

The Challenge of Sustainable Development Beyond Mining in Welkom

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*A research article submitted to the Faculty of Commerce, Law
and Management, University of the Witwatersrand, in partial
fulfilment of the requirements for the degree of Master of
Business Administration*

Johannesburg, 2025

Protocol number: (WBS/BA2280186/197)

(Version July 2023)

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DECLARATION

I, Letlhogonolo Gideon Mohosh, declare that this research article is my own work except as indicated in the references and acknowledgements. It is submitted in partial fulfilment of the requirements for the degree of Master of Business Administration in the Graduate School of Business Administration, University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination in this or any other university.

Letlhogonolo Gideon Mohosh

Signed at East Driefontein, Carletonville

On the 27 February 2025.

DEDICATION

To my loving partner, my ZanzaBear, I dedicate this research to you, in gratitude for your unwavering support and unconditional love. Your patience and understanding have been a constant source of strength throughout my academic journey. I acknowledge the sacrifices you've made, tolerating my absence, mood swings, and preoccupation with my research. Your selflessness and encouragement have enabled me to pursue my dreams, even when it meant putting our lives on hold. I am forever grateful for your unwavering support, which has been a beacon of hope and motivation throughout this challenging yet rewarding experience. Thank you for being my rock, my confidant, and my partner in every sense of the word. This achievement is as much yours as it is mine.

To My Loving Family, I dedicate this achievement to each one of you, whose unwavering support and love have been my driving force throughout this journey. Mama, I thank you for your selfless prayers, which have sustained me through the ups and downs of this research. Your understanding and encouragement have meant the world to me, and I'm grateful for your unwavering belief in me. To my dearest sister Tumza, you've been my rock, my confidante, and my safe haven. Thank you for allowing me to share my fears, my doubts, and my tears with you. Your listening ear and comforting words have been a balm to my soul.

To my brother, your voice of reason and calm has been a source of strength to me. Thank you for being my rock, my advisor, and my friend. To my children, nephews and niece, I know that I've been unavailable at times, preoccupied with my studies and research. Thank you for your patience, understanding, and love. This achievement is for you, and I hope it inspires you to pursue your own dreams and ambitions. Thank you for being my cheerleaders and for understanding the sacrifices I've made for our family.

This achievement is not just mine; it's ours. I'm grateful for each one of you, and I celebrate this milestone with you. Thank you for being my family, my motivation, and my inspiration.

ACKNOWLEDGEMENTS

To my supervisor, Dr. Manamela Matshabaphala, thank you for your exceptional guidance and unwavering support throughout this research journey. Your prompt feedback, constructive criticism, and dedication have been instrumental in shaping my work. I feel fortunate to have had the opportunity to work under your supervision, and your exemplary leadership has enabled me to successfully complete this research.

I also wish to express my appreciation to my employer, principles, and colleagues for their support and understanding during this challenging journey. Their encouragement and flexibility have been invaluable in helping me balance my work and academic responsibilities.

Lastly, I would like to thank my cohort managers and syndicate members for their camaraderie and support. Their presence has made a significant difference in my academic journey, and I am grateful for the opportunity to have worked alongside them

SUPPLEMENTARY INFORMATION

Nominated journal: Social Science & Development Journal

Supervisor / Co-author: Dr Manamela Matshabaphala

Word count †: 13,513

Supplementary files: N/A

ABSTRACT

This thesis examined the relationship between Social and Labour Plans (SLPs), sustainable development, and unemployment rates in the context of mining activities in Welkom, South Africa. Using a mixed-methods approach, the study investigated the long-term implications of inadequate SLPs on sustainable development, analyzed sustainable development trends in SLPs, and interpreted job creation initiatives in SLPs. The findings revealed a negative correlation between unemployment rates and jobs created by mining companies, highlighting the limited positive impact of SLPs on reducing unemployment rates. The study provided recommendations for policymakers, mining companies, and other stakeholders to enhance the effectiveness of SLPs in promoting sustainable development and addressing social and economic challenges facing local communities.

Keywords: Social and Labour Plans (SLPs), sustainable development, unemployment rates, mining activities, Welkom, South Africa.

Chapter 1. Study Background

1.1 Introduction

This quantitative research study examined the challenges of sustainable development in Welkom, Free State, South Africa, through an in-depth analysis of Social and Labour Plans (SLPs) (Department of Mineral Resources, 2019). With a specific focus on the social context, the study investigated jobs created through the Social and Labour Plans of two prominent mining houses in the Welkom area. The research identified trends in existing sustainable development initiatives related to Social and Labour Plans and analyzed the findings to inform strategies for future SLP development (MMSD, 2002). Guided by the Systems Design Thinking framework (Banathy, 1996), this research aimed to provide actionable recommendations for enhancing SLPs, thereby mitigating the challenges of sustainable development in Welkom throughout the mining lifecycle and into post-mining phases (Hilson & Murck, 2000).

1.2 Background of study

Sustainable development, which entails meeting present needs without compromising future generations' capabilities (Report of the World Commission on Environment and Development, 1987), is hindered by the social dimension's conceptual gaps and analytical shortcomings (Lehtonen, 2004). This study posits that addressing these weaknesses is crucial for fostering resilient communities beyond mine closure, going beyond the International Council on Mining and Metals' (ICMM) regulatory compliance-focused closure vision (ICMM, 2019).

The concept of sustainable development has become increasingly important in the mining sector, particularly in South Africa where the industry plays a significant role in the country's economy (Department of Mineral Resources and Energy, 2019). However, the mining sector's contribution to sustainable development is often hindered by inadequate Social and Labour Plans (SLPs), which are intended to

promote social and economic development in mining-affected communities (Sibiya, 2014).

A Social and Labour plan as defined and stipulated in the Minerals and Petroleum Resources Development Act, is required to be submitted by a mining applicant so to integrate with the five-year strategic plan (IDP) of local municipalities, facilitating cooperative efforts between mining companies and local authorities to maximize community benefits. (MPRDA, 2002).

Therefore, mining companies are required to develop and implement SLPs that address the social and economic needs of local communities (Republic of South Africa, 2002). Despite this regulatory requirement, many SLPs have been criticized for being inadequate and ineffective in promoting sustainable development (Mbeki, 2017).

The challenges of sustainable development in the mining sector are complex and multifaceted. On one hand, mining activities can generate significant economic benefits and create jobs for local communities (World Bank, 2018). On the other hand, mining can also have negative social and environmental impacts, such as displacement of communities, pollution, and degradation of natural resources (Hilson, 2012).

In Welkom, Free State, South Africa, the mining sector is a significant contributor to the local economy, but the area also faces significant development challenges, including high levels of poverty and unemployment (Statistics South Africa, 2020). Therefore, it is essential to investigate the challenges of sustainable development in Welkom and identify strategies for enhancing SLPs to promote sustainable development and mitigate the negative impacts of mining.

For purposes of this research study, these socio-economic implications may be addressed through the application of sustainable Social and Labour Plans which are

commonly known to cover; Human Resource Development, Mine Community Development, and Inclusive Procurement elements. (van der Watt & Marais, 2021)

1.2.1 Global and National Sustainable Development Trends

Sustainable Development redefines progress, shifting from mere economic growth in underdeveloped nations to a broader vision of human well-being, environmental sustainability, and equitable prosperity for the long-term benefit of the planet. (Report of the World Commission on Environment and Development, 1987). Therefore, people's desire for a better living should be addressed through Sustainable Development, which considers the constraints placed on it by nature.

The Sustainable Development Goals (SDGs) were approved by the United Nation General Assembly in 2015 with the intention of promoting sustainability. This enabled the SDGs to address present and future stakeholder needs and guaranteed a more sustainable future for all, while balancing the development of the economy, society, and environment. (Fonseca, Domingues & Dima, 2020). The 2030 Sustainable Development Goals (SDGs), which are the most significant objectives that the world has agreed upon, may be the impetus required to give mine closure and its capacity to advance societal interests top priority. (Ruswa, 2023).

Although Nigeria has pledged to achieve the SDGs, the country's socio-economic development continues to fall short of the targets, indicating a significant implementation gap. (Ajala 2022).

1.2.2 Global and National Social and Labour Plans

The implementation of Social and Labour Plans (SLPs) is a critical aspect of corporate social responsibility (CSR) in the mining industry globally (Hilson, 2012). International mining houses have a significant impact on the social and economic development of host countries and communities, and SLPs are a key mechanism for

promoting sustainable development and mitigating the negative impacts of mining (International Council on Mining and Metals, 2019).

In Australia, for example, mining companies are required to develop and implement SLPs that address the social and economic needs of local communities (Australian Government, 2020). Similarly, in Canada, mining companies are expected to develop and implement SLPs that promote sustainable development and respect for human rights (Mining Association of Canada, 2019).

In Africa, the African Mining Vision (AMV) provides a framework for promoting sustainable development and CSR in the mining sector (African Union, 2009). The AMV emphasizes the importance of SLPs in promoting social and economic development in mining-affected communities.

Despite these efforts, the implementation of SLPs by international mining houses remains a challenge. Research has shown that many SLPs are inadequate and ineffective in promoting sustainable development and mitigating the negative impacts of mining (Mbeki, 2017). Furthermore, there is often a lack of transparency and accountability in the implementation of SLPs, making it difficult to track progress and ensure that companies are meeting their CSR obligations (Oxfam Australia, 2019).

In conclusion, the implementation of SLPs is a critical aspect of CSR in the mining industry globally. While there are examples of good practice, there are also significant challenges that need to be addressed. International mining houses must prioritize transparency, accountability, and community engagement in the implementation of SLPs to promote sustainable development and respect for human rights.

1.2.3 South African context

Amongst the world's newest democracies is South Africa. Its national strategy for Sustainable Development supports the National climate change response strategy, which has acted as a catalyst for mainstreaming of environmental issues in South Africa. (Cole, Bailey, & New., 2014). South Africa is still in the process of transforming its historically underprivileged citizens into members of an equal, just, and equitable society. As a result, the business community is always impacted by the nation's socio-economic developmental obstacles, which include a sluggish economy and significant youth unemployment. (Anwana, 2020).

This research study investigated the social impacts of mining in Matjhabeng Local Municipality in a small gold mining town known as Welkom (Free State province). This is due to a rapid decline in mining, that impacts the socio-economic development of the area. "The economy of Matjhabeng has declined by about 35% (in real terms) over three decades" (Ntema et al., 2023b).

This is evident because mine closure plan lacking concurrent social planning creates a major vacuum in the planning process, reduces the level of trust and undermines sustainability beyond mine closure, causing liabilities or post-closure residual risk. (Heymann, Botha, & January. 2016).

In examining features of similarity on mine closure impacts in Welkom and countries such as Canada and Australia the following was observed.

The current mine closure planning procedures in Australia and Canada share a few basic flaws. These include the monitoring of post-closure activities, inadequate consideration of alternative economic drivers, inadequate community consultation, and inadequate social effect assessment. (Kabir, Rabbi, & Chowdhury, 2015).

Despite the above-mentioned similarities with the South African context in Welkom. The challenge of Sustainable Development beyond mining in Welkom proves that mine closure has more effects that include illegal mining, perpetuated by mine closure and the high crime rate caused by the possible high influx from the inception of mining in the area.

In South African illicit artisanal mining proves to be a significant environmental and socioeconomic issue. (Mkhize, 2017).

In South Africa, the mining sector plays a significant role in the country's economy, contributing significantly to GDP and employment (Department of Mineral Resources and Energy, 2019). However, the sector's operations have also been criticized for their negative social and environmental impacts, including displacement of communities, pollution, and degradation of natural resources (Hilson, 2012).

The MPRDA also established the Mining Charter, which sets out targets for black economic empowerment, employment equity, and community development (Department of Mineral Resources and Energy, 2018). The Mining Charter requires mining companies to invest in community development projects, provide training and skills development programs, and promote local procurement.

The implementation of SLPs in South Africa is a critical aspect of CSR in the mining sector. While there are regulations and policies in place aimed at promoting sustainable development, the implementation of SLPs remains a challenge. Further research and initiatives are needed to improve the effectiveness of SLPs and promote sustainable development in the South African mining sector.

To address these challenges, the South African government has introduced various regulations and policies aimed at promoting sustainable development and corporate social responsibility (CSR) in the mining sector.

1.6 Problem statement

The impact of inadequate Social and Labour Plans leading to the challenges of Sustainable Development in mine communities such as Welkom, necessitates reviewed Social & Labour Plans and social sustainability strategies to avoid eventualities of ghost towns.

Socio-economic development challenges are often symptoms of deeper social and political issues, including unequal distributions of power and influence. Effective solutions require transformative social development initiatives that can be expressed through social programmes, social protection and community-led decision making. (Report of the World Commission on Environment and Development, 1987.)

Financial support for social and economic community programmes is given by numerous significant mining companies in South Africa. However, it is commonly unclear how many of these initiatives will sustainably last particularly beyond mining. (Limpitlaw, 2004).

The strategy to align mine closure plans, especially with respect to end land-use with municipal Spatial Development Frameworks and Integrated Development Plans, to achieve an integrated goal to improve socio-economic conditions is lacking. This includes alignment of environmental management to enable post-closure economic activities. (Gazette & Notice, 2009)

It is discovery that the closure of mines in Welkom often leaves social and economic liabilities for the local municipality. Creating challenges of Sustainable Development due to the lack of alternative economic drivers. (Ntema et al., 2023).

The inadequate implementation of Social and Labour Plans (SLPs) by mining houses in Welkom, has resulted in limited economic benefits and job opportunities for local communities, perpetuating poverty, and inequality (Mbeki, 2017). Furthermore, the existing SLPs are often ineffective in promoting sustainable development, lacking transparency, accountability, and community engagement (Hilson, 2012;

Department of Mineral Resources and Energy, 2019). This has led to a mismatch between the mining sector's economic contributions and its social and environmental impacts, hindering the achievement of sustainable development goals in Welkom (Republic of South Africa, 2002; World Bank, 2018).

1.7 Research objectives

The study aimed to examine the social aspect of Sustainable Development in Welkom beyond mining. The objectives were to:

1. Investigate the long-term implications of inadequate SLPs on sustainable development in Welkom.
2. Present findings on sustainable development trends in Welkom's mining houses' SLPs with national benchmarks.
3. Interpret and analyse job creation initiatives in Welkom's mining houses' SLPs.
4. Develop strategies to enhance sustainable development in Welkom through improved SLPs.

1.8 Research question

1. What are the long-term implications of inadequate SLPs on Sustainable Development in Welkom?
2. How do trends in Sustainable Development expressed through SLPs in Welkom compare to national benchmarks?
3. What insights can be gleaned from Social & Labour Plans of various mining houses in Welkom in relation to job creation?

4. What strategies can be recommended to enhance Sustainable Development in Welkom through SLPs, considering the potential impacts of their implementation?

1.9 Rational of the Study

This research study was motivated by the pressing need to address the challenges of Sustainable Development in Mine host communities, particularly in Welkom, where Social and Labour Plans (SLPs) have failed to yield sustainable impacts. The rapid decline and closure of mines has consistently resulted in social and economic liabilities for local municipalities, hindering Sustainable Development and alternative economic growth. (Wells, 2022)

The mining industry has long been a significant contributor to South Africa's economy, but its decline poses substantial social and economic challenges to mining communities. (Addy & Stewart, 2022). As the mining sector in Welkom continues to dwindle, it is crucial to investigate the challenges of Sustainable Development beyond life of mines, to ensure a viable future for its communities. (Watson & Olalde, 2019)

The global call for Sustainable Development, emphasized by the World Commission on Environment and Development (1987), resonates with the South African context, where significant mining companies invest in social and economic community programs. However, the long-term sustainability of these initiatives remains uncertain, especially beyond mining.

The alignment of mine closure plans with municipal development frameworks is crucial to achieve integrated socioeconomic goals and environmental management. (Anglo American plc, 2019). Effective Social & Labour Plans (SLPs) must look beyond immediate community development concerns and invest in the future of local communities through sustainable skills development and local economic growth strategies that endure beyond mine closure. (ICMM, 2019).

By exploring the complex relationship between Social and Labour Plans and the unemployment rate in Welkom, this research study aimed to contribute to the development of effective policies and strategies that mitigate the risk of creating ghost towns and promoting Sustainable Development in Welkom (Department of Mineral Resources, 2019). The findings of this study sought to contribute to the current South African Mining Charter (Department of Mineral Resources, 2018), aimed at influencing policymakers, mining companies, and local municipalities, ultimately supporting the achievement of Sustainable Development in Welkom and beyond (United Nations, 2015). The beneficiary of this study was the Matjhabeng local municipality, including the broader Welkom community. The anticipated benefits were reflected in the Matjhabeng Local Municipality's Integrated Development Plan (Matjhabeng Local Municipality, 2020). These benefits were realized through the inclusion of alternative economic approaches in the development of new Social & Labour Plans (WCED, 1987).

1.10 Delimitations of the study

This study focused on the impact of inadequate Social and Labour Plans leading to the challenges of Sustainable Development in Welkom, with a specific emphasis on:

- I. Geographical scope: The study was limited to Welkom, a city in the Free State province of South Africa. Findings may not be generalizable to other cities or regions.
- II. Focus on specific factors: The study focused on a specific factor (SLPs), leading to Sustainable Development challenges in Welkom and may have not been exhaustive to cover all possible factors.
- III. Timeframe: The study examined trends in Sustainable Development initiatives over a specific period (e.g., last 1-5 years), and may not have captured changes or developments outside of the timeframe.
- IV. Data sources: The study relied on a specific set of data sources (e.g., literature review, reports, journals, the internet), and may not incorporate all available data or perspectives.

- V. Methodological approach: The study employed a specific research design and methodology (e.g., quantitative method), which may have limited the scope of findings and conclusions.

By acknowledging these delimitations, the research study recognized its boundaries and scope, ensuring a focused and feasible investigation that contributed meaningfully to understanding of Sustainable Development in Welkom.

1.11 Assumptions

- I. Assumption: The decline of the mining industry in Welkom has had a significant impact on the local economy and community.
- II. Assumption: Sustainable Development initiatives in Welkom have been largely focused on mining-related activities, and a shift beyond mining is necessary for long-term sustainability.
- III. Assumption: The South African government's policies and initiatives aimed at promoting Sustainable Development and diversifying the economy will have a positive impact on Welkom's transition beyond mining.
- IV. Assumption: Collaboration and partnerships between local stakeholders, including government, businesses, and community organizations, are crucial for successful Sustainable Development initiatives to create jobs in Welkom.
- V. Assumption: The transition to Sustainable Development beyond mining in Welkom will require significant investments in education, skills development, and innovation.

Summary

This study has investigated the implications of inadequate Social and Labour Plans (SLPs) on sustainable development in Welkom, compared trends in sustainable

development expressed through SLPs in Welkom to national benchmarks, examined insights from SLPs of various mining houses in Welkom in relation to job creation, and recommended strategies to enhance sustainable development in Welkom through SLPs. Guided by the Systems Design Thinking framework. The research was motivated by the need to mitigate socio-economic impacts relating to inadequate SLPs. Alignment with global sustainable development goals and South Africa's Mining Charter targets. The study acknowledged its limitations, including geographical, methodological, and temporal constraints, and assumed the decline of mining had significantly impacted Welkom, requiring adaptation beyond mining.

Chapter 2. Literature Review

2.1 Introduction

A literature review is a critical and systematic analysis of the existing research and knowledge on a specific topic or issue (Webster & Watson, 2002). It provides a comprehensive overview of the current state of understanding, highlighting the key findings, methodologies, and contributions of previous studies (Hart, 1998). The purpose of a literature review is to identify patterns, themes, and debates in the existing body of work, and to demonstrate a deep understanding of the subject matter (Booth, 2001).

As noted by Cooper (1998, p. 3), "a literature review is a systematic and explicit approach to identifying, evaluating, and synthesizing the findings of previous research." It involves identifying and selecting relevant studies and publications (Snyder, 2019), analyzing and synthesizing the findings and ideas presented in these works (Bloomberg & Volpe, 2016), evaluating the strengths and limitations of each study (Creswell, 2014), identifying gaps and areas for further research (Gorman & Clayton, 2005), and presenting a coherent and logical argument that demonstrates a clear understanding of the topic (Jesson & Lacey, 2006).

By conducting a thorough literature review, researchers can gain a deeper understanding of the research landscape, identify areas for investigation, and develop a framework for their own research (Fisher, 2005). This literature review examined the existing research on "The Challenge of Sustainable Development Beyond Mining in Welkom", with a focus on; (1) Environmental, (2) Governance, (3) SDG-9 – Industry, Innovation & Infrastructure and (4) SDG-11 – Sustainable Cities & Communities.

Significance of Literature Review in Research

Literature review is a vital component of research that provides a comprehensive overview of the existing knowledge on a specific topic (Creswell, 2014). It involves systematic analysis and synthesis of previous research, identifying patterns, themes, and debates in the existing body of work (Fink, 2014).

Literature review is a crucial component of research that provides context and background information on the research topic. By situating the study within the existing body of knowledge, a literature review helps to establish the relevance and significance of the research (Webster & Watson, 2002). This foundation is essential for building a comprehensive understanding of the research topic.

A literature review also plays a critical role in identifying research gaps and areas for further investigation. By analyzing the existing literature, researchers can pinpoint gaps in current knowledge and understanding, ensuring that their study contributes meaningfully to the field (Cooper, 1998). This process enables researchers to develop a study that addresses specific research questions and objectives.

In addition to providing context and identifying research gaps, a literature review informs the research design, methodology, and data analysis. This ensures that the study is robust, valid, and reliable (Creswell, 2014). A well-conducted literature review also enhances the validity of the study by demonstrating that the researcher has considered all relevant perspectives and evidence (Jesson & Lacey, 2006).

Furthermore, a literature review facilitates knowledge synthesis by combining the findings of previous studies. This provides a comprehensive understanding of the research topic, enabling researchers to identify patterns, themes, and relationships that may not be immediately apparent (Bloomberg & Volpe, 2016). Ultimately, a literature review supports evidence-based practice by providing the evidence base for practice, policy, and decision-making. This ensures that interventions are informed by the best available research, leading to more effective and efficient solutions (Gorman & Clayton, 2005).

A literature review is a critical component of research that provides a foundation for the study, ensuring that the research is informed, valid, and contributes meaningfully to the field (Creswell & Creswell, 2018).

2.2 Definition of topic or background discussion

Welkom, a town in the Free State province of South Africa, has a rich history of mining activities that have shaped its economy and development. However, as the mining industry faces decline and eventual closure, the town is confronted with the challenge of Sustainable Development beyond mining (Limpitlaw, 2004).

Sustainable Development, a concept first introduced by the World Commission on Environment and Development (WCED) in 1987, refers to development that meets the needs of the present without compromising the ability of future generations to meet their own needs (WCED, 1987). In the context of Welkom, Sustainable Development beyond mining requires a transition from a resource-based economy to a more diversified and resilient economy that prioritizes the well-being of both people and the planet through the impactful implementation of sustainable Social and Labour Plans. (Bhamjee, 2013).

The challenge of Sustainable Development in Welkom is complex and multifaceted, involving economic, social, and environmental dimensions. The city faces significant socio-economic challenges, including high levels of poverty, unemployment, and inequality, which are exacerbated by the decline of the mining industry (Stats SA, 2020). Furthermore, the environmental impacts of mining activities, such as land degradation and water pollution, pose significant risks to the city's ecosystem and public health (DWA, 2013).

Against this backdrop, this literature review sought to explore the challenges and opportunities for Sustainable Development in Welkom beyond mining, through the examination of Social and Labour Plans, with a focus on the economic, social, and environmental dimensions of sustainability.

2.3 Empirical literature review

2.3.1 Theoretical framework

1. Environmental (ESG)

Introduction

The environmental theme is a critical component of ESG (Environmental, Social, and Governance) considerations in the context of Sustainable Development in Welkom beyond mining. This literature review explored the environmental challenges and opportunities in Welkom, highlighting the positive developments and gaps in existing literature.

1.1 Positive Developments

In recent years, various initiatives have been undertaken to mitigate the environmental impacts of mining activities in Welkom. For instance, mining companies have launched rehabilitation programs aimed at restoring mined land and preventing further environmental degradation (DWA, 2013). These efforts are crucial in revitalizing ecosystems and promoting biodiversity in areas affected by mining. Furthermore, Welkom has witnessed a surge in renewable energy projects, which has led to a reduction in reliance on fossil fuels and, subsequently, a mitigation of climate change impacts (CREC, 2020). This shift towards cleaner energy sources is expected to have positive effects on the environment and public health. Additionally, initiatives focused on waste reduction and recycling have been implemented, resulting in minimized environmental harm (Welkom Municipality, 2019). These collective efforts demonstrate a growing commitment to environmental sustainability in Welkom.

1.2 Gaps

Despite the growing emphasis on environmental sustainability, a significant gap exists in the literature regarding the social implications of environmental degradation

and sustainability initiatives on local communities. The environmental discourse often overlooks the human dimension, neglecting the far-reaching consequences of environmental degradation on community well-being and livelihoods. Furthermore, the ineffective enforcement of environmental regulations poses a significant challenge to environmental management in the region. As noted by the Department of Environmental Affairs (DEA, 2018), insufficient enforcement hinders the ability to hold polluters accountable and prevent environmental harm. The consequences of this inaction are evident in the widespread water pollution caused by mining activities, which poses serious risks to both human health and the environment (DWA, 2013). The lack of adequate measures to prevent and mitigate water pollution has resulted in significant environmental degradation, underscoring the need for more effective environmental governance and management practices.

Summary

The environmental theme in Welkom's Sustainable Development beyond mining faces challenges, including a silence on social implications, limited enforcement, and water pollution. While positive developments in rehabilitation efforts, renewable energy, and waste management demonstrate potential for improvement, the lack of consideration for social aspects and inadequate enforcement hinder Sustainable Development. Addressing these gaps can ensure a more comprehensive approach to sustainability in Welkom.

2. Governance (ESG)

Introduction

The governance theme is a crucial component of ESG (Environmental, Social, and Governance) considerations in the context of Sustainable Development in Welkom beyond mining. This literature review explores the governance challenges and opportunities in Welkom, highlighting the positive developments and gaps in existing literature.

2.1 Positive Developments

Welkom has made significant strides in promoting sustainable development and governance through its institutional frameworks. The municipality has established institutions and policies aimed at fostering sustainable development, demonstrating its commitment to creating a better future for its citizens (Welkom Municipality, 2019). Furthermore, efforts to increase transparency and accountability in governance have been implemented, leading to reduced corruption and improved public trust (AGSA, 2020). This increased transparency and accountability are essential in building trust among stakeholders and ensuring that the municipality's activities are aligned with the needs of its citizens. By prioritizing transparency and accountability, Welkom is taking a significant step towards creating a more sustainable and equitable future.

2.2 Gaps

The governance literature has a significant blind spot when it comes to the social implications of governance decisions and sustainability initiatives on local communities. This "silence on social" means that the human dimension of governance is often overlooked, leaving a gap in our understanding of how governance decisions affect community well-being. Furthermore, the lack of public participation in governance decision-making processes exacerbates this issue. Insufficient public engagement hinders effective representation of community interests, making it difficult for local voices to be heard (Welkom Municipality, 2019). To compound these challenges, corruption remains a pervasive issue in Welkom's governance, eroding trust and undermining sustainable development (AGSA, 2020). This corruption not only diverts resources away from essential public services but also perpetuates inequality, making it a significant obstacle to achieving sustainable development goals.

Summary

The governance theme in Welkom's Sustainable Development beyond mining faces challenges, including a silence on social implications, limited public participation, and corruption. While positive developments in institutional frameworks, transparency, and collaborative governance demonstrate potential for improvement, the lack of consideration for social aspects and inadequate public engagement hinder Sustainable Development. Addressing these gaps can ensure a more inclusive and effective governance approach in Welkom.

3. SDG-9 (Industry, Innovation, and Infrastructure)

Introduction

SDG-9 (Industry, Innovation, and Infrastructure) is a crucial component of the United Nations Sustainable Development Goals (UNSDG) in the context of Sustainable Development in Welkom beyond mining. This literature review explores the SDG-9 challenges and opportunities in Welkom, highlighting the positive developments and gaps in the existing literature.

3.1 Positive Developments

Welkom has witnessed significant investments in infrastructure development, which has been instrumental in driving economic growth and improving the quality of life for its citizens. Notably, the municipality has focused on developing transportation and energy infrastructure, laying the foundation for sustainable economic development (Welkom Municipality, 2019). In addition to infrastructure development, initiatives aimed at establishing innovation hubs and promoting entrepreneurship have been implemented, fostering economic diversification and creating new opportunities for businesses and individuals alike (Welkom Innovation Hub, 2020). The establishment of innovation hubs is expected to stimulate innovation, creativity, and job creation, ultimately contributing to the economic transformation of Welkom. Furthermore, efforts to promote industrial development and attract investment have been undertaken, contributing to economic growth and development in the region (Welkom Development Zone, 2019). These initiatives demonstrate Welkom's commitment to

creating a favourable business environment, promoting economic development, and improving the lives of its citizens.

3.2 Gaps

Despite efforts to promote industrial development and economic growth, several challenges persist in Welkom. One of the significant obstacles faced by small and medium-sized enterprises (SMEs) is limited access to finance, which hinders innovation and industrial development (World Bank, 2019). The inability of SMEs to secure funding stifles their growth potential, making it difficult for them to invest in new technologies, expand their operations, and create jobs. Furthermore, Welkom's infrastructure requires further development to support industrial and economic growth (Welkom Municipality, 2019). The existing infrastructure is insufficient to meet the demands of a growing economy, leading to inefficiencies and increased costs for businesses. Another challenge facing Welkom is the lack of a skilled workforce, which hinders innovation and industrial development (HSRC, 2019). The shortage of skilled workers limits the ability of businesses to adopt new technologies, improve productivity, and compete effectively in the global market. Addressing these challenges is crucial to unlocking Welkom's economic potential and promoting sustainable development.

Summary

The SDG-9 theme in Welkom's Sustainable Development beyond mining faces challenges, including limited access to finance, insufficient infrastructure, and a lack of skilled workforce. While positive developments in infrastructure development, innovation hubs, and industrial development demonstrate potential for improvement, addressing these gaps is crucial to achieving Sustainable Development in Welkom.

4. *SDG-11 (Sustainable Cities and Communities)*

Introduction

SDG-11 (Sustainable Cities and Communities) is a vital component of the United Nations Sustainable Development Goals (UNSDG) in the context of Sustainable

Development in Welkom beyond mining. This literature review explores the SDG-11 challenges and opportunities in Welkom, highlighting the positive developments and rationale for sustainable urban development.

4.1 Positive Developments

Welkom has embarked on various initiatives aimed at creating a more sustainable and liveable city. One of the key areas of focus has been urban planning, with the municipality initiating efforts to design and develop a more sustainable and organized urban environment (Welkom Municipality, 2019). This includes strategies to promote mixed-use development, reduce urban sprawl, and enhance the overall quality of life for residents. In addition to urban planning, Welkom has also prioritized the development of green infrastructure, such as parks and green spaces, which provide numerous benefits for both the environment and local communities (Welkom Municipality, 2019). These green spaces help to mitigate the urban heat island effect, reduce air pollution, and provide recreational areas for residents. Furthermore, the municipality has implemented initiatives to improve public transportation and promote sustainable mobility, making it easier for residents to move around the city without relying on personal vehicles (Welkom Municipality, 2019). These efforts aim to reduce congestion, decrease air pollution, and enhance the overall liveability of Welkom.

4.2 Gap

Welkom's rapid urbanization has created a pressing need for sustainable urban development, ensuring that the city remains livable and resilient for its growing population (UN-Habitat, 2019). As the city continues to expand, it is essential to adopt sustainable urban development strategies that prioritize the well-being of both citizens and the environment. The city's environmental challenges, such as pollution and degradation, further underscore the need for sustainable urban development to mitigate these negative impacts (DEA, 2018). By addressing environmental concerns through sustainable urban planning, Welkom can reduce its ecological footprint,

protect natural resources, and create a healthier environment for its citizens. Moreover, sustainable urban development can also drive economic growth and attract investment, contributing to Welkom's economic diversification (World Bank, 2019). By adopting sustainable urban development strategies, Welkom can unlock new economic opportunities, stimulate innovation, and create jobs, ultimately enhancing the quality of life for its residents.

Summary

The SDG-11 theme in Welkom's Sustainable Development beyond mining faces challenges, but positive developments in urban planning, green infrastructure, and public transportation demonstrate potential for improvement. The rationale for sustainable urban development is clear, with urbanization, environmental degradation, and economic growth highlighting the need for a sustainable and resilient city. Addressing these challenges can ensure a livable and prosperous Welkom.

2.4 Conclusion

In conclusion, the analysis of Welkom's environment, governance, and economic landscape highlights the importance of adopting a holistic approach to sustainable development (United Nations, 2015). While efforts to promote environmental sustainability and economic growth are crucial, it is equally essential to prioritize the social dimension of sustainability (WCED, 1987). The Social and Labour Plans (SLPs) play a vital role in this regard, as they have the potential to increase employment opportunities for Welkom communities, promote social cohesion, and improve the overall quality of life (Department of Mineral Resources, 2019). By emphasizing the importance of social sustainability, Welkom can ensure that its development trajectory is inclusive, equitable, and beneficial to all members of the community (Sen, 1999). Ultimately, the effective implementation of SLPs can help unlock Welkom's full potential, fostering a thriving economy, a healthy environment, and a vibrant, empowered community (Harrison, 2013).

2.5 Recommendations

To address the gaps and challenges identified in Welkom, several recommendations can be made to promote sustainable development and improve the quality of life for its citizens. Firstly, environmental rehabilitation efforts should be prioritized to improve environmental quality and promote sustainable development (United Nations, 2015). This can be achieved through initiatives such as reforestation, pollution reduction, and waste management (Hilson & Murck, 2000). By prioritizing environmental rehabilitation, Welkom can mitigate the negative impacts of mining and industrial activities, creating a healthier environment for its citizens (WCED, 1987).

Secondly, transparency and accountability in governance should be enhanced to promote public participation and sustainable development (Sen, 1999). This can be achieved through initiatives such as open data portals, citizen engagement platforms, and anti-corruption measures (Bannister & Connolly, 2011). By promoting transparency and accountability, Welkom can foster a culture of trust and inclusivity, ensuring that the needs and concerns of all citizens are considered (Cooke & Kothari, 2001).

Thirdly, investment in infrastructure development and innovation hubs should be encouraged to promote industrial development and economic diversification (Harrison, 2013). This can be achieved through initiatives such as public-private partnerships, infrastructure upgrades, and innovation funding (Mmegi, 2018). By investing in infrastructure and innovation, Welkom can create new economic opportunities, stimulate entrepreneurship, and reduce its reliance on traditional industries.(Schwab,2016).

Lastly, sustainable urban planning and green infrastructure development should be prioritized to improve the quality of life for citizens and promote sustainable urban development (UN-Habitat, 2016). This can be achieved through initiatives such as

urban planning reforms, green space creation, and sustainable transportation systems (Newman & Jennings, 2008). By prioritizing sustainable urban planning and green infrastructure, Welkom can create a more livable, resilient, and sustainable city, where citizens can thrive and reach their full potential (Register & Marshall, 2018).

However, despite these recommendations, a significant gap remains in addressing the social dimension of sustainable development in Welkom. The lack of adequate Social and Labour Plans (SLPs) has resulted in limited employment opportunities for local communities, exacerbating poverty and inequality (Department of Mineral Resources, 2019). Therefore, it is imperative that Welkom prioritizes the implementation of SLPs that promote job creation, skills development, and social inclusion (ILO, 2015). By doing so, Welkom can ensure that its sustainable development trajectory is inclusive, equitable, and beneficial to all members of the community (Sen, 1999).

2.6 Research hypothesis (propositions)

Based on the literature review, the following research hypotheses (propositions) can be formulated:

Environmental (ESG)

The analysis of Welkom's environmental landscape reveals a crucial finding: there is a significant positive correlation between environmental rehabilitation efforts and the improvement of environmental quality in the area. This suggests that concerted efforts to rehabilitate and restore the environment can have a tangible and positive impact on the overall environmental quality in Welkom. By prioritizing environmental rehabilitation, the municipality can effectively mitigate the negative impacts of mining and industrial activities, creating a healthier environment for its citizens and promoting sustainable development.

Furthermore, the implementation of renewable energy projects in Welkom is expected to have a profound impact on the environment and the local economy. Not only will these projects significantly reduce greenhouse gas emissions, contributing to a cleaner and healthier environment, but they will also create new employment opportunities through the implementation of Social and Labour Plans (SLPs) by mining houses. The SLPs will play a critical role in ensuring that the benefits of renewable energy projects are shared equitably among local communities, promoting social inclusion and economic development. By harnessing the potential of renewable energy and implementing effective SLPs, Welkom can transition towards a more sustainable and equitable future, where environmental protection and economic development go together.

Governance (ESG)

There is a significant positive correlation between transparency and accountability in governance and the promotion of Sustainable Development in Welkom. The implementation of collaborative governance structures in Welkom will significantly improve public participation and contribute to Sustainable Development.

SDG-9 (Industry, Innovation, and Infrastructure)

There is a significant positive correlation between investment in infrastructure development and the promotion of industrial development in Welkom. The establishment of innovation hubs in Welkom will significantly contribute to economic diversification and Sustainable Development. Additionally, the inclusion of infrastructural projects in Social and Labour Plans will create jobs for communities.

SDG-11 (Sustainable Cities and Communities)

There is a significant positive correlation between sustainable urban planning and the improvement of environmental quality in Welkom. The implementation of green

infrastructure in Welkom will significantly contribute to sustainable urban development and improve the quality of life for citizens.

These hypotheses will guide research and inform the data collection and analysis process.

2.7 Summary

This literature review provided a critical analysis of existing research on sustainable development in Welkom, South Africa, beyond the mining industry. The review focused on four key themes: environmental sustainability, governance, SDG-9 (Industry, Innovation, and Infrastructure), and SDG-11 (Sustainable Cities and Communities). The environmental theme highlighted the challenges and opportunities for sustainable development in Welkom. Despite efforts to promote environmental sustainability, gaps exist in addressing social implications such as the creation of jobs and ineffective enforcement of environmental regulations. Positive developments include rehabilitation programs, renewable energy projects, and waste reduction initiatives. The governance theme emphasized the importance of transparency and accountability in promoting sustainable development. Welkom made progress in establishing institutional frameworks and promoting public participation. However, challenges persist, including limited public engagement or social inclusion and corruption.

The SDG-9 theme focused on industry, innovation, and infrastructure development in Welkom. As stated, investments in infrastructure and innovation hubs had the potential to drive economic growth and diversification. However, challenges included limited access to finance, insufficient infrastructure, and a lack of skilled workforce. Illustrating a clear gap in the social aspect. The SDG-11 theme highlighted the importance of sustainable urban planning and green infrastructure development in Welkom. Despite challenges, including rapid urbanization and environmental degradation, positive developments include initiatives to promote mixed-use development, reduce urban sprawl, and enhance public transportation. However, there was a gap identified on how these developments would translate into jobs.

The literature review concluded a holistic approach to sustainable development, essential to prioritizing environmental, governance and infrastructure dimensions. However, silent on social and economic dimensions. Recommendations include prioritizing all other elements including the social aspect of the ESG Framework in relation to the Sustainable Development Goals 2030. Overall, (Chapter 2) provided a thorough and critical review of the existing literature on the research topic. The chapter identified gaps in the current knowledge and provided a foundation for the research study, informing the development of the research question, objectives, and methodology.

Chapter 3. Research Methodology

3.1 Introduction

This research study employed a quantitative approach to investigate the challenge of sustainable development beyond mining in Welkom. Social & Labour Plans of two prominent mining companies (Mine A and Mine B) in the Welkom area were used to test sustainability and the impact thereof. The unemployment rate was used as a dependent variable to measure sustainable developmental outcomes. This secondary data was chosen for its ease of impact measurement and data availability.

This study specifically focused on measuring the impact of Social and Labour Plans (SLPs) on sustainable development outcomes. It examined the interrelationships between SLPs and their effects on economic and social sustainability in Welkom relating to the unemployment rate and jobs created. By measuring jobs created through SLPs. Therefore, the employment statistics sourced from Stats SA were utilized to assess the impact and adequacy of SLPs. The findings of this study aimed at informing tailored interventions and strategies to address context-specific community needs, ultimately contributing to the realization of sustainable development through the effective implementation of Social and Labour Plans in the area.

3.2 Research Design

This study employed a mixed research design, combining both correlational and inferential statistical approaches (Creswell, 2014). The correlational research design aimed to examine the relationships between Economic sustainability, Social Sustainability and Social and Labour Plans (SLPs) of mining houses in Welkom, enabling the identification of the strength and direction of relationships between variables (Bryman & Cramer, 2011). In addition, inferential statistics were used to make conclusions and predictions about a population, providing an overview of the

socioeconomic profiles (unemployment rate) of the communities affected by mining activities (Gravetter & Wallnau, 2014). By combining these two approaches, this study provided a comprehensive understanding of the complex relationships between SLPs and Sustainable Development outcomes, while also highlighting the key characteristics and trends in the study population (Teddle & Tashakkori, 2009).

Below are the advantages and disadvantages of Correlational Research Design:

Advantages:

Correlational research offers several advantages that make it a valuable tool for understanding the relationships between variables (Bryman & Cramer, 2011). It enables researchers to identify the strength and direction of relationships between variables, providing insights into the complex interplay between different factors (Creswell, 2014). Moreover, correlational research has predictive power, allowing researchers to make informed predictions about future outcomes based on the identified relationships (Gravetter & Wallnau, 2014). This approach is also non-experimental, eliminating the need to manipulate variables (Campbell & Stanley, 1963), and can be conducted with large samples, increasing the generalizability of findings (Bryman & Cramer, 2011). Furthermore, correlational research is a cost-effective method, as it does not require the establishment of a control group or manipulation of variables, thereby reducing costs and logistical complexities (Teddle & Tashakkori, 2009).

Disadvantages:

Despite its advantages, correlational research also has several limitations that must be considered (Bryman & Cramer, 2011). One major limitation is that correlations do not imply causation, making it difficult to determine cause-and-effect relationships between variables (Creswell, 2014). Additionally, the third variable problem can occur, where a third variable influences the relationship between the two variables of interest, leading to misleading conclusions (Campbell & Stanley, 1963). Furthermore,

researchers have limited control over extraneous variables, which can impact the accuracy of findings (Gravetter & Wallnau, 2014). Establishing temporal relationships can also be challenging, as it can be difficult to determine which variable precedes the other (Babbie, 2016). Finally, there is a risk of spurious correlations, where correlations may be due to chance or other factors, rather than a genuine relationship between variables (Cohen et al., 2013).

3.3 Data collection methods

In addition to the Secondary data that was collected from prominent mining companies in the Welkom area. Articles, Reports, Databases, Websites, Books and Journals were used to collect data.

The desktop studies assisted with the literature review, understanding the conceptual framework and demographics. The databases assisted with providing data on comparable data, unemployment rate, statistics, and the local socio-economic context. The Social and Labour Plans (SLPs) of prominent mines in Welkom provided measurable data for analysis.

3.3.1 Population

The target population for this study encompasses Welkom communities impacted by the Social and Labour Plans (SLPs) of mining companies.

3.3.2 Sampling

This research study employed secondary time series sampling, utilizing existing data from Statistics South Africa (StatsSA) to analyze trends in employment and unemployment rates in Welkom over a seven-year period (2017-2023). By leveraging secondary data, this study aimed to provide a detailed understanding of the Social and Labour Plans (SLPs) in Welkom, with a specific focus on the employment impacts of Mine A and Mine B during their five-year period cycle.

The use of secondary time series sampling offered several advantages, including access to high-quality, longitudinal data and the ability to analyze trends over time (Menard, 2002). The population data sourced from StatsSA provided a comprehensive representation of the Welkom communities, ensuring that the findings are generalizable to the broader population (Etikan et al., 2016). By analyzing the existing data, this study minimized the risk of sampling bias and ensured that the results are reliable and accurate (Creswell, 2014). The secondary series sampling approach enabled this research to contribute meaningfully to the understanding of SLPs in Welkom, providing valuable insights for policymakers, researchers, and stakeholders (Bryman & Cramer, 2011).

3.4 Data analysis strategies and interpretation

Following data collection and cleaning, a two-stage analysis was conducted to examine the impact of Social and Labour Plans (SLPs) on sustainable development outcomes in Welkom. The stages of analysis were:

3.4.1 Correlational Analysis

A correlation analysis was conducted to investigate the relationship between the independent variables (Social & Labour Plans) and the dependent variable (unemployment rate), as well as the relationship between the unemployment rate itself and the independent variables (Creswell & Creswell, 2018, p.49). This analysis identified whether independent variables have a significant correlation with the unemployment rate in Welkom. This analysis helped identify which independent variables correlated strongly with sustainable development outcomes, informing the selection of variables for further analysis (Creswell & Creswell, 2018).

3.4.2 Inferential Analysis

Inferential analysis examined causal relationships between SLP components and sustainable development outcomes. Linear Regression modeling was employed to analyze the impact of multiple independent variables which are sustainable

development outcomes. Inferential statistics involve making conclusions or predictions about a population based on a sample of data. (Kisselev, 2021). Therefore, Longitudinal analysis was used, as it involved the analyses of data collected over a period, to examine trends, patterns, or changes.

Linear Regression model

Linear Regression modelling was employed in this study to examine the relationship between the number of jobs created by Mine A and Mine B (independent variables) and the unemployment rate (dependent variable). This approach was chosen because linear regression is a suitable method for analyzing data with multiple independent variables and one dependent variable (Stoltzfus, 2011).

The Linear Regression model used in this study is represented by the equation:

$$Y = \beta_0 + \beta_1(X_1) + \beta_2(X_2) \text{ Where:}$$

Y = Unemployment rate

X_1 = Jobs created by Mine A

X_2 = Jobs created by Mine B

β_0 = Intercept or constant term

β_1 and β_2 = Regression coefficients for X_1 and X_2 , respectively.

This equation enabled us to quantify the impact of the number of jobs created by Mine A and Mine B on the unemployment rate, while controlling for the effects of both independent variables. The model provided insights into the linear relationships between the variables, allowing us to predict the unemployment rate based on the number of jobs created by Mine A and Mine B.

3.5 Limitation

The study's findings may be specific to the context of Social and Labour Plans in Welkom and may not be applicable to other contexts. The analysis relies on secondary data, which may have limitations in terms of data quality and relevance, this includes the data age as it may be outdated, therefore impact the validity of the findings.

3.6 Quality assurance

3.6.1 External validity

External validity refers to the extent to which the findings can be generalized to other contexts, populations, or settings (Bougie & Sekaran, 2019). This study employs secondary time series sampling, utilizing existing data from StatsSA to analyze trends in employment and unemployment rates over time. This approach enables the generalizability of the findings to other mining communities in South Africa, as the data is representative of the provincial population.

The study's focus on Mine A and Mine B in Welkom, Free State, provides valuable insights into the social and economic impacts of mine closure on local communities. The findings can inform for best practice for mine closure and sustainable development, guiding aspects of social closure. Furthermore, this research contributes to the development of new sustainable development theories and frameworks (McGrath & Brinberg, 1983).

While the study's sample is specific to Welkom, the consideration of cultural and socioeconomic factors unique to this context aids in understanding the potential limitations of the findings. This awareness enables researchers to exercise caution when generalizing the results to other settings.

3.6.2 Internal validity

Internal validity refers to the extent to which the study design and methods allow for causal inferences to be made. The study design, conduct, and analysis will answer the research questions without bias. (Andrade, 2018).

3.6.3 Reliability

Reliability refers to the extent to which the study's findings are consistent and dependable (Bougie & Sekaran, 2019). The use of established data collection methods will be employed. (Mohamad, Sulaiman, Sern, & Salleh, 2015). This study consisted of validated measures to help reduce information bias and ensure that the data is accurate.

3.7 Ethical considerations

This study adhered to stringent ethical standards in utilizing secondary data. The credibility of the data source was ensured, and informed consent from original participants was verified. Participants' privacy and confidentiality were respected, and data security was maintained through proper storage and handling. The original data source was transparently cited, and cultural sensitivity was exercised. The study complied with relevant regulations, including POPIA, and presented findings in a responsible and unbiased manner. By upholding these ethical considerations, this research demonstrated responsible and respectful use of secondary data.

3.8 Summary

(Chapter 3) outlines the research methodology employed in this study, which utilized a quantitative approach to investigate the challenge of sustainable development beyond mining in Welkom. A mixed research design was employed, combining both Tcorrelational and inferential statistical approaches. The study analyzed secondary data from Statistics South Africa (StatsSA) and Social and Labour Plans (SLPs) of two prominent mining companies in Welkom. The target population consisted of Welkom communities impacted by SLPs, and secondary-time series sampling was

used to analyze trends in employment and unemployment rates over a five-year period.

The study employed correlational analysis to examine the relationship between SLPs and unemployment rates, and inferential analysis to examine causal relationships between SLP components and sustainable development outcomes. Linear regression modeling was used to analyze the impact of jobs created by mining companies on unemployment rates. The study's findings may be specific to the context of SLPs in Welkom and may not be applicable to other contexts.

The study ensured quality assurance through external validity, internal validity, and reliability. External validity was achieved using secondary time series sampling, which enabled generalizability to other mining communities in South Africa. Internal validity was ensured through the study design and methods, which allowed for causal inferences to be made. Reliability was achieved using established data collection methods validated measures.

Finally, the study adhered to stringent ethical standards in utilizing secondary data, ensuring credibility, transparency, and cultural sensitivity. The study complied with relevant regulations, including POPIA, and presented findings in a responsible and unbiased manner.

Chapter 4. Presentation of the findings

4.1 Introduction

This chapter focuses on analyzing secondary data from Statistics South Africa and the Social and Labour Plans (2017-2021) & (2018-2022) of two prominent mining houses in Welkom, labelled as Mine A & Mine B respectively. Correlational analysis was conducted to empirically assess the relationship between dependent and independent variables. Multivariate regression analysis was further employed in this study. The primary aim of this chapter is to investigate the relationship between Social and Labour Plans and unemployment rates in Welkom, to examine the impact of SLPs in relation to the challenge of sustainable development.

The Social and Labour Plans are the independent variables, as programs implemented by the mines to address social and labor issues. The unemployment rate is the dependent variable, representing the outcome measured in response to the SLP. This relationship allows for analysis of whether SLP implementation correlates with or causes changes in unemployment rates.

4.2 Inferential Statistics for Mine A and Mine B as independent variables on Jobs created and retained

Table 1: Mine A annual SLP workforce commitment breakdown

YEARS ▾	TOTAL NUMBER OF EMPLOYEES ▾
2017	8192
2018	8087
2019	7834
2020	7402
2021	7348

Table 1 presents the total number of employees at Mine A over a five-year period (2017-2021). A cursory examination of the data reveals a consistent downward trend

in the total number of employees. This trend is evident in the yearly decreases, which show a steady decline in employment levels. A closer inspection of the data shows that the total number of employees decreased by 105 employees (1.3%) from 2017 to 2018, 253 employees (3.1%) from 2018 to 2019, 432 employees (5.5%) from 2019 to 2020, and 54 employees (0.7%) from 2020 to 2021. Over the five-year period, the total number of employees decreased by 844 employees (10.3%). This significant decline in employment raises questions about the underlying causes and potential implications. A depiction on **figure 1** clearly demonstrates the downward slope.

Figure 1: Mine A annual SLP workforce commitment breakdown

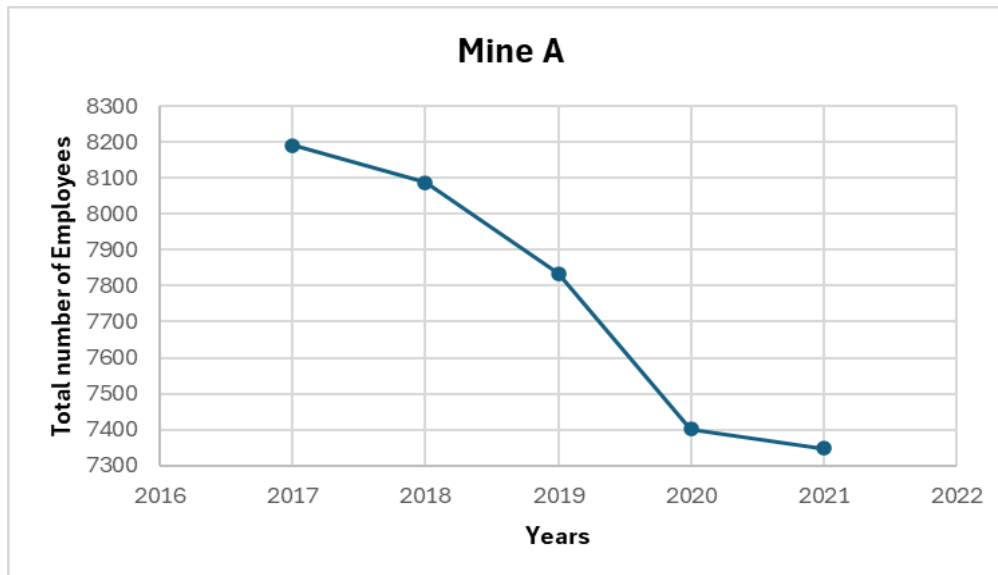


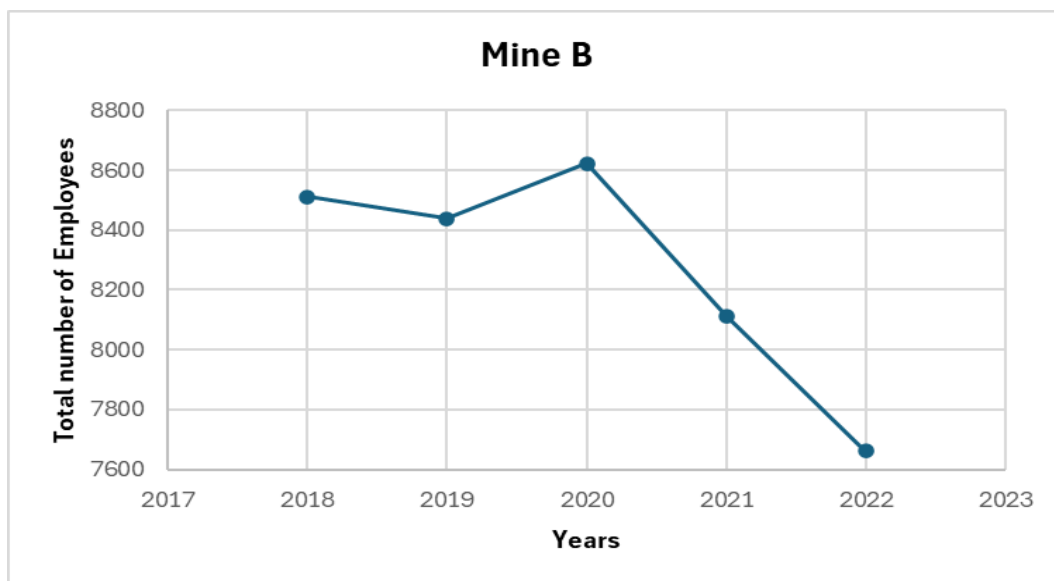
Table 2: Mine B annual SLP workforce commitment breakdown

YEARS ▼	TOTAL NUMBER OF EMPLOYEES ▼
2018	8512
2019	8438
2020	8622
2021	8112
2022	7662

Table 2 presents the total number of employees at Mine B over a five-year period (2018-2022). A cursory examination of the data reveals a fluctuating trend in the total number of employees. This trend is characterized by a decrease in employment in 2019, followed by an increase in 2020, and then successive decreases in 2021 and 2022.

A closer inspection of the data shows that the total number of employees decreased by 74 employees (0.87%) from 2018 to 2019. This decrease was followed by an increase of 184 employees (2.18%) from 2019 to 2020. However, the subsequent years saw significant decreases in employment, with a 5.92% decrease from 2020 to 2021 and a 5.55% decrease from 2021 to 2022. A depiction on **figure 2** clearly demonstrates the fluctuating trend.

Figure 2: Mine B annual SLP workforce commitment breakdown



4.3 Unemployment Statistics

Figure 3: Free State province unemployment rate

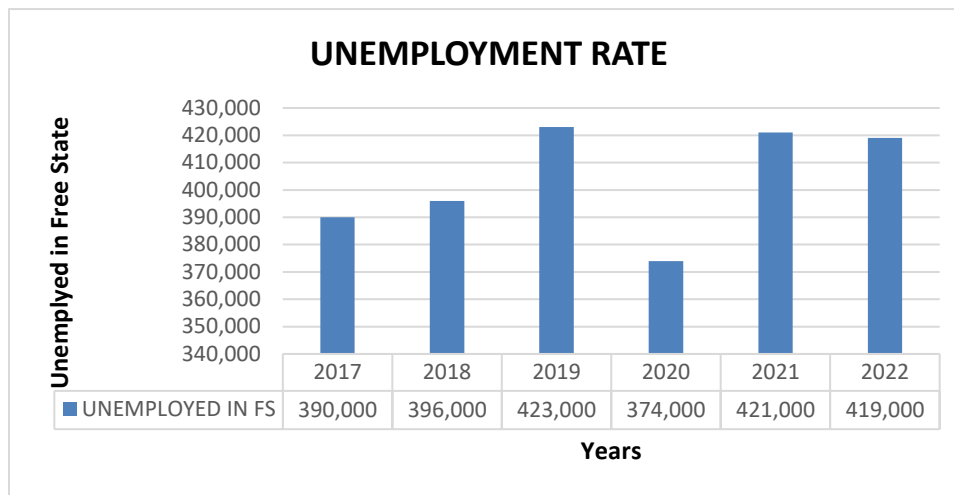


Figure 3 is an examination of the Free State unemployment rate, as per census data, reveals a fluctuating trend in employment rates over a six-year period (2017-2022). The total number of employees increased marginally from 390,000 in 2017 to 396,000 in 2018, followed by a significant increase of 27,000 (6.81%) from 2018 to 2019. However, this growth was short-lived, as the total number of employees decreased by 49,000 (11.59%) from 2019 to 2020. The subsequent years saw a rebound in employment, with an increase of 47,000 (12.57%) from 2020 to 2021, followed by a marginal decrease of 2,000 (0.48%) from 2021 to 2022.

Figure 4: Welkom employment rate (2023)

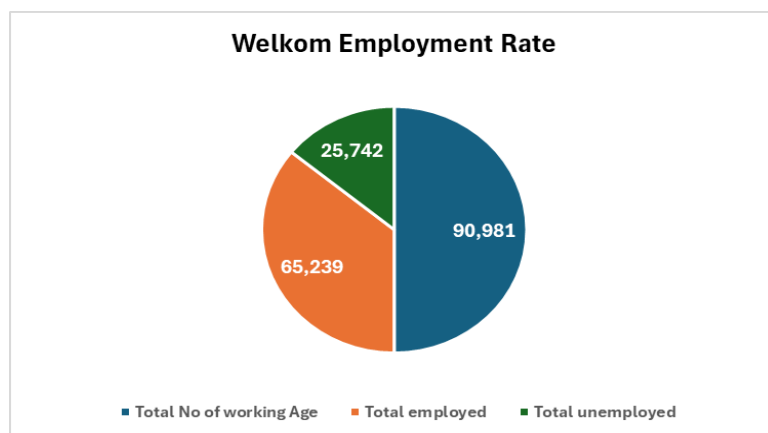


Figure 4 shows a total number of 90,981 people of working age and indicates that 65,239 of the population are employed. However, 25,742 of the Welkom population are unemployed, accounting for 28,3% of the total working age population. The unemployment rate indicates that almost one-third of the population is without a job, which can have severe consequences for individuals, families, and the overall economy, leading to increased poverty levels.

4.4 Employment Trends in the Free State by Industry (2017 - 2022)

Table 3: Employment contribution per industry

INDUSTRY	2017	2018	2019	2020	2021	2022
Agriculture	77,000	57,000	66,000	54,000	66,000	90,000
Mining	16,000	24,000	17,000	13,000	23,000	26,000
Manufacturing	55,000	71,000	55,000	49,000	33,000	67,000
Construction	75,000	58,000	66,000	46,000	32,000	47,000
Trade	163,000	140,000	161,000	149,000	190,000	174,000
Transport	39,000	40,000	34,000	46,000	54,000	41,000
Finance & Other Business Services	86,000	91,000	79,000	59,000	74,000	63,000
Community & Social Services	200,000	219,000	201,000	222,000	171,000	209,000
Private households	84,000	96,000	97,000	94,000	80,000	74,000

Table 3 shows the employment trends in Welkom, as reflected in the table, revealing distinct patterns across the nine industries of agriculture, mining, manufacturing, construction, trade, transport, finance & other business services, community & social services and private households over the six-year period from 2017 to 2022. A notable observation is that community & social services contributed the highest employment

overall, while mining consistently exhibited the lowest employment numbers relative to other industries. Suggesting that this industry has been the smallest contributor to employment in Welkom and the Free State as a whole. Specifically, mining employment ranged from a low of 13,000 in 2020 to a high of 26,000 in 2022, whereas agriculture and manufacturing employment numbers fluctuated more significantly, with agriculture peaking at 77,000 in 2017 and manufacturing reaching a high of 97,000 in 2018. This disparity highlights the need for targeted interventions to stimulate growth and job creation in the mining sector, which has been lagging unlike its counterparts in terms of employment generation.

4.5 Welkom Mining contribution on the Free State economy

Figure 5: Job creation by Welkom mines

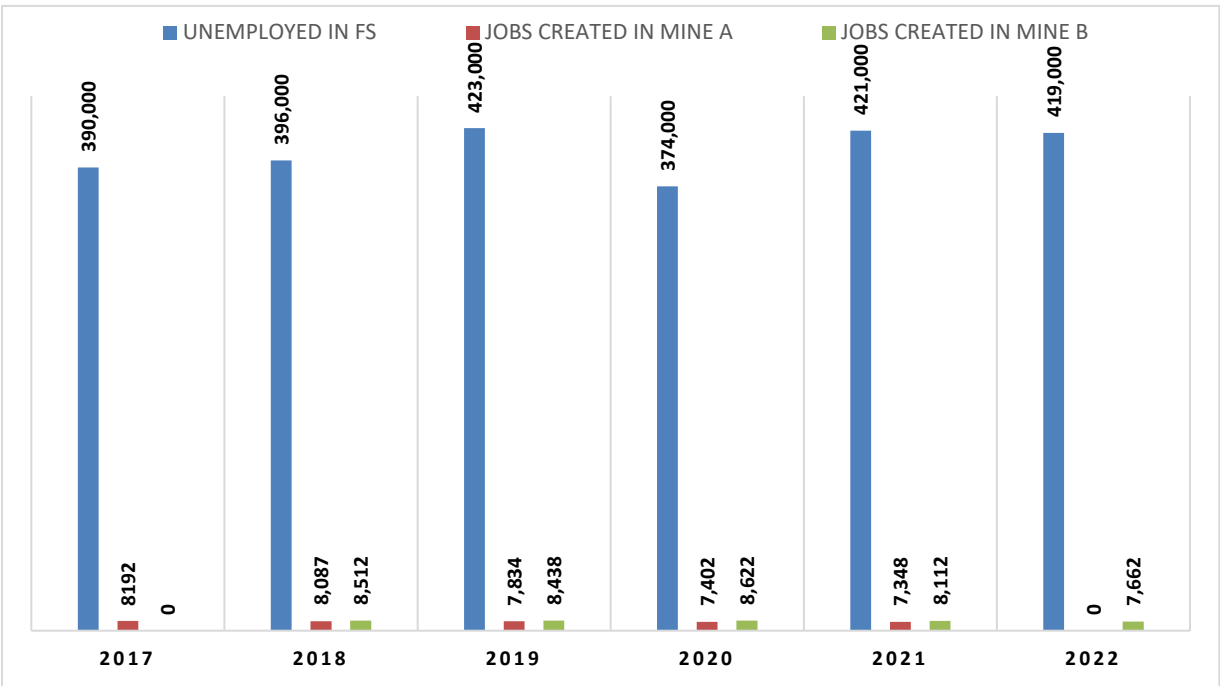


Table 4: Job creation by Welkom Mines

YEARS	UNEMPLOYED IN FS	WORKFORCE IN MINE A	WORKFORCE IN MINE B
2017	390,000	8,192	
2018	396,000	8,087	8,512
2019	423,000	7,834	8,438
2020	374,000	7,402	8,622
2021	421,000	7,348	8,112
2022	419,000		7,662

Figure 5 and **Table 4** demonstrates that the unemployment rate in the Free State can be calculated using the total number of employees in the Free State and the number of employees in Mine A and Mine B. Assuming the total labor force in the Free State is approximately equal to the total number of employees in the Free State, the unemployment rate can be estimated. The results indicate that the unemployment rate in the Free State remains high, ranging from 24.5% in 2019 to 29.3% in 2020. This suggests that the region faces significant challenges in terms of job creation and employment growth.

The contribution impact of mines on job creation can be evaluated by examining the number of employees in Mine A and Mine B as a percentage of the total number of employees in the Free State. The results indicate that the contribution impact of mines on job creation is relatively small, with Mine A and Mine B employees accounting for approximately 1.7% to 2.3% of the total number of employees in the Free State. This suggests that while the mines in Welkom do contribute to job creation in the region, the impact is not sufficient to significantly reduce the high unemployment rate.

4.6 Multivariate Regression Method and Correlation Analysis

Multivariate regression analysis is a statistical technique used to examine the relationships between multiple independent variables and a single dependent variable. It extends the principles of simple linear regression, which involves only one independent

variable, to accommodate multiple predictors (Tabachnick & Fidell, 2019). This method allows researchers to control the effects of multiple variables simultaneously, providing a more comprehensive understanding of the relationships between variables (Field, 2018).

Table 5: Analysis of the relationship between unemployment rate and jobs created by Mine A and Mine B

Regression Statistics									
Multiple R	0.8316841								
R Square	0.6916985								
Adjusted R Square	0.3833969								
Standard Error	16681.516								
Observations	5								
ANOVA									
	df	SS	MS	F	Significance F				
Regression	2	1.249E+09	624327034	2.2435777	0.3083015				
Residual	2	556545931	278272966						
Total	4	1.805E+09							
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%	
Intercept	1109628.4	353248.08	3.1412155	0.0881509	-410275.47	2629532.2	-410275.47	2629532.2	
8192	7.0723717	5.2079228	1.3580024	0.3073733	-15.335512	29.480255	-15.335512	29.480255	
0	-90.264077	46.091021	-1.9583874	0.1892859	-288.57773	108.04958	-288.57773	108.04958	

Table 5 presents the analysis of the relationship between the unemployment rate and the jobs created by Mine A and B reveals a complex and multifaceted dynamic. While the analysis indicates a negative correlation between the unemployment rate and the jobs created by Mine A and B, it is essential to note that the number of jobs created by these mines is significantly lower than the unemployment rate. This negative correlation suggests that as the number of jobs created by Mine A and B increases, the unemployment rate tends to decrease.

However, despite this negative correlation, the limited number of jobs created by Mine A and B is insufficient to significantly reduce the unemployment rate. This finding has significant implications for job creation efforts and unemployment rates in the region. Specifically, while Mine A and B's job creation efforts are positively correlated with reducing unemployment rates, the impact is limited due to the relatively small number of

jobs created. Furthermore, the unemployment rate remains a significant concern, and more substantial job creation initiatives are necessary to make a meaningful impact.

4.7 Summary

The analysis highlights the challenges of addressing high unemployment rates through job creation initiatives by Mine A and B alone using Social & Labour Plans. While there is a negative correlation between the unemployment rate and jobs created, the limited number of jobs created by Mine A and B underscores the need for more comprehensive solutions to address unemployment.

Chapter 5. Discussion of the findings

5.1 Introduction

As indicated in (Chapter 2), of this report, a comprehensive review of the literature was presented, exploring the conceptual framework on four key themes: environmental sustainability, governance, SDG-9 (Industry, Innovation, and Infrastructure), and SDG-11 (Sustainable Cities and Communities). Highlighting positive aspects and exposing the gaps on each theme. The chapter also highlighted the significance of sustainable development in the context of mining activities (United Nations, 2002). The chapter drew on various conceptual frameworks, including the Sustainable Development Framework (SDF), which emphasizes the interconnections between environmental, social, governance and economic dimensions (WCED, 1987).

Additionally, the chapter discussed the Social Licence to Operate (SLO) framework, which underscores the importance of mining companies' social and labour plans in maintaining their legitimacy and acceptance by local communities (Gunningham et al., 2004). Furthermore, the chapter examined the Decent Work concept, which encompasses the creation of employment opportunities, social protection, and social dialogue (ILO, 1999). Against this backdrop, key milestones and potential areas of improvement in the analysis of Mine A and Mine B in relation to the unemployment rate presented in (Chapter 4), will be discussed.

5.2 Milestones

Despite the challenges and limitations highlighted in the analysis, Mine A and Mine B made a positive contribution to alleviating poverty and inequality through the jobs they created. Although the number of jobs created was relatively small, it had a positive impact on reducing unemployment rates. The negative correlation between the unemployment rate and the jobs created by Mine A and Mine B indicates that their efforts were yielding some positive results, albeit limited. Specifically, the analysis showed that as the number of jobs created by Mine A and Mine B increased, the unemployment rate tended to decrease.

This suggests that the mines' job creation efforts were having a positive effect on the local economy, even if it was not sufficient to significantly reduce the high unemployment rates. Furthermore, the fact that Mine A and Mine B were able to create jobs at all, despite the challenges facing the mining sector, is a notable achievement. Their contribution to employment, although limited, demonstrates that even small-scale job creation efforts can have a positive impact on local communities.

One of the notable milestones from the analysis is the stability in employment numbers maintained by Mine A and Mine B over the five-year period. Despite the fluctuations in employment numbers, the mines have managed to maintain a relatively stable workforce. This stability is crucial for the local community, as it provides a sense of security and predictability. The stability in employment numbers also suggests that the mines are committed to being responsible corporate citizens and contributing to the well-being of the local community.

Another positive trend from the analysis is the growth in certain industries, such as agriculture and manufacturing. The analysis shows that these industries have experienced growth in employment numbers over the six-year period. This growth is a positive sign for the local economy and suggests that there are opportunities for development and investment in these sectors. The growth in these industries also highlights the potential for economic diversification in the local community, which can help reduce the dependence on a single industry.

The analysis also highlights the contribution of Mine A and Mine B to the local economy, including the creation of jobs and the stimulation of economic activity. This contribution is essential for the well-being of the local community and demonstrates the mines' commitment to being responsible corporate citizens. The creation of jobs by the mines has a ripple effect on the local economy, stimulating economic activity and contributing to the overall development of the community.

Furthermore, the analysis suggests that there are opportunities for skills development and training in the local community. The creation of jobs in certain industries, such as agriculture and manufacturing, requires specific skills and training. This presents an

opportunity for the local community to develop the skills and expertise needed to take advantage of these job opportunities. The development of skills and expertise can also help address the social and economic challenges facing the local community.

The analysis also emphasizes the importance of Social and Labour Plans (SLPs) in promoting sustainable development and addressing the social and economic challenges facing the local community. The SLPs implemented by Mine A and Mine B demonstrate the mines' commitment to being responsible corporate citizens and contributing to the well-being of the local community. The SLPs also provide a framework for collaboration and partnership between different stakeholders, including government, business, and civil society.

Finally, the analysis suggests that collaboration and partnership between different stakeholders are essential for promoting sustainable development and addressing the social and economic challenges facing the local community. The implementation of SLPs by Mine A and Mine B demonstrates the value of collaboration and partnership in achieving common goals and promoting sustainable development. Collaboration and partnership can also help leverage resources, expertise, and funding to support the development of the local community.

5.3 Potential areas of improvement

Based on the analysis presented in (Chapter 4), several potential areas of improvement can be identified. One of the primary concerns is the limited impact of Mine A and Mine B's job creation efforts on reducing unemployment rates in the region. Despite the negative correlation between the unemployment rate and jobs created, the number of jobs created by these mines is significantly lower than the unemployment rate. This suggests that more substantial job creation initiatives are necessary to make a meaningful impact on unemployment rates.

Another area of improvement is the need for targeted interventions to stimulate growth and job creation in the mining sector. The analysis reveals that mining employment

numbers have been consistently low compared to other industries, suggesting that this sector has been the smallest contributor to employment in Welkom and the Free State as a whole. To address this, targeted interventions such as training programs, infrastructure development, and investment in new technologies could be implemented to stimulate growth and job creation in the mining sector.

Furthermore, the analysis highlights the importance of collaboration and partnership between different stakeholders, including government, business, and civil society, in promoting sustainable development and addressing the social and economic challenges facing the local community. While the implementation of Social and Labour Plans (SLPs) by Mine A and Mine B demonstrates their commitment to being responsible corporate citizens, more needs to be done to address the scale of the problem. Therefore, it is essential to explore alternative solutions and strategies that can complement the mines' efforts and provide more substantial support to the local community.

Additionally, the analysis suggests that there is a need for more comprehensive and nuanced understanding of the relationship between SLPs and unemployment rates. While the analysis reveals a negative correlation between the unemployment rate and jobs created, more research is needed to fully understand the complexities of this relationship. Therefore, future research should focus on exploring the causal mechanisms underlying this relationship and identifying the most effective strategies for addressing unemployment through SLPs.

The analysis highlights the importance of considering the broader economic and social context in which Mine A and Mine B operate. The analysis reveals that the unemployment rate in the Free State remains high, ranging from 24.5% in 2019 to 29.3% in 2020. This suggests that the region faces significant challenges in terms of job creation and employment growth, and that more needs to be done to address these challenges. Therefore, it is essential to consider the broader economic and social context in which Mine A and Mine B operate and to develop strategies that consider the complex and interconnected nature of the challenges facing the region.

Moreover, the problem statement highlighted in (Chapter 1) pointed out several areas that need improvement, which are closely linked to the potential areas of improvement identified above. One of the primary concerns is the limited economic benefits and job opportunities created by the mining sector in Welkom. This is reflected in the potential areas of improvement, where it was noted that the impact of Mine A and Mine B's job creation efforts on reducing unemployment rates in the region is limited. The inadequate implementation of Social and Labour Plans (SLPs) by mining houses in Welkom has resulted in limited economic benefits and job opportunities for local communities, perpetuating poverty and inequality.

Furthermore, the existing SLPs are often ineffective in promoting sustainable development, lacking transparency, accountability, and community engagement. This is reflected in the potential areas of improvement, where it was noted that there is a need for more comprehensive and nuanced understanding of the relationship between SLPs and unemployment rates. The problem statement emphasizes the importance of developing effective SLPs that promote sustainable development, reduce unemployment, and improve the socio-economic conditions of local communities in Welkom.

Additionally, the problem statement highlights the need for better alignment between mine closure plans and municipal development plans. The strategy to align mine closure plans, especially with respect to end land-use with municipal Spatial Development Frameworks and Integrated Development Plans, is lacking. This is reflected in the potential areas of improvement, where it was noted that there is a need for more comprehensive solutions to address unemployment and promote sustainable development. The problem statement also emphasizes the importance of considering post-closure economic activities, including the alignment of environmental management to enable post-closure economic activities.

Finally, the problem statement notes that financial support for social and economic community programmes is given by numerous significant mining companies in South Africa. However, it is commonly unclear how many of these initiatives will sustainably last particularly beyond mining. This is reflected in the potential areas of improvement, where it was noted that there is a need for more comprehensive solutions to address

unemployment and promote sustainable development. By addressing these areas of improvement, it is possible to develop more effective Social and Labour Plans that promote sustainable development, reduce unemployment, and improve the socio-economic conditions of local communities in Welkom.

5.4 Summary

The analysis of the employment creation of Mine A and Mine B, as well as the entire (Chapter 4), analyzed elements, reveal several milestones that highlight the positive impact of the mines' job creation efforts. One of the notable milestones is the negative correlation between the unemployment rate and the jobs created by Mine A and Mine B. This indicates that as the number of jobs created increases, the unemployment rate tends to decrease. Additionally, the analysis shows that Mine A and Mine B have maintained stability in employment numbers over the five-year period, despite fluctuations in employment numbers. Furthermore, the analysis reveals growth in certain industries, such as agriculture and manufacturing, which have experienced growth in employment numbers over the six-year period.

The analysis also highlights the contribution of Mine A and Mine B to the local economy, including the creation of jobs and the stimulation of economic activity. Moreover, the analysis identifies opportunities for skills development and training in the local community, particularly in industries such as agriculture and manufacturing. The importance of Social and Labour Plans (SLPs) in promoting sustainable development and addressing the social and economic challenges facing the local community is also emphasized.

Despite the milestones achieved, the analysis also reveals several potential areas of improvement that highlight the need for more comprehensive solutions to address unemployment and promote sustainable development. One of the primary concerns is the limited impact of Mine A and Mine B's job creation efforts on reducing unemployment rates in the region. This highlights the need for more substantial job creation initiatives. Furthermore, the analysis suggests that targeted interventions are necessary to stimulate growth and job creation in the mining sector, which has been consistently lagging behind other industries in terms of employment generation.

The analysis also emphasizes the importance of collaboration and partnership between different stakeholders, including government, business, and civil society, in promoting sustainable development and addressing the social and economic challenges facing the local community. Moreover, the analysis highlights the need for more comprehensive and nuanced understanding of the relationship between SLPs and unemployment rates, highlighting the importance of further research in this area. Finally, the analysis suggests that it is essential to consider the broader economic and social context in which Mine A and Mine B operate, highlighting the need for strategies that consider the complex and interconnected nature of the challenges facing the region.

Chapter 6. Conclusion and Recommendations

6.1 Introduction

This study has explored the complex relationships between Social and Labour Plans (SLPs), sustainable development, and unemployment rates in the context of mining activities in Welkom, South Africa (Chapter 1). The research has examined the conceptual framework of sustainable development, highlighting the interconnections between environmental, social, governance, and economic dimensions (WCED, 1987; Chapter 2). A comprehensive review of the literature has provided insights into the significance of SLPs in promoting sustainable development and addressing the social and economic challenges facing local communities (Gunningham et al., 2004; Chapter 2).

The study objectives stated in (Chapter 1), aimed to; Investigate the long-term implications of inadequate SLPs on sustainable development in Welkom. Present findings on sustainable development trends in Welkom's mining houses' SLPs with national benchmarks. Interpret and analyze job creation initiatives in Welkom's mining houses' SLPs and develop strategies to enhance sustainable development in Welkom through improved SLPs.

These objectives were achieved through a mixed research design, combining both correlational and inferential statistical approaches to analyze secondary data from prominent mining companies in Welkom, including Mine A and Mine B (Chapter 3). The findings have revealed a negative correlation between the unemployment rate and the jobs created by these mines, indicating that their efforts have had a positive impact on reducing unemployment rates, albeit limited (Chapter 4).

The analysis has also highlighted the importance of collaboration and partnership between different stakeholders, including government, business, and civil society, in promoting sustainable development and addressing the social and economic challenges

facing local communities (Chapter 5). Furthermore, the study has emphasized the need for targeted interventions to stimulate growth and job creation in the mining sector, as well as the importance of considering the broader economic and social context in which mining companies operate (Chapter 5).

This concluding chapter synthesizes the key findings, milestones, and potential areas of improvement identified throughout the study. It provides recommendations for policymakers, mining companies, and other stakeholders to enhance the effectiveness of SLPs in promoting sustainable development and addressing the social and economic challenges facing local communities. Ultimately, this research aims to contribute to the development of more comprehensive and nuanced strategies for promoting sustainable development in the context of mining activities in South Africa.

6.2 Conclusion

This study has investigated the challenges of sustainable development in Welkom, Free State, South Africa, with a specific focus on the role of Social and Labour Plans (SLPs) in promoting sustainable development and addressing the social and economic challenges facing local communities (Chapter 1).

As highlighted in Chapter 1, the problem statement revolved around the inadequate implementation of SLPs by mining companies in Welkom, resulting in limited job creation, inadequate skills development, and insufficient contribution to local economic development (WCED, 1987). This has exacerbated the social and economic challenges facing local communities, including high unemployment rates, poverty, and inequality (StatsSA, 2023).

The study's findings have confirmed that the implementation of SLPs by mining companies in Welkom has had a limited impact on reducing unemployment rates and promoting sustainable development (Chapter 4). While the study has identified some

positive trends and milestones, including the creation of jobs and the stimulation of economic activity (Chapter 5), the overall impact of SLPs has been inadequate in addressing the scale and complexity of the social and economic challenges facing local communities.

The following recommendations aim to address the problem statement and enhance the effectiveness of SLPs in promoting sustainable development and addressing the social and economic challenges facing local communities in Welkom.

6.3 Recommendations

To enhance sustainable development in Welkom through SLPs, this study recommends several strategies. Firstly, SLPs should be aligned with national sustainable development goals and Social Closure initiatives. Secondly, the Department of Mineral Resources and Energy should strengthen its monitoring and evaluation of SLPs to ensure compliance and effectiveness. (Sibiya, 2014). Lastly, other elements of the Social and Labour Plans, such as the Mine Community Development, and Local Procurement, should be explored to expand on efforts of job creation for local communities.

- i. Capacitating communities through Mine Community Development programmes for self-sustainability. To achieve this, mining houses in Welkom should invest in community capacity-building programs that empower local communities to self-sustain and create jobs relevant even beyond mining. This can be achieved through training and development programs, which can equip community members with the necessary skills and knowledge to drive local economic growth. Furthermore, mining houses should identify and support alternative economic projects in agriculture, manufacturing, and the AI space that can create jobs and stimulate local economic growth. Skills development programs that focus on emerging technologies such as robotics, coding, and data analytics are also essential, as they enable local communities to access new job opportunities and participate in the digital economy.

- ii. In addition, with the emergence of new sectors in Welkom, such as gas extraction and renewable energy projects, mining houses should capacitate community members with skills relevant to these sectors. This includes training in areas such as renewable energy installation and maintenance, energy efficiency and management, green technology and innovation, and sustainable development and environmental management. To ensure that community members receive relevant and industry-specific training, mining houses should collaborate with industry experts and training institutions to provide industry-led training and certification programs that align with the needs of emerging sectors in Welkom.
- iii. Enhancing Local Procurement through Enterprise and Supply Development Programmes is crucial for promoting sustainable development and job creation in Welkom. To achieve this, mining houses should invest in enterprise and supply development programmes that empower Small, Medium, and Micro Enterprises (SMMEs) to participate in capital projects within the mining industry.
- iv. Effective implementation of these programmes requires several key strategies. Capacity Building is essential, as it provides skills transfer and training to SMMEs, enhancing their competitiveness and ability to bid for capital projects. Mentorship is another critical strategy, where SMMEs are paired with larger corporate companies contracted in mining to facilitate knowledge sharing and mentorship. This mentorship can help SMMEs navigate the complexities of the mining industry and improve their chances of success.
- v. In addition to capacity building and mentorship, Preferential Procurement is vital. This involves increasing targets for youth, black, and young people in the balance score card of Social and Labour Plans (SLPs) to emphasize preferential procurement for SMMEs. By prioritizing procurement opportunities for SMMEs, mining houses can promote local economic growth and job creation.

By implementing these strategies, mining houses in Welkom can contribute to sustainable development, job creation, and local economic growth, while promoting the growth and competitiveness of SMMEs. This, in turn, can have a positive impact on the local community, promoting economic empowerment by reducing poverty and inequality. Moreover, a broader perspective is outlined in tiers suggesting how problems stated in (Chapter 1), can be avoided.

Local Municipal Level

To address the challenges highlighted, the local municipality can take several steps. Firstly, it should establish a Local Economic Development (LED) strategy that prioritizes job creation, skills development, and local economic growth (Rogerson, 2006). This strategy should be developed in consultation with local stakeholders, including communities, businesses, and organizations. Additionally, the local municipality should enhance community engagement and participation in decision-making processes related to mining activities and SLPs (Gunningham et al., 2004). This can be achieved through the establishment of community forums, public meetings, and other participatory mechanisms. Furthermore, the local municipality should develop a local supplier database to facilitate procurement from local businesses and stimulate local economic growth (ICMM, 2019).

Provincial level

Furthermore, at the provincial level, several measures can be taken to address the challenges highlighted. Firstly, the provincial government should strengthen its oversight and monitoring of SLPs to ensure compliance with regulatory requirements and effective implementation (DME, 2019). This can be achieved through regular audits, inspections, and evaluations of SLPs. Additionally, the provincial government should provide support for Small, Medium, and Micro Enterprises (SMMEs), including training, mentorship, and access to finance, to stimulate local economic growth (DTI, 2020). Furthermore, the provincial government should develop a provincial LED strategy that aligns with national priorities and supports local economic development initiatives (Rogerson, 2006).

National Level

At the national level, several measures can be taken to address the challenges highlighted. Firstly, the national government should review and revise the Mineral and Petroleum Resources Development Act (MPRDA) to strengthen regulatory requirements for SLPs and ensure effective implementation (MPRDA, 2002). This can be achieved through a comprehensive review of the Act, followed by amendments and revisions. Additionally, the national government should develop a national LED strategy that prioritizes job creation, skills development, and local economic growth (Rogerson, 2006). Furthermore, the national government should establish a national database of SLPs to facilitate monitoring, evaluation, and benchmarking of SLPs across different provinces and municipalities (ICMM, 2019).

Best Practices

To ensure effective implementation of SLPs, several best practices can be adopted. Firstly, mining companies should adopt a participatory approach to SLP development, involving local communities, government, and other stakeholders (Gunningham et al., 2004). This can be achieved through the establishment of community forums, public meetings, and other participatory mechanisms. Additionally, mining companies should prioritize local procurement to stimulate local economic growth and support local businesses (ICMM, 2019). Furthermore, mining companies should invest in skills development programs to enhance the employability of local residents and support local economic growth (DTI, 2020).

6.4 Summary

This chapter concludes the study by summarizing the key findings and providing recommendations for policymakers, mining companies, and other stakeholders. The study investigated the challenges of sustainable development in Welkom, South Africa, with a focus on the role of Social and Labour Plans (SLPs) in promoting sustainable development and addressing social and economic challenges. The study's findings revealed a negative correlation between unemployment rates and

jobs created by mining companies, indicating a limited positive impact on reducing unemployment rates. The study also highlighted the importance of collaboration and partnership between stakeholders in promoting sustainable development.

The recommendations provided aim to address the problem statement and enhance the effectiveness of SLPs. These include aligning SLPs with national sustainable development goals, strengthening monitoring and evaluation of SLPs, and exploring other elements of SLPs such as Mine Community Development and Local Procurement.

The study also provides recommendations at the local municipal, provincial, and national levels, including establishing Local Economic Development (LED) strategies, strengthening oversight and monitoring of SLPs, and developing national LED strategies.

Finally, the study highlights best practices for effective implementation of SLPs, including adopting a participatory approach, prioritizing local procurement, and investing in skills development programs.

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