
Draft Socio-Economic Impact Assessment for the Kudumane Manganese Resources Expansion Project

Report Prepared for

Kudumane Manganese Resources (Pty) Ltd.



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Report Prepared by

 **srk** consulting

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Executive Summary

Kudumane Manganese Resources (Pty) Ltd (KMR) operates the KMR Manganese Mine near Hotazel in the Northern Cape. The mine comprises various portions of Farm York A 279 (York), Farm Telele 312 (Telele), Farm Kipling 271 (Kipling), Farm Devon 277 (Devon) and Farm Hotazel 280 (Hotazel). KMR is authorised to mine and process manganese ore at these properties in terms of two Mining Rights (MRs) (MR 268 & MR 10053), two approved Environmental Management Programmes (EMPrs) of 2010 and 2014 respectively, a Water Use Licence (WUL) obtained in 2016 and a WUL amendment authorised in 2018. KMR intends to consolidate their two MRs into a single MR, along with the consolidation of the associated EMPrs into one comprehensive EMPr. KMR also intends to expand its existing operations by constructing additional mining-related infrastructure and amending certain mining-related activities and infrastructure to improve its production capacity.

As part of this scoping and Environmental Impact Assessment (EIA) phase, a Socio-Economic Impact Assessment (SEIA) is required in fulfilment of the EIA Regulations (2014), promulgated in terms of Chapter 5 of the National Environmental Management Act (NEMA) No 107 of 1998. The objective of this SEIA is to consolidate all the information contained in the various Environmental Impact Statements and Environmental Project Briefs for the KMR operation. A further aim of the SEIA is to assess the anticipated socio-economic impacts as a result of the mining operations and to identify appropriate management measures to mitigate adverse impacts and enhance positive impacts. This report is aligned to the requirements of South African environmental legislation and good international industry practice standards and guidelines.

This SEIA relied on a standard methodology which were undertaken in two phases as follows:

- Phase 1: Primary and secondary data collection and baseline report:
 - Desktop study;
 - Key Informant Interviews;
 - Site visit;
 - Secondary data review; and
 - Legislative review.
- Phase 2: Socio-Economic Impact Assessment:
 - Impact assessment and rating; and
 - Proposed mitigation measures and management plans.

Most of the land in Ward 4 is still farming land, although a sizeable portion is tribal land. This suggests that the area has high agricultural potential, which should be supported and encouraged. Ward 4 and JMLM might be experiencing a slight population increase, although there is a significant amount of out-migration of labour to surrounding districts in search of work. Despite the fact that the ward has a sizeable working-age population, many residents (and hence workers on the mines) seem to originate from other districts. A large portion either rent accommodation in the municipality and ward, or commute daily from their homes outside the ward. KMR should encourage and support opportunities for the local potential workforce to upskill themselves to become employable.

Many rural settlements are poorly serviced in terms of sanitation and water supply. Water is a scarce resource, and many, if not most, households rely on borehole water. Many boreholes have been sunk by mines. The municipality is also severely stretched in terms of its capacity to offer basic social services, largely as the area is very rural and sparsely populated. There is therefore a significant scope for the mining sector to support the government with service provision in the area. Some concern has also been raised from a safety and security perspective regarding the mine's expansion, particularly as it seems to move closer to human settlements. Issues of concern include blasting and dust.

Mining and agriculture dominate the economic landscape. However, there are several challenges related to both industries, which can be addressed to improve employment and skills development. Some of these include the fact that the mining industry can provide more local skills development in order to allow more local labour to be absorbed in the industry, whilst in terms of the agricultural sector, more skills and farming support (especially livestock production) could improve an existing, although struggling, industry.

The key socio-economic impacts that may result out of the continued KMR operation are summarised in the table below:

Theme	Impact
Theme 1: Livelihood assets and activities	Impact 1.1: Reduced cattle farming productivity
	Impact 1.2: Reducing farm labour opportunities
Theme 2: Land and natural resources	Impact 2.1: Reducing water availability for living and farming
Theme 3: The living environment	Impact 3.1: Increased exposure to environmental hazards and risks during the construction and operational phases
	Impact 3.2: Reduced exposure to environmental hazards and risks during closure and decommissioning
Theme 4: Community/social supports and political context	Impact 4.1: Influx of job-seekers
	Impact 4.2: Potential increase in crime and substance abuse
	Impact 4.3: Increased tension between private security workers and local residents
Theme 5: Livelihood assets and activities	Impact 5.1: Continued employment of local labour
	Impact 5.2: Continued provision of skills and further training opportunities
	Impact 5.3: Increased contribution to the local and regional economy
	Impact 5.4: Loss of local employment and LED support during mine closure and decommissioning
Theme 6: Culture and religion	Impact 6.1: Loss of place attachment

The specialist does not believe the project is fatally flawed, and therefore supports the project. This opinion is largely based on the fact that the area is already mine-dominated, as mines play an important economic role in the area. This industry is well-established and needs to be supported. The area is not a tourism destination, nor does it have a high cultural value or sense of place, apart from the graves close to the expansion activities.

Several management plans are required to effectively mitigate against the potential and ongoing social impacts of the KMR operation. These plans include:

- Rehabilitation Plan;
- Stakeholder Engagement Plan (SEP);
- Emergency Response Plan;
- Mine Closure and Rehabilitation Plan;
- Recruitment and Influx Management Plan;
- Update the Social and Labour Plan (SLP), especially the Employment Equity Plan therein;
- Re-evaluate and, where applicable, update, the Contractor Management Plan;
- Retrenchment Plan; and

- Grave Management and/or Rrelocation Plan.

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Disclaimer

This title and wording for this page will vary by region, based on local legal advice.

The opinions expressed in this report have been based on the information supplied to SRK Consulting (South Africa) (Pty) Ltd. (SRK) by Kudumane Manganese Resources (Pty) Ltd. (KMR). The opinions in this report are provided in response to a specific request from KMR to do so. SRK has exercised all due care in reviewing the supplied information. Whilst SRK has compared key supplied data with expected values, the accuracy of the results and conclusions from the review are entirely reliant on the accuracy and completeness of the supplied data. SRK does not accept responsibility for any errors or omissions in the supplied information and does not accept any consequential liability arising from commercial decisions or actions resulting from them. Opinions presented in this report apply to the site conditions and features as they existed at the time of SRK's investigations, and those reasonably foreseeable. These opinions do not necessarily apply to conditions and features that may arise after the date of this report, about which SRK had no prior knowledge nor had the opportunity to evaluate.

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List of Abbreviations

AoI	Area of Influence
AsgiSA	Accelerated and Shared Growth Initiative for South Africa
BID	Background Information Document
CLO	Community liaison officer
CPA	Communal Property Association
DEA	Department of Environmental Affairs
DHS	Demographic and Health Survey
DMR	Department of Mineral Resources
DMRE	Department of Mineral Resources and Energy
DRDLR	Department of Rural Development and Land Reform
EA	Environmental Authorisation
EIA	Environmental Impact Assessment
EMPr	Environmental Management Programme
FPIC	Free, Prior and Informed Consent
FPL	Food Poverty Line
GIIP	Good International Industry Practice
GN	Government Notice
GoSA	Government of South Africa
GVA	Gross Value Added
HDI	Human Development Index
HIA	Heritage Impact Assessment
HR	Human resources
I&AP	Interested and/or Affected Party
IAIA	International Association of Impact Assessments
ICMM	International Council on Mining and Metals
IDP	Integrated Development Plan
IFC	International Finance Corporation
ILO	International Labour Organisation
IRMA	Initiative for Responsible Mining Assurance
JMLM	Joe Morolong Local Municipality
JTGDM	John Taolo Gaetsewe District Municipality
KII	Key Informant Interview
KMR	Kudumane Manganese Resources
LBPL	Lower-Bound Poverty Line
LED	Local Economic Development
LM	Local municipality
LoM	Life of Mine
LSA	Later Stone Age
MPRDA	Mineral and Petroleum Resources Development Act

MR	Mining right
MSA	Middle Stone Age
Mt	Mega tonnes
MTSF	Medium Term Strategic Framework
NDP	National Development Plan
NEMA	National Environmental Management Act
NGO	Non-Governmental Organisation
NGP	National Growth Path
NHRA	National Heritage Resources Act
NoK	Next-of-Kin
NSDP	National Spatial Development Plan
NWA	National Water Act
OHS	Occupational Health and Security
PAC	Project-Affected Community
PAP	Project-Affected People/Person
PGDS	Northern Cape Provincial Growth and Development Strategy
POPI	Protection of Personal Information Act
PS	Performance Standard
PSIRA	Private Security Industry Regulation Act
RoM	Run of Mine
SAHRA	South African Heritage Resources Agency
SDF	Spatial Development Framework
SEIA	Socio-Economic Impact Assessment
SLP	Social and Labour Plan
SEP	Stakeholder Engagement Plan
SMME	Small, Medium and Micro Enterprise
SPLUMA	Spatial Planning and Land-Use Management Act
Stats SA	Statistics South Africa
TIA	Traffic Impact Assessment
ToR	Terms of Reference
TSF	Tailing Storage Facility
UBPL	Upper-Bound Poverty Line
UMK	United Manganese of Kalahari
VIA	Visual Impact Assessment
VIP	Ventilation Improvement Pit
WC	Ward Councillor
WUL	Water-Use License

Glossary

Area of Influence	The Area of Influence (Aoi) is defined as the area affected by the site's activities and facilities that are directly owned, operated or managed (including by contractors or third parties acting on the site's behalf). The area can be directly (e.g. noise, dust, odours) or indirectly affected (e.g. the towns and communities that are likely to experience economic benefits from the project). The Aoi is not a static measure and should be reviewed depending on the different strategies followed by the site (e.g. stay-in-business projects or Life of Asset developments), cumulative impacts or changes to the social environment (e.g. expansion of a nearby town owing to site-induced in-migration).
Doorstep community	A settlement or village which is very close to the mining operation (at least within 5 km of the mine)
Food poverty line / extreme poverty line	R585.00 (in April 2020 prices) per person per month. This refers to the amount of money that an individual will need to afford the minimum required daily energy intake (Stats SA, 2020).
Household	Statistics South Africa (Stats SA) defines a household as: "[...] all individuals who live together under the same roof or in the same yard, and who share resources such as food or money to keep the household functioning" Stats SA, 2018: p.4). This therefore includes all the members who live under the same roof, or who consider themselves to be part of the household, sharing the same resources (herewith referring to money and food). Migrant workers or members of a household who therefore only occupy a household once a month or just several times a year are considered as extended household members, if they still contribute to, or are still dependent on, the household financial, from a food security perspective, or emotionally.
Labour-sending area	These are the areas where labour is sourced from. In the Kudumane Manganese Resource's (KMR) Social and Labour Plan (SLP), it is defined as the geographical origin of the mine's employees (KMR, 2018). These areas largely comprise of Hotazel and Kuruman, although labour is also sourced from across the entire local municipality and district. Labourers originating from Kuruman in some instances reside in the immediate surrounding communities during the week. Still, labourers mainly use local and private transport on a daily basis to travel between Kuruman and the project site.
Poverty line	Statistical measurements using the cost-of-basic-needs approach to link welfare to the consumption of goods and services. The lines contain both food and non-food components of household consumption expenditure (Stats SA, 2019).
Poverty	Poverty is defined as the state of one who lacks a usual or socially acceptable amount of money or material possessions. Poverty is

	<p>said to exist when people lack the means to satisfy their basic needs (Stats SA, 2017). The South African government measures poverty by three threshold points:</p> <ul style="list-style-type: none"> • Food poverty line (FPL) • Lower-bound poverty line (LBPL) • Upper-bound poverty line (UBPL) <p>These lines capture different degrees of poverty and allow the country to measure and monitor poverty at different levels (Stats SA 2017).</p>
<p>Area of Influence</p>	<p>Area of Influence (AoI) largely refers to all the communities (towns, settlements, villages) which are affected by the project either directly, or indirectly. This means that such a community can either be close to the project, such as a doorstep community, or further away from it, even several kilometres (generally in the same municipality). Direct affects would largely refer to nuisance impacts from the operation, whilst indirect effects could also include project spin-off of trickling-down effects, such as economic impacts.</p>
<p>Project-Affected Persons/People</p>	<p>All the individual household members of the mine's AoI, and especially its labour-sending areas or those people who directly benefit from the mine, or is affected by it (either positively or negatively)</p>
<p>Stakeholder</p>	<p>A stakeholder is defined as any member either from the public or government entity who is directly or indirectly affected by, or who has an interest in the project.</p>
<p>Vulnerable individual/group</p>	<p>Individuals/group who may be more likely to be adversely affected by the project impacts and/or more limited than others in their ability to take advantage of a project's benefits. Such an individual/group is also more likely to be excluded from (or be unable to participate fully in) the mainstream consultation process and as such may require specific measures and/or assistance to do so. This will consider age, including the elderly and minors, and will include circumstances where they may be separated from their family, the community, or other individuals upon which they depend. Vulnerable groups also include people living below the poverty line, the landless, the elderly, women- and children-headed households (IFC, 2012a).</p>

1 Introduction and background

1.1 Report scope

Kudumane Manganese Resources (Pty) Ltd. (KMR) operates the KMR Manganese Mine the project site near Hotazel Town in the Northern Cape Province of South Africa. KMR is authorised by the Department of Mineral Resources and Energy (DMRE) to mine and process manganese ore in terms of two Mining Rights (MRs) (MR 268 and MR 10053), two approved Environmental Management Programmes (EMPrs) (2010 and 2014 respectively), a 2016 Water-Use Licence (WUL) and a WUL amendment authorised in 2018.

KMR intends to consolidate their two MRs into a single MR, along with the consolidation of the associated EMPrs into one comprehensive EMPr. This will be done in accordance with Section 102 of the Mineral Petroleum Resources Development Act (MPRDA) No 28 of 2002. The Section 102 application to consolidate the MRs will be undertaken by KMR in conjunction with an integrated Environmental Application (EA) process, which will also include the consolidation and amendment of the EMPrs. The purpose of the consolidated EMPr will be to provide KMR with a more effective environmental management tool to manage their current and proposed operations.

KMR also intends to expand its existing operations by constructing additional mining-related infrastructure and amending certain mining-related activities and infrastructure to improve its production capacity. The actual application to consolidate and amend the EMPrs to allow for the expansion project will be undertaken in the near future and the commencement of this application process will be communicated to the public in due course.

Before KMR can commence with the proposed expansion activities, it needs to obtain the necessary authorisations from DMRE. This includes, amongst others, approval of a Scoping and Environmental Impact Assessment (EIA) for any project-related Listed Activities stipulated in the National Environmental Management Act (NEMA) No 107 of 1998 (as amended in 2014) and the National Environmental Management: Waste Act (NEM:WA) (No. 59 of 2008). As part of this scoping and EIA phase, a Socio-Economic Impact Assessment (SEIA) is required in fulfilment of the EIA Regulations (2014), promulgated in terms of Chapter 5 of NEMA No 107 of 1998. The EIA will also include a Traffic Impact Assessment (TIA), Heritage Impact Assessment (HIA) and Visual Impact Assessment (VIA). The Scoping, EIA and consolidated and amended EMPr will be submitted by SRK to the Northern Cape Province's DMRE for approval.

The following section provides an overview of the proposed project site and rationale, followed by the SEIA's Terms of Reference (ToR), methodology and report structure.

1.2 Project location

KMR is located in the John Taolo Gaetsewe District Municipality (JTGDM) in the Northern Cape Province of South Africa. The project falls within Ward 4 of the Joe Morolong Local Municipality (JMLM) and covers the following farms:

- York A 279;
- Telele 312;
- Devon 277;
- Hotazel 280; and
- Kipling 271.

The project site is situated on the eastern edge of what is referred to as the Kalahari Manganese Field on government and private land (not traditional land).

The project expansion will affect several farms which are adjacent to each other, including Farm Kipling 271, which is located on the northern side of farm Hotazel 280. Farm Devon is on the southern side of the existing KMP operation (York Pit).

Most farms adjacent to the project site are rented by farmers for the purpose of cattle grazing. The few remaining family owned farms have been farmed for generations. Apart from borehole water for livestock, there are no irrigation, pivot systems or farm dams which the project may impact on.

The project site is located just outside Hotazel and approximately 5 km west of the R31 that links Hotazel to the regional town of Kuruman. Kuruman lies around 60 km south-east of Hotazel via the N14 that leads to Upington. The N14 is managed by the South African National Roads Agency (SANRAL), whilst the R31 and R380 are important provincial roads, linking Hotazel, Black Rock, Kuruman and Danielskuil.

Hotazel and the surrounding settlements are all served by a network of tarred and gravel roads. Apart from Hotazel, which is considered to be the main town in the area, there are several communities approximately 10 to 20 km from the project site, including:

- Magobing;
- Tsineng;
- Magojaneng; and
- Gatshikedi.

The location of the project site is provided in Figure 1-1.

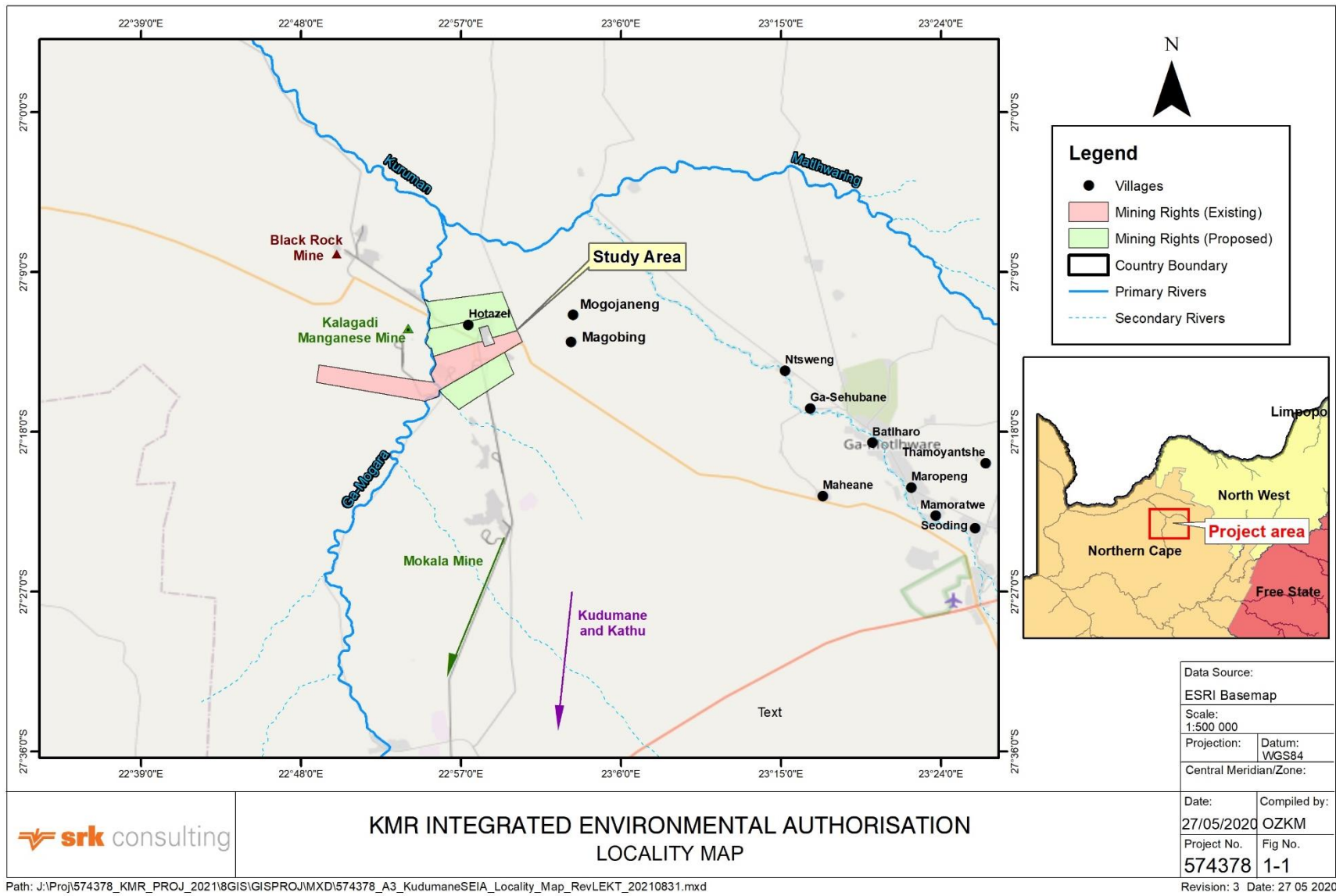


Figure 1-1: Project site location

1.2.1 Labour and housing

No information on labour requirements or labour housing has been provided to SRK by KMR. The expansion activities will utilise the existing infrastructure from the current York Operation, whilst KMR is considering to use a combination of owner operator and contract mining, whilst specialist functions, such as drilling and blasting, would be outsourced (Shangoni, 2020). As outlined in its Social and Labour Plan (SLP) (2018), KMR provides preference to locally unemployed labour where possible, whilst national recruitment is relied on where skills or experience levels are not available locally (KMR, 2018). The KMR labour-sending area largely comprises of Hotazel and Kuruman, although labour is also sourced across JMLM and JTGDM. Labourers originating from Kuruman in some instances reside in doorstep communities during the week, although labourers mainly use local and private transport on a daily basis to travel between Kuruman and the project site.

1.3 Mining operations and proposed expansions

The KMR mining operations commenced in June 2013 under a new MR (NC/30/5/1/2/2/0268 MR) covering the farms York A 279 and Telele 312. This MR allows for the opencast mining of ore on farms Devon, Kipling and a portion of farm Hotazel (Shangoni, 2020).

The principal component of the expansion project includes open-pit mining, a crushing and screening plant, mine residue disposal and storage facilities, as well as various other supporting infrastructure and services (KMR, 2021). Geological data underpinning KMR's MR confirms that the manganese ore is extending in a westerly direction on the York, Hotazel and Kipling properties (SRK, 2020). KMR also confirms that a large portion of such resources extends onto farm Telele, and that the ore on these two farms alone is sufficient to support the mining continuation for another 30 years.

It is anticipated that the expansion project will commence in March 2022 depending on the outcome of the permit application process and date of issuance of the Environmental Authorisation (EA).

In order to understand how the mine might affect the surrounding landscape, communities and people, it is important to identify some of the proposed expansion's activities in more detail. The 2013 opencast and future underground mining operation included the following mining-related infrastructure:

- Associated residue handling and disposal facilities;
- A crushing and screening plant;
- Rail and road infrastructure;
- Water and electrical reticulation infrastructure; and
- Various other supporting infrastructure and services, such as offices, waste storage areas and sewage treatment facilities.

In 2015, the mine expanded its operation through the application of another MR (NC/30/5/1/2/2/10053) covering farms Devon 277, Hotazel 280 and Kipling 271. The following main mining-related activities and infrastructure were approved under this MR:

- Mining and removal of manganese ore from a historical pit and tailings storage facility (TSF) on the farm Devon 277;
- Mining and removal of manganese ore from an historical pit on the farm Hotazel 280, along with the establishment of haul road, utilisation of existing roads including the establishment and utilisation of a conveyor system between the farms Hotazel 280 and York A 279; and
- Potential future mining on the farm Kipling 271 (two new proposed pits).

As part of expanding the Life of Mine (LoM), the following activities are proposed:

- The development of a new opencast pit on the farm Kipling to mine the near-surface manganese resource;
- Expansion of the existing Hotazel and York opencast mining operations;

- Development of two attenuation dams on the Ga-Mogara River to allow for the expansion of the York and Hotazel Pits;
- Underground mining on the farm Telele;
- Addition of two new pits on the farm Kipling;
- Various supporting infrastructure including waste rock dumps and ore stockpiles;
- Expansion of the rail loop to make provision for additional ore stockpiles;
- Various ancillary infrastructure, such as offices, haul roads, water and electricity reticulation infrastructure, weighbridge, sewage treatment facilities; and
- Pollution control dams, waste management facilities, conveyor systems or clinic.

The production of manganese ore from the current project on the farm York is around 1 megaton (Mt) per annum (KMR, 2021). This is anticipated to increase to 1.6 Mt per annum and ultimately 2 Mt per annum at the farm Hotazel and eventual underground operations at the farm Telele (*ibid.*).

Figure 1-2 provides the location of the project expansion activities.

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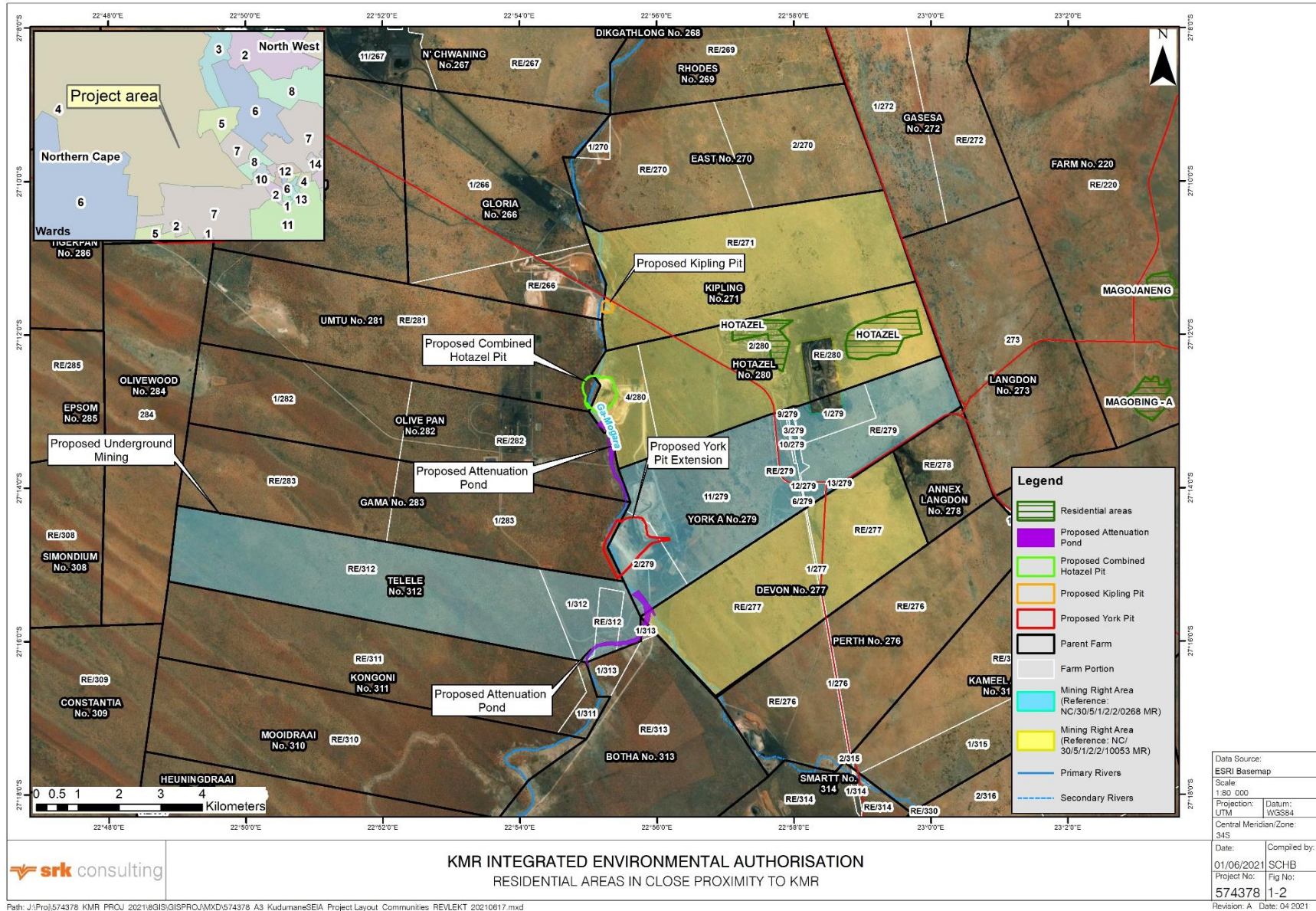


Figure 1-2: Location of project expansion activities

In total, the extent of the area required for the mining expansion covers 112 hectares (ha). The York Pit is proposed to extend by 107 ha in a westerly direction over the Ga-Mogara River (Shangoni, 2020). The Hotazel Pit is proposed to extend in a westerly direction over the Ga-Mogara River to combine the Hotazel Pit with the neighbouring Kalagadi Manganese Mine (*ibid.*). The proposed new Kipling Pit 1 will be 11 ha in extent and will be located within 20 m of the Ga-Mogara River. Kipling Pit 2 will be 5 ha in extent and access an ore deposit anomaly. The underground mining on farm Telele will be developed and accessed from a porthole, which is situated within the current York Pit. Lastly, in terms of the attenuation ponds, the pond for the York Pit Extension will cover a surface of 30.14 ha (extending 184 m in length), whilst the other pond will accommodate the Hotazel Pit Extension and cover a surface of 19.91 ha (extending 163.1 m in length) (Shangoni, 2020).

Although KMR has an MR for the expansion activities, the Hotazel Pit attenuation pond is proposed on farm Gama 283, Olive Pan 282 and Umtu 281 on Kalagadi Mine property. KMR has entered into an agreement with Kalagadi Manganese Mine to mine on its border. The latter pit is directly adjacent to the Mokala Mine, which has a WUL to re-align the Ga-Mogara River (Shangoni, 2020). From a visual observation and by means of stakeholder engagements, there appears to be no cultural heritage, graves, or any structures and buildings which will be affected on the expansion pit areas. The HIA should be referred to for more detail. The only possible sign of graves might be at an old windmill next to the Gamagara River, where historically there might have been a homestead.

Figure 1-3 show the existing Hotazel and York Pits as well as the neighbouring Kalagadi Manganese Mine. Figure 1-4 shows the remainder portion of farm Kipling as well as the water reservoir which will remain untouched. Figure 1-5 indicates the portion of farm Kipling that will be affected by the proposed expansion project.



Figure 1-3: Left: existing Hotazel and York Pits; right: Kalagadi Manganese Mine

Source: SRK, 2021



Figure 1-4: Left: unaffected remainder portion of farm Kipling; right: unaffected remaining portion of Kipling with a water reservoir

Source: SRK, 2021



Figure 1-5: Remainder portion of farm Kipling to be mined

Source: SRK, 2021

1.4 Project rationale

The rationale for consolidating and amending the EMPs are to:

- Describe the existing approved and proposed infrastructure and activities associated with the KMR mine in one document;
- Holistically describe the environment within which KMR operates;
- Update the status of the operation and associated management measures implemented at the mine;
- Allow for a greater level of alignment between the different EMPs in terms of management measures and monitoring reporting requirements; and
- Rationalise repeated information and management measures contained within the approved EMPs.

The mining expansion to farms Devon, Hotazel and Kipling will optimise the extraction of the mineral resources at Kudumane (Shangoni, 2020). By utilising these resources and effectively extending the LoM, the mine's AoI, as well as the wider region, benefit from employment opportunities and economic growth. Some of the most important socio-economic benefits include, for example:

- Job creation and the stimulation of Small, Medium and Micro Enterprises (SMMEs);
- The improvement of the standards of living of the surrounding communities;

- The provision of much-needed skills;
- An increase in income distribution, which, in turn, should increase the local rates and taxes for the municipality to provide essential services in these communities;
- More procurement of goods and services; and
- Increased spending power of employees.

According to Shangoni (2020), the new expansion activities will be relatively small, with a three-year LoM for each. It is for this reason why the expansion activities are seen as extensions of the existing mining operations. In total, the expansion project is expected to yield around 500,000 tonnes per annum for the next ten years (*ibid.*).

Considering the entire mining project, KMR estimates that the LoM will be between 10 to 15 years, after which underground mining will commence for a further anticipated 30 years (KMR, 2021).

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2 Methodology

2.1 Approach to this Socio-Economic Impact Assessment

According to IAIA (2003), an SEIA is concerned with analysing, monitoring and managing the social consequences of development. An SEIA is a methodology used to assess the social impacts of planned interventions or events, and to develop strategies for the on-going monitoring and management of those impacts.

A social impact is something that is experienced or felt by people. It can be positive or negative. Two types of social impacts can be distinguished, viz.:

Objective social impacts

These are impacts that can be quantified and verified by independent observers, such as changes in population size or composition, in employment patterns, in standards of living or in health and safety

Subjective social impacts

These are mentally or emotionally related impacts of people, such as negative public attitudes, psychological stress or reduced quality of life

Subjective social impacts must be noted and addressed, as these can have far-reaching consequences in the form of opposition to, and social mobilisation against a project or development (Du Preez and Perold, 2005).

There are different types of information or knowledge that may be used to define objective and subjective impacts. According to Glicken (1999), information can either follow a technocratic approach, which is based largely on technical expertise and which is generated by individuals (i.e., scientists and experts). However, other types of information or knowledge also play a role in the identification of impacts, such as experiential knowledge, which is based on common sense and personal experience (*ibid.*). The third type of information as defined by Glicken (2000) is value-based knowledge, which is seen as moral or normative knowledge, “[...] derived from social interests and based on perceptions of social value” (*ibid.*: p.307). It is therefore important to consider both the scientific (cognitive) or objective impacts and the social (experiential and value-based) or subjective impacts.

Cumulative impacts are defined as “changes to the environment that are caused by an action in combination with other past, present and future human actions” (DEAT, 2004). The NEMA EIA Regulations (2014) define cumulative impact as follows: “[...] in relation to an activity, means the impact of an activity that in itself may not be significant but may become significant when added to the existing and potential impacts eventuating from similar or diverse activities or undertakings in the area.”

In terms of social impacts, these cannot be addressed or mitigated in isolation, and usually require the intensive participation of stakeholders. Therefore, this SEIA provides management measures to enhance, where required, benefits and mitigate negative effects, which need to be implemented by KMR in partnership with the affected communities.

2.2 Primary data collection and site visit

The SEIA was largely a desktop study, although a specialist site visit was undertaken from 20 to 22 July 2021 to assess the project’s possible socio-economic impacts. The methodology was informed by the need to comply with the ToR, as well as health and safety protocols of the Covid 19 Pandemic; the latter which largely prohibited large social gatherings at the time. The data collection tools included Key Informant Interviews (KIIs) and engagements with key stakeholders during scheduled face-to-face meetings and by means of email correspondence. An English Background Information Document

(BID), which provided project details and contact information of the Environmental Assessment Practitioner, formed part of the email correspondence.

Prior to the site visit, identified stakeholders were contacted in order to arrange face-to-face meetings. These included, although they were not limited to:

- Adjacent and affected landowners/users, including some of the surrounding mine representatives;
- The Ward Councillor (WC) and ward committee members;
- District and local government officials; and
- Relevant Non-Governmental Organisations (NGOs), such as WESSA Northern Cape and the Endangered Wildlife Trust.

Table 2-1 provides a list of all the stakeholders who were interviewed during the specialist's site visit. Interviews were conducted by the specialist in English (Figure 2-1). Names and contacts details have been redacted.

Table 2-1: List of face-to-face stakeholders meetings

Date	Title and position
20 July 2021	Representative of Agri Kuruman
	United Manganese of Kalahari (UMK) Environmental Officer
	Representative of Mac Agri
	Affected farmer (farm Perth)
21 July 2021	Ward council committee member
	Ward council committee member
	Ward council committee member
	Secretary of the community
	Ward council committee member
	Ward council committee member
	Ward council committee member
	Ward council committee member
	Ward council committee member
	Farm owner Olivewood, borders farm Telele

The objectives of these interviews were to:

- Assess stakeholders' perceptions, concerns, and expectations regarding the proposed project;
- Verify baseline socio-economic data collected through the desktop review;
- Establish the socio-economic impacts of the project on the most directly affected people's lives and livelihoods;
- Identify possible mitigation measures to avoid or reduce negative impacts of the project and enhance the positive impacts; and
- Provide a professional opinion on the project and whether there might be a socio-economic need for it.

In order to protect the rights of the stakeholders, the attendance registers for the meetings are not provided. These can be provided to the competent authority upon request. A standard questionnaire with predominantly open-ended, qualitative questions were used to guide the interviews with a focus on identifying possible, key socio-economic impacts.

Figure 2-1 was captured by the specialist during a Focus Group Discussion (FGD) held with the ward committee members in July 2021.



Figure 2-1: FGD with the ward council committee members on 21 July 2021

2.3 Secondary data analysis

As part of the quantitative data analysis, secondary data sources were reviewed to report upon the area's demographics, employment sectors and economy in general. Where necessary, the data was supplemented with data from the South African Census 2011 (Stats SA, 2012) and the South Africa Community Surveys of 2016 (Stats SA, 2016). Other secondary data sources included:

- Google Earth imagery;
- The JMLM Integrated Development Plan (IDP) for 2018-2019;
- The JTGDM IDP for 2020-2021;
- The JMLM Spatial Development Framework (SDF) (2012); and
- The JTGDM SDF 2018.

2.4 Impact assessment methodology

The SRK impact assessment methodology used as part of the EIA has been formalised to comply with Regulation 31(2)(l) of NEMA and the DMRE Guideline for the compilation of EIA and EMPR documents submitted in terms of the MPRDA. The impact assessment methodology used by SRK allows each potential impact to be identified and clearly described (providing the nature of the impact) and be assessed in terms of the factors and ranking scales presented in Table 2-2.

Table 2-2: Impact assessment ranking scales

Occurrence	Duration:	Probability:
	5 – Permanent	5 – Definite/don't know
	4 - Long-term (ceases with the operational life)	4 – Highly probable
	3 - Medium-term (5-15 years)	3 – Medium probability
	2 - Short-term (0-5 years)	2 – Low probability
	1 – Immediate	1 – Improbable
	0 – None	
Severity	Extent/scale:	Magnitude:
	5 – International	10 - Very high/uncertain
	4 – National	8 – High
	3 – Regional	6 – Moderate
	2 – Local	4 – Low
	1 – Site only	2 – Minor
	0 – None	

The impact assessment methodology relies on a semi-quantitative approach for the determination of the significance (importance) of each identified potential impact. A numerical value has been linked to each factor to indicate the scale of severity. This impact assessment methodology relies on a mathematical formula to predict the potential significance of each impact. The formula assumes that the sum of three impact categories (duration + extent + magnitude) will provide a level of significance if multiplied by the level of probability.

The significance of any identified potential impact is then rated as either: high, moderate or low. To assess the **degree to which the potential impact can be reversed and be mitigated**, each identified potential impact will need to be assessed twice. Firstly, the potential impact will be assessed and rated prior to implementing any management measures; and secondly, after the measures have been implemented. The purpose of this dual rating is to indicate that the significance rating of the initial impact is and should be higher in relation to the significance of the impact after mitigation measures have been implemented. The impact after mitigation is reflected as the residual impact (i.e. the impact that will be experienced).

Refer to Annexure A for SRK's comprehensive assessment methodology.

2.5 Study assumptions and limitations

As the SEIA was largely a desktop study, there are few limitations, including:

- The SEIA relied on outdated socio-economic statistics (census data) from the 2011 South African Census. Much has changed within the South African context between 2011 and 2021, which means that the 2011 statistics likely do not accurately reflect the current socio-economic reality of the area for 2021. However, this data was supplemented by data from the Demographic and Health Survey (DHS) of 2016 as well as the Community Survey of 2016;
- At the time of writing this report, most of the EIA specialist studies and opinions were still being drafted and formulated. Of importance to this SEIA would be the Heritage Impact Assessment, Noise Opinion Statement, Blasting and Vibrations Impact Assessment, Air Quality Impact Assessment, Surface Water Impact Assessment, Traffic Impact Assessment and Hydrogeology Impact Assessment. These reports were not reviewed or incorporated into the SEIA, which presents a gap in knowledge;

- Lack of general public participation in the project has resulted in limited engagement. Although JMLM and the ward committee members were engaged, limited issues and/or concerns were raised by them. No further comments have been received since the finalisation of this report.
- No labour-related information could be obtained from KMR. Labour and accommodation information is required in order to accurately assess impacts; and
- There are proposals for a solar farm on farm Annex Langdon 278/0, neighbouring the Devon Pit. An application for one solar farm has been submitted to the *then* Department of Environmental Affairs (DEA) in 2017. Additional information on these developments was not available at the time of writing this report. The knowledge gap implies that cumulative impacts could not be accurately assessed.

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3 Legislation and important frameworks

This section provides all the relevant international and local legislation and frameworks which bear relevance to this SEIA. It is the responsibility of KMR to ensure that they understand all the social and environmental parameters that guide this project. Applicable social and environmental laws and regulations of the jurisdictions in which the project operates should be considered.

Table 3-1 provides an overview of the relevant international frameworks pertinent to this study.

Table 3-1: Policy and legislative context of the proposed project

Applicable legislation and guidelines used to compile the report	How does this project comply with, and respond to, the legislation and policy context
International regulations and standards	
International Finance Corporation's (IFC) Performance Standards (PSs) on Environmental and Social Sustainability (2012)	<p>The IFC published its PSs on Environmental and Social Sustainability in April 2006, and circulated comprehensive Guidance Notes (GNs) in July 2007. The PSs and GNs were revised in 2012 (cf. IFC, 2012), and are as follows:</p> <ul style="list-style-type: none"> • PS 1: Assessment and Management of Environmental and Social Risks and Impacts • PS 2: Labour and Working Conditions • PS 3: Resource Efficiency and Pollution Prevention (1-17) • PS 4: Community Health, Safety and Security (1-14) • PS 5: Land Acquisition and Involuntary Resettlement (1-32) • PS 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources • PS 7: Indigenous People • PS 8: Cultural Heritage
The Equator Principles (2003)	<p>The Equator Principles are a financial industry benchmark for determining, assessing, and managing social and environmental risks to projects. There is close alignment between these principles and the IFC guidelines. They represent a voluntary set of environmental and social guidelines for project finance lending. The two most applicable Equator Principles are:</p> <ul style="list-style-type: none"> • Principle 5: Consultation and disclosure • Principle 6: Grievance mechanism
United Nations Declaration on Human Rights, 1948	<p>Provides for the right to life, liberty and security of person</p> <ul style="list-style-type: none"> • <i>Article 22</i>: provides for the right to social security and the realization of the economic, social and cultural rights indispensable for his dignity and the free development of his personality • <i>Article 25</i>: provides for the right to a standard of living, adequate for the health and well-being of individuals and families • <i>Article 27</i>: provides for rights to freely participate in the cultural life of the community. It is acknowledged that culture manifests itself in many forms. It also makes provision for a particular way of life associated with the use of land resources, especially as it relates to indigenous peoples, which can take the form of traditional activities such as fishing or hunting and the right to live in reserves protected by law. This covenant stresses the basic rights of all people to have access to land and equal participation in decision-making
United Nations Guiding Principles on Business and Human Rights, 2011	Heightened industry awareness of 'rights-holders' and 'duty-bearers', and has facilitated a shift in how companies are encouraged to address harmful impacts to human rights from

Applicable legislation and guidelines used to compile the report	How does this project comply with, and respond to, the legislation and policy context
	the 'naming and shaming' of negligent companies by third party observers (e.g., NGOs or regulatory bodies) to companies 'knowing and showing' how they take responsibility for their human rights impacts and manage their human rights risks effectively
Voluntary Principles on Security and Human Rights	Established in 2000, the Voluntary Principles on Security and Human Rights are a set of principles designed to guide companies in maintaining the safety and security of their operations within an operating framework that encourages respect for human rights. Anglo American is a participant in the voluntary principles.
International Council on Mining and Metal's (ICMM) Position Statement and Good Practice Guide on Indigenous Peoples and Mining	<p>Although there are no Indigenous People residing within the mining area, the principle of Free, Prior and Informed Consent (FPIC) as set out by the ICMM Position Statement are relevant to traditional and rural communities. ICMM's vision for constructive relationships between mining and metals companies and communities are based on mutual respect, meaningful engagement, trust and mutual benefit. Recognising the potential vulnerability of certain people, the commitments in this Position Statement requires members to:</p> <ul style="list-style-type: none"> • Respect the rights, interests, special connections to lands and waters, and perspectives of communities, where mining projects are to be located on lands traditionally owned by or under customary use of communities • Adopt and apply engagement and consultation processes that ensure the meaningful participation of indigenous communities in decision making, through a process that is consistent with their traditional decision-making processes and is based on good faith negotiation • Work to obtain the consent of communities where required by this Position Statement
The International Covenant on Economic, Social and Cultural Rights, ratified in 1978	<p>This convention is a multilateral treaty that commits signatories to work towards the granting of economic, social and cultural rights. As part of the International Bill of Human Rights, the covenant addresses the following:</p> <ul style="list-style-type: none"> • <i>Article 1</i> recognises the right of all peoples to self-determination, including the right to pursue their economic, social and cultural goals, and manage and dispose of their own resources. It also recognises that people cannot be deprived of their means of subsistence (livelihoods) • <i>Articles 2–5</i> establish the principle of "progressive realisation" and requires the rights be recognised "without discrimination of any kind as to race, colour, sex, language, religion, political or other opinion, national or social origin, property, birth or other status" • <i>Articles 6–15</i> list the rights themselves. These include rights to work, under "just and favourable conditions", with the right to form and join trade unions, social security, an adequate standard of living, education and health
The United Nations Convention on the Elimination of Discrimination Against Women	<p>This convention acts as an international bill of rights for women. The Convention defines discrimination against women as "...any distinction, exclusion or restriction made on the basis of sex which has the effect or purpose of impairing or nullifying the recognition, enjoyment or exercise by women, irrespective of their marital status, on a basis of equality of men and women, of human rights and fundamental freedoms in the political, economic, social, cultural, civil or any other field."</p> <p>Requirements of the convention are the following:</p>

Applicable legislation and guidelines used to compile the report	How does this project comply with, and respond to, the legislation and policy context
	<ul style="list-style-type: none"> • Incorporate the principle of equality of men and women within their legal system, abolish all discriminatory laws and adopt appropriate ones prohibiting discrimination against women • Establish tribunals and other public institutions to ensure the effective protection of women against discrimination • Ensure elimination of all acts of discrimination against women by persons, organizations or enterprises
<p>Initiative for Responsible Mining Assurance (IRMA)</p>	<p>The Standard seeks to emulate for industrial-scale mining what has been achieved with certification schemes in agriculture, forestry and fisheries. It is the result of collaboration between mining companies, organised labour, Non-governmental Organisations, communities and downstream users. The main requirements include:</p> <p>Business Integrity Requirements</p> <ul style="list-style-type: none"> • Chapter 1.2 on Community and Stakeholder Engagement • Chapter 1.3 on Human Rights Due Diligence • Chapter 1.4 on Complaints and Grievance Mechanism and Access to Remedy <p>Planning for Positive Legacies Requirements</p> <ul style="list-style-type: none"> • Chapter 2.1 on Environmental and on Social Impact Assessment and Management • Chapter 2.3 on Obtaining Community Support and Delivering Benefits • Chapter 2.4 on Resettlement • Chapter 2.5 on Emergency Preparedness and Response <p>Social Responsibility Requirements</p> <ul style="list-style-type: none"> • Chapter 3.3 on Community Health and Safety • Chapter 3.7 on Cultural Heritage <p>Environmental Responsibility Requirements</p> <ul style="list-style-type: none"> • Chapter 4.2 on Water Management • Chapter 4.3 on Air Quality • Chapter 4.4 on Noise and Vibration

Table 3-2 provides an overview of the relevant local legislation, as well as plans and frameworks which are relevant to this study.

In addition to the district and municipal IDPs and SDFs, many of the JMLM by-laws are applicable to this project from an employment, as well as Local Economic Development (LED), perspective. KMR should familiarise themselves with these bylaws.

Table 3-2: Relevant local legislation and frameworks

Applicable legislation and guidelines used to compile the report	Applicability to the project
Relevant national legislation	
<p>Constitution of the Republic of South Africa, (No. 108 of 1996)</p>	<p>Applicable sections:</p> <ul style="list-style-type: none"> • Chapter 2 – Bill of Rights • Section 24 – Environmental rights • Section 25 – Property <p>The Constitution of South Africa is the overarching framework legislation driving the NEMA principles and therefore EIA process. The right to a safe environment and the right to information are addressed in the EIA process through stakeholder engagement, where available information pertaining to the environment and proposed activities are disclosed. The proposed activities shall be conducted in such a manner that significant environmental impacts are avoided, where significant impacts cannot all together avoided be minimised and mitigated to protect the environmental rights of South Africans</p> <p>The Constitution further protects occupiers in two important areas: Section 25(6) states that a person or community whose tenure of land is legally insecure as a result of past racially discriminatory laws or practices, is entitled either to tenure which is legally secure or to comparable redress. Section 26 of the Bill of Rights states that everyone has a right to have access to adequate housing, that the State must take reasonable legislative and other measures within its resources to achieve this right and that no-one may be evicted from their home, or have their home demolished, without an order of court made after considering all the relevant circumstances</p> <p>The Constitution further makes regulatory provisions for public participation in terms of section 33, which states that “Everyone has the right to administrative action that is lawful, reasonable and procedurally fair, and Everyone whose rights have been adversely affected by administrative action has the right to be given written reasons”</p> <p>Chapter 10 (section 195) of the Constitution provides for the basic values and principles governing public administration, and states that public administration must be governed by the democratic values and principles enshrined in the Constitution</p>
<ul style="list-style-type: none"> • NEMA (Act No 107 of 1998) • MPRDA¹ (Act No 28 of 2002) • National Water Act (NWA) (Act No 36 of 1998) 	<p>NEMA specifically provides for and promotes co-operative governance - especially by decision-making powers - on matters related to the environment. In this way, it promotes co-operative governance by establishing procedures and principles for ordinary citizens to become involved in the management of the environment. A key aspect of NEMA is that it provides a set of environmental management principles that apply throughout the Republic to the actions of all organs of state that may significantly affect the environment. The proposed development has been assessed in terms of possible conflicts or compliance with these principles.</p> <p>Section 2 of NEMA contains principles relevant to the proposed project. Some of the most important principles applicable to this report include the fact that:</p> <ul style="list-style-type: none"> • The social, economic, and environmental impacts of activities, including disadvantages and benefits, must be considered, assessed, and evaluated, and decisions must be appropriate in light of such consideration and assessment • Environmental management must place people and their needs at the forefront of its concern, and serve their physical, psychological, developmental, cultural, and social interests equitably • Development must be socially, environmentally, and economically sustainable • The social, economic, and environmental impacts of activities, including disadvantages and benefits, must be considered, assessed, and evaluated, and decisions must be appropriate in the light of such consideration and assessment

¹ Mineral and Petroleum Resources Development Act

Applicable legislation and guidelines used to compile the report	Applicability to the project
	<ul style="list-style-type: none"> Any decisions must consider the interests, needs and values of all I&APs, and this includes recognising all forms of knowledge, including traditional and ordinary knowledge <p>In addition to NEMA, the project and EIA is also being undertaken to the MPRDA (Act No 28) and NWA (Act No 36), the latter specifically related to KMR's WULs. The MPRDA also laid down the foundations of the South African Mining Charter in terms of its Section 100. The aim of the latter charter is to transform the mining industry in terms of employment and socio-economic development, and requires mines to comply with certain labour and community empowerment principles and rights.</p>
Protection of Personal Information Act (POPI Act) Act No 4 of 2013	POPI Act of 2013, which came into full government-enforcement effect in July 2021. The act is intended to provide safeguarding measures to each individual relating to his or her personal records and information. The act deals with the sharing of such personal information, whether this is by means of collection, receipt, recording, organizing or retrieval. The most important aspect of the act is that an individual has to provide consent to sharing his or her personal information, which has in 2021 become a legal compliance matter in South Africa. Such consent is defined as giving your voluntary, specific, and informed expression of will.
The National Heritage Resources Act (NHRA) No 25 of 1999	The NHRA is relevant as it deals with cultural heritage and the protection of graves in South Africa. From the specialist's site visit, SRK can confirm that there was no reference by any stakeholder to the project site containing any cultural heritage or graves. However, an HIA is being conducted.
Spatial Planning and Land-Use Management Act (SPLUMA) No 16 of 2013 and its regulations of 2013	<p>SPLUMA's main objective is to provide a reference point for municipalities in South Africa regarding spatial planning and land-use management. Hence, municipalities refer to SPLUMA in their internal planning and development priorities.</p> <p>These regulations provide a local municipality with the required guidelines in terms of inclusive and efficient spatial planning in order to address past spatial and regulatory imbalances. It provides measures for the facilitation and enforcement of land-use and development measures at municipal-level. This act guides the relevant bylaws of the municipality in terms of development and land-use schemes. The municipality's SDF is also regulated by this act.</p> <p>The most important objectives of SPLUMA are to:</p> <ul style="list-style-type: none"> Ensure that the system of spatial planning and land use management promotes social and economic inclusion Provide for development principles and norms and standards Provide for the sustainable and efficient use of land Provide for cooperative government and intergovernmental relations amongst the national, provincial, and local spheres of government Redress the imbalances of the past and to ensure that there is equity in the application of spatial development planning and land use management systems (GoSA, 2019: p.179)"
Relevant national development agendas	
The New Growth Path (NGP)	The current economic development strategy of the GoSA is referred to as the NGP, with its ambitious aim to create five million jobs by 2020. The strategy largely builds upon initiatives to steer the economy on a more durable path by putting employment at the centre of a long-term vision to create a more vibrant society [International Labour Organisation (ILO), 2011]. The strategy was released in 2010 by the Economic Development Minister and set itself the aim of reducing unemployment by around 10% by 2020. In order to realise this aim, the government identified five fixed priority areas. These include infrastructural development, agriculture, manufacturing, the 'green economy' and mining. Through these specific sectors, the path is largely premised on creating job opportunities and a favourable environment that can create work through more labour-absorbing activities (<i>ibid.</i>). Projected new jobs are believed to come predominantly from the private sector, which is why the government welcomes investments. Through an effort to restructure the country to improve its own performance in terms of labour absorption, as well as economic growth, specific job drivers have been identified by NGP. These include (<i>cf.</i> JMLM, 2018):

Applicable legislation and guidelines used to compile the report	Applicability to the project
	<ul style="list-style-type: none"> • Substantial public investment in infrastructure both to create employment directly, in construction, operation and maintenance as well as the production of inputs, and indirectly by improving efficiency across the economy • Targeting more labour-absorbing activities across the main economic sectors - the agricultural and mining value chains, manufacturing, and services • Taking advantage of new opportunities in the knowledge and green economies • Leveraging social capital in the social economy and the public services • Fostering rural development and regional integration
<p>The National Development Plan (NDP, or Vision 2030)</p>	<p>In addition to the NGP, South Africa’s National Planning Commission formulated the NDP (of Vision 2030), released on 11 November 2011 (<i>cf.</i> GoSA, 2011). One of several aims of the NDP is to create 11 million employment opportunities and to grow the economy at a steady rate of around 5.4% per annum by 2030. The NDP identifies several ‘key elements’ that need to be realised in order to achieve this goal. These include:</p> <ul style="list-style-type: none"> • Creating an environment for sustainable employment and economic growth • Promoting employment in labour-absorbing industries • Promoting exports and competitiveness • Strengthening the capacity of government to implement its economic policy <p>The NDP primarily sets out nine challenges. They are:</p> <ul style="list-style-type: none"> • Too few people work • The quality of school education for black people is poor • Infrastructure is poorly located, inadequate and under-maintained • Spatial divides hobble inclusive development • The economy is unsustainably resource-intensive • The public health system cannot meet demand or sustain quality • Public services are uneven and often of poor quality • Corruption levels are high • South Africa remains a divided society
<p>The Medium-Term Strategic Framework (MTSF) (2014-2019)</p>	<p>The MTSF is relevant to this project as it outlines the government’s intentions for projects to provide employment in rural areas. The MTSF was the first framework which was drawn up subsequent to the adoption of the NDP in 2012. The MTSF was spearheaded as the result of an economic down-curve and falling employment levels in the sectors of (amongst many) agriculture and mining. This came partly as a result of many influences</p> <p>Under this framework, the following key guidelines are stressed in terms of socio-economic development:</p> <ul style="list-style-type: none"> • Creating decent work and sustainable livelihoods • Building economic and social infrastructure • Developing comprehensive rural development strategies <p>Attempting to recover the economy, the MTSF identified development challenges (binding constraints) and investment resources to strengthen particular core areas of development. The MTSF for 2014 to 2029 identified 14 priorities of the NDP which need urgent attention:</p> <ul style="list-style-type: none"> • Quality basic education • A long and healthy life for all South Africans • All people in South Africa are and feel safe • Decent employment through inclusive economic growth • A skilled and capable workforce to support an inclusive growth path • An efficient, competitive, and responsive economic infrastructure network • Vibrant, equitable and sustainable rural communities contributing to food security for all • Sustainable human settlements and improved quality of household life
<p>Accelerated and Shared Growth Initiative for South Africa (AsgiSA)</p>	<p>The initiative was geared into action by AsgiSA, consisting of a task team to implement changes in the economy to sustain higher and shared growth. The initiative paves the way for effective partnerships between stakeholders, government, labour, and businesses in realising job creation. AsgiSA outlines</p>

Applicable legislation and guidelines used to compile the report	Applicability to the project
	<p>particular constraints to be addressed in order to grow the economy and to provide employment within rural areas. Of these, the most important ones for consideration include backlogs in the country’s infrastructure, shortages in suitable skilled labour and limited new investments and economic opportunities (especially for the youth).</p> <p>The following socio-economic development intervention areas continue to be stressed by the government:</p> <ul style="list-style-type: none"> • Creating decent work and sustainable livelihoods • Building economic and social infrastructure • Developing a comprehensive rural development strategy
National Spatial Development Perspective (NSDP) (2006)	<p>This is a relatively old document which encompassed South Africa’s first set of national spatial guidelines to understand national space economy (GoSA, 2006). The document remains very relevant today, however, as it put forward a set of principles to contribute to the country’s broader growth and development policy. Some of this which bear relevance to the project include:</p> <ul style="list-style-type: none"> • “Principle 2: Government has a constitutional obligation to provide basic services to all citizens (e.g., water, energy, health and educational facilities) wherever they reside • Principle 5: In order to overcome the spatial distortions of apartheid, future settlement and economic development opportunities should be channeled into activity corridors and nodes that are adjacent to or that link the main growth centers. Infrastructure investment should primarily support localities that will become major growth nodes in South Africa and the SADC region to create regional gateways to the global economy” (GoSA, 2006: pp.5-6)

Table 3-3 provides an overview of the relevant local legislation, as well as plans and frameworks which are relevant to this study.

Table 3-3: Relevant district and local plans and frameworks

Applicable legislation and guidelines used to compile the report	Applicability to the project
Provincial level	
Northern Cape Provincial Growth and Development Strategy (PGDS) (2004)	The Northern Cape PGDS provides key transformation interventions, some of which are relevant to this project. It is aligned with key government priorities. To relevance to this project is the focus on rural development, job creation (JTGD, 2021).
Northern Cape Province Strategic Plan 2020-2025	This document outlines the revised vision of the province, which is to become a modern and growing province (GoSA, 2020a)
District level	
JMLM Integrated Development Plan (IDP) for 2018-2019 and Spatial Development Framework (SDF) for 2018	According to the Local Government Municipal Systems Act No 32 of 2000, each municipality in South Africa is required to develop an IDP as a method of future planning and hence guides a municipality in terms of such planning. Of relevance to this SEIA is the district IDP’s economic development mission, which is to “[...]establish an economically viable region that is development-orientated so as to establish, improve and promote a strong and committed developmental government and government structures within the John Taolo Gaetsewe District Municipality” (JMLM, 2018: p. 77). Job creation is prioritised, specifically in the context of poverty alleviation, access to free basic services, skills development and sustainable development. In this regard, some of the district’s priorities which bear relevance to this project include job creation and skills development. It is also important to note the district’s focus on land development and reform, and integrated human settlements. Of further relevance is also the IDP’s focus on agriculture, which is a key sector in the district. The IDP provides much guidance to project developers in terms of supporting this sector through infrastructure and inputs. The IDP also stressed the need for developers to support small-scale farmers. Lastly, of relevance to this SEIA is the IDP’s reference to

Applicable legislation and guidelines used to compile the report	Applicability to the project
	<p>the mining and tourism sectors, which the municipality wishes to expand. The SDF refers to the promoting the mining industry in order to ensure that mining communities are supported. In this regard, it calls upon developers to identify distressed communities and to focus poverty alleviation reduction and job creation in these areas. Alongside mining, the SDF also recognises the need for agricultural development, and prioritises interventions focusing on larger tribal farming land and supporting livestock rearing practicing. This, according to the SDF, could diversify the district's economy.</p>
Municipal level	
<p>JTGDM IDP for 2020-2021 and SDF for 2017</p>	<p>Of relevance to this SEIA is JTGDM's identified weaknesses, which include having a:</p> <ul style="list-style-type: none"> • Small economic base • Relatively few employment opportunities • Local economy which is dominated by mining and which is not able to absorb all the job seekers • Low level of education and skills in the local workforce <p>Reflecting on these challenges, the municipality calls on developers to assist with SMME development, developing the agricultural sector, supporting game farming and the tourism sectors.</p>
The mine's social and labour department	
<p>The mine social and labour department currently implements the following plans:</p> <ul style="list-style-type: none"> • Social and Labour Plan (SLP) • Contractor agreements • Social Hazard Identification and Risk Assessment (SHIRA) procedures • Closure plan 	

4 Socio-economic baseline

The demographic profile of the area of influence (Aol) is important to consider due to the number of potential socio-economic impacts (positive or negative) that the project may trigger. The area of influence refers to communities affected from either a primary (i.e., direct), secondary (i.e., further spin-off effects) or livelihood perspective. The area of influence is not limited to those within direct proximity to the project site and may include communities located several kilometres away. The area of influence includes both project affected persons and communities, as well as those who may benefit from the project. These therefore include, although they are not limited to, the doorstep mining communities.

In defining a Project-Affected Community (PAC), the following questions were asked:

- What project related social impacts are anticipated?
- Which villages/communities surrounding the proposed area would be directly or indirectly affected by these impacts (i.e., the beneficiaries especially)?
- Which other communities/businesses would be the beneficiaries of the project?

The socio-economic status of communities (pre-development) is important to assess in order to provide a measure of comparison post-development (longitudinal assessment). Since the project will likely impact on socio-economic development and employment, KMR must have an overview of the current socio-economic status of the Aol (including the labour-sending areas). The demographic analysis therefore determines the age profile, current employment status and skills, and income of the Aol.

The socio-economic baseline starts with an overview of JMLM, followed by migrancy patterns, population trends and education. The baseline further describes the accessibility of social services, the area's economy and employment sectors.

4.1 Context

The project site covers a small footprint of JMLM and JTGD. JMLM is one of three LMs in the district, alongside the Gamagara and Ga-Segonyana LMs. JTGD is one of the smallest in the Northern Cape Province, occupying only 6% of the province's land area (GoSA, 2020a). JTGD comprises of nearly 200 settlements; the majority (80%) which are located in JMLM. Evidently, JMLM is also the district's largest LM at an extent of 20,215 km². The administrative seat of JTGD is the town of Kuruman. Apart from the Kathu Forest (2,245 ha) and the Tswalu Private Nature Reserve (100,000 ha), there are no other protected areas in the district (*ibid.*).

According to the JMLM's IDP (2018-2019) (JMLM, 2018), the municipality can be divided into three broad character zones, based on the main economic activity in each region. These zones include:

- Character Zone 1: northern section of the Gamagara Mining Corridor - privately owned, with large portions of mining land (area arounds Hotazel and Black Rock);
- Character Zone 2: western part of the municipality - privately owned and dominated by commercial cattle farming and game; and
- Character Zone 3: eastern part - largely managed by tribal land and is largely dominated by subsistence farming.

JTGD is largely characterised by a mixture of different land uses, with agriculture and mining being the most dominant. In fact, the JTGD IDP (JTGD, 2021) notes that the district used to be the richest mining region in the Northern Cape prior to a decline in mining employment and the near extinction of asbestos mining in the 1980s (GoSA, 2020a). Some of the minerals which are still mined include manganese ore, iron ore and tiger's eye. It is therefore not surprising that the iron-ore railway from Sishen Town to Saldanha along South Africa's West Coast is still one of the longest iron-ore carriers

in the world (*ibid.*). Apart from mining, the land is also very rural in nature and extensively used for cattle, sheep, goat and game farming. Commercial hunting and tourism are also important drawing cards for the area, especially in winter. Approximately 60% of the district's land comprises of virgin land surface (*ibid.*).

The project site covers a small footprint of Ward 4 (one of 15 wards) of JMLM which falls within Character Zone 1 (northern section of the Gamagara Mining Corridor). This area is known for its rural and sparsely populated human settlements, and predominant commercial farms and mining activities. Closer to the project site, the land is dominated by mining activities. This is not surprising, as South Africa has one of the largest mineral reserves of manganese in the world. South Africa holds around 80% of the global manganese reserves (KMR, 2021). The majority of this manganese comes from the Kalahari Manganese Belt, which is known as the largest manganese deposit in the world.

KMR is one of 12 operating mines in the area. Some of these include UMK, South 32, Assmang Black Rock, Tshipi-e-Ntle, Kalagadi, Sebilo and Aquila Mine (KMR, 2018). Although many farms are still owned by farmers, several of the surrounding farms have been bought by mining companies in the last century, who are now renting such land out to farmers. It is the view of some key informants, that this is why much of the existing farmland is in a general poor environmental condition, as farmers who rent the land do not maintain the land properly. Some informants argue that this results in land which is being over-grazed. The JMLM's IDP (JMLM, 2021) also refers to the deterioration of the natural vegetation through overgrazing, poor fire regimes, wood harvesting, the misuse of wetlands, and the encroachment of Invasive Alien Species (GoSA, 2020a). However, much of this degradation is still limited to the eastern and northern parts of the district.

Approximately 60% of JTGD's land is privately owned, whilst the remaining 40% is state land (GoSA, 2020a). According to the JTGD's IDP (2021), state land is co-managed by nine traditional authorities and the state. State land in JMLM is controlled by two traditional authorities, namely the Batlharo Ba Ga Phadima (seated in Ga-Morona) and Batlhaping Boo Phuduhutswana Ba Ga Thaganyane (seated in Cassel) (GoSA, 2020a). The traditional authorities are managed by paramount chiefs, traditional leaders and headmen under a Traditional Council System. Around 50% of the land mass of JMLM is trust land under the custodianship of traditional leaders. In terms of state land being converted into traditional land by means of the South African Reconstruction and Development Programme (RDP), the JTGD's IDP (2021) refers to seven land claims; four of which are in JMLM. Most of these claims have not been resolved.

The district at large was declared by the government in 2000 as a "nodal zone" due to its high abstract poverty levels in some of its most rural communities (KMR, 2018). JMLM is the poorest municipality within JTGD, with limited infrastructure, poor schooling and healthcare, and high levels of unemployment (*ibid.*).

4.2 Socio-demographic profile

4.2.1 Population size and density

Based on its mid-year population estimates, Stats SA reports a total number of 1,263,875 people currently living in the Northern Cape (Stats SA, 2019a). Of these, approximately 20% of the people (242,265 people) live in JTGD, whilst the area around Kuruman and its surroundings has the largest concentration of people in the district (Stats SA, 2016; JTGD, 2021). This is followed by smaller human concentrations around Bathlaros and Morupen in the Ga-Segonyana LM, as well as Olifantshoek, Kathu and Dibeng in Gamagara LM (*ibid.*). Concerning Ward 4, the 2011 Census indicates a total population of 6,803 people, which was approximately 8% of the municipality's population in 2011, and 3% of JTGD (Stats SA, 2012). According to the ward council committee

members, each of the doorstep communities around the Hotazel mines consist of approximately 4,000-4,500 people (2021 figures).

In terms of JMLM, longitudinal data indicates a steady decline in population numbers, from 112,435 people in 1996 to 84,201 in 2016 (JTGD, 2020). This means that the 2016 population figures for the municipality is only around 75% of what it was in 1996. This amounts to approximately 7% of the province and 25% of JTGD. Although most of the population in the ward is from the Northern Cape (around 85%), a large section of the ward's population seems to originate from the North West Province (4.3%), followed by just over 2% who moved to the area from the Free State and Gauteng provinces respectively (Stats SA, 2012). The same trend is observed for JMLM, although for the district, less than half of the population were born in the Northern Cape (only 45.2%). A large section of the district's population was born in the North West Province (24.6%), followed by around 5% of people who were born in the Free State and close to 4% born in the Western Cape (*ibid.*).

Despite an initial population decline in JTGD prior to and leading up to the 2011 and 2016 census and community surveys, the district and municipality had a slow population increase in the last few years. According to the ward council committee members in Magobing, there is a general influx of people from other areas in search of jobs that are staying in the mine's doorstep communities often renting houses or shacks. This is despite the fact that the district is seeing a lot of out-migration to bigger cities where there is more work (GoSA, 2020a). In illustration, a report by JTGD in 2020 indicates that, between 2008 and 2018, the district showcased an average annual positive growth rate of 2.83%, followed by a positive (although significantly less) 0.55% growth rate for JMLM (GoSA, 2020a). This is very similar to the annual growth rate for the province for the same period (2.10%) and that of South Africa (1.6%) (*ibid.*). For example, the 2011 Census already indicates a positive net-migration of 8,192 people for the province from 2006 to 2011, which increased to a positive 10,861 people between 2011 and 2016, and around 13,000 people between 2016 and 2021 (Stats, 2019). As the area generally showed a shrinking population at least between 1996 and 2011, the reason for such a growth can actually be due to the incorporation of Van Zylsrus and Hotazel into the geographical area of the municipality. The fact is that the municipality, and ward specifically, remains very rural in nature, whilst many people out-migrate especially to Ga-Segonyana and Gamagara; areas which are closer to business opportunities (JMLM, 2018).

In terms of gender, the district's male-to-female ratio in 2011 was 1:1.17, which means that the district had slightly more females than men (*ibid.*). This figure is very similar for JMLM at 1:1.06 (*ibid.*). More recent gender statistics for 2018 suggest that the district's female population remained slightly higher at approximately 51.1% females (GoSA, 2020a). Ward 4 has a male-to-female ratio of 1:0.87, which means that men slightly outnumber their female counterparts (Stats SA, 2012). Figure 4-1 illustrates that men comprise 53.48% of the ward's population.

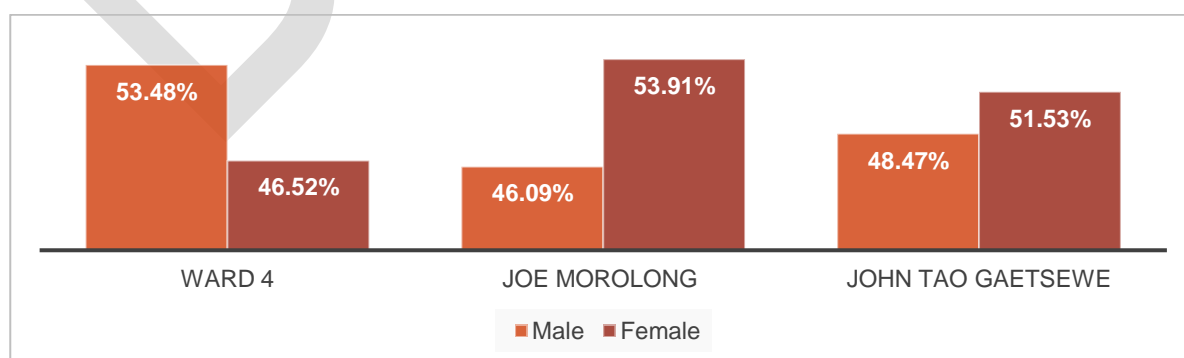


Figure 4-1: Gender at ward, municipality and district levels (%)

Source: Stats SA, 2012

The majority of people within JMLM speak Setswana (90%), followed by Afrikaans (3.6%), English (1.9%) and other indigenous languages² (4.4%) (Stats SA, 2012). At ward level, approximately 60% of the population speak English (0.33%), Sesotho (0.14%) and IsiNdebele (0.13%).

Based on 2016 data, the district is sparsely populated with around 8.8 people/km² (Stats SA, 2016). Although covering the largest land mass of the district (73.9% of JTGD), JMLM is more sparsely populated with 4.4 people/km² (JMLM, 2018). In comparison, JMLM's neighbouring municipality, Ga-Segonyana LM, covers around 16.5% of the district's land mass, and has a much higher population density of 15.54 persons/km² (JTGD, 2021). Furthermore, Black African residents comprise around 97% of JTGD's population (2016), followed by White (29%) and Coloured residents (1%) (*ibid.*). At ward level, the largest racial group is Coloured residents at 41.51%, followed by 38.56% White residents and 18.94% of people who are Black African residents (Table 4-1).

Table 4-1: Ward, municipality and district racial composition

Population groups	Ward 4	Joe Morolong	John Tao Gaetsewe
Black African	18.94%	96.60%	85.32%
Coloured	41.51%	1.96%	9.31%
Indian or Asian	1.00%	0.27%	0.38%
White	38.56%	1.17%	4.99%
Total	100.00%	100.00%	100.00%

Source: Stats SA, 2012

The 2016 South African Community Survey (Stats SA, 2016) estimated that there are 23,922 households in the district; a figure which is less than 5% of the figure for the Northern Cape (353,713). More recent figures for 2019 (GoSA, 2020a) indicate a much higher number of households (72,900). This equates to an average annual growth rate of 3.68% in the number of households between 2009 and 2019 (*ibid.*). Household sizes in JTGD seem to be decreasing from around 3.9 individuals per household in 2009 to 3.6 individuals per household in 2019 (*ibid.*).

4.2.2 Age

Table 4-2 indicates that approximately 33% of the province's population are between 15 and 34 years of age, whilst more than 60% of the province's population are within the working-age bracket of between 15 and 64 (64.04%). Only around 6% of the province's population are 65 years or older.

Table 4-2: Age breakdown at province level (% of all people)

Age categories	Province (2019)
0-4	9.88
5-9	9.62
10-14	9.51
15 - 19	8.16
20 - 24	7.70
25 - 29	8.52
30 - 34	9.00
35 - 39	7.69
40 - 44	6.07

² Tshivenda, Xitsonga or Setswana

Age categories	Province (2019)
45 - 49	5.30
50 - 54	4.50
55 - 59	3.84
60 - 64	3.27
65 - 69	2.60
70 - 74	1.83
80 - 84	1.22
75 - 79	1.30
85+	9.88
Total	100%

Source: Stats SA, 2019a

Table 4-3 illustrates that 66% of people in the ward are within the working age group of between 15 and 64 years, which is more than the municipal (50.69%) and district (approximately 60%) average. The ward 4 youth (between 14-35 years) comprise around 34% of its population, which is similar to the figure in JTGD (35%). Only 28% of persons living within JMLM are aged 14 to 35.

Table 4-3: Age categories at ward, municipality and district level (% of all people)

Age categories	JTGD	JMLM	Ward 4
0 - 4	12.60%	15.81%	10.66%
5 - 10	11.58%	15.25%	9.88%
11 - 14	10.55%	13.26%	10.04%
15 - 19	10.04%	11.83%	8.00%
20 - 24	9.30%	8.83%	8.50%
25 - 29	8.92%	7.04%	9.49%
30 - 34	7.63%	0.61%	8.07%
35 - 39	6.29%	0.53%	7.47%
40 - 44	5.20%	4.81%	7.22%
45 - 49	4.78%	4.79%	5.82%
50 - 54	4.33%	4.71%	5.09%
55 - 59	3.60%	4.30%	4.53%
60 - 64	0.26%	3.24%	2.10%
65 - 69	1.76%	0.24%	1.34%
70 - 74	1.25%	1.81%	0.72%
80 - 84	0.56%	0.85%	0.38%
75 - 79	0.89%	1.33%	0.44%
85+	0.46%	0.75%	0.28%
Total	100.00%	100.00%	100.00%

Source: Stats SA, 2012

4.2.3 Towns and settlements

JMLM and JTGDGM is largely rural in nature with a few sparsely populated (on average approximately 60 km apart) peri-urban areas. In addition to between 150 and 200 settlements, many of which are villages, as well as include informal settlements, the principal towns in JTGDGM include are listed in Table 4-4 below, according to first, second and third order settlements. A first order settlement means it has one of the greatest ranges of services and facilities (typically a town). A second order settlement means it has a residential dominance with services and facilities, whilst a third order settlement usually lacks serves and facilities, and is more rural.

Table 4-4: Settlements

Settlement category	Settlement names
First order settlements	<ul style="list-style-type: none"> • Kuruman • Churchill
Second order settlements	<ul style="list-style-type: none"> • Van Zylsrus • McCarthysrus
Third order settlements	<ul style="list-style-type: none"> • Kathu • Deben • Olifantshoek • Bothitong • Mayeding • Laxey • Batlharos • Mothibistad • Hotazel • Heuningvlei

Hotazel, Santoy, Van Zylsrus and Black Rock are the largest towns within close proximity to the project site. Black Rock is classified as one of the important area nodes where higher economic activities take place (JMLM, 2017; GoSA, 2020a).

4.2.4 Land usage, tenure status and dwellings

The 2011 Census classifies 60.96% of all land in Ward 4 as farmland, followed by 31.79% of urban land (Stats SA, 2012). Table 4-5 indicates that 7.25% of land in Ward 4 is classified as tribal or traditional land in comparison to. 92.86% in JMLM.

Table 4-5: Land categorisation (%)

Categorisation	JTGDM	JMLM	Ward 4
Urban area	71.29%	2.42%	31.79%
Tribal or traditional area	20.74%	92.86%	7.25%
Farm	7.98%	4.73%	60.96%
Total	100.00%	100.00%	100.00%

Source: Stats SA, 2012

The JTGDGM IDP (2021) indicates that most of the households in the Ga-Segonyana LM and JMLM own their own properties (Table 4-6 and Figure 4-2).

Around 80% of people in both JTGDGM and JMLM own and have paid off their living houses in full (Stats SA, 2016). Around 1.6% of people in JMLM rent from a private individual, which is significantly

lower than the rate for JTGDM (8%). A lower percentage (4.14%) of people in JTGDM rent their dwelling rent-free, compared to people living in JMLM (6.63%).

Table 4-6: District and municipality tenure status (2016)

Categories	JTGDM	JMLM
Owned and fully paid off	76.89	80.61
Rented from private individual	7.83	1.62
Other ³	5.00	4.88
Owned; however not yet paid off	4.93	5.00
Occupied rent-free	4.14	6.63
Rented from other (incl. municipality and social housing)	0.88	0.94
Do not know	0.20	0.17
Unspecified	0.14	0.15
Total	100.00	100.00

Source: Stats SA, 2016

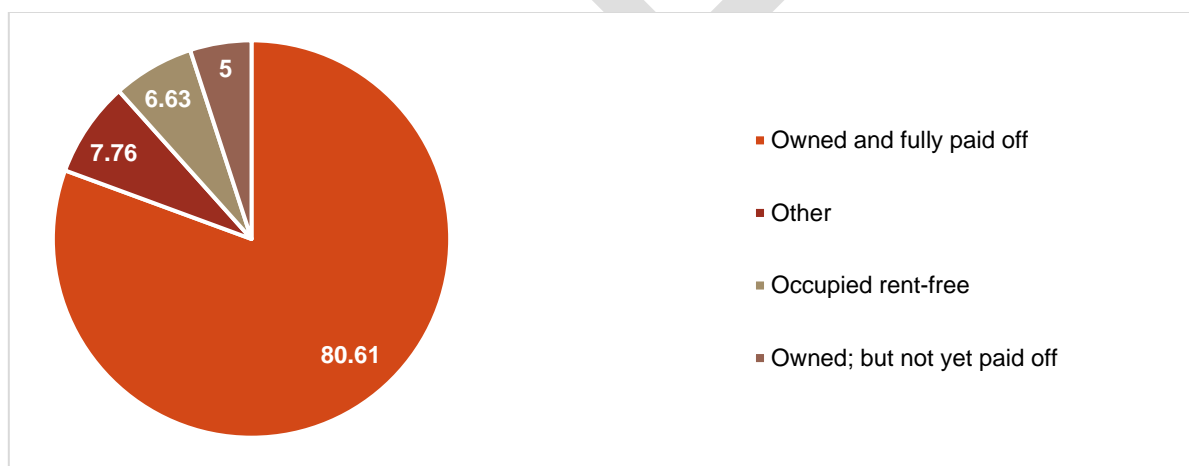


Figure 4-2: Tenure status for JMLM (2016; % of total population)

Source: Stats SA, 2016

Table 4-7 indicates that in alignment with JTGDM and JMLM nearly 80% of houses in Ward 4 seem to comprise of brick/concrete structures on a separate stand or yard. A small percentage (2.15%) of houses are informal dwellings in an informal/squatter settlement; a percentage which most likely increased since 2011. Around 6% of houses in JTGDM can be considered to be informal dwellings; nearly half the figure for the Northern Cape, where approximately 13% houses are classified as informal dwellings (Stats SA, 2012).

Table 4-7: District, municipality and ward dwelling types (%)

Categories	JTGDM	JMLM	Ward 4
House or brick/concrete block structure on a separate stand or yard or on a farm	73.09	70.93	78.95
Traditional dwelling/hut/structure made of traditional materials	11.65	22.36	4.94

³ The "other" category refers to a few people who rent from a private individual, or who rent from the municipality or a social scheme. It also includes people who "do not know".

Categories	JTGDM	JMLM	Ward 4
Informal dwelling (shack; not in backyard; e.g., in an informal/squatter settlement or on a farm)	5.75	1.88	2.15
Informal dwelling (shack; in backyard)	4.86	2.35	7.22
Flat or apartment in a block of flats	1.51	0.57	2.92
Other	0.98	0.75	1.59
House/flat/room in backyard	0.77	0.37	0.60
Cluster house in complex	0.37	0.44	0.30
Townhouse (semi-detached house in a complex)	0.37	0.02	0.04
Room/flatlet on a property or larger dwelling/servants quarters/granny flat	0.27	0.14	0.39
Semi-detached house	0.18	0.03	0.13
Caravan/tent	0.18	0.17	0.77
TOTALS	100	100	100

Source: Stats SA, 2012

Figure 4-3 shows that 70% of houses within JMLM are formal houses, followed by a significantly smaller percentage of houses which are informal (10.86%) and around 5% which are very informal. Of the informal households, around 50.7% are female-headed households (KMR, 2018). Concerning the very informal houses (or shacks), around 20% are usually rented out to migrant labour and are not considered by KMR to cause any significant social tension in the area (*ibid.*).

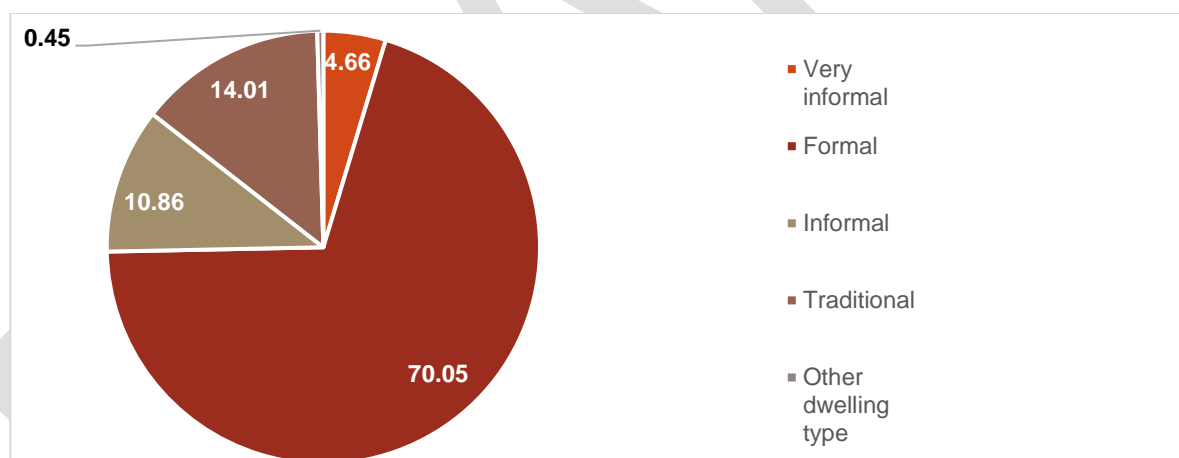


Figure 4-3: District dwelling units for JMLM (% of all housing units)

Source: Stats SA, 2016

Figures for 2018 suggest that more than half of the households in JTGDGM have formal houses (61.84%), followed by 18.66% who live in very informal dwelling units (GoSA, 2020a). Just under 10% of JTGDGM households comprise of informal dwelling units (*ibid.*).

In terms of the Kipling expansions, the farm Kipling is currently held by Assmang (Pty) Ltd.’s Black Rock Mine Operations. Affected persons either work on the mines or lease farmland from these mines. The expansion is therefore not impacting on farm work, farm labour, or the agricultural industry. There are no farm labourers or farm labour houses, as land is mostly used for cattle grazing.

One affected farmer currently leases a section of land from Assmang. This farmer grazes his cattle (100) on the largest portion of the farm Kipling (1,800 ha) that lies on the eastern side of the R38 (2021, pers. comm., 20 July). The unfenced farm is solely used for his cattle and doesn’t have a dam,

crops or farm labourers living on the land. , as he also has his own farm further away where his farm workers live. This farmer therefore confirms that the expansion, and reduction in the land he can lease as farmland, will not affect his livelihood or any farm labour in the area.

The farm Perth, although not directly affected by the expansion activities may be indirectly affected by nuisance factors such as dust. The farm Perth includes two dams that will be unaffected by mining activities. Farm Olivewood (owned by the farmer), which lies adjacent to the farm Telele, will likely experience mining related impacts. The farmer breeds and grazes around 200 cattle on a 300 ha piece of family-owned land. The farmer was generally positive about the mining expansion, although he highlighted that the cumulative impacts of mining, such as water shortages, cattle theft and poachers (cattle and kudu) were of concern.

Several land claims have been registered at the Vryburg Deeds Office on the farms that are covered by the MR. These claims date around 2015, although some refer as far back as 1998. They were registered by the Tsineng Communal Property Association (CPA), together with the Tsineng Chieftainship under Kgosi T. Shuping on the following farms:

- York A 279 (Portion 2/279);
- Telele 312 (Portion RE/312 and Portion 1/312);
- Dewon 277 (Portion RE/277);
- Hotazel 280 (Portion RE/280 and 4/280); and
- Kipling 271 (Portion RE/271).

The land claims have been registered at the Vryburg Deeds Office.

DEMOGRAPHY: SUMMARY AND IMPLICATIONS

The data suggests that most of the land in Ward 4 is still farming land, although a sizeable portion is tribal land. This suggests that the area has high agricultural potential, which should be supported and encouraged. Ward 4 and JMLM might be experiencing a slight population increase, although there is a significant amount of out-migration of labour to surrounding districts in search of work. Despite the fact that the ward has a sizeable working-age population, many residents (and hence workers on the mines) seem to originate from other districts. A large portion either rent accommodation in the municipality and ward, or commuting daily from their homes outside the ward. . KMR should encourage and support opportunities for the local potential workforce to upskill themselves to become employable.

4.3 Access to basic social services and related infrastructure

4.3.1 Electricity, water and sanitation

Figure 4-4 illustrates that most people in JTGD and JMLM have access to in-house pre-paid electricity meters (84.98% and 86.21% respectively). Significantly less people have no electricity for JTGD (8.81%) and JMLM (10.23%), whilst around 5% or less have in-house conventional meters. There is no significant difference in access to electricity for the district and municipality households.

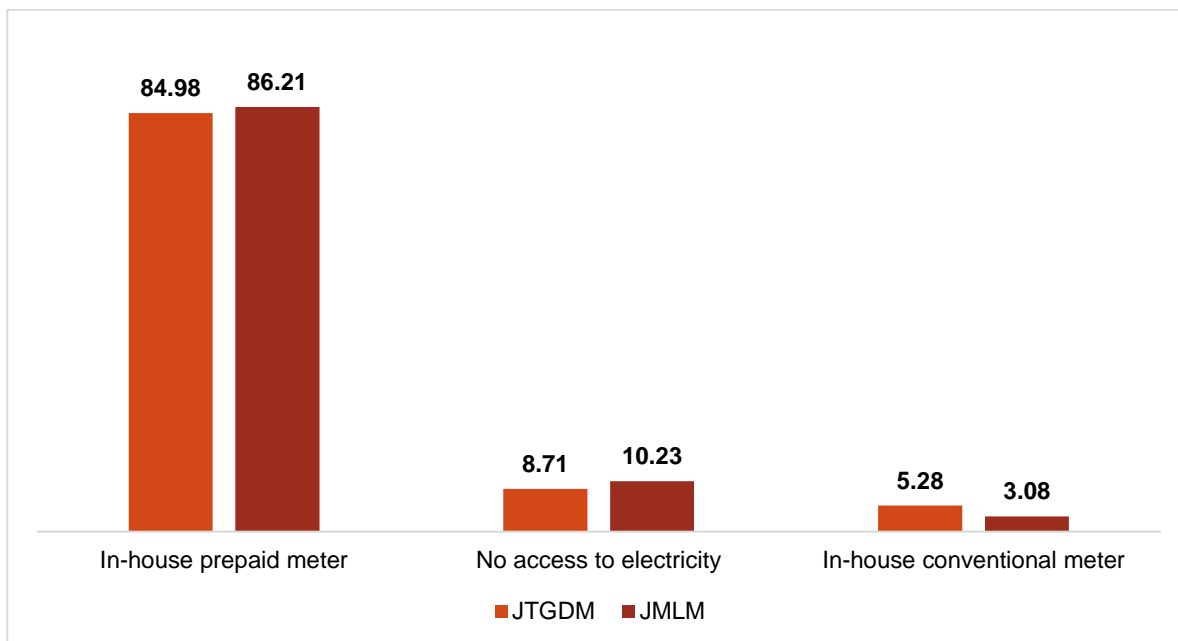


Figure 4-4: Electricity for JTGD and JMLM (%) ⁴

Source: Stats SA, 2016

Data suggest that JTGD has a backlog of 4% of households who still do not have electricity (JTGD, 2020). It is therefore not surprising that, according to the ward council committee members, some villages around the project site, such as Magobing, have no streetlights.

In terms of water, the area is claimed by some of the key informants to have no surface water, as the Gamagara River runs dry as is not classified as a wetland area. KMR’s annual report on groundwater monitoring confirms that there is limited groundwater (KMR, 2019). A geochemical and groundwater study undertaken for KMR indicates that the closest watercourses to the project site include the (SLR, 2014a):

- Ga-Magora River (a non-perennial river alongside the western boundary of the York Pit);
- Vlermuisleegte River (a non-perennial river along the southwest of the project site); and
- Witleegte River (a non-perennial river to the south-east of the project site).

Figure 4-5 shows that the majority of households (27.43%) in JTGD have access to piped water on a communal stand compared to 44.45% in JMLM. A smaller percentage (24.40%) of JTGD households have access to a public communal tap as compared to JMLM (33.03%). There is a significant difference between the district and municipality considering access to piped water inside a house (i.e., a tap), or piped water (tap) inside yards, as more people in the district seem to have access to these sources, compared to the municipality. Lastly, few people have access to borehole water both in JTGD (3.32%) and JMLM (6.64%).

⁴ The table excludes various “other” insignificant categories, which include solar home systems, generators or batteries, for example.

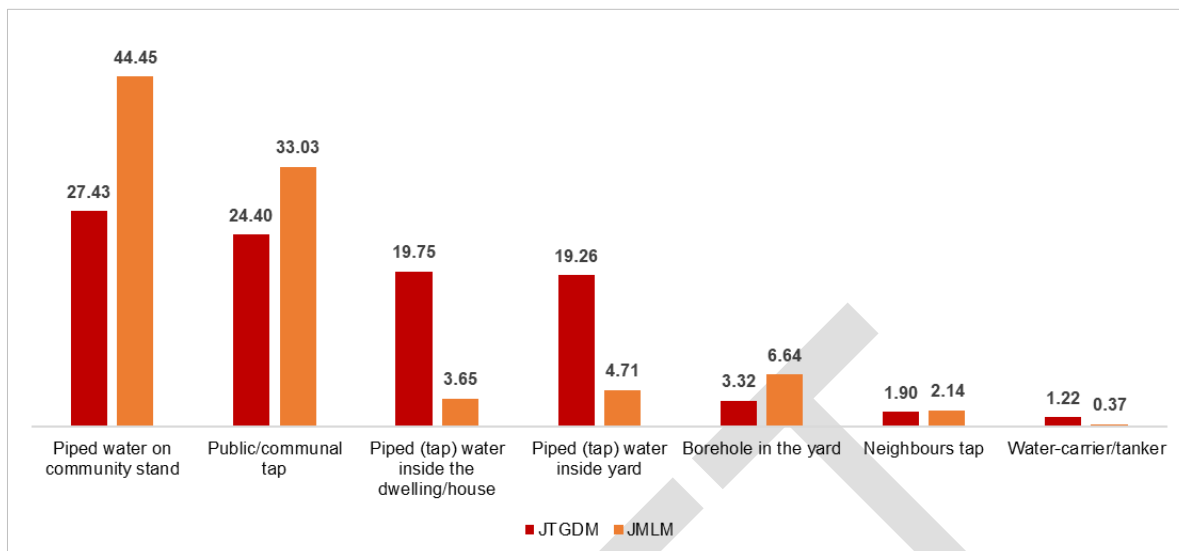


Figure 4-5: Water for JTGD and JMLM (% of households)⁵

Source: Stats SA, 2016

Around 26.86% of households in JTGD have access to piped water inside their dwelling, whilst around 23% have access to piped water inside their yard (JTGD, 2020). Around 2% of households in JTGD have no formal piped water, with JMLM recording the lowest percentage (14.05%) of households with piped water inside their dwellings (*ibid.*).

According to key informants, the project site and surrounding areas are known for lacking ground- or surface water. This is also confirmed by KMR in its Social and Labour Plan (SLP) (KMR, 2018), noting that water is a scarce resource, with most communities in the area relying on shared services from communal boreholes (i.e., piped water from an access point outside main dwellings). It is also concerning that the mines, in some key informants’ views, have been dewatering the area and impacted on the ground aquifers. In this line of reasoning, some informants argue that, as soon as water dries up, conflict between mines and communities erupts.

According to key informants, and in particular the ward council committee members, most households around the mine have no access to water taps or piped water inside their yards. Boreholes are mostly privately owned either in villages or on surrounding farms (source). According to KMR’s SLP (KMR, 2018), 33 villages and 910 households in the district have no access to water. JMLM relies on water tankers to provide around 68 villages with water (KMR, 2018), which means that the principal water sources in the area are water tankers or windmills. Key informants in Magobing indicated that the mines in the area occasionally support the communities with boreholes. According to KMR (2018), the Churchill-, Loopen-, Manyeding- and Magobing West communities frequently struggle with water access. Around 11 villages have been identified in the SLP to have sufficient water infrastructure, although these lack access to water due to source-related problems (*ibid.*). The SLP notes that bulk water supply, which include the development of new water schemes or other connections to existing water sources are required in these communities (*ibid.*). The ageing water infrastructure and poor operation and maintenance exacerbates these issues.

Figure 4-6 illustrates that more than 50% of people in JMLM have access to a pit latrine or toilet with ventilation pipe, which is considerably higher than that of JTGD (29.05%). Access to a pit latrine or

⁵ Excludes various “other” insignificant categories, which include rainwater tanks, or wells.

toilet without any ventilation pipe (25.18%) is much lower in JMLM, as compared to a relatively constant level for the JTDM (28.89%). The data further shows that a significant higher percentage of people in the district have access to a flush toilet, as compared to the municipality (28.29% and 3.97% respectively). Other types of lesser used sanitation services include bucket toilets (1.59% for JTGDM and 3.93% for JMLM).

More recent figures (JTGDM, 2020) suggest that during 2018, 37.52% of households in JTGDM had flush toilets, followed by 26.83% who had pit toilets with ventilation (ventilation improved pits, or VIPs), and 27.92% with pit toilets. JMLM is the municipality with the greatest number of households with VIPs, as compared to all municipalities within JTGDM (*ibid.*). According to JMLM's IDP (JMLM, 2018), 10,153 households in JMLM have pit toilets, without any distinction in the IDP as to whether these have ventilation systems or not. JMLM has 511 households who still use the bucket system (*ibid.*).

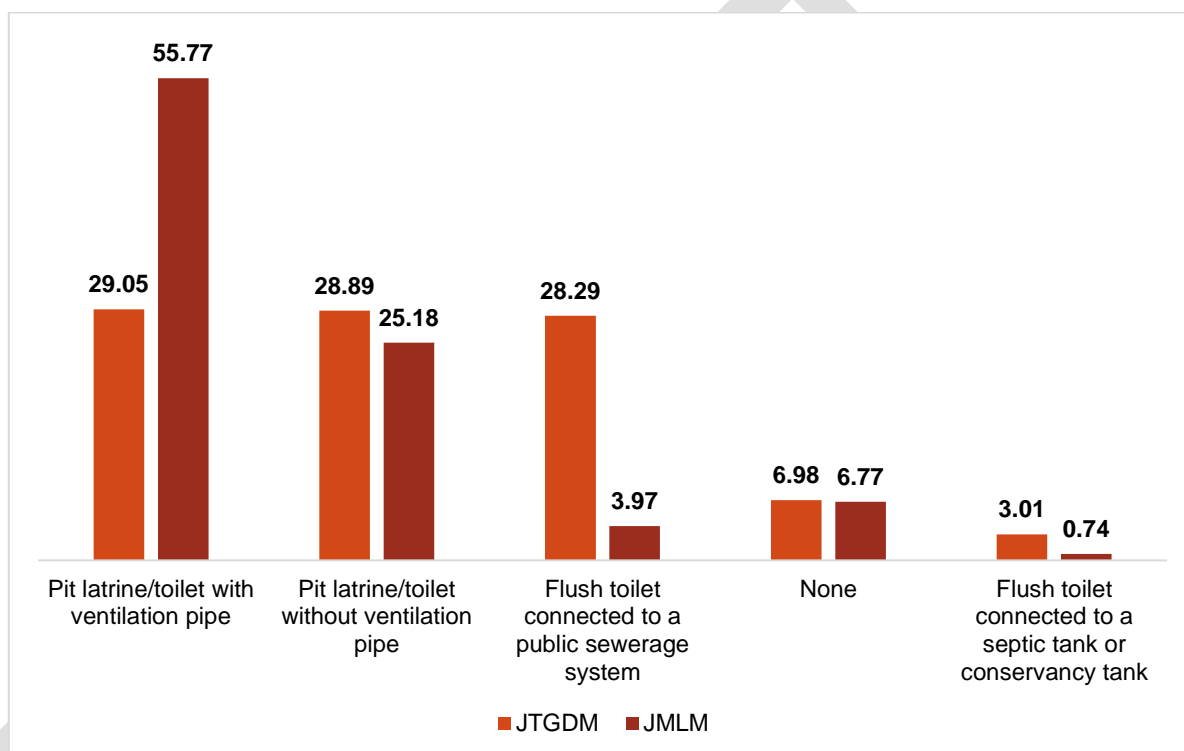


Figure 4-6: Sanitation for JTGDM and JMLM (% of households)

Source: Stats SA, 2016

4.3.2 Education and healthcare

Table 4-8 and Figure 4-7 indicates that 50% of JMLM and JTGDM residents older than 18 years have completed grades 6-11. A small number of residents 18 years or older have completed Grade 12 (only approximately 14% for both the district and municipality). However, this figure is likely to be slightly higher, as the 2016 South African Community Surveys indicated that 32.5% of people above 20 years of age have a matric (JTGDM, 2020).

Table 4-8: Education status for those 18 years or older (%)⁶

Category	JTGDM	JMLM
No schooling	14.23	14.72
Grade 0	0.22	0.23

⁶ The “other” category refers to other forms of education, such as occupational certificates, higher education (including masters and doctor degrees). It also includes those members who “did not know”.

Category	JTGDM	JMLM
Grade 1	2.08	2.16
Grade 2	2.89	3.00
Grade 3	3.53	3.61
Grade 4	4.88	5.02
Grade 5	4.30	4.36
Grade 6	5.33	5.44
Grade 7	5.12	5.09
Grade 8	7.40	7.16
Grade 9	8.20	7.75
Grade 10	10.31	9.96
Grade 11	10.00	9.84
Grade 12	14.43	14.35
Other	7.08	7.30

Source: Stats SA, 2016

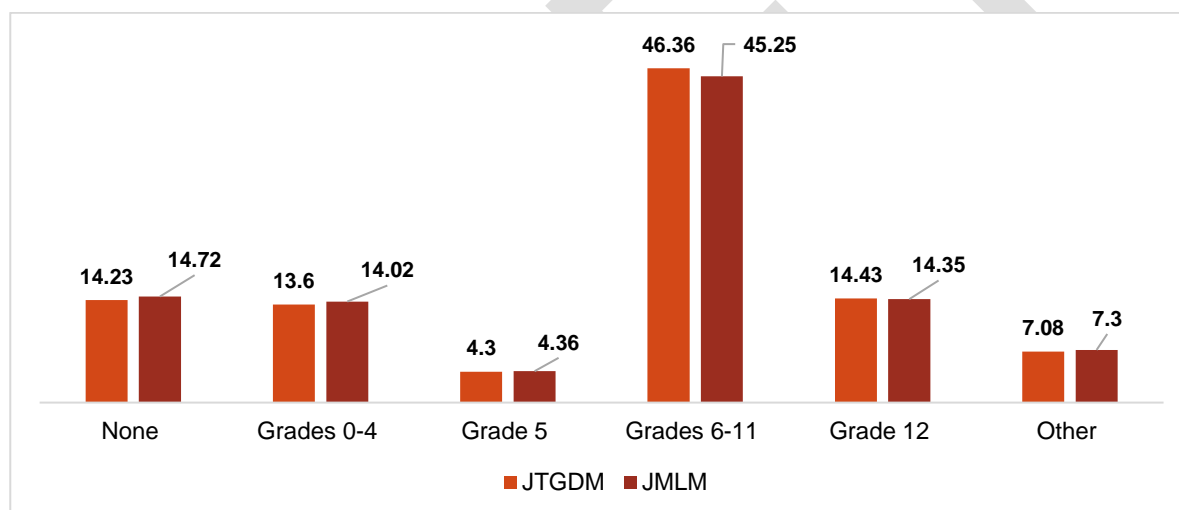


Figure 4-7: District and municipal education status (% of those 18 years or older)

Source: Stats SA, 2016

The functional literacy rate (predominantly referring to reading and writing skills) for JTGD was estimated at 76% in 2019, which is slightly lower than the provincial rate (79.74%), and lower still than the national rate of 85% (JTGD, 2020). JMLM has the lowest literacy rate in the district with a total of 63.3% (*ibid.*).

According to the JMLM's IDP (JMLM, 2019), there are 168 schools in the municipality. The nearest school is a combined high and primary school in Hotazel.

Causes of deaths is a good indication of household health status. Data for the period 2013-2015 indicates that, in JTGD, more than 75% of deaths for babies under the age of 1 year can be attributed to communicable diseases, which also include maternal, perinatal and nutritional conditions (GoSA, 2020a). For those citizens older than 50 years, the most common death is related to non-communicable disease (*ibid.*). In the IDP for JTGD (2020-2021), the government acknowledges a number of health problems, which specifically affect child and maternal health (JTGD, 2021). Health problems are worsened by constraints related to the area's geographical remoteness, low household income status, and inadequate health services (*ibid.*).

From the years of asbestos mining, the ward council committee members confirmed that lung cancer is common in the area, especially amongst the older generation.

KMR indicates that around 85% of citizens in the area rely on a public services for medical service (KMR, 2018). JMLM has 28 health facilities; 24 which are clinics and three health centres (*ibid.*). There is no hospital, with none of the afore-mentioned facilities which operate 24 hours, whilst some are also closed on weekends. The district lacks medical, eye and oral healthcare services. Although there is a clinic in Hotazel, this clinic is claimed to only provide services to mine workers. For the mine’s doorstep communities, the closest clinic around the mining project is in Tsineng, approximately 20 km in an adjacent ward (*ibid.*).

4.3.3 Safety and security

There are 13 police stations in the district, of which five are located in JMLM (KMR, 2018). The closest police station to the project site is Hotazel. Figure 4-8 depicts that 5.9% of households in JTGDGM have been a victim of crime in the 12 months leading up to the household survey, which is slightly less for JMLM at 4.5%. A small percentage of households experienced theft of livestock, whilst murder was only experienced by under 0.5% of JTGDGM and JMLM (0.9%).

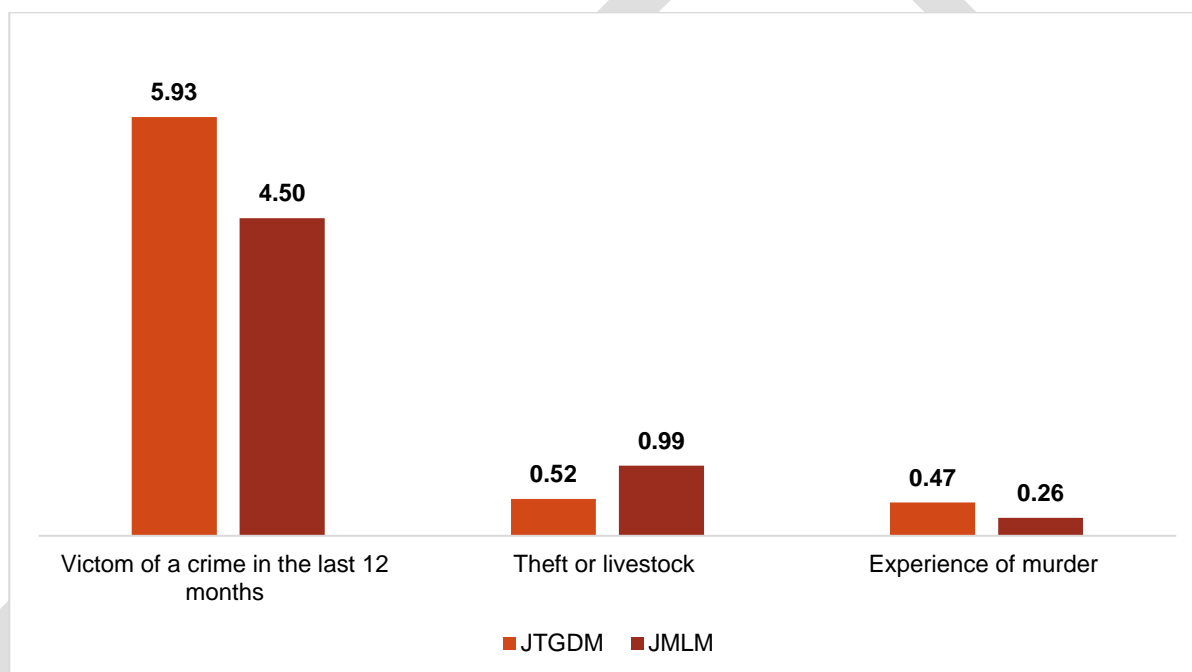


Figure 4-8: Crime (% of total people)

Source: Stats SA, 2016

For the period 2008/2009 to 2018/2019, overall crime in JTGDGM has decreased at an average annual rate of 1.53% (JTGDGM, 2020).

According to statistics from these police stations, common in the district are assaults with the intention of inflicting bodily harm, and “common assault” (JTGDGM, 2020). The highest concentration of such assaults occurs in Kuruman and Kathu. Considering more serious crimes (such as murder or attempted murder), these are most prominent in Kuruman (*ibid.*). Around the project site, key informants, both from the affected land users and surrounding settlements, refer to common livestock theft, which seems to be prevalent, as well as substance abuse. Having referred to this, the specialist was informed that the people in the area rather welcome employment opportunities, and do not believe the expansion of the mine should affect their safety negatively.

According to some key informants, local strikes are common in the district, and although these are not frequent around the project site (or between the mine and adjacent farmers), their spin-offs affect the

region in general. This is particularly the case as the road servicing Hotazel is the main route going to Botswana and Van Zylsrus. If this route is affected by strikes, it affects service delivery and the transportation of food and goods for the entire region. Such strikes are claimed to be mostly fuelled by tension between mining companies, labour and/or surrounding communities who expect the mines to provide more employment or development. As the mine's expansion is moving closer to human settlements, such conflict could possibly worsen or lead to road closures when strikes flair up. The village of Magobing, for example, is a mere few kilometres from the expansion area. In fact, in a meeting with the ward council committee members on 21 July 2021, many referred to cracks in their houses due to mine underground blasting activities.

Lastly, the ward council committee members refer to a concerning increase in the number of taverns in this villages. This, as well as general substance or alcohol abuse, could worsen if the mining industry expands without any government support or monitoring in terms of social ills.

ACCESS TO BASIC SERVICES: SUMMARY AND IMPLICATIONS

The data indicates that many rural settlements are poorly serviced especially concerning sanitation and water. Water is a scarce resource, and many, if not most, households rely on borehole water. Many boreholes have been sunk by mines. The municipality is also severely stretched in terms of its capacity to offer basic social services, largely as the area is very rural and sparsely populated. There is therefore a significant scope for the mining sector to support the government with service provision in the area. Lastly, some concern has been raised from a safety and security perspective concerning the mine's expansion, particularly as it seems to move closer to human settlements. Issues here include blasting and dust.

4.4 Socio-economic profile

4.4.1 Economy

JTGDM and JMLM's economy is largely driven by the mining and agricultural sectors. Figure 4-9 below illustrates the performance of these two sectors in the district between 2009 and 2019 in terms of each sector's Gross Value Added (GVA). As indicated, the district government estimates that, between 2009 and 2019, the agricultural sector experienced the highest positive growth in 2017 averaging 12.4% (JTGDM, 2020). For the same year, the mining sector also saw the highest district growth rate at 9.1% (*ibid.*). The lowest growth for the mining sector in the district was experienced in 2016 (-1.9%). In general terms, the mining sector remains the largest contributor to JTGDM's economy with 65% of GVA generated in the area gained by the mining industry (*ibid.*).

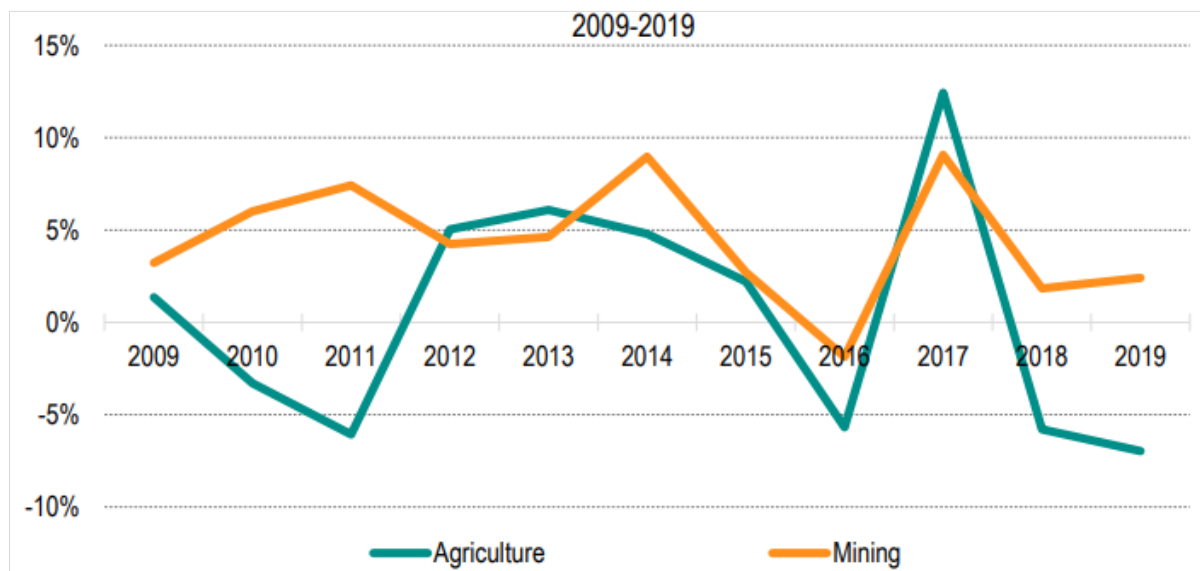


Figure 4-9: Agriculture and mining sector performance in JTGDGM for 2009-2019

Source: JTGDGM, 2020: p. 29

According to KMR's SLP (2018), the province has the largest managed ore reserves globally at roughly above 80%. It is estimated that these reserves stretch a distance of approximately 150 km from south of Postmansburg to the north of Hotazel.

The mining industry around Hotazel largely include small-scale mines (around 50 employees or less), which indicates that the sector is relatively small as compared to other primary resources in South Africa (such as coal, for example) (KMR, 2018). Most of these heavy industries are located around the mining towns of Hotazel and Kathu, with smaller operations located also in Kuruman. Possibly due to this reason, KMR claims that the employee migration in the region is minimal, as around 80% of KMR's own workforce are from JMLM.

In the adjacent Gamagara LM, mines are concentrated around the town of Sishen. Stats released by the previous Department of Mineral Resources (DMR) in 2013 reveal that 91.5% of South Africa's iron ore is exported and that our country is ranked number five in the world for its iron exports (JTGDGM, 2020). In 2012, South Africa accounted for 22% of the world manganese production, which was followed by USA, China and Gabon (*ibid.*).

According to the JMLM's IDP (2018-2019), the municipality currently has the following mining houses:

- UMK;
- South 32;
- Assmang Black Rock Mine;
- Tshipi-e-Ntle;
- Kalagadi;
- KMR;
- Baga Phadima Sand Mining;
- Sebilo Mine (on farm Perth 276); and
- Aquila Mine (Aquila are not yet operational) (JMLM, 2018).

Although the district and JMLM are clearly mining hotspots in the country, this sector is not without its challenges. Some of these challenges include, although they are not limited to:

- A lack in mining-related skills;
- High transportation costs;
- Lack of required infrastructure;

- One of the world’s highest delivery costs due to the area’s remote location and distance from harbours; and
- The exclusion of previously disadvantaged individuals (JTGDM, 2020).

As indicated throughout this report, the agricultural sector is also a key economic and livelihood activity. The 2016 South African Community Surveys confirmed that 30% of people in the district are involved in agriculture, whilst this is higher for JMLM at 52.9%. Figure 4-10 illustrates that, of those who are involved in agriculture in the district and JML, by far the majority are involved in livestock production. This is not surprising, as the area around the project site is dominated by grazing land and cattle farms. Most of the agro-processing facilities are situated in Kuruman and Kathu.

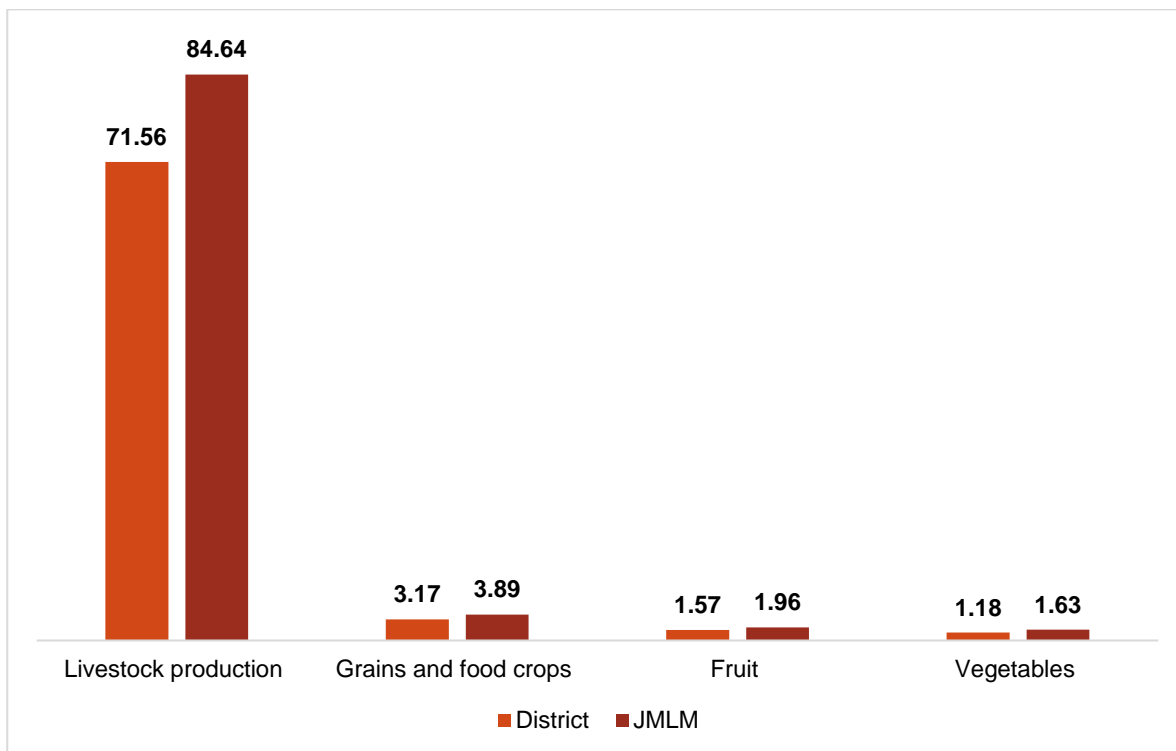


Figure 4-10: Agriculture (% of those household who practice it)

Source: Stats SA, 2012

Secondary sectors include the manufacturing, electricity and constructions sectors. Figure 4-11 illustrates the performance of these three sectors in the district between 2009 and 2019 in terms of each sector’s GVA. The figure demonstrates that, between 2009 and 2019, the manufacturing sector experienced its highest growth in 2011 (9.9%), followed by the construction sector which had its peak in 2009 at 16.9%.

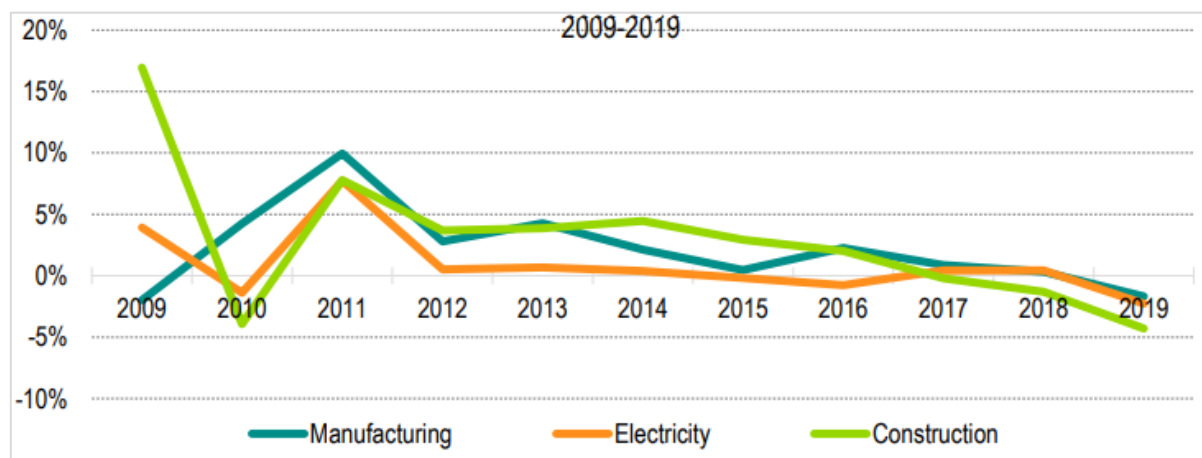


Figure 4-11: Secondary sectors performance between 2009 and 2019

Source: JTGDM, 2020: p. 30

Currently, the manufacturing sector employs the least number of people in the informal sector, as it only contributes approximately 7% to the total informal employment in the district (JTGDM, 2020).

4.4.2 Employment

In terms of the employment status for JTGDM, JMLM and Ward 4, Table 4-9 provides the 2011 Census data. The figures illustrate that 42.82% of people in Ward 4 are within the labour force and economically active; a percentage which is significantly more than for JMLM and JTGDM at 14.23% and 32.24% respectively. Using these figures, the official unemployment rate for the ward can be calculated at 11.9%, which is significantly less than for JMLM (38.6%) and the district (29.7%). The unemployment rate for the ward seems a bit low, as the specialist's site visit indicated that many households around the mine are solely reliant on government grants only. This was also confirmed by the ward council committee members.

Table 4-9: Employment status

Categories	JTGDM (No)	JTGDM (%)	JMLM (No)	JMLM (%)	Ward 4 (No)	Ward 4 (%)
Employed	43825	19.50	7828	8.74	2566	37.72
Unemployed	18518	8.24	4912	5.49	347	5.10
Discouraged work-seeker	10967	4.88	6200	6.93	226	3.32
Other not economically active	64361	28.63	29569	33.03	1368	20.11
Not applicable	87127	38.76	41022	45.82	2295	33.74
Total	224799	100.00	89530	100.00	6803	100.00

Source: Stats SA, 2012

The 2011 Census indicates that around 80% of those members in Ward 4 who are employed are employed in the formal sector.

These figures are outdated. More recent figures for 2018 reveal that the district's official unemployment rate is 23.5%, which is lower than that of the Northern Cape (JTGDM, 2020). The IDP of JTGDM (2020) indicates that, since 2008, the district experienced an average annual increase of 3.04% in the number of unemployed people, which is higher than that of the Northern Cape, which had an increase in 2.68% (*ibid.*).

Based on 2018 data, in terms of employment sectors, those sectors in the district recording the largest number of employed people are the:

- Community services sector (23.6% of the total employment in the district in 2018);
- Mining sector (21.5%); and
- Transport sector (2.7%) (JTGDM, 2020).

Furthermore, 2018 data illustrates that around 23.5% of all jobs created in the district between 2008 and 2018 were for the mining sector, which is followed by 15.5% which were created in the agricultural sector (*ibid.*).

4.4.3 Household incomes and poverty

It is important for KMR to review its ward's household income levels in order to understand which households might be living under the South African poverty line. This amount is R585.00 (April 2020) per person per month (Stats SA, 2020). This refers to the amount of money that an individual will need to afford the minimum required daily energy intake (Stats SA, 2019). Table 4-10 provides the individual income levels for the ward, JMLM and JTGDM based on the 2011 Census. The figures indicate that less people in the ward received no income in 2011 (7.39%) as opposed to JMLM (27.32%) and JTGDM (21.19%). In the ward, the two largest income level brackets are for those who earn between R19,601 and R38,200 per month (18.69%), and those earning between R76,401 and R153,800 per month (11.86%).

Table 4-10: District and local municipality income levels (2011)

Categories	Ward 4	JMLM	JTGDM
No income	7.39%	27.32%	21.19%
R 1 - R 4800	3.78%	10.15%	6.94%
R 4801 - R 9600	5.41%	1.94%	1.27%
R 9601 - R 19 600	21.74%	3.57%	2.44%
R 19 601 - R 38 200	18.69%	30.77%	25.03%
R 38 201 - R 76 400	10.14%	11.72%	15.93%
R 76 401 - R 153 800	11.86%	7.22%	12.52%
R 153 801 - R 307 600	10.70%	4.72%	8.62%
R 307 601 - R 614 400	7.22%	1.84%	4.28%
R 614 001 - R 1 228 800	1.98%	0.43%	1.26%
R 1 228 801 - R 2 457 600	0.64%	0.20%	0.31%
R 2 457 601 or more	0.47%	0.12%	0.21%
Total	100.00%	100.00%	100.00%

Source: Stats SA, 2012

As Table 4-10 cannot be used to determine current (2021) poverty levels, a review of the district's IDP (2020) indicates that, in 2018, there were 156,000 people living in poverty in the district (using the upper poverty definition, which includes those people who cannot purchase adequate food and non-food items) (JTGDM, 2020). For the district, this figure decreased from 68.66% in 2008 to 61.96% in 2018 (*ibid.*). Furthermore, in the district, JMLM has the highest number of people living in poverty, with a total percentage of 78.4% (2018).

Dependency on social grants remains very high, especially around the project site. The most predominant grants in the area include child support grant, old age pension and disability grants (JTGDM, 2020). According to the ward council committee members, social grants constitute one of the largest income sources for many, if not most, of the rural households around the project site.

The Human Development Index (HDI) measures life expectancy at birth, education (using average schooling years) and gross national income per capita (GoSA, 2020a). The index provides a figure which ranges between zero and one, with zero which is the lowest level of development, and one the highest. According to a report published by the Northern Cape Provincial Treasury in 2020, the HDI for JTGD, in 2019, was measured at 0.63 (GoSA, 2020b). In comparison, the province had a HDI of 0.66 in 2019, which is an improvement from the HDI 0.55 measured in 2010 (Figure 4-12).

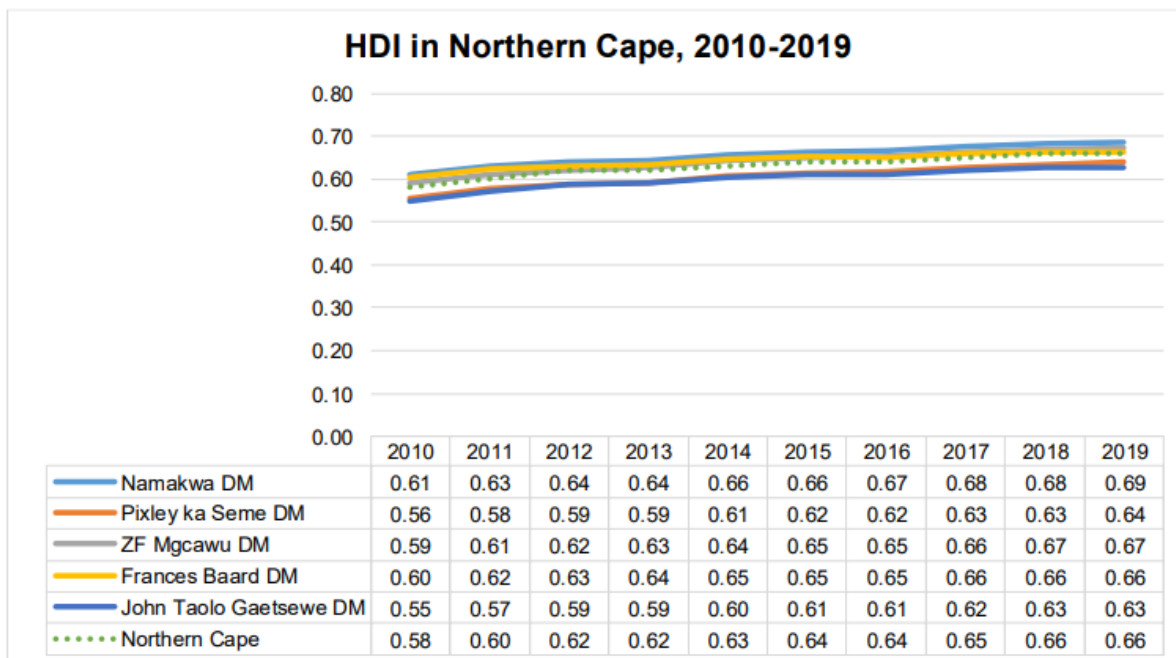


Figure 4-12: Human Development Index for the Northern Cape Province (2010-2019)

Source: JTGD, 2020

ECONOMY AND EMPLOYMENT: SUMMARY AND IMPLICATIONS

The data indicates that mining and agriculture dominate the economic landscape. However, the section highlights several challenges related to both industries, which can be addressed to improve employment and skills development. Some of these include the fact that the mining industry can provide more local skills development in order to allow more local labour to be absorbed in the industry, whilst in terms of the agricultural sector, more skills and farming support (especially livestock production) could improve an existing, but struggling, industry.

4.4.4 Local economic development

Local Economic Development (LED) is stressed by many, if not most, of the South African growth and development frameworks. These include, for example, the NGP (Vision 2030), the MTSF, AsgiSA or NNSDP (refer to Section 3). LED is also an important component of the mine’s SLP, which requires KMR to develop and implement appropriate community projects to stimulate LED.

Based on a review of the district and local municipality’s IDPs, the following section provides an overview of LED-related challenges in and around the project site. The section also highlights some of the mine’s current LED projects (as per its SLP), as well as some areas for intervention.

District and local municipal challenges and opportunities

In the past few years, the district has implemented community projects which were funded either by government grants or through the implementation of SLP projects (KMR, 2021). This implies that the

local government does not generate sufficient revenue to provide all the required basic services for the region.

The economic development mission of the district is to establish an economically viable region, which can be development-orientated to improve and promote strong and committed developmental government structures (JTGDM, 2020). The district aims to support job creation initiatives through the identification of poverty alleviation programmes, skills development and sustainable development (*ibid.*).

According to the IDP for JMLM, the following municipal challenges are present:

- The area's small economic base;
- The local economy which is dominated by mining and therefore not able to absorb all the work-seekers;
- Low educational status and especially low skills amongst the workforce;
- Relatively few employment opportunities; and
- A high household grant dependency (or state dependency) (JMLM, 2018).

The following challenges are highlighted in the JTGDM IDP for the district:

- Inadequate water provision;
- Low educational and skills levels;
- Poor service delivery;
- A lack of SMME development and SMME incubators;
- The fact that communities close to the mining houses are not benefitting equally from mining wealth;
- Skills retention;
- Unemployed youth;
- Very little attention to the disabled;
- Good insecurity; and
- Domestic violence and child abuse (JTGDM, 2020).

Target groups for support include previously disadvantaged residents, women, youth and persons with disabilities and other vulnerable target groups. However, the area's vast and remote nature makes service delivery challenging.

Realising some of the municipality's weaknesses, the following strengths and potentials are noted in the district and LM's IDPs:

- A strong potential in the region for SMME development;
- Many opportunities for agricultural development;
- A strong potential for the development of medicinal plants;
- A solar plant near Kathu;
- Mining-related manufacturing;
- The potential for tourism, and especially eco-tourism, can be significantly improved;
- Game farming; and
- The rehabilitation of wetlands

The area is seen by the government as a priority development area due to its general state of under-development (KMR, 2021). The district's IDP (2020-2021) highlights in particular the agricultural sector as an area for intervention. Some of the factors behind this as a key economic driver include the fact that (JTGDM, 2020):

- The district is characterised by extensive swathes of land suited to extensive livestock-based agriculture;

- Agriculture is the second most important economic activity in the region;
- There is a general lack of exposure to farming techniques and skills training, especially in the most rural villages; and
- There seems to be general decrease in the number of households who are involved in agriculture.

The district's IDP refers to the development of an agri-park, which is being planned in the district. Such a park will include good farmland for commonage areas, and should improve food security and provide sustainable income generating opportunities (JTGDM, 2020). In this regard, the district government is calling on developers to support the region in agricultural development, specifically with regard to (JTGDM, 2020):

- Capacity building for farmers;
- Infrastructure inputs for small-scale farmers;
- Livestock production focusing on poultry, goats, beef, sheep, game and ostrich farming;
- Crop farming, focusing on fruits, vegetables and medicinal plants;
- Manufacturing of agricultural equipment; and
- Red meat processing facilities.

Related to the stimulation of agriculture, key informants have informed the specialist that there is much scope for KMR to support local farmers, and especially the animal husbandry sector. For example, KMR, in partnership with other mines, could support small-scale farmers or communities with herds of cattle, or provide farming skills and/or mentorship or organisations. There is an array of skills required in this sector, from vet courses (livestock vaccination), management of cattle, feeding regimes, to how to erect and maintain farming fences and other infrastructure. At present, many of the mines already own farmland. So, as one key informant stated, offering agricultural support to improve the management of these farms can benefit the mines as well.

According to a report by SLR (2017), there is a greater need for the LM and developers to support especially small-scale farmers to get their produce to the markets. It is argued that the promotion of agro-processing in the municipality would contribute to sustainable economic growth, whilst providing needed skills and knowledge in the communities. SRL notes the following areas of high agricultural potential (SRL, 2017):

- Crop farming and processing facilities for cattle;
- Goat farming and medical planting;
- Improved harvesting and processing;
- Poultry farming; and
- Formalised livestock auctions, working with the traditional authorities and LM.

Community needs

According to KMR's current SLP (2018), the JMLM mainly struggles with infrastructure backlogs, which relate mostly to water infrastructure and roads, as well as the provision of healthcare and education.

Based on a review of JMLM's IDP (JMLM, 2018), the following needs have been listed for Ward 4:

- Improved road infrastructure (especially for Van Zylsrus to the main road, and Van Zylsrus to Khuis);
- Water in all villages, and especially for livestock;
- Low cost housing;
- Health facilities, specifically for Magobing and Van Zylsrus;
- Sanitation, specifically for Khuis;
- Electricity;
- Schools (specifically for Magobing);
- Community facilities (Magobing); and

- Youth development.

The ward committee members for Ward 4 listed the following pressing socio-economic needs:

- Increased levels of employment;
- Skills development;
- A clinic;
- Schools;
- Diesel to operate their borehole pumps;
- Electricity; and
- Improved and closer social grant pay points (currently being collected in Hotazel).

KMRcommunity projects

Some of the current LED projects being implemented by KMR are listed in Table 4-11.

Table 4-11: KMR LED projects

Project detail	Year	Municipality	Village
Water reticulation project	2019	JMLM	Kilo-Kilo Village
Water infrastructure project	2019		Tsineng-Kop Village
Bulk water supply and reticulation project	2020		Glenred Village
Water infrastructure project	2020		Gahue Village
Water infrastructure project	2021		Loopeng Village
Education - early childhood development centre	2021		Magobing Village
Road infrastructure	2021		Mentu Village
Education - early childhood development centre	2022		Mosekeng Village
Renovation of community hall	2022		Gadiboe Village
Renovation of community hall	2022		Van Zylsrus
Health - clinic for basic healthcare	2022		Magobing Village
Education - early childhood development centre	2023		Glenred Village
Renovation of community hall	2023		Tsineng Village
Renovation of community hall	2023		Khangkhudung Village
Health - mobile clinic for eye screening, treatable causes of blindness, circumcision and other specialised services	2023		Magobing and Magojaneng Villages
Education - early childhood development centre	2020	Ga-Segonyana	Ga-Lotolo Village
<ul style="list-style-type: none"> • Agriculture - assist with the provision of mobile office and park home • Provision of irrigation system, greenhouse tunnels and seeds 	2020		Boago Care Village

Source: KMR, 2021

5 Impact assessment

This section of the report considers the positive and negative socio-economic impacts which are predicted to occur in the pre-construction, construction, operation and decommissioning/closure phases of the project. Measures to mitigate negative impacts and enhance positive impacts are also presented. The significance of each impact is presented both without and with mitigation. The social change processes relevant to the KMR Expansion Project are described in the section below together with their associated impacts. Impact rating tables are provided within the body of the document.

The impact assessment methodology developed by Vanclay (2003) was followed to assess the anticipated social change processes that the project is likely to create. These social change processes (or drivers) can be discreet, observable and/or describable, as shown in Figure 5-1.

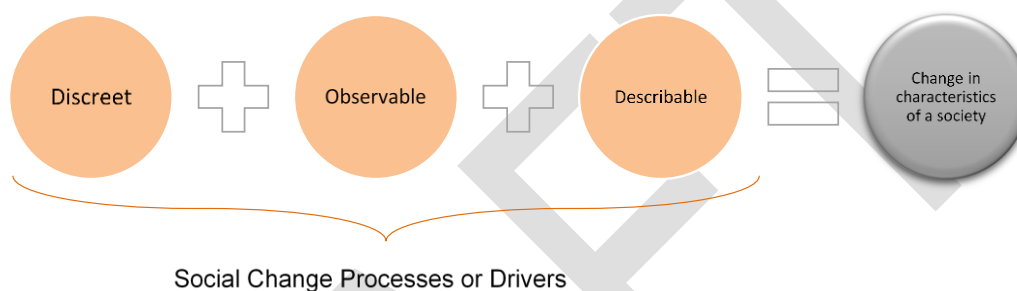


Figure 5-1: Description of social change processes or drivers leading to social impacts

Source: Vanclay, 2003

Social change processes can include the following:

- Demographic (numbers, age, gender, social structure and values of a population);
- Socio-cultural (beliefs, ideas, values, customs, conventions, and institutions)
- Emancipatory and Empowerment (capacity building, development of assets and capabilities);
- Geographic (spatial availability and access to natural resources);
- Economic (the means of production and distribution in a society); and
- Institutional and Legal (governing structures and enforcement capabilities).

Within each phase of the project, certain processes will also occur. Although a process may not occur in every phase of the project, it is important to determine when the process will occur and the potential impacts it may have on the social change process in that environment.

There is often not enough distinction between social change processes that are caused by development projects, and social impacts that are actually experienced. An impact must be an experience (either real or perceived) of an individual, family or household or a community or society at large. Resettlement, for example, is not a social impact, although it causes social impacts such as anxiety and stress, disruption to daily living as well as impacts such as homelessness.

It is important to appreciate that some impacts may be caused directly by an activity, while other impacts may be caused indirectly. Moreover, the experience of an impact can then cause other processes to take place, which then cause second order impacts. Because of people's dependency on the biophysical environment, changes to the biophysical environment can create social impacts, and social processes which are the direct result of a project, or the result of the experience of a social impact, can also cause changes to the biophysical environment (Vanclay, 2003).

The actual impacts experienced at a given project site will depend on a variety of factors, that range between the baseline conditions (Section 4), the public participation process, engagement and capacity building that has taken place, the role of politics, most notably in local government institutions and the other processes of social change which may develop during the operational life of the project.

It is anticipated that a project of this magnitude may lead to several social processes in and around the project site, which in turn may lead to social impacts. Social change processes may lead to changes to one or more of the seven categories or “themes” listed in Figure 5-2. These impacts are described in more detail in the following section.

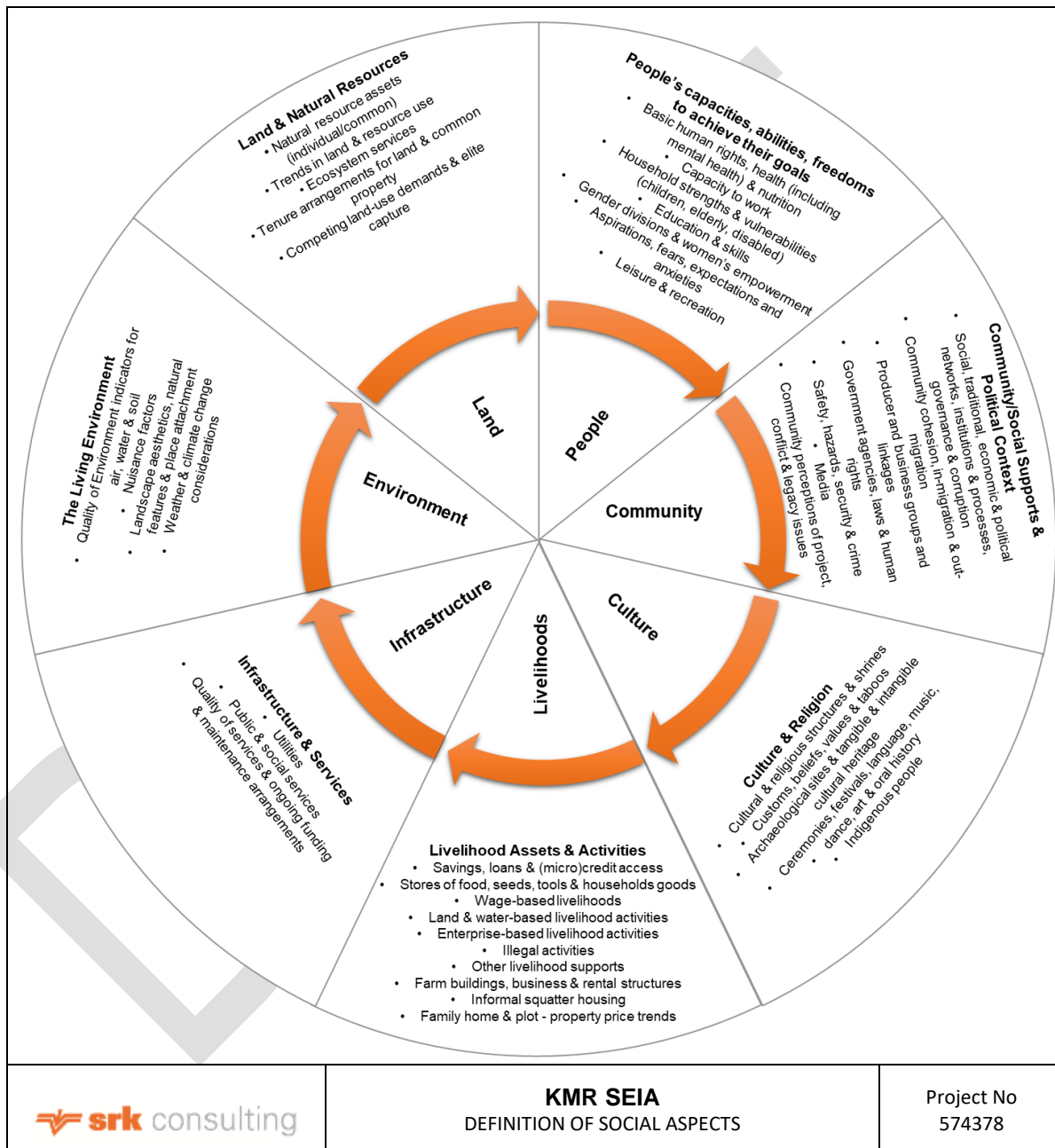


Figure 5-2: Social Change Processes

Source: Vanclay and Smyth, 2017

Rather than occurring in a vacuum, social impacts occur within the context of human behaviour (which is often unpredictable) as well as varieties of cultures, traditions, political and religious beliefs. These social, cultural, political, economic and historic contexts are influenced by various perceptions. Similarly, the mitigation measures proposed for the anticipated social impacts can also not be

considered in isolation from one another. Where the anticipated social impact is regarded as a direct consequence of the development, and it is possible for the applicant to mitigate it, it would be recommended in such a way.

As indicated in Figure 5-2, a common impact particularly within the mining industry as part of the “living environment” theme, is changing place attachments or “sense of place”. Related to sense of place is also visual impacts. Also, under the theme of “culture and religion”, mines often affect cultural heritage, especially if graves or sacred areas are affected. These and other themes and impacts are noted, and have been included here, as the HIA (Birkholtz, 2021) and Palaeontological Desktop Assessment (Butler, 2021) both recorded cultural heritage.

Lastly, the project should not directly affect any vulnerable or indigenous communities or people.

Five themes from Figure 5-2 are deemed significant, together with a corresponding trigger and impact. For example, a trigger under the theme “livelihood assets and activities” could be the reduction in existing and available farmland. This trigger could result in an impact which is reduced cattle farming productivity in the region. In some cases, an impact has its own resulting impact, and can thus also be considered as a trigger. An example would be an influx of job-seekers. Due to the perception of employment opportunities (as the trigger), people might be migrating into the area in search of work (impact). However, this same impact (influx of job-seekers) might be the trigger for another impact which is associate with this, such as an increase in crime and substance abuse.

5.1 Theme 1: Livelihood assets and activities

According to Vanclay and Smyth (2017), livelihood assets and activities include land-based livelihoods which could be affected by a project. The proposed expansion of the mine will affect the current land usage as a new pit is proposed on a piece of land which is currently being leased by Assmang to a farmer. Some of the expansion activities might also require more land, especially considering attenuation dams on the Ga-Mogara River. By reducing the existing and available farmland, the expansion project could have two impacts, namely it could reduce cattle farming productivity in the region, as well as farm labour opportunities.

5.1.1 Impact 1.1: Reduced cattle farming productivity

Apart from mining land, much of the land around the project site is being used as farmland, predominantly for cattle grazing. Agriculture is also an activity which is supported by the government in most of its development plans. With its rural nature and vast open landscapes, JTGDM and JMLM encourage agriculture as a growth sector for improved livelihood and food security.

From a longitudinal and cumulative perspective, access to farmland might be reduced locally which could impact on the region’s cattle farming production levels. The significance of this impact after mitigation is rated low since the proposed expansion only stands to affect a portion of mine-owned land that is used for cattle grazing. The potentially affected farmer works in the mining industry and stands to benefit from the mining expansion.

Table 5-1: Reduced cattle farming productivity

Phase	Construction Operation	
Activity/infrastructure as a function of the impact	Mining expansion, including all construction activities (including infrastructural development) that involve additional land clearing	
Inherent risk consequence rating	MODERATE -	
Impact ranking	Duration	Extent
	Long term	Regional
Likelihood of consequences occurring	Likely	
Management measures	<ul style="list-style-type: none"> Investigate community or farmer-level agricultural projects to support self-employed farmers (especially with livestock) Improve the farming productivity of the existing mine-owned farmland to ensure that such land is managed appropriately and not neglected. This could form part of an agricultural project(s) Implement a rehabilitation plan concurrently with the current mining developments (and hence not just during the decommission phase), which focuses on restoring the land to its original potential for grazing cattle Develop a farmer engagement strategy and incorporate such a strategy into an existing stakeholder engagement plan 	
Likelihood of consequence after mitigation	Unlikely	
Residual risk of impact	LOW -	

5.1.2 Impact 1.2: Reducing farm labour opportunities

Triggered by the reduction in existing farmland, another possible and related impact is the future loss of farm labour opportunities. Although this impact is unlikely, if left unmanaged, it could lead to the economic displacement of farm workers and their families. Due to all the other mining operations in the area, this is a cumulative impact and is discussed in more detail under section 5.7.

Table 5-2: Reducing farm labour opportunities

Phase	Construction Operation	
Activity/ Infrastructure as a function of the impact	Mining expansion, including all construction activities (including infrastructural development) that involve additional land clearing	
Inherent risk consequence rating	LOW -	
Impact ranking	Duration	Extent
	Long term	Regional
Likelihood of consequences occurring	Unlikely	
Management measures	<ul style="list-style-type: none"> Refer to Table 5-3 	
Likelihood of consequence after mitigation	Likely	
Residual risk of impact	MINOR -	

5.2 Theme 2: Land and natural resources

This theme includes impacts related to land and resource usage, as well as ecosystem services, tenure arrangements, or competing land-use demands. Of relevance to this project is resource use in

terms of groundwater availability. Issues around surface water were not considered applicable, as the area has little surface water. The Surface Water Specialist Study (SRK, 2021) confirms that the general characteristics of the area are defined as a semi-arid region, which is associated with low rainfall, high temperatures and evaporation. The study confirms an estimated 120 mm of rain which was recorded during the 2019 hydrological year (October-September) (*ibid.*). Most water in the villages are obtained from boreholes, whilst the mines pipe their water from neighbouring wards. Issues around the loss of natural resources, changing tenure arrangements, or any significant changes in ecosystem services are not deemed potential impacts.

5.2.1 Impact 2.1: Reducing water availability for living and farming

The area surrounding the project site does not have sufficient surface nor groundwater for the area, as most households and mining operations are dependent on boreholes or water which is piped from neighbouring areas. A concern was raised by farmers that the expanding mining industry could eventually reduce the little groundwater the region has. This could become a longitudinal impact over time if the mining industry does not monitor the region's water supplies. These concerns have merit, as the Surface Water Specialist Study (SRK, 2021) confirms that surface water in particular might be reduced significantly in downstream stream flows due to the construction of the attenuation dams, as well as the extension of the open pits. The surface water is expected to reduce, and it is likely that surface water quality will reduce if appropriate mitigation measures are not in place. The Surface Water Specialist Study also refers to the contamination of the Ga-Mogara River from potential hydrocarbon spills originating from construction machinery, which could reduce the surface water quality (*ibid.*). However, the high significant ratings for these impacts are reduced to low negative impacts with the application of appropriate water management plans.

As per a reviewed KMR groundwater monitoring report (KMR, 2019), KMR conducts annual groundwater reporting. According to a groundwater monitoring report in 2019, KMR has in total 14 boreholes that are included in its quarterly groundwater monitoring programme (KMR, 2019). Most of these boreholes are situated next to the Ga-Mogara riverbed and the farm Telele. KMR has observed decreasing water level trends for some of its monitoring boreholes, which KMR acknowledges could potentially be the result of nearby mine/pit dewatering activities (*ibid.*).

Table 5-3: Reducing water availability for living and farming

Phase	Construction Operation	
Activity/ Infrastructure as a function of the impact	<ul style="list-style-type: none"> • Mining expansion, including all construction activities and operational phase activities which require surface water • Water usage for the construction and operational phases of the waste rock dumps, Run of Mine (RoM) stockpiles and crushing facility • Additional water usage from additional boreholes to be sunk • Surface water run-off to the attenuation dam 	
Inherent risk consequence rating	LOW -	
Impact ranking⁷	Duration	Extent
	Long term	Regional
Likelihood of consequences occurring	Possible	

⁷ Refer to Table

Phase	Construction Operation
<p>Management measures</p>	<ul style="list-style-type: none"> • The mitigation and management measures in the Surface Water Specialist Study (2021) should be reviewed and implemented • KMR should establish a water quality forum for its Aol, as well as the affected farmers and land users to discuss water issues and concerns which might arise as a result of the expansion project and KMR's ongoing mining activities • KMR should develop and communicate (if they have not already done so) a grievance management mechanism which should be made available to affected land users and doorstep communities to address concerns raised by affected parties • Regular water monitoring should be implemented at selected sites for longitudinal monitoring. This should be used to track any issues and/or concerns with the lowering of the water table over time, as well as the water quality and any mining-related impacts • KMR should consider including representatives from the local farmers association or the suggested water quality forum in water quality monitoring
<p>Likelihood of consequence after mitigation</p>	<p>Possible</p>
<p>Residual risk of impact</p>	<p>LOW -</p>

5.3 Theme 3: The living environment

This theme includes impacts related to the quality of the environment and environmental indicators for air, water, soil and nuisance impacts. At any and all types of mines, the mining method and/or processes and actions taken, will have the potential to create pollution or environmental degradation. While these may differ from project to project, impacts such as noise, odour or dust have an impact on the social well-being of society. During the operational phase of the mine, nuisance impacts such as noise, air pollution and increased levels of traffic can have an impact on the physical quality of the living environment.

Two primary environmental hazards and risks, namely dust and vibrations are relevant to the project. Concerns around groundwater contamination were not mentioned by any stakeholder. Groundwater contamination is therefore not discussed.

5.3.1 Impact 3.1: Increased exposure to environmental hazards and risks during the construction and operational phases

It is Good International Industry Practice (GIIP) to consider health and safety impacts of projects. It is likely that noise and dust impacts resulting from mining activities will be present, as the site visit confirmed an existing concern around dust amongst adjacent farm users. Many expressed concern that such high levels of dust could worsen as a result of the expansion project if appropriate mitigation measures are not adopted. Dust is also a concern for the doorstep communities, which are approximately 10 km away from the mine.

The expansion sites and their associated activities could cause pollution or environmental degradation. These are project specific and can differ in range and magnitude, such as noise, odour, dust as vibration. According to an Air Quality Assessment Report conducted by SRL in 2014, SLR predicted dust emissions from the mining operations at Devon Pit to exceed the National Ambient Air Quality Standards and the World Health Organisation (WGO) guidelines for manganese (SLR, 2014c). In the

latter report, SLR recommended for KMR to continue to manage its dust in its EMPr and to continue to implement on-going monitoring measures. A more recent Air Quality Assessment Report was not available for review at the time of writing this SEIA.

Apart from dust, the ward committee members referred to cracks in people's houses due to blasting activities, although the validity of this statement cannot be confirmed. Blasting activities are associated especially with the construction and operational phases of the mine. Blasting activities can have a detrimental negative social impact especially related to low cost housing, corrugated iron structures, brick houses in general, boreholes or graves. According to a Blast Impact Assessment Report conducted for the KMR Project (Zeeman, 2021), the closest structures observed to the mining expansion areas which could be affected by blasting include various hydro-census boreholes, the railway line, the planned attenuation dam, mine buildings, heritage sites, the surrounding gravel roads and planned diversion of the R380 Road (*ibid.*). Although it is mentioned that the blasting activities may not affect any housing structure of the mine's doorstep communities (apart from some cracks which could also be due to a variety of other environmental factors), it is noted that the effects of ground vibration and air blasting have a very real influence on people. For example, not only do these activities create noise, although people can also react to such occurrences even at low levels. In fact, people can experience ground vibrations at very low levels, although such levels might be well-below the damage capability for most structures. The Blast Impact Assessment Report (*ibid.*) notes that physical or visually noticeable results of actual damage due to blasting operations are very limited.

Noise resulting from plant operations mainly impacts specific individual workers and must be managed as part of the health and safety management system of the operation. Outside of plant structures noise usually results from mobile operating equipment, plant vehicles, compressed air discharges and leaks along pipe networks and can impact on non-mining receptors, such as residents in nearby houses. The closest residents to the new expansion area are around 10 km away, therefore noise is not considered as a significant impact.

A Noise Impact Assessment (NIA) was conducted by SLR in 2014 and informed the assessment of noise impacts, as a new NIA for this expansion project was not available at the time of finalising this report.

The expansion is, however, expected to result in more frequent occurrences of traffic when heavy duty vehicles use roads within the vicinity of nearby communities. This may lead to an increase in noise and a decrease in the air quality, especially in already affected areas. Impacts associated with traffic is discussed in the Traffic Impact Assessment (TIA) which is currently being prepared as part of the EIA process. The TIA was not available for review at the time of finalising this report, however, mitigation measures proposed as part of the TIA could be useful in mitigating any socially related impacts.

The Occupational Health and Safety (OHS) Act (Act 85 of 1993) makes provision for the protection of health and safety of employees and respective persons in working environments. Preventative measures and the management of work related incidences are addressed by the OHS Act. New employees to the mine, and especially those that would be working on the extension of KMR, would need to be trained in the necessary health and safety processes.

In order to address many of these concerns, KMR should improve its engagement platforms with its surrounding communities. Although the ward committee members refer to several stakeholder engagement platforms and groups between the local residents and the mines (generally referring to all the mines in the area), such platforms seem to be poorly managed and ill functioning. There is therefore a need for improvement in the management of community engagement forums.

Table 5-4: Increased exposure to environmental hazards and risks during construction and operational phases

Phase	Construction Operation	
Activity/ Infrastructure as a function of the impact	<ul style="list-style-type: none"> • Mining expansion, including all construction activities, blasting and vibrations especially of the new mining pits • Relocation of admin offices and security building • Waste rock dumps • Constructing a sewerage treatment facility • Crushing facility • RoM stockpiles • Earthworks for all infrastructure (including Ancillary infrastructure) provisions [this includes clearing vegetation, roadworks (haul roads) and sinking boreholes] • Constructing the attenuation dam 	
Inherent risk consequence rating	HIGH -	
Impact ranking⁸	Duration	Extent
	Long term	Local
Likelihood of consequences occurring	Almost certain	
Management measures	<ul style="list-style-type: none"> • Manage tailing storage facilities in accordance with the latest GIIP guidelines • The mitigation and management measures in the Air Quality Impact Assessment, Noise Opinion Statement and Blasting and Vibrations Impact Assessment should be referred to and implemented • KMR could consider undertaking a Community Health and Safety Impact Assessment in line with GIIP • Implement key requirements of the OHS Act (Act 85 of 1993): <ul style="list-style-type: none"> ○ Identify potential workplace hazards ○ Provide preventative and protective measures ○ Record incidences ○ Prepare emergency response plans • In alignment with GIIP, the following topics should be included in site inductions and other training: <ul style="list-style-type: none"> ○ Community health and injury profiles ○ Health risks relevant to the workforce and mitigation strategies ○ Health risks relevant to community members and mitigation strategies ○ Available health services • Inform affected communities about potential risks and impacts in a culturally appropriate manner, including collaborating with the community and government agencies in their efforts to respond effectively to emergency situations • Involve the doorstep communities and affected land users in discussing these concerns in forum settings, as well as identify mitigation measures • Prior to the commencement of any groundworks, the doorstep communities, affected land users and ward committee members should be consulted and prepared for the construction phase. This should include 	

⁸ Refer to Table

Phase	Construction Operation
	<p>consultations about the possible nuisance impacts as discussed. Such discussions should inform further appropriate mitigation measures. As an example, particular construction-related activities could be scheduled for certain times of the day, using applications such as WhatsApp groups or local forums to disseminate working schedules</p> <ul style="list-style-type: none"> • Relevant community forms, NGOs and/or the ward committee members should always be consulted prior to the construction or upgrading of access road(s) or project-related infrastructure changes which could affect nearby/adjacent houses • Incorporate project activities into a KMR Emergency Response Plan • Keep first aid supplies on site at all times • Undertake induction training as well as regular refresher training sessions on health and safety for employees • Include the respective contractors in the health and safety training • Inform the employees of the KMR Emergency Response Plan in conjunction with the training • Maintain the existing dust management/mitigation measures on-site. Should dust levels increase the management/mitigation measures should be reviewed to ensure dust levels remain below the respective standards • Where practicable, stockpiles of soils and materials should be located as far as possible from sensitive receptors, taking account of prevailing wind directions and seasonal variations in the prevailing wind • Using these recommendations, update KMR's existing contractor agreements concerning health and safety standards
Likelihood of consequence after mitigation	Possible
Residual risk of impact	MODERATE -

5.3.2 Impact 3.2: Reduced exposure to environmental hazards and risks during closure and decommissioning

Concerns around dust, as well as blasting activities, should reduce significantly during the mine's closure and decommissioning phase, hence it will be a positive impact.

Table 5-5: Reduced exposure to environmental hazards and risks during closure and decommissioning

Phase	Decommissioning	
Activity/ Infrastructure as a function of the impact	Closure of the mine and decommissioning of facilities which created environmental hazards. These include: <ul style="list-style-type: none"> • Mining • Blasting and vibrations activities • Waste rock dumps • Sewerage treatment facility • Crushing facility • RoM stockpiles • Use of haul roads 	
Inherent benefit consequence rating	LOW +	
Impact ranking	Duration	Extent
	Permanent	Local
Likelihood of benefit occurring	Likely	
Management measures	<ul style="list-style-type: none"> • Refer to Table 5-4 • Appoint a rehabilitation specialist to implement the requirements of the Closure and Rehabilitation Plan • Consider surrounding land uses and design post-mining land use options to support and enhance long-term development options. This should form part of the mine's closure plan, and needs to be informed by the surrounding farmers 	
Likelihood of benefit increasing after management measures	Possible	
Residual benefit of impact	LOW +	

5.4 Theme 4: Community/social supports and political context

This theme includes impacts related to the socio-economic context, and includes networks, community cohesion, in/out-migration and community perceptions. This theme is highly applicable to this expansion project as impact triggers, such as employment opportunities, influx of job-seekers, as well as KMR's own security mitigation measures, may affect the AoI.

5.4.1 Impact 4.1: Influx of job-seekers

With the expansion projects comes more employment opportunities. Although KMR could not provide employment figures, any employment in the area should be seen as significant. However, there is a possibility that KMR will transfer existing labour to their new operations, which reduces the amount of new employment opportunities.

In 2009, Metagong Strategy 4Good conducted an SEIA for KMR which assessed the current mining pits. The 2009 SEIA predicted possible, although insignificant impacts related to in-migration. This was attributed to the fact that the surrounding mines have not attracted a significant amount of informal settlements to date, and that the mines mostly seem to employ labour from the AoI, where people have more mining-related skills. However, the abovementioned SEIA does refer to the gradual development of informal settlements in the area, coupled with increased pressure on limited social infrastructure.

As the data has shown, employment opportunities are scarce and the need for unskilled or semi-skilled labour is high, whilst there is a large number of people in the working age population. There is, thus, a small possibility that people might move into the area permanently or temporary in search of construction-related work, or mining work during the mine’s operational phase. An influx of job-seekers is often associated with an increase in social pathologies. Irresponsible sexual behaviour could cause a spike in sexually transmitted diseases, such as HIV/AIDS. Specialist workers coming into the area during the construction phase might also exacerbate the situation. The local health system is unlikely to cope with any additional pressure on current resources from the influx of job-seekers. In addition, this may also result in a general increase in substance abuse, which was already confirmed by key informants to be a problem in the doorstep communities.

An influx of people could also cause tension between local residents and outsiders (especially contractors). Should migrant workers be accommodated in the area, this could cause social tension. Conflict could result from tension over the use of existing social services, housing demands or even perceived preferential treatment (for example, where local residents feel that migrant labour who now live in their community receive unfair benefits from the project). Another reason for possible conflict could be the creation of “poverty gaps”, such as inequalities in terms of income and wealth accumulation between locals and migrant workers. Conflicts can arise from many other factors, including:

- An increase in economic disparities between those with jobs and those without;
- Changes in values and changes in “way of life” of those with jobs;
- Changes in power relations between employed youth and elders;
- Perceived unfair recruitment strategies; and/or
- Perceived preferential procurement strategies.

As with most social impacts, in-migration may also have a positive impact in terms of providing local residents with small business opportunities due to an increased demand for local produce and other goods, as well as opportunities for cultural exchange.

Table 5-6: Influx of job-seekers

Phase	Construction Operation	
Activity/ Infrastructure as a function of the impact	<ul style="list-style-type: none"> • All construction activities that require labour • General mining and other operational activities that require labour • Maintenance work that requires labour • SMMEs or other services required • Perception that mining provides an endless supply of employment opportunities • Mixed messaging regarding opportunities from KMR • Potential retrenchments, downscaling or closures at other mines in the region • Large scale unemployment triggered by unfavourable economic development in JTGDM and JMLM 	
Inherent risk consequence rating	MODERATE -	
Impact ranking	Duration	Extent
	Medium term	Local
Likelihood of consequences occurring	Likely	

Phase	Construction Operation
<p>Management measures</p>	<ul style="list-style-type: none"> • Develop a Stakeholder Engagement Plan (SEP) and a grievance mechanism • Review the proposed mitigation measures for socio-economic issues listed in JTGD and JMLM's SDFs and ensure that KMR's SLP is aligned with these measures and /or other strategic programmes where relevant • Clearly and transparently communicate and implement employment and procurement policies • Subject all the project employees to a health, Covid19 and HIV/AIDS awareness educational programme. Contractors should also be required to provide such training to their staff • KMR could assist with initiating programmes aimed at encouraging voluntary workers to patrol particular areas (especially during the construction period). Supporting local structures in establishing a community policing forum could be considered • Local forums or the ward committee members could be tasked to keep record of any potential influx of job-seekers [this could also be the responsibility of a Community Liaison Officer (CLO)] • Develop a Recruitment and Influx Management Plan • Review HR policies and procedures in consultation with key stakeholders to ensure that these are relevant and transparent. Such procedures could include a Preferential Procurement Policy in favour of employing local labour • Extend the CLO's duties to cover the expansion project
<p>Likelihood of consequence after mitigation</p>	<p>Unlikely</p>
<p>Residual risk of impact</p>	<p>LOW -</p>

5.4.2 Impact 4.2: Potential increase in crime and substance abuse

This impact is related to an influx of job-seekers, which could be seen as a trigger. Under this impact, the abuse of alcohol and drugs, as well as gangsterism, are included. In any development, especially the mining sector where mine workers migrate in and out of communities during the week, there is a high likelihood for substance abuse.

The previous SEIA (Metagong Strategy 4Good, 2009) indicated that the surrounding area had a drug and alcohol abuse problem amongst its youth, although this could not be proven empirically. The study also refers to an increase in crime and social pathologies. Primary data collected in 2021 confirmed that this was still a concern. The ward committee members noted concerns relating to taverns, whilst alcohol and drug abuse, especially amongst the youth, were mentioned during KIIs. Although gangsterism was not directly referred to during the specialist's site visit, the Northern Cape is known for gangsterism and related high crime rates. For example, it has the highest rate of violent crimes in South Africa (Mpani, 2015), whilst JTGD (especially around Kuruman) is known to be plagued with gangsterism, especially in schools (Gaeswe, 2018). Therefore, any development which results in a significant influx of job-seekers should be aware of the possible increase in gangster activities.

Table 5-7: Potential increase in crime and substance abuse

Phase	Construction Operation	
Activity/ Infrastructure as a function of the impact	In-migration	
Inherent risk consequence rating	HIGH -	
Impact ranking	Duration	Extent
	Medium term	Local
Likelihood of consequences occurring	Likely	
Management measures	Refer to the management measures in Table 5-6	
Likelihood of consequence after mitigation ⁹	Possible	
Residual risk of impact	MODERATE -	

5.4.3 Impact 4.3: Increased tension between private security workers and local residents

Private security workers or a security company is usually subcontracted by large operations such as mines. This means that such workers are often from other areas, and not necessarily sourced from the doorstep communities. This could potentially cause tension or, in severe cases, conflict between local residents and such security personnel, or even between security personnel and existing local neighbourhood watches or policing services.

It is unlikely for this impact to be very severe, as a security firm must adhere to strict Human Resources (HR) and recruitment protocols in terms of the Commencement of the Private Security Industry Regulation Act (PSIRA), 2001 (Act 56 of 2001). The Act makes provision for a code of conduct which regulates improper conduct proceedings against security service providers. The Act provides for the appointment of inspectors, a code of conduct for inspectors, the inspection of security service providers etc.

KMR should, however, ensure that all security personnel are PSIRA registered and have valid certificates. It is also advised that KMR develop a policy to state how they adhere to the Voluntary Principles on Security and Human Rights. The Voluntary Principles are a set of principles designed to guide companies in maintaining the safety and security of their operations within an operating framework that encourages respect for human rights.

⁹ Refer to Table

Table 5-8: Tension between security workers and local residents

Phase	Construction Operation	
Activity/ Infrastructure as a function of the impact	<ul style="list-style-type: none"> • General construction and operational activities where security workers are required (especially activities such as those associated with roadworks which might be close to the affected communities • General mining activities • Maintenance • Day-to-day securing of KMR property • Responding to security threats relating to KMR property • Interaction with external parties on KMR property 	
Inherent risk consequence rating	MODERATE -	
Impact ranking	Duration	Extent
	Medium term	Local
Likelihood of consequences occurring	Possible	
Management measures	<ul style="list-style-type: none"> • Develop criteria for the recruitment of security personnel during the construction phase (or a security company’s terms of agreement need to reflect such criteria) • When hiring security personnel, contractors must be required by KMR to undertake reasonable effort to inquire whether the personnel have not been part of past abuses • As far as possible, ensure that the security company has a recruitment policy which protects the rights of the surrounding communities and farmers. Such a policy needs to include personnel training in the use of force and, most importantly, appropriate conduct towards nearby and affected communities and residents. 	
Likelihood of consequence after mitigation	Unlikely	
Residual risk of impact	LOW -	

5.5 Theme 5: Livelihood assets and activities

This theme is applicable as the provision of employment opportunities and LED relate to the Aols’ livelihoods and livelihood support.

The construction phase may provide limited employment opportunities. Although KMR did not disclose labour related information to SRK (which is a limitation of this study), such employment is likely to be insignificant as existing labour will be transferred. There is therefore a small likelihood of local and regional business and service industry benefiting during the construction phase. During operations, KMR should use existing procurement and training mechanisms to stimulate economic development in the region. They can achieve this by investing in training and development of employees and community members that focus on mining, as well as other services related to manufacturing, construction, maintenance and services.

Through the SLP, KMR is currently, and must continue to elevate skills levels and provide needed skills training to a large labour force which is currently unskilled to semi-skilled. Primary data indicates that communities require more mining-related skills to allow them to find employment, which means

that employment and skills training can benefit the area significantly. There is a strong possibility that the local residents might not have the skills required to perform the work needed. It is therefore advised that KMR, as part of their SLP, initiate programmes aimed at ensuring that a number of local residents are provided with appropriate education and skills training to allow them to perform the work needed, or through a community trust mechanism are afforded the opportunities and access to further education.

5.5.1 Impact 5.1: Continued employment of local labour

As the over-arching trigger, the mine's expansion will provide some job opportunities, although it is expected that KMR will transfer some of its existing employees to new operations. Any employment opportunities remain, however, a positive impact.

Although little information is available on the number of jobs to be created, it is anticipated that this number will not be significant. KMR's SLP states that most of the work will be sourced from local labour. Even though there will not be many new employment opportunities created, the cumulative effects of an income to poor households, may have several additional benefits such as the reduction in:

- Crime rates;
- Alcohol and drug-abuse rates; and
- Intra-household or gender based violence.

There are also likely to be some indirect or downstream employment opportunities linked to the expansion project (especially if future maintenance work is required). This should benefit other businesses in the area also (specifically other service providers or SMMEs), as some of the materials that will be used during construction will be sourced locally.

The importance of employing local residents cannot be overstated. As with any development, mines in particular already tend to cause social differentiation within and between communities as a result of the limited resources and competition over a share of the benefit. Competition for employment opportunities can easily manifest in the ward. The ward council committee members raised a concern about KMR neglecting their own potential labour force and sourcing workers from other wards and towns, such as Kuruman. Negative feelings towards the mine could be exacerbated if the mine expands without providing sufficient local employment. Contractors are often procured from other towns, bringing with them their own labour for various reasons; one being a limited set of local skills. This may result in anger or resentment amongst community members. Social differentiation should be considered when proposing mitigation measures as some communities may want similar perceived "privileges" relating to the mitigation of social impacts.

Appropriate Human Resource (HR) and recruitment policies are needed to ensure that, as far as reasonably possible, local labour is used and that an influx of job-seekers is avoided.

Table 5-9: Continued employment of local labour

Phase	Construction Operation	
Activity/ Infrastructure as a function of the impact	<ul style="list-style-type: none"> • All construction activities that require labour • General mining and other operational activities that require labour • Maintenance work that requires labour • SMMEs or other services required • KMR procurement policies and strategies • Regulatory requirements (SLP, Mining Charter 3) 	
Inherent benefit consequence rating	MODERATE +	
Impact ranking	Duration	Extent
	Long term	Regional
Likelihood of consequences occurring	Almost certain	
Management measures	<ul style="list-style-type: none"> • Update the SLP and any other related policies and plans to ensure a solid local procurement strategy • Update the SLP to ensure that KMR’s Skills Development Programme include: <ul style="list-style-type: none"> ○ Core business training ○ Learnerships ○ Portable skills training ○ One community bursary per year (ideally through a community trust) • Update the Employment Equity Plan in the SLP to provide equal job opportunities • Employment preference should be provided to the local residents. Manage employment by selecting employees according to an electronic selection system supported by JMLM that ensures recruitment from local, impacted communities. This should ensure a fair recruitment process. Related to this, KMR should ensure clear expectations in all platforms of communication of the number of jobs available and in what categories or fields of the mine. This would allow a clear indication of what types of jobs would be available. • Recruitment of labour should be guided by KMR’s recruitment policies which should be transparent and communicated to stakeholders to limit opportunities for conflict situations • KMR must improve its local procurement strategies to ensure improved alignment with the Broad-Based Socio-Economic Empowerment Charter for the Mining and Minerals Industry (Mining Charter) (2018); • Use, as far as reasonably possible, local suppliers and SMMEs and invite them to list their businesses on a database managed by KMR • In addition to appropriate HR policies and procedures, establish a labour desk/employment committee to provide strategic guidance to the mine on labour recruitment policies (if this is not already established). This should ensure that recruitment is done in a fair and 	

Phase	Construction Operation
	<p>transparent way, and that job creation opportunities are maximised.</p> <ul style="list-style-type: none"> • Allow those labourers who were involved in the construction phase a fair opportunity to apply for work during the operational phase • Provide sufficient opportunities for women and disabled persons to become employable on the mine • Training and skills development focused on women should take place to increase their participation in the labour force • Develop and implement, as far as reasonably possible, a plan for the gradual replacement of migrant labour by local employees • Target emerging employment opportunities at local residents, as well as people from the surrounding communities in cases where the skills cannot be obtained from immediately adjacent communities • KMR's Contractor Management Plan needs to be implemented to ensure that appointed contractors also employ locally as far as practically possible. • Encourage continued participation of labour unions in workplace skills plans, whilst the drafting of annual training reports should be encouraged, and feedback provided to employees at large meetings • Develop and implement a labour grievance mechanism as an HR function • Establish a community form to identify grievances and communicate these to the mine • The following International Labour Organisation (ILO) conventions must be adhered to: <ul style="list-style-type: none"> ○ ILO Convention 87 on freedom of association and protection of the right to organise ○ ILO Convention 98 on the right to organise and collective bargaining ○ ILO Convention 29 on forced labour ○ ILO Convention 105 on the abolition of forced labour ○ ILO Convention 138 on the minimum age of employment ○ ILO Convention 100 on equal remuneration ○ ILO Convention 111 on discrimination
Likelihood of consequence after mitigation	Likely
Residual benefit of impact	MODERATE +

5.5.2 Impact 5.2: Continued provision of skills and further training opportunities

This is a positive impact. The impact trigger under this section is largely KMR's updated SLP and other LED opportunities.

Sufficient skills and further training opportunities should be created for several reasons. The first is that this should be seen by the client as an investment for future construction- or maintenance-related work in the area. Training local youth in becoming familiar with the work required would allow the

residents to apply for similar positions elsewhere too. Another reason is that more local skilled residents could be absorbed, reducing the need for migrant labour from other areas.

Table 5-10: Continued skills and further training opportunities

Phase	Construction Operation	
Activity/ Infrastructure as a function of the impact	<ul style="list-style-type: none"> All construction activities that require labour General mining and other operational activities that require labour Maintenance work that requires labour SMMEs or other services required 	
Inherent benefit consequence rating	MODERATE +	
Impact ranking	Duration	Extent
	Long term	Regional
Likelihood of consequences occurring	Almost certain	
Management measures	<ul style="list-style-type: none"> Refer to management measures under Table 5-9 Provide the surrounding communities with opportunities to enrol in practical skills training so that they have the opportunity to upskill themselves and apply for jobs As legislated, disclose the SLP to the AoI, doorstep communities, and the affected land users on a regular basis. Such communities should be given an opportunity to comment on any amendments of the SLP and provide input or grievances 	
Likelihood of consequence after mitigation	Almost certain	
Residual benefit of impact	MODERATE +	

5.5.3 Impact 5.3: Increased contribution to the local and regional economy

This is a positive impact.

The nature of the expansion project is likely to stimulate other businesses for several reasons. Workers and building supplies will be required during the construction phase, as well as for routine maintenance during the mine's operational phase. Secondly, the expansion activities may sustain existing foot and vehicle traffic in the area, thereby possibly providing opportunities for business development in the broader area. Thirdly, through the mine's SLP and LED initiatives, KMR supports its doorstep communities and wider region.

The client is encouraged to invest in its doorstep communities and AoI, especially with regard to stimulating and/or supporting the development of SMMEs. Many local industries could benefit from the continued presence of the mine. Prior to and during construction, local construction-related suppliers will likely benefit the most. A range of construction-related services should also be required for future maintenance, offering opportunities for local SMMEs.

This impact is relevant to the project's construction and operational phases, and ongoing maintenance services would be required.

Table 5-11: Contributing to the local and regional economy

Phase	Construction Operation	
Activity/ Infrastructure as a function of the impact	<ul style="list-style-type: none"> All construction activities that require labour General mining and other operational activities that require labour Maintenance work that requires labour SMMEs or other services required Improved/update SLP Improved/updated local procurement strategies 	
Inherent benefit consequence rating	MODERATE +	
Impact ranking	Duration	Extent
	Long term	Regional
Likelihood of consequences occurring	Possible	
Management measures	<ul style="list-style-type: none"> Refer to management measures under Table 5-9 Promote the use of local business and creation of SMMEs as far as possible by providing them with preferential treatment KMR's Corporate Affairs Team should communicate with business forums and request that a database of local available services be drawn up to submit to the mine. This can be relevant in the sourcing of skills from surrounding communities. Develop a labour desk with the mandate to source CVs from the local community 	
Likelihood of consequence after mitigation	Likely	
Residual benefit of impacts	MODERATE +	

5.5.4 Impact 5.4: Loss of local employment and LED support during mine closure and decommissioning

As for any mine, mine closures often result in devastating socio-economic impacts in its doorstep or labour-sending communities, whilst surrounding businesses could lose income due to the loss of employment or redeployment of employees/contractors, and local purchases made by the mine. This often results in a loss in buying power for the surrounding businesses. This could impact on economic growth and business development in the region. A summary of the most applicable socio-economic impacts include:

- Loss of regular employment and income;
- Loss of LED support;
- Loss of SMME growth or regional economic developments; and/or
- Population out-migration and loss of community life and mental well-being of citizens.

Mine closure can often also have mental health or related impacts on the labour or surrounding residents who benefited from the mine. This can also relate to the deterioration of residents' health and mental well-being, as well as people's own ideas of perceived health, mental health, feelings of stress, anxiety, apathy, depression and aspirations for future work.

The entire KMR operation's LoM is approximately 10-15 years, after which underground mining will commence for a further anticipated 30 years (KMR, 2021). The expansion activities seen in isolation, will only last for between three to five years. KMR should plan for its closure and decommission phase.

Adequate provision in this regard should be made in KMR's SLP to ensure that its current doorstep communities, as well as the wider Aol, do not suffer significant socio-economic consequences once the mine has been decommissioned.

Prior to the decommissioning and closure of the operations, contractors will be employed to undertake the required decommissioning and rehabilitation activities in line with the closure plan. This creation of employment will be short-term, for the duration of the decommissioning and closure phase. It is proposed that KMR investigates alternative sustainable livelihood options for the workforce which can be developed as part of the closure plan whilst the mine is in operation. These alternative sustainable livelihood options can include agricultural programmes where produce can be sold to the surrounding operational mines and communities, as well as alternative key skills development (plumbers, electricians). The mine would need to engage with the communities from the planning phase already to identify what the communities and workforce would prefer in terms of alternative livelihood options.

Prior to implementing any collective dismissals, KMR should, in line with the South African Constitution, and the Employment Code Act No 3 of 2019, carry out an analysis of alternatives to retrenchment. If the analysis does not identify viable alternatives to retrenchment, a retrenchment plan should be developed and implemented to reduce the adverse impacts of retrenchment on workers. The retrenchment plan should be based on the principle of non-discrimination and should reflect KMR's consultation with workers, their organisations, and where appropriate, the government, and comply with collective bargaining agreements where applicable.

In addition to the above, contract workers should be informed of KMR's internal grievance mechanism (separate from the community grievance mechanisms) where they can raise reasonable workplace concerns.

Table 5-12: Loss of local employment and LED support during mine decommissioning

Phase	Decommissioning and closure	
Activity/ Infrastructure as a function of the impact	Retrenchments Cancellation of procurement contracts Reduction in government income and taxes Reduction in economic activity in the region Increased unemployment and dependence on social grants	
Inherent risk consequence rating	MAJOR -	
Impact ranking	Duration	Extent
	Long term	Regional
Likelihood of consequences occurring	Almost certain	
Management measures	<ul style="list-style-type: none"> Refer to management measures under Table 5-9 Develop a retrenchment plan Update Contractor Social Management Procedure to align with this project 	
Likelihood of consequence after mitigation	Likely	
Residual risk of impacts	HIGH -	

5.6 Theme 6: Culture and religion

5.6.1 Impact 6.1: Loss of place attachment

Vanclay and Smyth's (2017) Social Processes Diagram conceptualises a community and people's culture and religion as part of their customs, beliefs and values. Culture is not static, and is defined by tangible and intangible forms of cultural heritage. For example, tangible cultural heritage could refer to graves or buildings, which can be seen. In this regard, graves represent a form of cultural heritage as people attach high cultural and religious value to graves. However, the oral (and visual) history "story-telling" of the surrounding landscape is viewed as intangible heritage.

Another way of understanding how a development alters a landscape and its cultural history is by considering the term "place attachment" or "sense of place". Place attachment can be defined as the bonding that occurs between individuals and their meaningful environments. Three aspects (or dimensions) of place attachment can be considered, namely such attachment from a personal or group perspective, from psychological process, as well as from a physical place attraction. Place attachment is not an easy impact to measure, as people might experience place attachment in different ways. Place attachment is also not only limited to the direct PACs and beneficiaries, and could also be felt by people further away from the site who are used the surrounding environment and physical landscape. Place attachment could, therefore, be a mixed and highly complicated relationship between various variables. For example, place attachment is affected by:

- How long the land has been used in a particular way, or held by a family/ies;
- The landowners/users' personal or family experience on the land, land memory and knowledge;
- Their social and physical attraction to the land and its natural, as well as the built environment; and
- The affect that the land has on them, such as instilling a sense of pride, love, or memories.

The HIA (Birkholtz, 2021) identified cultural heritage resources of high significance, in particular five archaeological sites (one which is within the project site). It also identified three historical sites (two which are within the project site), as well as three sites which contain burial grounds. One grave was identified approximately 130 m outside of the proposed development footprint, whilst a further two grave sites have been identified less than 100 m outside of the development footprint areas (refer to the HIA for the location of these sites). The effect on grave sites is significant, as the HIA recommends that, in case the identified sites cannot be fenced off completely, a grave relocation process be followed as per the guidelines of the South African Heritage Resource Agency's (SAHRA) Burial Grounds and Graves Unit. Even if graves can be properly fenced off with required buffer areas (SAHRA recommends a 100 m buffer area between mining activities and burial grounds), vibrations could still affect these graves and relocation might be the best long-term solution.

During the primary data collection, it was established that the only possible community reference to cultural heritage could be graves at an old windmill next to the Gamagara River, where there might have been a homestead. Based on visual observations during the site visit, there appeared to be no wildlife in the project area and the area is not claimed to be a tourist route. Therefore, from a social impact point of view, the land does not seem to have a strong sense of place attachment. Since the HIA has identified graves, it is possible that the expansion project could have a negative impact on place attachment.

Table 5-13: Loss of place attachment

Phase	Construction Operation	
Activity/ Infrastructure as a function of the impact	Blasting and vibrations especially of the new mining pits	
Inherent risk consequence rating	MAJOR -	
Impact ranking	Duration	Extent
	Long term	Regional
Likelihood of consequences occurring	Almost certain	
Management measures	<ul style="list-style-type: none"> Refer to management measures in the HIA, such as guidance in terms of clearing and fencing off the graves, as well as related monitoring procedures Develop a chance-find procedure for all new tangible cultural heritage which is discovered during the project's construction, operational, as well as decommissioning phases Investigate the need for a grave management and/or relocation plan if the identified graves cannot be fenced off property. This should include detailed measures for the consultation of the Next-of-Kin (NoK). 	
Likelihood of consequence after mitigation	Likely	
Residual risk of impacts	HIGH -	

5.7 Cumulative impacts

Apart from the expansion of informal residential areas in Ward 4 and JMLM, as well as general mining expansions, there are proposals for a solar farm on farm Annex Langdon 278/0, neighbouring the Devon Pit. Additional information was not available at the time of writing this report.

The doorstep communities and affected land users around KMR already experience impacts as a result of mining activities. The extension project may lead to an insignificant increase in existing noise, vibrations, and specifically dust levels. However, these impacts will be cumulative to what is already experienced by local communities.

Competition for employment opportunities has already manifested between some of the local residents and mine workers who commute to the area daily, or migrant labour who rent and stay in the doorstep communities in the week. The cumulative pressure on KMR to provide employment opportunities to mine communities must be closely managed. Since limited employment opportunities are expected to be created as a result of this project, community expectations must be proactively managed. The purpose of the project must be clearly conveyed to foster understanding.

6 Draft socio-economic mitigation and management plan

Table 6-1 summarises all the social mitigation and management measures proposed in Section 6.

NOTE: The table will be updated with the other recommendations.

Table 6-1: Draft social mitigation and management plan

Theme	Proposed mitigation and/or management measure
Livelihood assets and activities	<ul style="list-style-type: none"> • Investigate community or farmer-level agricultural projects • Improve farming productivity of the existing mine-owned farmland • Implement a rehabilitation plan concurrently with the current mining developments which focuses on restoring the land to its original potential for grazing cattle
Land and natural resources	<ul style="list-style-type: none"> • Establish a water quality forum • Develop and communicate a grievance management mechanism • Regular water monitoring should be implemented at selected sites for longitudinal monitoring • Consider including representatives from the local farmers association or the suggested water quality forum in water quality monitoring
The living environment	<ul style="list-style-type: none"> • Manage tailing storage facilities in accordance with the latest GIIP guidelines • Consider undertaking a Community Health and Safety Impact Assessment in line with GIIP • Implement key requirements of the OHS Act (Act 85 of 1993) • Inform affected communities about potential risks and impacts in a culturally appropriate manner • Involve the doorstep communities and affected land users in discussing these concerns in forum settings, as well as identify mitigation measures • Prior to the commencement of any groundworks, the doorstep communities, affected land users and ward committee members should be consulted and prepared for the construction phase • Relevant community forms, NGOs and/or the ward committee members should always be consulted prior to the construction or upgrading of access road(s) or project-related infrastructure changes which could affect nearby/adjacent houses • Incorporate project activities into a KMR Emergency Response Plan • Keep first aid supplies on site at all times • Undertake induction training as well as regular refresher training sessions on health and safety for employees • Include respective contractors in the health and safety training • Inform the employees of the KMR Emergency Response Plan in conjunction with the training • Maintain the existing dust management/mitigation measures on-site

Theme	Proposed mitigation and/or management measure
	<ul style="list-style-type: none"> • Where practicable, stockpiles of soils and materials should be located as far as possible from sensitive receptors, taking account of prevailing wind directions and seasonal variations in the prevailing wind • Update KMR's existing contractor agreements concerning health and safety standards • Appoint a rehabilitation specialist to implement the requirements of the Closure and Rehabilitation Plan • Consider surrounding land uses and design post-mining land use options to support and enhance long-term development options (should form part of the mine's closure plan)
Community/social supports and political context	<ul style="list-style-type: none"> • Develop an SEP and a grievance mechanism • Review the proposed mitigation measures for socio-economic issues listed in JTGDM and JMLM's SDFs and ensure that KMR's SLP is aligned with these measures and /or other strategic programmes • Clearly and transparently communicate and implement employment and procurement policies • Subject all the project employees to a health, Covid19 and HIV/AIDS awareness educational programme • Assist with initiating programmes aimed at encouraging voluntary workers to patrol particular areas (especially during the construction period) • Local forums or the ward committee members could be tasked to keep record of any potential influx of job-seekers (this could also be the responsibility of a CLO) • Develop a Recruitment and Influx Management Plan • Review HR policies and procedures in consultation with key stakeholders (include a Preferential Procurement Policy in favour of employing local labour) • Extend the CLO's duties to cover the expansion project • Ensure that the security company to be used has a recruitment policy which is sensitive towards nearby and affected communities and residents and their rights (this should include regular engagements)
Livelihood assets and activities	<ul style="list-style-type: none"> • Update the SLP and any other related policies and plans to ensure a solid local procurement strategy and Skills Development Programme • Manage employment by selecting employees according to an electronic selection system supported by JMLM that ensures recruitment from local, impacted communities • Ensure clear expectations in all platforms of communication of the number of jobs available and in what categories or fields of the mine • Update the Employment Equity Plan in the SLP to provide equal job opportunities • Use, as far as reasonably possible, local suppliers and SMMEs and invite them to list their businesses on a database managed by KMR

Theme	Proposed mitigation and/or management measure
	<ul style="list-style-type: none"> • Establish labour desk/employment committee to provide strategic guidance to the mine on labour recruitment policies (if this is not already established) • Allow those labourers who were involved in the construction phase a fair opportunity to apply for work during the operational phase • Provide sufficient opportunities for women and disabled persons to become employable on the mine • Training and skills development focused on women should take place to increase their participation in the labour force • Develop and implement, as far as reasonably possible, a plan for the gradual replacement of migrant labour by local employees • Target emerging employment opportunities at local residents, as well as people from the surrounding communities in cases where the skills cannot be obtained from immediately adjacent communities • Implement a Contractor Management Plan • Encourage continued participation of labour unions in workplace skills plans • Develop and implement a labour grievance mechanism as an HR function • Establish a community form to identify grievances and communicate these to the mine • Provide the surrounding communities with opportunities to enrol in practical skills training so that they have the opportunity to upskill themselves and apply for jobs at the mine • As legislated, disclose the SLP to the Aol, doorstep communities, as well as the affected land users on a regular basis • Develop a labour desk with the mandate to source CVs from the local community • Develop a Retrenchment Plan • Update Contractor Social Management Procedure to align with this project
Culture and religion	<ul style="list-style-type: none"> • Develop a chance-find procedure for all new tangible cultural heritage which is discovered during the project's construction, operational, as well as decommissioning phases • Investigate the need for a grave management and/or relocation plan if the identified graves cannot be fenced off property

7 Concluding remarks

NOTE: The section will be updated with the other recommendations/comments/remarks

Based on SRK's baseline study and SEIA, the impacts which have a high negative residual risk even after the application of mitigation and/or enhancement measures are presented in Table 7-1. These relate to the increased exposure to environmental hazards and risks during the construction and operational phases, the loss of jobs during the mine's closure and decommissioning phases, as well as a loss of sense of place (as graves have been identified by the HIA close to the expansion activities; graves which might need to be relocated).

Table 7-1: Impacts and residual risk of impact after mitigation and/or project enhancement measures

Reduced cattle farming productivity	LOW -
Reducing farm labour opportunities	MINOR -
Reducing water availability for living and farming	LOW -
Increased exposure to environmental hazards and risks during the construction and operational phases	MODERATE -
Reduced exposure to environmental hazards and risks during closure and decommissioning	LOW +
Influx of job-seekers	LOW -
Potential increase in crime and substance abuse	MODERATE -
Increased tension between private security workers and local residents	LOW -
Continued employment of local labour	MODERATE +
Continued provision of skills and further training opportunities	MODERATE +
Increased contribution to the local and regional economy	MODERATE +
Loss of local employment and LED support during mine closure and decommissioning	HIGH -
Loss of place attachment	HIGH -

Despite these impacts, the specialist does not believe the project is fatally flawed. This opinion is largely based on the fact that the area is already mine-dominated, as mines play an important economic role in the area. This industry is well-established and needs to be supported. The area is not a tourism destination, nor does it have a high cultural value or sense of place, apart from the graves close to the expansion activities.

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All data used as source material plus the text, tables, figures, and attachments of this document have been reviewed and prepared in accordance with generally accepted professional engineering and environmental practices.

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Appendices

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Annexure A: Social Impact Assessment Rating Table

SRK's social impact assessment methodology deviates from the above methodology in the sense that it does not rely on a mathematical equation or statistical calculation to determine the significance of an impact. The methodology presents a qualitative estimate of significance based on several factors, which includes the location of the study area (e.g. urban or rural), the context of the society (e.g. traditional versus democratic systems), duration of the potential impacts (e.g. permanent versus short term), the extent or the scale of the project (e.g. limited to the project footprint) and the phase during which the impact will occur (e.g. construction). The specialist's experience in assessing social impacts across a range of factors also contributes towards the assessment.

Simply put, the methodology relies on the identification of (a) the consequences and (b) the likelihood of an impact. The ascription of significance requires the consequences to be ranked and likelihood to be defined of that consequence. In the table below, a scoring system for consequence ranking is shown.

Two important features should be noted, namely that the scoring doubles as the risk increases and that there is no equivalent 'major' score in respect of benefits as there is for the costs. This "major: negative score serves to give expression to the potential for a fatal flaw where a fatal flaw would be defined as an impact that cannot be mitigated effectively and where the associated risk is accordingly untenable. Stated differently, the "major" score on the costs, which is not matched on the benefits side, highlights that such a fatal flaw cannot be 'traded off' by a benefit and would render the proposed project to be unacceptable.

Table: Consequence ratings

Cost	Inherent risk
Net reduction in human welfare	Major
Material reductions in social aspects (people's capacities, abilities and freedom, community support, culture and religion, livelihood assets and activities, infrastructure and services, living environment, and land and natural resources)	High
Material reductions in the quality of life	Moderate
Nuisance	Low
Negative change – with no other consequences	Minor
Benefits	Inherent benefit
Net improvement in human welfare	High
Improved quality of social aspects (people's capacities, abilities and freedom, community support, culture and religion, livelihood assets and activities, infrastructure and services, living environment, and land and natural resources)	Moderate
Socio-economic development	Low
Positive change – with no other consequences	Minor

To allow for comparability, impact raking scales for duration and extent are summarised in the table below.

Table: Impact ranking scales

Duration	Extent/scale
Permanent	International
Long-term (ceases with the operational life)	National
Medium-term (5-15 years)	Regional
Short-term (0-5 years)	Local
Immediate	Site only
	None

The table below summarises the scoring system for the likelihood of impacts. Although the principle is one of probability, the term 'likelihood' is used to give expression to a qualitative rather than quantitative assessment, because the term 'probability' tends to denote a mathematical/empirical expression.

The likelihood of each impact is assessed twice. The first time is to assess the likelihood of the cause and the second the likelihood of the consequence. The impact tables presents the likelihood of a) the cause and then b) the likelihood of the consequence. A high likelihood of a cause does not necessarily translate into a high likelihood of the consequence. As such the likelihood of the consequence is not a mathematical or statistical 'average' of the causes but rather a qualitative estimate in its own right.

Table: Likelihood ratings

Definitions	Likelihood descriptors
The possibility of the consequence occurring is negligible	Highly unlikely / rare
The possibility of the consequence occurring is low but cannot be discounted entirely	Unlikely
The consequence may not occur but a balance of probability suggests it will	Possible
The consequence may still not occur but it is most likely that it will	Likely
The consequence will definitely occur	Almost certain

The residual risk is then determined by a) the consequence and b) the likelihood of that consequence. The residual risk categories are shown in the table below where consequence scoring is shown in the rows and likelihood in the columns.

Table: Residual risk categories

Likelihood	Consequence				
	Minor	Low	Moderate	High	Major
Almost certain	Low	Moderate	Moderate	Fatally flawed	
Likely	Low	Low	Moderate	High	High
Possible	Minor	Low	Moderate	Moderate	High
Unlikely	Minor	Minor	Low	Moderate	Moderate
Highly unlikely / rare	Minor	Minor	Low	Low	Moderate

The implications for decision-making of the different residual risk categories are shown in the table below.

Table: Implications for decision-making of the different residual risk categories

Rating	Nature of implication for decision making
Minor	Project can be authorised with low risk of social deprivation
Low	Project can be authorised but with conditions and routine inspections
Moderate	Project can be authorised but with clear conditions and management measures
High	Project can be authorised but with strict conditions and high levels of compliance and enforcement of management measures
Fatally Flawed	The project cannot be authorised

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Annexure B: Declaration of Independence

Appendix 6 of General Notice R 326, (as Gazetted on 7 April 2017) of the National Environmental Management Act, as amended (NEMA) (Act No. 107 of 1998) states, amongst other, that an independent consultant must be appointed to act on behalf of the client. It further requires a declaration that the specialist is independent. In this regard **Anton Hough** submits that she has:

- The necessary required expertise to conduct a Social Impact Assessment (SIA), including the required knowledge and understanding of any guidelines or policies that are relevant to the proposed process;
- Undertaken all the work and associated studies in an objective and independent manner, even if the findings of these studies are not favourable to the project proponent;
- No vested financial interest in the proposed project or the outcome thereof, apart from remuneration for the work undertaken under the auspices of the above-mentioned regulations;
- No vested interest, including any conflicts of interest, in either the proposed project or the studies conducted in respect of the proposed project, other than complying with the required regulations; and
- Disclosed any material factors that may have the potential to influence the competent authority's decision and/or objectivity in terms of any reports, plans or documents related to the proposed project as required by the regulations.

DETAILS OF THE SOCIAL IMPACT ASSESSMENT PRACTITIONER

Anton is an experienced social scientist and resettlement practitioner who has more than 12 years of experience in Social Impact Assessments (SIAs), Socio-Economic Baseline Studies (SEBSs) and Resettlement Action Plan (RAP) compilation and implementation. He obtained his Masters in Sociology from the University of Stellenbosch in South Africa in 2011, and has three ISI-listed academic publications. Throughout his career, Anton has been involved in many large-scale projects across sub-Saharan Africa and South Africa, and has extensive legislative and field-based experience in many of the continent's countries. His work is usually performed to the International Finance Corporation's (IFC) Performance Standards (PSs) and World Bank's (WB) Environmental and Social Standards. Anton has drafted reports and plans for review by institutions such as the IFC, European Investment Bank (EIB), Norwegian Investment Fund for Developing Countries (Norfund), African Development Bank (AfDB) and World Bank (WB).

Specialist:	Anton Hough		
Nature of specialist study compiled:	Social Impact Assessment		
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E-mail:	ahough@srk.co.za		
Qualifications & relevant experience:	Masters in Sociology (Stellenbosch University, 2011)		
I,	Anton Hough	declare that	

- I act as the independent specialist in this application;
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act (NEMA), regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, regulations and all other applicable legislation;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing, any decision to be taken with respect to the application by the competent authority; and, the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- All the particulars furnished by me in this form are true and correct; and
- I realise that a false declaration is an offence in terms of Regulation 48.

Signature

Date