

GOEDGEVONDEN COMPLEX

A
GLENCORE
MANAGED OPERATION

**Application for an amendment to Environmental
Authorisation in terms of regulations 21-24 of the
Environmental Impact Assessment Regulations (2014, as
amended)**

DMR Ref No: MP 30/5/1/2/2/169 MR

**SOCIO-ECONOMIC IMPACT ASSESSMENT REPORT
(Final)**

July 2022

DOCUMENT INFORMATION

GOEDGEVONDEN COMPLEX AMENDMENT APPLICATION SOCIO-ECONOMIC IMPACT ASSESSMENT REPORT

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1 INTRODUCTION

This report presents the socio-economic baseline and impact assessment for the GGV Amendment Application (GGV). The report includes the current and possible future socio-economic impacts of GGV, and where appropriate would indicate if there would be an increase or decrease in the impact due to the amendment application. GGV has not had a previous Socio-economic Assessment, therefore it was seen as appropriate to provide a comprehensive overview of the socio-economic environment as well as the macro-economic contributions the mine has on the economy.

1.1 Context

The Goedgevonden Complex (GGV) is an existing coal mine that has been in operation since 2009. GGV is jointly owned by African Rainbow Minerals (ARM) Coal (Pty) Ltd (51%) and Glencore Coal Operations South Africa (Glencore) (49%). ARM Coal in turn is held by both African Rainbow Minerals (51%) and Glencore (49%). GGV operates under Mining Right No. MP 30/5/1/1/2/169 MR and has an approved Environmental Management Programme (EMPr).

GGV is located approximately 50 km south-west of eMalahleni, and 38 km east of Delmas. The town of Ogies is situated directly north of GGV. It falls in the eMalahleni Local Municipality of the Nkangala District Municipality, Mpumalanga Province.

GGV is situated in a mostly rural community setting with a mixed land use including agricultural activities (mainly maize production), residential areas and various coal mining operations in the surrounding area. The GGV operation is in the Saaiwaterspruit catchment, which forms part of the Olifants River catchment upstream of the Witbank Dam.

There are several roads servicing the area:

- Road P29-1 (Route R555). The road is aligned in an east-west direction through Ogies.
- Road P52-3 (Route R545). This route links south-eastwards from Ogies to Bethal.
- Road P53-1 links Road P29-1 to Road P52-3 on the south-eastern side of Ogies.
- Road D1955 (Route R545). This route links northwards from Road P29-1 to the N12 Freeway and the town of Phola.
- National Road N12 is aligned in an east to west direction to the north of Ogies.

There are several railway lines in proximity to GGV. The Witbank-Blackhill-Minnaar-Ogies-Kendal railway line is aligned in an east-west direction through Ogies. This line branches southwards just east of Ogies to Saaiwater Station. The latter railway line presently carries 36 trains per day. The Witbank-Ogies line carries 20 trains per day. There are also a few industrial spur lines to various mines in the area, one of which is to GGV.

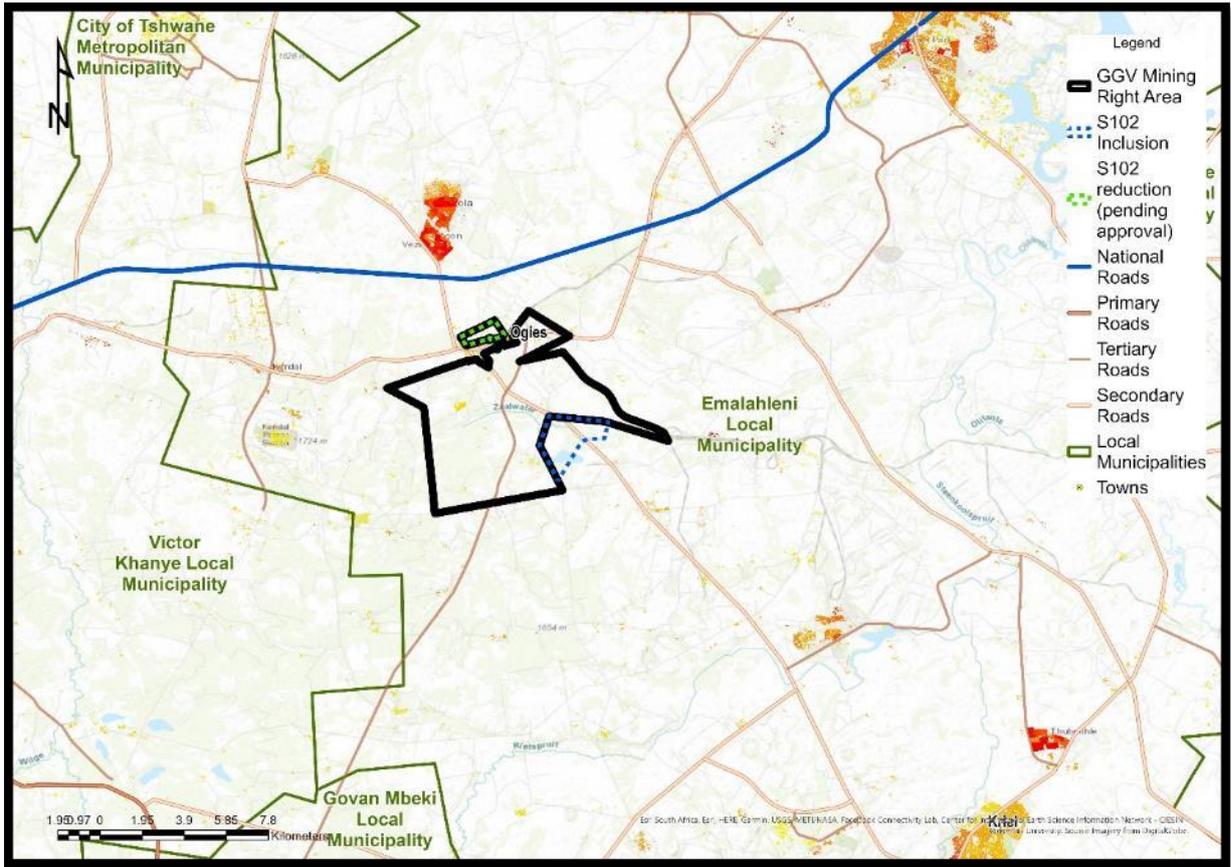


Figure 1-1: Locality Map

1.2 Operational Area

GGV is essentially an opencast mine, mining seam 2, seam 4 and seam 5 coal on portions of the farms Goedgevonden 10 IS, Zaiwater 11 IS and Kleinzuikerboschplaats 5 IS. Underground mining was approved on portions of the farm Grootpan 7 IS which is still to be developed.

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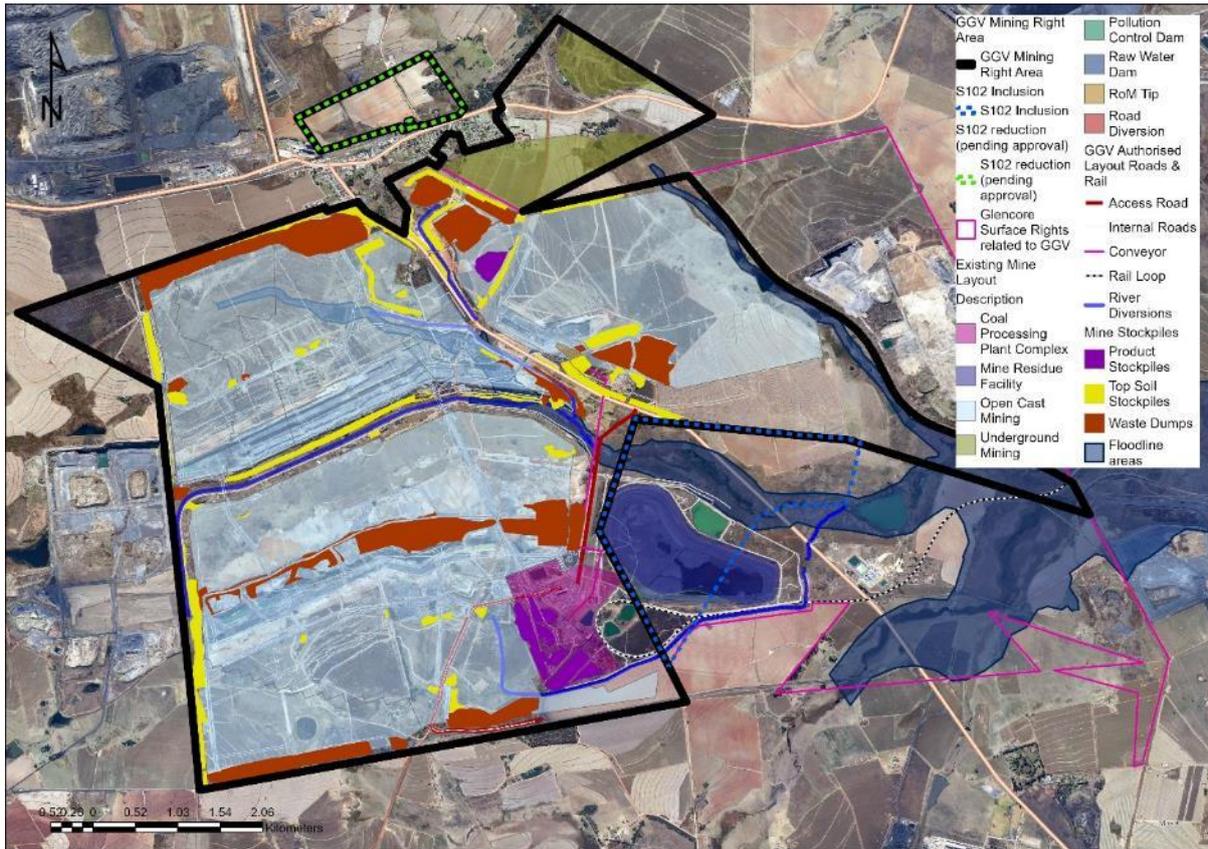


Figure 1-2: Operational Area

The Amendment Application include the following aspects:

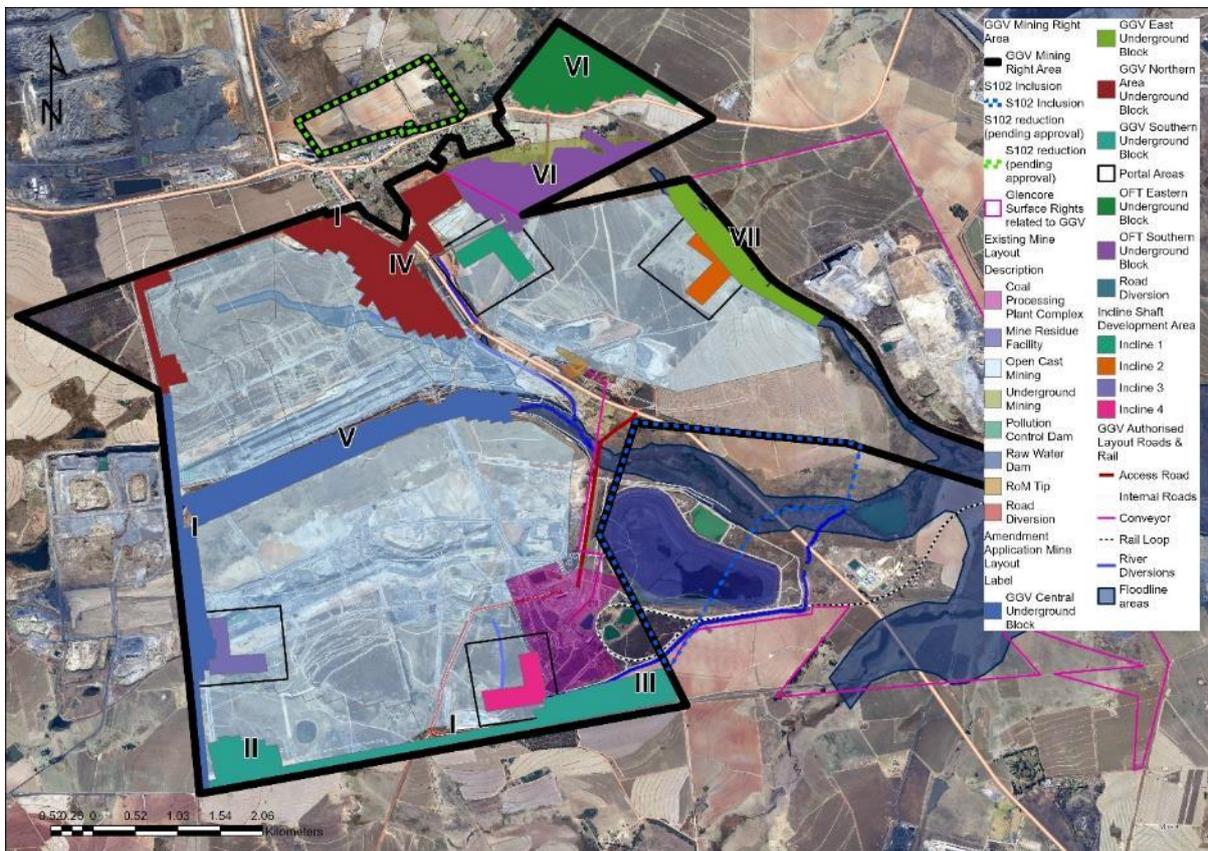
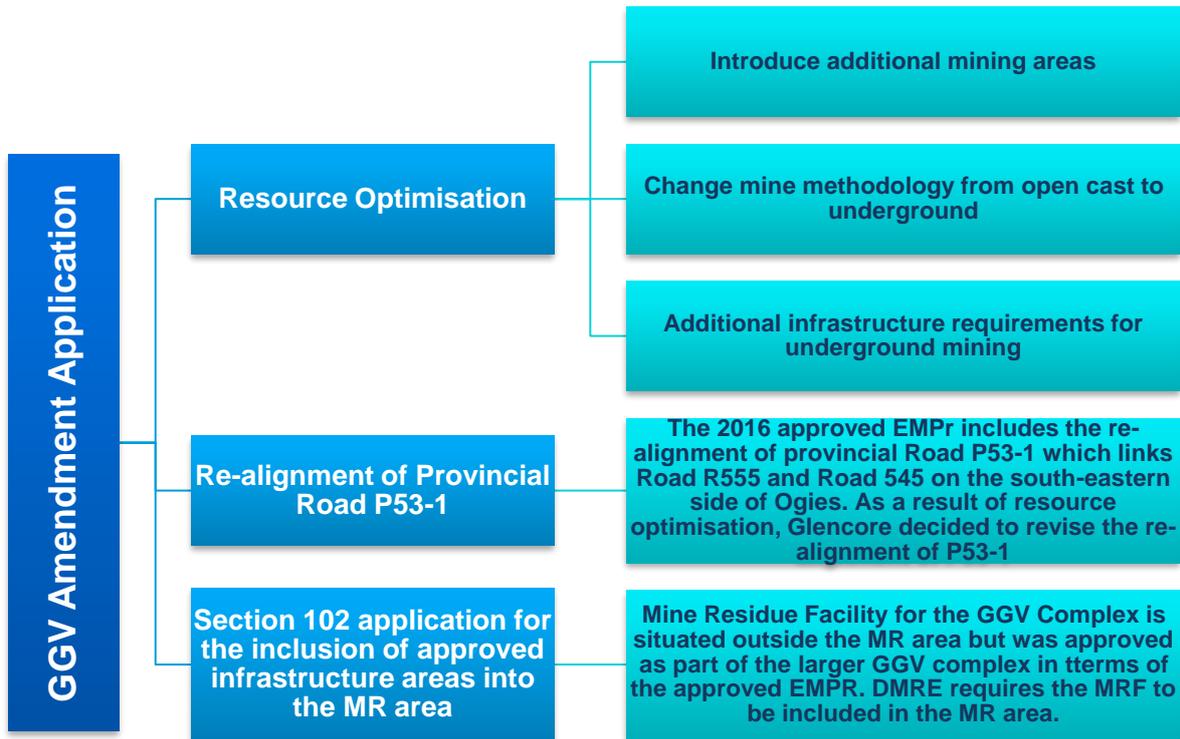


Figure 1-3: Resource Optimisation

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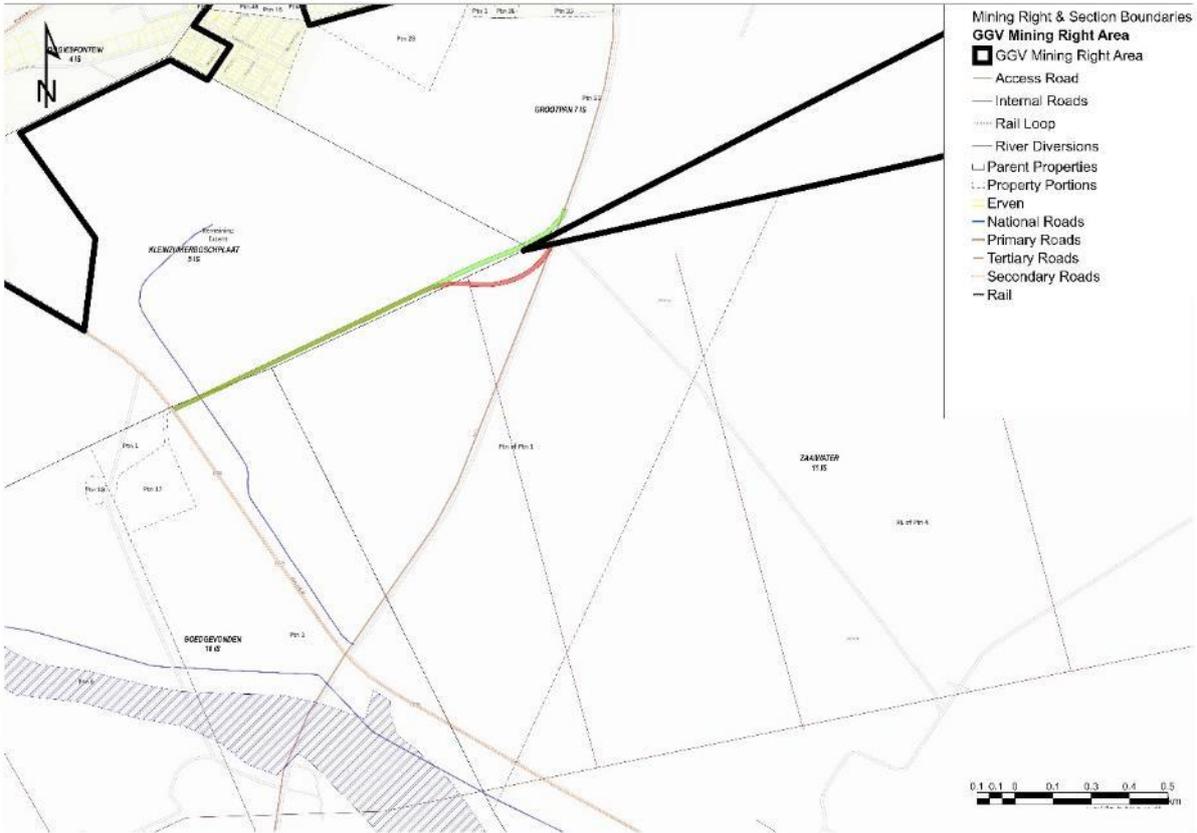


Figure 1-4: Road Re-alignment

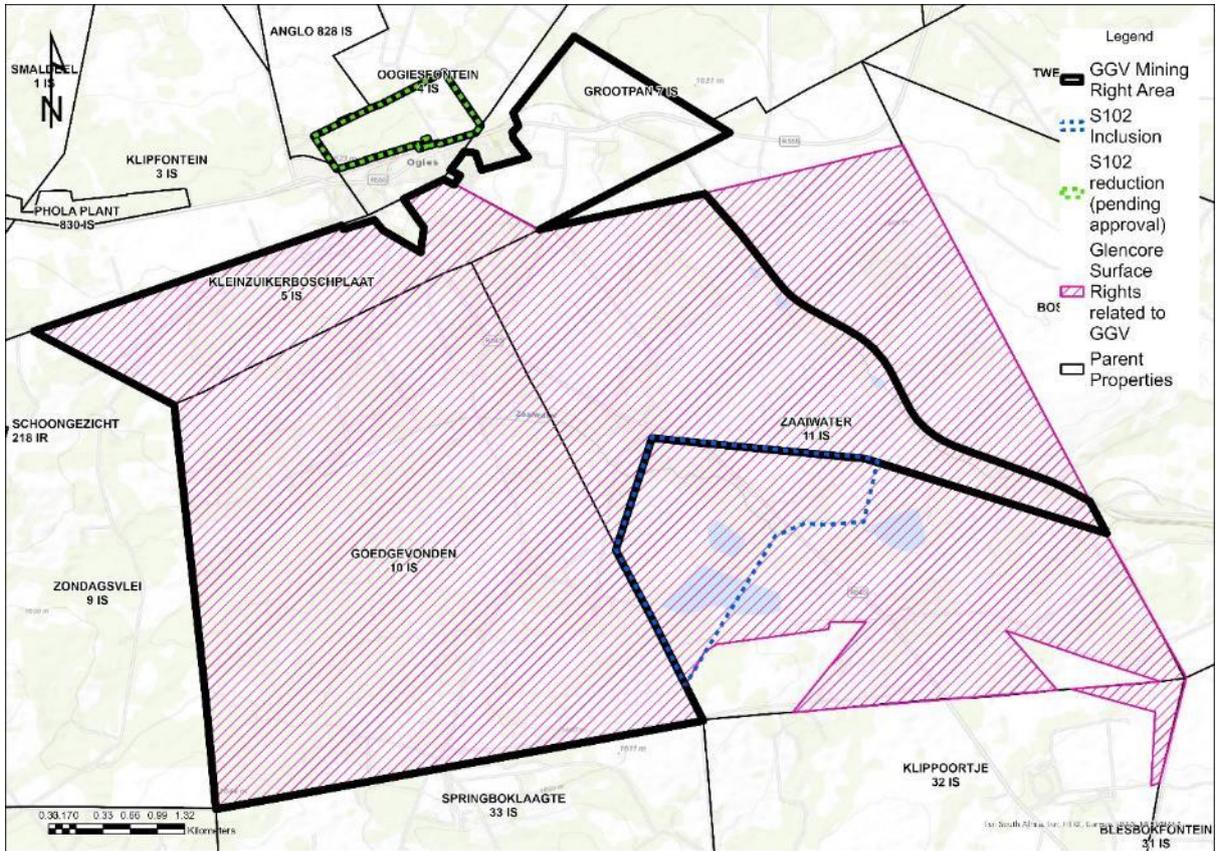


Figure 1-5: Section 102 inclusion of MRF into the MR Area

2 APPROACH AND METHODOLOGY

2.1 Scope of Work

The scope of work of the study included the following:

- A review of available demographic data from the 2016 Community Survey, 2011 Census and other available sources
- A review of relevant planning and policy frameworks for the Nkangala District and Emalahleni Local Municipality
- A review of the approved Environmental Impact Assessment and Management Programme Report
- Determination of the macro-economic impact of GGV for the Life of Mine left
- A literature review of socio-economic issues associated with coal mining in Mpumalanga and similar studies
- Confirmation of socio-economic issues associated with the GGV operation
- A review of the amendment application project description and the identification of any increase or decrease of socio-economic issues related to the amendment application
- Review existing and provide further recommendations on mitigation measures for both existing impacts and potential increased impacts

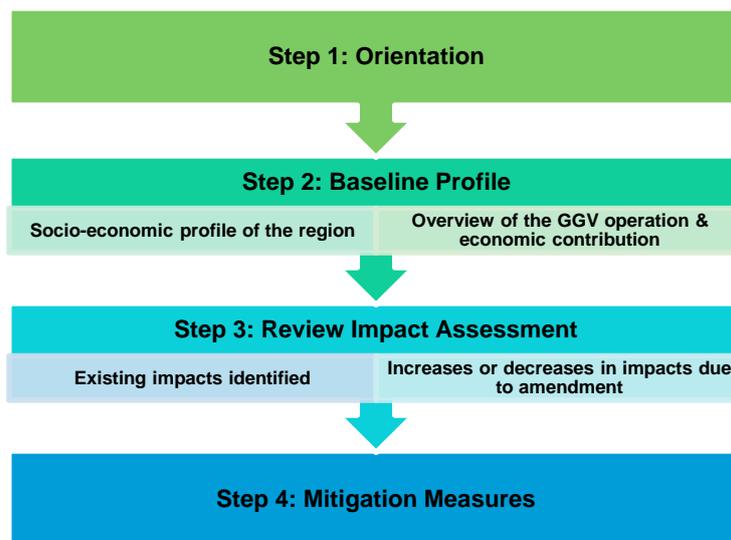


Figure 2-1: Socio-economic Assessment Approach

2.2 Literature Review

The literature review included a review of previous case studies in the region, Municipal and provincial planning documents, including IDPs, economic strategies, and the Provincial Growth and Development Strategy and the Spatial Development Framework, the GGV documentation on the approved EIA/EMPr, including recently completed specialist studies.

2.3 Site Visits and Observations

Direct observation, such as site visits or photographic records, are descriptive records developed by outside or participant observers. Site visits were undertaken in on a few occasions in October 2021 and again in March 2022.

2.4 Sensitive Receptors Identification

Available information, orthophotos and satellite imagery was utilised to identify potential sensitive receptors. The following sensitive receptors have been included in the Socio-economic Assessment:

- Residential areas (towns, rural & labour houses)
- Agricultural residences and infrastructure
- Labour tenants or land occupants
- Existing Mining activities and Power Stations

2.5 Macro-Economic Analysis

The macro-economic analysis converts the monetary values of the different activities to macro-economic indicators, and us based on the National and Mpumalanga Social Accounting Matrix. A SAM is an aggregate representation of the flows of economic transactions that have taken place within an economy over a certain period, usually one year. The SAM is based on the System of National Accounts (SNA) for a particular economy and therefore reflects the structure of that economy for that time. The SAM essentially captures the ‘circular flow’ of the economy where every transaction has both an income effect and a production effect—reflecting the movement of goods and services from producers to consumers and the value addition that occurs as a result of the productive process.

Contribution to Economic Growth	Contribution to public finance through tax revenue	Sustaining and contribution to employment	Contribution to poverty alleviation
<ul style="list-style-type: none"> • Contribution to the Gross Domestic Product on a National Scale • Capital utilisation throughout the Life of Mine • Contribution to the National Balance of Payments due to the export of coal 	<ul style="list-style-type: none"> • Impact on public finance through the tax revenue generated due to GGV's investment and operations 	<ul style="list-style-type: none"> • Employment by Glencore and Contractors • Indirect and induced employment 	<ul style="list-style-type: none"> • Payments to Low income households • Contribution to Social and Local Economic Development • Contribution to Skills Development

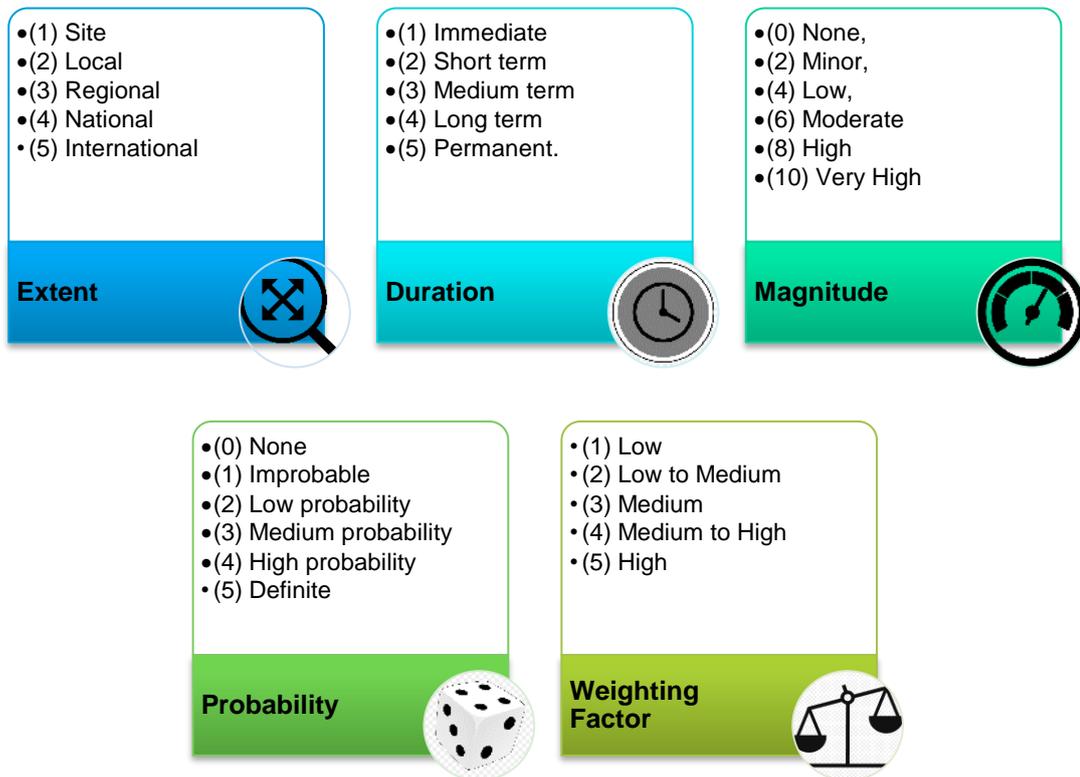
Impacts are evaluated as a Direct, Indirect and Induced Impact.

- The **direct impact** occurs when the project creates jobs and procures goods and services resulting in increased employment, production, business sales and household income.

- The **indirect impact** occurs when the suppliers of goods and services to the proposed project experience larger markets and the potential to expand. Indirect impacts increase job creation, Gross Domestic Product (GDP) and household income
- The **induced impact** represents further shifts in spending on food, clothing, shelter and other consumer goods and services due to increased income in the directly and indirectly affected businesses. This leads to further business growth throughout the local economy.
- The **total impact** is the summation of the direct, indirect and induced impacts and represents the total impact that has been or will be experienced in an economy by producers, suppliers and consumers.

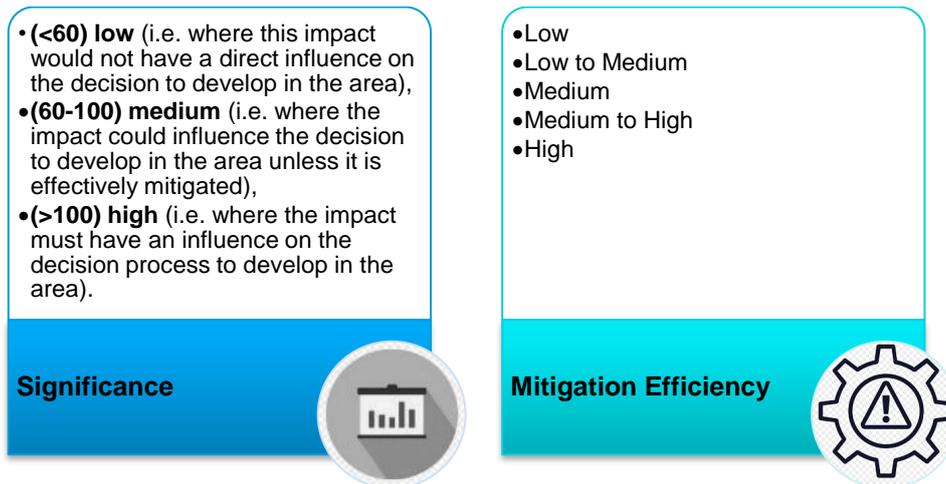
2.6 Assessing the Weight of Socio-economic Impacts

According to the EIA Regulations, 'significant impact means an impact that by its magnitude, duration, intensity or probability of occurrence may have a notable effect on one or more aspects of the environment'.



2.6.1.1 Significance

Based on the information contained in the points above, the potential impacts are assigned a significance rating (S). This rating is formulated by adding the sum of the numbers assigned to extent (E), duration (D) and magnitude (M) and multiplying this sum by the probability (P) of the impact: $SWOM = (E+D+M) \times P$. The impact of mitigation is rated as Low, Medium and High and the impact on Significance reflected in the same scales: $SWM = SWOM \times ME$.



2.7 Limitations and Assumptions

2.7.1 Assumptions

The following assumptions should be noted:

- **Data accuracy:** The information supplied in relation to baseline employment, agricultural activities, size of farming area and crop yield were based on information collected during a social scan undertaken. It is assumed the information provided is accurate.
- **Strategic Importance of the project:** For at least the following 20 years coal will remain a strategic resource in South Africa primary for power generation as renewable resources are developed.
- **Technical suitability & Financial viability:** It is assumed that the amendments proposed are technically suitable and financially viable.
- **Consultation with affected parties:** At this stage in the process limited engagements have been held with affected parties. If any engagements held throughout the process that has an impact on the findings of this report, such changes will be made to the final report.
- **Remaining Life of Mine:** It is assumed that the GGV operation have a 20 year remaining life of mine
- **Accuracy of Economic data:** The macro-analysis was based on data made available by the technical team, and accuracy is assumed.

2.7.2 Limitations

The following limitations are experienced:

- **Information available:** This study was carried out with the information available to the specialists at the time of executing the study, within the available timeframe and budget. The sources consulted are not exhaustive and additional information which might strengthen arguments or contradict information in this report might exist.
- **Evidence-based Approach:** The specialists did endeavour to take an evidence-based approach in the compilation of this report and did not intentionally exclude scientific information relevant to the assessment.

- **Socio-economic Sensitive Environments:** Areas that might yield socio-economic sensitivities have been identified through a desktop study utilising available Mapping, Orthophotos and Google Earth™. The areas that have been marked are the sensitive areas visible to the socioeconomic specialists at the time of the study, which are in close proximity to the mine.
- **Demographic data:** The demographic data used in the study is largely based on the 2011 Census. While this data does provide useful information on the demographic profile of the affected area, the data are dated and should be treated with care. Where possible, reference is made to the latest demographic data contained in local Integrated Development Plans and other documents.

3 PROJECT DESCRIPTION

3.1 Project Location

GGV is located approximately 50 km south-west of eMalahleni, and 38 km east of Delmas. The town of Ogies is situated directly north of GGV. It falls in the eMalahleni Local Municipality of the Nkangala District Municipality, Mpumalanga Province.

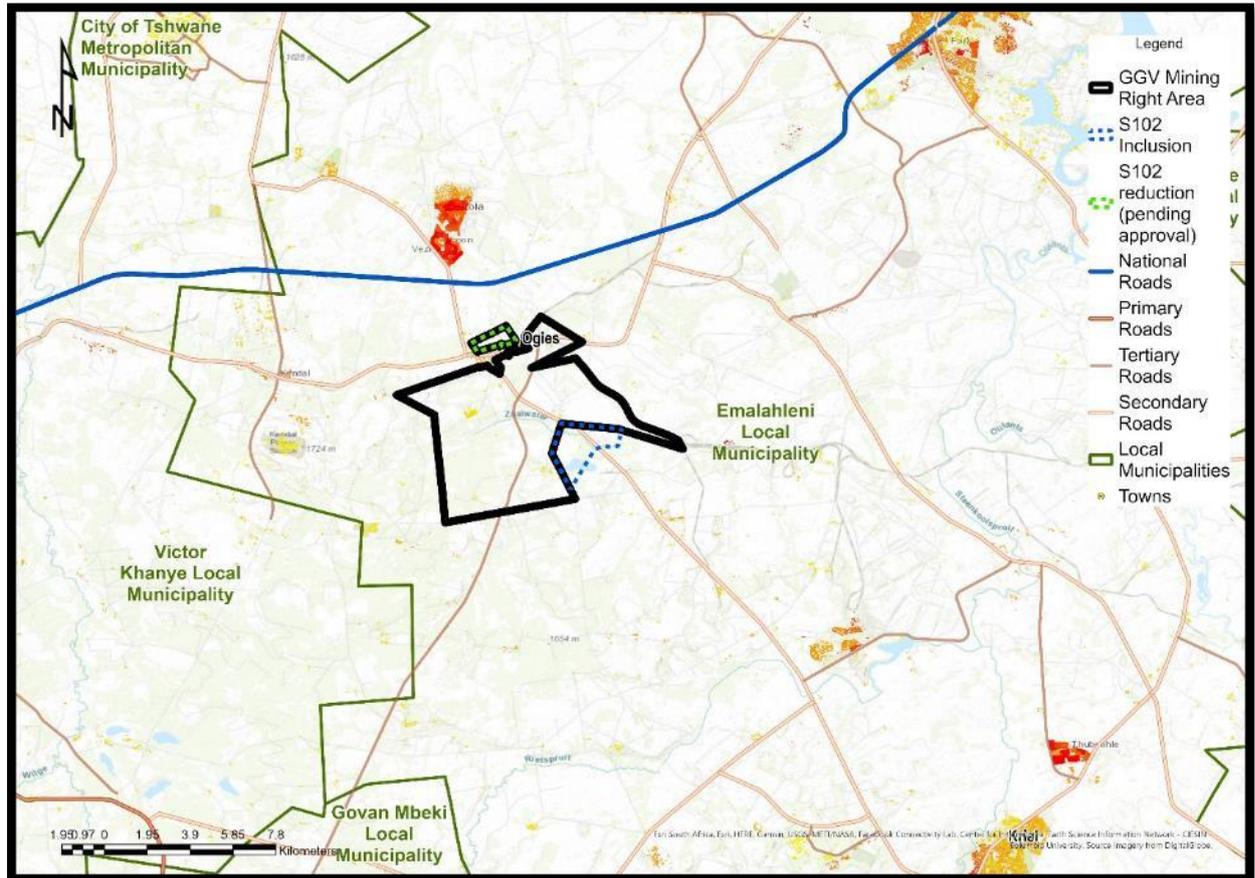


Figure 3-1: Locality Map

GGV is situated in a mostly rural community setting with a mixed land use including agricultural activities (mainly maize production), residential areas and various coal mining operations in the surrounding area. The GGV operation is in the Saaiwaterspruit catchment, which forms part of the Olifants River catchment upstream of the Witbank Dam.

There are several roads servicing the area:

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3.2 Surface Ownership

The GGV Mining Right (MR) area comprises an area of 5 100.8242 hectares (Table 1). In addition, associated infrastructure is situated on adjacent land comprising 1 223.6076 hectares (Table 2), which is mostly owned by Glencore. The total extent of the GGV operations equals 6 324.4318 hectares.

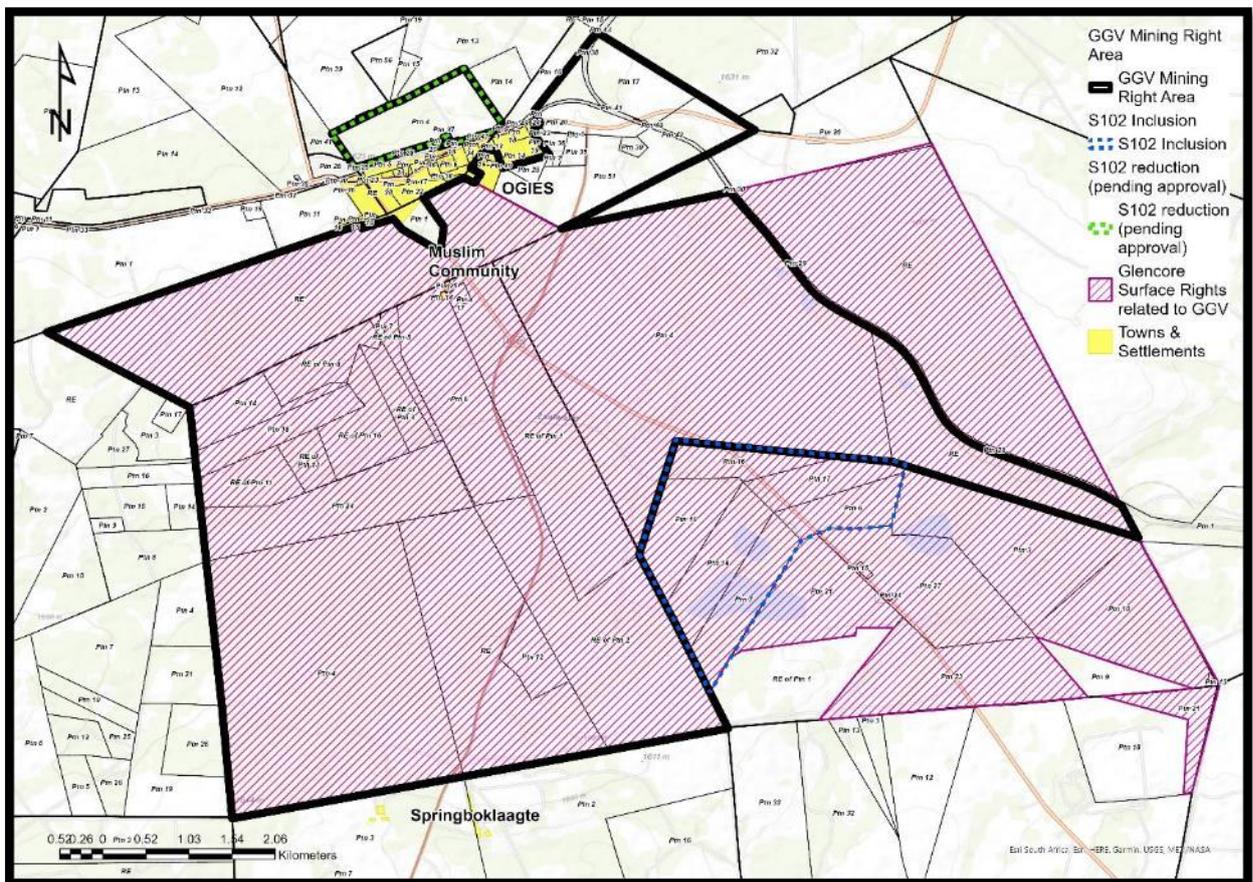


Figure 3-2: GGV operational area

3.3 Approved Mining and Infrastructure Layout

GGV is essentially an opencast mine, mining seam 2, seam 4 and seam 5 coal on portions of the farms Goedgevonden 10 IS, Zaiiwater 11 IS and Kleinzuikerboschplaats 5 IS. Underground mining was approved on portions of the farm Grootpan 7 IS which is still to be developed. The mine has a current annual Run of Mine (ROM) production of 12 million tons per annum (MTPA) with an estimated Life-of-Mine (LOM) until 2043. The remaining opencast mining is scheduled for the next 22 years until 2043. Underground mining is scheduled over a period of 8 years, of which the commencement date is still to be determined. The 2 Lower and 4 Lower coal seams will be targeted through underground mining.

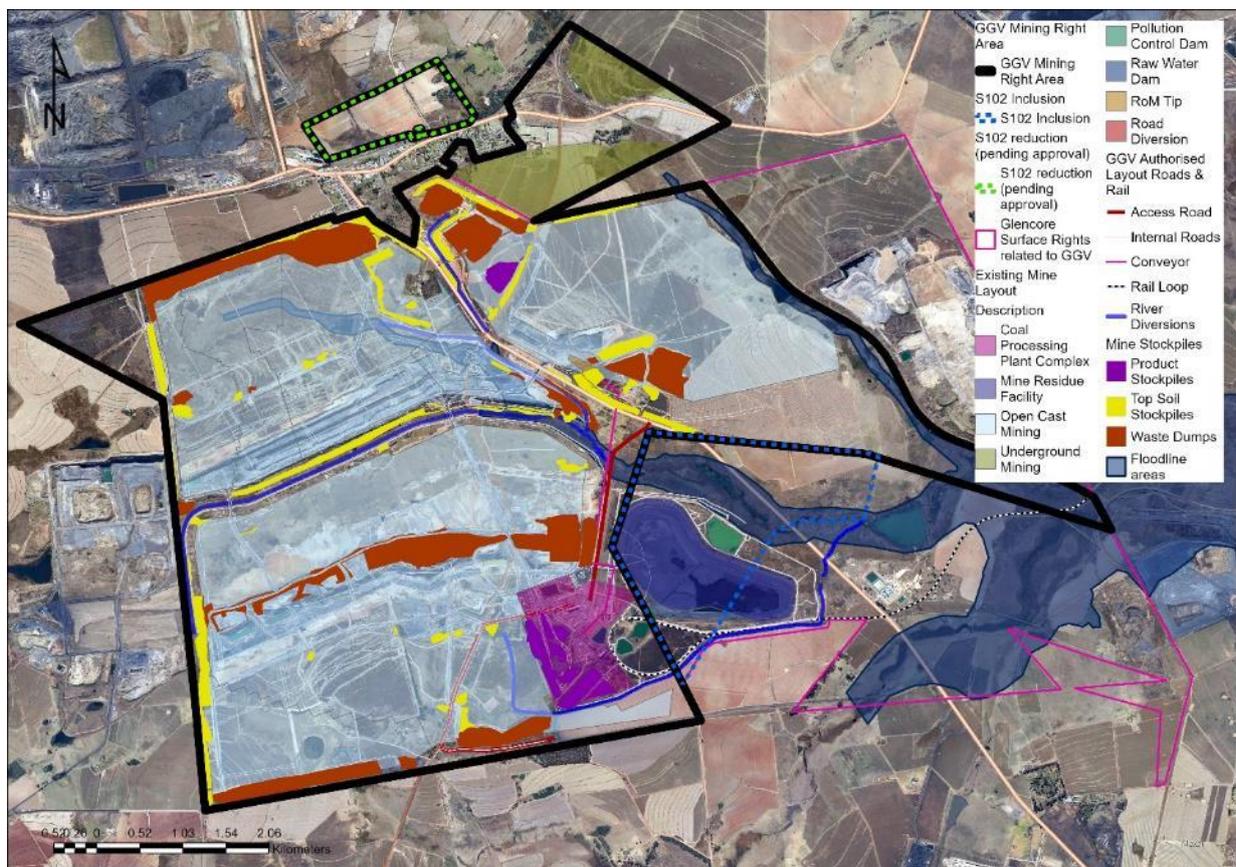


Figure 3-3: Approved Mining Plan (2016)

Coal mined at GGV is beneficiated on site at the existing Coal Handling and Processing Plant (CHPP) and the mine supplies coal both to Eskom for power generation and to the export market.

3.4 Proposed Change of Scope

3.4.1 Optimisation of Mineral Resource

Recent optimisation of the mineral resource within the Mining Right area resulted in a change to the mining schedule with the introduction of additional mining areas (underground) previously excluded from the mine plan. The mining methodology in certain areas also

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changed from opencast to underground. Figure 3-4 indicates the revised mining plan overlain on the approved (2016) mine plan. The following main changes to the mining plan are depicted:

- I. Additional underground areas have been included along the northern, western, and southern boundaries of the farm Goedgevonden 10 IS.
- II. The southwestern corner of the farm Goedgevonden 10 IS will now be mined via underground methods.
- III. A small portion situated to the south of the CHPP will be mined via underground methods, previously approved for opencast.
- IV. A portion of the northern part of Goedgevonden 10 IS, associated with the old Ogies Underground Mine, will now be mined underground instead of opencast.
- V. The main Zaiwaterspruit river diversion running through the centre of Goedgevonden 10 IS will be undermined.
- VI. The eastern underground block on the farm Grootpan 7 IS has increased in size, whilst the southern underground block has decreased slightly.
- VII. The unnamed tributary of the Zaiwaterspruit on the eastern boundary of the Mining Right area and its associated wetland system will be undermined.

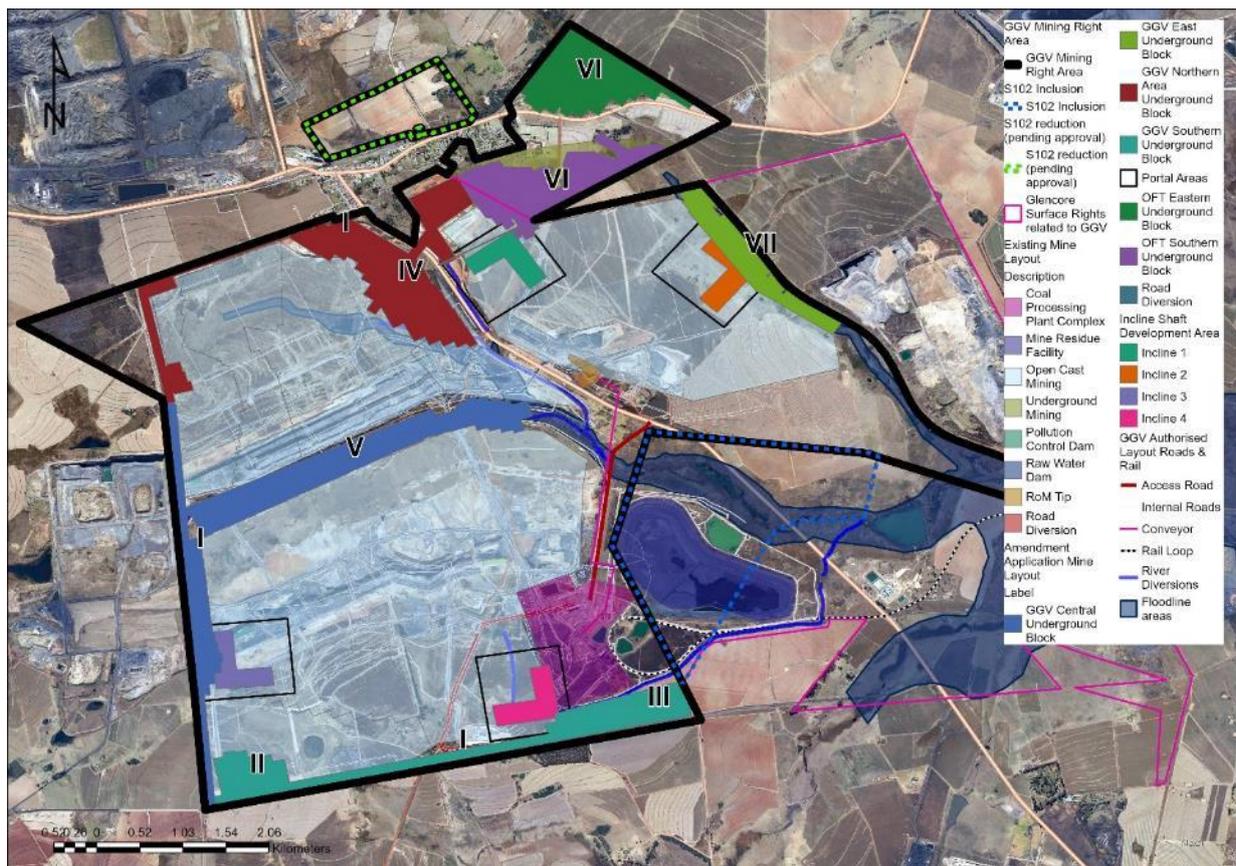


Figure 3-4: New mining plan overlain on approved (2016) mine plan

The underground workings will be accessed through an incline shaft from the opencast highwall. ROM coal from the underground workings will be brought to surface via dedicated conveyors and stockpiled at the incline mouth. The ROM will be collected via truck and

transported to the existing CHPP for processing, where the coal will be washed, classified, and stockpiled. The stockpiled coal will be transported by railway and road for domestic use and export. Underground mining will only commence at a later stage and detail infrastructure layout plans will be developed prior to commencement of the underground mining.

3.4.2 Re-alignment of Road P53-1

A Traffic Impact Assessment (TIA) was conducted by Avzcons Civil Engineering Consultants (Avzcons) in May 2014 to determine the preferred re-alignment at the time. The study concluded that from a geometric and traffic point of view Alternative 2 (approved re-alignment), that runs along the north-western boundary of the farm Zaaiwater 11 IS, is the preferred option as it is the shorter and more direct route. The re-alignment of Road P53-1 as approved within the 2015 EA and the 2016 EMPr is shown as the green line in Figure 3-5 below. The route encroaches on portion 51 of the farm Grootpan 7 IS, which is privately owned.

The proposed (revised) re-alignment of P53-1 to improve traffic safety in respect of the curvature back into the existing road, as well as to effect minimum impact on coal reserves, is indicated as the red line. The two realignment options (approved and revised) will be subjected to a risk assessment process during the EIA process to determine the difference in risks associated with the two alternative options and to determine the advantages and disadvantages of each of the options.

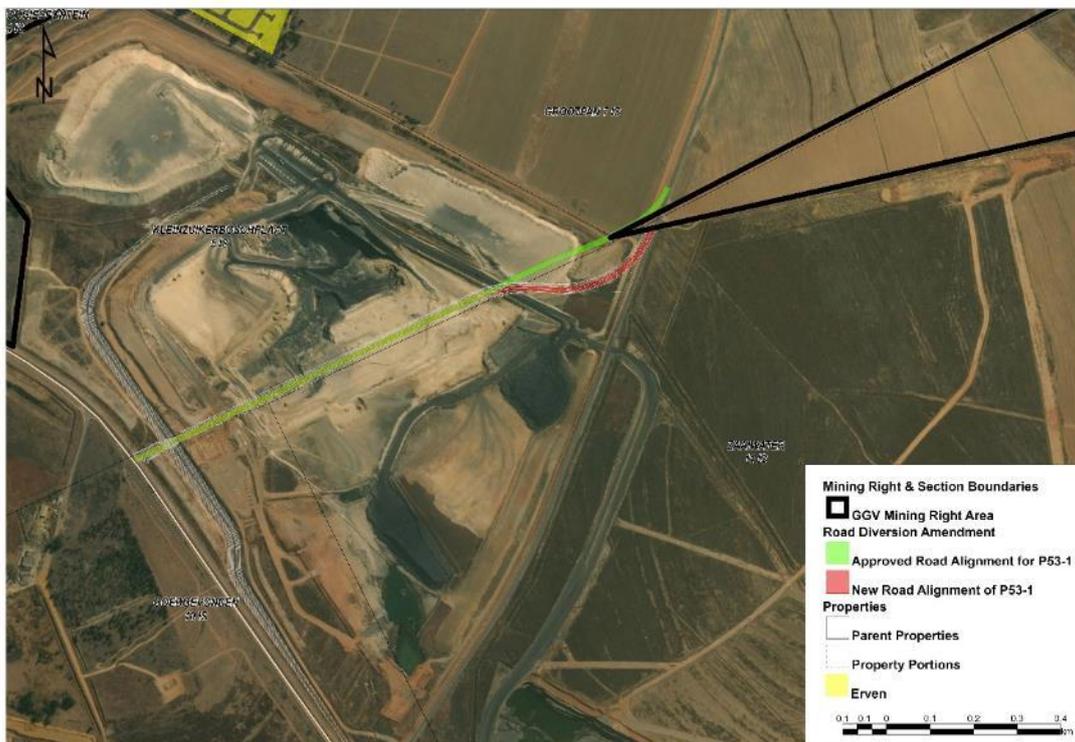


Figure 3-5: Approved and proposed new re-alignment of P53-1

3.4.3 List of Main Mining Actions, Activities or Processes

Below a summary of the main activities/processes at GGV and their associated activities:

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Opencast mining	<ul style="list-style-type: none"> • Mining Pits: North Pit; South Pit; Zaaiwater Pit. • Primary river diversions, comprising the Zaaiwaterspruit and Southern Tributary diversions. • Secondary stormwater management canals and pipeline systems. • In-pit water management: sumps and pumping systems. • Surface overburden and waste rock dumps. • Topsoil dumps/berms. • Supporting infrastructure.
Underground mining	<ul style="list-style-type: none"> • Portal Area. • Incline Shaft. • Offices. • Access Road. • Conveyor systems. • ROM Stockpile. • Stormwater Management. • Pumping systems. • U/G sumps/dam. • Sewage treatment plant. • Water Tanks.
Coal Handling and Processing Plant (CHPP) area	<ul style="list-style-type: none"> • Access road with controlled entrance to site from provincial road R545. • Main Coal Handling and Processing Plant (CHPP). • 5 seam CHPP/blending facility. • ROM Tip and crushing facilities. • Pillared ROM Tip. • Surge facility. • ROM stockpiles. • Product stockpiles. • Mine Residue Facility (MRF). • Clean water storage tanks. • Dirty water management facilities: Western PCD; Eastern PCD; Farm dam; Railway dam; Raw water dam; MRF return water dam. • Silt traps / dirty water canals. • Settling dam facilities (silt traps) with temporary silt storage/drying areas. • Sewage treatment plant. • Potable water treatment plant. • Supporting infrastructure: offices, stores, and workshop areas with associated parking areas. • Communication towers. • Wash-bay. • Waste tyre storage area. • Hard Park area. • Underground equipment storage facility. • Bulk hydrocarbons facilities.
ROM Tip (Zaaiwater Section)	<ul style="list-style-type: none"> • ROM stockpile with PCD. • Crushing facilities. • Overland conveyor.

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	<ul style="list-style-type: none"> • Bridges (road / dragline crossing) and conveyor over the R545.
On-site conveyance of ROM & product	<ul style="list-style-type: none"> • On-site haul roads / service roads. • River crossings / culverts. • Overland conveyor from Zaaiwater Section.
Stockpiles, mine residue & waste management	<ul style="list-style-type: none"> • Mine Residue Facility. • Surface overburden and waste rock dumps. • Topsoil stockpiles / berms. • Waste management (general / hazardous). • In-pit disposal of overburden, discard and slurry.
Off-site product transport	<ul style="list-style-type: none"> • Rail load-out terminal (RLT) and rail loop. • Product loading area (trucks). • Off-site truck transport. • River crossings / culverts.
Bulk services	<ul style="list-style-type: none"> • Pipelines from Waterpan and South Witbank areas. • Dewatering of Ogies underground workings. • Powerlines that pass from east to west through the mining area.

4 BASELINE SOCIO-ECONOMIC ENVIRONMENT

4.1 Policy and Planning

4.1.1 National Spatial Development Perspective (NSDP)

In South Africa, spatial development is guided by the National Spatial Development Perspective (NSDP). The District and Local Municipality spatial development frameworks are nested within the NSDP's principles. The NSDP proposes that several principles should be used as a guide by the government when making decisions on infrastructure investment and development spending.

4.1.2 Mpumalanga Economic Growth and Development Path (MEGDP)

The Mpumalanga Economic Growth and Development Path (MEGDP) is closely aligned to the National Strategy. It considers Mpumalanga's province-specific comparative and competitive advantages and the linkages to key provincial strategic objectives. The primary objective of the MEGDP is to foster economic growth that creates jobs, reduce poverty and inequality in the Province. The growth path is anchored on several parameters, including sector development, Inclusive & shared growth, spatial distribution, regional integration, sustainable human development and environmental sustainability with clearly defined strategic targets over the medium to long term. The mining industry remains one of the important economic sectors in the Province. The key interventions that were emphasised for the Province to focus on to give effect to the Growth Path include the following:

- Land Claims
- Water Allocation
- Transport and Logistics
- Electricity
- Policy & Regulations
- Communication

4.1.3 Mpumalanga Spatial Development Framework

The Mpumalanga SDF has identified the following strategic focus areas:

- The concentration of development within development and activity nodes with a regional and sub-regional function. Restructure these development and activity nodes to accommodate growth.
- The large population concentrations should link with nearby nodes of economic potential by providing efficient transportation and roads infrastructure providing for high mobility of movement; and integrate economic activities to provide local employment.
- Medium size populations should balance the population with economic activities, and provide social, economic and engineering infrastructure in support of the existing population.
- The smaller settlements and towns need to act as service centres for the surrounding population, as well as the clustering of villages to allow for the provision of sustainable social and economic infrastructure should be encouraged.

The Mpumalanga SDF furthermore stipulates that infrastructure investment needs to promote the role and function of rural communities and focus on developing communities to manage and develop their local economies, become self-sufficient, create livelihoods, add to the economy and reduce their dependency on social grants.

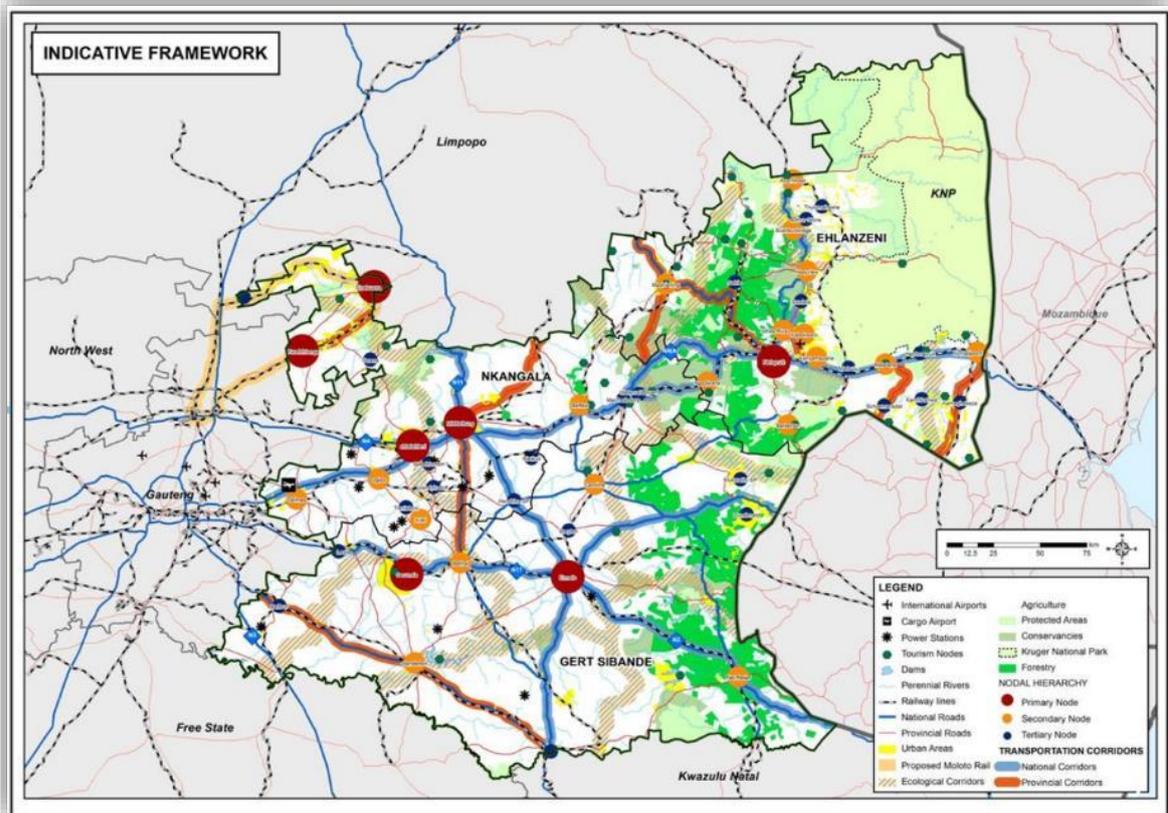


Figure 4-1: Mpumalanga Spatial Development Framework

4.1.4 Mpumalanga Infrastructure Master Plan

The Mpumalanga Infrastructure Master Plan (MIMP, 2012) is based on a multi-disciplinary study dealing with the full spectrum of infrastructure, including, amongst others, basic infrastructure, social infrastructure and economic infrastructure intended to unlock economic development potential within the Province. It cuts across a wide range of development sectors and represents a key element towards the future sustainable development of Mpumalanga Province. The MIMP proposes that the following development principles be paramount in terms of guiding and directing decisions regarding infrastructure investment in the Province:

- **Principle 1: Balance economic growth and social upliftment:** Following a balanced investment approach that focuses on infrastructure investment to promote economic growth and investment to enhance social upliftment.
- **Principle 2: Respond to regional differences in development potential:** Infrastructure Investment has to respond to the locational factors and economic drivers of the Province and take into consideration regional differences in terms of development potential.

- **Principle 3: Recognise roles and responsibilities of stakeholders:** Recognising the roles and responsibilities of all stakeholders and facilitating the functional integration and alignment of infrastructure investment between these.
- **Principle 4: Build on existing initiatives:** Building on existing initiatives as a priority to support the successful implementation thereof.
- **Principle 5: Preserve existing assets:** Sufficiently allocating funding towards maintaining and preserving existing assets (infrastructure) as part of a broader infrastructure life-cycle approach.
- **Principle 6: Align investment with available resources:** Aligning infrastructure investment in Mpumalanga Province with resource availability in the Province.
- **Principle 7: Build a heritage:** Promoting investment in image building assets for the Province.

4.1.5 Nkangala District Spatial Development Framework

The reviewed NDM Spatial Development Framework (SDF, 2014) is based on the following key principles:

- Principle 1: To achieve a sustainable equilibrium between urbanisation, biodiversity conservation, mining, industry, agriculture, forestry, and tourism-related activities within the District, by way of effective environmental and Land use management.
- Principle 2: To establish a functional hierarchy of urban and rural nodes (service centres/agri-villages) in the Nkangala District area; and to ensure equitable and equal access of all communities to social infrastructure and the promotion of local economic development by way of strategically located Thusong Centres (Multi-Purpose Community Centres) (MPCCs) in these nodes.
- Principle 3: To functionally link all nodal points (towns and settlements) in the District to one another, and to the surrounding regions, through the establishment and maintenance of a strategic transport network comprising internal and external linkages and focusing on the establishment of Development Corridors.
- Principle 4: To incorporate the existing natural environmental, cultural, historic and man-made resources within the Municipality in the development of Tourism Precincts, with a specific focus on the Tourism Gateway in the north-eastern parts of the District (eMakhazeni); as well as the northern and north-western mountainous parts of the District.
- Principle 5: To promote a broad spectrum of extensive commercial farming activities throughout the District and establish local fresh produce markets at the identified main nodal points.
- Principle 6: To optimally utilise the mining potential in the District without compromising the long term sustainability of the natural environment.
- Principle 7: To concentrate industrial and agro-processing activities at the higher order nodes like eMalaheni and Steve Tshwete in the District where industrial infrastructure is available.

- Principle 8: To enhance business activities (formal and informal) at each of the identified nodal points in the Nkangala District by incorporating these activities with the Thusong Centres and modal transfer facilities.
- Principle 9: To consolidate the urban structure of the District around the nodal points by way of infill development and densification in identified Strategic Development Areas (SDAs) and Upgrading Priority Areas.
- Principle 10: To ensure that all communities (urban and rural) have access to at least the minimum service levels as enshrined in the Constitution.

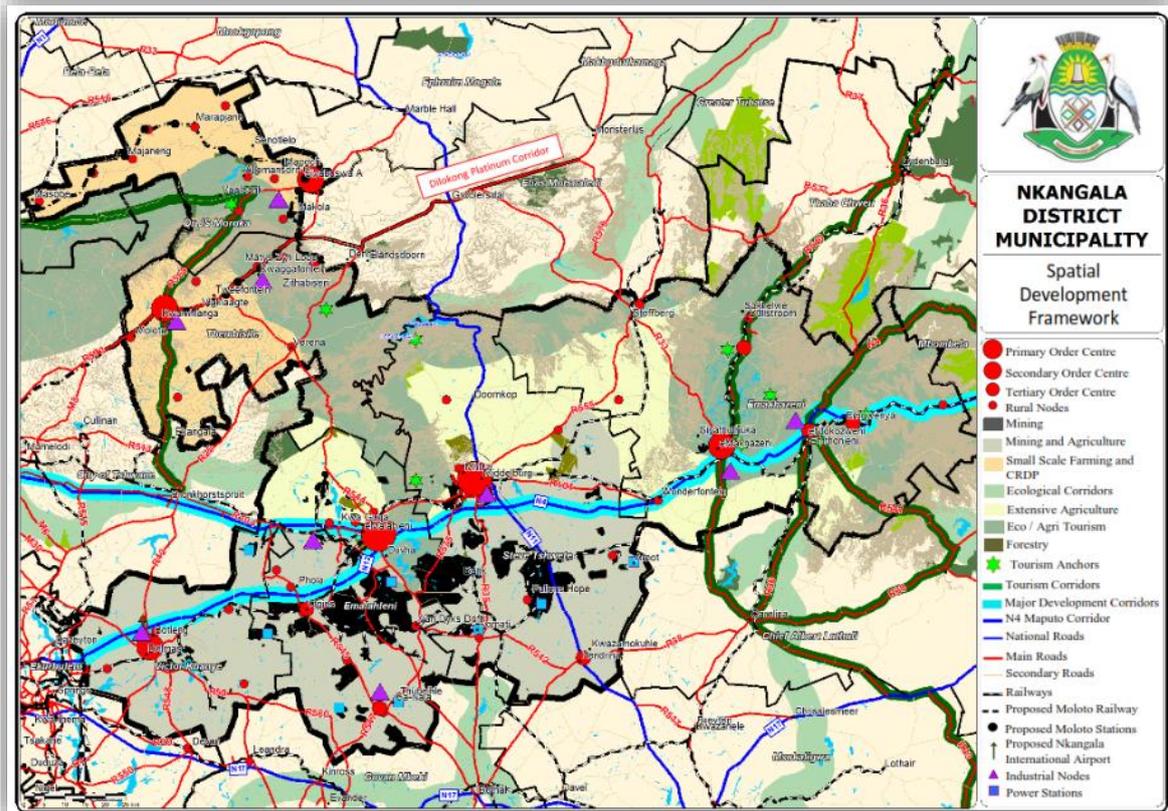


Figure 4-2: Nkangala SDF

4.1.6 eMalahleni Spatial Development Framework

The figure below indicates the proposed Spatial Development Framework for the eMalahleni Local Municipality. It provides a strategic regional perspective for the eMalahleni Local Municipality area as a functional entity.

The eMalahleni municipal SDF is based on the following four strategic objectives:

- Strategic Objective 1: To enhance the area's sustainability by way of protection, management and enhancement of the natural environmental resources of the Municipality.
- Strategic Objective 2: To improve spatial efficiency, justice and sustainability by consolidating urbanisation around existing nodes and corridors and within an urban development boundary.

- Strategic Objective 3: To maintain/enhance connectivity between the identified activity nodes and surrounding regional towns and activity areas.
- Strategic Objective 4: To build a diverse, efficient and resilient local economy and optimise conflicting economic sectors' spatial distribution.

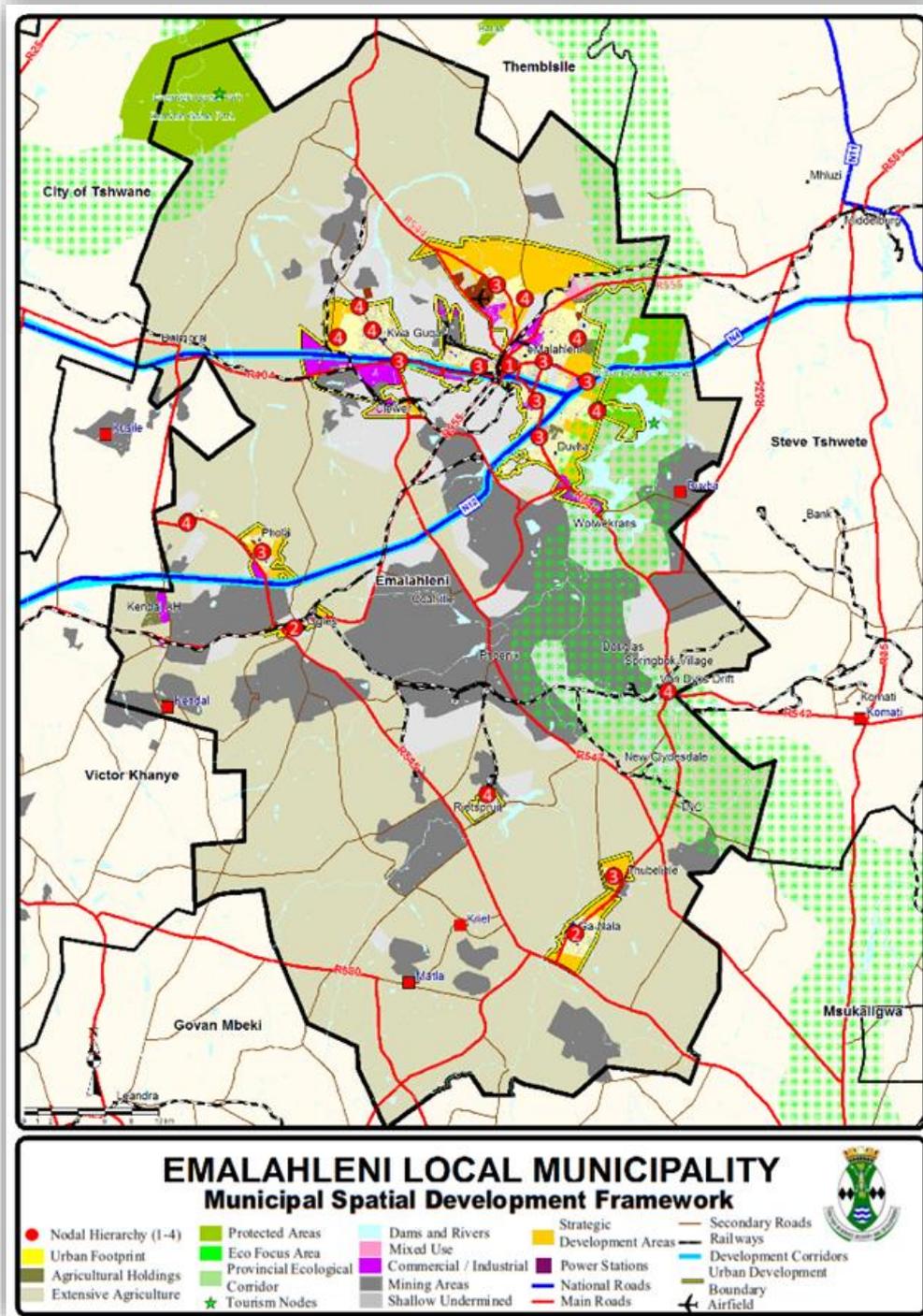


Figure 4-3: eMalahleni City Spatial Development Framework

The eMalahleni City SDF depicted the current land use and planned expansion and development areas.

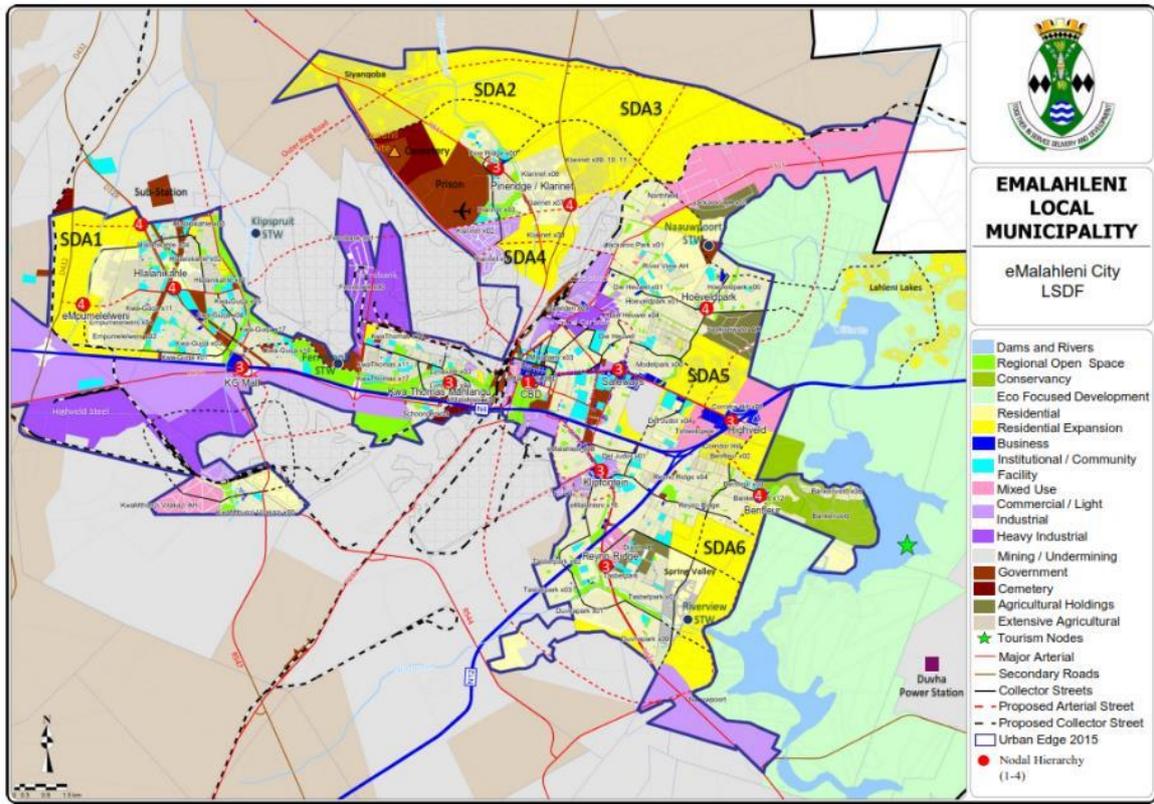


Figure 4-4: eMalahleni City Local SDF

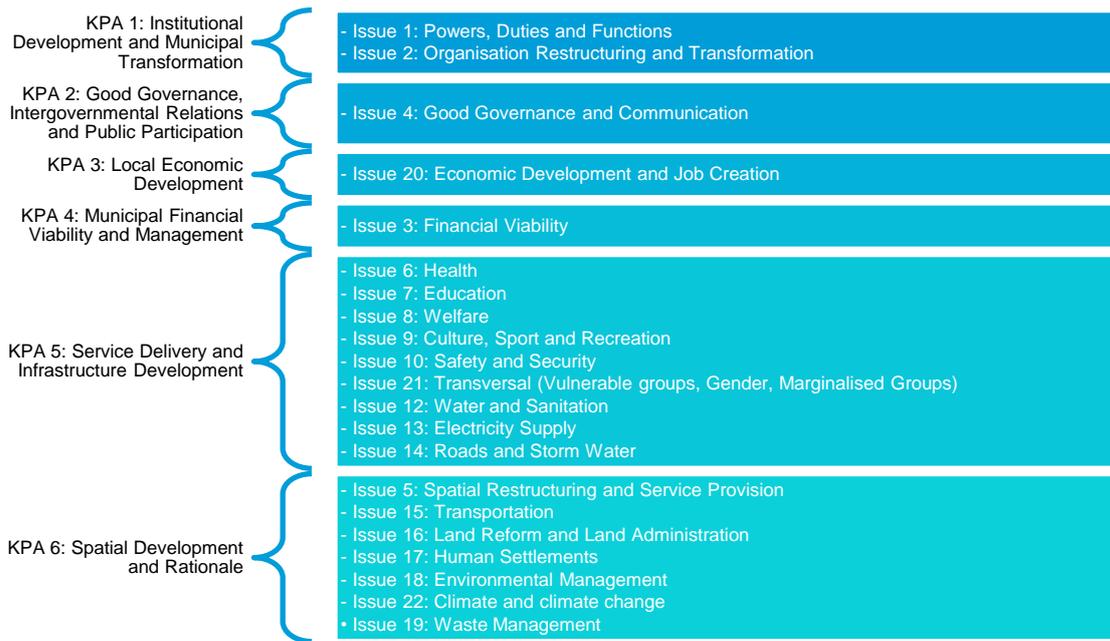
4.1.7 Nkangala District Municipal Integrated Development Plan

The 2019/2020 IDP review is the second review of the Nkangala District IDP, a 5 year plan spanning from 2018 – 2023. The IDP review highlights the following challenges within the District:

- High unemployment, especially amongst our youth.
- Adverse audit outcomes in our Local Municipalities.
- Poor revenue collection.
- Maintenance of infrastructure.
- Increased service delivery protests.
- Mushrooming of informal settlements.
- Under expenditure in capital projects.

The District has grouped their developmental issues under the following six Key Performance Areas (KPA):

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4.1.8 eMalahleni Local Municipal Integrated Development Plan

The top challenges experienced by eMalahleni was summarised in the IDP as:

- Dilapidated infrastructure for the provision of all basic service (water, sanitation, refuse removal, roads and electricity)
- Cash Flow And Weak Balance Sheet and incorrect billing
- High Distribution losses on water and electricity
- Eskom Account In Arrears
- Unethical and unprofessional conduct
- Persistent land invasions
- Culture of non-compliance and payments for municipal services
- Lack of public confidence in the municipality
- Malfunctioning internal systems, procedures and ICT
- Inadequate control of investment properties
- Poor fleet management and machinery
- Lack of effective communication
- Poor monitoring of service providers
- Lack of visibility of law enforcement officers
- Lack of disaster recovery site and business continuity plan

The following priorities have been set in the IDP:

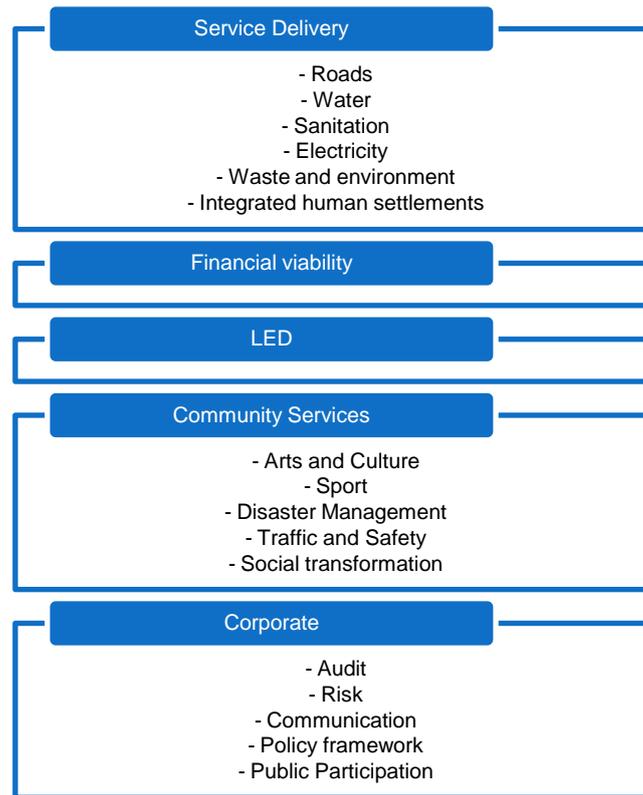


Figure 4-5: eMalahleni IDP priorities

4.2 Summary of the Regional Policies

The table below is the author’s interpretation of the relevance and impact of the Regional Policies on the GGV Project:

Table 1: Regional Policy/Plan Summary

AREA	RELEVANCE TO THE GGV PROJECT	
	SDF	PGDP / IDP
Mpumalanga	Focus on economic development Project is outside the Maputo Development Corridor as well as any Conservation / Biodiversity Corridors	Mining industry remains one of the important economic sectors in the Province for economic growth and job creation Challenges for mining development a) upgrading and maintenance of the coal haulage network; b) increase the level of higher skilled graduates; c) Expand the water network and increase reliance on water transfer schemes; d) Increase South Africa's base load and improve alternate energy supply; e) Establishment of a mining supplier park to enhance enterprise development in the province; f) Resolve land claims to release land for development; and g) Comprehensive support to small-scale mining enterprises
Nkangala DM & eMalahleni LM	To ensure increased job creation and economic growth in primary and secondary nodes	Focussed on Service Delivery Functions

4.3 Institutional Location of the study area

The Nkangala District Municipality is one of the three (3) District Municipalities in Mpumalanga Province. The headquarters of Nkangala District Municipality are in Middelburg (Steve Tshwete Local Municipality). The Nkangala District consist of 6 Local Municipalities, i.e. Emalahleni, Dr J S Moroka, Victor Khanye, Thembisile, Emakhazeni, and Steve Tshwete. The area of the District covers a total area of approximately 16,892 square kilometres.

The municipality is situated in the western parts of the Nkangala District, and the north-central parts of Mpumalanga Province, with its headquarters in eMalahleni City (Witbank). The Emalahleni Municipal area, which means the “place of coal”, consists inter alia of the towns of eMalahleni, Kwa-Guqa, Ga-Nala and Ogies.

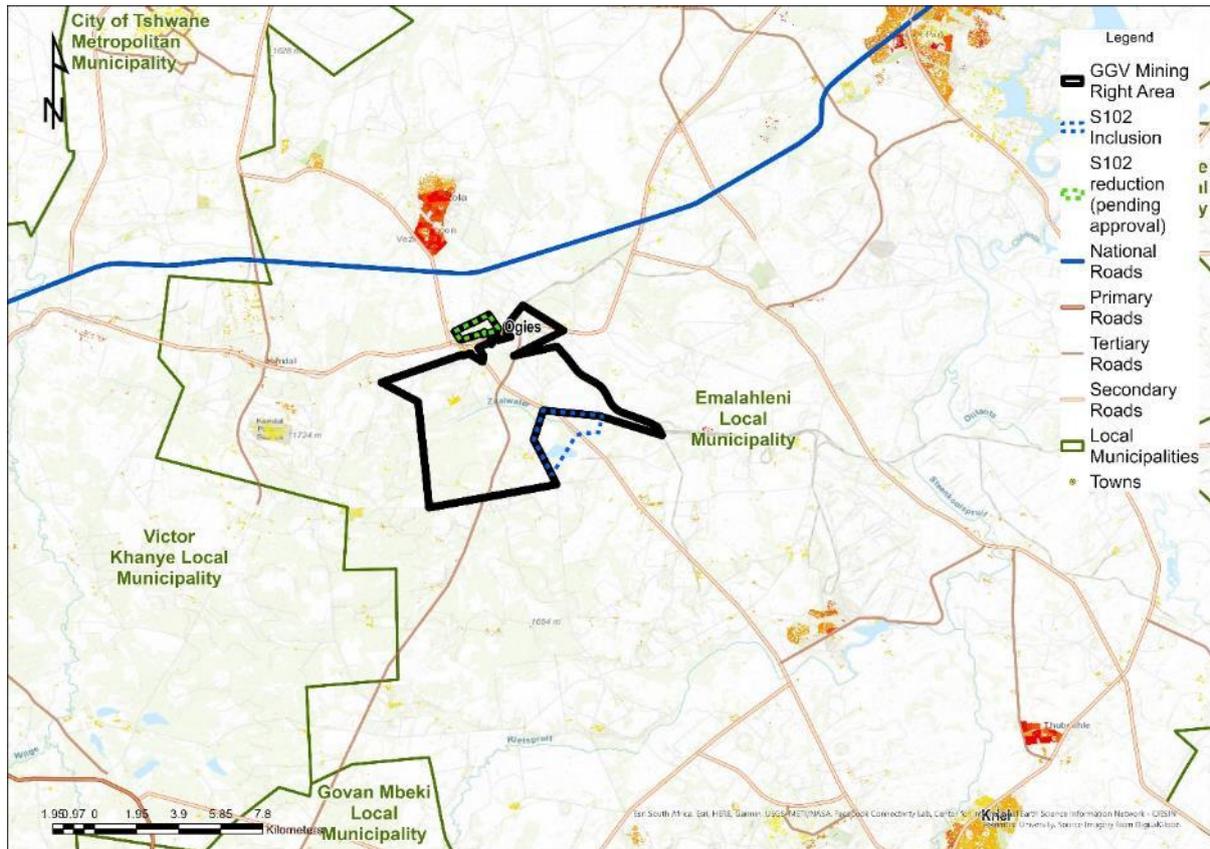


Figure 4-6: Institutional Location

4.4 Regional Analysis

4.4.1 Towns and Settlements

The project area is located amongst existing towns and settlements. The following towns are in the vicinity of the project:

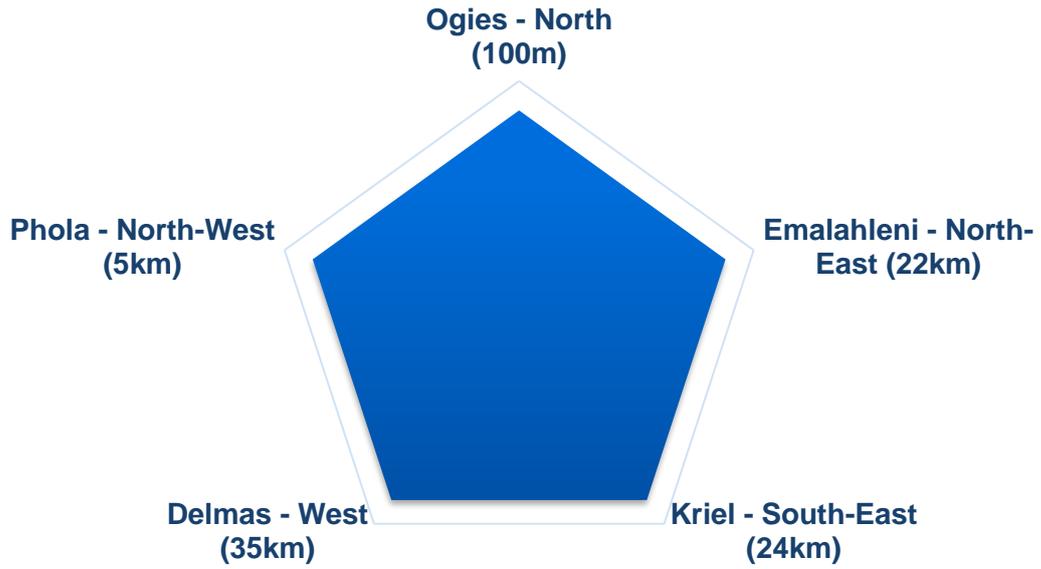


Figure 4-7: Nearest formal towns and settlement

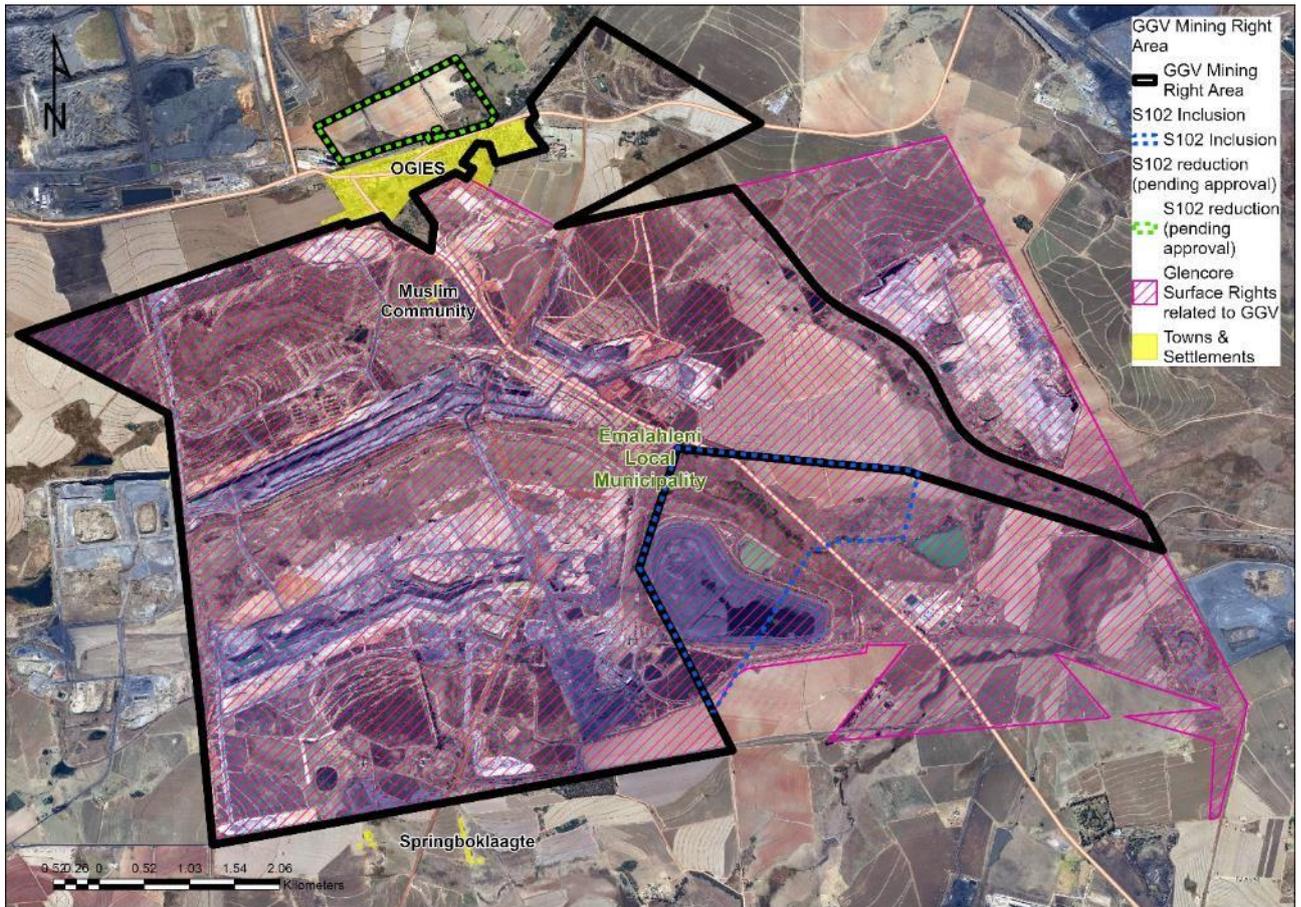


Figure 4-8: Towns and Settlements

On the periphery of the formal towns some settlements and informal housing has been observed, these are relevant as a risk of uncontrolled expansion in these areas due to the potential influx of jobseekers is present.

4.4.2 Demographic Analysis

Table 2: Demographic Indicators for eMalahleni (2011 / 2016 Community Survey)

Demographic	2011	2016
Total population	395 466	455 227
Number of households	123 560	150 419
Population density	147 persons/km ²	169.7 persons/km ²
Growth rate annually	2.6% (2011-2016)	
Average household size	3.20	3.02
Female headed households	28%	29%
Young (0-19)	35%	33%
Mid (20 – 69)	63%	65%
Elderly (65+)	3%	1%

The household dynamics within the study area is a key determinant of the demand for services and employment. The average household size is indicative of the quality of life in a study area. This connection is based on the following principle: In areas where average household size is higher, the number of dependants is also expected to be more significant. Thus, income per person will be lower.

The age and gender composition of a population can significantly impact socio-economic development in a study area. It is indicative of the size of the labour force, worker migration and the demands for health care and other social services.

The collated total population (Community Survey 2016) of the Nkangala District is 1 445 624 constituting approximately 33.3% of Mpumalanga's population. The population growth rate of the District was 2.50% between the period 2001 and 2011. In eMalahleni Local Municipal area, the population grew by 2.6% annually from 2011 - 2016.

The population comprises 53% males and 47% females; 86% Black Africans, 12% Whites, 1% Coloureds, 1% Asians. Youth play an essential role in the municipal area, with 32.8% younger than 19. This brings about challenges in the immediate supply of educational facilities and teachers. This situation might improve in future as more people will be leaving the educational system than entering it. However, the size of this group will also put a strain on the supply of employment as a significant number of people will be joining the labour market in the next 12 years. It is also essential to ensure that these people are suitably trained to find work in an increasingly demanding working environment.

The population between 20 and 39 years constitute 42.6% of the population. This is the current workforce available to the area. When read in conjunction with the education levels, it is clear that extensive training is required to upskill this segment of the population.

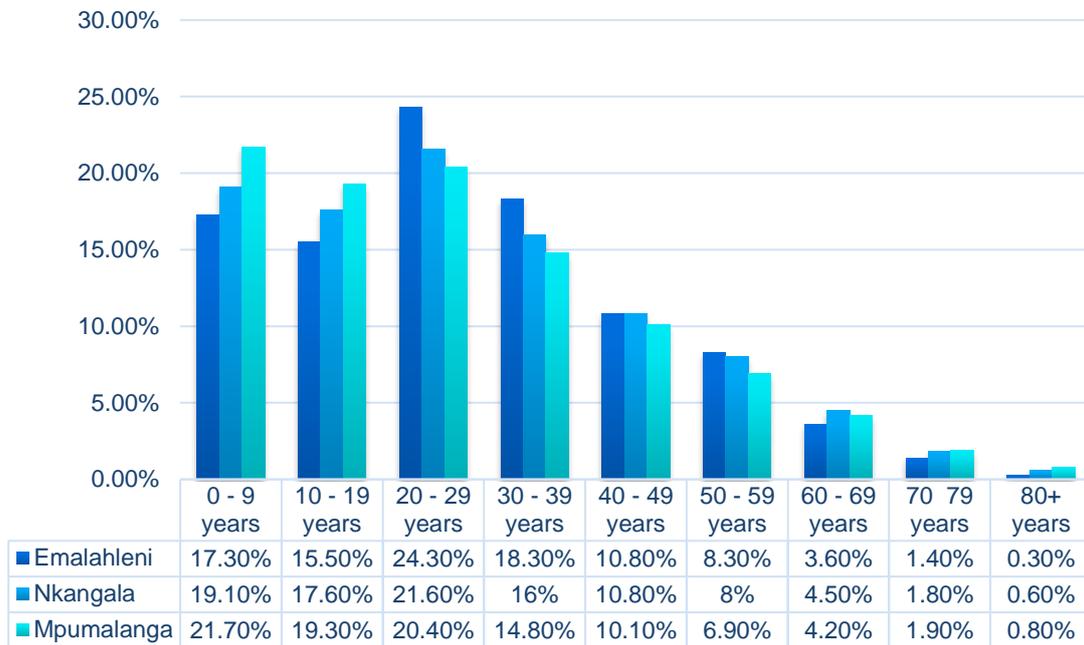


Figure 4-9: Demographic Indicators for eMalahleni 2016 Community Survey

Vulnerable groups within the municipal area are female-headed households (29.1%) and 420 households with heads under 18 years old in 2016.

4.4.3 Literacy rates and education

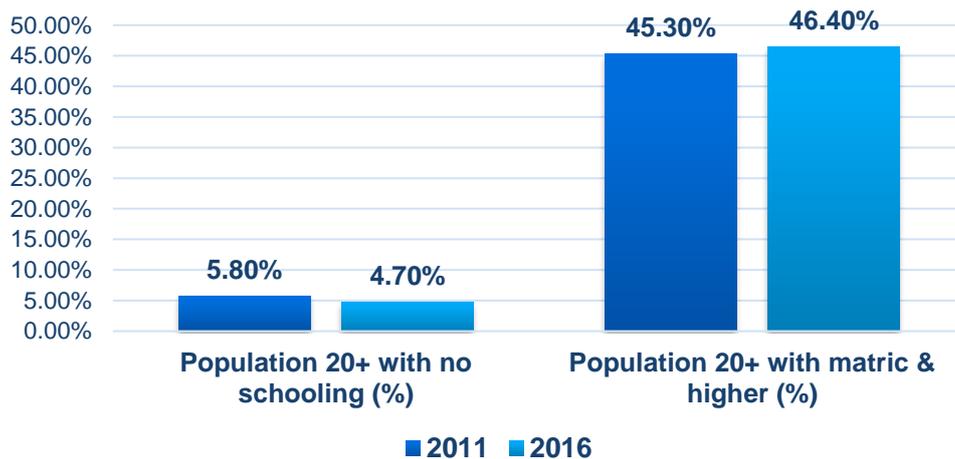


Figure 4-10: Education Indicators

Educational attainment is a key indicator of development in a population. To evaluate long term provision of education, it is important to disaggregate educational attainment for persons older than 20 years. This is an ideal group since they would have completed attending

educational institutions indicating that the level of education is the final one. Statistics South Africa generated a measure of educational attainment for persons over age 20. This group is expected to have completed educational enrolment and therefore giving a good standard for completed level of education.

It concerns to note that 48.9% of the population above the age of 20 did not complete their schooling and a further 4.7% of the population has had no education. This means that 53.6% of the current workforce is mainly unskilled. Basic education is a requirement for a healthy and developing country, and it will be essential to give attention to Adult Education and Training Programmes.

4.4.4 Language

The most spoken language in this municipal area is isiZulu, followed by isiNdebele.

4.4.5 General health and welfare

According to the Mpumalanga Department of Health, the HIV prevalence rate of eMalahleni was measured at 40.7% in 2013 (latest available figure). It is the 9th highest of all the municipal areas in the Province. The HIV prevalence rate remained more or less at the same level between 2012 and 2013. Since 2014/15, people who tested positive (as a proportion of 15-49 years' population) and 2017/18 were 13, 4% and 8.0%, respectively. This shows a downward trend. This may or may not be an accurate reflection as this figure shows who volunteered to be tested or those who were pregnant. The total number of people who are on ARV support increased from 21 348 to 32 460 in the same period. The maternal mortality rate also increased slightly between 2014/15 to 2017/18 from 275.5 to 282.6 per 100 000 live births. Death in the facility for children less than five years decreased from 13.7 to 10.2 in the same period. However, there was an increase in neonatal mortality rate per 1000 live births, from 14.5 to 20.8 from 2014/15 and 2017/18. Some programmes deal with HIV/AIDS in the municipality. The municipality holds HIV/AIDS days and condoms distribution programmes, such as part of the mayor's programmes.

4.4.6 Basic Services and Housing

4.4.6.1 Housing

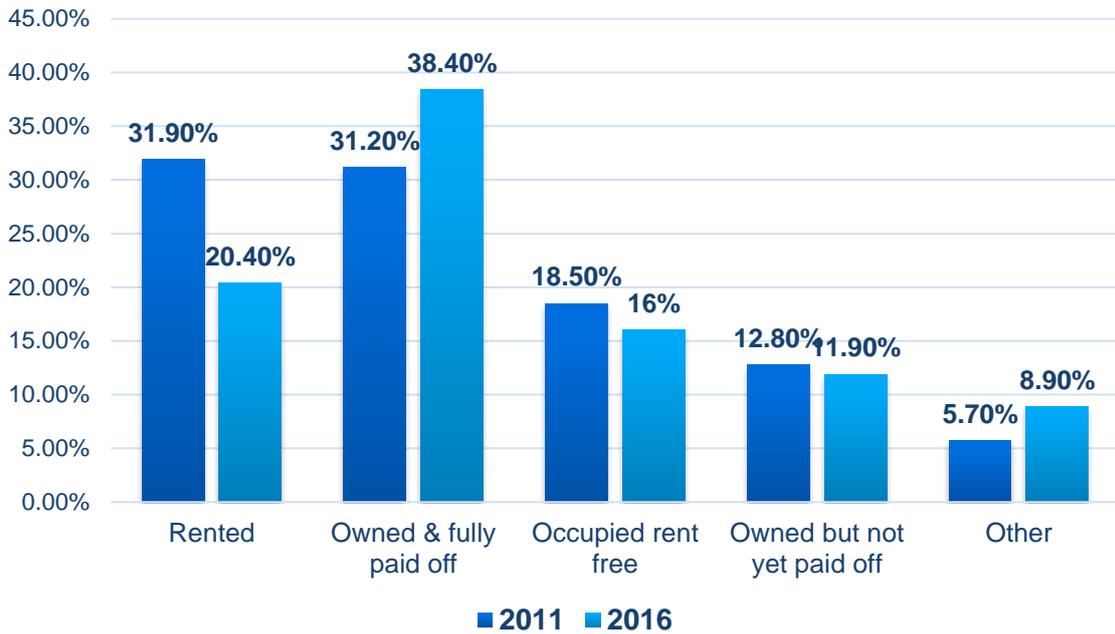


Figure 4-11: Basic Infrastructure Indicators

70.3% of households have formal housing and 23.2% in informal housing in the municipal area, 6.5% did not specify their housing.

4.4.6.2 Water and Sanitation

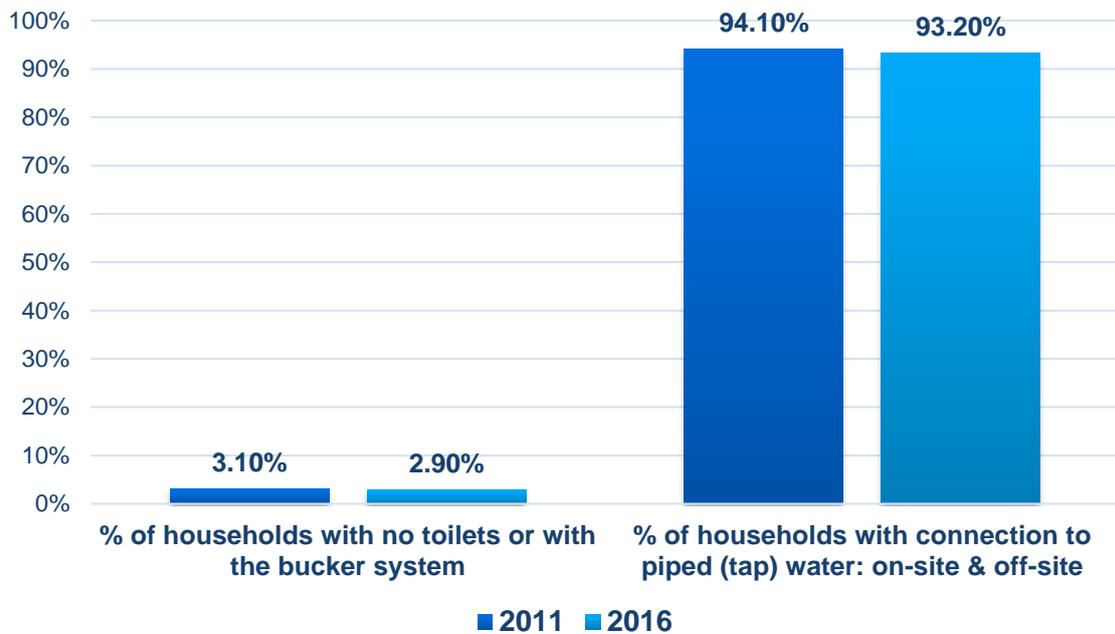


Figure 4-12: Water and Sanitation Indicators

Water and sanitation have generally improved in the municipal area due to service delivery increases. 76.9% of households have flush/chemical toilets in terms of sanitation, 18.7% have pit latrines, and 1.3% have no access to adequate sanitation. Piped water in a dwelling or yard accounts for 85.7% of households, with a further 7.5% of households having access to a communal standpipe or tap in neighbours' yards. 6.9% do not have access to adequate water delivery and remains backlogged.

4.4.6.3 Electricity

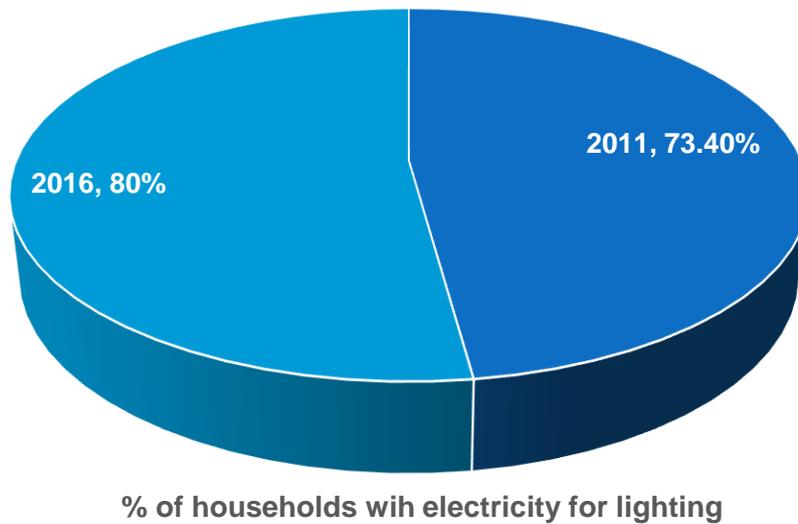
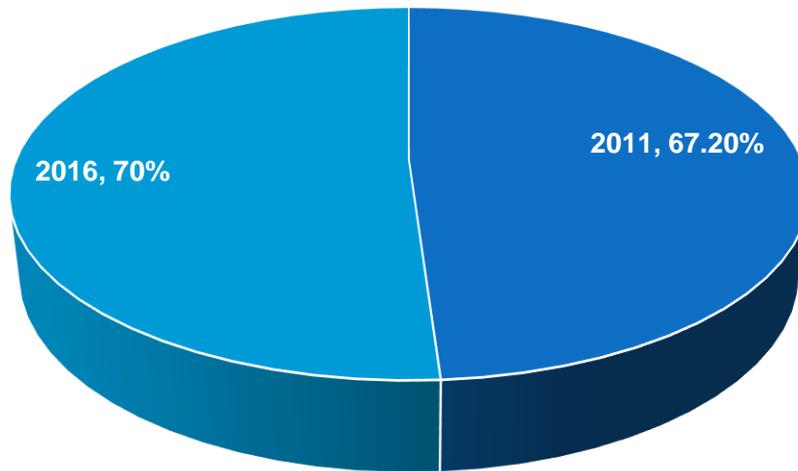


Figure 4-13: Electricity Indicators

Electricity provision has improved from 2011 and 2016, which aligns with the Integrated National Electrification Programme (INEP). As part of this programme, poor households pay a minimal fee for a connection, and they receive 50 kWh per month free of charge.

4.4.6.4 Refuse Removal



% of households with weekly municipal refuse removal

Figure 4-14: Refuse Removal Indicators

The project is located just south of an urban setting, where refuse removal is established. Although eMalahleni Local Municipality has had challenges in terms of refuse removal, mainly related to infrastructure, there has been an increase in access to refuse removal. Some of the smaller settlement still struggle with proper procedures and services for refuse removal.

4.4.7 Economic Profile

4.4.7.1 Development and Poverty Indicators

The Human Development Index (HDI) is a composite statistic of life expectancy, education, and income per capita indicators used to rank countries into four tiers of human development. The index for any one country has a numerical range between 1 and 0. Countries with an HDI below 0.5 are considered to have a low level of human development, a score of 0.5 to 0.79, a medium level of development, and those with values of 0.8 and above are nations considered to have a high level of human development. For example, South Africa has an HDI of 0.684 and Mpumalanga 0.694. Provinces with an HDI below the national average deserve special attention as far as human development is concerned.

The municipality recorded an HDI of 0.63 as per 2011 statistics which is best in the province but deteriorating. Per capita, personal income is higher than the district and is second highest in the Province. Apart from this, it is still lower than the province and country.

Table 3: Development and Poverty Indicators

Development And Poverty Indicators	2001	2007	2011
Human Development Index (HDI)	0.61	0.61	0.63
Per capita personal income per year	R23 794	R38 276	R48 436
% of households below R42 000 per year (R3 500/m)	56.8%	39.0%	26.9%
Gini-coefficient (0best to 1 worst)	0.63	0.63	0.62
Poverty Rate	29.5%	28.0%	26.2%
Number of people in poverty	86 201	96 621	97 228
Poverty Gap (R million)	R94	R139	R168

Gini-coefficient of 0.62 was recorded in 2011, which shows slight improvement between 2001 and 2011 & slightly lower (better) than the District but equal to the provincial level. The below table shows an improvement in terms of the poverty rate, which might be due to the contribution by the surrounding mines, which contribute to the employment and general economy of the eMalahleni. The poverty gap was R168 million in 2011, which is an increasing trend. The municipality is ranked 7th in the Multiple Deprivation Index of Oxford University.

It is expected that this picture has worsened in the past year due to the sharp economic downturn and many households losing income due to Covid-19 lockdowns and limitations.

4.4.7.2 Household Income

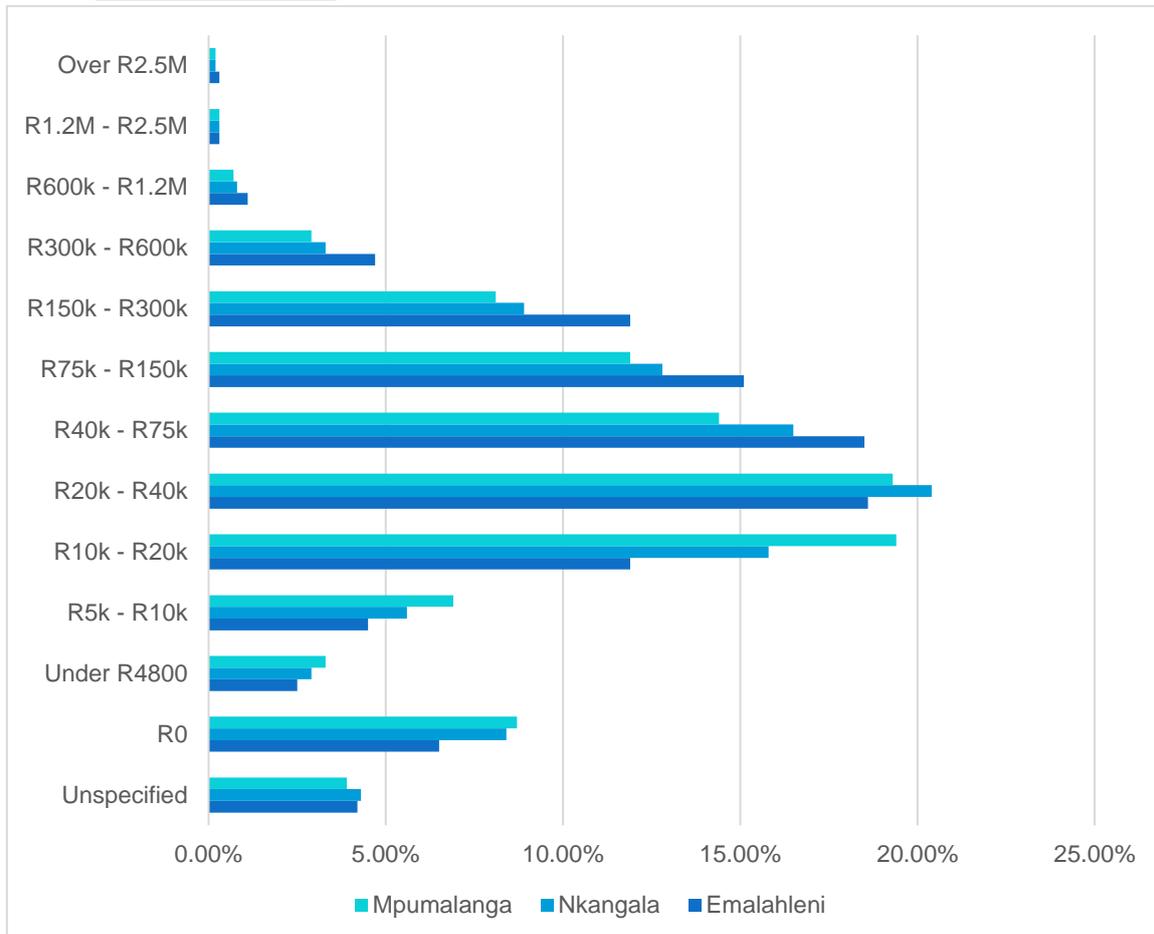


Figure 4-15: Annual Household Income

In 2017 most municipalities classified an indigent household as a family earning a combined income of less than R3 200 per month (R38,400 per annum). From the above table, it is clear that 50% of the households in eMalahleni earn less than R3,200 per month. Still, compared to Mpumalanga, which is 57% and Nkangala, which is 61%, eMalahleni remains below the provincial and District averages. Still, it indicates that income levels in eMalahleni are at par or below the indigent (poverty) line for at least 50% of its households.

4.4.7.3 Employment Status

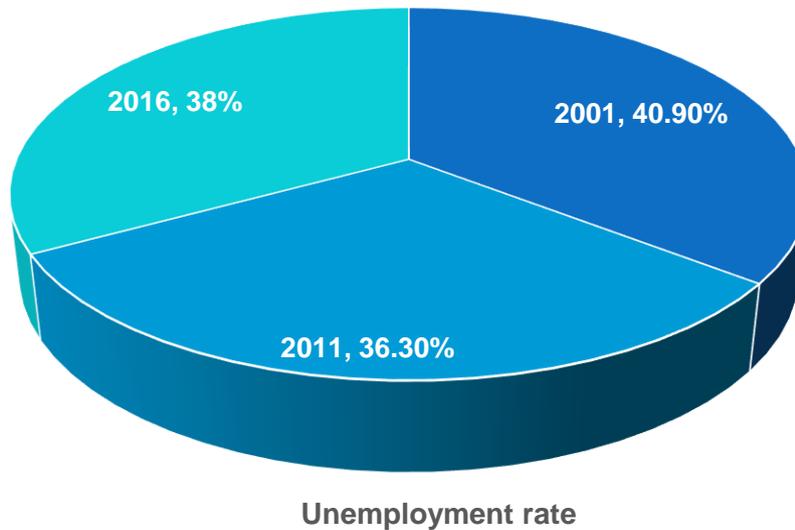


Figure 4-16: Labour Indicators

The unemployment rate in eMalahleni decreased since 2001. The table above shows the unemployment rate of 36.3% (strict definition) in 2011 – a slightly decreasing trend. However, in 2016 the unemployment rate increased again. The latest statistics from the labour force indicate unemployment to be on an all-time high.

4.4.7.4 Economic Sectors

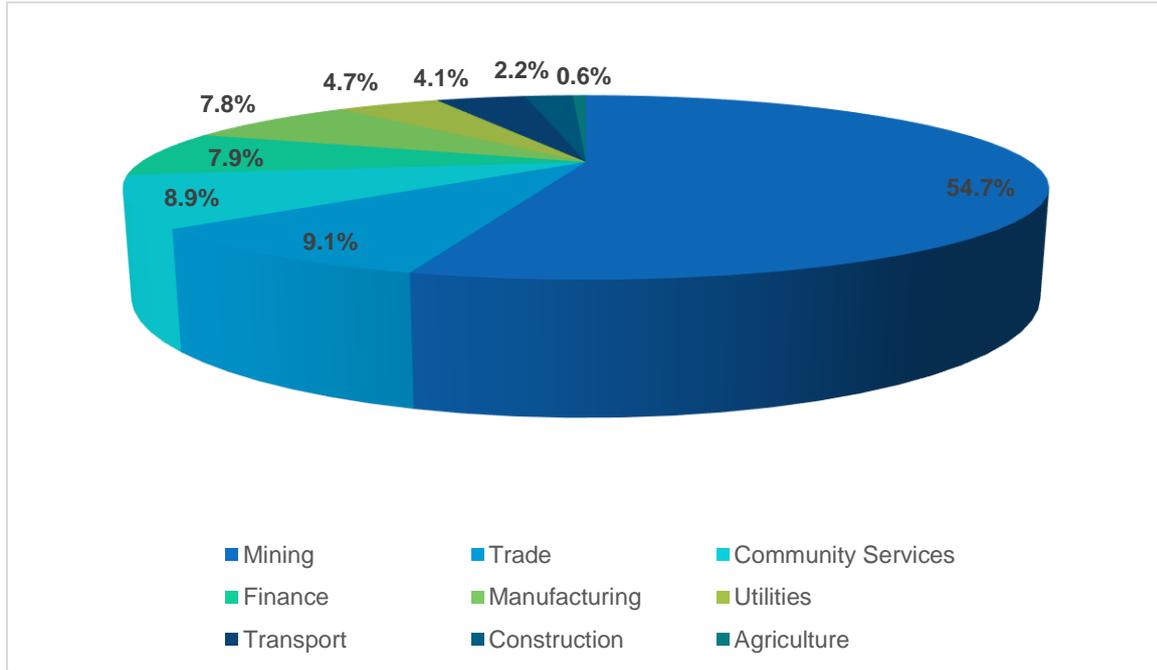


Figure 4-17: Economic contribution by Sectors in Emalahleni Local Municipality

Emalahleni municipality contributes 45.9% to the district economy of Nkangala (Provincial Municipal Profile Report by the Department of Economic Development & Tourism, 2019). This indicates the nature of the concentration of economic activities in the area, followed by Steve Tshwete (at 37%). eMakhazeni, Dr JS Moroka, Thembisile Hani and Victor Khanye (Delmas) have the least contributions. The economic dominance of eMalahleni within Nkangala has the potential of influencing population migration from nearby localities, thereby putting a strain on the provision of job opportunities and basic services. Growth and development within neighbouring municipalities is, therefore, a key priority at the district level.

The strongest sectors are mining which contributes more than half to the Emalahleni economy almost 55% in 2017. Trade is the second largest industry in Emalahleni with a contribution of 9.1% followed by community services (8,9%) and finance (7.9%) respectively. Mining is the biggest sector of the economy even though it comes with negatives consequences on environment (pollution) and health (pollution causes diseases).

It is projected that the annual growth of the GDP of Emalahleni will be less than 0.9% between 2018-2023. This is negative growth when we consider aspirations of the National Development Plan, Provincial Strategies and Emalahleni population growth. Previous growth rates between 2011 – 2016 was 3.3% and 1996 – 2011 2.8%.

From the socio-economic analysis, it is evident that eMalahleni faces several challenges that should be addressed by growing certain sectors of the economy capable of generating employment opportunities, reducing poverty, and the poverty gap in line with the terms of the New Growth Path.

4.5 Surrounding Land Use Activities

The project area mainly belongs to Glencore Operations (Pty) Ltd. Surrounding land use is a mix of industrial, mining, residential and some agriculture.

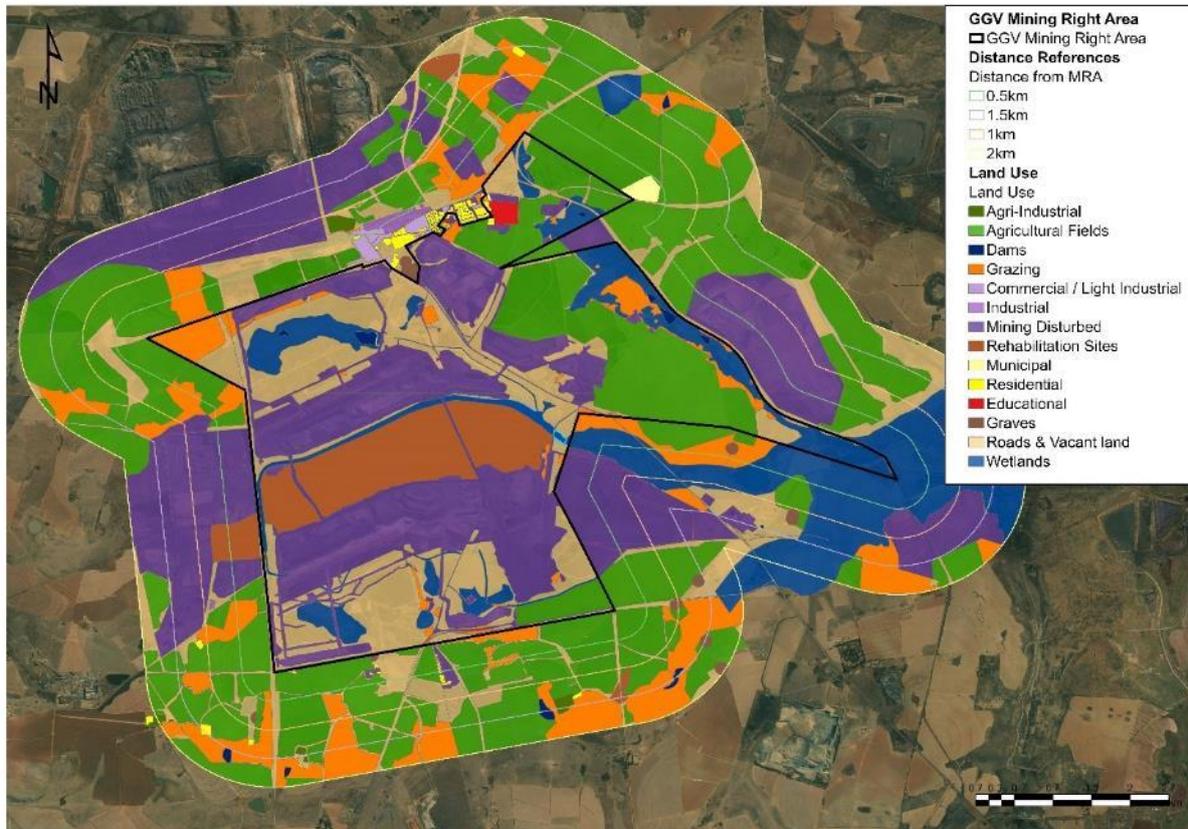


Figure 4-18: Land use activities in the project area

4.5.1 Town Development

There are two towns closest to the GGV operation, namely Ogies and Phola. The town Ogies got its name from the farm name Ogiesfontein on which it was initially built on. The town Phola is located about 5km north of Ogies and means desert. The two towns are linked via route R545. Undermining between Ogies and Phola poses constraints to the future spatial consolidation of these two towns. According to the municipal SDF, Ogies is categorised as a 2nd order Activity Node and Phola as a 3rd Order Activity Node.

The land surrounding Ogies and Phola is classified as prime agricultural land, resulting in a conflict between pressure for urban expansion, agriculture, and mining development due to the mineral deposits in the region.

4.5.1.1 Ogies Town

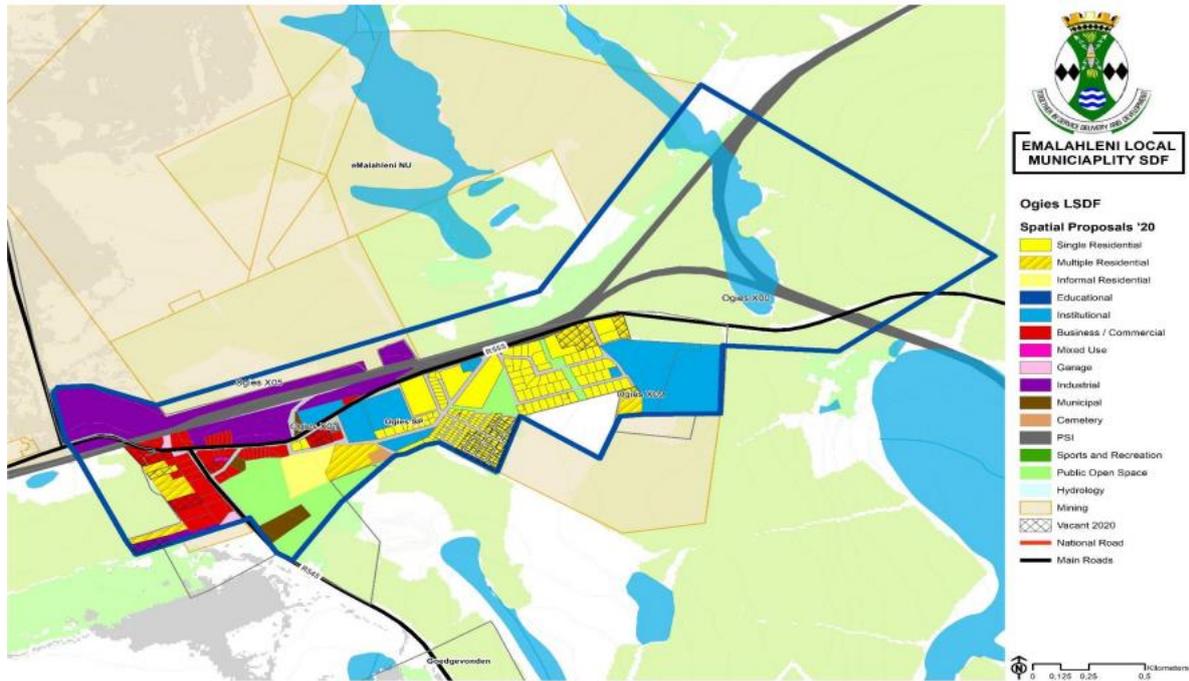


Figure 4-19: Ogies Spatial Development

Ogies is a typical mining town and represents the industry that dominates the region and has drawn people from far afield. The town is connected by two main roads, the R555 and the R545 to Kriel. The R545 North connects the town to the N12 freeway which links Johannesburg to Emalahleni. Ogies is situated at the intersection of route R555 (P29-1), the railway line, and route R545. Ogies is also an important railway junction on the Springs to Emalahleni rail-line, a line that connects to the port of Richards Bay. It has several branches of tracks that service the coal mines close to the town.

The bulk of commercial and retail activities in Ogies is consolidated in a north-south strip along route R545 and east-west along route R555. There is a large taxi rank with extensive informal trade adjacent to road R545 at the southern entrance to Ogies. Ogies has a fairly small residential component which is concentrated towards the east and to the south of route P29-1 (Emalahleni Road). The SDF indicates that the development priority in Ogies is to maintain and enhance the existing business core, and to consolidate infill development on developable land along route R555 to the east. This can be done by promoting retail, office and commercial uses on vacant erven along the town's east-west spine (route R555/ Emalahleni Road). Although pressure for expansion is low, the SDF proposed that the partially developed industrial area, north of the railway, be consolidated into a strong mixed-use industrial precinct. The economic base of the town is very limited.

The general maintenance of the public spaces such as road reserves, open spaces, roads etc. are very poor.

Residential expansion is currently taking place in X09 in a South-eastern direction. Once all residential stands within X09 have been occupied, the municipal SDF proposes that the

triangular precinct west of X09 be earmarked for future residential development, as this is the only suitable land not earmarked for mining. An informal settlement occurs on the southern boundary, which in recent years, has expanded exponentially into X01 – previously used for Public Open Space. This expansion is supported by the agglomeration of land uses located within close proximity to this area. It is most likely that informal settlement development will continue to take place within this area. The SDF for Ogies proposes that the remaining Public Open Space, east of the informal residential development be utilised for government-funded affordable housing. It further proposes residential developments on the vacant land along the town’s east-west spine when entering from the east.

Ogies was identified as a priority area for urban renewal and revitalisation by the Mpumalanga Vision 2030. Therefore, it is imperative that proper upgrading and maintenance of the existing infrastructure, especially roads, road reserves, signage, transport facilities, open spaces and parks be undertaken to improve the aesthetic quality of the town. General cleaning and beautification of the town’s business precinct should also be prioritised. GGV has made provision to support this in their Social and Labour Plan.

4.5.1.2 Phola Town

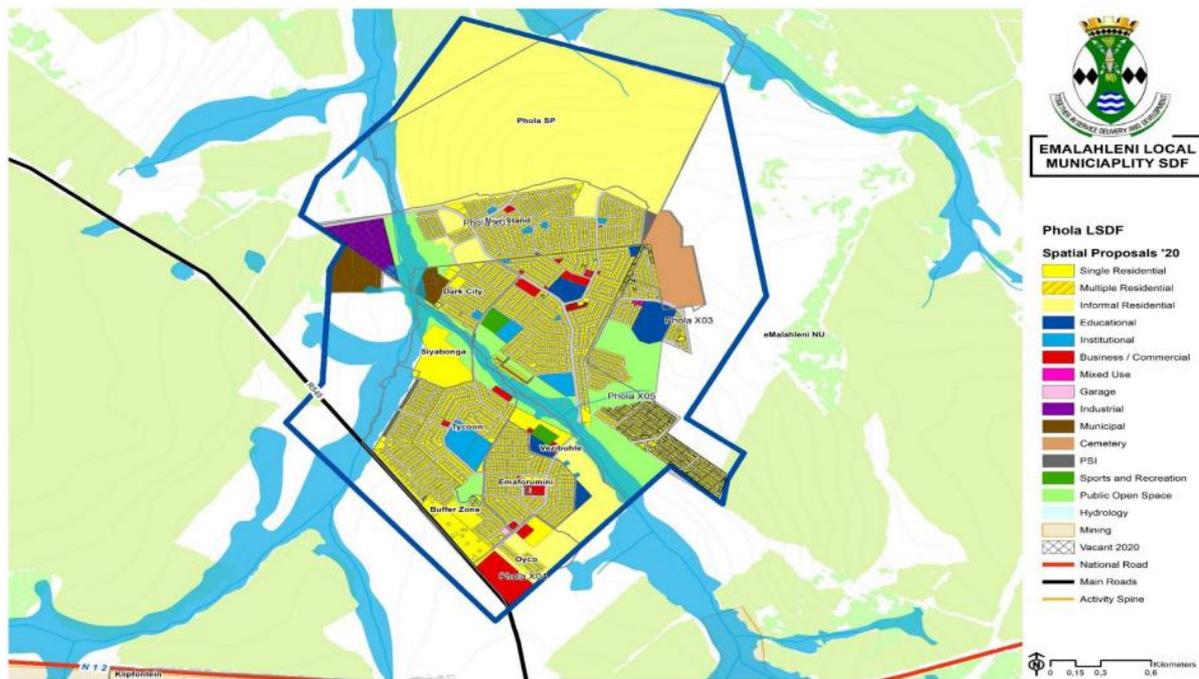


Figure 4-20: Phola Spatial Development

Phola town is made up of various sub-sections, namely North Stand, Dark City, Siyabonga, Tcoon, Vezibuhle, Emaforumini, Buffer zone, Oyco and some new extensions, X03, X04, and X05. Phola houses approximately 9000 households with a population of 32,000 people.

It is developed along the R545 just north of the N12 freeway. The municipal SDF is earmarking suitable land for residential expansion and proposes that land adjacent to route R545 from the N12 freeway to Phola be earmarked for development to capitalize on visual exposure and physical access from the regional road network.

Phola has two localised activity nodes situated along the main collector road in Phola Proper and Phola Ext 1. These two nodes are being strengthened through low intensity mixed uses developments along the main access road (activity spine) serving Phola, according to the municipal SDF. These nodes accommodates both economic activities and social services.

Informal residential development is rapidly expanding towards the north of Phola. Future mining is planned to the east of the town, leaving no alternative but for Phola to expand to the west and north and south-east in future.

4.5.2 Farm Communities

The following farm communities are located to the south of the GGV MRA

- **Springboklaagte Community:** Consists of 13 households located to the south of the GGV MRA. Households are mostly extended families with 6 to 8 members per family, indicating a population of 78 to 104 people. The community is organised, has representatives and are currently engaging with Glencore.
- **New Goedgevonden Community:** Consists of 6 households that was resettled from the original Goedgevonden Village that was situated on Portion 35 of the farm Zaaiwater 11 IS prior to mining. The remainder of the approximately 23 households were resettled to Phola.
- **Mafufela Community:** Consists of 2 households situated on Portion 23 of Zaaiwater 11 IS, just to the south of the Mine Residue facility on land that belongs to Glencore Operations SA (Pty) Ltd. This community has indicated that they do not want to be resettled.

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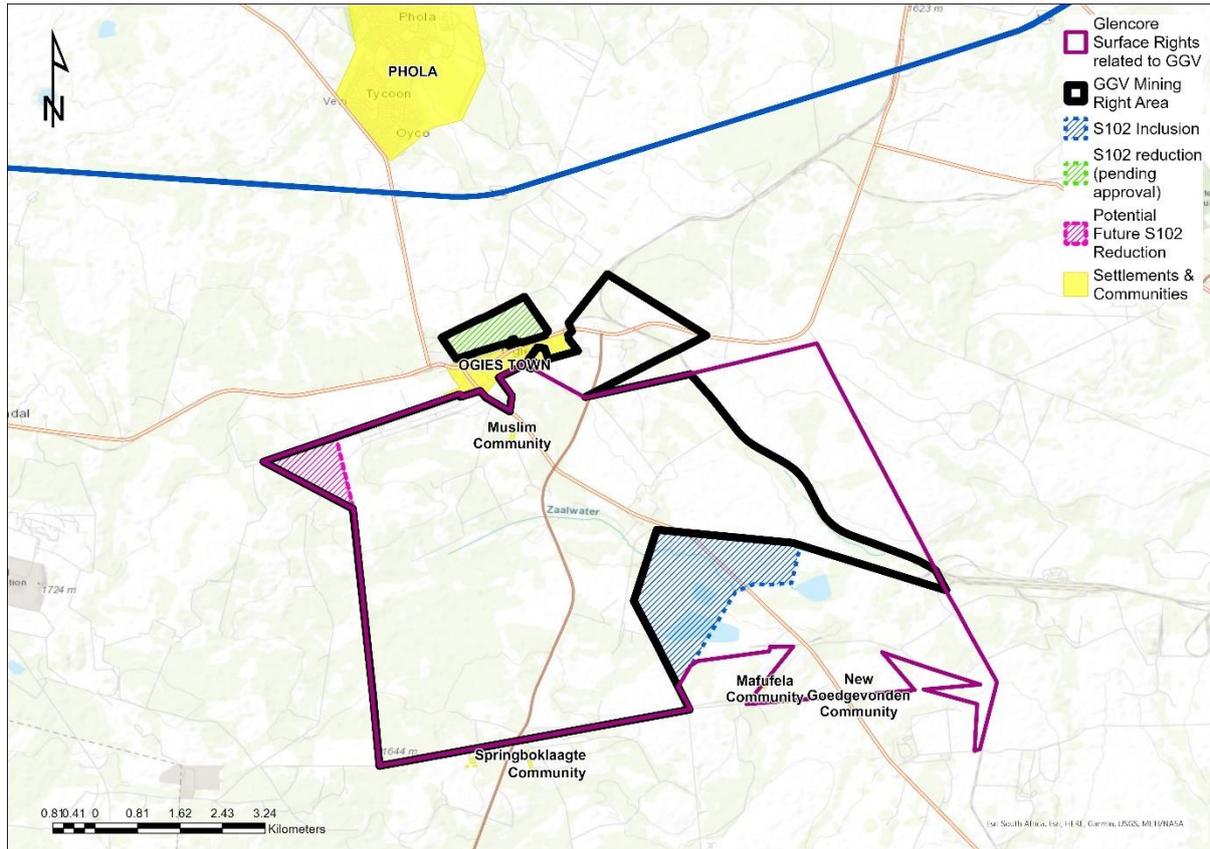


Figure 4-21: Communities to the South

4.5.3 Agricultural Activities

The area pre-mining was predominantly used for agricultural purposes and some livestock farming. Due to coal mining activities, the land uses have been modified resulting in reduction in agricultural activities. The land adjacent to the proposed mining area is used mainly for mining or agricultural purposes. Summer crops such as maize and soya beans are cultivated in pockets still used for agriculture especially to the west and south of the GGV operation. There are also pockets of grazing land still present, although some livestock may be kept it is understood from landowners in this area, that livestock theft has made it impossible to farm with livestock.

As part of the Agricultural Development still present in the surrounding area, there are a few sensitive receptors and land use activities. These include:

- Agricultural Structures which include residential structures, sheds and worker houses
- Some areas on the MRA have until recently been leased back to local agriculturalists for cultivation and feed production

The main agricultural land users / owners in the vicinity of the Mining Right Area are indicated in the map below:

- Daniel de Wet, Klippoortjie 32IS, various portions;
- Erasmus (Albabensmit & Almatara), various portions on Springboklaagte 33 IS, Smithfield 44 IS and Zondagsvlei 9 IS;

- Ivan Enslin, various portions on Schoongezicht 218 IS, Zondagsvlei 9 IS, Klipfontein 3 IS, and Smaldeel 1IS;
- MAD Mulder, various portions on Zondagsvlei 9 IS,
- Vosbreed Boerdery, Smithfield 44 IS, Zondagsvlei 9 IS (ptn 6), Leeuwefontein 219 IR, Cologne 34 IS, Klippoortjie 32 IS, Goedgevonden 10 IS.

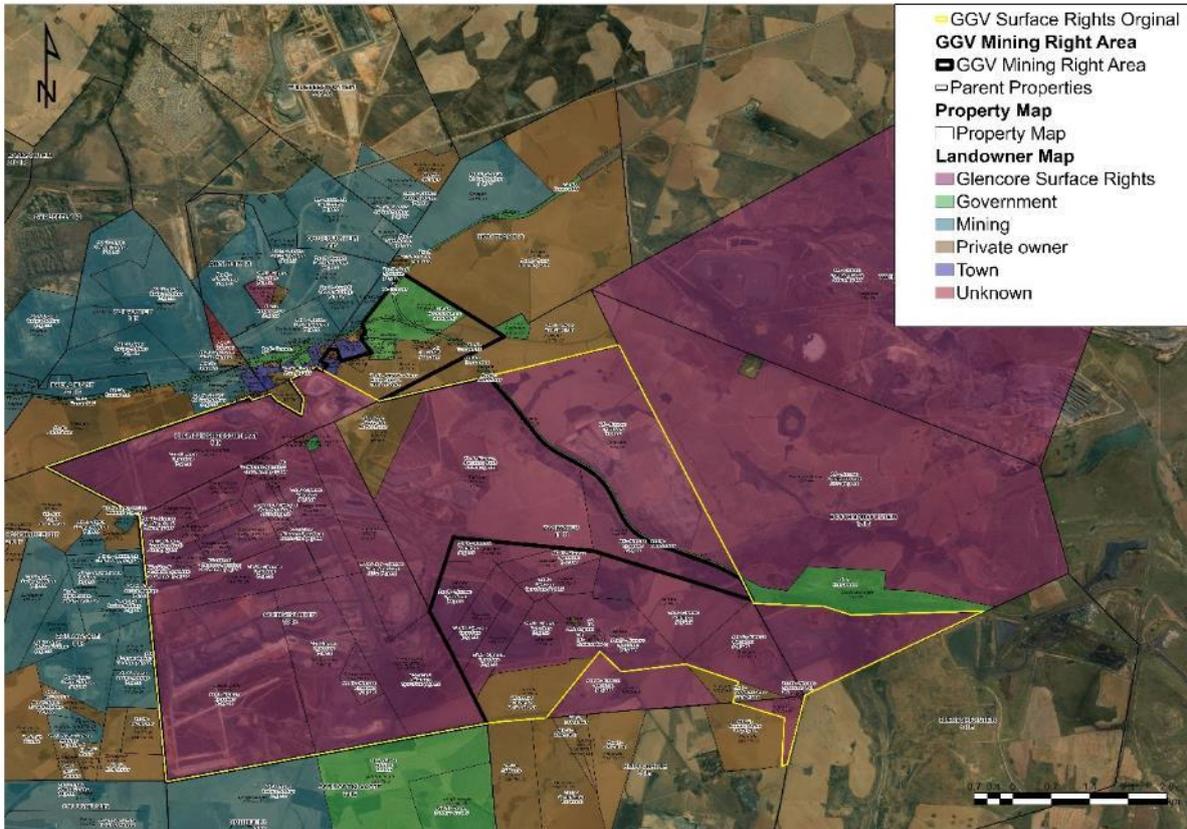


Figure 4-22: Landowner category map

4.5.4 The Mosque and Madrassah

The Mosque and Madrassah is located within the Mining Right Area and in close proximity to the mine operations.



Figure 4-23: The Mosque and Madrassah

The Mosque is a religious centre utilised by local people of the Islam religion. The Madrassah is used as a residential area and for religious teachings.

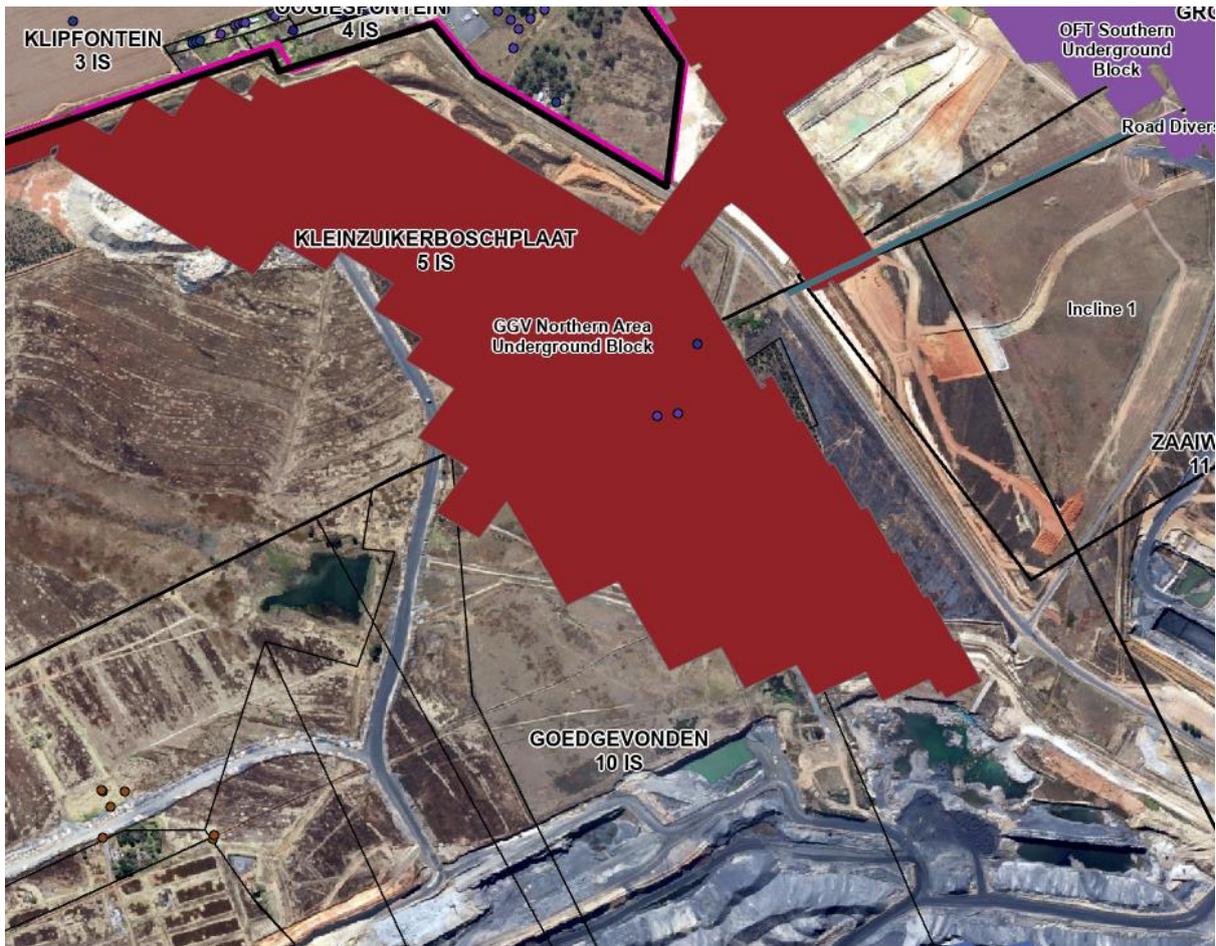


Figure 4-24: Map indicating the location of the Mosque and Madrasah

4.5.5 Mining Development

Within the project and surrounding area, there are mining activities mostly related to coal but there are also some quarrying or sand mining activities. The figure below indicates land belonging to mining companies and mining activities identified.

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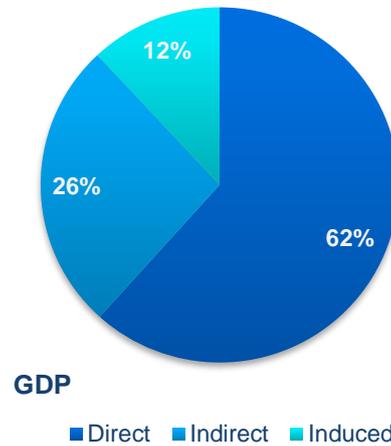
Figure 4-25: Neighbouring Mine Operations

5 DESCRIPTION OF PROJECT IMPACTS AND MITIGATION MEASURES

5.1 Benefits from the continued Mine Operation

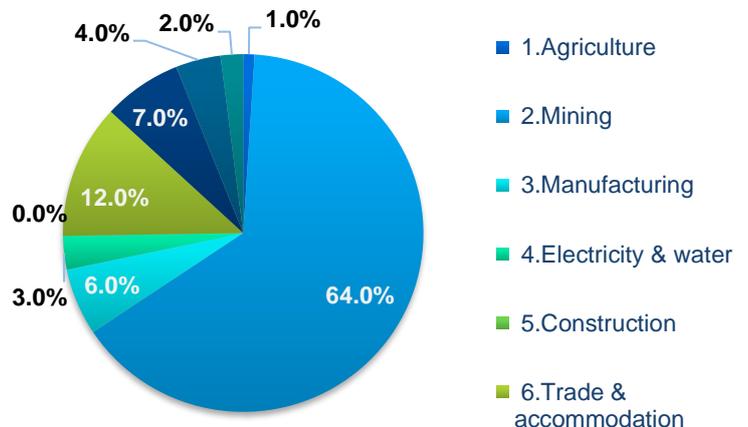
5.1.1 Contribution to Economic Growth in the Local, Provincial and National Economy

Based on the National Social Accounting Matrix and the financial data provided by Glencore, it is anticipated that GGV has an annual direct Gross Domestic Product contribution of R2 639 million and total (indirect and induced included) of R4 280 million. The total contribution is 7% of the local and 1.3% of the provincial GDP, where mining contributes 22,5% to the provincial economy.

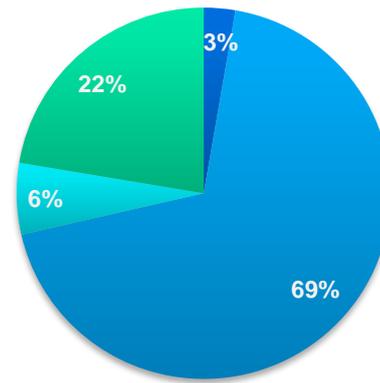


The GDP contribution is made up of direct, indirect and induced impacts.

The sectoral analysis shows a wide effect on the economy of Mpumalanga. The Mining sector is the economy's largest beneficiary (64% of the project's GDP contribution) of the total GDP impact of the project, followed by the Manufacturing with 12% of GDP generated by the project.



Capital expenditure is money that institutions spend to buy, maintain, or upgrade fixed assets such as buildings, vehicles, land and equipment. It is the brick-and-mortar type of investment that forms the backbone on which the economy functions. It is important for economic growth as it increases the productive capacity of the economy. By increasing productivity through improved capital equipment, more goods can be produced, and the standard of living can rise. The GGV operation will directly invest on average R 600 million in capital per annum over the next 10 years. This will be spread amongst the plant, equipment, group capital and other. The knock-on effect adds further capital expenditure indirectly (R350 million) and induced (R180 million).



Capital formation

■ Plant ■ Equipment ■ Group ■ Other

Balance of payments in the economy refers to the trade transactions with other countries and is relevant for GGV due to the export of coal. The balance of payments in South Africa as it provides information for economic policy, import and export taxes, and also indicates the state of our economy. GGV's export of coal will have a very positive impact on the Balance of Payments with an estimated amount of R 4 922 million per annum expressed in 2021 prices (which is approximately 0.3% of total export of goods).

Impact related to Overall Mining

Potential Impact	Extent	Duration	Intensity	Probability	Weighting Factor	Significance Rating (WOM)	Mitigation Efficiency	Significance Rating (WM)
Contribution to Economic Growth in the Local, Provincial and National Economy	National	Long term	Medium	Definite	Medium to High	P-Medium	Medium P	P-High

Impact related to Amendment:

Will the impact increase, decrease or remain the same if the Amendment proposals are implemented?	Moderate increase
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The additional capital expenditure for the amendment activities (i.e. underground mining, additional infrastructure, etc) will have an increase in the benefits generated for direct, indirect and induced economic growth.

Mitigation Measures

The following mitigation measures are proposed:

- Optimize local involvement in on-mine business opportunities to maximize local economic growth

5.1.2 Contribution to public finance through tax revenue

South Africa faces critically low growth levels amidst other challenges of high unemployment levels and significant inequalities. Government has a role of intervening in the economy through provision of public goods and services promoting economic development. This is facilitated through the levying of taxes. Without the revenue generated by tax, Government cannot provide the public services and development programmes. The GGV operation contributes to public finance through the payment of tax revenues, employee tax, rates & taxes, royalties and the payment of skills development levy. Of these, corporate tax, (approximately R330 million per annum) and employee tax is the largest contributors.

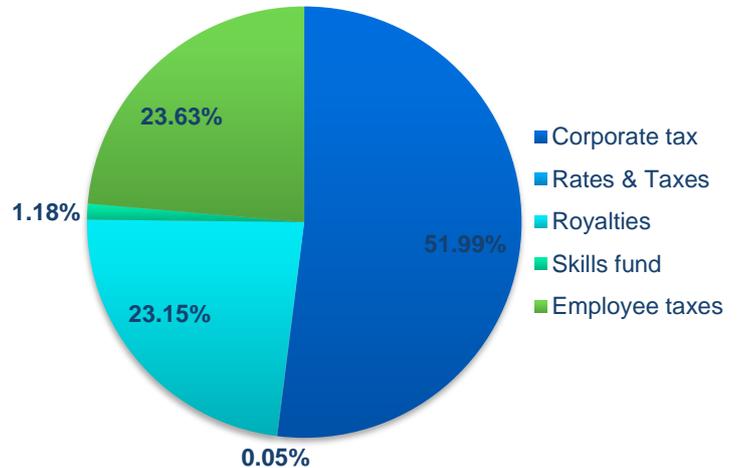


Figure 5-1: Tax contribution

Impact related to Overall Mining

Potential Impact	Extent	Duration	Intensity	Probability	Weighting Factor	Significance Rating (WOM)	Mitigation Efficiency	Significance Rating (WM)
Contribution to public finance through tax revenue	National	Long term	High	Definite	Medium to High	P-Medium	Low P	P-Medium

Impact related to Amendment:

Will the impact increase, decrease or remain the same if the Amendment proposals are implemented?	Moderate increase
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Tax payments to Government is based on production and therefore revenue generation. With a slight increase in production as well as an increase in profitability there may be a moderate increase in tax payments.

Mitigation Measures

No mitigation measures necessary.

5.1.3 Secondary benefits in the creation of electricity to supply the domestic demand

The GGV operation provides on average 3.8 million tonnes per annum to Eskom for the generation of electricity, which in turn has an impact on Eskom's economic footprint.

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Impact related to Overall Mining

Potential Impact	Extent	Duration	Intensity	Probability	Weighting Factor	Significance Rating (WOM)	Mitigation Efficiency	Significance Rating (WM)
Secondary benefits in the creation of electricity to supply the domestic demand	National	Long term	High	Definite	Medium to High	P-Medium	Medium P	P-High

Impact related to Amendment:

Will the impact increase, decrease or remain the same if the Amendment proposals are implemented?	Remain the Same
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Mitigation Measures

No mitigation measures necessary.

5.1.4 Maintenance of Employment Opportunities, Skills Development and Household Income

The employment rate and economic growth are linked. This is because employment contributes to economic growth: Workers produce valuable goods and services, and in turn receive an income which they can spend on buying other goods produced. The higher the employment rate, the greater the number of goods being produced (demand and supply).

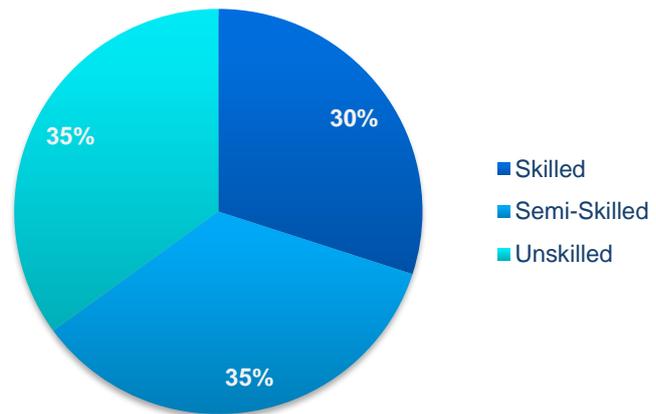


Figure 5-2: Employment division by skill level

GGV operations provide 962 workers and a further 461 contractor workers employment. The employment provided will be mostly sustained for the following 10 years. The employment is made up of unskilled, semi-skilled and skilled members. Indirect employment is estimated at 5 644 (58%) and induced employment is estimated at 2 584 (27%) with a total employment impact of 9 648 sustained during the operational period. Every one direct job supports 6.8 jobs in the indirect and induced sectors. If it is accepted that each job created provides for a household of 3.2 inhabitants providing for around 30 000 people a living income.

Table 4: Total employment at current estimates

	Direct Impact	Indirect Impact	Induced Impact	Total Impact
Skilled	335	1605	903	2843
Semi-skilled	625	1916	860	3401
Unskilled impact	461	2123	821	3405
Impact on employment	1421	5644	2584	9648

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The Community services sector is expected to be the largest beneficiary (29% of total employment), the Transport and Communication sector benefits to the tune of 27% of the jobs created and the mining sector benefit by 15% of jobs created.

Impact related to Overall Mining

Potential Impact	Extent	Duration	Intensity	Probability	Weighting Factor	Significance Rating (WOM)	Mitigation Efficiency	Significance Rating (WM)
Maintenance of Employment Opportunities, Skills Development and Household Income	Provincial	Long term	High	Definite	High	P-Medium	Medium P	P-High

Impact related to Amendment:

Will the impact increase, decrease or remain the same if the Amendment proposals are implemented?	Remain the Same
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Employment levels will be sustained throughout the operational phase, and therefore the positive impact currently experienced due to the employment will continue.

Mitigation Measures

The following mitigation measures are proposed:

- Optimise local employment where new opportunities become available
- Implementation of Human Resource Development Programmes to increase skills amongst existing workforce
- Implement participation strategies with staff through future forums and current union structures

5.1.5 Contribution to poverty alleviation

The project contributes to poverty alleviation on two fronts, namely first the payments to low-income households through wages paid to workers; and secondly through the Social and Labour Plan spend on skills development and community development projects.

The total annual household income (direct, indirect and induced) is estimated at R 2 335 million per annum with R449 million (19%) to the low-income households.

Apart from the wage payments to low-income households, GGV operation also implement its commitments for Employee Skills Development and Community Development through its Social and Labour Plan. Further provision has been made for the SLP for the rest of the Life of Mine at an amount of approximately R4.5 million per annum.

Impact related to Overall Mining

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Potential Impact	Extent	Duration	Intensity	Probability	Weighting Factor	Significance Rating (WOM)	Mitigation Efficiency	Significance Rating (WM)
Contribution to poverty alleviation	Provincial	Long term	High	Highly Probable	High	P-Medium	Medium P	P-High

Impact related to Amendment:

Will the impact increase, decrease or remain the same if the Amendment proposals are implemented?	Remain the Same
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SLP contribution as well as payments to low-income households will continue regardless of the amendment.

Mitigation Measures

The following mitigation measures are proposed:

- Ensure implementation of SLP programmes
- Local beneficiation programmes to be implemented as part of the Social and Labour Plan

5.1.6 Participation of local businesses in procurement opportunities

Glencore is committed to local procurement and SMME development. As part of the SLP, projects have been identified for SMMEs and income-generating projects, and measures have been committed to ensuring procurement levels comply with the Mining Charter.

Impact related to Overall Mining

Potential Impact	Extent	Duration	Intensity	Probability	Weighting Factor	Significance Rating (WOM)	Mitigation Efficiency	Significance Rating (WM)
Participation of local businesses in procurement opportunities	Provincial	Long term	Medium	Highly Probable	Medium to High	P-Medium	Medium P	P-High

Impact related to Amendment:

Will the impact increase, decrease or remain the same if the Amendment proposals are implemented?	Slight increase
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Procurement levels are bound to increase for historically disadvantaged, women-owned and local businesses due to the transitional targets set by the Mining Charter.

Mitigation Measures

The following mitigation measures are proposed:

- Maintain database of black- and women-owned and empowered as well as local companies able to provide capital goods, consumables and services to the mine
- Identify contracts or part of contracts that may be suitable to smaller local companies
- Facilitate and encourage the involvement of SMME's in larger contracts as sub-contractors
- Consultation and Feedback on results regularly

- Establish development programmes to support SMME businesses

5.2 Impacts caused by the Mine Operation

5.2.1 Impact on existing community structures and social capital

Communities' perceptions and attitudes towards mining companies are often based not only on their local experiences of a specific operation, but also on their perception of the history of mining in a specific region or country as a whole. Thus, although mining companies have made great progress in their development focus over the past few year, the general perceptions do not necessarily agree due to our legacy of social and environmental ills.

The World Bank defines social capital as “the relationships between people to enhance collective action”. Social Capital is an intangible resource embedded in the features of social organizations and networks that facilitates action and improve efficiency in society that would not have been in its absence. Strong social capital is therefore not only seen as a resource in community development, but also a vital prerequisite for development. It is entrenched in principles and values such as goodwill, trust, solidarity, general reciprocity, and civic engagement.

In relation to GGV, social capital presents itself in the organisations that represent stakeholders from the surrounding area. Based on an overview of current organisations it is clear that there are broad representation in various organisations that engage with Glencore on issues of concern within the neighbouring area.

Impact related to Overall Mining

Potential Impact	Extent	Duration	Intensity	Probability	Weighting Factor	Significance Rating (WOM)	Mitigation Efficiency	Significance Rating (WM)
Lack of access to engagement opportunities, information and platforms to raise issues and grievances	Local	Long term	High	Highly Probable	Medium	Medium	Medium N	Low to Medium

Impact related to Amendment:

Will the impact increase, decrease or remain the same if the Amendment proposals are implemented?	Remain the Same
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It is however not anticipated that there will be any change in the impacts on Social Capital due to the amendment application, as the impacts are associated with the overall operation that is ongoing regardless of the amendment.

The impacts are however rated below, and mitigation measures provided for inclusion in the updated Environmental Management Programme Report.

Mitigation Measures

Mitigation measures could include:

- Design & maintain stakeholder engagement strategies that will enable local stakeholders to engage Glencore on a regular basis
- Establishing & maintaining a Complaints and Grievance Procedure and raise awareness among local stakeholders of the availability of the procedures and avenues of raising issues and concerns
- Provide information on benefits and opportunities through the stakeholder engagement strategies

5.2.2 Disruption of daily living and movement patterns

Currently landowners have two main access points to the privately held properties, with smaller internal access routes. These same roads are being utilised by mining companies in the surrounding area for product transport, goods and services and staff. Landowners have already expressed a concern regarding the congested nature of the roads in the surrounding area due to the cumulative effect on an increase in traffic to and from mining operations.

This is an existing cumulative impact experienced by local communities that will continue into the future. The increase of production levels has a direct influence over product transport and the increase of this impact.

Impact related to Overall Mining

Potential Impact	Extent	Duration	Intensity	Probability	Weighting Factor	Significance Rating (WOM)	Mitigation Efficiency	Significance Rating (WM)
Disruption of daily living and movement patterns	Local	Long term	High	Highly Probable	Medium to High	Medium to High	Low to Medium N	Medium

Impact related to Amendment:

Will the impact increase, decrease or remain the same if the Amendment proposals are implemented?	Moderate increase
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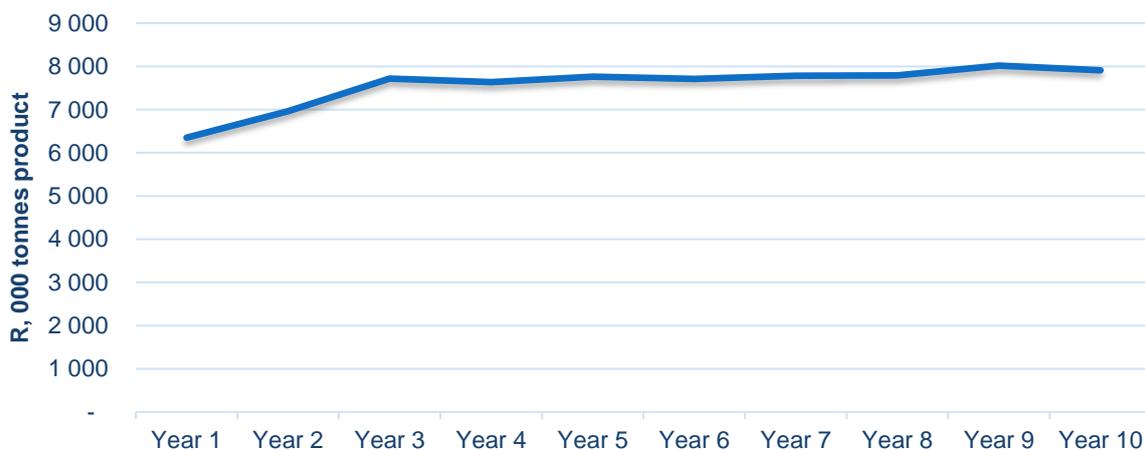


Figure 5-3: Estimated production for the next 10 years

Based on the planned moderate increase in production anticipated around Year 3, there might be a need for increased product transport, which may have a slight increase in the impact on

local daily living and movement patterns. Seeing that this impact is already causing discomfort additional mitigation measures would be required.

Mitigation Measures

The following mitigation measures are proposed:

- Traffic management where product transport coincides with local movement on roads, such as the roads to the south of GGV. Provision of additional “park lanes” for product transport trucks, and no allowance of trucks to park or wait on the existing road.
- Dust suppression measures must be implemented for heavy vehicles such as wetting of gravel roads on a regular basis and ensuring that vehicles used to transport product are fitted with covers.
- All vehicles must be road-worthy, and drivers must be qualified and made aware of the potential road safety issues and need for strict speed limits.

5.2.3 Population influx and formations of informal settlements near Operation

Typically, demographic change moves through three major phases commencing with construction of the project and movement to the area of a construction workforce (which took place in 2009), followed by the operational workforce and then the additional multiplier effects. The currently sustains 962 employees with an additional 461 contractor staff. The multiplier effects are estimated at another 8228 indirect and induced workers of which a portion is located within the local environment.

Even though Glencore sources most of its workers from the local area, there will also be people looking for opportunities that enter the area. This process of in-migration affects both Ogies and Phola and has a cumulative effect due to other mining in the area.

Impact related to Overall Mining

Potential Impact	Extent	Duration	Intensity	Probability	Weighting Factor	Significance Rating (WOM)	Mitigation Efficiency	Significance Rating (WM)
Population influx and formations of informal settlements near Operation	Local	Medium term	High	Highly Probable	Medium to High	Medium to High	Medium to High N	Low to Medium

Impact related to Amendment:

Will the impact increase, decrease or remain the same if the Amendment proposals are implemented?	Remain the Same
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Impacts on population influx and demographic change is because of the overall GGV operation and other mining operations. It is however not anticipated that there will be any change in the impacts on crime due to the amendment application, as the impact is associated with the overall operation that is ongoing regardless of the amendment.

Mitigation Measures

The following mitigation measures are proposed:

- Participation in the Municipal Integrated Development Plans, Spatial Development Frameworks and Land Use Scheme's and Management Plans, especially as it relates to housing developments and closure or footprint reduction strategies towards the end of the Life of Mine.
- Priority employment from local communities with the implementation of recruitment procedures and utilizing the existing skills available from the local communities discouraging sourcing from outside the area
- Continuation of skills development programmes and bursary / internship programmes to improve the skills levels of local people as part of the Social and Labour Plan
- Provision of housing support and services for the project workforce to minimise adverse impacts on the local community
- Providing transport to employees to ensure workers remain in their local areas and do not move closer to the mine infrastructure to save on commuting expenses

5.2.4 Deterioration of the Local sense of place

Changes to the physical environment have an impact on people's daily lives and sense of place. Sense of place is an important consideration because sprawl development tends to eliminate unique features of the landscape. The notion that places are more than just locations is at the core of ideas about place and sense of place. In its simplest form, sense of place encompasses the idea that each person forms close relationships with the spaces and settings in which he or she interacts. As they work, play, spend time with their families and friends, travel in their neighbourhoods and immediate environments individuals have positive and negative experiences in, and of, places and as a result ascribe meaning to them (Buttimer, 1980; Damer, 1974; Lewis, 1979; Meinig, 1979; Perkins, 1988a, 1988b, 1989; Perkins, Thorns and Newton, 2008; Relph, 1976).

The deterioration of sense of place coincides with impacts on the physical environment such as the following:

- Exposure to decreased air quality and nuisance dust formation on surfaces at businesses and households
- Exposure to continued nuisance noise especially related to alarms, truck movements and reverse hooters
- Increased risk due to traffic increases within the towns as well as on main roads utilised between towns
- Deterioration of public infrastructure such as water supply, road maintenance and road reserve management (hawkers) due to increase activity and use of the public infrastructure
- Increase in informal settlements neighbouring mine activity
- Visual intrusion caused by large stockpiles on the edge of the Ogies town and artificial lighting on the mine's operational area
- Vibration caused by blasting activities.

With any single mining operation, it is estimated that there would be a decrease over time of the quality of the physical environment. This is exacerbated with the cumulative situation of a number of mining operations, power generation plants and other associated developments.

The Mosque and Madrassah are located within the Mining Right Area, and although attempts has been made by Glencore to negotiate relocation, this has been refused due to religious and cultural reasons. Both the Mosque and the Madressa village are affected by blasting, air quality, noise and visual impacts described above.

Impact related to Overall Mining

Potential Impact	Extent	Duration	Intensity	Probability	Weighting Factor	Significance Rating (WOM)	Mitigation Efficiency	Significance Rating (WM)
Deterioration of the Local sense of place	District	Permanent	High	Highly Probable	High	High	Medium N	Medium

Impact related to Amendment:

Will the impact increase, decrease or remain the same if the Amendment proposals are implemented?	Remain the Same
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As the sense of place has already been affected by the GGV operations, the additional infrastructure will not have an increased effect on the sense of place.

Mitigation Measures

The following mitigation measures are proposed:

- Implementation of measures proposed in the air quality, noise, visual and blasting impact assessments to reduce nuisance effects of the operation
- Continuous engagement with neighbouring stakeholders providing information on anticipated impacts and planned mitigation measures
- Establish ongoing Consultative Forums with concerned groups to air concerns, refine mitigation measures for their perceived impacts and monitor implementation and effectiveness of mitigation measures
- Investigate and consider road improvements and traffic management measures on roads used for mine related travel
- Minimising disturbance to vegetated areas outside the critical development areas where possible
- Revegetation/rehabilitation of disturbed sites in parallel with development
- Rehabilitation and Reclamation of affected areas

5.2.5 Operational Worker Health Impacts

On the health front, miners have long been aware of the hazards posed by the gases, dusts, chemicals, and noise in the work environment and in working in extreme temperatures (hot or cold).

The primary occupational health concerns associated with coal mining in South Africa are:

- Dust-induced occupational lung diseases: Dust exposure in coal mines is a risk factor for occupational lung diseases such as coal workers' pneumoconiosis (CWP), also known as black lung; chronic obstructive airways disease (COAD); and lung function deficiency. Employee exposure varies considerably as some employees are continuously exposed while others are exposed for short periods of time.
- Noise induced hearing loss: Noise-induced hearing loss (NIHL) has been recognised as a significant occupational health risk in the South African coal mining industry. Prolonged exposure to hazardous noise of more than 85 dBA causes loss of hearing acuity, which occurs gradually. The Mine Health and Safety Council set occupational health and safety targets in 2014 to eliminate NIHL by establishing limits on employee's standard Threshold Shift and reducing total operational or process noise emitted by equipment.

The industry is guided by extensive health and safety legislation and regulations when dealing with occupational health. Government authorities monitor and enforce compliance with mines' health and safety measures, and audits and inspections are conducted to ensure compliance with legal provisions. The audits evaluate mine management systems for the prevention of exposure of employees to noise and dust.

Impact related to Overall Mining

Potential Impact	Extent	Duration	Intensity	Probability	Weighting Factor	Significance Rating (WOM)	Mitigation Efficiency	Significance Rating (WM)
Operational Worker Health Impacts	Site specific	Long term	Very High	Highly Probable	Medium to High	Medium to High	Medium to High N	Low to Medium

Impact related to Amendment:

Will the impact increase, decrease or remain the same if the Amendment proposals are implemented?	Moderate increase in underground workings
---	---

Mitigation Measures

The following mitigation measures are proposed:

- Continued dust suppression. Dust sampling in the South African coal industry has been a legal requirement for several decades. Dust suppression inspections occur at the GGV operations, and reports are submitted to the DMRE on dust levels.
- Ensuring employees are equipped with appropriate personal protection equipment (PPE).
- Ensuring continuous ventilation of underground workings contributes to a healthier working environment as large quantities of clean air enter the mine areas underground and dilute the dust concentration.
- Ensure that equipment is well maintained and fitted with appropriate noise abatement measures.

- The applicant includes a component covering environmental noise in the Health and Safety Induction to sensitize all employees and contractors about the potential impact of noise.
- Compliance with noise limits in underground, surface and plant operations

5.3 Impacts during Mine Slow-down and Decommission

5.3.1 Loss of job opportunities due to downscaling of the mine employment

At the end of the Life of Mine, a period of downscaling and retrenchment will follow that will reduce employment and have an economic impact.

Impact related to Overall Mining

Potential Impact	Extent	Duration	Intensity	Probability	Weighting Factor	Significance Rating (WOM)	Mitigation Efficiency	Significance Rating (WM)
Loss of job opportunities due to downscaling of the mine employment	Regional	Medium term	Very High	Highly Probable	High	High	Medium N	Medium

Impact related to Amendment:

Will the impact increase, decrease or remain the same if the Amendment proposals are implemented?	Remain the Same
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Mitigation Measures

The following mitigation measures are proposed:

- Implement portable skills development programmes to enable retrenched employees to find alternative employment
- Design and implement economic development programmes that will assist people being retrenched in sustaining their livelihoods
- Establish a future forum with representation from the workforce to discuss potential difficulties and solutions
- Implementation of programmes to minimize and mitigate the impact of downscaling and retrenchment
- Implementation of capacity building programmes to minimize and mitigate the impact of mine downscaling and closure.

5.3.2 Dependence on mine operations for economic function

GGV operations have a definite impact on economic activities within Ogies and to a larger extent a cumulative impact with other mining operations in the region. The indirect and induced economic benefits stimulates a number of other sectors that will be impacted when mine operations start to close in the region, including GGV. Although this is not foreseen for another 20 years in GGV's circumstances it is necessary to already plan for the closure of the operation.

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Impact related to Overall Mining

Potential Impact	Extent	Duration	Intensity	Probability	Weighting Factor	Significance Rating (WOM)	Mitigation Efficiency	Significance Rating (WM)
Dependence on mine operations for economic function	Regional	Medium term	Very High	Highly Probable	High	High	Medium N	Medium

Impact related to Amendment:

Will the impact increase, decrease or remain the same if the Amendment proposals are implemented?	Remain the Same
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Mitigation Measures

The following mitigation measures are proposed:

- Closure plan implementation
- Design and implement economic development programmes that will assist Ogies and Phola in sustaining their livelihoods
- Engage Emalahleni Local Municipality in the closure planning to provide support and inputs into the broader regional planning

5.4 Impact Summary

ID	Capital	Potential Impact	Extent	Duration	Intensity	Probability	Weighting Factor	Significance Rating (WOM)	Amendment Influence	Mitigation Efficiency	Significance Rating (WM)	Significance including Amendment
1	Benefits	Contribution to Economic Growth in the Local, Provincial and National Economy	National	Long term	Medium	Definite	Medium to High	P-Medium	Moderate Increase	Medium P	P-High	P-High
2	Benefits	Contribution to public finance through tax revenue	National	Long term	High	Definite	Medium to High	P-Medium	Moderate Increase	Low P	P-Medium	P-High
3	Benefits	Secondary benefits in the creation of electricity to supply the domestic demand	National	Long term	High	Definite	Medium to High	P-Medium	Remain the Same	Medium P	P-High	P-High
4	Benefits	Maintenance of Employment Opportunities, Skills Development and Household Income	Provincial	Long term	High	Definite	High	P-Medium	Remain the Same	Medium P	P-High	P-High
5	Benefits	Contribution to poverty alleviation	Provincial	Long term	High	Highly Probable	High	P-Medium	Remain the Same	Medium P	P-High	P-High
6	Benefits	Participation of local businesses in procurement opportunities	Provincial	Long term	Medium	Highly Probable	Medium to High	P-Medium	Slight increase	Medium P	P-High	P-High
7	Operational Impacts	Lack of access to engagement opportunities, information and platforms to raise issues and grievances	Local	Long term	High	Highly Probable	Medium	Medium	Remain the Same	Medium N	Low to Medium	Low to Medium
8	Operational Impacts	Disruption of daily living and movement patterns	Local	Long term	High	Highly Probable	Medium to High	Medium to High	Moderate Increase	Medium N	Medium	Medium
9	Operational Impacts	Population influx and formations of informal settlements near Operation	Local	Medium term	High	Highly Probable	Medium to High	Medium to High	Remain the Same	Medium to High N	Low to Medium	Low to Medium
10	Operational Impacts	Deterioration of the Local sense of place	District	Permanent	High	Highly Probable	High	High	Remain the Same	Medium N	Medium	Medium
11	Operational Impacts	Operational Worker Health Impacts	Site specific	Long term	Very High	Highly Probable	Medium to High	Medium to High	Moderate Increase	Medium to High N	Low to Medium	Medium
12	Downscaling	Loss of job opportunities due to downscaling of the mine employment	Regional	Medium term	Very High	Highly Probable	High	High	Remain the Same	Medium N	Medium	Medium
13	Downscaling	Dependence on mine operations for economic function	Regional	Medium term	Very High	Highly Probable	High	High	Remain the Same	Medium N	Medium	Medium

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5.5 Mitigation Summary

ID	Capital	Potential Impact	Significance Rating (WOM)	Amendment Influence	Mitigation Measures	Mitigation Efficiency	Significance Rating (WM)	Significance including Amendment
1	Benefits	Contribution to Economic Growth in the Local, Provincial and National Economy	P-Medium	Moderate Increase	<ul style="list-style-type: none"> Optimize local involvement in on-mine business opportunities to maximize local economic growth 	Medium P	P-High	P-High
2	Benefits	Contribution to public finance through tax revenue	P-Medium	Moderate Increase	No mitigation measures necessary.	Low P	P-Medium	P-High
3	Benefits	Secondary benefits in the creation of electricity to supply the domestic demand	P-Medium	Remain the Same	No mitigation measures necessary.	Medium P	P-High	P-High
4	Benefits	Maintenance of Employment Opportunities, Skills Development and Household Income	P-Medium	Remain the Same	<ul style="list-style-type: none"> Optimise local employment where new opportunities become available Implementation of Human Resource Development Programmes to increase skills amongst existing workforce Implement participation strategies with staff through future forums and current union structures 	Medium P	P-High	P-High
5	Benefits	Contribution to poverty alleviation	P-Medium	Remain the Same	<ul style="list-style-type: none"> Ensure implementation of SLP programmes Local beneficiation programmes to be implemented as part of the Social and Labour Plan 	Medium P	P-High	P-High
6	Benefits	Participation of local businesses in procurement opportunities	P-Medium	Slight increase	<ul style="list-style-type: none"> Maintain database of black- and women-owned and empowered as well as local companies able to provide capital goods, consumables and services to the mine Identify contracts or part of contracts that may be suitable to smaller local companies Facilitate and encourage the involvement of SMME's in larger contracts as sub-contractors Consultation and Feedback on results regularly Establish development programmes to support SMME businesses 	Medium P	P-High	P-High
7	Operational Impacts	Lack of access to engagement opportunities, information and platforms to raise issues and grievances	Medium	Remain the Same	<ul style="list-style-type: none"> Design & maintain stakeholder engagement strategies that will enable local stakeholders to engage Glencore on a regular basis Establishing & maintaining a Complaints and Grievance Procedure and raise awareness among local stakeholders of the availability of the procedures and avenues of raising issues and concerns Provide information on benefits and opportunities through the stakeholder engagement strategies 	Medium N	Low to Medium	Low to Medium
8	Operational Impacts	Disruption of daily living and movement patterns	Medium to High	Moderate Increase	<ul style="list-style-type: none"> Traffic management where product transport coincides with local movement on roads, such as the roads to the south of GGV. Provision of additional "park lanes" for product transport trucks, and no allowance of trucks to park or wait on the existing road. Dust suppression measures must be implemented for 	Medium N	Medium	Medium

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ID	Capital	Potential Impact	Significance Rating (WOM)	Amendment Influence	Mitigation Measures	Mitigation Efficiency	Significance Rating (WM)	Significance including Amendment
					heavy vehicles such as wetting of gravel roads on a regular basis and ensuring that vehicles used to transport product are fitted with covers. • All vehicles must be road-worthy, and drivers must be qualified and made aware of the potential road safety issues and need for strict speed limits.			
9	Operational Impacts	Population influx and formations of informal settlements near Operation	Medium to High	Remain the Same	<ul style="list-style-type: none"> • Participation in the Municipal Integrated Development Plans, Spatial Development Frameworks and Land Use Scheme's and Management Plans, especially as it relates to housing developments and closure or footprint reduction strategies towards the end of the Life of Mine. • Priority employment from local communities with the implementation of recruitment procedures and utilizing the existing skills available from the local communities discouraging sourcing from outside the area • Continuation of skills development programmes and bursary / internship programmes to improve the skills levels of local people as part of the Social and Labour Plan • Provision of housing support and services for the project workforce to minimise adverse impacts on the local community • Providing transport to employees to ensure workers remain in their local areas and do not move closer to the mine infrastructure to save on commuting expenses 	Medium to High N	Low to Medium	Low to Medium
10	Operational Impacts	Deterioration of the Local sense of place	High	Remain the Same	<ul style="list-style-type: none"> • Implementation of measures proposed in the air quality, noise, visual and blasting impact assessments to reduce nuisance effects of the operation • Continuous engagement with neighbouring stakeholders providing information on anticipated impacts and planned mitigation measures • Establish ongoing Consultative Forums with concerned groups to air concerns, refine mitigation measures for their perceived impacts and monitor implementation and effectiveness of mitigation measures • Investigate and consider road improvements and traffic management measures on roads used for mine related travel • Minimising disturbance to vegetated areas outside the critical development areas where possible • Revegetation/rehabilitation of disturbed sites in parallel with development • Rehabilitation and Reclamation of affected areas 	Medium N	Medium	Medium
11	Operational Impacts	Operational Worker Health Impacts	Medium to High	Moderate Increase	• Continued dust suppression. Dust sampling in the South African coal industry has been a legal	Medium to High N	Low to Medium	Medium

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ID	Capital	Potential Impact	Significance Rating (WOM)	Amendment Influence	Mitigation Measures	Mitigation Efficiency	Significance Rating (WM)	Significance including Amendment
					requirement for several decades. Dust suppression inspections occur at the GGV operations, and reports are submitted to the DMRE on dust levels. <ul style="list-style-type: none"> • Ensuring employees are equipped with appropriate personal protection equipment (PPE). • Ensuring continuous ventilation of underground workings contributes to a healthier working environment as large quantities of clean air enter the mine areas underground and dilute the dust concentration. • Ensure that equipment is well maintained and fitted with appropriate noise abatement measures. • The applicant includes a component covering environmental noise in the Health and Safety Induction to sensitize all employees and contractors about the potential impact of noise. • Compliance with noise limits in underground, surface and plant operations 			
12	Downscaling	Loss of job opportunities due to downscaling of the mine employment	High	Remain the Same	<ul style="list-style-type: none"> • Implement portable skills development programmes to enable retrenched employees to find alternative employment • Design and implement economic development programmes that will assist people being retrenched in sustaining their livelihoods • Establish a future forum with representation from the workforce to discuss potential difficulties and solutions • Implementation of programmes to minimize and mitigate the impact of downscaling and retrenchment • Implementation of capacity building programmes to minimize and mitigate the impact of mine downscaling and closure. 	Medium N	Medium	Medium
13	Downscaling	Dependence on mine operations for economic function	High	Remain the Same	<ul style="list-style-type: none"> • Closure plan implementation • Design and implement economic development programmes that will assist Ogies and Phola in sustaining their livelihoods • Engage Emalahleni Local Municipality in the closure planning to provide support and inputs into the broader regional planning 	Medium N	Medium	Medium

6 CONCLUSIONS AND RECOMMENDATIONS

There will be no new impacts due to the amendment application, but rather a continuation of existing impacts on the socio-economic environment. The GGV operation is an important economic driver within the local area, and contributes to the economic growth, employment and indirect and induced economic benefits of not just the local area, but within the Mpumalanga province.

Socio-economic impacts being experienced by local communities will continue regardless of this amendment. This report has however made some additional suggestions in mitigation measures for inclusion in the updated Environmental Management Programme Report to support stakeholder engagement, grievance management and mitigation of secondary environmental impacts such as noise, health, air quality and visual effects.

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