Socio-Economic Impact Assessment for the Proposed Makganyane Mining Right near Postmasburg, Northern Cape Province

For

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ETC has no beneficial interest in the outcome of the assessment which is capable of affecting its independence.

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I, Marvin Gabara, declare that: –

- I act as an independent specialist in this application;
- I will perform the work relating to the application objectively, even if this results in views and findings that are not favourable to the applicant;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;

- I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, Regulations and all other applicable legislation;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken concerning the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- All the particulars furnished by me in this form are true and correct; and
- I realise that a false declaration is an offense and is punishable by law.

02/05/2025

Signature of the Specialist Date

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EXECUTIVE SUMMARY

INTRODUCTION

The Applicant, Assmang (Pty) Ltd, applied for a mining right (MR), environmental authorisation (EA), and waste licence (WL) to mine Hematite, Magnetite, Goethite, Limonite, Siderite, Pyrolusite, Psilomelane, Rhodochrosite, Manganite, Braunite, Hausmannite, Manganese ore, Iron ore, and Diamonds (general) from 1 549.61 ha that extends over Portion 2 (portion of Portion 1), Remainder Portion, Remainder Portion of Portion 1 and Portion 3 of the farm Makganyane No 667 in the Tsantsabane Local Municipality of the Northern Cape.

KEY FINDINGS

- The assessment of the key issues indicated that there are **no fatal flaws**, associated with the Makganyane Mining Right project.
- Positive impacts, including employment and local economic growth, can be maximised through effective planning and implementation of enhancement measures.
- Potential negative impacts, such as noise and dust, and increased pressure on local services, are typical of mining projects and can be significantly mitigated through the recommended measures.
- Employment opportunities generated by the project will predominantly benefit nearby communities, contributing positively to local economic stimulation and skills development.
- Continuous communication, comprehensive planning, and the effective implementation of recommended mitigation measures will ensure the project's beneficial contribution to the local community and broader region.

CONCLUSION

The proposed Makganyane Mining Right project represents an important development for the Northern Cape, particularly within the Tsantsabane Local Municipality, showcasing a balanced approach to economic development and environmental management. This initiative is positioned to play a role in the socio-economic advancement of the region by providing employment opportunities, stimulating local economic activity, and enhancing infrastructure development.

As this SEIA has detailed, the project is poised to offer a potential boost to the local economy by creating direct and indirect job opportunities, predominantly sourced from nearby communities. This is particularly vital in an area characterised by high unemployment and economic underdevelopment. The initiative can support revitalising the local economy.

Furthermore, the project is aligned with national policies that support sustainable mining practices and economic empowerment, ensuring that its implementation partially contributes to broader developmental goals. The strategic location of the project and its integration with local socio-economic structures are designed to optimise both environmental sustainability and economic viability.

However, the realisation of these benefits is contingent upon the project's adherence to rigorous environmental standards and its ability to effectively implement the recommended mitigation measures. Effective stakeholder engagement and transparency in operations are essential to foster community support and ensure the long-term success of the project. This engagement includes addressing any concerns related to environmental impacts, such as noise, dust, and traffic, which are common challenges in construction and mining projects.

Based on the findings of this report, the development of the proposed Makganyane Mining Right project is supported, provided that the recommended mitigation measures are implemented. Effective stakeholder engagement, transparency, and responsiveness to community concerns are crucial to maintaining public trust and acceptance of the project.

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LIST OF ABBREVIATIONS

Abbreviation	Description
AfDB	African Development Bank
DFFE	Department of Forestry, Fisheries and Environment
EA	Environmental Authorisation
EIA	Environmental Impact Assessment
EMPr	Environmental Management Programme Report
ETC	Eco Thunder Consulting (Pty) Ltd
Greenmined	Greenmined Environmental (Pty) Ltd
GIS	Geographical Information Systems
HA	Hectares
IFC	International Finance Corporation
NEMA	National Environmental Management Act
UNESCO	United Nations Educational, Scientific and Cultural Organisation
OHL	Overhead Line
O&M	Operation and Maintenance
SEIA	Socio-Economic Impact Assessment

SPECIALIST CHECKLIST

No.	NEMA 2014 (as amended) Regs - Appendix 6(1) Requirement	Report Section
	A specialist report prepared in terms of these Regulations must contain—	
a	details of— the specialist who prepared the report; and the expertise of that specialist to compile a specialist report including a curriculum vitae.	Specialist Details Appendix B
b	a declaration that the specialist is independent in a form as may be specified by the competent authority;	Specialist Declaration
c	an indication of the scope of, and the purpose for which, the report was prepared;	Section 4.1
	an indication of the quality and age of base data used for the specialist report	Section 1.3 Section 4.2.1
	a description of existing impacts on the site, cumulative impacts of the proposed development and levels of acceptable change	Section 8.1
d	the duration, date and season of the site investigation and the relevance of the season to the outcome of the assessment;	Section 4.2.3
e	a description of the methodology adopted in preparing the report or carrying out the specialised process inclusive of equipment and modelling used;	Section 4
f	details of an assessment of the specific identified sensitivity of the site related to the proposed activity or activities and its associated structures and infrastructure, inclusive of a site plan identifying site alternative;	Section 6.2
g	an identification of any areas to be avoided, including buffers;	Section 8.3
h	a map superimposing the activity including the associated structures and infrastructure on the environmental sensitivities of the site including areas to be avoided, including buffers;	Section 6.2 Table 7
I	a description of any assumptions made and any uncertainties or gaps in knowledge;	Section 1.4
j	a description of the findings and potential implications of such findings on the impact of the proposed activity or activities;	Section 10.1
k	any mitigation measures for inclusion in the EMPr;	Section 8
l	any conditions for inclusion in the environmental authorisation;	Section 7.1
m	any monitoring requirements for inclusion in the EMPr or environmental authorisation;	Section 8
n	a reasoned opinion— whether the proposed activity, activities or portions thereof should be authorised.	Section 9.2

No.	NEMA 2014 (as amended) Regs - Appendix 6(1) Requirement	Report Section
	regarding the acceptability of the proposed activity or activities; and if the opinion is that the proposed activity, activities or portions thereof should be authorised, any avoidance, management and mitigation measures that should be included in the EMPr, and where applicable, the closure plan.	
o	a description of any consultation process that was undertaken during the course of preparing the specialist report;	Section 4.2
p	a summary and copies of any comments received during any consultation process and where applicable all responses thereto; and	Appendix A
q	any other information requested by the competent authority.	N/A

1 Background

ETC was commissioned by Greenmined Environmental (Pty) Ltd as the lead consultant to manage the Socio-Economic Impact Assessment (SEIA) process for the establishment of the proposed Makganyane Mining Right Project.

This report contains the findings of the SEIA undertaken as part of the broader Environmental Impact Assessment (EIA) process.

1.1 Terms of Reference

A specialist study is required to establish the socio-economic baseline and to identify and potential socio-economic impacts arising from the proposed development based on the general requirements for a comprehensive SEIA.

The following terms of reference were established:

- **Baseline Study**: Conduct a socio-economic baseline study to understand the current conditions in the project area.
- **Stakeholder Engagement**: Identify and engage with key stakeholders to understand their views and concerns related to the project.
- **Impact Assessment**: Identify and assess potential socio-economic impacts, both positive and negative, arising from the project.
- **Mitigation and Enhancement**: Develop measures to mitigate negative impacts and strategies to enhance positive impacts.
- **Monitoring Plan**: Develop a plan to track the implementation of measures and monitor actual socio-economic impacts post-project.
- **Compliance**: Ensure the SEIA complies with relevant legislation, guidelines, and best practices.
- **Reporting**: Prepare a comprehensive, clear, and concise SEIA suitable for submission to relevant authorities.

1.2 Structure of the Report

The report is organised into ten sections:

- Section 1: Background
- Section 2: Project Description
- Section 3: Legislation and Policy Review
- Section 4: Approach and Methodology
- Section 5: Socio-Economic Profile
- Section 6: Key Socio-Economic Impacts

- Section 7: Impacts and Assessment
- Section 8: Monitoring and Compliance (EMPr)
- Section 9: Environmental Impact Statement
- Section 10: References

1.3 Information Base

The following information was used to conduct the SEIA:

- Documentation and KML files supplied by the client;
- Terms of Reference (ToR) for the socio-economic specialist;
- Photographs, interviews, and information captured during the site visit;
- Google Earth software and data (aerial imagery – 2025);
- Sentinel-2 Satellite Imagery (2025);
- SRTM Digital Elevation Model;
- Census data and other socio-economic statistics;
- Stakeholder engagement records and feedback;
- Relevant legislation, guidelines, and best practices for socio-economic impact assessment.

1.4 Limitations and Assumptions

The following assumptions and limitations are applicable to this SEIA:

- It was assumed that information provided by Assmung (Pty) Ltd and Greenmined team was accurate and that the technical specifications of the Project and site selection are in accordance with the relevant requirements.
- The assessment has been based on the requirements of the Department of Environmental Affairs and Development Planning, Western Cape Province Guidelines for involving Social Assessment Specialists in EIA Processes[1].
- The assessment assumes that all necessary consultations with stakeholders, including local communities, authorities, and other interested parties, have been/will be conducted in accordance with legal requirements, and that their views and concerns have been duly considered.
- Whilst most homesteads and housing areas were visited during the site visit in order to confirm their nature and likely socio-economic impacts of the development, it was not possible to visit all homesteads and housing areas.

[1] These guidelines are based on international best practice and are applicable to all provinces within South Africa.

- The Project report uses the concept of ‘worst case scenario’ to identify issues and rate socio-economic impacts.
- Regulation 11(3) of the EIA Regulations, which suggests that if more than one activity is part of the same development, a single application may be required, discourages the practice of splitting components or assessing them in isolation, thereby promoting a unified and integrated approach to cumulative impact assessment.
- This report and assessment are dependent on the accuracy of the publicly available secondary information such as Statistics South Africa (Stats SA, 2025).
- This SEIA was prepared based on information that was available to the specialist at the time of preparing the report. The sources consulted are not exhaustive, and the possibility exists that additional information which might strengthen arguments, contradict information in this report, and/or identify additional information might exist.
- Some of the project projections reflected in this SEIA may be subject to change, and therefore may be higher or lower than those estimated by the project proponent.
- It is assumed that the motivation for the planning and feasibility study of the project were undertaken with integrity, and that information provided by the project proponent was accurate and true at the time of preparing this SEIA.
- The responsibility for implementing the recommendations, mitigation measures, and any other actions outlined in this report lies solely with the client or project proponent. The SEIA practitioners are not responsible for monitoring, enforcing, or ensuring compliance with these measures. It is the client's duty to ensure that all necessary permits, approvals, and consents are obtained, and that the project is carried out in accordance with all applicable laws, regulations, and standards. Any deviations from the recommendations or failure to implement the suggested measures may result in different impacts and outcomes than those described in this report.

1.5 Specialist Details

ETC is a 100% woman-owned, private company that specialises in a range of specialist studies, such as visual impact assessments, air quality impact assessments, noise impact assessments socio-economic impact assessments, socio-economic research, economic development planning, development program design and implementation as well as community trust management. Based across South Africa, Eco-Thunder has established itself as an expert on the conditions, needs and assets of communities that are linked to independent renewable energy generation facilities.

2 Project Description

2.1 Introduction

The Applicant, Assmang (Pty) Ltd, applied for a mining right (MR), environmental authorisation (EA), and waste licence (WL) to mine Hematite, Magnetite, Goethite, Limonite, Siderite, Pyrolusite, Psilomelane, Rhodochrosite, Manganite, Braunite, Hausmannite, Manganese ore, Iron ore, and Diamonds (general) from 1 549.61 ha that extends over Portion 2 (portion of Portion 1), Remainder Portion, Remainder Portion of Portion 1 and Portion 3 of the farm Makganyane No 667 in the Tsantsabane Local Municipality of the Northern Cape.

Should the relevant authorisations be granted, and the project proceeds the principal mining activities will entail the following:

- Site establishment and infrastructure development;
- Strip and stockpile of topsoil and overburden to access the ore (excavation);
- Opencast mining (including drilling and blasting);
- Transport, stockpile and crushing of run of mine ore (RoM);
- Transport of crushed ore to Beeshoek Mine; and
- Slope, landscape and rehabilitate the affected areas upon closure of the mine.

The preliminary layout of the mining area (Figure 6) is expected to include at least the following:

- Internal roads;
- Office complex (±1 ha):
  - Ablution facilities,
  - Diesel depot,
  - Equipment workshop,
  - Office containers,
  - Parking area,
  - Planning / meeting site rooms,
  - Security access control,
  - Water reservoir,
  - Wash bays.
- Stockpile Area (±15 ha):
  - Crushing plant,
  - Weigh bridge and Operations Hut,

- Excavations (±36 ha):
  - Pit 1
  - Pit 2
- Waste rock dump (±64 ha);
- Water storage dam/s (for dewatering of the pits).

Table 1, Figure 1 and Figure 2 below provides the details of the project, including the main infrastructure components and services that will be required during the project life cycle.

Table 1: Details of the Proposed Makganyane Mining Right and Associated Infrastructure

Component	Description/Dimensions
District Municipality	Z F Mgcawu District Municipality (ZFMDM)
Local Municipality	Tsantsabane Local Municipality (TLM)
Ward Number (s)	Ward 6
Nearest Town(s)	Postmasburg (~24km north-west)
Farm Name(s) and Number(s) of Properties Affected by the Portion Number(s) of Properties Affected by the SG 21 Digit Code (s)	• Remainder of the farm Makganyane No 667 (C04100000000066700000) • Remainder portion of Portion 1 of the farm Makganyane No 667 (C04100000000066700001) • Portion 2 (a portion of Portion 1) of the farm Makganyane No 667 (C04100000000066700002) • Portion 3 of the farm Makganyane No 667 (C04100000000066700003)
Current Zoning	Agriculture
Site Coordinates (Centre of Development Area)	• Lat: 28° 8'54.51"S • Long: 22°55'57.86"E
Demarcation of the approved footprint	~1 549.61ha
Site establishment and infrastructure development.	~1 ha when fully operational
Strip and stockpile of topsoil and overburden to access the ore.	~36 ha Pit 1 & 2, when fully operational ~64 ha Waste Rock Dump, when fully operational
Opencast mining (including drilling and blasting).	~36 ha when fully operational
Transport, stockpile and crushing of RoM.	~15 ha when fully operational
Slope, landscape and rehabilitate the affected areas upon closure of the mine.	~116 ha (Within the 1 549.61 ha)
Transport of crushed ore to Beeshoek Mine.	±20 km (Makganyane Mine to Beeshoek Mine)

Access Roads and Internal Roads	• Presently it is proposed that the Makganyane Iron Ore Mine (MIOM) will be accessed from the existing R385 provincial road connecting Postmasburg and Olifantshoek. • Within the mining boundary, haul roads will be developed and extended as mining progress. The haul roads will be constructed with suitable material from the waste rock dump end tipped in a single layer that will then be levelled and graded. • The crushed ore will be transported by truck from the MIOM stockpile area to the Beeshoek Mine processing facility (off-site) via the R385.

Should the relevant authorisations be granted, and the proposed mining be allowed, the project will comprise of activities that can be divided into three key phases (discussed in more detail below) namely the:

- Site establishment/construction phase which will involve the demarcation of the site boundaries and buffer zones (if required) pertaining to existing infrastructure and areas of significance (such as but not limited to graveyards, drainage lines/watercourses, Critical Biodiversity Areas (CBA) and/or Ecological Support Areas (ESA)) identified during the environmental impact assessment. Site establishment will further necessitate the clearing of vegetation, stripping and stockpiling of topsoil, and establishment of site infrastructure.
- Operational phase that will entail opencast mining. The first phase will focus on pre-stripping the top layer material, of which the topsoil will be stored separately for rehabilitation. Then waste rock will be stripped to access the ore body followed by open cast mining of Pit 1 and Pit 2 (refer to Figure 6). The mining technology will include drilling and blasting with associated truck and shovel operations. Ore (RoM) from the open pit/s will report to a crusher situated on site and in the stockpile area. Crushed ore will be stockpiled on-site from where ore will be transported via road (R385) to the Beeshoek Mine processing facility (off-site) using side tipper trucks. No processing will take place at the Makganyane Iron Ore Mine.
- Decommissioning phase which will involve the sloping and rehabilitation of all affected areas, the replacement of topsoil, and the removal of all infrastructure no longer needed by the landowners. The right holder will further be responsible for the seeding of all rehabilitated areas. Once the full mining area is rehabilitated, the mining right holder will be required to submit a closure application to the Department of Mineral Resources and Energy in accordance with section 43(4) of the MPRDA, 2002. The Closure Application will be submitted in terms of Regulation 62 of the MPRDA, 2002, and Government Notice 940 of NEMA, 1998

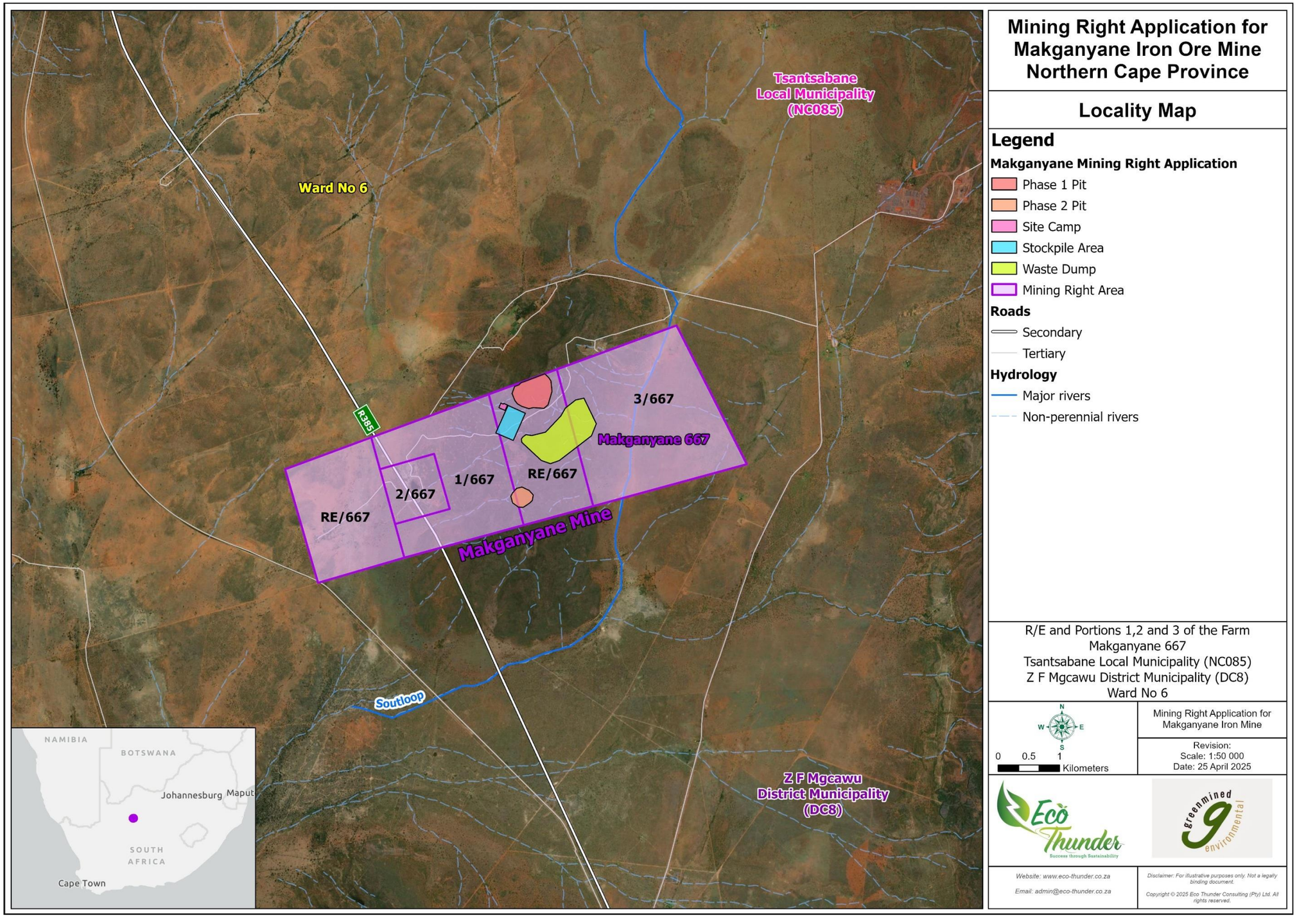


Figure 1: Locality Map Illustrating the Location of the Proposed Makganyane Mining Right

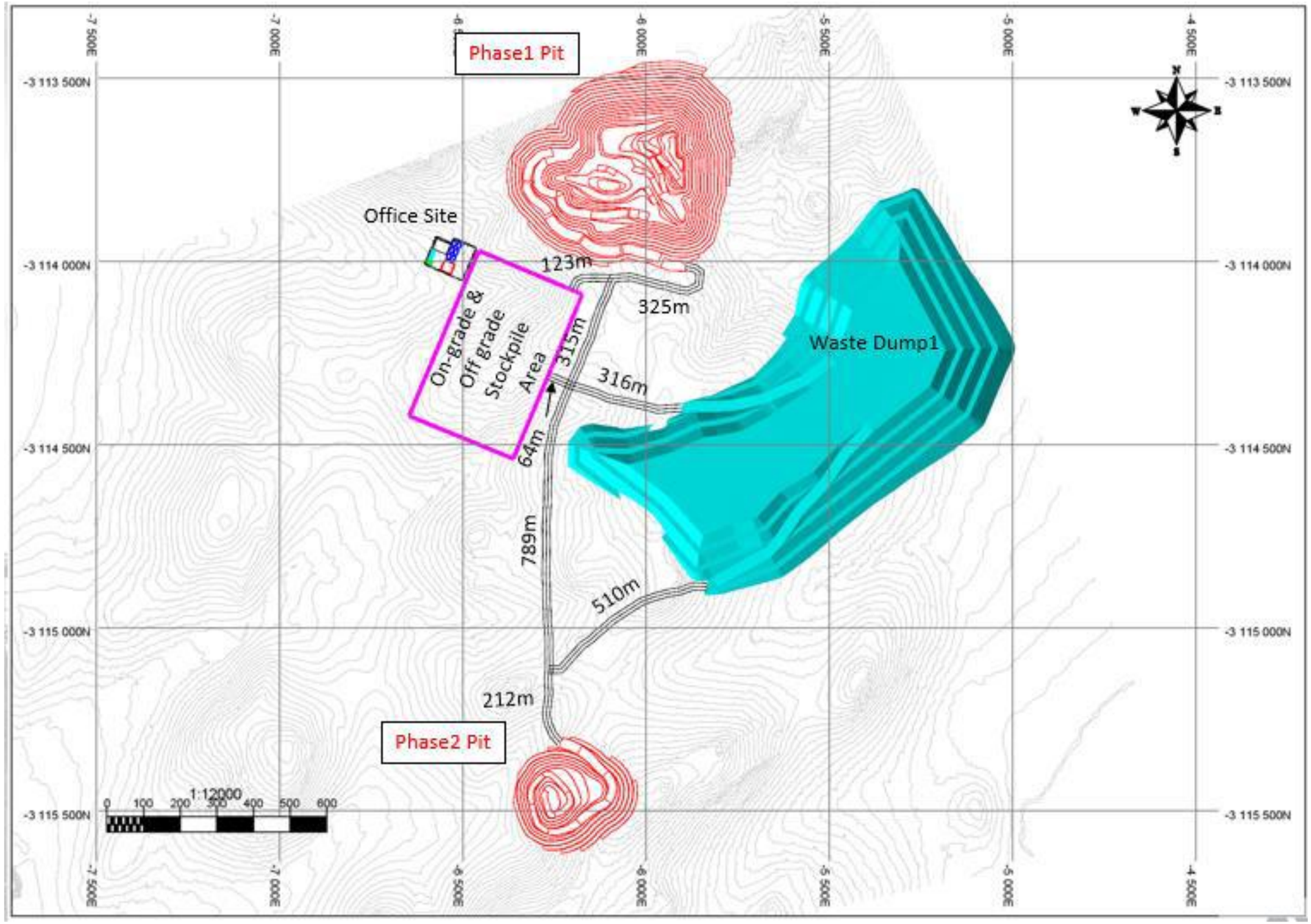


Figure 2: Proposed Mine Design Layout (image obtained from the Mining Work Programme).

2.2 Alternatives Considered

2.2.1 Location

Presently, the project proposal entails a mining right application over ±1 550 ha of Portion 2 (portion of Portion 1), Remainder Portion, Remainder Portion of Portion 1 and Portion 3 of the farm Makganyane No 667.

Applicants can only apply for mining rights within areas where such rights are not yet held by other companies/applicants. Furthermore, the mining activities are dependent upon the presence of the desired minerals which are again dependent upon geological formations. The MWP for this application notes that the proposed open pit mining operations were looked at in terms of primary ore for the operation, with the aim to support a sustainable mining approach that considers optimised extraction of the resources. Considering this, the proposed footprint of the MR application was founded on the footprint of the prospecting right (NC 2292 PR) backed by the prospecting results and available geological information.

The only other Locality/Site Alternative that could be applicable to this application would be the possible omission of some of the Makganyane farm portions from the application. Based on the present pit design and supporting infrastructure layout the only farm portion not earmarked for development is the far south-western portion (±292 ha) of the Remainder of Makganyane No 667 as presented in the following figure.

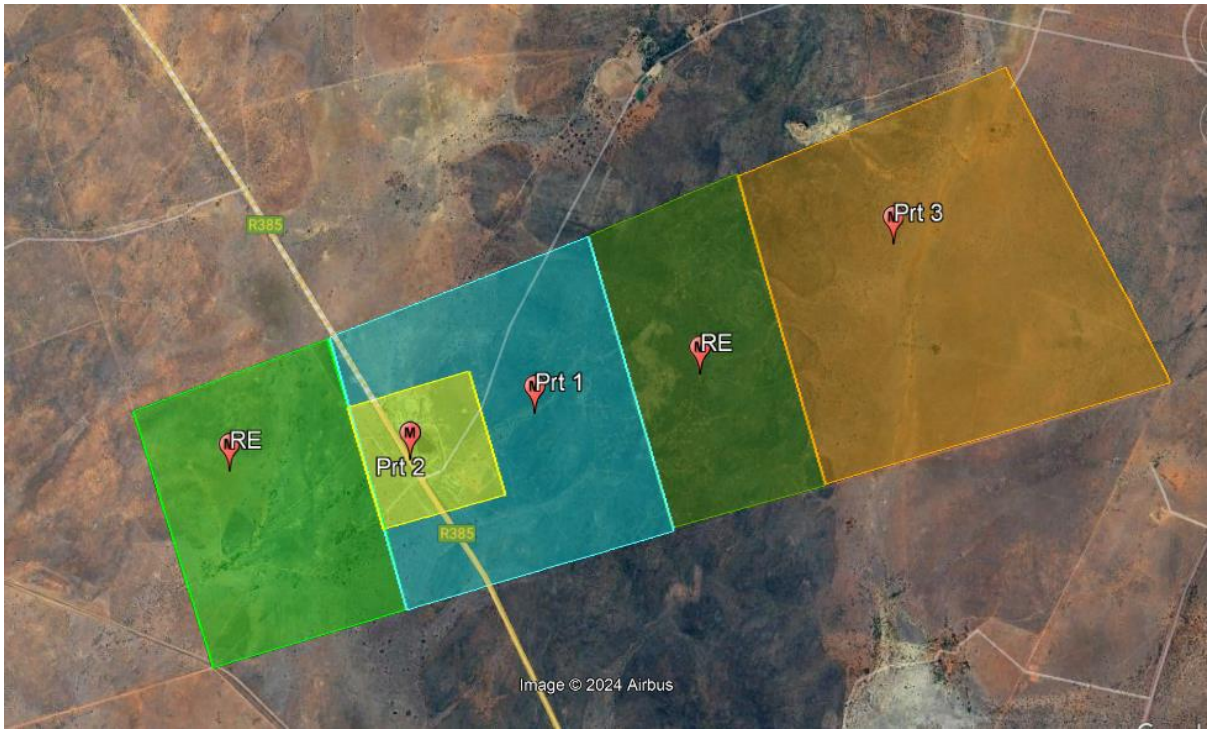


Figure 3: Satellite view of the south-western portion (light green polygon) of the Remainder of Makganyane No 667 presently not earmarked for development

2.2.2 Design and Layout

The present layout of the proposed mining footprint is depicted in Figure 2.

As mentioned earlier, the open pit mining operations were looked at in terms of primary ore for the operation, with the aim to support a sustainable mining approach that considers optimised extraction of the resources. The present project design presents the best-case scenario based on the geological and feasibility results. The following two design/layout options (discussed in more detail below) were considered by the project team during the planning phase:

- Option 1: Phase 1 & 2 Scenario
- Option 2: Phase 1 – 4 Scenario

OPTION 1: Phase 1 & 2 Scenario

The Phase 1 & 2 design scenario includes the open cast mining of only two pits referred to as Pit 1 and Pit 2. The LoM schedule for this scenario is over 38 months.

The MWP notes that the geological setting of the ore bodies does not allow for a faster ramp up period as the ore bodies that were identified do not sub-outcrop on the surface. Hence a fair amount of overburden and topsoil needs to be removed before the ore can be accessed. Free digging is limited but can be done up to ±5 m in vertical depth whereafter blasting will be required. For Phase 1 & 2 the selected go forward case shown in the following figure, waste production will build up to 1,9 million tonnes per month in month 4. Continue at this rate for another 6 months when first ore will be reached, with an average of 250 000 tonnes per month. The open pits will have an initial aggressive waste stripping requirement to open the ore horizon. Waste stripping will continue for the full period of the project up to month 28 from where it will drop to month 38 when life of mine is complete.

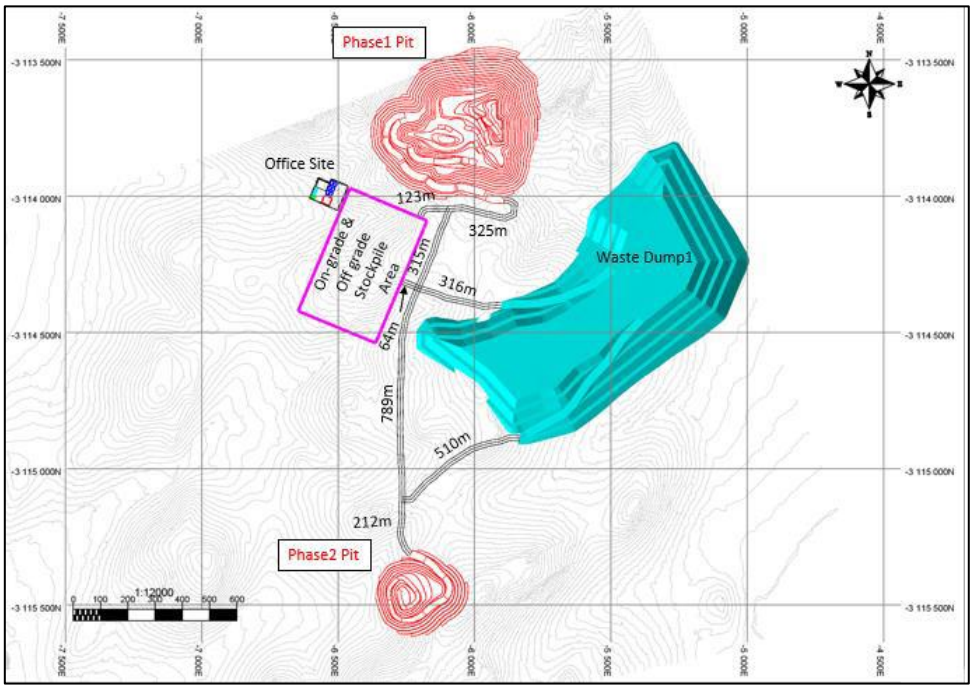


Figure 4: Preferred layout of Pit 1 (north) and Pit 2 (south) (image obtained from the MWP)

OPTION 2: Phase 1 – 4 Scenario

The Phase 1 – 4 scenarios entail the mining of Pit 1 and Pit 2 with an eventual Phase 3 and 4 extension of the two pits (respectively) as presented in the following figure. Initially, this scenario indicated some sound approaches by targeting pushback areas (Phase 3 and 4) on Pits 1 and 2, but it was not economically viable due to increased waste mining that would be required. Therefore, this scenario was not pursued further.

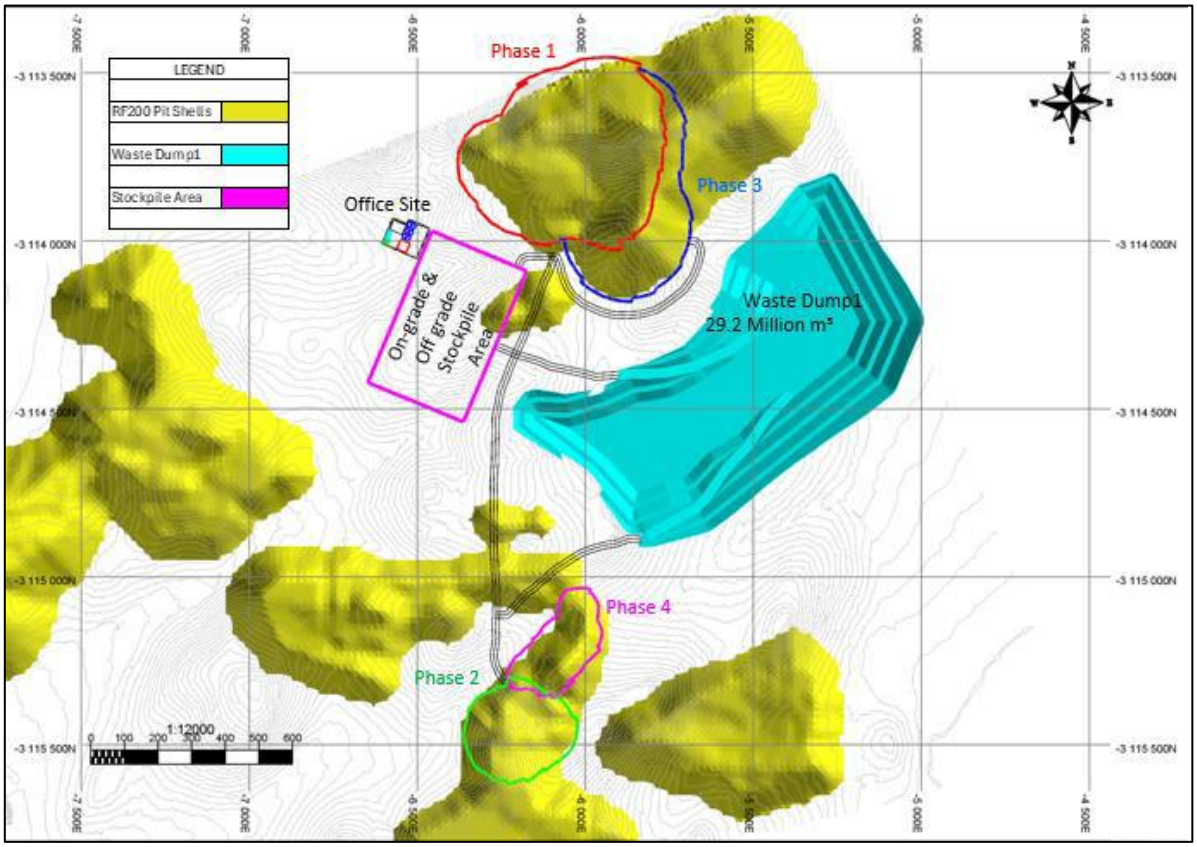


Figure 5: Alternative layout of mining area through phases 1 - 4 (image obtained from the MWP)

Final Design/Layout Proposal

Apart from the two scenarios discussed above, it is expected that the present mine design/layout may have to be altered upon receipt of the specialist reports.

The owner of Portion 3 of the farm Makganyane No 667, also requested that alternative layouts/locations must be considered for the proposed waste rock dump, as the current position may impact the grazing capacity of the farm.

The final design/layout alternatives will be considered during the EIA process as supplementary information is obtained from the specialist studies, and the stakeholders and I&APs contribute their knowledge towards the proposed project.

2.2.3 Technology

Presently it is expected that the mining process will be as described in Section 1(d)(ii) Description of the activities to be undertaken – Operational Phase. This project does not require complex technology to allow the winning of the intended mineral/s, nor will processing take place on site and therefore no further technology alternatives will be considered in the Scoping and EIA process unless a need arises upon receipt of the specialist reports and/or public input.

2.2.4 No-Go Alternative

The “no-go” alternative is the option of not constructing the proposed Makganyane Mining Right. The implementation of the proposed project is expected to result in several positive and negative socio-economic impacts. Most negative impacts identified for the project are associated with the construction phase of the project, while the positive impacts are associated with both the construction and operation phases of the project.

Potential negative social impacts associated with the construction and operation of the project include the following:

- Potential influx of job seekers and an associated change in population and increase in pressure on basic services;
- Potential safety and security impacts;
- Potential impacts on daily living and movement patterns; and
- Potential nuisance impacts (noise and dust).

Potential positive social impacts associated with the construction and operation of the project include the following:

- Potential direct and indirect employment opportunities;
- Skills development and training; and
- Potential economic multiplier effect.

The impacts of pursuing the “no-go” alternative can therefore be summarised as follows:

- The benefits would be that there is no disruption from nuisance impacts (noise and dust during construction), visual impacts and safety and security impacts. The impact is therefore neutral.
- There would also be an opportunity loss in terms of limited job creation, skills development, community upliftment and associated economic business opportunities for the local economy. This impact is considered to be negative.

The no-go alternative entails no change to the status quo and is therefore a real alternative that must be considered. If the no-go alternative is implemented the land use of the earmarked footprint will remain that of agriculture, and livestock farming with the manganese, iron and diamond resources unmined. The no-go option will further entail a loss of employment opportunities, as well as socio-economic benefits and growth development opportunities.

Given the high levels of unemployment and poverty in the Tsantsabane district the loss of such opportunities is considered significant.

2.3 Study Objectives

The primary objective of this SEIA is to identify, evaluate, and propose mitigation measures for the potential socio-economic impacts associated with the proposed Makganyane Mining Right. The SEIA is a critical component of the comprehensive EIA process, providing valuable insights into the socio-economic implications of the proposed development.

The specific objectives of the SEIA include:

- Understanding the Socio-economic Context: To gain a comprehensive understanding of the socio-economic environment within the project area, including demographic characteristics, economic activities, socio-economic infrastructure, and key socio-economic issues.
- Identifying Stakeholders: To identify key stakeholders, including local communities, government agencies, non-governmental organisations, and other relevant parties who may be affected by or have an interest in the proposed project.
- Assessing Potential Socio-economic Impacts: To identify and assess potential socio-economic impacts, both positive and negative, that may arise from the proposed project. This includes impacts on employment, local economy, community health and safety, cultural heritage, and socio-economic cohesion.
- Developing Mitigation Measures: To propose effective and practical mitigation measures for any negative socio-economic impacts identified, and strategies to enhance positive impacts.
- Compliance with Legislation and Guidelines: To ensure that the SEIA is conducted in accordance with relevant legislation, guidelines, and best practices, including the principles of socio-economic sustainability and social justice.
- Engaging with Stakeholders: To facilitate meaningful engagement with stakeholders throughout the SEIA process, ensuring that their views and concerns are adequately considered and addressed.

The SEIA aims to provide a robust and comprehensive analysis that will inform decision-making and contribute to the sustainable development of the proposed Makganyane Mining Right. It is committed to promoting socio-economic equity, enhancing social well-being, and ensuring that the benefits of the project are shared equitably among all stakeholders.

3 Legislation and Policy Review

From an environmental and social standpoint, the proposed project must adhere to all applicable requirements set forth by the National Environmental Management Act, 107 of 1998 (NEMA) and its amendments, the Minerals and Petroleum Resources Development Act, 28 of 2002 (MPRDA) and its amendments, and the National Water Act, 36 of 1998 (NWA).

While current South African legislation relevant to mining and environmental protection does not specifically address SEIAs, it does provide detailed guidelines on the scope, depth, and timelines for public participation and stakeholder engagement during the EIA and Environmental Management Plan (EMP) processes. This section outlines the key elements of national legislation pertinent to conducting a socio-economic assessment for a mining project in South Africa.

3.1 National Legislation and Guidelines

The following documentation provides national policy guidelines:

- Constitution of the Republic of South Africa, 108 of 1996;
- National Environmental Management Act, 107 of 1998 (NEMA);
- Minerals and Petroleum Resources Development Act, 28 of 2002 (MPRDA);
- South African Mining Charter, 2018
- The Department of Mineral Resources Consultation Guidelines
- Mine Health and Safety Act, 29 of 1996;
- White Paper on Local Government (1998);
- Municipal Systems Act, 32 of 2000;
- The Development Facilitation Act (DFA), 67 of 1995;
- Extension of Security of Tenure Act (ESTA), 62 of 1997;
- Restitution of Land Rights Act, 22 of 1994;
- Traditional Leadership and Governance Framework Amendment Act, 2003 and Council of Traditional Leaders Act, 1997; and

3.1.1 Constitution of the Republic of South Africa (Act 108 of 1996);

Section 24 of the South African Constitution (the Constitution) provides that everyone has the right to an environment that is not harmful to their health or well-being and to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures, that –

- Prevent pollution and ecological degradation;
- Promote conservation; and

- Secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.

Section 25 of the Constitution provides that expropriation of property is permissible to effect land redistribution, or in order to achieve some other public purpose or for the public interest.

However, Section 25 prohibits arbitrary deprivation of property as well as the expropriation of property without payment of just and equitable compensation, which has either been agreed upon or which has been decided by a court of law.

Aligning the proposed Makganyane Mining Right Project with these constitutional provisions not only ensures compliance with South African law but also promotes long-term sustainability and community well-being, enhancing the project's legitimacy and support among stakeholders.

3.1.2 National Environmental Management Act, 107 of 1998 (NEMA)

This legislation is South Africa's key piece of environmental legislation and sets the framework for environmental management in South Africa. NEMA is founded on the principle that everyone has the right to an environment that is not harmful to their health or well-being, as contained within the Bill of Rights.

The national environmental management principles state that the social, economic and environmental impacts of activities, including disadvantages and benefits, must be considered, assessed and evaluated, and decisions must be appropriate in light of such consideration and assessment.

The need for responsible and informed decision-making by the government on the acceptability of environmental impacts is therefore encompassed within NEMA.

By aligning the proposed Makganyane Mining Right Project with NEMA's principles, project managers and decision-makers can ensure that the project is conducted in an environmentally responsible manner, balancing development goals with the preservation of environmental and public health.

3.1.3 Minerals and Petroleum Resources Development Act, 28 of 2002 (MPRDA)

Upon the acceptance of an application for a mining right or mining permit, the applicant is required to prepare an EMPr in accordance with requirements of the MPRDA, to mitigate both bio-physical and social impacts of the proposed development. The MPRDA furthermore requires that mining companies assess the social impacts of their activities from start to closure and beyond. Companies must also develop and implement a comprehensive Social and Labour Plan (SLP) in conjunction with the application of a Mining Right to promote socio-economic development in their host communities and to prevent or lessen negative social impacts.

The mine SLP shall ensure, amongst others, training and career progression of its employees, and in particular, Historically Disadvantaged South Africans (HDSAs), as well as the participation of women in mining. The MPRDA furthermore requires that the SLP provide

strategies and measures that could prevent job loss in the event of circumstances threatening guaranteed employment.

3.1.4 South African Mining Charter, 2018

The Mining Charter focuses on the sustainable transformation of the mining industry. Social management and mitigation measures to be developed as part of the SEIA will be aligned to the Mining Charter. Amongst other objectives, the Mining Charter seeks to promote equitable access to the nation's mineral resources to all the people of South Africa, meaningfully expand opportunities for HDSAs to enter the mining and minerals industry and to benefit from the exploitation of the nation's mineral resources, utilise and expand the existing skills base for the empowerment of HDSAs and to serve the community, and promote employment and advance the social and economic welfare of communities and major labour sending areas.

By embedding these principles and objectives into the project's operations, the proposed Makganyane Mining Right Project can align with the 2018 Mining Charter's goal of transforming the mining sector into a more inclusive and beneficial industry for all South Africans, particularly focusing on empowerment and sustainable development.

3.1.5 The Department of Mineral Resources Consultation Guidelines

The Department of Mineral Resources Consultation Guidelines emphasise the importance of engaging with Interested and Affected Parties (IAPs) during the application process for prospecting and mining rights. These guidelines are directly relevant to the proposed Makganyane Mining Right project in the Tsantsabane Local Municipality, as they outline the necessity of including a broad range of stakeholders in the consultation process.

3.1.6 Mine Health and Safety Act, 29 of 1996

This Act is administered by the Mine Health and Safety Inspectorate of the DMR. The sections of the Act applicable to socio-economic aspects are sections 2 and 5, which provide that employers must ensure and maintain a safe and healthy environment during construction, operation, decommissioning and closure of the project.

Adherence to the Mine Health and Safety Act is not only a legal necessity but also a fundamental component of responsible mining practices. For the proposed Makganyane Mining Right project within the Tsantsabane Local Municipality, it forms a crucial part of ensuring that the mining activities are conducted safely and sustainably, aligning with both legal standards and socio-economic objectives within the community.

3.1.7 White Paper on Local Government (1998)

This White Paper sets the framework for a developmental local government system that is committed to working with citizens, groups and communities to create sustainable human settlements, which provide for a decent quality of life and meet the social, economic and material needs of communities in a holistic fashion.

3.1.8 Municipal Systems Act, 32 of 2000

The Municipal Systems Act provides for the principles, mechanisms and processes that are necessary to enable municipalities to move progressively towards the social and economic upliftment of local communities, and to ensure universal access to essential services that are affordable to all.

The proposed Makganyane Mining Right project has the potential to align with and support the objectives outlined in the Municipal Systems Act by contributing to the socio-economic upliftment of the Tsantsabane Local Municipality. Effective implementation of this alignment requires proactive engagement with local authorities and the community to ensure that the project not only meets legal and regulatory requirements but can also positively contribute to the municipality's goals of social and economic development.

3.1.9 The Development Facilitation Act, 67 of 1995 (DFA)

This Act sets out the principle that policy, administrative practice and laws should support effective integrated planning, optimal use of existing resources, the promotion of sustainable development, and the requirement that land use should be judged on its merits.

The Development Facilitation Act provides a comprehensive framework that the proposed Makganyane Mining Right project must adhere to, ensuring that the project not only supports local and regional development goals but also adheres to principles of sustainability and equitable land use. By aligning with the DFA, the proposed project can enhance its legitimacy, ensure greater community buy-in, and contribute positively to the socio-economic fabric of the Tsantsabane Local Municipality.

3.1.10 Extension of Security of Tenure Act, 62 of 1997 (ESTA)

This Act confers certain rights to non-landowning residents of a property, where such rights are linked to the period of time in which persons have been resident on the land. The Act applies to all rural areas in South Africa, regardless of whether the land is used for farming or mining purposes. No occupier can be evicted unless the provisions of ESTA have been strictly followed and a Court Order has been obtained.

The ESTA imposes specific obligations on the proposed Makganyane Mining Right project, emphasising the protection of non-landowning residents in the project area. Compliance with ESTA is not only a legal requirement but also a critical component of ethical business practices and community relations in rural South Africa. Ensuring adherence to the Act will be pivotal in mitigating socio-economic impacts and fostering a positive and cooperative relationship with the local community.

3.1.11 Restitution of Land Rights Act, 22 of 1994

This Act provides for the restitution of rights in land, for which people and communities were dispossessed under any racially based discriminatory law; to establish a Commission on Restitution of Land Rights and a Land Claims Court.

The Restitution of Land Rights Act directly impacts the proposed Makganyane Mining Right project by necessitating a thorough review and resolution of any land claims associated with

the project site. Adhering to the Act not only ensures compliance with South African law but also demonstrates a commitment to rectifying historical injustices and improving the livelihoods of affected communities. Effective management of these issues is crucial for the sustainable and ethical operation of mining activities in the region.

3.1.12 Traditional Leadership and Governance Framework Amendment Act, 2003 and Council of Traditional Leaders Act, 1997

These two acts provide for the recognition and establishment of traditional communities and councils and provide a framework for traditional leadership and the roles and responsibilities of this leadership.

Respecting the Traditional Leadership and Governance Framework Amendment Act, 2003, and the Council of Traditional Leaders Act, 1997, is imperative for the successful implementation of the proposed Makganyane Mining Right project. These acts provide a crucial framework for engaging with traditional authorities and ensuring that the project proceeds in a manner that is respectful, legally compliant, and beneficial to all stakeholders involved.

3.2 Provincial Policy

Relevant policy and planning documents on provincial level include:

- Northern Cape Spatial Development Framework (PSDF) (2023)
- Northern Cape Provincial Strategic Plan (2019-2024)

3.2.1 Northern Cape Spatial Development Framework (PSDF) (2023)

The proposed Makganyane Mining Right Project aligns with the principles of the Northern Cape Provincial Spatial Development Framework (NCPSDF) by promoting mineral-based rural development, local employment, and land use optimisation. Infrastructure includes two open pits, a crusher, internal haul roads, a waste rock dump, and site offices, developed in phases with progressive rehabilitation. Environmental sensitivities—such as protected vegetation and biodiversity areas will be assessed through detailed specialist studies during the EIA phase. The project's commitment to responsible land use, job creation, and phased rehabilitation ensures alignment with provincial spatial planning priorities and long-term sustainability objectives.

3.2.2 Northern Cape Provincial Strategic Plan (2019-2024)

The proposed development in the Tsantsabane Local Municipality—whether mining, energy, or infrastructure-focused—aims to enhance local economic development, improve access to services, and create sustainable employment opportunities in a predominantly rural area. Postmasburg, as the municipal hub, plays a central role in facilitating investment and service delivery for surrounding communities.

This project aligns with the Northern Cape Strategic Plan (2020–2025), which emphasises inclusive growth, economic transformation, and improved human welfare. It supports the province's focus on mining and infrastructure development as key economic drivers, while

addressing the strategic priorities of job creation, poverty reduction, and basic service delivery. By contributing to the province's Provincial Growth and Development Plan goals, particularly under Driver 1: Economic Transformation and Driver 2: Social Transformation, the project advances the broader vision of a "Modern, Growing and Successful Province.

3.3 District and Local Municipalities Policies

The strategic policies at a district and local level have similar objectives for the respective areas, namely, to accelerate economic growth, create jobs, and uplift communities. The proposed Makganyane Mining Right is considered to align with the aims of these policies, even if contributions to achieving the goals therein are only minor.

A brief review of the most relevant district and local municipal policies is provided below:

- ZF Mgcawu District Municipality Integrated Development Plan (IDP) 2022-2027
- Tsantsabane Local Municipality Integrated Development Plan (IDP) 2022/2027

3.3.1 ZF Mgcawu District Municipality Integrated Development Plan (IDP) 2022-2027

The proposed Makganyane Iron Ore Mine, located within the Tsantsabane Local Municipality, supports the ZF Mgcawu District Municipality's vision of service delivery excellence by contributing to key performance areas such as financial viability, institutional development, and local economic growth. The project will attract private investment and stimulate economic activity through job creation, local procurement, and the development of supporting infrastructure. It further enhances institutional capacity through compliance with environmental legislation and coordination with regulatory authorities. By providing infrastructure such as haul roads, crushing plants, and water storage dams, the project indirectly strengthens service delivery in the region. In addition, its commitment to progressive rehabilitation and inclusive public participation promotes good governance and accountability. Overall, the Makganyane Mine contributes to the district's strategic goals by advancing financial sustainability, infrastructure development, economic upliftment, and transparent, participatory governance.

3.3.2 Tsantsabane Local Municipality Integrated Development Plan (IDP) 2022/2027

The proposed Makganyane Mining Right project in the Tsantsabane Local Municipality aligns with several objectives outlined in the Integrated Development Plan (IDP) for 2022/27. The IDP emphasises economic growth and job creation, which the mining project can directly support by providing employment opportunities in both construction and operational phases. This initiative aligns with the IDP's goals to stimulate local economic development and reduce unemployment in the area.

Environmental sustainability is another core component of the IDP, and the Makganyane Mining Right project addresses this through its commitment to minimal environmental impact. The project plans to use mobile and temporary infrastructure to reduce its environmental footprint and has incorporated plans for site rehabilitation post-mining, adhering to local environmental regulations and the need for environmental and water use licenses.

The project also proposes the development of temporary roads and other infrastructure enhancements, which, while primarily serving the mining operations, align with the IDP's infrastructure improvement objectives.

Community engagement and inclusion are crucial, as the IDP highlights the importance of public participation and community involvement in development projects. The Applicant will need to engage effectively with local communities to ensure the project aligns with community needs and expectations, addressing potential impacts and ensuring equitable distribution of benefits.

Overall, the Makganyane Mining Right project has the potential to contribute to the socio-economic development goals outlined in the IDP of the Tsantsabane Local Municipality. However, its success will depend heavily on effective implementation, adherence to environmental and social governance standards, and robust community engagement. These efforts are essential to ensure the project delivers substantial benefits while minimizing any adverse impacts.

3.4 Policy Result

From the review of various South African legislative frameworks regarding the proposed Makganyane Mining Right project in the Tsantsabane Local Municipality, several conclusions emerge. Firstly, the project demands stringent adherence to a broad spectrum of laws, ranging from environmental protection (Mine Health and Safety Act) to socio-economic equity (Municipal Systems Act, Development Facilitation Act) and land rights (Restitution of Land Rights Act, Extension of Security of Tenure Act). This legislation ensures that the project's operations are compliant, ethically grounded, and aligned with national development objectives.

Effective engagement with local communities, authorities, and stakeholders is important, as highlighted across multiple legislations. This ensures that the mining activities address the needs and respect the rights of those affected. The project is positioned to benefit the local economy through job creation and infrastructure development, with a legislative emphasis on ensuring these benefits are equitably shared.

Furthermore, there's a clear mandate for environmental and cultural responsibility, necessitating sustainable practices and respectful land use planning that honours the area's cultural significance. Conflict management must be proactive, utilising legal frameworks to maintain harmony and resolve disputes effectively. Finally, strategic and ethical planning is essential for the project's long-term success, integrating all these legislative requirements into every stage of project execution to mitigate future challenges and maximise benefits for all stakeholders. This comprehensive approach is not merely about legal compliance but about fostering a responsible, beneficial, and sustainable mining operation.

4 Approach and Methodology

4.1 Purpose of the Study

The International Principles for Socio-Economic Impact Assessment define SEIA as "The processes of analysing, monitoring and managing the intended and unintended socio-economic consequences, both positive and negative, of planned interventions (policies, programs, plans, projects) and any socio-economic change processes invoked by those interventions".

The International Principles for Socio-Economic Impact Assessment define socio-economic impacts as changes to one or more of the following:

- People's way of life – that is, how they live, work, play and interact with one another on a day-to-day basis.
- Their culture – that is, their shared beliefs, customs, values and language or dialect.
- Their community – its cohesion, stability, character, services and facilities.
- Their political systems – the extent to which people are able to participate in decisions that affect their lives, the level of democratisation that is taking place, and the resources provided for this purpose.
- Their environment – the quality of the air and water people use, the availability and quality of the food they eat, the level of hazard or risk, dust and noise they are exposed to, the adequacy of sanitation, their physical safety, and their access to and control over resources.
- Their health and wellbeing – health is a state of complete physical, mental, socio-economic, and spiritual wellbeing and not merely the absence of disease or infirmity.
- Their personal and property rights – particularly whether people are economically affected or experience personal disadvantage which may include a violation of their civil liberties.
- Their fears and aspirations – their perceptions about their safety, their fears about the future of their community, and their aspirations for their future and the future of their children.

The purpose of this SEIA Process is therefore to:

- Provide baseline information describing the socio-economic environment within which the project is proposed, and which may be impacted (both positively and negatively) as a result of the proposed development.
- Identify, describe, and assess possible socio-economic risks/fatal flaws and socio-economic impacts that may arise as a result of the proposed development (in terms of the detailed design and construction, operation, and decommissioning phases of the project).
- Recommend ways in which negative impacts can be avoided, minimised, or their significance reduced, and positive impacts maximised or enhanced.

4.2 Approach to Study

These guidelines are based on international best practice. The key activities in the SEIA process embodied in the guidelines include:

- Describing and obtaining an understanding of the proposed intervention (type, scale, and location), the settlements, and communities likely to be affected by the proposed project.
- Collecting baseline data on the current social and economic environment.
- Identifying the key potential socio-economic issues associated with the proposed project. This requires a site visit to the area and consultation with affected individuals and communities.
- Assessing and documenting the significance of socio-economic impacts associated with the proposed intervention.
- Identifying alternatives and mitigation measures.
- A site visit will be undertaken during the Assessment Phase of the SEIA. The site visit will include consultation and surveys with interested and affected parties.
- Preparation of a SEIA for inclusion in the EIA Report to be prepared for the project.

4.2.1 Collection and Review of Existing Information

Existing desktop information that has relevance to the proposed project, project area and/or surroundings was collected and reviewed. The following information was examined as part of this process:

- Project maps and layouts.
- Google Earth imagery.
- A description of the project (as provided by the project proponent).
- Responses to questions posed to the project proponent regarding employment and socio-economic upliftment and local economic development opportunities (as provided by the project proponent).
- Census Data (2022), and the Local Government Handbook (2019).
- Planning documentation such as Provincial Growth and Development Strategies (PGDSs), Local and District Municipality Integrated Development Plans (IDPs), Spatial Development Frameworks (SDFs), and development goals and objectives.
- Relevant legislation, guidelines, policies, plans, and frameworks.
- Available literature pertaining to socio-economic issues associated with the development, operations, and associated infrastructure.

The identification of potential socio-economic issues associated with the proposed Makganyane Mining Right is based on primary and secondary information about the area and visits to the relevant communities by field workers/members of the SEIA study team.

4.2.2 Definition of Social Impacts

"The consequences to human populations of any public or private actions (including policies, programs, plans, and/or projects) that alter the ways in which people live, work, play, relate to one another, organise to meet their needs, and generally live and cope as members of society." These effects are felt at various levels, including the individual, family or household, community, organisation, or society. Some social impacts are physically felt by the body, whereas others are perceptual or emotional" (Vanclay, 2002).

When considering social impacts, keep in mind that socio-economic change is natural and ongoing when considering social impacts (Burdge, 1995). It's also important to realise that government and private sector policies, plans, programs, and projects can affect social change's pace and direction. Social impacts are often change processes (Vanclay, 2002). For instance, temporary construction workers don't affect society. However, their presence can increase anti-social behaviour and other socio-economic issues. Understanding processes with social impacts is Vanclay's approach. Socio-economic assessment specialists must consider the complex causal mechanisms that cause socio-economic impacts. Following impact pathways, or causal chains, and considering likely interactions can reveal the full range of impacts (Vanclay, 2002).

A SEIA should thus enable authorities, project proponents, individuals, communities, and organizations to understand and anticipate the potential socio-economic consequences of implementing a proposed policy, program, plan, or project. The SEIA process should inform communities and individuals about the proposed project and its potential socio-economic consequences, while also allowing them to assess the implications and identify potential alternatives. The assessment process should also alert proponents and planners to the likelihood and nature of socio-economic impacts, allowing them to anticipate and predict these impacts ahead of time, so that the assessment's findings and recommendations are incorporated into and inform the planning and decision-making process.

However, the issue of social impacts is complicated by the way in which different people from different cultural, ethic, religious, gender, and educational backgrounds, etc. view the world. This is referred to as the “social construct of reality”. The social construct of reality informs people’s worldview and the way in which they react to changes.

4.2.3 Timing of Social and Economic Impacts

Socio-economic impacts vary in both time and space. In terms of timing, all projects and policies go through a series of phases, usually starting with initial planning, followed by implementation (construction), operation, and finally closure (decommissioning). The activities, and hence the type and duration of the socio-economic impacts associated with each of these phases are likely to differ.

5 Socio-Economic Profile

5.1 Study Area Overview

This section outlines the relevant administrative context, the provincial socio-economic, and municipal contexts. It concludes with a description of the local context of the immediate surroundings of the proposed Makganyane Mining Right.

The proposed Makganyane Mining Right is situated approximately ~24km north-west of the town of Postmasburg within the Z F Mgcawu District Municipality and Tsantsabane Local Municipality in the Northern Cape Province in South Africa.

Table 2: Study Area Context for the Proposed Makganyane Mining Right

Province	Northern Province
District Municipality	Z F Mgcawu District Municipality (ZFMDM)
Local Municipality	Tsantsabane Local Municipality (TLM)
Ward number(s)	Ward 6
Nearest town(s)	Postmasburg (~24km north-west)
Current Zoning	Agriculture
Current land use	The land in question comprises 5-ha area on a portion of Remaining Extent of Farm 89, which is currently classified as natural grasslands with sparse vegetation, Cattle grazing was observed within the proposed development area.
Access	Presently it is proposed that the Makganyane Iron Ore Mine (MIOM) will be accessed from the existing R385 provincial road connecting Postmasburg and Olifantshoek.

This Chapter provides an overview of the socio-economic environment of the province, District Municipality (DM), and Local Municipality (LM) within which the Makganyane Mining Right is proposed and provides the socio-economic basis against which potential issues can be identified.

5.2 Site Specific Sensitivities

Table 3 presents a preliminary assessment of key socio-economic attributes identified in the study area which can be seen on Figure 7, their potential impacts, and proposed next steps for each attribute. The attributes have been identified based on a review of existing information, site visits, and initial stakeholder consultations. The table is intended to provide a structured framework for the ongoing SEIA process and will be further refined as the assessment progresses.

The Makganyane Mining Right presents both challenges and opportunities from a socio-economic perspective. Through a robust SEIA process, we aim to ensure that the development is socio-economically sustainable and contributes positively to the local socio-economic environment.

Table 3: Site Specific Sensitive Attributes Identified

Sensitive Attribute Identified	Description	Impact Associated	Risk/Opportunity	Next Steps
Rivers and Streams	The Soutloop River runs along the eastern portion of the Makganyane Mining Right area, with several non-perennial drainage lines traversing the site, particularly in the southern and central zones.	Disturbance of these hydrological features through infrastructure placement or pit expansion may reduce local water availability for livestock and informal agricultural use. This could negatively affect local livelihoods and increase tensions with neighbouring land users. Altered flow patterns may also have downstream consequences for other landholders who rely on seasonal runoff.	Risk	Implement the recommendations from the freshwater study conducted.
Main Access Roads	The R385 provincial road traverses the Makganyane Mining Right area and will serve as the primary access route for transporting construction materials, heavy machinery, and ore.	These will provide access for the components of the to be transported along, as well as for the workers to gain access, it is therefore important that public transport exists along these routes, which was confirmed during the site visit.	Opportunity	Implement the recommended traffic management plan to manage the increased traffic during construction and operation, ensuring minimal disruption to local communities.
Internal Farm Gravel Roads	Several informal gravel tracks exist within the Makganyane Mining Right area, historically used for farm access and livestock movement.	These upgrades may temporarily disrupt local access routes or grazing corridors but also offer opportunities for improved internal mobility and road infrastructure within the project boundary. Upgraded internal roads may facilitate more efficient access for both the developer and surrounding land users.	Opportunity	Implement the mitigation measures associated to the extent of the impact as recommended in Chapter 8.
Abandoned Buildings	The area has abandoned infrastructure including abandoned or heavily degraded buildings which appear to have been used for housing of farming staff.	These buildings are within the development footprint and could be utilised by the developer to provide temporary residence for developers or security. These buildings could also pose a security risk during construction for individuals using the access road or for locals in close proximity and special attention must therefore be given to utilising or securing these.	Risk/Opportunity	Implement the mitigation measures associated to the extent of the impact as recommended in Chapter 8.
Agricultural Development	The site is currently used for livestock and game farming, with low-intensity grazing forming the primary land use across much of the project area. Grazing activities are practiced informally on portions of the site by local land users	The development of mining infrastructure, including open pits, waste dumps, and haul roads, will reduce the available grazing land. This may result in displacement of livestock, conflict over land use, and disruption to existing agricultural livelihoods. There is also potential for increased theft of livestock and materials during construction due to increased movement of workers and limited perimeter control.	Risk	Implement the mitigation measures associated to the extent of the impact as recommended in Chapter 8.
Cattle Development				
Mixed Industrial	Small-scale commercial and light industrial activities are present in the wider Tsantsabane Local Municipality, particularly around Postmasburg and along regional transport routes. These include general dealers, informal traders, repair services, and light manufacturing operations.	Activities which could provide goods and services on a local scale to the developers during the construction and operational phases of development which will stimulate the local economy.	Opportunity	The extent of the impact and associated mitigation measures will be assessed within this SEIA.
Mixed Consumer				

Sensitive Attribute Identified	Description	Impact Associated	Risk/Opportunity	Next Steps
Mixed Mining	The surrounding region includes a number of operational and historically mined areas, such as the Kumba Heuningkranz Mining Right (south of the site), the Metseatsididi Diamond Mine (immediately north), and the Emang Mmogo Kathu Black Mine, located ~4.7km north-east of the proposed Makganyane Mining Right.	The development of the proposed mining right could result in a slight shift in local employment dynamics, as individuals associated with informal labour or neighbouring operations may seek opportunities during the construction or operational phases. However, the presence of multiple formal mining operations in the area means this shift is expected to be minimal.	Risk/Opportunity	Implement the mitigation measures associated to the extent of the impact as recommended in Chapter 8.
Towns and Settlements	The broader study area includes a few farmsteads scattered within a ~6 km radius of the proposed Makganyane Mining Right. The nearest formal settlement is Postmasburg, located ~22 km south-west, while smaller rural communities and worker accommodation associated with neighbouring mines and farms are situated within closer proximity.	Alternative employment opportunities will be provided to the local community members, although the employment opportunities are anticipated to be limited.	Opportunity	Implement the mitigation measures associated to the extent of the impact as recommended in Chapter 8.
Indigenous Peoples	It is assumed there are no indigenous communities directly impacted since the project will be located in a vacant plot outside the community.	No direct impacts anticipated. However, if there are unrecognised indigenous communities, they could be affected by the project.	Not applicable	No specific action needed unless new information about indigenous communities in the area becomes available.
Cultural Heritage	A Heritage Impact Assessment (HIA) conducted in 2019 over the Makganyane Mining Right area identified several isolated heritage features, including two informal cemeteries, a stone cairn that may indicate a pre-colonial burial site, and low-density scatters of stone tools considered to be of low significance.	While no formal heritage sites are directly impacted, the presence of burial grounds and possible pre-colonial markers introduces cultural sensitivity. If not appropriately managed, the disturbance of graves or culturally meaningful features could result in reputational, legal, and social risks. However, responsible site planning, respectful buffer implementation, and local stakeholder engagement offer opportunities for heritage preservation and awareness.	Opportunity	Implement heritage specialist recommendations to mitigate risks and ensure a harmonious integration of the stockpile into the landscape.

Photograph 1: Entrance to the Proposed Makganyane Mining Right Development Area

Photograph 2: Existing Infrastructure within the Proposed Makganyane Mining Right Development Area

Photograph 3: Abandoned Excavation Site within the Proposed Makganyane Mining Right Development Area

Photograph 4: Degraded Infrastructure within the Proposed Makganyane Mining Right Development Area

Photograph 5: Existing Mining Operation within the Surrounding Area

Photograph 6: Example of Industrial Development within Postmasburg

Photograph 7: View of R385 within Postmasburg

Photograph 8: View of Access Road

Figure 6: Site Photos

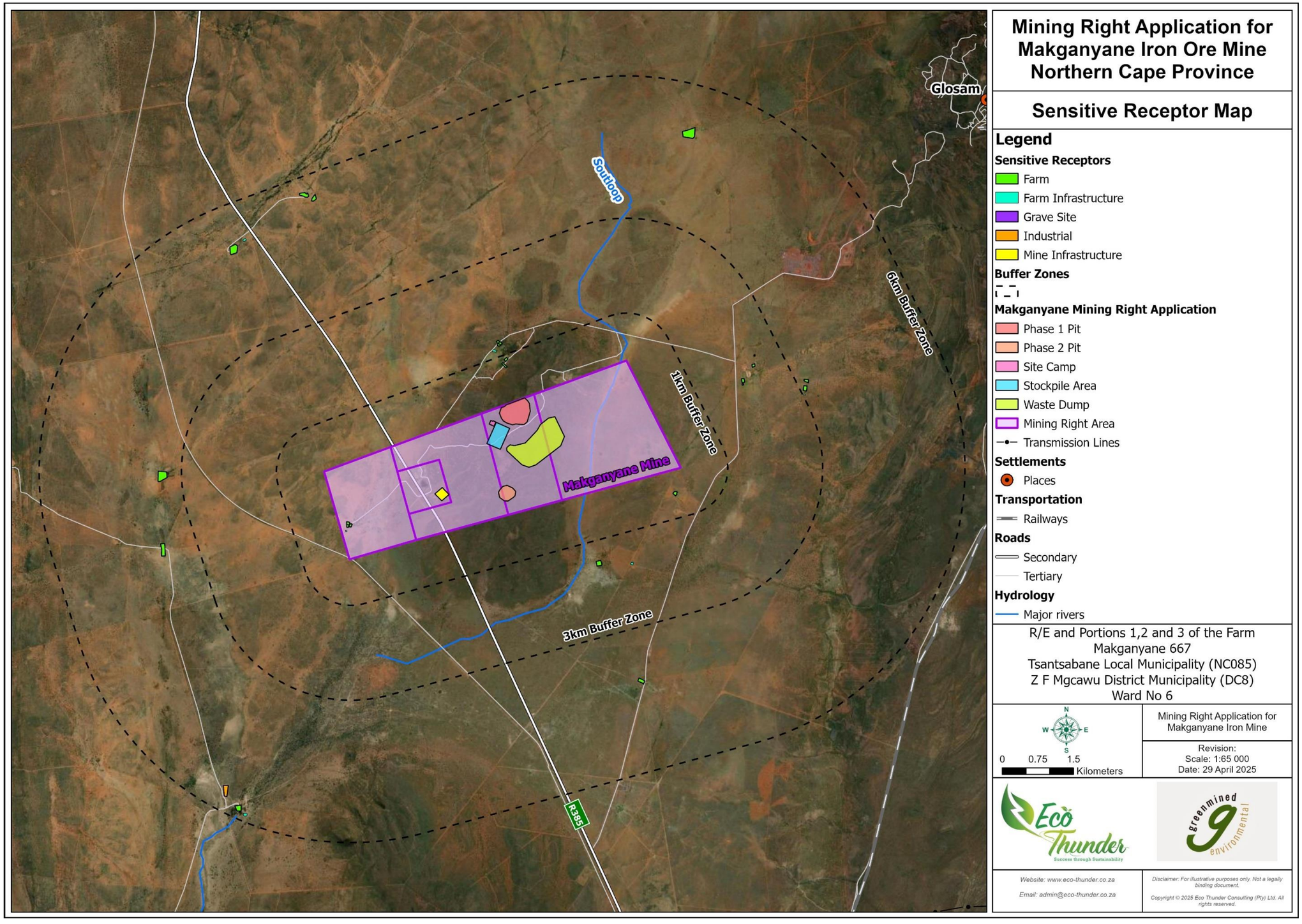


Figure 7: Overview of Sensitivities

5.3 Northern Cape Province

The Northern Cape is South Africa's largest province, covering 372,889 km², yet it is the least populated, with just under 1.2 million residents. It borders Namibia and Botswana, with the Atlantic Ocean forming its western edge. The capital is Kimberley, with key towns including Upington, Springbok, Kuruman, and De Aar. The province is rich in minerals such as diamonds, iron ore, copper, and manganese, and hosts the Sishen Mine and the historic Okiep copper mine.

Agricultural activity is concentrated in the Orange River Valley, particularly around Upington, Kakamas, and Keimoes, where grapes and fruit are cultivated. Sheep farming dominates the arid Karoo interior, with wheat, peanuts, and cotton produced near Warrenton under the Vaalharts Irrigation Scheme. The Northern Cape is administratively divided into five district municipalities and 26 local municipalities.

Limpopo, South Africa's northernmost province, shares borders with Mozambique, Zimbabwe, and Botswana, as well as several other provinces. Named after the Limpopo River, it features diverse landscapes from bushveld and mountains to forests and farmlands and includes the northern half of the renowned Kruger National Park.

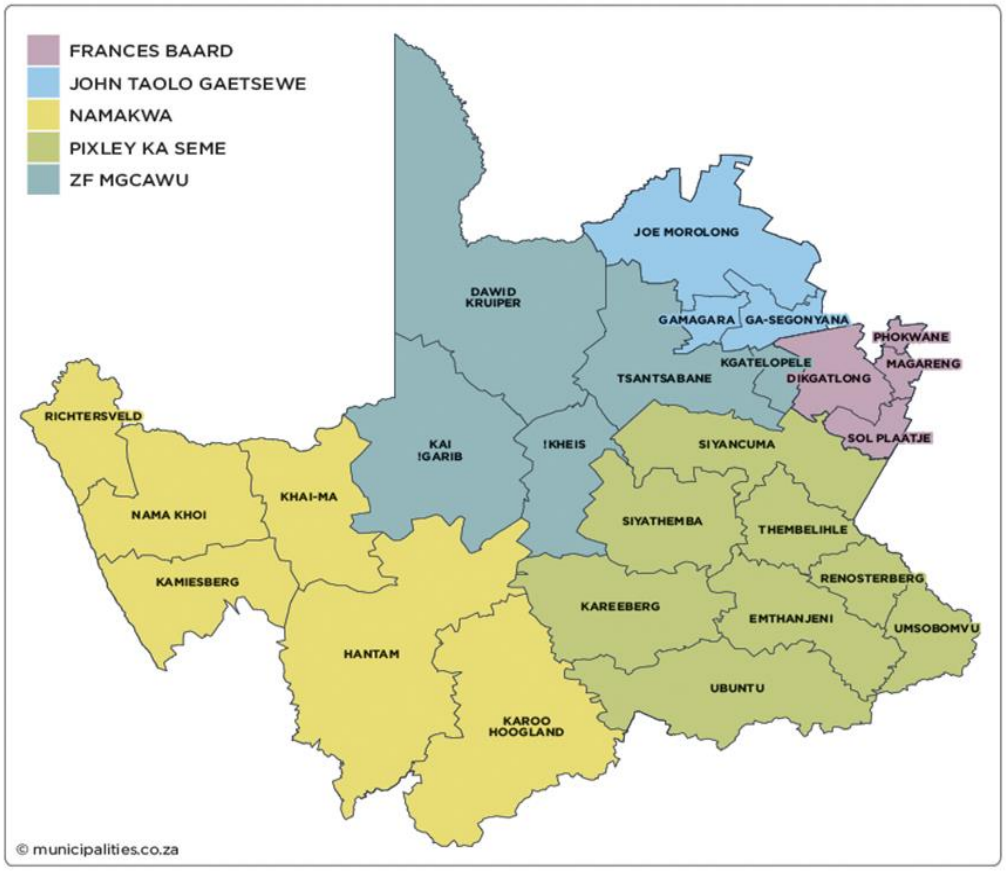


Figure 8: Map showing the districts of the Northern Cape Province
(Source: www.municipalities.co.za)

5.3.1 Population

The Northern Cape has the smallest population in South Africa, with the population of 1 303 047 in 2021, which has been increasing through the years, similarly to 7 other provinces. The population growth rate has been on a decline through the years, this meaning that population is growing but at a slower rate, especially comparative to the growth rate seen in 2010. As the population number is forever increasing, it means there will be more demand for public goods such as water, housing, energy, healthcare, transportation and more.

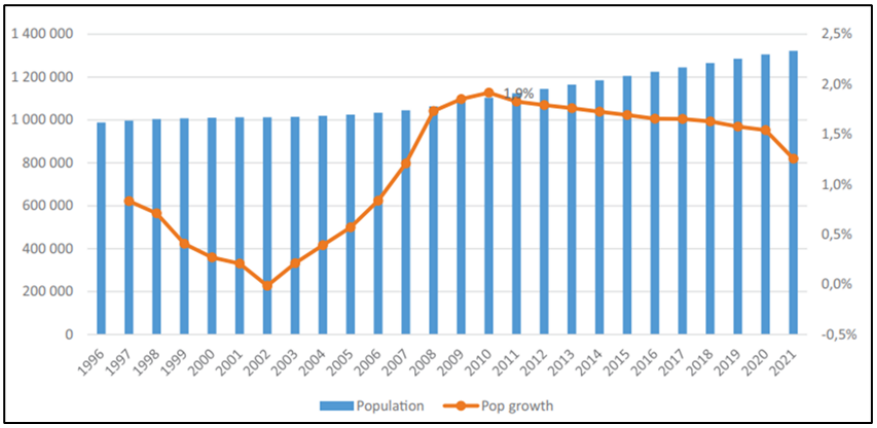


Figure 9: Northern Cape Total Population Growth Rate

In terms of the district distribution of the Northern Cape population, majority of the province population resides Frances Baard District Municipality, contributing 32.3% to the provincial municipality. It is followed by ZF Mgcawu, John Taolo Gaetsewe and Pixley Ka Seme District Municipalities, contributing 21.4%, 19.1% and 16.6% to the provincial population respectively. The lowest population in the province is found in Namakwa District Municipality which contributes 10.6% to the population.

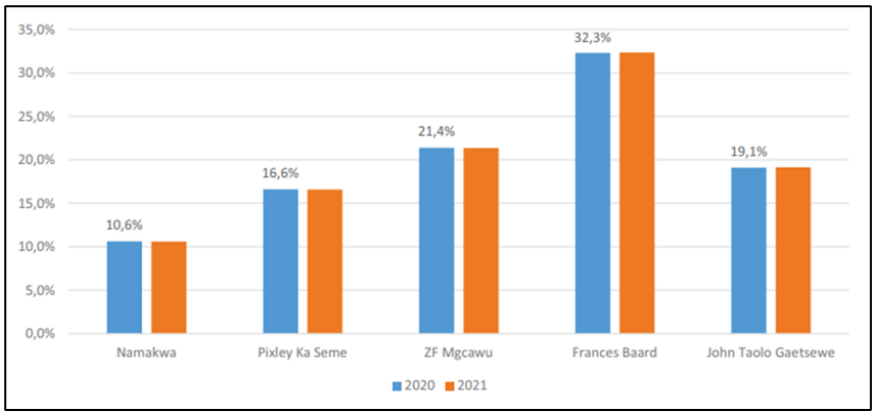


Figure 10: Population Structure of the Northern Cape Province

Northern Cape population in terms of age structure tend to follow similar pattern as that of the country, dominated by people of young age or youth, with majority of the population younger than 15. In the age group of 0-14 and 25-34 are dominated by males. From the age group of 75+ the Northern Cape population is dominated by females; this could be the contributing factor to the decreased population growth rate.

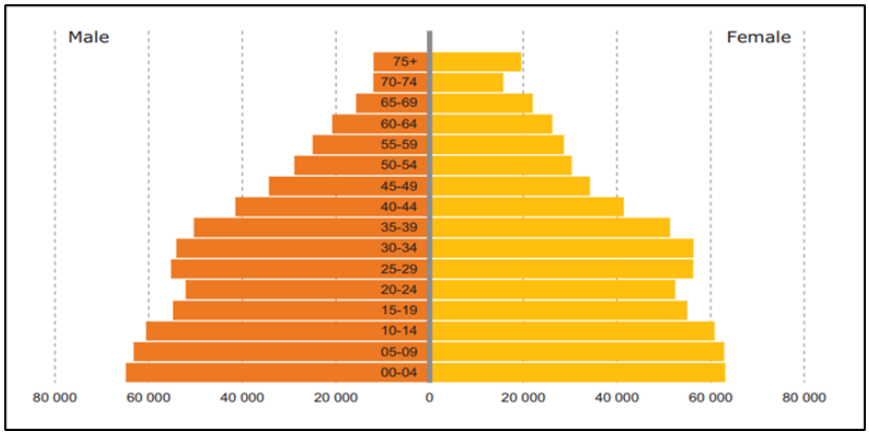
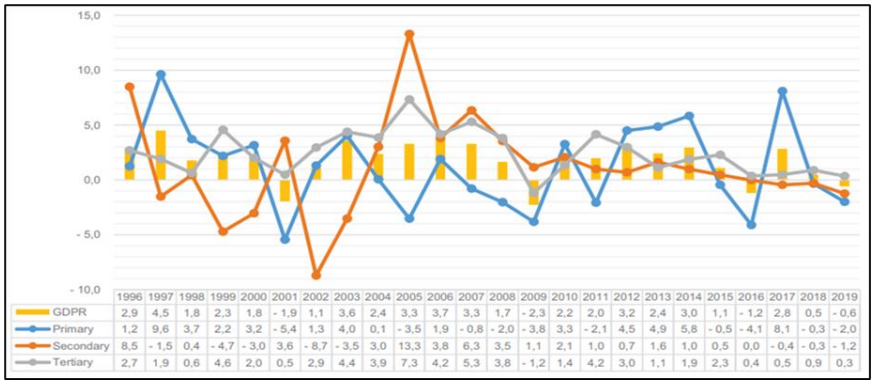


Figure 11: Population Pyramid of the Northern Cape Province

5.3.2 Economy

The Northern Cape's economy shrank by 0.6% in 2019, which was worse than the national economic growth of 0.2% in the same period. This decline was driven by seven sectors experiencing negative growth. Agriculture saw the biggest decline at -6.5%, followed by construction at -2.5%, and trade at -1.4%. Despite being the largest contributor to the provincial economy, mining also saw a decrease of -0.9%. Only finance, government services, and personal services prevented a more significant economic decline in the province.



	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
GDPR	2,9	4,5	1,8	2,3	1,8	- 1,9	1,1	3,6	2,4	3,3	3,7	3,3	1,7	- 2,3	2,2	2,0	3,2	2,4	3,0	1,1	- 1,2	2,8	0,5	- 0,6
Primary	1,2	9,6	3,7	2,2	3,2	- 5,4	1,3	4,0	0,1	- 3,5	1,9	- 0,8	- 2,0	- 3,8	3,3	- 2,1	4,5	4,9	5,8	- 0,5	- 4,1	8,1	- 0,3	- 2,0
Secondary	8,5	- 1,5	0,4	- 4,7	- 3,0	3,6	- 8,7	- 3,5	3,0	13,3	3,8	6,3	3,5	1,1	2,1	1,0	0,7	1,6	1,0	0,5	0,0	- 0,4	- 0,3	- 1,2
Tertiary	2,7	1,9	0,6	4,6	2,0	0,5	2,9	4,4	3,9	7,3	4,2	5,3	3,8	- 1,2	1,4	4,2	3,0	1,1	1,9	2,3	0,4	0,5	0,9	0,3

Figure 12: Northern Cape GDPR and Sectoral Growth Rates

The figure above shows how different industries contributed to the province's economy from 1996 to 2019. The tertiary industries, like services, were the biggest contributors, followed by primary industries, like agriculture. The province's economy was estimated at R 103 billion in 2019, which is a slight improvement from 2018. The GDP figures for 2019 show a gradual growth improvement, with a nominal GDP of R 103 billion, compared to R 100 million in 2018. However, in constant GDP figures, the economy declined by 0.6%, from R 68.9 billion in 2018 to R 68.4 billion in 2019.

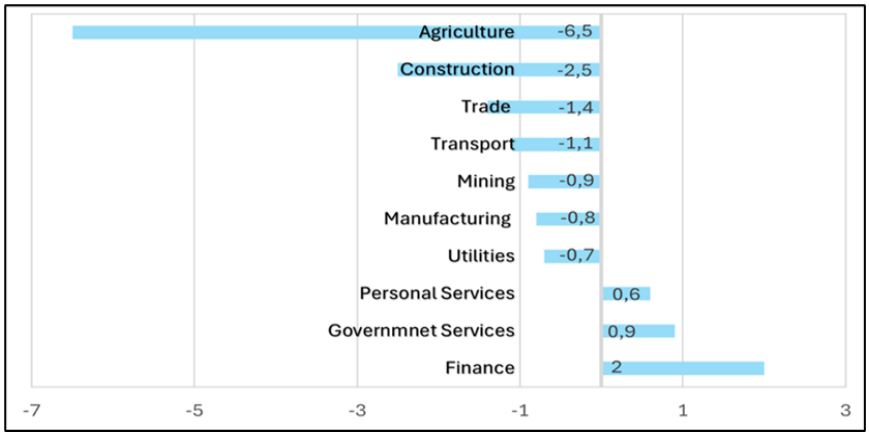


Figure 13: Northern Cape Sectoral Growth 2019

In 2020, the Frances Baard district remained the largest contributor to the provincial economy, accounting for an estimated 32.0%. Following closely behind is the ZF Mgcawu district, contributing around 28.0%. Despite being key districts in the industrialization drive through the Northern Cape Industrial Corridor, John Taolo Gaetsewe (18%) and Namakwa (11%) are among the least contributors to the provincial economy.

The working-age population (15-64 years) in the Northern Cape increased marginally, reaching 819,000. The labour force peaked at 431,000 in late 2020 before settling at 366,000 by mid-2021. Employment figures followed a similar trend, initially rising, then dropping mid-year, and modestly recovering to 275,000 by the end of the period. Unemployment peaked at 124,000 in late 2020 but showed signs of improvement, decreasing to 91,000 by mid-2021. However, the number of individuals not economically active slightly increased, with a notable rise in discouraged work-seekers from 91,000 to 137,000, highlighting an increasing portion of the population ceasing to look for work due to various discouragements

5.3.3 Unemployment

The unemployment rate improved from 23.1% to 24.9%, despite peaking at 28.7%. The employment/population ratio decreased, signalling a lower proportion of the working-age population

being employed. The labour force participation rate showed variability, with a mid-period increase followed by a decrease to 44.7%. These dynamics suggest a need for focused economic and employment policies to ensure a more stable and inclusive labour market recovery, addressing both the fluctuations and the rising discouragement among potential workforce participants.

Table 4: Northern Cape Labour Market Characteristics

Northern Cape	Jul-Sep 2020	Oct-Dec 2020	Jan-Mar 2021	Apr-Jun 2021	Jul- Sep 2021	q-on-q	
						% Change	Difference
Population 15-64 years	812	816	815	817	819	0.2%	1 917
Labour Force	373	431	409	357	366	2.7%	9 641
Employed	287	308	313	256	275	7.3%	18 836
Unemployed	86	126	96	100	91	-9.2%	-9 195
Not economically active	439	384	406	461	453	-1.7%	-7 724
Discouraged work-seekers	91	74	98	125	137	9.3%	11 609
Other	348	311	309	335	316	-5.8%	-19 333
Rates (%)							
Unemployment rate	23.1	28.7	23.4	28.1	24.9	-11.4%	-3.2
Employed / population ratio (Absorption)	35.3	37.7	38.4	31.4	33.6	7.0%	2.2
Labour force participation rate	45.9	52.9	50.2	43.6	44.7	2.5%	1.1

5.3.4 Human Development Index (HDI)

The Human Development Index (HDI) is used to measure the standard of living of citizens in a particular region. According to the HDI, the Northern Cape province is classified as a region with medium development. The province's HDI stands at 0.66, showing a slow but steady upward trend, which aligns with the United Nations (UN) definition of medium development. Despite the gradual improvement in quality of life, there is a consistent increase observed.

5.3.5 Education

Figure 22 illustrates a rise in the attendance of educational institutions among individuals aged 7 to 24, climbing from 73.1% in 2002 to 76.3% in 2021. This increase was widespread across most provinces during this period, with the Northern Cape (+7.8 percentage points) and Free State (+7.3 percentage points) experiencing the largest increases.

The Northern Cape's population has been growing steadily, albeit at a slower rate compared to previous years, mirroring trends in other provinces. The province's demographic profile, characterised by a youthful population, aligns with the national average. However, there is a notable shift towards a female-dominated population in older age groups, potentially impacting the overall population growth rate. Economically, the Northern Cape experienced a decline in 2019, particularly in sectors like agriculture and construction, although there are signs of improvement in other sectors. These trends underscore the need for targeted policies to address economic disparities and support sustainable growth in the province.

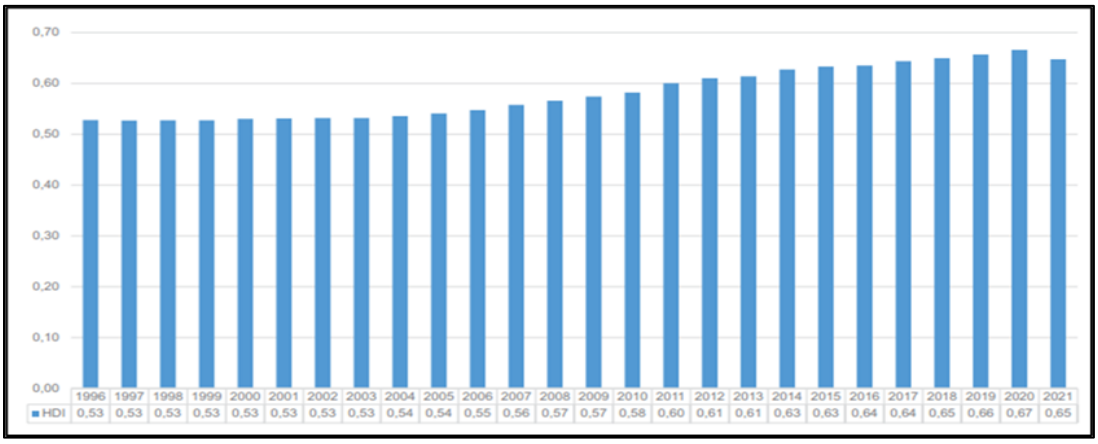


Figure 14: Northern Cape HDI

5.4 ZF Mgcawu District Municipality (ZMDM)

The ZF Mgcawu District Municipality, formerly known as Siyanda District Municipality, is a Category C municipality located in the mid-northern part of the Northern Cape Province, bordering Botswana to the north and Namibia to the west. Covering an area of 102,504 km², the district encompasses much of the Kalahari Desert, the Kgalagadi Transfrontier Park, and parts of the former Bushmanland. It includes five local municipalities: Dawid Kruiper, Kai !Garib, Tsantsabane, !Kheis, and Kgatelopele, with Upington serving as the administrative centre.

Key towns within the district include Postmasburg, Kakamas, Keimoes, Kenhardt, Danielskuil, Lime Acres, and Beeshoek. The district's economy is primarily driven by agriculture, mining, and tourism, supported by its natural landscapes, mineral wealth, and agricultural productivity.

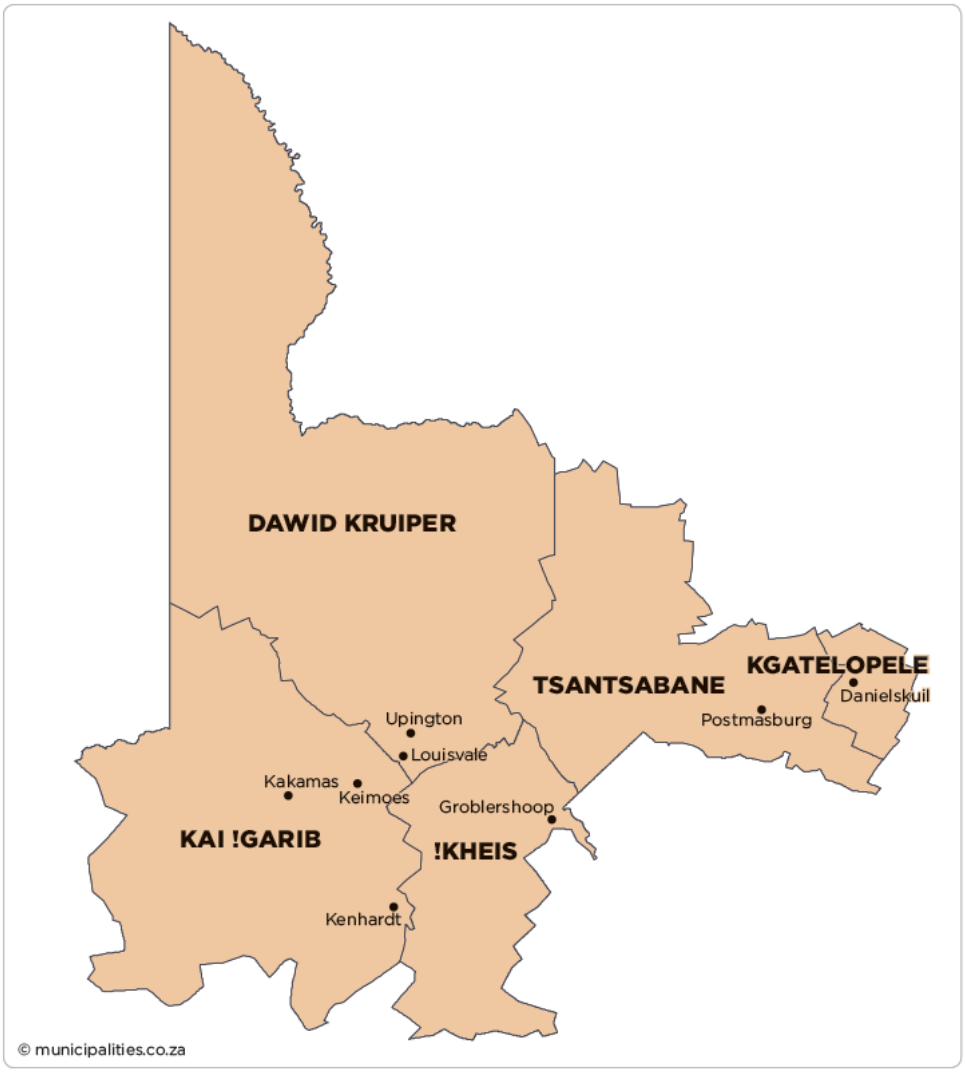


Figure 15: Local Municipalities of ZF Mgcawu District Municipality

(Source: Local Government Handbook, 2015)

5.4.1 Population

ZF Mgcawu District Municipality spans approximately 102,504 km² and had a population of 252,692 in 2016, representing 21% of the Northern Cape's population. The district comprises five local municipalities: Dawid Kruiper, Kai !Garib, Tsantsabane, !Kheis, and Kgatelopele. Population growth has been notable at 17.8% between 2001 and 2016, with Dawid Kruiper accounting for 42.4% of the district population. There are an estimated 74,091 households with an average household size of 3.4. Approximately 68.1% of the population falls within the economically active age group (15–64 years), indicating potential for labour-driven economic development, although service backlogs persist in rural areas.

5.4.2 Economy

The district is the second-largest contributor to the Northern Cape economy, accounting for 21% of provincial GDP as of 2015. Key economic sectors include mining (16%), agriculture (15%), and wholesale/retail trade (15%). Mining activities, especially in Tsantsabane and Kgatelopele, are significant employers. The Orange River supports intensive irrigation agriculture, particularly in Kai !Garib and Dawid Kruiper, where grapes, dates, and dried fruits are major outputs. Despite these strengths, economic diversification is limited. Infrastructure gaps, lack of SMME support, and weak industrial linkages constrain long-term economic resilience.

5.4.3 Employment and Unemployment

Employment in the district is primarily in mining, agriculture, and community services. Although mining offers relatively high wages, it is not sustainable in the long term due to finite resources. The agricultural sector provides seasonal work but is vulnerable to drought and fluctuating market conditions. Unemployment is particularly high among youth and women, and informal employment remains prevalent in remote areas. The district recognises the need to stimulate inclusive local economic development and skills training to promote job creation beyond extractive industries.

5.4.4 Education

Educational attainment in ZF Mgcawu is below the national average. As per 2011 data, a large share of the population has only completed some primary or secondary education. Only 13.7% of residents had completed Grade 12, and just 1% held tertiary qualifications. Access to post-school education remains concentrated in larger towns like Upington, leaving rural youth with limited prospects. Challenges include high dropout rates, under-resourced schools, and a shortage of skilled educators, particularly in smaller municipalities like !Kheis and Kgatelopele.

5.4.5 Health Care

Healthcare services in the district are unevenly distributed. There are five hospitals and 52 clinics across ZF Mgcawu, but most are located along main transport routes such as the N10 and N14. Kai !Garib has the most clinics (18), followed by Dawid Kruiper (14). Access remains a challenge in remote settlements, with some clinics only staffed monthly. HIV/AIDS and tuberculosis continue to pose major public health challenges. Malnutrition and child health concerns are closely tied to poverty and illiteracy. Health service delivery is hindered by staff shortages and poor access to specialised care, particularly in the Kalahari and Bushmanland areas.

5.5 Tsantsabane Local Municipality (TLM)

Tsantsabane Local Municipality is situated in the ZFM District Municipality and covers geographic area of 5 887km2 (Surveyor General, 2008). Tsantsabane Local Municipality is bordered by Siyancuma LM, Dawid Kruiper LM, !Kheis LM, Gamagara LM and Kgatelopele LM.

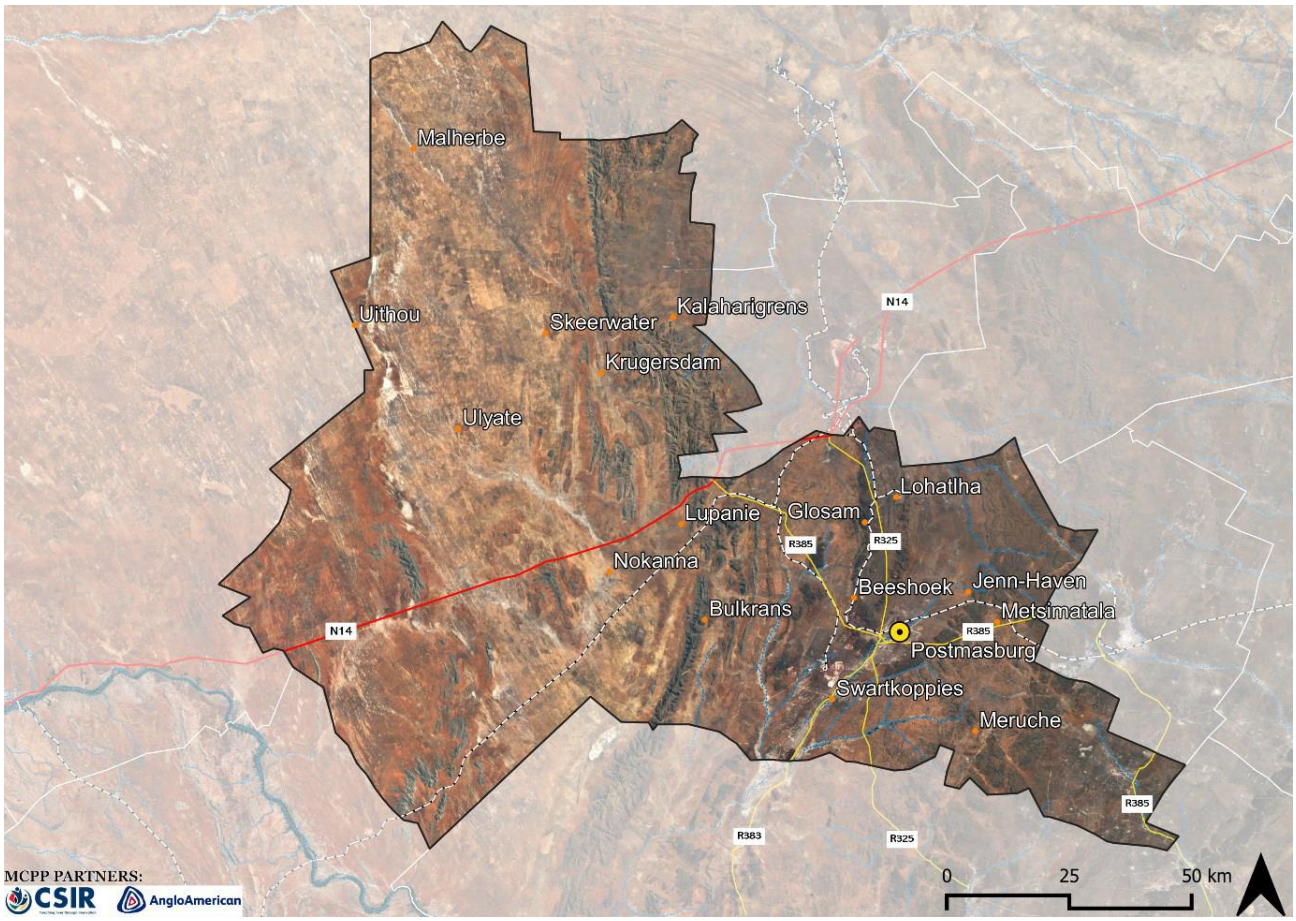


Figure 16: Tsantsabane Local Municipality Geographic Area

5.5.1 Population

According to Statssa (2016) and CSIR (2022), TLM in 2021 had a population 43 758 people, which reflected an increase of 8 678 people between 2011 (had a population of 35 093) and 2021, also indicating a population increase of 17 345 between 2001 (had a population of 31 014) and 2021. As such, by 2031 it is expected that TLM will reach 55 345 people, adding an approximate number of 11 590 to the 2021 figures. This population growth trend is expected to increase the number of people that the municipality must provide services to, keeping in mind that the municipality is currently facing challenges in meeting its present demand on water, sanitation, and electricity provision.

Table 5: Population Dynamics

Settlement	Population 1996	Population 2001	Population 2011	Population 2021	Change 2001-2021	Change 2011-2021
Beeshoek Mine	954	965	551	634	-332	83
Boitshoko	6105	6643	8140	9402	2759	1261
Glosam SP	180	177	117	131	-46	14
Goedgedacht SP	2153	538	748	963	425	214
Groenwater SP	169	522	739	1043	522	304
Lohatlha Military	80	43	146	196	152	49
Marenteng	1760	3304	3383	4395	1091	1012
Near Groenwater (New)	15	3	12	22	19	11
Near Iftimasum Motalib (New)	388	438	1478	2948	2510	1471
Near Skeyfontein (New)	55	4	13	22	18	9
New Town	3026	4322	6249	7158	2836	910
Postdene	5493	5379	6928	8047	2668	1120
Postmansburg SP	2019	794	4293	5978	5184	1685
Skeyfontein (New)	59	4	13	18	14	5
Rest of area	3947	3277	2271	2801	-476	530
Grand Total	**26402**	**26413**	**35080**	**43758**	**17345**	**8678**

The 2021 Stats SA data on Tsantsabane Local Municipality on age and gender distribution enables population comparisons from earlier periods 2011, 2016 until 2021 to be drawn for the purpose of establishing trends, but also for forecast planning. These data include whether specific age bands in the population are growing or declining. The graphical comparison in the form of an overlayed growth pyramid below shows the TLM population age and gender breakdown for the years 2011, 2016 and 2021.

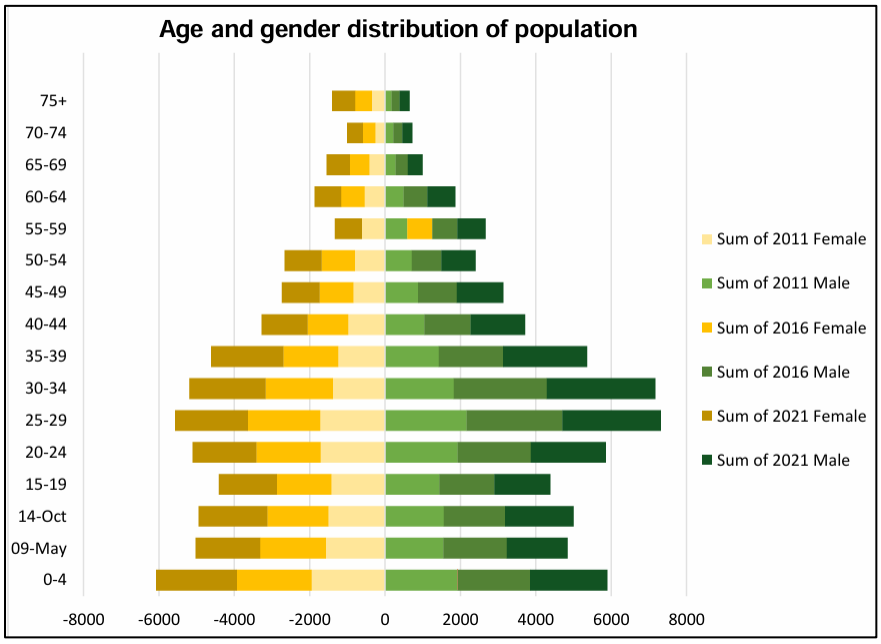


Figure 17: Trends in Age and Gender Distribution of Population for Years 2011, 2016 and 2021

This information is critical to support decision-making in the prioritisation of resource allocation to sustain basic service delivery and facilitation of social and economic development within the Tsantsabane Local Municipal area. TLM and key stakeholders must reflect on the following issues:

- Implications of age distribution in the Municipality for the provision of social development services (e.g. community facilities, educational facilities, settlement planning, etc)
- Implication of age distribution on employment in the Municipality and on socioeconomic development by key stakeholders.
- Implications for the municipality and key stakeholders to address gender inequalities and how effectiveness of development interventions and their benefits to the elderly, disabled, women, men, and children.

5.5.2 Employment and Unemployment

The 2011 Census by StasSA depicts that unemployment figures have drastically reduced from 4 466 in 2001 to 3 795 in 2011 which shows a decrease of 15%. Employment increased by 69% in 2011, which is attributable to various socio-economic sectors' investment in the area linked to the upsurge in mining and solar industrial investment. The 2019 Kumba Kolomela Social Impact Assessment Survey, conducted in the whole of Tsantsabane Local Municipality, capturing 4039 respondents, give the following details in terms of employment status and per sector in the Tsantsabane Municipal Area.

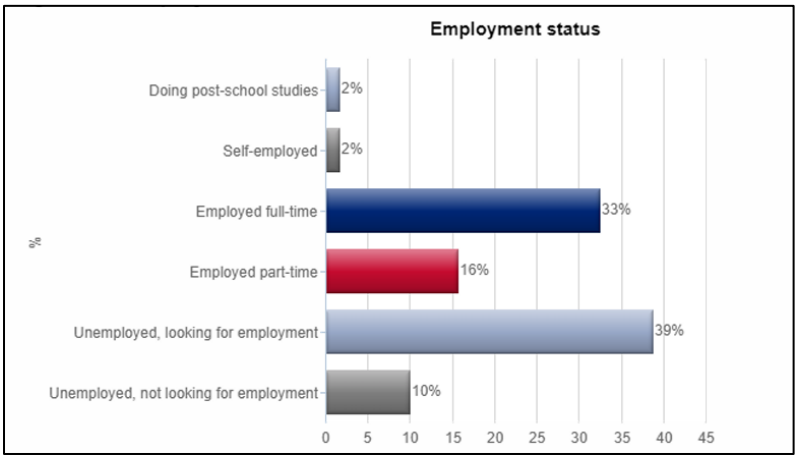


Figure 18: Employment Status

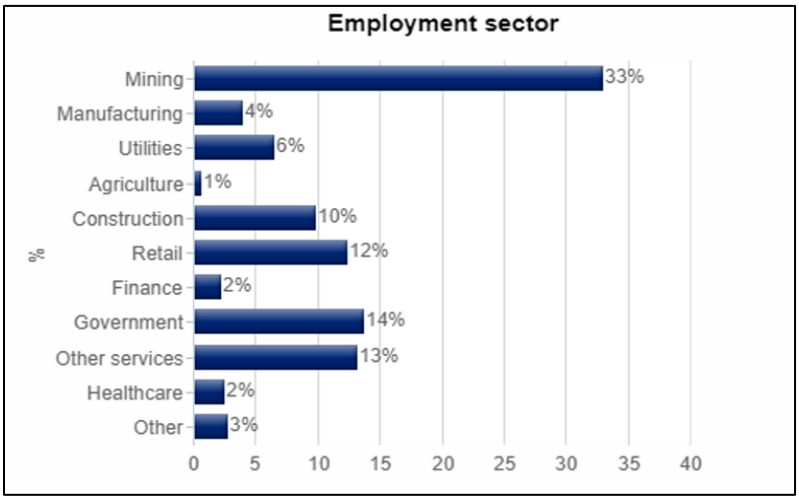


Figure 19: Employment Sector

Whilst the above picture creates comfort, the concern for Tsantsabane Municipal Council remains the sustainability of this picture or its positive impact on the local population, given the data on education levels, impact on special groups (youth, women & disabled), impact of the COVID-19 pandemic on the above. Moreover, the concern remains the importing and extraction nature of the solar and mining industries in relation to production requirements and lack of beneficiation, respectively.

5.5.3 Education

It is important to understand the level of education of people in a particular area, as one is then able to have a clear understanding of the human resource capital of the area and gauge its potential to respond

to socio-economic environmental factors, both for social and economic development of the area. From the 2011 StasSA Census data, the following is the educational data for the Tsantsabane Local Municipal area.

Table 6: Education Levels

Group	Percentage
No Schooling	4,6%
Some Primary	41%
Completed Primary	6,4%
Some Secondary	32,1%
Completed Secondary	13,7%
Higher Education	1%
Not Applicable	1,2%

The above table, when compared with the 2019 Kumba Kolomela Social Impact Assessment Survey conducted in the whole of Tsantsabane Local Municipality through 1284 respondents there shows no improvements. The graphs below show data for both school and post-school education.

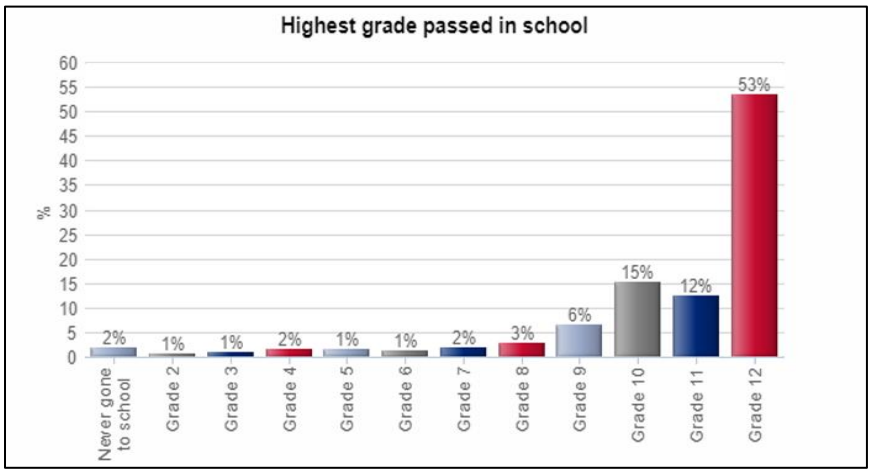


Figure 20: Highest Grade Passed in School

From the above, its evident that the Municipality and all key stakeholders need to put concerted efforts to address the structural flaws contributing to the above concerning picture on education levels in Tsantsabane Local Municipality. The statistics indicate that although a high number of students enrol for primary school, a very low number of students complete grade 12. This has resulted in a very low probability of tertiary education enrolment or employment opportunities. Only 5% of those who enrolled

for grade 1 make it into tertiary. Less than 15% of the population has a tertiary qualification or has completed Grade 12. It must, however, be mentioned that the education level is affected negatively by the urbanisation process, in the past, since it mostly involved matriculates and those with better qualifications, due to the local lack of job opportunities. This can also be attributed to the fact that the nearest University of Technology (Central University of Technology, in Bloemfontein) is almost 400km away, and the Sol Plaatjie University has recently started a limited offering of some courses.

With regards to education levels per gender, the diagram below depicts data of a concerning picture of low education level in general, and its negative impact, particularly on the ability of females to gain exposure and perform well at various levels of the education system. The general implications are dire for the whole population and its ability to take advantage of socioeconomic opportunity presented by the mining and solar industry investment in the area, both with regard to enterprise development and employment.

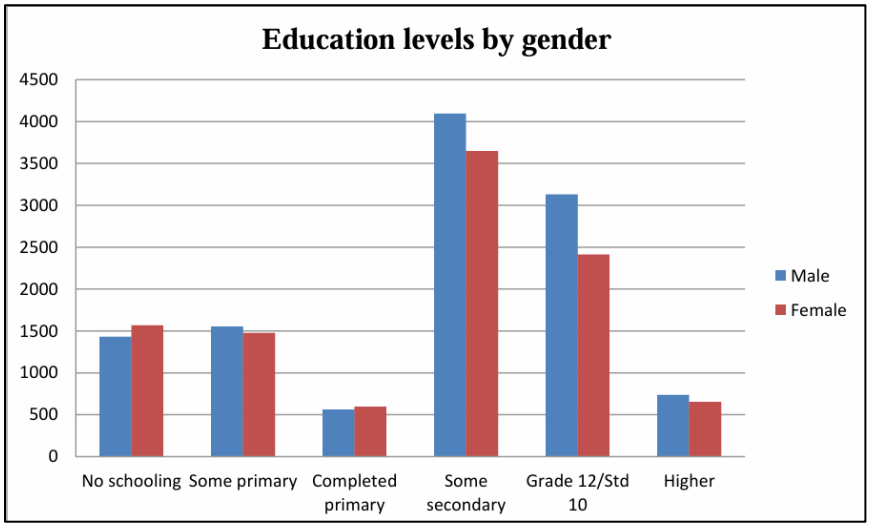


Figure 21: Education Levels by Gender

5.5.4 Economy

Local government is mandated to create the necessary conditions for economic growth and job creation. The municipality has a LED Strategy, which is due for review. The municipal area plays an important role in the economy of the region/province, as it is in the Gamagara Development Corridor. The TLM SDF cited that Provincial Treasury (2014) indicated that “during 2012, the primary sector contributed 76% of all the sectors’ contribution to the GDP of Tsantsabane LM. Mining is the single biggest contributor of all industries to the GDP. Mining contributed 74%, namely R3.9 billion, and the tertiary sector contributed 4% and 20% respectively. However, the concern remains a lack of invention to create sustainability and leverage the potential of the sector.

5.5.5 Basic Services

The constitution of South Africa mandates local government to make sure that people have access to basic services, such as access to proper sanitation, clean/drinkable water, energy and waste removal. The following table representation below provides a high-level summary of the basic services delivery status at the Tsantsabane Local Municipality as per StasSA 2011 Census.

Table 7: Access to Basic Services

Basic services	2001	2007	2011	2014	2019	2020
Electricity for lighting	74,4 %	77,8 %	83,5 %	86,2 %	81,9 %	80,8 %
Flush toilets	61,7 %		66,7 %	69,6 %	61,0 %	64,8 %
Piped water	35,5 %	62,0 %	45,3 %	71,5 %	66,9 %	56,2 %
Weekly refuse removal	67,5 %		57,4 %	76,1 %	67,4 %	67,1 %

There are backlogs in service delivery in the settlement areas of Tsantsabane Municipality that, through incremental service delivery interventions, are progressively addressed. These are a result of inward migration due to mining and solar investment, but also illegal land grabs. These illegal land grabs impact negatively on the service delivery of Water and Sanitation, Electricity and Refuse Removal, mostly in informal settlements.

Following the recent township establishment of Mountain View and Greenfield, there is a verified backlog for service delivery of water, sanitation, electricity, and refuse removal for 2600 and 2158, respectively. Despite that, the municipality as reflected in the above graphs and table we are a higher level of service in almost all the formalized areas, namely Postmansburg Town, Boichoko, Whitecity, Newtown, Groenwater, Jean Heaven, Postdene, Maranteng, Skeifontein 1, Stasie area, and Carnation. In these areas we provide electricity (mainly by ESKOM, except Town and Carnation), refuse removal water and sanitation.

5.6 Stakeholder Engagement

Stakeholder engagement is a critical component of the SEIA process. It provides an opportunity for stakeholders to express their views, concerns, and suggestions regarding the proposed project. The engagement process for this report was designed to be inclusive, transparent, and respectful of all participants.

The stakeholder engagement process for this report included the following steps:

- **Stakeholder Identification:** We began by identifying a comprehensive list of stakeholders who could potentially be affected by or have an interest in the proposed project. This list included local community members, local and regional government officials, representatives from the mining sectors, environmental and socio-economic advocacy groups, and others.

- **Information Dissemination & Stakeholder Consultation:** We disseminated information about the proposed project and the socio-economic impact assessment process to identified stakeholders. This was done through consultation and surveys. These surveys provided a platform for stakeholders to express their views, concerns, and suggestions.
- **Feedback Incorporation:** Overall, the survey indicates that the local community generally views the project positively and expects socio-economic benefits, particularly through job creation and local economic stimulation. However, concerns were raised regarding health, dust, traffic-related risks, and the capacity of local health services. These concerns will be addressed through appropriate mitigation measures during the construction and operational phases of the project.
- **Ongoing Engagement:** We are committed to maintaining an open dialogue with stakeholders throughout the project lifecycle. We will continue to provide updates on the project's progress and to seek feedback on proposed mitigation strategies.

6 Key Socio-Economic Impacts

This Chapter provides a detailed description and evaluation of the potential socio-economic impacts that have been identified for the detailed design and construction, operation, and decommissioning phases, of the proposed Makganyane Mining Right.

This assessment considered the following points:

- The nature, extent, and significance of the features within the socio-economic landscape being considered.
- The existing disturbance already present within the socio-economic landscape (i.e. mining activities and other industrial developments/infrastructure).

Socio-economic impacts are expected to occur during both the construction and operation phases of the proposed Makganyane Mining Right. The status of the impacts will either be positive or negative and either mitigation or enhancement measures are recommended for the management of the impacts depending on the status of the impacts.

6.1 Assessment Criteria

Significance

The concept of significance is at the core of impact identification, evaluation and decision-making. The concept remains largely undefined, and there is no international consensus on a single definition. The following common elements are recognised from the various interpretations:

- Significance is a value judgment
- The degree of significance depends on the nature of the impact
- The importance is rated in terms of both biophysical and socio-economic values
- Determining significance involves the amount of change to the environment perceived to be acceptable to affected communities.

Significance can be differentiated into impact magnitude and impact significance. Impact magnitude is the measurable change (i.e. intensity, duration and likelihood). Impact significance is the value placed on the change by different affected parties (i.e. level of acceptability) (DEAT, 2002, Impact Significance, Integrated Environmental Management, Information Series 5).

The concept of risk has two dimensions, namely the consequence of an event or set of circumstances, and the likelihood of particular consequences being realised (Environment Australia, 1999, Environmental Risk Management).

Impact

The positive or negative effects on human well-being and/or the environment.

Consequence

The intermediate or final outcome of an event or situation OR it is the result, on the environment, of an event.

Likelihood

A qualitative term covering both probability and frequency.

Frequency

The number of occurrences of a defined event in a given time or rate.

Probability

The likelihood of a specific outcome measured by the ratio of a specific outcome to the total number of possible outcomes.

Environment

Surroundings in which an organisation operates, including air, water, land, natural resources, flora, fauna, humans and their interrelation (ISO 14004, 1996).

Methodology that will be used

The environmental significance assessment methodology is based on the following determination:

Environmental Significance = Overall Consequence x Overall Likelihood

Determination of Overall Consequence

Consequence analysis is a mixture of quantitative and qualitative information, and the outcome can be positive or negative. Several factors can be used to determine consequence. For the purpose of determining the environmental significance in terms of consequence, the following factors were chosen: Severity/Intensity, Duration and Extent/Spatial Scale. Each factor is assigned a rating of 1 to 5, as described in the tables below.

Determination of Severity/Intensity

Severity relates to the nature of the event, aspect or impact to the environment and describes how severe the aspects impact on the biophysical and socio-economic environment.

Table 8: Table to be Used to Obtain an Overall Rating of Severity, Taking into Consideration the Various Criteria.

TYPE OF CRITERIA	RATING				
	1	2	3	4	5
Quantitative	0-20%	21-40%	41-60%	61-80%	81-100%
Qualitative	Insignificant / Non-harmful	Small / Potentially harmful	Significant/ Harmful	Great/ Very harmful	Disastrous Extremely harmful
Social/ Community response	Acceptable / I&AP satisfied	Slightly tolerable / Possible objections	Intolerable/ Sporadic complaints	Unacceptable / Widespread complaints	Totally unacceptable / Possible legal action
Irreversibility	Very low cost to mitigate/ High potential to mitigate impacts to level of insignificance/ Easily reversible	Low cost to mitigate	Substantial cost to mitigate/ Potential to mitigate impacts/ Potential to reverse impact	High cost to mitigate	Prohibitive cost to mitigate/ Little or no mechanism to mitigate impact Irreversible
Biophysical (Air quality, water quantity and quality, waste production, fauna and flora)	Insignificant change / deterioration or disturbance	Moderate change / deterioration or disturbance	Significant change / deterioration or disturbance	Very significant change / deterioration or disturbance	Disastrous change / deterioration or disturbance

Determination of Duration

Duration refers to the amount of time that the environment will be affected by the event, risk or impact, if no intervention, e.g. remedial action, takes place.

Table 9: Criteria for the Rating of Duration.

RATING	DESCRIPTION
1	Up to ONE MONTH
2	ONE MONTH to THREE MONTHS (QUARTER)

3	THREE MONTHS to ONE YEAR
4	ONE to TEN YEARS
5	Beyond TEN YEARS

Determination of Extent/Spatial Scale

Extent or **spatial scale** is the area affected by the event, aspect or impact.

Table 10: Criteria for the Rating of Extent/Spatial Scale.

RATING	DESCRIPTION
1	Immediate, fully contained area
2	Surrounding area
3	Within Business Unit area of responsibility
4	Within the farm/neighbouring farm area
5	Regional, National, International

Determination of Overall Consequence

Overall consequence is determined by adding the factors determined above and summarised below, and then dividing the sum by 3.

Table 11: Example of Calculating Overall Consequence.

CONSEQUENCE	RATING
Severity	Example 4
Duration	Example 2
Extent	Example 4
SUBTOTAL	10
TOTAL CONSEQUENCE: (Subtotal divided by 3)	3.3

Determination of Likelihood

The determination of **likelihood** is a combination of Frequency and Probability. Each factor is assigned a rating of 1 to 5, as described below.

Determination of Frequency

Frequency refers to how often the specific activity, related to the event, aspect or impact, is undertaken.

Table 12: Criteria for the Rating of Frequency.

RATING	DESCRIPTION
1	Once a year or once/more during operation
2	Once/more in 6 Months
3	Once/more a Month
4	Once/more a Week
5	Daily

Determination of Probability

Probability refers to how often the activity or aspect has an impact on the environment.

Table 13: Criteria for the Rating of Probability.

RATING	DESCRIPTION
1	Almost never/almost impossible
2	Very seldom/highly unlikely
3	Infrequent/unlikely/seldom
4	Often/regularly/likely/possible
5	Daily/highly likely/definitely

Overall Likelihood

Overall **likelihood** is calculated by adding the factors determined above and summarised below, and then dividing the sum by 2.

Table 14: Example of Calculating Overall Likelihood.

CONSEQUENCE	RATING
Frequency	Example 4
Probability	Example 2
SUBTOTAL	6
TOTAL LIKELIHOOD (Subtotal divided by 2)	3

Determination of Overall Significance

The multiplication of overall consequence with overall likelihood will provide the significance, which is a number that will then fall into a range of **LOW, LOW-MEDIUM, MEDIUM, MEDIUM-HIGH** or **HIGH**, as shown in the table below.

Table 15: Determination of Overall Significance.

SIGNIFICANCE OR RISK	LOW	LOW-MEDIUM	MEDIUM	MEDIUM-HIGH	HIGH
Overall Consequence X Overall Likelihood	1 - 4.9	5 - 9.9	10 - 14.9	15 – 19.9	20 - 25

Qualitative description or magnitude of Significance

This description is qualitative and is an indication of the nature or magnitude of the Environmental Significance. It also guides the prioritizations and decision making process associated with this event, aspect or impact.

Table 16: Description of Significance and Related Action Required.

SIGNIFICANCE	LOW	LOW-MEDIUM	MEDIUM	MEDIUM-HIGH	HIGH
Impact Magnitude	Impact is of very low order and therefore likely to have very little real effect. Acceptable.	Impact is of low order and therefore likely to have little real effect. Acceptable.	Impact is real, and potentially substantial in relation to other impacts. Can pose a risk to company	Impact is real and substantial in relation to other impacts. Pose a risk to the company. Unacceptable	Impact is of the highest order possible. Unacceptable. Fatal flaw.
Action Required	Maintain current management measures. Where possible improve.	Maintain current management measures. Implement monitoring and evaluate to determine potential increase in risk. Where possible improve	Implement monitoring. Investigate mitigation measures and improve management measures to reduce risk, where possible.	Improve management measures to reduce risk.	Implement significant mitigation measures or implement alternatives.

Based on the above, the significance rating scale has been determined as follows:

HIGH Of the highest order possible within the bounds of impacts which could occur. In the case of negative impacts, there would be no possible mitigation and/or remedial activity to offset the impact at the spatial or time scale for which it was predicted. In the case of positive impacts, there is no real alternative to achieving the benefit.

MEDIUM-HIGH Impacts of a substantial order. In the case of negative impacts, mitigation and/or remedial activity would be feasible but difficult, expensive, time-consuming or some combination of these. In the case of positive impacts, other means of achieving this benefit would be feasible, but these would be more difficult, expensive, time-consuming or some combination of these.

MEDIUM Impact would be real but not substantial within the bounds of those which could occur. In the case of negative impacts, mitigation and/or remedial activity would be both feasible and fairly easily possible. In case of positive impacts, other means of achieving these benefits would be about equal in time, cost and effort.

LOW-MEDIUM Impact would be of a low order and with little real effect. In the case of negative impacts, mitigation and/or remedial activity would be either easily achieved of little would be required, or both. In case of positive impacts, alternative means for achieving this benefit would likely be easier, cheaper, more effective, less time-consuming, or some combination of these.

LOW Impact would be negligible. In the case of negative impacts, almost no mitigation and or remedial activity would be needed, and any minor steps, which might be needed, would be easy, cheap, and simple. In the case of positive impacts, alternative means would almost certainly be better, in one or a number of ways, than this means of achieving the benefit.

INSIGNIFICANT There would be no impact at all, not even a very low impact on the system or any of its parts.

7 Impacts and Assessment

This chapter aims to rate the significance of the identified potential impacts pre-mitigation and post-mitigation. The potential impacts identified in this section are a result of both the environment in which the Project activity takes place, as well as the activity itself. The identification of potential impacts is performed by determining the potential source, possible pathways, and receptors. In essence, the potential for any change to a resource or receptor (i.e., environmental aspect) brought about by the presence of a Project component or by a Project-related activity has been identified as a potential impact.

The potential impacts are discussed per environmental feature/aspect and according to each phase of the Project i.e., the Construction, Operational and Decommissioning/ Post Closure Phases. The significance, probability and duration of these potential impacts have been assessed based on the detailed specialist studies undertaken on the sensitivity of the receiving environment.

The SEIA adheres to local best practice guidelines, ensuring that the assessment is grounded in the specific socio-economic and cultural context of the Project area.

7.1 Determination of Significance of Impacts

Significance is determined through a synthesis of impact characteristics which include context and intensity of an impact. Context refers to the geographical scale (i.e., site, local, national, or global), whereas intensity is defined by the severity of the impact e.g., the magnitude of deviation from background conditions, the size of the area affected, the duration of the impact and the overall probability of occurrence. Significance is calculated as shown in Section 6.

Significance is an indication of the importance of the impact in terms of both physical extent and time scale, and therefore indicates the level of mitigation required. The total number of points scored for each impact indicates the level of significance of the impact.

7.2 Impacts and Risk Assessment

The EIA Methodology assists in evaluating the overall effect of a proposed activity on the environment. Determining of the significance of an environmental impact on an environmental parameter is determined through a systematic analysis.

7.2.1 Construction Phase

The majority of socio-economic impacts associated with the project are anticipated to occur during the construction phase of the development and are typical of the type of socio-economic impacts generally associated with construction activities. These impacts will be medium-term (~5 years) but could have long-term effects on the surrounding socio-economic environment if not planned or managed appropriately. It is therefore necessary that the detailed design phase be conducted in such a manner

so as not to result in permanent socio-economic impacts associated with the ill-placement of project components or associated infrastructure or result in the mismanagement of the construction phase activities.

The positive and negative social impacts identified and assessed for the construction phase includes:

Potential positive impacts:

- Employment Opportunities and Skills Development
- Economic Multiplier Effects

Potential negative impacts:

- Influx of Jobseekers and Change in Population
- Safety and Security Impacts
- Increased Pressure on Local Services/Resources
- Nuisance Impacts (Noise and Dust)

Table 17: Construction Phase Impact Tables for the Proposed Makganyane Mining Right

Impact: Employment Opportunities and Skills Development.		
Nature: The local population includes unskilled labourers, and a smaller proportion of semi-skilled workers. The SLP notes that as production will only commence during the fifth year of the mining right it is estimated that for the first three years of the mining right there will be no employees. The estimated number of positions available from year four is 50 permanent employees, and provision was made for ±30 contract workers. This presents an opportunity not only for job creation but also for skills development in the local workforce.		
	Without Mitigation	With Mitigation
Extent	5	5
Duration	4	4
Severity	2	3
Overall Consequence	3.67	4
Frequency	5	5
Probability	3	4
Overall Likelihood	4	4.5
Significance	Medium (14.68)	Medium-High (18)
Status	Positive	Positive

Reversibility	Yes – Loss of Employment	Yes – Loss of Employment
Irreplaceable loss of resources?	Impact will improve the Job Market	Impact will improve the Job Market
Can impacts be mitigated?	Enhanced	Enhanced

Enhancement Measures

To enhance the local employment, skills development and business opportunities associated with the construction phase, the following measures should be implemented:

- The developers be committed to involving and benefiting the communities surrounding the development, contributing to their development and growth.
- Training and skills development programmes should be offered to employees of the development prior to the commencement of the construction phase.
- The communities which are most in need of employment on a local level should be considered for employment before outsourcing.
- Engage proactively with local stakeholders and implement transparent hiring practices to ensure equitable distribution of employment opportunities.

Cumulative Impact

The combined effect of the project's employment opportunities, skills development, and enhancement measures will result in a strengthened local job market, improved skills base, and overall socio-economic upliftment of the community. The initiatives to eliminate unfair discrimination, targeted training, and development programs, and the emphasis on portable skills training will further enhance the long-term benefits to the community, ensuring sustainability and growth.

Residual Opportunities

- Initiatives to eliminate unfair discrimination in employment.
- Recruit and select suitably qualified individuals from the designated groups.
- Employees from designated groups who have been identified in the talent pool should be advanced and accelerated through targeted training and development programs.
- Assist employees in obtaining an initial vocational education and pre-qualification, as well as additional education and training that refreshes knowledge, skills, work and life competencies that are critical for overall development.
- Provide portable skills training to employees who express an interest in obtaining such training, with a special emphasis on employees who have been incapacitated or retrenched, in order for them to remain economically active, employable, or self-sustaining in their communities.
- Growth of talent is facilitated, thereby providing opportunities for all employees to contribute to their full potential.

Impact: Economic Multiplier Effects.		
Nature: Economic multiplier effects from the use of local goods and services opportunities include but are not limited to, the provision of construction materials and equipment, and workforce essentials such as services, safety equipment, ablution, accommodation, transportation, and other goods. The increase in demand for goods and services may stimulate local business and local economic development (however locally sourced materials and services may be limited due to availability). There is likely to be a direct increase in industry and an indirect increase in secondary businesses. The proposed labour component of the project is expected to be ±80 persons. As a result of the multiplier effect it is expected that the income of 80 employees will support ±272 dependents, and since most of the employees will reside within the Tsantsabane area.		
	Without Mitigation	With Mitigation
Extent	5	5
Duration	4	4
Severity	2	3
Overall Consequence	3.67	4
Frequency	4	4
Probability	3	4
Overall Likelihood	3.5	4
Significance	Medium (12.85)	Medium-High (16)
Status	Positive	Positive
Reversibility	Yes – Loss of economic benefits	Yes – Loss of economic benefits
Irreplaceable loss of resources?	No	No
Can impacts be mitigated?	Enhanced - Yes	Enhanced - Yes
Enhancement Measures		
• Preference is given to suppliers that are local to the operation where the service will be consumed. • Establishing liaison and communication structures with the district and local government structures. • Liaise with the local governmental structures and municipal authorities in the labour - sending communities to ensure that group development initiatives are integrated into the economic and development plans of those areas. • It is recommended that a local procurement policy be adopted by the developer to maximise the benefit to the local economy, where feasible. • Create job opportunities, boost local economies by supporting business activities, and contribute to government tax revenues through the development of the Makganyane Mining Right.		

• Prior to the start of the construction contractor procurement, a database of local companies, specifically Historically Disadvantaged (HD) companies, that qualify as potential service providers (e.g., construction companies, catering companies, waste collection companies, security companies, etc) should be identified and informed about the tender process and invited to bid on project-related work, if applicable. • Engage with local authorities and business organisations to investigate the feasibility of obtaining construction materials, goods, and products from local suppliers, where possible.
Cumulative Impact
The project's economic multiplier effects, combined with the enhancement measures, will lead to a sustained boost in the local economy. The increased demand for local goods and services will not only benefit primary suppliers but will also have a ripple effect, benefiting secondary businesses and service providers. Over time, this will lead to a more robust and diversified local economy, with increased resilience and capacity for growth.
Residual Opportunities
• Improved local service sector, growth in local business. • Community development and stimulation of the local economy. • Growth in the local markets.

Impact: Influx of Jobseekers and Change in Population.		
Nature: An influx of people looking for employment or other economic opportunities could result in increased pressure being placed on economic and socio-economic infrastructure, and even a modest change in the local population. Population change refers to the size, structure, density as well as demographic profile of the local community. An influx of jobseekers into an area, could lead to a temporary increase in the level of crime, cause socio-economic disruption and put pressure on basic services. It could also potentially create conflict between locals and outsiders due to potential differences in cultural and ethnic composition. A further negative impact that could result due to an influx of jobseekers into an area is an increase in unemployment levels due to an oversupply of available workforce, particularly with respect to semi- and unskilled workers.		
	Without Mitigation	With Mitigation
Extent	5	5
Duration	4	4
Severity	3	2
Overall Consequence	4	3.67
Frequency	4	4
Probability	4	3
Overall Likelihood	4	3.5

Significance	Medium-High (16)	Medium (12.85)
Status	Negative	Negative
Reversibility	Medium	High
Irreplaceable loss of resources?	No	No
Can impacts be mitigated?	Yes	Yes

Mitigation Measures

- The communities which are most in need of employment on a local level should be considered for employment before outsourcing.
- Making the surrounding landowners aware of the dangers associated with the influx of workers during the construction period.
- Encourage employees to stop working when a workplace is considered unsafe and/or to prevent unsafe actions.
- Education, Training and Development Services must be implemented for the local community.
- Access in and out of the construction area should be strictly controlled.
- A Community Liaison Officer should be appointed.

Cumulative Impact

The combined effects of the influx of jobseekers and the modest change in population, even with mitigation measures in place, could lead to a strain on local resources, potential socio-economic disruptions, and a temporary increase in crime rates. The cumulative impact also encompasses the potential for heightened social tensions due to perceived inequalities in job distribution and benefits from the project. However, with the proposed mitigation measures, the severity of these impacts can be reduced, leading to a more controlled and manageable influx, and ensuring that the local community benefits from the project in a sustainable manner.

Residual Risks

Potential for conflict: If there are perceptions of unfair hiring practices or unequal distribution of project benefits, this could lead to social tensions or conflicts, which could have implications for local safety and security. This is a potential residual impact as it is dependent on perceptions and social dynamics, which can be difficult to fully mitigate.

Impact: Safety and Security Impacts.

Nature: Temporary increase in safety and security concerns associated with the construction phase.

While the project aims to employ local residents, the potential arrival of job seekers from surrounding areas could temporarily elevate crime rates and social disruption.

	Without Mitigation	With Mitigation
Extent	4	4
Duration	4	4
Severity	3	2
Overall Consequence	3.67	3.33
Frequency	3	2
Probability	4	3
Overall Likelihood	3.5	2.5
Significance	Medium (12.85)	Low-Medium (8.33)
Status	Negative	Negative
Reversibility	Low	Low
Irreplaceable loss of resources?	No	No
Can impacts be mitigated?	Yes	Yes
Mitigation Measures		
• Safety awareness and training as well as positive behaviour reinforcement. • Improving system monitoring and analysis to improve risk management. • Making the surrounding landowners aware of the dangers associated with the influx of workers during the construction period. • Identifying abandoned buildings and utilising them or ensuring they cannot be used for malicious activities. • Ensuring that access cannot be gained to surrounding properties. • Encourage employees to stop working when a workplace is considered unsafe and/or to prevent unsafe actions. • Access in and out of the construction area should be strictly controlled. • The contractor must provide adequate firefighting equipment on site and provide firefighting training to selected construction staff. • Have clear rules and regulations for access to the proposed site to control loitering. • A comprehensive employee induction programme would cover land access protocols, fire management and road safety must be prepared. • A Community Liaison Officer should be appointed. • A method of communication should be implemented whereby procedures to lodge complaints are set out in order for the local community to express any complaints or grievances with the construction process.		
Cumulative Impact		

The combined effects of the construction activities, especially the movement of heavy vehicles and influx of workers, can lead to heightened safety and security concerns in the area. This includes potential increases in crime rates, disturbances to local communities, and strain on local infrastructure. Even with mitigation measures in place, the cumulative impact of these activities can lead to a perceived decrease in the safety and security of the area, affecting the well-being and peace of mind of local residents.
Residual Risks
• Potential for increased crime: Despite mitigation measures, there's always a risk of a temporary spike in crime rates due to the influx of outsiders and increased activity in the area. • Disturbance to local communities: The presence of construction activities and workers can lead to disturbances in daily life, affecting the well-being of local residents.

Impact: Increased Pressure on Local Services/Resources		
Nature: Added pressure on economic and social infrastructure during construction as a result of the potential modest migration of people.		
	Without Mitigation	With Mitigation
Extent	4	4
Duration	4	4
Severity	3	2
Overall Consequence	3.67	3.33
Frequency	3	3
Probability	4	3
Overall Likelihood	3.5	3
Significance	Medium (12.85)	Low-Medium (9.99)
Status	Negative	Negative
Reversibility	Medium	High
Irreplaceable loss of resources?	No	No
Can impacts be mitigated?	Yes	Yes
Mitigation Measures		
• It is necessary to appoint a Community Liaison Officer. A method of communication should be implemented, with procedures for filing complaints outlined, so that the local community can express any complaints or grievances about the construction process.		

• Current procurement channels set up by the mine should be utilised to reduce any complications which may arise from the development, if required and cannot be supplied from local businesses.
Cumulative Impact
The cumulative impact of increased pressure on local services and resources due to the construction phase is likely to be subtle, impacting local infrastructure gradually. While the project itself may not significantly strain resources, the combination of ongoing local activities and additional demands from the construction could lead to modest increases in the use of services such as public transportation, healthcare, and utilities. These incremental demands are not expected to overwhelm the existing infrastructure but may lead to slight delays or increased usage rates that require monitoring. Proactive management and community liaison efforts are anticipated to effectively address and mitigate these impacts, ensuring that service levels remain adequate and community well-being is maintained without significant long-term consequences.
Residual Risks
Possibility of outside workers remaining in the area after construction is completed and subsequent pressures on local infrastructure.

Impact: Nuisance Impacts (Noise and Dust)		
Nature: Construction activities will result in the generation of noise and dust; the area is situated in a somewhat disturbed area which is not frequently subjected to dust and noise disturbances therefore all possible measures must be made to mitigate these impacts.		
	Without Mitigation	With Mitigation
Extent	4	4
Duration	4	4
Severity	3	2
Overall Consequence	3.67	3.33
Frequency	4	4
Probability	5	4
Overall Likelihood	4.5	4
Significance	Medium-High (16.52)	Medium (13.32)
Status	Negative	Negative
Reversibility	High	High
Irreplaceable loss of resources?	No	No

Can impacts be mitigated?	Yes	Yes
Mitigation Measures		
• During construction, care should be taken to ensure that noise from construction vehicles and plant equipment does not intrude on the nearby communities. Plant equipment such as generators, compressors, concrete mixers, and vehicles should be kept in good working order and, where possible, equipped with effective exhaust mufflers. • The movement of construction vehicles on the site should be confined to agreed access road/s. • Heavy vehicle movement during the construction phase should be timed (where possible) to avoid times of the week, such as weekends, when the volume of traffic on the access roads may be higher. • Dust suppression measures should be implemented on a regular basis and ensuring that vehicles used to transport sand and building materials are fitted with tarpaulins or covers.		
Cumulative Impact		
The combined effects of noise and dust from construction activities can lead to a significant disturbance for local residents and other sensitive receptors. Over time, these nuisances can accumulate, leading to a decrease in the quality of life for those living or working nearby. The cumulative impact of these nuisances can also affect local ecosystems, particularly if dust settles on nearby water sources or vegetation.		
Residual Risks		
Noise and dust generation will remain an issue irrespective of the Makganyane Mining Right development.		

7.2.2 Operational Phase

It is anticipated that the Makganyane Mining Right will operate as long as required by the development.

The potential positive and negative socio-economic impacts that could arise because of the operation of the proposed project include the following:

- Direct and Indirect Employment Opportunities
- Economic Multiplier Effects.
- Contribution to Local Economic Development and Socio-Economic Upliftment
- Nuisance Impacts (Noise and Dust)

Table 18: Operational Phase Impact Tables for Proposed Makganyane Mining Right

Impact: Direct and Indirect Employment Opportunities.
Nature: The operational phase of the Makganyane Mining Right is expected to create both direct and indirect employment opportunities. The proposed labour component of the project is expected to be ±80 persons. As

a result of the multiplier effect it is expected that the income of 80 employees will support ±272 dependents, and since most of the employees will reside within the Tsantsabane area.

	Without Mitigation	With Mitigation
Extent	5	5
Duration	5	5
Severity	2	3
Overall Consequence	4	4.33
Frequency	5	5
Probability	3	4
Overall Likelihood	4	4.5
Significance	Medium-High (16)	Medium-High (19.49)
Status	Positive	Positive
Reversibility	Low	Low
Irreplaceable loss of resources?	No	No
Can impacts be mitigated?	Enhanced - Yes	Enhanced - Yes

Enhancement Measures

- Local Hiring: Prioritise hiring from the local community for all available positions. This will ensure that the benefits of employment are directly felt within the local community.
- Skills Transfer: In cases where highly skilled expertise is required, provide provisions for skills transfer. This will facilitate knowledge sharing within the local workforce and enhance the overall skill level of the community.
- Support for Local Businesses: Encourage the involvement of local businesses in providing materials, goods, and services during the operational phase of the project. This can stimulate entrepreneurial growth and create indirect job opportunities.
- Community Engagement: Maintain open lines of communication with the local community through the development's existing community liaison officer. This will ensure that job opportunities are communicated effectively and that local residents are given fair consideration in the hiring process.
- Fair Labour Practices: Align the project with the development's social labour plan to ensure fair labour practices and safe working conditions for all workers.

Cumulative Impact

The ongoing operation of the Makganyane Mining Right will provide stable employment opportunities over its expected lifespan, contributing to economic stability and growth in the region. This steady employment not

only supports the workers and their families but also stimulates local businesses and service providers by increasing local spending power, thereby enhancing the overall economic vitality of the community.
Residual Opportunities
• Economic Upliftment: The consistent employment opportunities during the operational phase will lead to an upliftment in the overall economic status of the region. This can result in improved living standards the local community. • Skills Development: The emphasis on skills transfer and training will ensure that the local workforce is better equipped for future job opportunities, even beyond the lifespan of the project. This can lead to a more skilled and competitive workforce in the region. • Entrepreneurial Growth: With the support for local businesses and the increase in consumer spending, there's potential for entrepreneurial growth. Local entrepreneurs can capitalize on the increased demand for goods and services, leading to the establishment of new businesses and further job creation.

Impact: Economic Multiplier Effects.		
Nature: Economic multiplier effects from the sustained operation and maintenance of the Makganyane Mining Right present various opportunities. These include, but are not limited to, the provision of maintenance materials and equipment, ongoing workforce essentials such as services, safety equipment, ablution, accommodation, transportation, and other operational goods. The consistent demand for goods and services can bolster local businesses and foster local economic development. While there might be constraints due to the availability of local materials and services, the consistent demand can foster local economic development and indirectly support ancillary businesses.		
	Without Mitigation	With Mitigation
Extent	5	5
Duration	5	5
Severity	2	3
Overall Consequence	4	4.33
Frequency	4	4
Probability	3	4
Overall Likelihood	3.5	4
Significance	Medium (14)	Medium-High (17.32)
Status	Positive	Positive
Reversibility	Yes – Loss of economic benefits	Yes – Loss of economic benefits
Irreplaceable loss of resources?	No	No

Can impacts be mitigated?	Enhanced - Yes	Enhanced - Yes

Enhancement Measures

- Preference is given to suppliers that are local to the operation where the service will be consumed.
- Establishing liaison and communication structures with the district and local government structures.
- Liaise with the local governmental structures and municipal authorities in the labour - sending communities to ensure that group development initiatives are integrated into the economic and development plans of those areas.
- The continuous review of the economic development of the project during the implementation process will ensure that the project does not become static but is revised in terms of changing needs and to ensure sustainability.
- It is recommended that a local procurement policy be adopted by the developer to maximise the benefit to the local economy, where feasible.
- Prior to the start of the construction contractor procurement, a database of local companies, specifically Historically Disadvantaged (HD) companies, that qualify as potential service providers (e.g., construction companies, catering companies, waste collection companies, security companies, etc) should be identified and informed about the tender process and invited to bid on project-related work, if applicable.
- Engage with local authorities and business organisations to investigate the feasibility of obtaining construction materials, goods, and products from local suppliers, where possible.

Cumulative Impact

The project's economic multiplier effects, combined with the enhancement measures, will lead to a sustained boost in the local economy. The increased demand for local goods and services will not only benefit primary suppliers but will also have a ripple effect, benefiting secondary businesses and service providers. Over time, this will lead to a more robust and diversified local economy, with increased resilience and capacity for growth.

Residual Opportunities

- Improved local service sector, growth in local business.
- Community development and stimulation of the local economy.
- Growth in the local markets.

Impact: Contribution to Local Economic Development and Socio-Economic Upliftment.

Nature: The Makganyane Mining Right's operational phase is poised to modestly contribute to local economic development primarily through sustained employment and routine engagement with local businesses for supply and service requirements. The project would also offer limited support for community initiatives and minor infrastructure improvements as part of its corporate social responsibility efforts, aimed at addressing specific local needs. These contributions are essential in a region that could benefit from even slight economic stimuli to encourage broader socio-economic improvements.

	Without Mitigation	With Mitigation
Extent	5	5
Duration	5	5
Severity	2	4
Overall Consequence	4	4.67
Frequency	1	1
Probability	5	5
Overall Likelihood	3	3
Significance	Medium (12)	Medium (14)
Status	Positive	Positive
Reversibility	Low	Low
Irreplaceable loss of resources?	No	No
Can impacts be mitigated?	Enhanced - Yes	Enhanced - Yes

Enhancement Measures

- Collaboration with Local Authorities: The project developers should engage in close collaboration with local authorities to identify and prioritise infrastructure improvements that align with community needs and future growth.
- Public-Private Partnerships: Explore opportunities for public-private partnerships to fund and implement infrastructure projects. This can leverage resources and expertise from both the private and public sectors, ensuring sustainable and well-executed infrastructure improvements.

Cumulative Impact

The continuous operation of the Makganyane Mining Right, combined with its contribution to local economic development, will enhance the socio-economic fabric of the region. As the stockpile supports local businesses and contributes to infrastructure development, it will foster a more robust and resilient local economy. Over time, these contributions will improve community welfare and enhance overall quality of life.

Residual Opportunities

- Strengthened Local Economy: The continuous investment in local economic development will stimulate business growth, create new job opportunities, and enhance the overall economic resilience of the region.
- Enhanced Community Welfare: The socio-economic upliftment initiatives will lead to improved education, healthcare, and social services, ensuring a better quality of life for local residents.
- Positioning for Future Growth: The region's reputation as a beneficiary of sustainable development initiatives will attract further investments and partnerships, ensuring continued growth and prosperity.

Impact: Nuisance Impacts (Noise and Dust)		
Nature: Operational activities such as drilling, blasting, excavation, loading, hauling, crushing, and vehicle movements will generate noise and dust. These impacts will regularly affect the local environment and could significantly impact nearby sensitive receptors if not managed effectively.		
	Without Mitigation	With Mitigation
Extent	4	4
Duration	5	5
Severity	4	3
Overall Consequence	4.67	4
Frequency	5	4
Probability	5	4
Overall Likelihood	5	4
Significance	High (23.33)	Medium-High (16)
Status	Negative	Negative
Reversibility	High	High
Irreplaceable loss of resources?	No	No
Can impacts be mitigated?	Yes	Yes
Mitigation Measures		
• Implement regular dust suppression on haul roads and working areas using water trucks or equivalent suppressants. • Ensure all vehicles transporting materials are covered with tarpaulins or equivalent. • Maintain vehicles and equipment in good working order to minimise noise and emissions. • Restrict operations with significant noise levels, such as blasting, drilling, and heavy machinery use, to daylight hours to minimise impacts on surrounding communities, where possible. • Regularly monitor dust and noise levels to ensure compliance with regulatory guidelines and to enable timely interventions. • Vegetative screens or acoustic barriers should be established in strategic locations around noise-generating activities, if feasible. • Effective communication channels should be maintained with nearby communities to manage potential complaints proactively.		
Cumulative Impact		

Prolonged operational activities may lead to a cumulative nuisance impact, including chronic dust deposition affecting vegetation, water quality, and human health, as well as persistent noise leading to reduced quality of life for nearby communities. Without proper management, these effects could significantly degrade the local environment and community well-being over the project's lifespan.
Residual Risks
Even with stringent mitigation, some residual noise and dust impacts will remain throughout the operational life of the mine. Continuous monitoring and adaptive management strategies will be essential to ensure these residual impacts remain minimal and acceptable.

7.2.3 Decommissioning Phase

The decommissioning of the proposed Makganyane Mining Right project will have some socio-economic impacts due to the end of operational activities. The potential positive and negative socio-economic impacts that could arise because of the decommissioning of the proposed project include the following:

- Loss of Employment Opportunities and Economic Changes;
- Environmental Restoration and Land Use Change; and
- Infrastructure Decommissioning and Waste Management.

Table 19: Decommissioning Phase Impact Tables for the Proposed Makganyane Mining Right

Impact: Loss of Employment Opportunities and Economic Changes		
Nature: The cessation of operations will result in the direct loss of jobs sustained during the operational phase, impacting workers and their families. Local businesses that provided goods and services to the mine may also face reduced demand.		
	Without Mitigation	With Mitigation
Extent	5	5
Duration	2	2
Severity	3	2
Overall Consequence	3.33	3
Frequency	5	5
Probability	5	4
Overall Likelihood	5	4.5
Significance	Medium-High (16.65)	Medium (13.5)

Status	Negative	Negative
Reversibility	Medium	Medium
Irreplaceable loss of resources?	No	No
Can impacts be mitigated?	Enhanced - Yes	Enhanced - Yes
Mitigation Measures		
• Re-skilling Programs: Introduce re-skilling and training programs for employees to transition into other employment sectors, reducing the impact of job losses. • Economic Diversification Programs: Facilitate workshops and funding for local businesses to explore new markets.		

Impact: Environmental Restoration and Land Use Change		
Nature: Decommissioning offers an opportunity to restore the land. However, improper management could lead to inadequate restoration, affecting local biodiversity and landscape aesthetics.		
	Without Mitigation	With Mitigation
Extent	1	1
Duration	2	2
Severity	2	3
Overall Consequence	1.67	2
Frequency	5	5
Probability	3	5
Overall Likelihood	4	5
Significance	Low-Medium (6.67)	Medium (10)
Status	Positive	Positive
Reversibility	Medium	Medium
Irreplaceable loss of resources?	No	No
Can impacts be mitigated?	Enhanced - Yes	Enhanced - Yes
Mitigation Measures		

- Comprehensive Rehabilitation Plan: Develop and implement a plan that includes soil restoration, replanting native vegetation, and monitoring ecological recovery.
- Community Involvement: Engage local communities in the restoration process to ensure alignment with local environmental and land use priorities.

Impact: Infrastructure Decommissioning and Waste Management		
Nature: The dismantling of the mine infrastructure could generate waste, posing risks to the environment and community if not managed correctly.		
	Without Mitigation	**With Mitigation**
Extent	2	2
Duration	2	2
Severity	3	2
Overall Consequence	2.5	2
Frequency	5	5
Probability	4	3
Overall Likelihood	4.5	4
Significance	Medium (11.25)	Low-Medium (8)
Status	Negative	Negative
Reversibility	Medium	High
Irreplaceable loss of resources?	No	No
Can impacts be mitigated?	Enhanced - Yes	Enhanced - Yes
Mitigation Measures		
• Responsible Waste Disposal: Use certified contractors for waste disposal and recycling of materials. • Site Safety Measures: Implement strict safety protocols to prevent accidents during dismantling.		

7.2.4 Cumulative Impact

The cumulative socio-economic impacts of the proposed Makganyane Mining Right project primarily encompass how the project interacts with the existing socio-economic fabric of the community and any planned or potential future developments. These impacts extend across employment, local business engagement, and broader community economic health.

- **Employment Dynamics:** The operation of the Makganyane Mining Right will generate new employment opportunities, potentially affecting local labour market dynamics, including wage levels, skill requirements, and employment patterns.
- **Local Economic Development:** Engagement with local businesses for supplies and services is expected to stimulate local economic activities. The project's influence, along with other ongoing or planned developments, necessitates strategic planning to optimally enhance local economic capacities without causing saturation.
- **Community Infrastructure and Services:** The project's demand on local infrastructure—such as roads, utilities, and public services—could be moderate when combined with other local demands.
- **Cultural and Community Identity:** The project may lead to changes in land use and an increase in industrial activities, potentially altering the community's character and impacting long-term community identity and cohesion.

The establishment of the Makganyane Mining Right will have transformative effects on the community and local municipality, resulting in various impacts to different degrees:

- People:
  - Skills development and training opportunities.
  - Employment opportunities.
  - Renewed sense of hope.
  - Improved socio-economic outcomes due to investments in socio-economic and economic development (SED):
    - Health improvements.
    - Education enhancements; and
    - Increased economic participation.
  - Socio-economic cohesion among community beneficiaries; and
  - Increased sense of prestige for the community and town.

- Planet:
  - Increased power supply for the country with reduced environmental damage.
- Profit:
  - Increased revenue for the local municipality.
  - Increased economic activity in the local community and broader municipality; and
  - Investment in socio-economic and commercial infrastructure to stimulate economic growth.

These elements illustrate the intertwined nature of the project's impacts on the local socio-economic environment, highlighting the need for integrated strategic management to mitigate negative effects while enhancing positive contributions.

Table 20: Cumulative Impact Tables for Makganyane Mining Right

Nature: An increase in employment opportunities, skills development, and business opportunities with the establishment of the project.		
	Overall Impact of the Proposed Project Considered in Isolation	**Cumulative Impact of the Project and Other Projects in the Area**
Extent	5	5
Duration	5	5
Severity	3	4
Overall Consequence	4.33	4.67
Frequency	5	5
Probability	4	5
Overall Likelihood	4.5	5
Significance	Medium-High (19.49)	High (23.33)
Status (positive or negative)	Positive	Positive
Reversibility	N/A	N/A
Irreplaceable loss of resources?	N/A	N/A
Can impacts be mitigated?	Yes	Yes

Confidence in findings: High.
Enhancement Measures
• Local employment policies should be prioritised to maximize the project's opportunities for the community. • Utilisation of local service providers by developers to enhance the cumulative positive impacts on local economic activity and employment.

Nature: Negative impacts and change to the local economy with an in-migration of labourers, businesses, and jobseekers to the area.		
	Overall Impact of the Proposed Project Considered in Isolation	**Cumulative Impact of the Project and Other Projects in the Area**
Extent	5	5
Duration	4	4
Severity	2	4
Overall Consequence	3.67	4.33
Frequency	5	5
Probability	3	4
Overall Likelihood	4	4.5
Significance	Medium (14.68)	Medium-High (19.5)
Status (positive or negative)	Negative	Negative
Reversibility	Yes	Yes
Irreplaceable loss of resources?	No	No
Can impacts be mitigated?	Yes	Yes
Confidence in findings: High.		
Mitigation Measures		
• Develop a recruitment policy/process (to be implemented by contractors), which will ensure the sourcing of labour locally, where available. • Work together with government agencies to ensure that service provision is in line with the development needs of the local area. • Form joint ventures with community organisations, through Trusts, which can provide local communities with benefits, such as employment opportunities and services. • Develop and implement a recruitment protocol in consultation with the municipality and local community leaders. Ensure that the procedures for applications for employment are clearly communicated.		

7.3 Issues Associated with the No-Go Option

The "no-go" alternative entails not proceeding with the Makganyane Mining Right project. The implementation of the project would result in both positive and negative socio-economic impacts, with negative impacts primarily associated with operational activities, and positive impacts largely connected to economic and employment opportunities.

Potential negative socio-economic impacts related to the operational phase of the Makganyane Mining Right include:

- Nuisance impacts such as dust and noise affecting nearby communities and sensitive receptors.
- Visual impacts and changes to the local landscape due to mining activities and related infrastructure.
- Potential safety and security risks resulting from increased site activity and traffic movements.
- Increased pressure on local infrastructure and basic services due to sustained operational activities and workforce presence.

Potential positive socio-economic impacts associated with the operational phase of the project include:

- Employment opportunities, including direct employment within the mining operations and indirect employment in supporting industries.
- Opportunities for local skills development and skills transfer, contributing to sustained employability.
- Stimulus to the local and regional economy through increased economic activity, potentially generating a multiplier effect.
- Community development and socio-economic initiatives as part of corporate social responsibility and commitments outlined in the social and labour plan.

The implications of the "no-go" alternative can be summarised as follows:

- The primary benefit of the "no-go" option is the avoidance of operational disturbances such as noise, dust, and visual impacts, thereby maintaining the existing environmental and social conditions. This outcome is considered neutral.
- Negative impacts of the "no-go" alternative include missed opportunities for job creation, economic diversification, local skills development, and community improvement initiatives. This would represent a significant negative socio-economic impact.
- Choosing the "no-go" alternative would also result in the loss of potential infrastructure enhancements and related economic benefits that could positively affect the broader local economy.

- The "no-go" alternative maintains the current socio-economic conditions without utilising available mineral resources, limiting economic growth and development opportunities for the local and regional economies, specifically within the Tsantsabane Local Municipality.

8 Monitoring and Compliance (EMPr)

8.1 Construction Phase

Table 21: EMPr Direct Employment and Skills Development

OBJECTIVE: Maximise local employment and skills opportunities associated with the construction phase			
Project component/s	Construction of the proposed Makganyane Mining Right and associated infrastructure		
Potential Impact	The opportunities and benefits associated with the creation of local employment and skills development to be maximised.		
Activity/risk source	Construction procurement practice employed by the Contractor. Developers' investment plan.		
Mitigation Target/Objective	The developer should aim to employ as many low-skilled and semi-skilled workers from the local area as possible. This should also be made a requirement for all contractors.		
Enhancement: Action/Control		Responsibility	Timeframe
The developers be committed to involving and benefiting the communities surrounding the development, contributing to their development and growth.		The Proponent & EPC Contractors	Pre-construction & construction phase
Training and skills development programmes should be offered to employees of the development prior to the commencement of the construction phase.		The Proponent & EPC Contractors	Pre-construction & construction phase
The communities which are most in need of employment on a local level should be considered for employment before outsourcing.		The Proponent & EPC Contractors	Pre-construction & construction phase
Engage proactively with local stakeholders and implement transparent hiring practices to ensure equitable distribution of employment opportunities.		The Proponent & EPC Contractors	Pre-construction & construction phase
Performance Indicator	Employment and business policy document that sets out local employment and targets completed before construction phase commences. Employ as many semi and unskilled labour from the local area or local municipality as possible. Training and skills development programme undertaken prior to the commencement of construction phase.		
Monitoring	The developer and EPC contractor must keep a record of local recruitments and information on local labour to be shared with the ECO for reporting purposes.		

Table 22: EMPr Economic Multiplier Effects

OBJECTIVE: Maximise local economic multiplier effect during construction phase

Project component/s	Construction of the proposed Makganyane Mining Right and associated infrastructure		
Potential Impact	Potential local economic benefits		
Activity/risk source	Developer's procurement plan		
Mitigation Target/Objective	Increase the procurement of goods and services especially within the local economy		
Enhancement: Action/Control		Responsibility	Timeframe
Preference is given to suppliers that are local to the operation where the service will be consumed.		The Proponent & EPC Contractors	Pre-construction & construction phase
Establishing liaison and communication structures with the district and local government structures.		The Proponent & EPC Contractors	Pre-construction & construction phase
Liaise with the local governmental structures and municipal authorities in the labour- sending communities to ensure that group development initiatives are integrated into the economic and development plans of those areas.		The Proponent & EPC Contractors	Pre-construction & construction phase
It is recommended that a local procurement policy be adopted by the developer to maximise the benefit to the local economy, where feasible.		The Proponent & EPC Contractors	Pre-construction & construction phase
Create job opportunities, boost local economies by supporting business activities, and contribute to government tax revenues through the development of the Makganyane Mining Right.		The Proponent & EPC Contractors	Pre-construction & construction phase
Prior to the start of the construction contractor procurement, a database of local companies, specifically Historically Disadvantaged (HD) companies, that qualify as potential service providers (e.g., construction companies, catering companies, waste collection companies, security companies, etc) should be identified and informed about the tender process and invited to bid on project-related work, if applicable.		The Proponent & EPC Contractors	Pre-construction & construction phase
Engage with local authorities and business organisations to investigate the feasibility of obtaining construction materials, goods, and products from local suppliers, where possible.		The Proponent & EPC Contractors	Pre-construction & construction phase
Performance Indicator	Local procurement policy is adopted. Local goods and services are purchased from local suppliers where feasible (Local Municipality)		
Monitoring	The developer must monitor indicators listed above to ensure that they have been met for the construction phase.		

Table 23: EMPr Safety and Security Impacts

OBJECTIVE: To avoid or reduce the possibility of the increase in crime and safety and security issues during the construction phase

Project component/s	Construction of the proposed Makganyane Mining Right and associated infrastructure		
Potential Impact	Increase in crime due to influx of non-local workforce and job seekers into the area		
Activity/risk source	Safety and security risks associated with construction activities		
Mitigation Target/Objective	To avoid or minimise the potential impact on local communities and their livelihoods		
Enhancement: Action/Control		Responsibility	Timeframe
Access in and out of the construction camp should be strictly controlled by a security company.		The Proponent & EPC Contractor	Construction phase
The appointed EPC contractor must appoint a security company and appropriate security procedures are to be implemented.		The Proponent & EPC Contractor	Construction phase
Improving system monitoring and analysis to improve risk management.		The Proponent & EPC Contractors	Construction phase
Making the surrounding landowners aware of the dangers associated with the influx of workers during the construction period.		The Proponent & EPC Contractors	Construction phase
Identifying abandoned buildings and utilizing them or ensuring they cannot be used for malicious activities.		The Proponent & EPC Contractors	Construction phase
Ensuring that access cannot be gained to surrounding properties.		The Proponent & EPC Contractors	Construction phase
Encourage employees to stop working when a workplace is considered unsafe and/or to prevent unsafe actions.		The Proponent & EPC Contractors	Construction phase
Education, Training and Development Services must be implemented.		The Proponent & EPC Contractors	Construction phase
The contractor must provide adequate firefighting equipment on site and provide firefighting training to selected construction staff.		The Proponent & EPC Contractors	Construction phase
Have clear rules and regulations for access to the proposed site to control loitering.		The Proponent & EPC Contractors	Construction phase
A comprehensive employee induction programme would cover land access protocols, fire management and road safety must be prepared.		The Proponent & EPC Contractors	Construction phase
A Community Liaison Officer should be appointed.		The Proponent & EPC Contractors	Construction phase
A method of communication should be implemented whereby procedures to lodge complaints are set out in order for the local community to express any complaints or grievances with the construction process.		The Proponent & EPC Contractors	Construction phase

Performance Indicator	Employee induction programme, covering land access protocols, fire management and road safety. The construction site is appropriately secured with a controlled access system. Security company appointed and security procedures implemented.
Monitoring	The developer and EPC contractor must monitor the indicators listed above to ensure that they have been met for the construction phase

Table 24: EMPr Pressure on Economic and Social Infrastructure Impacts from an in Migration of People

OBJECTIVE: Reduce the pressure on economic and social infrastructure and social conflicts from an influx of a non-local workforce and jobseekers during the construction phase		
Project component/s	Construction of the proposed Makganyane Mining Right and associated infrastructure.	
Potential Impact	Increase in traffic disruptions, safety hazards, and impacts on movement patterns of local community as well as impact on private property due to the upgrade of the existing road and heavy vehicle traffic in the local area.	
Activity/risk source	Construction activities affecting daily living and movement patterns.	
Mitigation Target/Objective	To avoid or minimise the potential impact on local communities and their livelihoods.	
Enhancement: Action/control	Responsibility	Timeframe
Where possible, make it a requirement for contractors to implement a 'locals first' policy. Should be advertised for construction employment opportunities, especially for semi and low-skilled job categories (preference to the local Municipality). Enhance employment opportunities for the immediate local area, if this is not possible, then the broader focus areas should be considered for sourcing workers such as the Local Municipality.	The Proponent & EPC Contractors	Pre- construction phase & construction phase
Prior to construction commencing representatives from the local community e.g., ward councillor, surrounding landowners should be informed of details of the construction schedule and exact size of the workforce.	The Proponent & EPC Contractors	Construction phase
Recruitment of temporary workers at the gates of the development should not be allowed. A recruitment office located in town with a Community Liaison officer should be established to deal with jobseekers.	The Proponent & EPC Contractors	Construction phase
Have clear rules and regulations for access to the proposed site to control loitering.	The Proponent & EPC Contractors	Construction phase
A Community Liaison Officer should be appointed. A method of communication should be implemented whereby procedures to lodge complaints are set out in order for the local community to express any complaints or grievances with the construction process	The Proponent & EPC Contractors	Pre-construction & construction phase

Performance Indicator	Percentage of the workers employed in construction that come from local communities.
Monitoring	The developer must keep a record of local recruitments and information on local labour to be shared with the ECO for reporting purposes.

Table 25: Nuisance Impacts (Noise & Dust)

OBJECTIVE: To avoid or minimise the potential impacts of noise and dust from construction activities during the construction phase			
Project component/s	Construction of the proposed Makganyane Mining Right and associated infrastructure.		
Potential Impact	Heavy vehicles and construction activities can generate noise and dust impacts.		
Activity/risk source	Construction activities		
Mitigation Target/Objective	To avoid and or minimise the potential noise and dust impacts associated with construction activities.		
Enhancement: Action/control		Responsibility	Timeframe
Implement dust suppression measures for heavy vehicles such as wetting the roads on a regular basis and ensuring that vehicles used to transport sand and building materials are fitted with tarpaulins or covers.		EPC Contractor	Construction phase
Ensure all vehicles are road worthy, drivers are qualified and are made aware of the potential noise and dust issues.		EPC Contractor	Construction phase
Ensure that drivers adhere to speed limits.		EPC Contractor	Construction phase
A Community Liaison Officer should be appointed. A method of communication should be implemented whereby procedures to lodge complaints are set out in order for the local community to express any complaints or grievances with the construction process.		The Proponent & EPC contractor	Pre-construction & construction phase
Performance Indicator	Dust suppression measures implemented for all heavy vehicles that require such measures during the construction phase. Enforcement of strict speeding limits Road worthy certificates in place for all vehicles Community liaison officer available for community grievances and communication channel		
Monitoring	The EPC contractor must monitor the indicators to ensure that they have been met for the construction phase		

8.2 Operational Phase

Table 26: EMPr Direct Employment and Skills Development During Operation Phase

OBJECTIVE: Maximise local employment and skills opportunities associated with the construction phase			
Project component/s	Operation and maintenance of the proposed Makganyane Mining Right and associated infrastructure.		
Potential Impact	Loss of opportunities to stimulate production and employment of the local economy		
Activity/risk source	Labour practices employed during operations		
Enhancement: Target/Objective	Maximise local community employment benefits in the local economy		
Enhancement: Action/control		Responsibility	Timeframe
Adopt a local employment policy to maximise the opportunities made available to the local labour force. (preference to Local Municipality)		The Proponent & EPC Contractors	Operation phase
The recruitment selection process should seek to promote gender equality and the employment of women wherever possible		The Proponent & EPC Contractors	Operation phase
Establish vocational training programs for the local labour force to promote the development of skills		The Proponent & EPC Contractors	Operation phase
Performance Indicator	Percentage of workers that were employed from local communities (Local Municipality) Number of people attending vocational training throughout the operation phase		
Monitoring	The developer must keep a record of local recruitments and information on local labour to be shared with the ECO for reporting purposes		

OBJECTIVE: Maximise local economic multiplier effect during the operational phase			
Project component/s	Operation and maintenance of the proposed Makganyane Mining Right and associated infrastructure.		
Potential Impact	Loss of opportunities to stimulate production and employment of the local economy		
Activity/risk source	Labour practices employed during operations		
Enhancement: Target/Objective	Maximise local community employment benefits in the local economy		
Enhancement: Action/control		Responsibility	Timeframe

Adopt a local employment policy to maximise the opportunities made available to the local labour force. (preference to Local Municipality)	The Proponent & EPC Contractors	Operation phase
Prior to the start of the construction contractor procurement, a database of local companies, specifically Historically Disadvantaged (HD) companies, that qualify as potential service providers (e.g., construction companies, catering companies, waste collection companies, security companies, etc) should be identified and informed about the tender process and invited to bid on project-related work, if applicable.	The Proponent & EPC Contractors	Operation phase
Engage with local authorities and business organisations to investigate the feasibility of obtaining construction materials, goods, and products from local suppliers, where possible.	The Proponent & EPC Contractors	Operation phase
Performance Indicator	Percentage of workers that were employed from local communities (Local Municipality) Number of people attending vocational training throughout the operation phase	
Monitoring	The developer must keep a record of local recruitments and information on local labour to be shared with the ECO for reporting purposes	

Table 27: EMPr Local Economic Development and Socio-Economic Upliftment During the Operational Phase

OBJECTIVE: Reduce the visual and sense of place impacts associated with the operation phase of the project		
Project component/s	Operation and maintenance of the proposed Makganyane Mining Right and associated infrastructure.	
Potential Impact	Contribution to local economic development and socio-economic upliftment.	
Activity/risk source	Engagement with local businesses and community initiatives.	
Enhancement: Target/Objective	Maximise contributions to local economic development and socio-economic upliftment through sustained employment, support for local businesses, and community initiatives.	
Enhancement: Action/Control	Responsibility	Timeframe
Engage in close collaboration with local authorities to identify and prioritise infrastructure improvements that align with community needs and future growth.	The Proponent	Operation phase
Explore opportunities for public-private partnerships to fund and implement infrastructure projects. This can leverage resources and expertise from both the private and public sectors, ensuring sustainable and well-executed infrastructure improvements.	The Proponent	Operation phase
Performance Indicator	The number of local businesses engaged and contracted, the amount of funding allocated to community initiatives and infrastructure improvements,	

	the number of public-private partnership projects initiated, and the participation rates in workshops and training programs.
Monitoring	The developer must keep records of all local business engagements, funding allocations, partnership projects, and training programs. Regular reports should be prepared and shared with the ECO and relevant stakeholders.

9 Environmental Impact Statement

The Makganyane Mining Right project, located near Postmasburg within the Tsantsabane Local Municipality in the Northern Cape Province, aims to enhance local mining capacity while balancing economic growth and environmental stewardship. This project is strategically aligned with national and regional priorities, seeking to provide substantial socio-economic benefits to local communities through employment opportunities and infrastructure enhancements.

Nationally, South Africa prioritises sustainable mining practices, balancing economic growth with socio-economic and environmental responsibilities. The Makganyane Mining Right project is aligned with these national objectives, adhering strictly to regulatory guidelines to manage mineral resources efficiently and sustainably.

The Tsantsabane Local Municipality, characterised by high unemployment and underutilised economic potential, stands to benefit significantly from this project. Key anticipated benefits include employment opportunities for local residents, enhanced skills development through targeted training initiatives, and stimulation of local economic activities through direct and indirect project expenditure.

Integration with existing infrastructure such as local roads (particularly the R385 provincial road), utilities, and careful environmental management practices are integral aspect of the project design, ensuring minimal ecological disruption. Given its proximity to local communities and sensitive environmental features, the project's design incorporates comprehensive mitigation measures addressing nuisance impacts (noise and dust), and community safety concerns.

9.1 Key Findings

- The assessment of the key issues indicated that there are **no fatal flaws**, associated with the Makganyane Mining Right project.
- Positive impacts, including employment and local economic growth, can be maximised through effective planning and implementation of enhancement measures.
- Potential negative impacts, such as noise and dust, and increased pressure on local services, are typical of mining projects and can be significantly mitigated through the recommended measures.
- Employment opportunities generated by the project will predominantly benefit nearby communities, contributing positively to local economic stimulation and skills development.
- Continuous communication, comprehensive planning, and the effective implementation of recommended mitigation measures will ensure the project's beneficial contribution to the local community and broader region.

9.2 Recommendations

The following recommendations are made based on the SEIA:

- Local Employment: Prioritise the employment of local unskilled and semi-skilled workers to enhance positive socio-economic impacts and reduce external migration pressures.
- Local Procurement: Actively engage local suppliers for materials and services to boost the local economy and minimise transportation-related environmental impacts.
- Operational Impact Mitigation: Implement rigorous management plans to address operational impacts, including regular dust suppression, noise management, and effective traffic management.
- Safety and Security: Enhance safety measures and security protocols, particularly regarding access control and traffic management around the mining site.
- Community Liaison: Maintain an effective communication channel through a community liaison officer to proactively manage stakeholder concerns and ensure transparency.

By implementing these recommendations, the Makganyane Mining Right can ensure that it contributes positively to the local community and economy, while minimising any potential negative impacts.

9.3 Conclusion

The proposed Makganyane Mining Right project represents an important development for the Northern Cape, particularly within the Tsantsabane Local Municipality, showcasing a balanced approach to economic development and environmental management. This initiative is positioned to play a role in the socio-economic advancement of the region by providing employment opportunities, stimulating local economic activity, and enhancing infrastructure development.

As this SEIA has detailed, the project is poised to offer a potential boost to the local economy by creating direct and indirect job opportunities, predominantly sourced from nearby communities. This is particularly vital in an area characterised by high unemployment and economic underdevelopment. The initiative can support revitalising the local economy.

Furthermore, the project is aligned with national policies that support sustainable mining practices and economic empowerment, ensuring that its implementation partially contributes to broader developmental goals. The strategic location of the project and its integration with local socio-economic structures are designed to optimise both environmental sustainability and economic viability.

However, the realisation of these benefits is contingent upon the project's adherence to rigorous environmental standards and its ability to effectively implement the recommended mitigation measures. Effective stakeholder engagement and transparency in operations are essential to foster community support and ensure the long-term success of the project. This engagement includes addressing any

concerns related to environmental impacts, such as noise, dust, and traffic, which are common challenges in construction and mining projects.

Based on the findings of this report, the development of the proposed Makganyane Mining Right project is supported, provided that the recommended mitigation measures are implemented. Effective stakeholder engagement, transparency, and responsiveness to community concerns are crucial to maintaining public trust and acceptance of the project.

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Appendix A: Survey Templates

Appendix B: Specialist CV