation.

### **1.3 Literature Review**

Ledwaba and Nhlengetwa (2016:26) stated that South Africa is a global leader in the mining sector. South Africa has established itself as an expert among its peers in Africa. This sector is dominated by large transnational mining organisations instead of local ones. These large mining organisations account for 90% of the mining organisations in South Africa. It is vital for economic growth and social development to have growth in small-scale mining organisations to improve economic growth. The Government has identified small-scale mining operations as a vehicle for social and economic growth, particularly in rural areas (Ledwaba & Nhlengetwa, 2016:26).

Although the environmental risk involved with small-scale mining operations is significantly smaller than that of large mines, the government has deemed it necessary for small-scale mines to have the same policies as large mines (Morrison-Saunders *et al.*, 2015:314).

#### **1.3.1 The importance of small-scale alluvial diamond mines.**

According to Creamer (2020), alluvial diamonds produced in South Africa are “world famous” as “special” stones. The stones produced from the Orange River have the highest average value per carat of any other stones produced in the world. Another crucial factor was the location of these mines. These mines are located in remote rural areas among the Vaal River system, such as Schweizer-Renke, Christiana, Wolmaransstad, Vryburg, and Bloemhof, to name but a few.

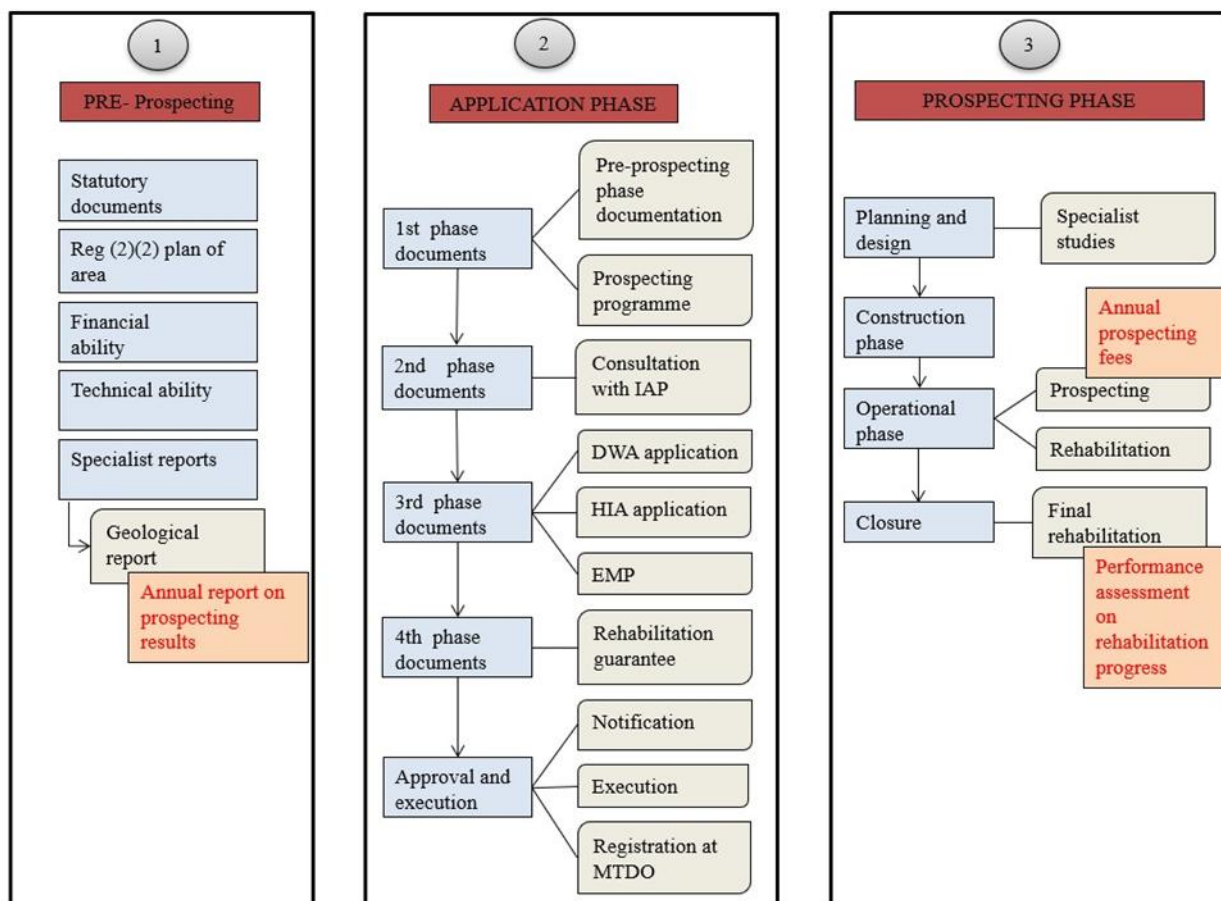
Unemployment in these regions is often up to 70% (Creamer, 2021:1). Ledwaba and Nhlengetwa (2016:38) stated that there has been an increase in the illegal mining industry due to the unemployment rate in South Africa. According to Creamer (2021), small-scale mining operations can generate employment opportunities for local communities, particularly in regions with limited formal employment options. By providing jobs in mining-related activities such as excavation, processing and transportation of minerals, small-scale mining enterprises could contribute to income generation and economic empowerment among local residents. This, in turn, helped to reduce poverty levels, enhanced livelihoods and stimulated economic activity within these communities. Therefore, these small mining organisations are crucial to the economies of these towns and to decrease illegal mining operations. Organisations such as the South African Diamond Producers Organisation (SADPO) have estimated that the resource is large enough to sustain diamond mining in these rural areas for the next century (Creamer, 2021).

Mining has played a vital role in developing the South African economy. Mining companies have paid R74 billion in taxes and R14 billion in royalties for 2022. The total contribution to the GDP has grown by 4 per cent at approximately R494 billion and maintains a 7.5 per cent contribution (Moneyweb, 2023). Furthermore, as the labour absorption rate for mines is high, it is one of the largest employers in South Africa (Jansen, 2017:4). Due to large mines having scaled down, other methods have been deployed to prolong the life of mines. One of these methods were small-scale mining operations such as mining permits and prospecting rights.

The Mineral and Petroleum Resource Development Act 26 of 2002 does not define small-scale mining operations; but has made provision for a mining permit. These permits included all the mine activities that fall within the parameters for small-scale mining. According to the Mineral and Petroleum Resource Development Act (Act 26 of 2002), a mining permit is limited to a five-hectare area, and it is valid for two years. These permits could be renewed three times for a one-year period. Landowners intending to conduct mining or prospecting activities on their property should comply with the same regulations outlined in the relevant acts. Despite owning the land, they are required to apply for a mineral right or permit and adhere to environmental standards set by the government. This ensures that all mining operations, regardless of property ownership, meet the necessary regulations and environmental obligations.

### **1.3.2 The challenges faced by small-scale alluvial diamond mines.**

According to Ledwaba and Nhlengetwa (2016:30), the challenges faced by small-scale mines are the access to mineral rights, lack of financial opportunities, limited pathways to mineral markets, compliance (safety, health, and environment) and lack of technology. Furthermore, the challenges of implementing and guiding the structure of the legislation framework could be complex to apply for a mineral right. The first section in Figure 1.1, namely the pre-prospecting and application phase, illustrated the steps needed to apply for a prospecting right.



**Figure 1-1:** Prospecting Processes & Reports

**Source:** SADPO, (2023)

Access to Mining Permits or Prospecting Rights is a costly and timely process. With the introduction of the National Environmental Management Act (Act 97 of 1998), organisations should pay an application fee of R 2000 for a Basic Assessment Report (BAR for Mining Permit Authorization) or R 10 000 for a full Scoping Report (EIA for a Prospecting/Mining Authorization). In addition to this cost, these reports could only be compiled by professional environmental assessment practitioners, which added to the cost.

Secondly, the application system is complicated and timely. Small-scale mines have logged complaints that the online application is challenging and does not accommodate people with a disadvantage in computer literacy and language skills. The South African Mineral Resource Administrative System (SAMRAD) was implemented in 2011 to improve the speed of processing applications. This system has not fully been accepted, as the majority struggled to access this service (Ledwaba & Nhlengetwa, 2016:35).

Mining Permits could be implemented for small-scale mining operations, but with alluvial diamonds, this posed a risk. Alluvial diamonds are dispersed widely in gravel runs. Thus, a mining permit of 5 hectares could not be profitable as the area is too small. This means organisations should apply for a Prospecting- or Mining right. These different rights have other implications, such as Social and Labour Plans (SLP), Full Scoping Reports (EIA), and a Prospecting or Mine Works Program (PWP/MWP) and include Black Economic Empowerment, which would be costly for small-scale mining organisations. Table 1.1 refers to the difference between applying for the different mineral rights.

**Table 1.1:** Documentation needed for different mineral rights

| Department             | Mining permit | Prospecting Right | Mining Right |
|------------------------|---------------|-------------------|--------------|
| DMR- Environmental     | BAR and EMPr  | EIA and EMPr      | EIA and EMPr |
| DMR- Mine economics    | None          | PWP               | MWP          |
| DMR- Mineral Law (BEE) | None          | 26% BEE           | 26% BEE      |
| DMR- Social and Labour | None          | None              | SLP          |

**Source:** Mineral and Petroleum Resource Development Act, (act 28 of 2004)

#### 1.4 Problem Statement

The small-scale diamond mining sector has declined significantly over the past few decades, with severe economic consequences for rural areas in the North West Province. As discussed in Section 1.3, small-scale alluvial diamond mining is vital for employment creation, local economic development, and the reduction of illegal mining. However, the sector continues to face persistent challenges in securing viable mining opportunities, primarily due to regulatory bottlenecks associated with obtaining mineral rights, environmental authorisations, and water use licences, particularly where miners are not surface landowners.

Furthermore, despite 184 entities holding mining rights or permits in the North West Province (DMR, 2023), many lack the financial and operational capacity to conduct mining activities independently. As a result, these rights holders are increasingly reliant on contract miners to execute mining operations, which has reduced operational efficiency and increased business uncertainty. Consequently, the sector faces two critical challenges: limited access to mining land and regulatory approvals, and insufficient operational capacity among rights holders.

These constraints have contributed to reduced production, rising unemployment, and the growth of illegal mining, leading to a significant decline in private diamond producers in the province. Therefore, the problem addressed in this study is the continued decline of the small-scale diamond mining sector in the North West Province, driven by complex regulatory requirements, limited access to mining land, and capacity constraints among rights holders. The aim of this study is to identify strategies, informed by the literature in Section 1.3, that can assist private diamond producers in overcoming regulatory and economic barriers, enabling sustainable entry, compliance, and growth within the sector.

## **1.5 Research Objectives**

### **1.5.1 Primary objective**

The primary objective of this study was to investigate how private diamond producers could enter the market for the mining of diamonds in the North West province. The study focused on how their strategic proposal ensured they could enter this environment. The objective was to evaluate their management style and transfer this knowledge to promote growth and sustainability in this sector.

### **1.5.2 Secondary objective**

- To investigate how diamond producers managed legislation challenges when applying for a mineral right within the North West province.
- To review how these organisations managed the bureaucracy with the relevant departments, surface owners and local community when entering this sector.
- To understand how miners located new areas (individuals/organisations with mineral rights) for small-scale diamond mining
- To use the result of the empirical research to draw a conclusion and make recommendations for new organisations/individuals who want to enter this sector.

Achieving these objectives would enable the researcher to draw a conclusion and make recommendations that could promote sustainability and growth in this sector.

This study uses objectives research questions were not stated as there are no hypotheses testing or something similar.

## **1.6 Scope of the study.**

### **1.6.1 Field of Study**

The study field was general management with an emphasis on strategic management styles when entering the private diamond mining sector. The focus was on the diamond mining sector and specifically small-scale or privately owned mineral rights.

### **1.6.2 Sector under investigation**

The sector that was investigated was the mining sector, specifically the privately owned diamond mining industry.

The geographical area where the study was conducted is the North West Province. This area was selected as a large portion of small-scale diamond mining operations were located within this province. Furthermore, the researcher previously worked in this area as an environmental assessment practitioner which helped identify and contact the possible participants. The area was narrowed down to areas where known alluvial diamond deposits were located such as the Vaal River and Harts River basin. Figure 1.2 shows the area of interest where the research study would be conducted. This area is also known as the diamond area or such as this is the biggest area of constant diamonds excluding the culling are ore something similar.



**Figure 1-2:** Study area

**Source:** sa-venues, (2013)

## 1.7 Research Methodology

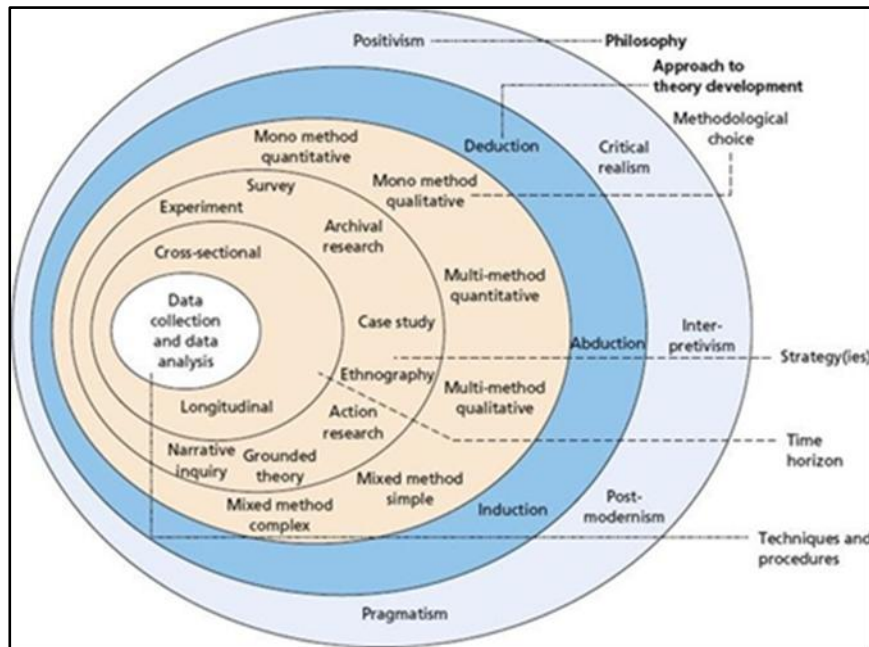
### 1.7.1 Literature Review

This study began with a literature review to establish a foundation for understanding the challenges faced by private diamond producers in the North West province. Key concepts such as bureaucracy, regulations, and the role of private producers were examined to gain insight into the factors affecting their success. The review also focused on relevant legislation, including the Mineral and Petroleum Resources Development Act 28 of 2002 and the National Environmental Management Act 107 of 1998, to understand the requirements for new entrants into the sector. Sources included academic journals, legislation, news articles, library databases, and open-ended interviews with mineral rights holders to ensure a comprehensive understanding.

### 1.7.2 Empirical study

The empirical component of the research was conducted using a qualitative approach, which focuses on non-numerical data to explore a phenomenon in depth (Saunders et al., 2009:593). Semi-structured and unstructured interviews were used to capture participants' perspectives, reasoning, and experiences, allowing the researcher to understand how active diamond

producers navigate challenges and achieve success. This approach aligns with Saunders' (2009) research framework, which emphasizes progressing from broader observations toward detailed insights.



**Figure 1-3:** Saunders research onion

**Source:** Melnikovas, (2018:33)

### 1.7.3 Research paradigm

This research will be conducted on the interpretivism philosophy, whereby the researcher would investigate and interpret the data to reflect upon a phenomenon. Saunders *et al.* (2009:116) stated that interpretivism emphasises the differences between people in a social actor role. It was important to the research objective to understand how these mineral rights holders managed to obtain mineral rights. The interpretivist philosophy would enable the researcher to get a deeper understanding of the mindset of mineral rights holders through interviews.

### 1.7.4 Research approach

This research could either be an inductive or deductive approach according to the research onion of Saunders (Melnikovas, 2018:33), Figure 1.3. For this research study, an inductive approach was to be used. This was done to develop a concept of how private diamond producers overcame obstacles when applying for new mineral rights. This inductive method was used to create

concepts from the investigation with no prior theory in mind. Thus, this research would enable the researcher to formulate new concepts based on the data.

#### **1.7.5 Methodological choice**

The methodological choice can be divided into three methods. These methods are mono, mixed, and multi-method studies (Saunders *et al.*, 2009:595). This research used the mono methods as only one research method will be used. A single research method, such as interviews, offers clarity, consistency, and resource efficiency. This focused approach allows researchers to delve deeply into the nuances of the research topic, ensuring a thorough understanding of key variables and relationships.

#### **1.7.6 Research Strategy**

This research was conducted according to a qualitative method. The qualitative method is all about understanding and explaining the nature of a phenomenon. This method is opposed to the quantitative method, which involves frequency and statistics (Saunders *et al.*, 2009:598). To understand why any phenomenon occurs, research must involve an understanding of the mechanisms. Interviews are an excellent tool for understanding any phenomenon. Open-ended questions would help to understand people's perceptions, experiences and understanding of these phenomena. Therefore, this research study would use open-ended questions in an interview to collect the data and formulate new concepts.

#### **1.7.7 Study population and sampling**

This research only focused on individuals or organisations that had active mining rights/permits and/or prospecting rights within the North West province that were operational. The researcher was previously contracted as an environmental assessment practitioner by most of these individuals or organisations and had the contact details of these entities. The researcher would contact these entities and ask if they would be willing to participate in this research study. A non-probability purposive sampling method was used as all participants should have been active in the private diamond mining sector. According to the Department of Mineral Resources and Energy, approximately 184 entities (population) had mining rights/permits within the North West province (DMR, 2023). These individuals or organisations was used because they have applied for environmental authorisation within the past five years. No individuals outside the North West province were considered as the time and cost constraints would not enable it. Interviews would be conducted with 20-25 individuals or organisations or when a saturation point had been reached

to ensure accurate data. The anticipated duration of the interview was approximately 25 to 35 minutes.

#### **1.7.8 Design and measuring instrument**

The research was done using semi-structured interviews to collect qualitative data. The interviews would use predetermined open-ended questions. The questions mainly focused on what challenges private diamond producers faced when applying for new rights and how they overcame these challenges, what recommendations they had for new investors to enter this market, and how bureaucracy has impacted the decision-making process when applying for the new rights.

#### **1.7.9 Collecting data**

A letter was composed to ask if private diamond producers would be willing to participate in this research. Attached to this letter were a consent form and a letter ensuring that any parties-participating in this study- information would remain anonymous. Information such as the researcher's email would be provided in the letter where they could contact the researcher. The researcher contacted the South African Diamond Producers Organisation and asked if they would distribute this letter to their members. The importance of the research was made clear, and participation in this study was voluntary.

The researcher made the interview questions available beforehand so that the participants had adequate time to prepare. A face-to-face meeting with the participants was arranged so that they could share their insights. All interviews were recorded and transcribed into documents. The information would be protected by ensuring compliance with South Africa's Protection of Personal Information Act (POPIA). This meant employing robust data security like access controls. Participants received clear privacy notices, including their right to opt-out. Adhering to these measures upheld ethical standards, ensures legal compliance, and fostered trust and confidentiality in the research process.

#### **1.7.10 Qualitative analysis**

The data collected from the interviews was analysed and categorised into themes. This helped the researcher identify themes and patterns relevant to this study's objectives. The researcher used resources such as the North West University Statistical Consultation Service.

Software such as ATLAS.ti helped the researcher analyse the collected data (Atlas.ti.,2023). This software supported the researcher, and processes such as coding and annotating was analysed and interpreted the data.

The researcher also used the following steps to determine patterns:

- Examining the data multiple times to get familiar with it.
- Using coding to label the text.
- Assigning themes.
- Review the themes to ensure that they fit within the data.
- Write-up to create a coherent narrative which includes quotes from the participants.

Employing a rigorous and systematic approach to data analysis was crucial for deriving meaningful insights and addressing the study's objectives. By utilising tools such as ATLAS.ti and seeking support from statistical consultation services, researchers could efficiently analyse and interpret interview data, identifying relevant themes and patterns. The outlined steps included repeated data examination, coding, theme assignment, and thorough review to ensure the accuracy and coherence of the analysis process. Ultimately, integrating quotes from participants into a coherent narrative adds depth and authenticity to the research findings, enhancing the overall quality and credibility of the study.

#### **1.7.11 Reliability and validity (trustworthiness)**

Connelly (2016:435) stated that the trustworthiness of research could be broken down into four criteria: credibility, dependability, confirmability and transferability. All these criteria should be met to ensure that the research is trustworthy. By addressing these criteria through rigorous methodology, transparent reporting, reflexivity, and thoughtful consideration of context, researchers could enhance their research's overall trustworthiness and validity.

### **1.8 Limitations of the study**

The private diamond mining sector needs growth to remain sustainable. This study aided in providing vital information on how newcomers can enter this market. Furthermore, the study provided value for the existing private diamond producer on obtaining new mineral rights and promoting growth in their operations. The limitations of this study would provide the basis for future studies to be conducted. The study only focused on privately owned diamond organisations

within the North West province; other privately owned mining operations mining for different minerals or in other provinces was not included in this project's scope.

## **1.9 Layout of the study**

### **CHAPTER 1: INTRODUCTION**

This chapter introduced the research topic and the sub-topics, such as the research problem statement, the primary and secondary objectives, the scope of study and the research methodology, which covered the primary and secondary data. Furthermore, the importance of the research study was also highlighted.

### **CHAPTER 2 LITERATURE REVIEW**

The study used published literature from previous studies. Information was obtained from books, articles, journals, unpublished theses, and news articles. All of this information was compared with the research study project to demonstrate the angle to be pursued.

### **CHAPTER 3: EMPIRICAL STUDY**

The chapter outlined the details of how this research project would be carried out, how the data was collected and the method used to carry out the investigation and justification was clearly described. All of the data was presented, described, and analysed about the research question.

### **CHAPTER 4: CONCLUSION AND RECOMMENDATIONS**

This would be the concluding chapter that completes the research study and drew conclusions based on the interpretations of the data collected. Furthermore, this chapter would attempt to answer all of the questions defined in the introduction. Lastly, the implications and the limitations was discussed.

## **1.10 Conclusion**

This study aimed to investigate the strategic management of private diamond producers, the obstacles they faced, and how to enter this sector. The study added value to any individual who wants to enter this sector and what is necessary for them to be sustainable. Furthermore, the study aimed to gain an understanding of this sector and possibly improve its sustainability and promote growth.

### **1.11 Summary**

The study was initiated to investigate the possibility of utilising strategic planning as a tool to enhance the prospects of growth in the small-scale diamond mining sector.

Most small-scale diamond mines were closed, which had a significant impact on the surrounding environment in terms of employment, local economies, and local communities. These small-scale diamond mines in the North West, are mainly in rural areas.

The research approach proposed for this study was a qualitative research technique, this was due to the in-depth knowledge required from the small-scale mining sector to make conclusions and answer research questions successfully.

Structured interview questions will be sent to the participants to afford enough time to prepare for the interview, which will be helpful in either of the following methods: face-to-face, via teams, or any other social media platform.

Data collected will be analysed using Atlas.ti. The software program will aim to find common patterns across a data set. Based on the results obtained from the patterns formulated from the analysis made by the Atlas.ti program, conclusions will be drawn, and recommendations will be made.

## **CHAPTER 2      LITERATURE REVIEW.**

### **2.1      Introduction**

This chapter reviewed multiple scholarly articles, legislation, and news articles to understand and define the strategic planning for entering the small-scale diamond mining market in the North West province of South Africa.

This report aimed to assess the challenges, impact, opportunities, threats, and sustainability of small-scale mining operations in the North West province of South Africa. This study focused on the regulatory-, social-, economic-, environmental-, and resource fields to understand how these fields contributed to the challenges this sector faces and the opportunities to promote sustainable growth.

### **2.2      History of Diamond Producers in South Africa.**

According to de Wit *et al.*, (2016:200-201), the first diamonds were discovered in South Africa either in late 1866 or early 1867. From this discovery, the first diamond rush occurred on the banks of the Orange River and later the Vaal River in 1869. In 1871, kimberlite was discovered. This led to the development of the famous town of Kimberly. South Africa has produced more than 97% of the world's diamonds from 1872 to the First World War. This has made South Africa the home of the modern diamond industry.

Since then, South Africa has experienced extreme changes in the regulatory environment, technological development, social advancement, and environmental management practices.

### **2.3      Regulatory environment**

#### **2.3.1      History of mineral rights**

The process of obtaining mineral rights has changed since the discovery of diamonds in the late 1866 or early 1867 (de Wit *et al.*, 2016:200-201). In 1867 the mineral rights were not clearly defined and there were numerous disputes on who owned the minerals. At this time in most cases, the land owner was seen as the right holder. This created tension between the surface owners and the expanding British colonial government. In the late 19th century, as mining operations expanded, the British colonial government sought to regulate these mineral rights to benefit the broader economy. In 1871 the first Diamond Act was passed, which enabled a system of licensing for the extraction of diamonds. This created the early framework whereby the mining of minerals

was regulated. The mineral right was also not connected to the land. In 1887, the Mineral Rights Amendment Act of 1887 was passed, giving the British crown control over the mineral rights, and the landowners only had rights to the surface right. In 1909 the Union of South Africa was formed bringing together the four British colonies (The Cape, Natal, The Orange Free State and Transvaal). The Mineral and Petroleum Development Act (1940-1990) was passed when the government determined that minerals were a national asset and should be controlled by the government for the public good (van der Schyff, 2012:139-147).

After the apartheid era, the new democratic government ruled by the ANC prioritised social equity and economic transformation. The Mineral and Petroleum Resource and Development Act 28 of 2002 was implemented, under which the government owned the minerals and anybody could apply for a mineral right to benefit all South Africans.

### **2.3.2 Licencing Process**

All mining activities must adhere to the Mineral and Petroleum Resource Development Act 28 of 2002 (MPRDA), which includes small-scale diamond miners. The MPRDA's fundamental core is that the country's minerals belong to the people of South Africa. The government acts as the custodian of the minerals and awards mining horizons to mine for these minerals.

According to the MPRDA, a mining/prospecting right or mining permit must be acquired before mining or prospecting can be conducted. The process of applying for a mineral right or permit as stipulated in the MPRDA under the required sections. To apply for a mineral right, the applicant must submit documents, reports, and detailed information about the applicant and the activities that would be conducted.

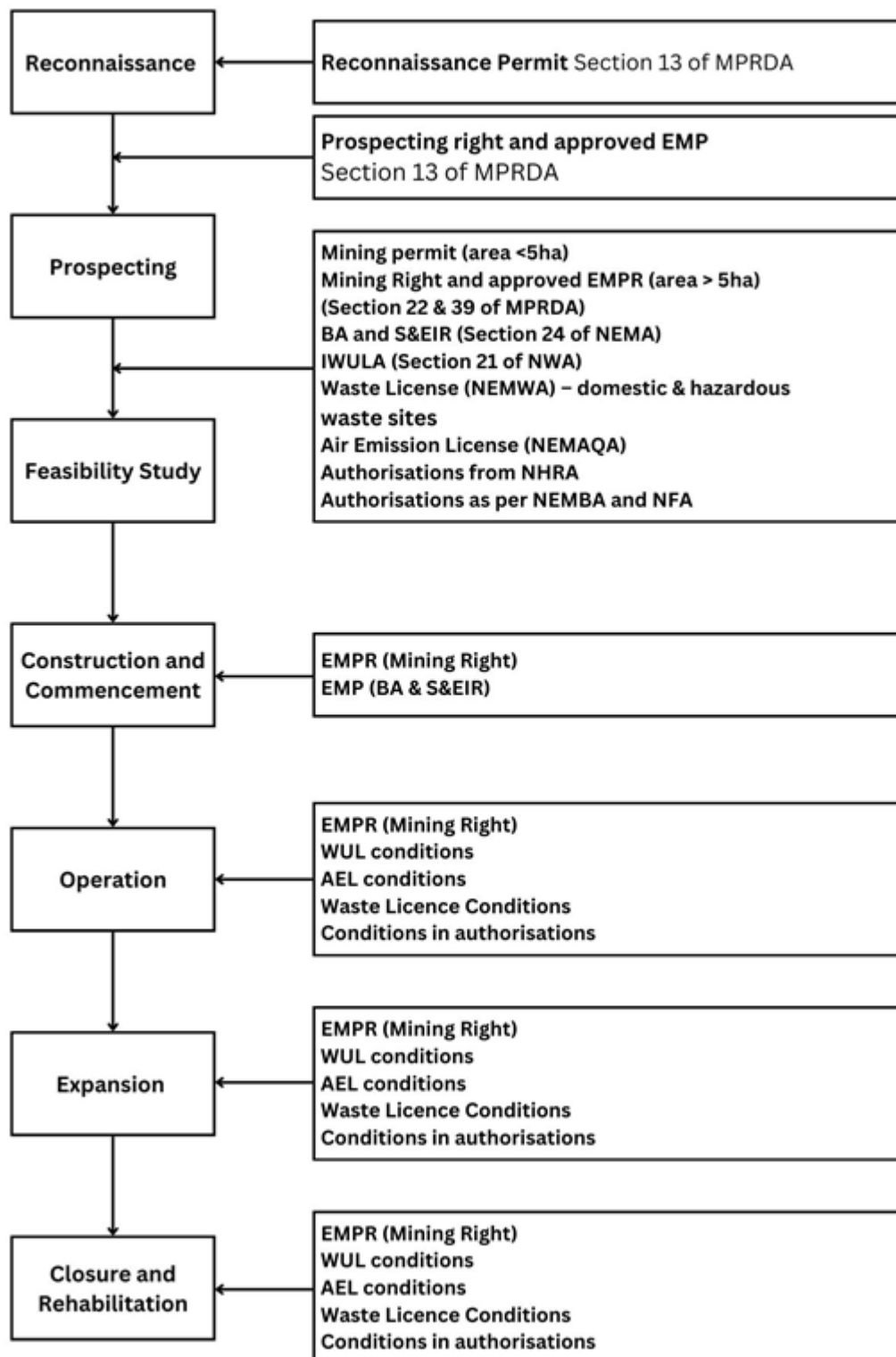
**Table 2.1:** Documentation and Information needed for a mineral right

| Nr. | Documents/information to submit to the Department                                                                            | Prospecting Right | Mining Right | Mining Permit |
|-----|------------------------------------------------------------------------------------------------------------------------------|-------------------|--------------|---------------|
| 1   | Full details and particulars of the applicant.                                                                               | Y                 | Y            | Y             |
| 2   | Regulation 2 (2) Map                                                                                                         | Y                 | Y            | Y             |
| 3   | Registered description of the land. (Farm names)                                                                             | Y                 | Y            | Y             |
| 4   | Specific mineral mined or prospected for.                                                                                    | Y                 | Y            | Y             |
| 5   | Geology description of the land and geological map.                                                                          | Y                 | Y            | Y             |
| 6   | The specific means of mining/prospecting activities that will be carried out along with geophysical and geochemical surveys. | Y                 | Y            | Y             |
| 7   | Bulk sampling application.                                                                                                   | Y                 | Y            | Y             |
| 8   | Time frame activities will be conducted.                                                                                     | Y                 | Y            | Y             |
| 9   | Detailed report of applicant's technical ability or access of it to conduct activities.                                      | Y                 | Y            | Y             |
| 10  | Detailed report of applicant's financial ability or access of it to conduct activities.                                      | Y                 | Y            | Y             |
| 11  | Proof of financial capability for rehabilitation at mine closure.                                                            | Y                 | Y            | Y             |

|    |                                                                  |     |     |     |
|----|------------------------------------------------------------------|-----|-----|-----|
| 12 | List of any other mineral rights in table form.                  | Y   | Y   | Y   |
| 13 | Certified copies of the deed title of the land to be prospected. | Y   | Y   | Y   |
| 14 | Prospecting Work Program.                                        | Y   | N/A | N/A |
| 15 | Mine Work Program.                                               | N/A | Y   | N/A |
| 16 | Social and Labour plan.                                          | N/A | Y   | N/A |

**Source:** Mineral and Petroleum Resource Development Act 28 of 2004

Table 2.1 is a summary of all of these details and documentation needed for the specific mineral right/permit application. Most of these documentation needs to be compiled by specialist such as Environmental Assessment Practitioners, Chartered accountants, hydrologist and layers among other which will increase the cost of the application.



**Figure 2-1:** Mining life span: Mineral and Petroleum Resource Development Act 28 of 2004

Figure 2.1 shows the typical life cycle for a mining operation. At any point on this cycle the applicant can apply for a closure certificate. While possessing a prospecting right; an applicant can apply for a closure certificate if he deems the area not profitable to mine. To retrieve the financial-provision guarantee, the applicant needs a closure certificate. Before a closure certificate can be awarded, an inspection with the applicant, DME and surface owner is required before the application for a closure certificate can be processed. All parties need to sign a closure certificate form confirming that the area is rehabilitated according to NEMA standards.

Different licences and authorizations are applied to different departments within the government. For example, the Water Use Licence (WUL) is applied to the Department of Water and Sanitation (DWS), while the mineral right is applied to the Department of Mineral Resource and Energy (DMRE). If the WUL application is delayed, the mineral right will also be delayed.

### **2.3.3 An overview of the struggles within the DMRE**

The Mineral and Petroleum Resources Development Act (MPRDA) of 2002 was intended to support artisanal and small-scale mining (ASM). However, in practice, the Act primarily addresses large-scale mining and small-scale mining, leaving ASM underrepresented (Bester, 2022:382). According to Warren Beech, CEO of Beech Veltman, Africa struggles to fully benefit from its mineral resources due to factors such as political instability, frequent changes in government, uncertain mining laws, and inconsistent policies (Palmer, 2024).

Administrative inefficiencies exacerbate these challenges. On 8 December, Christian Themba Msimang, an IFP member of parliament, asked the Minister of Mineral Resources and Energy, Gwede Mantashe, for details on mining licence applications received during the 2023/24 financial year, including breakdowns by gender and disability status (Stoddard, 2024). None of these applications were finalised, and the Minister could not provide provincial-level data. In February 2021, the department had a backlog of 5,326 pending mining rights, prospecting rights, and mining permits.

Recent studies further highlight that these administrative bottlenecks create significant barriers for small-scale miners. Bureaucratic delays, including the ineffective use of the South African Mineral Resources Administration system (SAMRAD), have resulted in slow processing times, lack of transparency, and uncertainty over land availability, discouraging both domestic and foreign investment (Bishop Fraser, 2025). These systemic inefficiencies mean that many small

operators rely on contractors or are forced into informal mining, reducing the sector's contribution to local economic development (Satori News, 2024).

Thus, the DMRE's current struggles illustrate a persistent misalignment between legislative intent and administrative capacity. The combination of policy gaps, backlogs, and ineffective administrative systems continues to undermine equitable access to mineral rights, particularly for small-scale and artisanal miners, limiting sustainable growth in the sector (Pinsent Masons, 2025).

#### **2.3.4 An overview of the NEMA**

On 11 June 2021, the National Environmental Management Act (NEMA, Act 107 of 1998), which governs environmental protection and regulation including mining activities, was amended so that any Environmental Authorization (EA), a legal approval required to conduct mining activities, could only be awarded with the approval of the surface owner — the legal owner of the land where mining is proposed. With this amendment, written consent of the landowner must be attached to the application for an EA to be successful. Before this change, the government could grant rights without surface owner approval, and public participation processes were used to inform interested parties, including landowners and lawful occupants, about proposed mining activities. Approval from these parties was not previously required to grant a mineral right (Ackerman et al., 2021). The amendment therefore disrupted the previous alignment between the Mineral and Petroleum Resources Development Act (MPRDA, Act 28 of 2002), which regulates the acquisition and management of mineral rights, and the NEMA regarding landowner consent.

As previously stated in Section 2.3.3, the department had a large backlog of unprocessed applications for the 2023/24 financial year. The amendment may create delays in the application of mineral rights and permits, as negotiations with surface owners are now required to obtain written permission, and rights cannot be granted without an approved EA (Ackerman et al., 2021).

This could have significant consequences for smaller operations with limited resources. Large corporations may exploit the amendment by purchasing land to bypass the requirement, withholding consent to block competitors, or offering financial incentives to surface owners that smaller operators cannot match (Ackerman et al., 2021).

The NEMA amendment therefore introduces bottlenecks in the mining sector, defined as administrative or procedural obstacles that slow access to mineral rights. The process of obtaining written consent can delay the granting of rights, particularly affecting smaller operators, while larger corporations may bypass these delays through land ownership or financial leverage. Such

bottlenecks can lead to inefficiencies, industry consolidation, and may undermine sustainability in mining, which involves conducting operations in a way that balances economic growth, social development, and environmental protection for future generations, as well as equitable access to mining rights (Roos, 2025).

Recent studies also note that overlapping regulatory requirements, such as environmental authorizations, water use licenses, and compliance with Black Economic Empowerment (BEE) and Social and Labour Plans (SLP), compound the administrative burden, creating high entry barriers for small-scale miners while enabling larger corporations to consolidate their position (Miner Africa, 2025; Pinsent Masons, 2025). Proposed reforms under the Draft Mineral Resources Development Bill (2025) aim to streamline these processes and formalise ASM, but uncertainties remain regarding ministerial discretion and compliance obligations, which could further increase regulatory complexity (TimesLive, 2025).

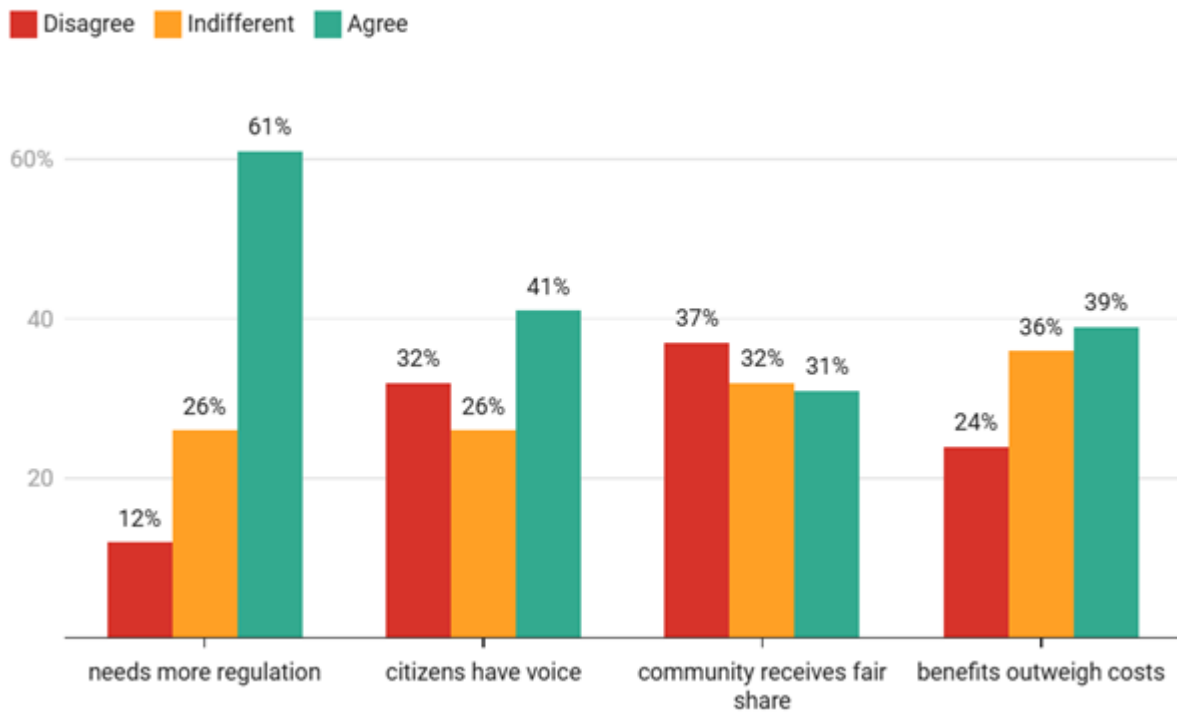
## **2.4 Social environment**

The MPRDA aimed to benefit all South Africans by using mineral resources. As the MPRDA was implemented in 2002, it aimed to include previously disadvantaged personnel and make the mineral resources available for all South Africans. Social and labour plans included that mining rights invest in their local community; this was done through training of personnel, investing in infrastructure, and sometimes bursaries for students.

### **2.4.1 Overview of the social view of the mining community**

The DMRE has received backlash from communities demanding that they be consulted regarding mineral rights. The MPRDA included a section stipulating that consultations must be held with the interested and affected parties. However, according to section 55 of the MPRDA, the Minister has the power to disregard the objections of these parties (Evans, 2024). Afrobarometer has surveyed to determine if South Africans are in favour of more regulation regarding mining. The survey had shown that 61% of South Africans agree that more regulations are needed to govern mining. Regarding citizens having a voice, communities reserved their fair share, and the benefits outweigh the cost, the survey has shown indifference (Ndlovu, 2024).

## NATURAL RESOURCE EXTRACTION



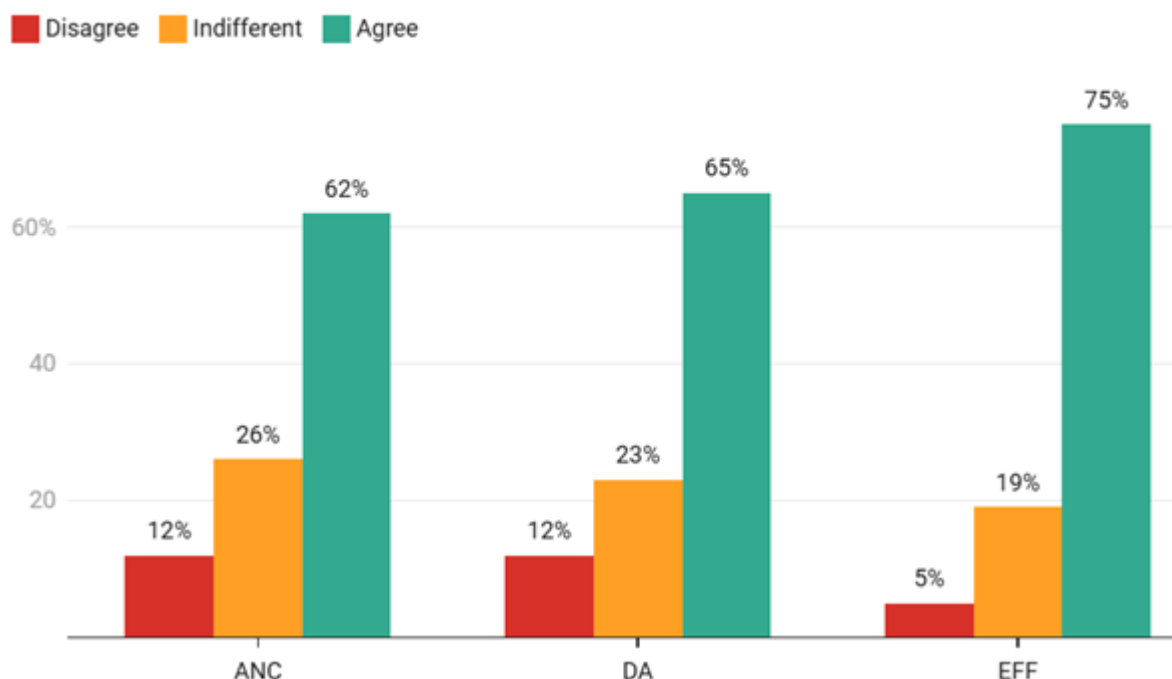
**Figure 2-2:** Social view of mining

**Source:** (Ndlovu, 2024)

Figure 2,2 shows the percentages of the surveyed population regarding mining needing more regulation, citizens having a voice, the community receiving their fair share, and the benefits of mining outweighing the cost.

The three major political parties were also surveyed to determine whether they felt mining needed more regulations. All three parties agreed that mining needed more regulations, with 75% of the Economic Freedom Fighters wanting more mining regulations (Ndlovu, 2024).

## NATURAL RESOURCE EXTRACTION NEEDS MORE REGULATION AND PARTY AFFILIATION



**Figure 2-3:** Political party's view of mining

**Source:** (Ndlovu, 2024)

Figure 2.3 shows the percentages of the political parties agreed that mining needed more regulations. 62% of the African National Congress (ANC), 65% of the Democratic Alliance, and 75% of the EFF agreed that mining needed more regulations.

According to Mzwakali (2017), there were several conflicts between people and traditional leaders in the North West- and Limpopo provinces. Mining activities have disrupted the people's economic practices, ancestral graveyards have been moved, and traditional plants have been destroyed.

This mining sector already had many regulatory requirements that it needs to adhere to. If more or stricter regulations are imposed, this sector could see further decline.

### 2.5 Environmental

The National Environmental Management Act (NEMA) No. 107 of 1998 was enacted to safeguard and manage the environment and address related matters. The Department of Mineral Resources and Energy is tasked with enforcing NEMA regarding prospecting and mining activities.

### **2.5.1 Rehabilitation Methods**

Small-scale diamond miners' biggest environmental concern is the rehabilitation of open excavations, slime dams (porrel dams) and site rehabilitation. In the North West province, the predominantly mined Rooikoppie gravels are considered to be shallow gravel just beneath the topsoil. The process to remove this gravel is by removing the topsoil and screening the gravel to remove unwanted material by size. This material is then used to fill the void and rehabilitate the excavation. Lastly, the topsoil removed, is then placed on top to promote vegetation growth (Norton, 2007:5).

The gravel removed is then moved to a rotary pan where water is added to separate the dense material from the less dense material. The lesser dense material is then removed from the pan with the water and soil mixture into an above-ground slime dam. When moisture has evaporated from the slime dams, the dam is sloped to an acceptable gradient or removed to fill open excavations for rehabilitation. These small-scale mines do not use any chemicals for the extraction of minerals they rely on a gravity-separating method (Norton, 2007:5).

### **2.5.2 Challenges with environmental issues**

The MPDRA and NEMA generalize all mining activities under the same act. In January 2005, the Department of Minerals and Energy (DMRE) published its "Guideline document for the evaluation of the quantum of closure-related financial provision provided by a mine" (Department of Minerals and Energy, 2005). This document is used to determine the quantum of financial provision (QFP) that has to be submitted to the DMRE. When this document is approved, the applicant needs to deposit the amount determined QFP to the Department or a bank.

According to the Department of Minerals and Energy (2005), "The document has certain specific limitations or instances where some sectors of the very diverse spectrum of the mining industry in South Africa are not catered for.". An example of this is pick-and-shovel operations.

**Table 2.2: Quantum of Financial Provision (QFP) example**

| CALCULATION OF THE QUANTUM |                                                                                                      |                        |               |                         |                               |                            |                                |
|----------------------------|------------------------------------------------------------------------------------------------------|------------------------|---------------|-------------------------|-------------------------------|----------------------------|--------------------------------|
| Applicant:                 |                                                                                                      | Applicants detail      |               | Ref No.:                |                               | DMR Ref Nr                 |                                |
| Evaluators:                |                                                                                                      | The consultants detail |               | Date:                   |                               | Jan-23                     |                                |
| No.                        | Description                                                                                          | Unit                   | A<br>Quantity | B<br>Master<br>Rate     | C<br>Multiplication<br>factor | D<br>Weighting<br>factor 1 | E=A*B*C*D<br>Amount<br>(Rands) |
| 1                          | Dismantling of processing plant and related structures (including overland conveyors and powerlines) | m3                     | 816           | 19,46                   | 1                             | 1                          | 15879,36                       |
| 2 (A)                      | Demolition of steel buildings and structures                                                         | m2                     | 0             | 271,16                  | 1                             | 1                          | 0                              |
| 2(B)                       | Demolition of reinforced concrete buildings and structures                                           | m2                     | 0             | 399,61                  | 1                             | 1                          | 0                              |
| 3                          | Rehabilitation of access roads                                                                       | m2                     | 250           | 48,53                   | 1                             | 1                          | 12132,5                        |
| 4 (A)                      | Demolition and rehabilitation of electrified railway lines                                           | m                      | 0             | 470,97                  | 1                             | 1                          | 0                              |
| 4 (A)                      | Demolition and rehabilitation of non-electrified railway lines                                       | m                      | 0             | 256,89                  | 1                             | 1                          | 0                              |
| 5                          | Demolition of housing and/or administration facilities                                               | m2                     | 0             | 542,33                  | 1                             | 1                          | 0                              |
| 6                          | Opencast rehabilitation including final voids and ramps                                              | ha                     | 18,65         | 276014,6                | 1                             | 1                          | 5147672,29                     |
| 7                          | Sealing of shafts adits and inclines                                                                 | m3                     | 0             | 145,57                  | 1                             | 1                          | 0                              |
| 8 (A)                      | Rehabilitation of overburden and spoils                                                              | ha                     | 1,49          | 189528,12               | 1                             | 1                          | 282396,8988                    |
| 8 (B)                      | Rehabilitation of processing waste deposits and evaporation ponds (non-polluting potential)          | ha                     | 2,89          | 236053,85               | 1                             | 1                          | 682195,6265                    |
| 8 (C)                      | Rehabilitation of processing waste deposits and evaporation ponds (polluting potential)              | ha                     | 0             | 685612,26               | 1                             | 1                          | 0                              |
| 9                          | Rehabilitation of subsided areas                                                                     | ha                     | 0             | 158701,26               | 1                             | 1                          | 0                              |
| 10                         | General surface rehabilitation                                                                       | ha                     | 3,2           | 150138,24               | 1                             | 1                          | 480442,368                     |
| 11                         | River diversions                                                                                     | ha                     | 0             | 150138,24               | 1                             | 1                          | 0                              |
| 12                         | Fencing                                                                                              | m                      | 320           | 171,26                  | 1                             | 1                          | 54803,2                        |
| 13                         | Water management                                                                                     | ha                     | 0,1           | 57086,79                | 1                             | 1                          | 5708,679                       |
| 14                         | 2 to 3 years of maintenance and aftercare                                                            | ha                     | 9,3           | 19980,37                | 1                             | 1                          | 185817,441                     |
| 15 (A)                     | Specialist study                                                                                     | Sum                    | 0             |                         |                               | 1                          | 0                              |
| 15 (B)                     | Specialist study                                                                                     | Sum                    |               |                         |                               | 1                          | 0                              |
| Sub Total 1                |                                                                                                      |                        |               |                         |                               |                            | 6867048,363                    |
| 1                          | Preliminary and General                                                                              |                        | 824045,8036   | weighting factor 2<br>1 |                               |                            | 824045,8036                    |
| 2                          | Contingencies                                                                                        |                        |               | 686704,8363             |                               |                            | 686704,8363                    |
| Subtotal 2                 |                                                                                                      |                        |               |                         |                               |                            | 8377799,00                     |
| VAT (15%)                  |                                                                                                      |                        |               |                         |                               |                            | 1256669,85                     |
| Grand Total                |                                                                                                      |                        |               |                         |                               |                            | 9634469                        |

Source: Department of Minerals and Energy (2005)

Table 2,2 is an example of what a typical QFP looks like for mining rights for alluvial diamonds. The columns are divided into the number, description, measurement unit, quantity (A), master rate (B), multiplication factor (C), weighing factor (D), and Amounts in Rand (E). The calculated amount column A, B, C, and D are multiplied. Challenges with this calculation are as follows:

#### **No. 6 Open cast rehabilitations, including final voids and Ramps:**

The problem faced is that point: no. six: on the QFP, opencast rehabilitations are being measured in the area (hectares). This means that the financial provision that is needed to be submitted for a one-hectare one-meter-deep pit would be the same as for a one-hectare thirty-meter-deep pit. This put alluvial miners who typically mined shallow pits at a disadvantage when compared to other mining industries with deep pits.

## **2.6 Recommendations**

Researchers have pointed out various factors that would promote growth in this sector. According to Dlakavu *et al.*, (2021), the key strategies to promote growth in this sector, are as follows:

**Fit for purpose:** Amend or rewrite the existing regulations to fit the necessary mining sector. Create a standard template for the following operations.

- ASM operations
- Mining permits
- Exploration and prospecting rights
- Mining rights

**Modify/replace SAMRAD:** The system needs to be a one-stop shop that harmonises the processes with the different departments.

**Categories mining sectors:** The different mining sectors need to be categorized to fit the purpose of mining. The following categories need to be used to define mining sectors:

Table 2.3 divide the mining sectors into categories and gives a brief description of each category, the procedures, recommendations and comments are also included into this table.

**Table 2.3:** Recommendations and comments

| Mining sector and recommendations                                                                                                                                                                                                                                                                                                          | Procedures and recommendations                                                                                                                                                                                                                                                                                | Comments                                                                                                                                                                                                                                                          |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>Artisanal and small-scale mining permit</b></p> <ol style="list-style-type: none"> <li>1. Small scale operators</li> <li>2. Emerging miners</li> <li>3. New entrants</li> <li>4. Existing informal (illegal) operators</li> <li>5. Up to 10 operators/ employees</li> </ol>                                                          | <p>Implement a tick-box application process.</p> <p>Grand licences within 60 days at a minimal cost of R2 500 and nominal rehabilitation bond.</p> <p>Fast-track mining permit applications and grants.</p> <p>Progress transformation and black ownership.</p>                                               | <p>Pick and shovel miners apply for 5ha.</p> <p>Limited mechanised operators apply for 45ha, limited to one 14-foot rotary pan.</p> <p>Ensure simple health and safety and environmental practices.</p>                                                           |
| <p><b>Small-miners – prospecting/mining rights.</b></p> <ol style="list-style-type: none"> <li>1. Mechanised mining equipment</li> <li>2. 2 x 16-foot rotary pan with &lt;50,000 tons per month limited to process material</li> <li>3. 25 employees</li> <li>4. Average grade of 0.25 carats per hundred ton processed/limited</li> </ol> | <p>The license must be granted within 90 days for a cost of R 5 000 application fee and R 5 000 to R 10 000 rehabilitation provision.</p> <p>NEMA environmental authorization and water use licence should not apply.</p> <p>Simplified environmental and rehabilitation requirements should be followed.</p> | <p>Short-term operations typically 18 to 36 months.</p> <p>May use contractors, but must be accommodated in regulations.</p> <p>The licence granting must include mechanisms to accommodate mining faces and operations in the area as deposits are followed.</p> |

|                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                             |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| to 125 carats per month.                                                                                                                                                                                                                                       |                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                             |
| <b>Junior miners-prospecting/mining rights</b><br><br>1. Mechanised mining equipment<br>2. 4 x 16-foot rotary pans.<br>3. <100 000 tons per month mined/processed gravel at 0.25 carats per hundred tons mined.<br>4. 50 employees<br>5. >250 carats per month | Grand licence in 120 days for a minimal cost of R5 000 application fee and R50 000 rehabilitations bond.<br><br>Streamline existing processes to fast-track track granting of licences and simplify the monitory process. | The necessary environmental authorizations in regards to NEMA, and water use licence will apply.<br><br>Contractor operations are to be accommodated in regulations.<br><br>Includes tools to accommodate progression and operations across the farm boundaries as alluvial terrace deposits are exploited. |
| <b>One-stop shop</b><br><br>A one-stop portal needs is to be created for handling mineral rights, and environmental applications for the small and junior mining sector                                                                                        | Ministers have made promises in the past, but it was never implemented.                                                                                                                                                   | The need to harmonise these processes in order to promote the small-scale mining sector.                                                                                                                                                                                                                    |

**Source:** (Dlakavu, *et al.*, 2021:4)

These recommendations would help new entrants and existing miners obtain mineral rights faster, with lower costs than they are currently paying. Streamlining these processes to lower the waiting period is also needed. Lastly, the mining scale and sectors need separate regulations.

## **2.7 Knowledge gap**

The literature review was derived from secondary data sources, such as journals, articles, and legislation, among others, concerning the entry of the small-scale mining sector. The literature was derived from sources such as the MPRDA, NEMA and scholarly articles regarding mining. Not all of the literature was regarding the small-scale mining sector in the North West province. This study sought to exploit the knowledge gap on how new entrants to this market sought to manage strategic planning.

## **2.8 Conclusion**

To conclude, the small-scale diamond mining sector faces numerous challenges when it comes to entering this market. As stated, this sector has seen a decline over the years and things are not looking good for this sector to grow. With challenges applying for mineral rights, mineral rights not being granted, social and political views that would impose more regulations, landowners being able to reject mineral applications and high financial provision costs, the future for the small-scale mining sector looks dim.

The literature review has shown how this sector has declined since the implementation of the MPRDA. Several ministers have promised to implement a one-step process where the applicant can apply under all sections of government, and the process would be streamlined. There is a need to revisit the MPRDA and amend it to create an environment for this sector to grow so that local communities and economies can benefit from it.

## **2.9 Chapter Summary**

This chapter presented a literature review on the phenomenon under study, an investigation of the entry process into the small-scale diamond mining market in the North West province of South Africa. The literature reviewed was derived from various sources of secondary data, which include online journals, newspaper articles, published books, and research. Therefore, this chapter first presented an overview of the study variables and an empirical review of the research objectives. It also highlighted the knowledge gap and concluded with a chapter summary.

## **CHAPTER 3      RESEARCH METHODOLOGY**

### **3.1      Introduction**

The third chapter applied depth to the approach used for this study. The methodology used for this study, the justification for the method used to perform it, and the strategy that was adopted are all covered in this chapter. The chapter also covered the various stages of the investigation, such as picking participants, obtaining information, and data analysis. After analysing and interpreting the data that was gathered throughout the investigation, the chapter focused on the results and the findings of the study. It looked at the researcher's function in qualitative research concerning reflective practice. The chapter's last section discussed qualitative research's validity and reliability criteria.

### **3.2      Research Strategy**

The strategy of this research was to conduct interviews from the small-scale diamond mining sector in the North West province on how they have entered this market, and what are the challenges. Individuals with expertise and understanding of the mineral application process were interviewed to gather knowledge of the criteria followed. This was done using the basic tenet of purposive sampling, which stated that participants should be selected from a variety of backgrounds for their opinions to represent these differences accurately and, as a result, produce superior research. This sector is a complex and qualitative research is needed to understand the why. Anti-positivist approach is need and the larger population needed to be divided into smaller homogeneous groups using a stratified approach.

### **3.3      The choice of research methodology**

According to Ahmad *et al.*, (2019:2829), qualitative study gives an understanding and grasp of the research problem. It is an unstructured research methodology that explores complicated singularities that quantitative research cannot explain.

Ahmad *et al.*, (2019:2829) emphasised that qualitative research is a type of study in which the investigator highlights the opinions of participants Based on observation and interpretation, qualitative research is used to understand human behaviour, experience, attitudes, intentions, and motives. Techniques for qualitative research include case studies, grounded theory, ethnography, history, and phenomenology.

Quantitative research is a type of research that employs a natural science approach to produce statistical data and actual evidence. It seeks to establish a cause-and-effect link between a couple of variables by applying mathematical-, computational-, and statistical approaches (Ahmad *et al.*, 2019:2829).

Since the research can be accurately and precisely evaluated, it is also considered academic evidence. The information the researcher gathered might be classified, ranked, or evaluated in measurement units. With the aid of quantitative research, raw data graphs and tables could be created, making it easier for the researcher to analyse the results.

**Table 3.1:** Qualitative and Quantitative

| Qualitative                                                                                                     | Quantitative                                                                                                                             |
|-----------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| Methods include focus groups, unstructured or in-depth interviews, and reviews of documents for types of themes | Surveys, structured interviews, measurements & observations, and reviews of records or documents for numeric or quantifiable information |
| A primarily inductive process used to formulate theory or hypotheses                                            | A primarily deductive process used to test pre-specified concepts, constructs, and hypotheses that make up a theory                      |
| More subjective: describes a problem or condition from the point of view of those experiencing it               | More objective: provides observed effects (interpreted by researchers) of a program on a problem or condition                            |
| Text-based                                                                                                      | Number-based                                                                                                                             |
| More in-depth information on a few cases                                                                        | Less in-depth but more breadth of information across a large number of cases                                                             |
| Unstructured or semi-structured response options                                                                | Fixed response options, measurements, or observations                                                                                    |
| No statistical tests                                                                                            | Statistical tests are used for analysis                                                                                                  |
| Less generalizable                                                                                              | More generalizable                                                                                                                       |

**Source:** Ahmad *et al.*, (2019:2829)

Table 3.1 outlines the distinctions between quantitative and qualitative research. Since the investigation was exploratory and the results were not quantitative, it was decided to use qualitative research. One of the advantages of qualitative research is that it provides a wide-ranging overview and evaluation of the study without restricting the extent of the respondents' comments. The need for a thorough knowledge of the issue justified the option to conduct qualitative research, as this could only be determined by communicating directly with miners in the small-scale diamond mining sector.

### **3.4 Research instruments**

There are different types of instruments used for qualitative analysis. Therefore, it is essential to choose an instrument that is consistent with the research objectives. The questionnaire, observation, and interview are three of the most commonly used research instruments. Still, the latter two are primarily used for qualitative research. The researcher used interviews as the data collection instrument for this research.

The researcher chose an individual, face-to-face, semi-structured interview with a set of questions that was prepared beforehand as the framework. On the other hand, the researcher would discreetly steer the discussion to collect additional data and got clarification on matters that arose throughout the interview.

The questions were designed to help the researcher understand existing challenges in the small-scale diamond mining sector and on how obstacles and challenges are managed, the value provided by the ideas, and how they could be managed in the future. It was also critical to comprehend the concept of contribution to local communities, economy, and employment. The relationship between the stakeholders and the local community was crucial for this study.

Participants were recruited to represent viewpoints from both working mines and new applications in North West South Africa. Given the number of small-scale diamond mines, saturation was attained after interviewing six participants.

### **3.5 Methods of data collection**

Semi-structured interviews are the main kind of interview used in qualitative research. Questions direct the important aspects of this data-gathering approach with follow-up questions and remarks. Identifying the participants and the number of participants to be interviewed to reach saturation was critical to the success of this research. It focused on small-scale diamond miners located in the North West province of South Africa.

Before the interview, the researcher prepared a set of semi-structured questions that would serve as a guide for this research study. The researcher also asked other probing questions to clarify key aspects that were elaborated on during the interview and to assist by steering the discussion toward achieving the study objectives.

The following is the list of semi-structured questions sent to the participants for them to prepare for the interview:

Thank you very much for participating in this interview, your views and input are greatly appreciated. The study is about the impact that innovation has on turning marginal mines profitable. A copy of this questionnaire for your records

1. What are the primary motivations or drivers for individuals or organisations to enter small-scale mining operations in the North West Province?
2. What are the main challenges or barriers faced by new entrants in the small-scale mining sector in terms of regulatory compliance, access to resources, and market competitiveness?
3. How do small-scale mining operations in the North West Province contribute to local economic development, job creation, and community empowerment?
4. What are the key sustainability considerations for small-scale mining operations, particularly regarding environmental impact, health and safety practices, and social responsibility?
5. How do small-scale mining operations in the North West Province navigate relationships with local communities, government agencies, and other stakeholders to ensure sustainable and responsible mining practices?
6. What opportunities and strategies can be explored to promote innovation, technology adoption, and capacity-building in small-scale mining operations in the region, fostering long-term viability and growth?

These questions will aid the researcher in exploring the aspects of small-scale mining operations in the North West Province. This will help the researcher to understand the impact, challenges, sustainability, motivations, and stakeholder relationships.

**Figure 3-1:** Interview questions

The list in Figure 3.1 above was distributed to interviewees before conducting the interviews so they could be better prepared to answer the questions to the best of their knowledge.

### **3.6 Sample selection**

Based on the number of mineral rights that made up the study population, the researcher chose a mix of Mining and Prospecting Rights and Mining Permits to ensure a diverse overview from different ends of the spectrum. Diversity was ensured by selecting participants across multiple

dimensions: company size (small and medium enterprises), roles (directors, managers, and shareholders/right holders), and experience (new entrants versus established miners). This approach guaranteed that the data reflected a wide range of perspectives from the North West province's small-scale diamond mining sector.

### **3.7 Research process**

The primary data for this qualitative research was gathered through semi-structured interviews, resulting in the collection of huge amounts of data. Emails were sent to identified miners seeking permission to conduct a study on utilising strategic management of technology and innovation to improve the profitability and sustainability of diamond mines in South Africa. Appendix C contains permission forms that clarify the purpose of the study and privacy and emphasized that participation is entirely voluntary. Interviews with interested parties were then set for October and November 2024.

Before the interviews, participants were given an interview guide, and the researcher requested permission to record the interviews for transcribing reasons following the discussions.

The interviews lasted between 15 and 20 minutes and were conducted at the participants' workplaces. The researcher took notes during the interviews to help with data analysis. Participants were allowed to express themselves during the interviews, even on topics unrelated to the interview questions.

Because of the large amount of data, coding was a crucial phase in the data processing technique for qualitative data. Basic transcribing guidelines and regulations were followed to guarantee that the transcriptions were as near to the actual version of the interview as feasible. Appendix D contains an example of one of the interview transcriptions.

Following the transcription of the interviews, the researcher used Atlas.ti 22 to analyse the data acquired. Because of the vast amounts of data, it was important to conduct a systematic analysis to ensure the correctness of the conclusions, particularly at the conceptual stage of the research. Atlas.ti is a very powerful workbench for qualitative data analysis, especially due to drastic text, visual, and audio data. This program assists the researcher during the data analysis process, which involves analysing and interpreting texts through coding and annotating activities.

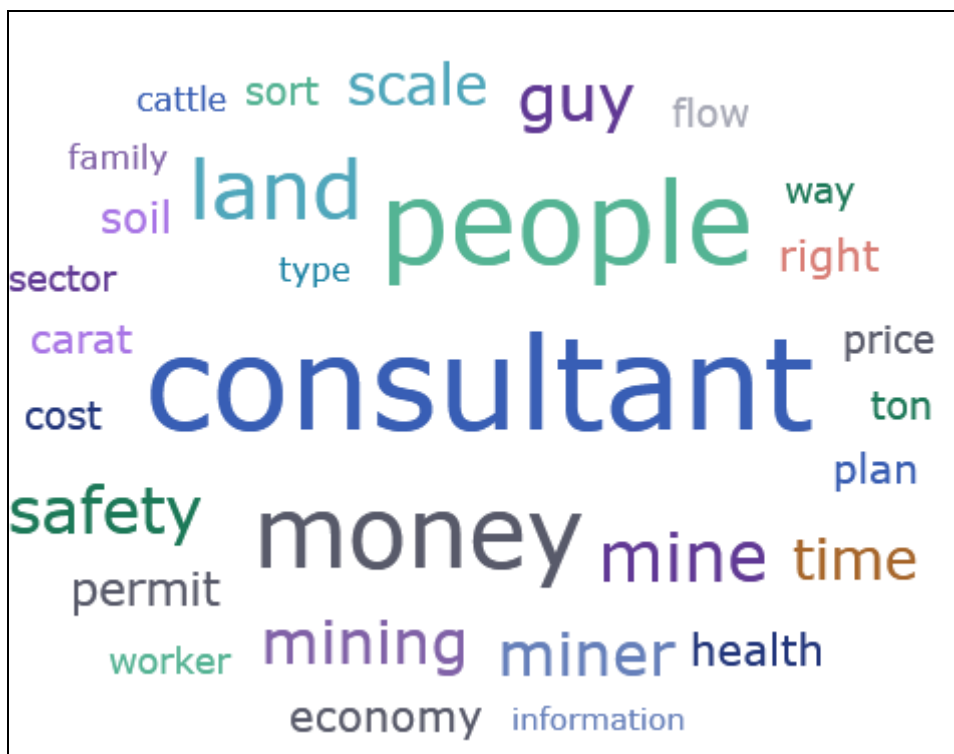
### 3.8 Data analysis

The researcher used Huberman's and Miles (1994:324) three-stage analysis, which includes data reduction, data presentation, and conclusion drafting. Without coding the data, it was easier to recognise emergent patterns and maintain links between concepts and underlying surroundings.

Data reduction comprised choosing, concentrating, reducing, abstracting, and modifying data to obtain meanings and insights from the participant's remarks. All the recordings were transcribed before reading each transcript numerous times to become acquainted with the content. Coding followed the interview transcription, and the codes were classified into categories and themes.

### 3.9 Keywords

The transcribed interviews were uploaded using Atlas.ti. A word cloud was generated to determine which concepts were dominant in the interviews. This word cloud provides key insight into the qualitative data but does not provide the contexts thereof.



**Figure 3-2:** Word Cloud

Figure 3.2 is the word cloud that was generated using Atlas.ti. From this word count one can view key concepts that were important in the interviews. These key concepts were consultants, people, money, land, safety, mining and miners.

### 3.10 Themes and Codes

The themes were created from uploading the transcribed interviews into Atlas.ti. Codes were generated from keywords and phrases frequencies they occurred. The codes and their frequencies were reviewed across different segments and tools such as network view was used to identify patterns and trends. The themes were refined and codes that had the same patterns and trends were grouped under one theme.

From the data analysis, three broad themes emerged, and the researcher went on to classify themes into categories and subcategories. These themes are represented in Table 3.2 below.

**Table 3.2:** Themes and categories formulated during data analysis

| Themes                          | Category                                        |
|---------------------------------|-------------------------------------------------|
| Entering challenges             | Motivations for entering this market            |
|                                 | New Applications                                |
|                                 | Regulations Challenges                          |
|                                 | Cost Efficiency of mining                       |
|                                 | Acquiring new mining areas                      |
|                                 | Managing legislation and bureaucracy strategies |
| Small-scale mining contribution | Local economy                                   |
|                                 | Employment                                      |
|                                 | Local community                                 |
| Small-scale mining growth       | New Technologies                                |
|                                 | Change in regulations                           |

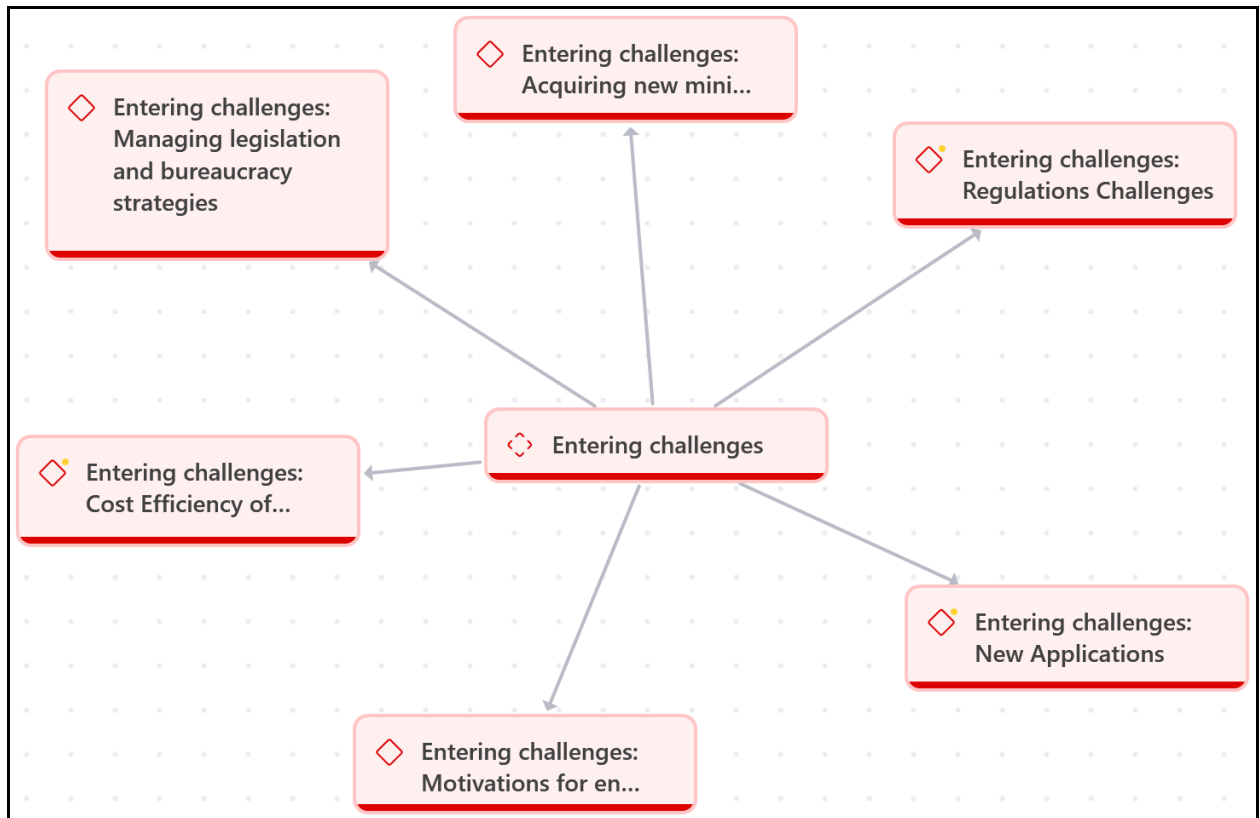
Table 3.2 shows the emerging themes and their corresponding categories/codes. These themes were entering challenges, small-scale mining contribution, and small-scale mining growth and their corresponding categories.

### **3.10.1 Theme 1 Entering challenges**

The first theme, “Entering challenges,” was identified through a systematic coding process. After transcribing all interviews, the researcher read each transcript multiple times to become familiar with the data. Using open coding, initial codes were assigned to significant phrases, words, and sentences that reflected participants’ experiences with legislation, land acquisition, costs, and other entry-related challenges

These codes were then grouped into categories based on recurring patterns, such as “Regulatory Challenges,” “Cost Efficiency,” and “Acquiring New Land.” Using axial coding, relationships between codes and categories were identified, which helped form the broader theme of “Entering Challenges.” Participant quotes were continuously linked back to these codes to ensure that the themes accurately reflected the range of experiences.

The coding process was supported by Atlas.ti, which helped visualise networks and patterns among codes. Saturation was reached when no new codes or categories emerged from additional interviews, confirming that the theme was comprehensive and representative of the sector.



**Figure 3-3: Entering challenges**

#### Motivations for entering this market

Some of the quotes from the participants' responses on motivations for entering the market follows:

"For me, it is; it comes through generations, my grandfathers, my father, etc. For new ones to come in I think they must be very stupid, first, no, I think it's about money."

"Well, I think first one can say there isn't anything out there that can generate wealth as quickly and bring in money so quickly, but at this point, it's a challenge, because there are many things that count against small-scale miners."

"I can't speak for everybody, I speak for myself, this land has been in my family for generations"

The key motivations for entering this market, are generating wealth quickly and it is generational. These small-scale miners stem from traditions of mining alluvial diamonds in this field. The participants believe that any newcomers to the market would enter it for the possibility of generating wealth at a fast rate.

### New applications

Some of the quotes from the participants' responses on new applications follows:

"Last year, according to the government itself, no licenses were issued and no permits. The minister himself said that last year no rights were granted."

"But now, it can take you anywhere from six months to six years, I already know of guys who waited over three years for permits"

Based on the participants, new applications were a concern as they are not being granted soon enough. They were concerned that when they had to move to a new area they would not get the right before they had to move.

### Regulations Challenges

Some of the quotes from the participants on regulatory challenges are as follows:

"The biggest problem in my opinion is legislation and regulation, by far. We fall fully under large mines' legislation and regulation."

"I think it's this mining sector that is completely misunderstood by the government."

According to the participants, they feel that the government does not understand their operations. They expressed that legislation is a large obstacle for them as they have to comply with it. These regulations are the same as what larger mines have to comply with. With their small operations, it is not always possible or cost-effective.

### Cost efficiency of mining

Some of the quotes from the participants' responses on costs efficiency of mining follows:

"I think that's why a lot of people are mining illegally as well, because they are not assured that the land is going to be profitable before spending a lot of money to get a mineral right."

"The cost per month of just complying with the legislation and regulations, percentage-wise, plus or minus 7% of our turnover a month."

"So our cost to regulatory stuff is a minimum of 7% of our revenue."

Based on the participants the cost of complying with regulations was on average 7% of their total revenue. These costs were increasing as new regulations are imposed on them. They also had a

concern that the cost of acquiring a mineral right is extremely high, and they did not know if it would be profitable.

#### Acquiring new land

Some of the quotes from the participants on acquiring new land are as follows:

“We're looking at other ground now. We got land where we bought a permit from someone else through a consultant and then the landowners sold the land to someone else. Then the new landowner said, there will be no mining on this farm,”

“I believe there are still a lot of diamonds around here. But the landowners don't want to let them mine on their good agricultural soil”

“I think that specifically the North-West province has been mined out.”

“I don't think the diamond industry in our area has ten years left.”

From the participants responses two conclusions were made, the first as that they believe there were still a lot of potential mining areas in the North West The only problem seems that it is on agricultural land and the surface owners do not want to grant them access to, and the second is that the North West is depleted of diamonds and the industry does not have a future.

#### Managing legislation and bureaucracy strategies

Some of the quotes from the participants on managing legislation and bureaucracy are as follows:

“For the environmental and safety stuff, we use all the necessary consultants from electricians and dust consultants.”

“On the environmental section, we get less to do with the DMR. It's mostly the consultants working with them. They handle the inspections and then pass the information on to us.”

“For the DMR and communities, we use consultants. With health and safety, we also use consultants. We use the consultants as a middleman. There's a middleman, who delegates us”

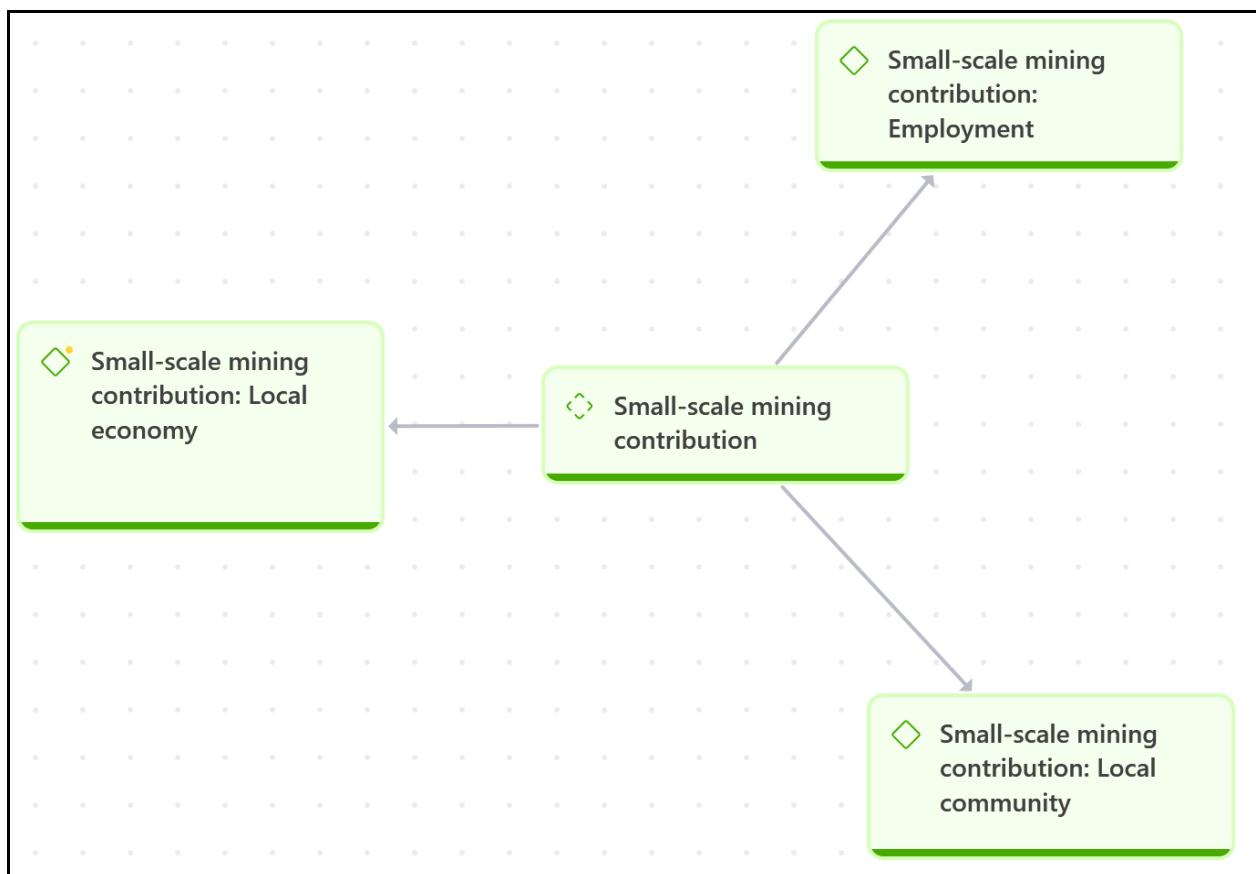
“It's dead simple too but, we let ourselves be guided by the consultant”

All of the participants used consultants to help them navigate legislation, community engagement and stakeholder engagement. The participants said they do not always have the time to do this work, and they could not employ a specialist due to cost constraints.

### 3.10.2 Theme 2 Small-scale mining contribution

The second theme, “Small-scale mining contribution,” was derived from participants’ descriptions of how their operations impact local economies, employment, and communities. After transcribing the interviews, the researcher used open coding to tag statements related to economic impact, employment generation, and community support. Codes such as “local economy,” “jobs created,” and “community engagement” were assigned to specific quotes.

These codes were grouped into categories reflecting broader patterns: “Local Economy,” “Employment,” and “Local Community.” Using axial coding, connections between these categories were explored, such as how employment supports local communities and stimulates the economy. Atlas.ti was used to visualise these relationships, ensuring that the theme captured the multi-dimensional contributions of small-scale mining. Saturation was confirmed as no new codes emerged in later interviews, demonstrating that the theme reliably represents participant perspectives..



**Figure 3-4:** Small-sale mining contribution

### Local economy

Some of the quotes from the participants on local economy are as follows:

“If you take away one small-scale miner, then it will definitely make an impact on the network and on the economy because there is a lot of money being moved through a miner.”

“I think small-scale mining kept Wolmaranstad, Schweizer, Makwassie, Bloemhof specifically Christiana's economy going. It had been a huge monetary inflow.”

“But still, we contribute to the local economy. At one-point miners probably bought 60% of the diesel stock in Bloemhof, but it's much less now.”

According to the participants, the small-scale miners in the North West contributed a lot to the local economy, and small towns have been established around these mines. As the number of miners decreased, the economy also decreased.

### Employment

Some of the quotes from the participants on employment:

“We give 14 people jobs. So, that's 14 families getting an income. Other people have more employees.”

“We currently employ 19 people because our production is down, but if we can run at full capacity, we employ 30 people.”

“So for every ten small mines that close, there are 150 people out of work.”

Small-scale mines employ an average of 15 people, and some employ as many as 30 workers. This amounts to an average of 15 families (consisting of about 5 people in a family) dependent on the income from those employees. This means that one small-scale mine provides for an average of 75 people on a daily basis.

### Local community

Some of the quotes from the participants on local communities:

“The church is supported, the schools are supported, the nursing homes, all the dependent institutions, that are no longer so heavily funded by the state, are dependent on the miners in the area.”

“We also employ locals. Everyone is local. That has always been our condition of service. Because we are from Bloemhof, we are in the Bloemhof area, just Bloemhoffers.”

“We have a social and labour plan we are implementing. We use consultants to manage that for us.”

Based on the participants’ answers, the local community is supported by hiring from the local community as far as possible. Not only are local communities supported by employment, but local organisations like churches, nursing homes, and old age homes are supported by small-scale mines. Mining rights require social and labour plans that must be implemented.

### 3.10.3 Theme 3 Small-scale mining growth

The third theme, “Small-scale mining growth,” emerged from discussions on potential improvements and future opportunities in the sector. During transcription review, open coding was used to identify statements about technology adoption, regulatory changes, and operational improvements. Initial codes included “new technologies,” “efficiency,” and “regulation gaps.”

These codes were clustered into two main categories: “New Technologies” and “Change in Regulations.” Axial coding was applied to explore how these categories interact, such as how new technologies can mitigate regulatory costs or improve efficiency. Atlas.ti facilitated the mapping of codes, categories, and participant quotes, ensuring the theme accurately reflected strategies for sector growth. Saturation was reached when no new patterns or codes emerged from the data, confirming that this theme represented the breadth of participant insights..



**Figure 3-5** Small-scale mining growth

#### New technologies

Some of the quotes from the participants’ new technology:

“The X-ray machines and flow sorts are a thing of the future. I think quite really, eliminates the pans”.

“The technology is better, so small-scale miners can work the harder ground.”

New technology has brought about better ways of finding diamonds. X-ray machines are slowly eliminating pans, which enables small-scale miners to work harder grounds that they could not work before. Removing the pans increases efficiency and reduced environmental costs.

### Change in regulations

Some of the quotes from the participants' new regulations:

There's supposed to be a three or six-month trial period to see if land is profitable. You are still doing your health and safety, and environmental practices. But I think there's a gap.

“So that's an enormous problem. So there has to be a way how we can split things up and still make the small-scale miners work safely, while still cutting the high costs.”

New regulations posed enormous problems for small-scale mines, because they needed to conform to the requirements of large mines. A three to six-month trial period was suggested, to see if the land would be profitable. This would help to cut the costs of starting initially.

### **3.11 Results of data analysis**

After going through the process of data analysis whereby all the interview transcripts were loaded into Atlas.ti software, the information was coded and themes emerged. The following were the results coming from data analysis:

- The small-scale mining sector faced a lot of problems when it comes to regulations and legislation.
- The available land for alluvial diamond mining is limited.
- The small-scale mining sector uses consultants to manage their regulatory requirements.
- For growth in this sector, innovation and implementation of technology are required.
- Regulation and legislation for the small-scale mining sector should be amended to fit their needs.

### **3.12 Ethical consideration**

According to Klopper (2008:71), ethical considerations refer to the steps taken to ensure that all the rights of the participants are protected at all costs by ensuring that informed consent is in

place. The ethical approval from the institution was adhered to. Klopper (2008:71) went on to say the need for a researcher to deliver relevant data on each aspect, protecting participants' rights. The informed consent form, the permission to conduct the study, and the confidentiality agreement was drafted and sent to the participants before the start of the research. Confidentiality was guaranteed, and the final draft thesis will be sent to participants before submission.

### **3.13 Contribution to the study**

*Theoretical contribution:* This study contributed to the small-scale mining sector by giving them a voice and empowering them to speak up against the challenges they face regarding regulations.

*Industry contribution:* to provide an insight into how experienced small-scale miners faced challenges and how new entrants could manage these changes. With the addition of technology adoption, small-scale miners could improve efficiency and mine previously unprofitable areas, prolonging this sector to benefit local communities and economies.

### **3.14 Conclusion**

To conclude, small-scale diamond miners in the North West province faced substantial challenges, particularly around navigating complex regulations. To manage these, many small-scale miners rely on consultants to handle compliance, health and safety, and community engagement. While this strategy helped them manage the regulatory burden, it unfortunately added to operational costs, which strained their limited resources.

The regulations posed another obstacle, as small-scale miners must abide by the same rules as large operations, making compliance an even larger financial burden. Participants have suggested trial periods to assess land cost-effectiveness, which could help reduce primary costs and make the sector more accessible to potential smaller miners.

The embracing of new technologies, such as X-ray machines and FlowSorts, could significantly improve efficiency and reduce the environmental impact that small-scale mines have. However, access to such technologies remained a challenge due to the height of costs.

Chapter 3 thoroughly discussed the research strategy's layout. This entailed the motivation behind the chosen research approach, the method of gathering data, how the data was analysed, and the themes that arose from the study. The final stage of Chapter 3 was to make sense of the data to understand the research study.

From the population of active small-scale diamond mines, the saturation point was set at six interviews.

Data were gathered during the interviews, and prepared questions were sent to participants beforehand. Interviews took place at the participants' offices, and the consent forms were signed before the beginning of the interviews.

The interviews were transcribed and loaded into Atlas.ti: the data analysis software for qualitative research. The themes that emerged after coding were: source of technology and innovation, improvement benefits, quality of product, and sustainability. The classification of themes and categories will be used to conclude chapter 4.

## **CHAPTER 4 : CONCLUSION AND RECOMMENDATIONS**

### **4.1 Introduction:**

The study's findings were presented and discussed in this chapter. The primary objective of this study was to investigate how private diamond producers could enter the market for the mining of diamonds in the North West province. The research's basis was constructed on the input of a literature study on small-scale alluvial mines, the challenges they faced entering this market and the strategic planning and recommendations. Chapter 2 detailed all the significant findings from the literature review.

Three themes emerged from the study after the transcripts were loaded and analysed, using Atlas.ti software. The themes were entering challenges, small-scale mining contribution, and small-scale mining growth. These themes were explained in Chapter 3, which outlined the approach utilized in the research. The main objective of Chapter 4 was to wrap up the study by drawing conclusions based on the results and discussing the key findings. The study also analysed to evaluate if the objectives of the study were met.

### **4.2 Discussion of challenges**

Obtaining ethical clearance proved to be a challenging process due to the sensitive nature of the research topic. Multiple rounds of review were required, which extended the timeline for approval. Consequently, ethical clearance was only granted approximately one month before the submission deadline, necessitating a compressed schedule for conducting all interviews during the exam period.

Data collection for this research study was challenging. The mines are situated in the North West province and are far from each other, requiring careful planning around the availability of all the participants in one week.

### **4.3 Achievement of Research Objectives**

#### ***Primary Objective***

The primary objective of this study was to investigate how private diamond producers could enter the market for the mining of diamonds in the North West province and to assess how their strategic approaches ensured successful entry and sustainability.

This objective was met through in-depth interviews that revealed that most producers entered the market due to generational involvement or the perception of quick wealth generation. The use of consultants, especially to manage regulatory, environmental, and community-related processes, emerged as a key strategy. Furthermore, the participants' approaches highlighted a reliance on experience-based decision-making, localized employment, and informal networks to navigate the sector's challenges. These findings provided a comprehensive understanding of the strategic and managerial practices that have enabled small-scale miners to sustain their operations despite significant regulatory and operational challenges.

### ***Secondary Objectives***

#### **Investigate how diamond producers managed legislation challenges when applying for a mineral right:**

This objective was clearly met. The interviews revealed that regulatory compliance is one of the most significant obstacles small-scale miners faces. Participants expressed frustration with being held to the same standards as large-scale operations, despite having fewer resources. The consistent use of external consultants to handle compliance processes, audits, and reporting reflects a widespread coping mechanism across the sector.

#### **Review how these organisations managed the bureaucracy with departments, surface owners, and communities:**

This objective was addressed through discussions on managing relationships with government departments (especially the Department of Mineral Resources), surface rights holders, and local communities. Participants shared how access to land was frequently hindered by uncooperative landowners or unclear land tenure. Additionally, the miners rely on consultants as intermediaries to manage bureaucratic processes and community engagement, particularly regarding social and labour plan obligations.

#### **Understand how miners located new areas for small-scale diamond mining:**

This objective was partially addressed through participants' reflections on the challenges of acquiring new land. While some believed the region still holds untapped potential, others viewed it as nearing depletion. Many expressed concerns about agricultural landowners' resistance to mining activity. Although the specific methods of identifying new areas (e.g., geological surveying, partnerships) were not deeply detailed, it is clear that land access remains a strategic and operational priority.

## **Use the results to draw conclusions and make recommendations for new entrants:**

While the full set of recommendations is presented in the final chapter, the findings from this chapter offer a solid foundation for practical guidance. Key takeaways include the importance of:

- Partnering with experienced consultants,
- Prioritising community engagement,
- Advocating for regulatory reform tailored to small-scale operations,
- Exploring innovative technologies (such as X-ray machines and FlowSorts) to improve mining efficiency and environmental compliance.

These insights form the basis for informed recommendations that new entrants can adopt to navigate the diamond mining sector more effectively.

## **4.4 Recommendations**

### *Regulations Regulations and legislation*

*Based on the findings in Section 3.11 that regulatory compliance is a major obstacle for small-scale miners, it is essential to streamline and adapt regulations to meet their specific needs. Currently, small-scale operations are burdened with the same stringent regulations as large mines, making compliance operationally and financially challenging. Simplifying the application process for mineral rights and permits, reducing regulatory fees, and introducing trial periods to assess land profitability would directly address these challenges. Establishing a one-stop shop for mining applications would further help miners navigate bureaucracy efficiently.*

### *Accessible land*

*Section 3.11 revealed that limited land availability and uncooperative surface owners hinder mining expansion. Therefore, it is crucial for small-scale miners to engage proactively with surface owners and build relationships founded on fairness and sustainable development. This approach would improve access to potential mining sites and help mitigate the decline in this sector.*

### *Consultation*

*The interviews in Section 3.11 highlighted the extensive reliance on consultants to manage compliance, environmental obligations, and community engagement. Accordingly, miners should continue to consult with professionals to remain updated on regulatory changes and implement them effectively, ensuring operational sustainability.*

### *Technology adaptation*

*Findings in Section 3.11 showed that adopting technologies such as X-ray machines and FlowSorts can improve efficiency and reduce environmental impact. Small-scale miners should explore such technologies where feasible, despite high costs, to enhance productivity and extend the operational lifespan of their mines.*

### *Ongoing engagement with regulators*

*Given the challenges identified in Section 3.11 around navigating bureaucracy and legislation, continuous dialogue with regulatory bodies is critical. This will ensure that regulations are achievable, support long-term sector growth, and create a regulatory environment conducive to sustainable small-scale mining operations.*

## **4.5 Critical evaluations of the study**

From the first chapter of this study, the problem statement posed a question that needed to be answered for this study to be a success, and from the problem statement, objectives were developed. The problem statement was to investigate on entering process of the small-scale diamond mining market in the North West province. Yes, the study managed to answer the problem statement with the overall analysis of the study; strategic planning of the challenges does give small-scale mines a practical benefit as insight and contributes towards sustainability; the response demonstrated that the participants shared one theme, showing that the mine would be prolonged sustainably.

## **4.6 Suggestion for future work**

The concept of strategic planning to guide the small-scale diamond mining sector and other mining sectors in general. How would regulations look to promote growth in this sector and what technologies will prolong the alluvial diamond mining sector?

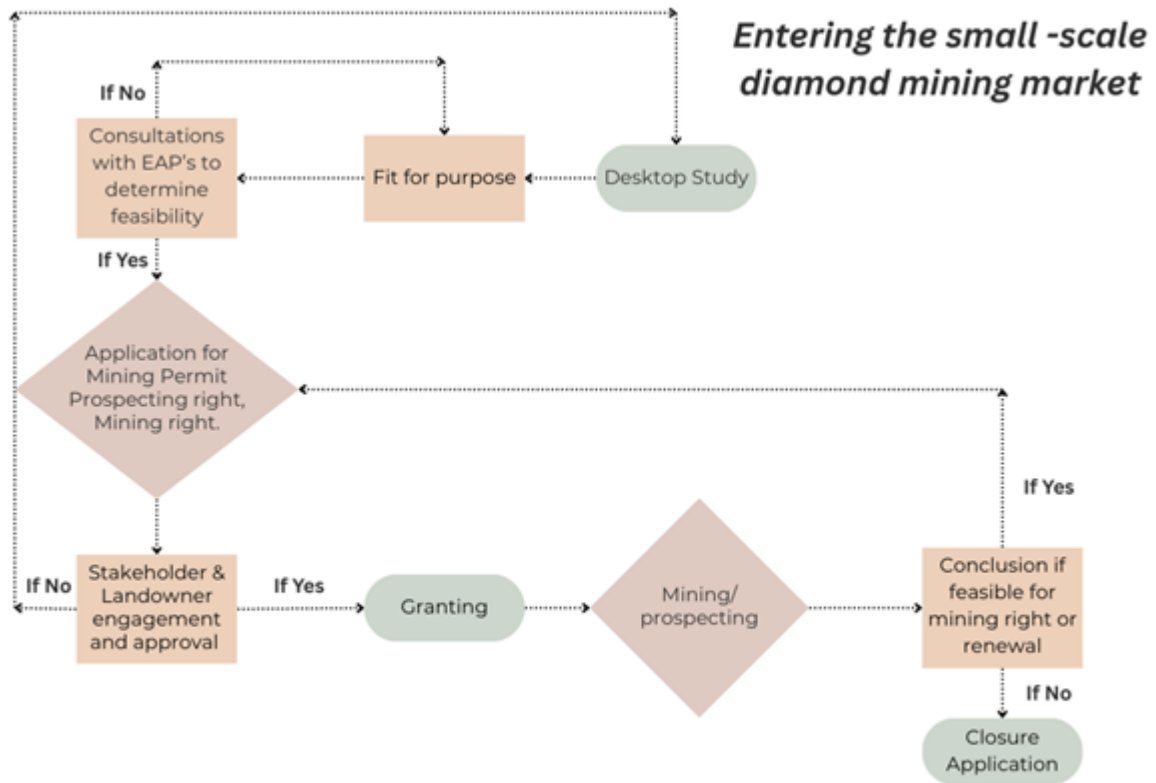
## **4.7 Conclusion**

The literature review provided a bigger, theoretical context of the challenges faced by small-scale miners. The focus was on issues such as regulatory barriers, legislation, and land availability. It highlighted the impact of regulations on the efficiency and sustainability of small-scale mines and discussed how they contribute to local economies. The review also mentioned technological developments and their potential to advance mining practices. In contrast, the interviews offered more personal, on-the-ground insights from the miners themselves. These first-hand encounters

described the practical realities of the challenges faced, such as the high costs of regulatory compliance, the reliance on consultants for managing legislation, and the struggles with obtaining mining permits. The interviews also revealed the generational motivations to enter the mining sector, for many miners continuing family traditions or seeking quick wealth. While the literature review provides a theoretical comprehension, the interviews brought these issues to the surface by showing how they were experienced in their everyday lives. Both sources highlighted similar themes, such as regulatory burdens, limited availability of land, and the role of technology in improving efficiency, but the interviews also introduced specific illustrations and personal strategies for managing these challenges, such as using consultants or pushing for trial periods to evaluate land profitability. Therefore, the literature review offered an introductory understanding, while the interviews offered a deeper, real-world perspective on the challenges and opportunities within the small-scale mining sector..

#### **4.8 Recommendation.**

The following flow chart provides a step-by-step guide for new entrants into the small-scale diamond mining sector in the North West Province. It outlines the critical stages, from assessing feasibility and securing land access, through navigating regulatory requirements, to operational execution and adoption of technology. The flow chart aims to simplify the complex entry process, highlight key decision points, and serve as a practical roadmap for prospective miners to follow while mitigating risks and ensuring compliance.



**Figure 4-1 Flow chart for entering the market**

Figure 4.1 shows the steps that need to be taken to enter this market. The steps are as follow:

### **Desktop study**

Identify an area that you want to mine. This can be done using satellite photos or apps such as Google Earth. From this study, reasonable assumptions can be made about whether the area has diamond-bearing gravels.

### **Fit for purpose**

Determine what type of mining you will be doing based on your desktop study. This includes deciding on the machinery to use, how many machines will be required, which type of right to apply for, and defining the mining parameters.

### **Consultation with EAPs to determine feasibility**

Engage with Environmental Assessment Practitioners (EAPs) and other professionals to determine if it is feasible to apply for a mining right or permit. They will guide what is required for a successful application.

### **Application for a mining permit, prospecting right or mining right**

Submit the application for the chosen right to the relevant authorities, ensuring all documents, assessments, and supporting materials are included.

### **Stakeholder and landowner engagement and approval**

Consult with landowners, local communities, and other stakeholders to obtain approvals and address concerns related to land access, social impact, and environmental management.

### **Granting**

Once all requirements are met, the mining or prospecting right is officially granted, allowing legal mining activities to begin.

Commence mining operations according to the approved plan while ensuring compliance with all regulatory, environmental, and safety requirements.

### **Conclusion if feasible for mining right or renewal**

Evaluate operations regularly to determine if continued mining or renewal of rights is viable based on profitability, land quality, and regulatory compliance.

### **Closure application**

At the end of mining operations, submit a closure plan and ensure the site is rehabilitated in line with environmental and regulatory obligations.

In summary, this study has provided a clear roadmap for entering the small-scale diamond mining sector in the North West Province. By identifying key challenges such as regulatory compliance, land access, and operational costs, and offering practical strategies through the flow chart, new entrants are equipped with a step-by-step guide to navigate the market successfully. Following these steps, combined with strategic planning and technology adoption, can help ensure sustainable operations while contributing positively to local communities and the economy.

## **4.9 Summary**

This is the concluding chapter wherein conclusions were drawn from the results of this research study. This chapter also recommended future studies based on the current study, and this study was critically analysed to establish if the objectives were met.

The researcher concluded that strategic planning is necessary to enter this market, and what is necessary for this sector to see growth. This sector would benefit if regulations were amended to fit the different mining sectors and if technology could promote growth in the future.

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## **Annexures A:PROPOSED INTERVIEW QUESTIONS**

Thank you very much for participating in this interview, your views and input are greatly appreciated. The study is about the impact that innovation has on turning marginal mines profitable. A copy of this questionnaire for your records

1. What are the primary motivations or drivers for individuals or organisations to enter small-scale mining operations in the North West Province?
2. What are the main challenges or barriers faced by new entrants in the small-scale mining sector in terms of regulatory compliance, access to resources, and market competitiveness?
3. How do small-scale mining operations in the North West Province contribute to local economic development, job creation, and community empowerment?
4. What are the key sustainability considerations for small-scale mining operations, particularly regarding environmental impact, health and safety practices, and social responsibility?
5. How do small-scale mining operations in the North West Province navigate relationships with local communities, government agencies, and other stakeholders to ensure sustainable and responsible mining practices?
6. What opportunities and strategies can be explored to promote innovation, technology adoption, and capacity-building in small-scale mining operations in the region, fostering long-term viability and growth?

These questions will aid the researcher in exploring the aspects of small-scale mining operations in the North West Province. This will help the researcher to understand the impact, challenges, sustainability, motivations, and stakeholder relationships.

**Annexures B: CONSENT FORMS INFORMED CONSENT TO PARTICIPATE IN AN INTERVIEW (PRIVATELY OWNED MINE).**

Date: \_\_\_\_\_

Participant code: \_\_\_\_\_

As part of the MBA program at the North-West University Business School, students are required to conduct a research project related to business and management. My name is Roelof Zuidersma, and I will be conducting a research project an investigation on entering the small-scale diamond mining market in the North West province of South Africa to explore opportunities for sustainable growth and economic development. This study is a mandatory part of the dissertation for the Master of Business Administration degree at the North-West University, which is internationally accredited and upholds strict ethical standards in research conduct.

Participation in this interview is voluntary, and I would appreciate your willingness to take part. Please note that participation is not compulsory, and you may decline to answer any specific questions or withdraw from the interview at any stage if you feel uncomfortable. The interview will be scheduled for 60 minutes, recorded, and the recording or any related materials may be requested.

Notes will be taken during the interview for data analysis and to draw conclusions based on the responses. The interview will be anonymous, with no mention of your name in the recordings or transcripts and all participants will be anonymous and no names will be revealed according to the POPI act. The recordings will be securely stored on a password-protected computer and will be deleted after three years. Quotes from the interview may be used in the final dissertation or future publications, but your identity will remain confidential.

Limited demographic information will be collected solely to create a participant profile and will not be used for group comparisons or statistical analyses.

The Chair of the Scientific Committee is Prof Christoff Botha. He can be reached at 018 299 1672 and his email address is [christoff.botha@nwu.ac.za](mailto:christoff.botha@nwu.ac.za). The Chair of the Ethical Committee is Prof Mark Rathbone. He can be reached at 018 299 1356 and his e-mail address is [mark.rathbone@nwu.ac.za](mailto:mark.rathbone@nwu.ac.za).

Mr. Johan Coetzee is my supervisor and can be contacted at 018 299 4012 and his email address is [Johannes.Coetzee@nwu.ac.za](mailto:Johannes.Coetzee@nwu.ac.za) for any query related to this research project.

We would gladly appreciate you availing yourself to participate in this research project and your inputs are highly valued.

Thank you,

Roelof Zuidersma

Roelof.zuidersma@gmail.com

079 490 7516

NWU Business School

**Annexures C: PERMISSION FORMS INFORMED CONSENT FOR EMPLOYEES PARTICIPATING IN AN INTERVIEW (COMPANY MINE).**

Date: \_\_\_\_\_

Participant code: \_\_\_\_\_

As part of the MBA program at the North-West University Business School, students are required to conduct a research project related to business and management. My name is Roelof Zuidersma, and I will be conducting a research project investigation on entering the small-scale diamond mining market in the North West province of South Africa to explore opportunities for sustainable growth and economic development. This study is a mandatory part of the dissertation for the Master of Business Administration degree at the North-West University, which is internationally accredited and upholds strict ethical standards in research conduct.

This permission form requests that I conduct interviews with the company's employees as part of my research project. All interviews will be scheduled at a time convenient to the company and employees. All information and data will be treated with the utmost confidentiality, and the organisation names of participants will be kept anonymous and used solely for the purpose of research.

“

Notes will be taken during the interview to analyse the data and draw conclusions based on the responses. The interview will be anonymous, with no mention of your name or the company in the recordings or transcripts. All participants will be anonymous, and no names will be revealed according to the POPI Act. The recordings will be securely stored on a password-protected computer and deleted after three years. Quotes from the interview may be used in the final dissertation or future publications, but your identity will remain confidential.

Limited demographic information will be collected solely to create a participant profile and will not be used for group comparisons or statistical analyses.

The Chair of the Scientific Committee is Prof Christoff Botha. He can be reached at 018 299 1672 and his email address is [christoff.botha@nwu.ac.za](mailto:christoff.botha@nwu.ac.za). The Chair of the Ethical Committee is Prof Mark Rathbone. He can be reached at 018 299 1356 and his e-mail address is [mark.rathbone@nwu.ac.za](mailto:mark.rathbone@nwu.ac.za).

Mr. Johan Coetzee is my supervisor and can be contacted at 018 299 4012 and his email address is Johannes.Coetzee@nwu.ac.za for any query related to this research project.

We would gladly appreciate you availing yourself to participate in this research project and your inputs are highly valued.

Thank you,

Roelof Zuidersma

Roelof.zuidersma@gmail.com

079 490 7516

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## **Annexures D: Interview Transcript**

1. It's just to make money. Taking out diamonds is a way to get rich very quickly or get poor very quickly.
2. The DMR does not grant rights and permits, and with guarantees that haven't been paid out to miners, and for that guy on the ground who didn't repay a guarantee, you don't get your right and that stuff doesn't get done at all. So, the DMR is one big obstacle. You can't just walk straight to the DMR about all these matters. You need consultants to help you everywhere with everything. You can't talk face-to-face with DMR.

You need land to mine and a profitable farm to mine. And then, the machinery is quite expensive.

The lab-grown diamonds have had a huge impact on our prices now. And the thing I always say is that no one is loyal to a diamond. No one feels obligated to buy it. It's a nice-to-have item. This is our big problem—a luxury item.

3. Well, we support many businesses in Bloemhof and Schweizer. We support local boilermakers, electricians, and mechanics. We also hire a lot of workers here at the mine. Hopefully, when the prices improve, we can start working again with all the pans. As you can see, we are not running at full capacity, and then we will have to rehire quite a few people.

In regards to the community, we have a social and labour plan. We all have to use consultants, and it's also a big mess with the DMR, which then doesn't approve your social and labour plan. We can give local municipalities money, but the money will go lost. The funds will not be used to do anything at all, not uplift the community. They're going to use it to fill their pockets.

4. For all that stuff, we use consultants to help us look at our health, safety, and rehabilitation, and we're trying to plant grass because this is mainly a cattle farm. There is no more planting on it. So we're trying to rehabilitate the land and everything again so that they can use the whole farm again for cattle later. We want to restore land capability. Our people get a check-up from doctors. We check that they are all pretty healthy, but we use consultants to help us with everything.

We use consultants for everything. Otherwise, we will not get the right.

5. We use consultants to help us with all those things. As I told you, one man is the landowner himself, and we talk to them and listen and try to make things better, help here and help there if something needs to be done, and build a relationship. We can do things faster with a front-end loader, so we help with that, but for the rest of the responsible mining practices, government agencies, and local communities, we use a consultant.
6. We need to find ways to extract more diamonds from the ground. You don't leave anything on the ground, and your mining pans should not be thrown away. You can't lose anything. You need cards, and you can't work marginally anymore—not with all the expenses that go up like that.



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