Proposed West Wits Reclamation and Deposition Project

Social Impact Assessment



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4 Executive Summary

Randfontein Estates Limited, a subsidiary of Harmony Gold Mining Company Limited (the applicant), proposes to develop the Deelkraal II Tailings Storage Facility (TSF) and associated infrastructure on a site located approximately 13 km south-west of Carletonville, within the Merafong City Local Municipality, West Rand District Municipality, Gauteng Province. The proposed project, known as the West Wits Reclamation and Deposition Project, reclaims historical gold tailings from the existing Deelkraal 1 TSF and Kusasalethu TSF for re-processing at the Kusasalethu plant, and deposits the re-processed tailings onto a new TSF of approximately 450 ha. Associated infrastructure includes slurry, process-water, return-water, sewage and potable-water pipelines, a return water dam, pump stations, reclamation plant infrastructure, power lines, access roads, topsoil stockpiles and laydown areas, together with upgrades to the existing Kusasalethu plant.

This Social Impact Assessment (SIA) was undertaken during the Environmental Impact Assessment (EIA) phase and builds on the Social Scoping Report prepared during the scoping phase. It provides an updated description of the receiving socio-economic environment, presents the findings of fieldwork and stakeholder consultation undertaken in the project area, identifies and rates the potential social impacts of the project, and recommends measures to avoid, minimise and manage negative impacts while enhancing benefits. The assessment is guided by the International Principles for Social Impact Assessment, the IAIA Guidance for Assessing and Managing the Social Impacts of Projects, the IFC Performance Standards, the Equator Principles, the World Bank Environmental and Social Standards, and the social-performance requirements of the Global Industry Standard on Tailings Management (GISTM).

4.1.1 Receiving environment

The project is located in a long-established gold-mining landscape that is experiencing the social legacy of mine decline. The Merafong economy has historically depended on gold mining, but mining now contributes only a small share of local Gross Value Added, and the area has been affected by retrenchments, mine closures, out-migration and contraction. The surrounding settlements, including Deelkraal Village, Blyvooruitzicht, Wedela, Elandsrand and West Village, as well as smallholdings and farms, are characterised by high unemployment, poverty, dependence on social grants, deteriorating municipal services, infrastructure decay, crime, the presence of artisanal miners (zama-zamas), and acute service-delivery failures. In Deelkraal Village in particular, fieldwork recorded a prolonged loss of

electricity supply, failing water and sewerage services, vacant and vandalised housing, and a vulnerable resident population that includes elderly and ill persons.

4.1.2 Key findings

From a social perspective, the project does not present a fatal flaw. Most of the social impacts associated with the project are a continuation or intensification of impacts that already exist in the area, rather than entirely new impacts. The project also carries genuine potential for positive impacts, including employment and skills development, local procurement, the productive re-use of historical mine waste, the recycling of process water, and the avoidance of new greenfield mining disturbance. However, these benefits will not be realised, and negative impacts will not be adequately managed, unless specific social processes are put in place and sustained throughout the project life cycle.

The most material negative social impacts identified are: heightened community expectations regarding employment and procurement; nuisance impacts (dust, noise, traffic and visual intrusion); community safety and crime risks, including the theft of infrastructure and the interface between project activities and artisanal mining; disturbance to farming livelihoods (livestock safety, fences, gates, open excavations and shared water sources); access and disturbance associated with routing through or past Deelkraal Village; the potential displacement of, and loss of grazing and cultivation land used by, informal occupiers and artisanal miners on the proposed footprint; and, most significantly from a GISTM perspective, community fear of, and exposure to, the consequences of a potential TSF or pipeline failure and ongoing seepage, given that local drainage reports to the Mooi River system and downstream to the Boskop and Potchefstroom dams.

A material land-ownership dispute exists in respect of certain portions within the project area. Affected parties contend that some properties were sold and should have been transferred, and have indicated their objection to the project and the possibility of litigation. This SIA does not seek to determine the legal merits of the dispute. However, the existence of the dispute is relevant to the assessment because it has the potential to influence stakeholder perceptions, community relations, project legitimacy, land access and the project's social licence to operate, and it is therefore recorded and carried forward as a material stakeholder issue for the attention of the project team.

4.1.3 Principal recommendations

- Maintain and resource a functional Stakeholder Relations function, including a Community Liaison Officer who is trusted by, and accessible to, affected communities.
- Establish and operate a community-friendly grievance mechanism, developed in conjunction with affected communities and landowners, with a grievance register and regular feedback.
- Develop and implement a transparent communication and expectation-management strategy covering employment, procurement and recruitment processes, in the dominant local languages (Setswana, isiXhosa and Sesotho, supported by Afrikaans and English).
- Develop and implement an Influx Management Plan and a Community Safety Plan in coordination with local authorities and existing community security initiatives.
- Agree farm-access, compensation, communication, fencing and infrastructure-maintenance protocols with affected landowners and land users before construction commences.
- Fully implement the social-performance requirements of the GISTM for the existing and new TSF, including meaningful engagement, human-rights due diligence, emergency preparedness and response planning co-developed with affected people, and public disclosure.
- Address the situation of informal occupiers and artisanal land users on the proposed footprint in line with international standards on involuntary resettlement and livelihood restoration, recognising vulnerability irrespective of tenure status.
- Refer the land-ownership dispute to the appropriate project representatives and ensure that affected parties' concerns are accurately reflected and responded to in the EIA documentation.

It is recommended that the project be supported from a social perspective, on condition that the social management measures set out in the Social Impact Management Plan (SIMP) and the recommendations of this report are implemented and incorporated into the conditions of the Environmental Authorisation.

5 Abbreviations and Acronyms

Abbreviation	Meaning
AMD	Acid Mine Drainage
CLO	Community Liaison Officer
CSI	Corporate Social Investment
DMPR	Department of Mineral and Petroleum Resources
DWS	Department of Water and Sanitation
EA	Environmental Authorisation
EAP	Environmental Assessment Practitioner
EIA	Environmental Impact Assessment
EMPr	Environmental Management Programme
EPRP	Emergency Preparedness and Response Plan
ESMS	Environmental and Social Management System
FPIC	Free, Prior and Informed Consent
GISTM	Global Industry Standard on Tailings Management
I&AP	Interested and Affected Party
IAIA	International Association for Impact Assessment
IDP	Integrated Development Plan
IFC	International Finance Corporation
LOM	Life of Mine
MPRDA	Mineral and Petroleum Resources Development Act, 2002
NEMA	National Environmental Management Act, 1998
SIA	Social Impact Assessment
SIMP	Social Impact Management Plan
SLP	Social and Labour Plan
SMME	Small, Medium and Micro Enterprise
TSF	Tailings Storage Facility
WULA	Water Use Licence Application

6 Key Definitions

Term	Definition
Social change process	A discrete, observable and describable process set in motion by a project (for example, in-migration, the presence of temporary workers, or a change in land use) that changes the characteristics of a society. Social change processes can be measured objectively and may, depending on context and management, lead to social impacts.
Social impact	Something that is experienced or felt by an individual, household or community, in either a physical (objective) or a perceptual (subjective) sense, as a result of a project. Perceived impacts are real to those who experience them and influence how people feel about and respond to a project.
Stakeholder	Any person, group or organisation that can affect, or is affected by, the proposed project, whether positively or negatively.
Social licence to operate	The ongoing acceptance and approval of a project by the local community and broader society. It cannot be acquired through permits or payment alone and depends on the degree of alignment between community expectations and the actual behaviour of the operator.
Vulnerable group	Individuals or groups who, because of their circumstances, may experience the adverse impacts of a project more acutely than others, or who may be excluded from project benefits (for example, the elderly, the ill, female-headed households, the unemployed youth, informal occupiers and people with insecure tenure).
Tailings Storage Facility (TSF)	An engineered facility for the storage of the fine-grained residue (tailings) that remains after the recovery of minerals from ore or from re-processed tailings.

1 Introduction

Randfontein Estates Limited, a subsidiary of Harmony Gold Mining Company Limited (the applicant), has appointed Environmental Impact Management Services (Pty) Ltd (EIMS) as the Environmental Assessment Practitioner (EAP) to undertake the environmental authorisation processes for the proposed new Deelkraal II Tailings Storage Facility (TSF) and associated infrastructure, located approximately 13 km south-west of Carletonville in the Merafong City Local Municipality, West Rand District Municipality, Gauteng Province (the proposed Harmony West Wits Reclamation and Deposition Project).

A Social Scoping Report was prepared during the scoping phase of the EIA to provide a baseline description of the receiving socio-economic environment and to identify the preliminary social impacts to be investigated. This Social Impact Assessment (SIA) report represents the EIA-phase social study. It updates and deepens the baseline, incorporates the findings of fieldwork and stakeholder consultation in the project area, identifies and rates the potential social impacts of the project, and recommends mitigation and management measures. The findings of this SIA are intended to be integrated into the EIA / Environmental Management Programme (EMPr) Report and to inform the decision of the competent authority.

Conducting a SIA is an effective way to manage social risk. A robust SIA reduces negative community impacts, enhances benefits to affected groups, helps to avoid delays and opposition, lowers costs, strengthens stakeholder relationships and improves project design. Importantly, the social impacts of a project begin when the project is first announced, and the active management of social impacts should therefore start as early as possible and continue through to closure.

1.1 Purpose of the report

The purpose of this report is to assess the potential social and economic impacts of the proposed project and to recommend measures to manage them, thereby supporting informed decision-making. The assessment process comprised: (i) an updated baseline socio-economic description of the affected area; (ii) the identification of potential social change processes; (iii) the identification, description and rating of social impacts; and (iv) the formulation of mitigation measures and a Social Impact Management Plan (SIMP).

2 Project Description

The applicant requires additional tailings-deposition capacity for the West Wits region's operations. The planned Life of Mine (LOM) for the region exceeds the available deposition capacity of the existing TSFs, and a readily available facility is therefore required so that reclamation operations can continue before the Deelkraal Dormant TSF and Kusasalethu TSF are re-mined. The applicant owns virgin ground adjacent to the Deelkraal Dormant TSF that can be used for the proposed Deelkraal II TSF.

The project involves the reclamation of historical gold tailings from the Deelkraal 1 TSF and the Kusasalethu TSF for re-processing at the Kusasalethu plant. Re-processed (barren) tailings will be deposited on the new Deelkraal II TSF, which will cover an area of approximately 450 ha. Preliminary metallurgical test work indicated that the Deelkraal TSF contains higher grades of accessible gold, and it is intended that this facility be reclaimed first, with the Kusasalethu TSF reclaimed thereafter.

In addition to the Deelkraal II TSF, the following associated infrastructure is proposed:

- A new return water dam in the vicinity of the Deelkraal II TSF;
- Upgrades to the existing Kusasalethu plant (within the existing plant footprint), including new gold and uranium sections;
- Slurry pipelines linking the reclamation areas, plants and TSFs (including reclaimed slurry from Deelkraal 1 to Kusasalethu, barren tailings from Kusasalethu to Deelkraal II, and connections to the Savuka and DF5 facilities);
- Process-water and return-water pipelines linking the plants, reclamation areas, pump stations and dams;
- Power lines from the Kusasalethu plant to the existing Deelkraal and Kusasalethu TSFs;
- A potable-water pipeline from the Rand Water supply point to the Deelkraal TSF;
- A new Deelkraal TSF reclamation plant and new reclamation pump stations;
- New access roads adjacent to pipelines and around the TSF where no access road already exists;

- Topsoil stockpiles; and
- Ancillary construction infrastructure, including workshops and laydown areas.

All pipelines are proposed as flanged steel pipelines installed above ground on pre-cast concrete plinths, with a 3.5 m wide access road cleared or graded adjacent to the pipelines for construction, maintenance and inspection (in areas where no access road already exists). Pipeline diameters will be confirmed once further design information becomes available.

The applicant (Randfontein Estates Limited) holds a converted mining right over the affected farms (which include portions of Kleinfontein 141 IQ, Deelkraal 142 IQ, Blyvooruitzicht 116 IQ, Buffelsdoorn 143 IQ and Elandsfontein 115, 135 and 144 IQ), which commenced in December 2007 for a period of 30 years. The relationship between the mining right and the surface-rights position on certain portions is the subject of a stakeholder dispute, discussed further in the stakeholder analysis.

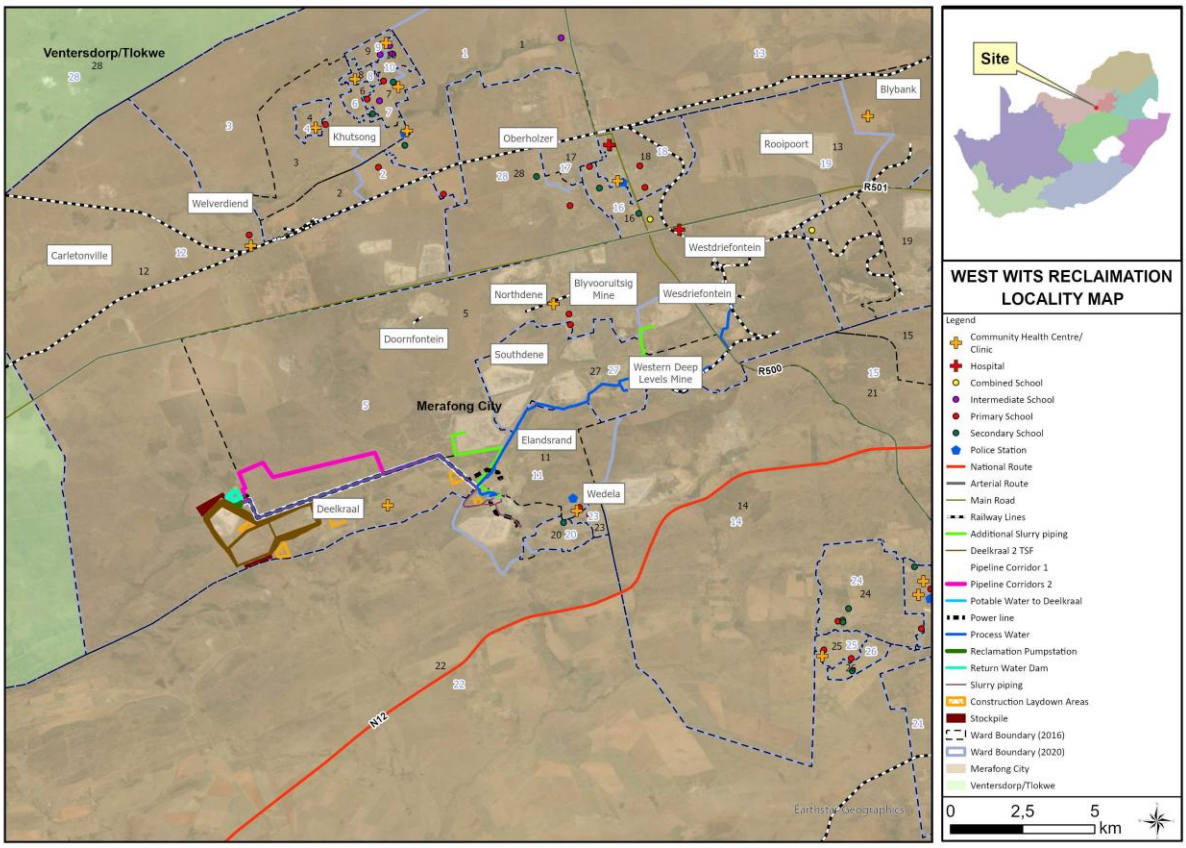


Figure 2-1: Locality of the proposed West Wits Reclamation Project and surrounding social infrastructure.

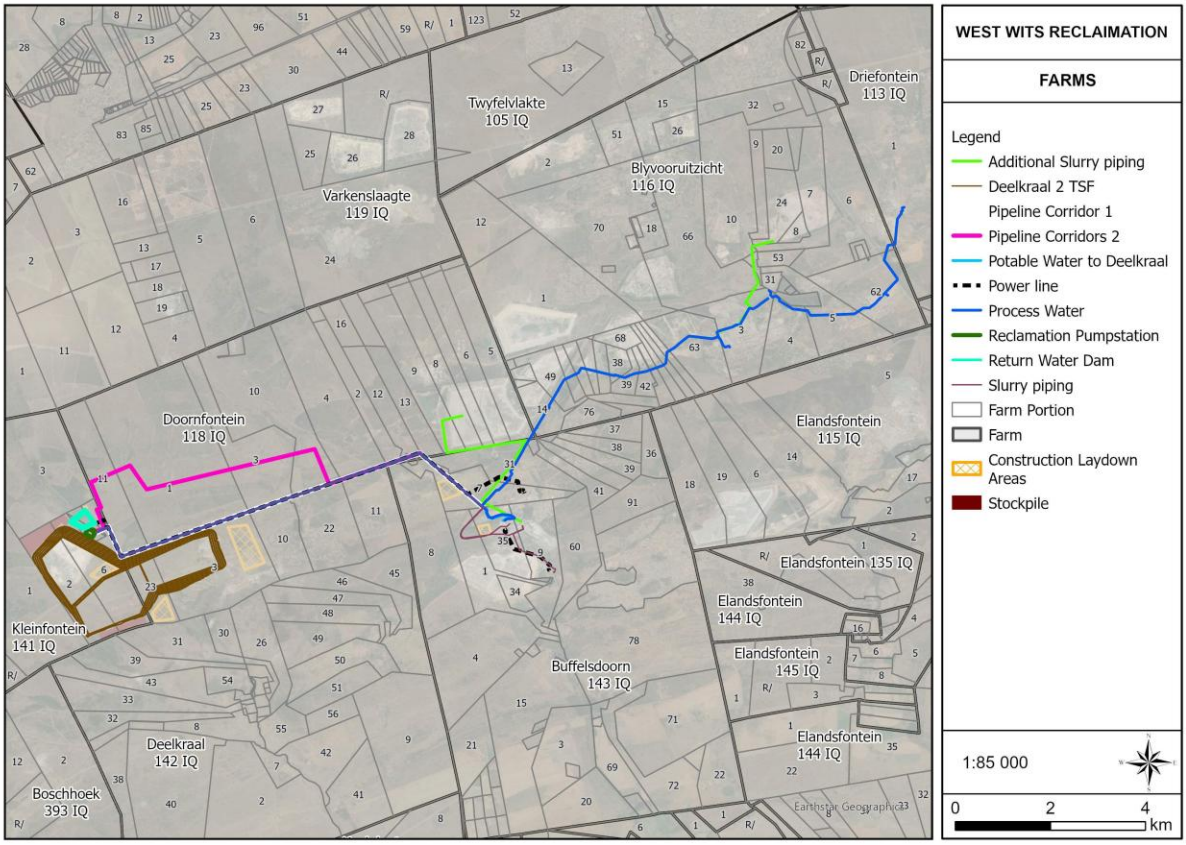


Figure 2-2: Proposed project layout, affected farm portions and associated infrastructure corridors.

3 Scope of Work

The scope of the EIA-phase SIA was to:

- Provide an updated description of the baseline receiving social environment, drawing on secondary data and fieldwork;
- Identify individuals and groups within the project area of influence who have existing vulnerabilities or who may experience the adverse impacts of the project more acutely than others;
- Undertake fieldwork to gather qualitative data through key stakeholder interviews and site observation;
- Provide a stakeholder identification and analysis;
- Undertake an in-depth analysis of the potential social impacts (positive and negative) of the project across its life cycle;
- Identify mitigation measures for negative impacts and recommendations for enhancing positive outcomes; and
- Prepare a SIA report, including a Social Impact Management Plan, that documents the findings, recommendations and conclusions of the assessment.

4 Methodology

A participatory approach is considered the most appropriate framework for social research in the South African context. The study was guided by internationally recognised standards – including the World Bank Environmental and Social Standards, the Equator Principles, the IFC Performance Standards, the International Principles for Social Impact Assessment, and the IAIA Guidance for Assessing and Managing the Social Impacts of Projects – adapted to local conditions. The social-performance requirements of the Global Industry Standard on Tailings Management (GISTM) were applied given that the project centres on the construction and operation of a TSF.

4.1 Information base

This assessment was informed by a literature and policy review; secondary statistical data (Census 2011, Community Survey 2016 and Census 2022) and municipal planning instruments (the Integrated Development Plans of Gauteng Province, the West Rand District Municipality and the Merafong City Local Municipality); the Social Scoping Report; project information provided by the EAP and applicant; the public participation record for the project (comments and responses); fieldwork undertaken in the project area; and the professional judgement of the SIA practitioners based on experience with similar projects.

4.2 Fieldwork and consultation

Fieldwork was undertaken in the project area to obtain primary qualitative data and to engage key stakeholders. Methods included site observation and in-depth, semi-structured key-informant interviews with landowners, residents, community representatives and land users, using an interview schedule rather than a formal questionnaire so as to allow respondents to elaborate on their views. Field notes were kept of all interviews. Consultation undertaken through the project's public participation process, including written comments received from interested and affected parties, was reviewed and integrated. The names of individuals are not reported; respondents are referred to by stakeholder group in line with good ethical practice and to protect privacy.

4.3 Assessment approach

The assessment follows the Slootweg, Vanclay and Van Schooten model, which distinguishes between social change processes (demographic, economic, geographic, institutional and legal, emancipatory and empowerment, and socio-cultural) and the social impacts they may generate. Both objective (measurable) and subjective (perceptual) impacts were considered, recognising that perceived impacts can have far-

reaching consequences in the form of opposition to, and mobilisation against, a project. Identified impacts were rated for significance using the criteria set out in Annexure 1, both before and after the application of mitigation measures.

4.4 Assumptions and limitations

- Not all community members could be consulted directly; the views recorded reflect those of the stakeholders engaged and the secondary data reviewed.

- The social environment is dynamic and is influenced by external processes (political, economic and institutional) that are independent of the project and that can alter the social context and the predicted impacts over time.

- Impacts may be both actual and perceived, and different groups may experience the same change differently.

- Census 2022 data are subject to a very high reported undercount and, at the time of assessment, were released only to local-municipal level; ward-level analysis therefore relies on Census 2011 (2016 ward delineation) supplemented by later data, and the figures should be read as indicative rather than absolute.

- Certain matters raised during consultation – in particular a property-ownership dispute – are subject to documentary evidence that had not been received or independently verified by the SIA team at the time of writing; these are recorded as stakeholder positions, not as findings of fact, and the SIA does not determine their legal merits.

5 Legislative and Policy Framework

Although no single statute prescribes how a SIA must be conducted, a range of South African laws and policies require specific social outcomes that are relevant to this project, and a number of international standards inform good practice. The most relevant instruments are summarised below.

Table 5-1: Legislation relevant to project

Legislation	Purpose	Relevance to the project
Constitution of the Republic of South Africa, 1996	Enshrines human rights, including the right to an environment not harmful to health or well-being, and equitable access to land and housing.	Provides the foundation for assessing social well-being, equity, dignity, health and participation, and for balancing environmental protection with socio-economic development.
National Environmental Management Act (NEMA), 1998	Integrates social, economic and environmental considerations; mandates public participation; places people's needs at the forefront and protects vulnerable communities.	Provides the legal basis for public involvement and for the equitable distribution of social risks and benefits, including protection of vulnerable groups.
National Water Act (NWA), 1998	Promotes equitable access to, and sustainable and protected use of, water resources.	Directly relevant to community health and livelihoods – the SIA must consider effects on water availability, contamination risk and shared water sources near the TSF and pipelines.
Mineral and Petroleum Resources Development Act (MPRDA), 2002	Promotes local economic development and requires Social and Labour Plans (SLPs) and assessment of socio-economic conditions.	Central to the SIA: employment, livelihood, procurement, resettlement and community-development impacts. The SIA complements the SLP and examines distributional impacts and social-licence expectations.
National Heritage Resources Act (NHRA), 1999	Protects heritage and cultural resources and requires consultation with affected communities.	Guides the cultural baseline and ensures that ties to land, graves and sacred sites are respected; the SIA assesses potential loss of cultural identity or social conflict.
Promotion of Administrative Justice Act (PAJA), 2000	Guarantees transparent, reasonable and procedurally fair decision-making and participation.	Strengthens procedural fairness in consultation and ensures affected people have adequate opportunity to comment.
Disaster Management Act, 2002	Provides for disaster preparedness, risk reduction and recovery planning.	Supports community safety; the SIA must assess the social dimensions of TSF-failure scenarios and how emergency preparedness integrates community awareness and participation.

Table 5-2: Standards and frameworks relevant to project

Standard / framework	Social relevance
IFC Performance Standards, World Bank ESS and the Equator Principles	Establish global best practice for managing environmental and social risk, including inclusive consultation, labour rights, community health and safety, resettlement, livelihood restoration and ongoing engagement.
International Principles for SIA and the IAIA Guidance (Vanclay et al., 2015)	Provide the professional and ethical framework for the SIA – social acceptability, empowerment, equity, human rights, local knowledge and meaningful participation – and the benchmark for managing social impacts adaptively through the project life cycle.
Global Industry Standard on Tailings Management (GISTM)	Integrates technical and social governance of tailings facilities, with explicit human-rights, engagement, grievance, vulnerability and emergency-preparedness requirements. Highly relevant; addressed in detail in Section 6.
ISO 26000 / SANS 26000 and the Global Reporting Initiative (GRI)	Provide benchmarks for ethical corporate behaviour, social responsibility and transparent reporting on community relations, local employment and grievances.
National Development Plan 2030, the UN SDGs, and municipal IDPs	Frame national and local development priorities – inclusive growth, decent work, reduced inequality and service delivery – against which the project's contribution can be evaluated, including alignment with the Merafong and West Rand IDP priorities.

6 GISTM and Social Performance

Because the project centres on the reclamation of existing TSFs and the construction and operation of a new TSF, the social-performance requirements of the Global Industry Standard on Tailings Management (GISTM) are of particular importance. The GISTM is organised around six Topic Areas, 15 Principles and 77 auditable Requirements, and adopts an integrated approach to tailings management. Social performance[1] spans all six Topic Areas: specialist social components are defined in 14 (about 18%) of the 77 Requirements, with a further 18 Requirements (about 23% of the Standard) requiring operators to integrate social-performance inputs into the processes, systems and decisions used to manage the tailings facility. The social dimensions of each Topic Area are summarised below and linked to the local context.

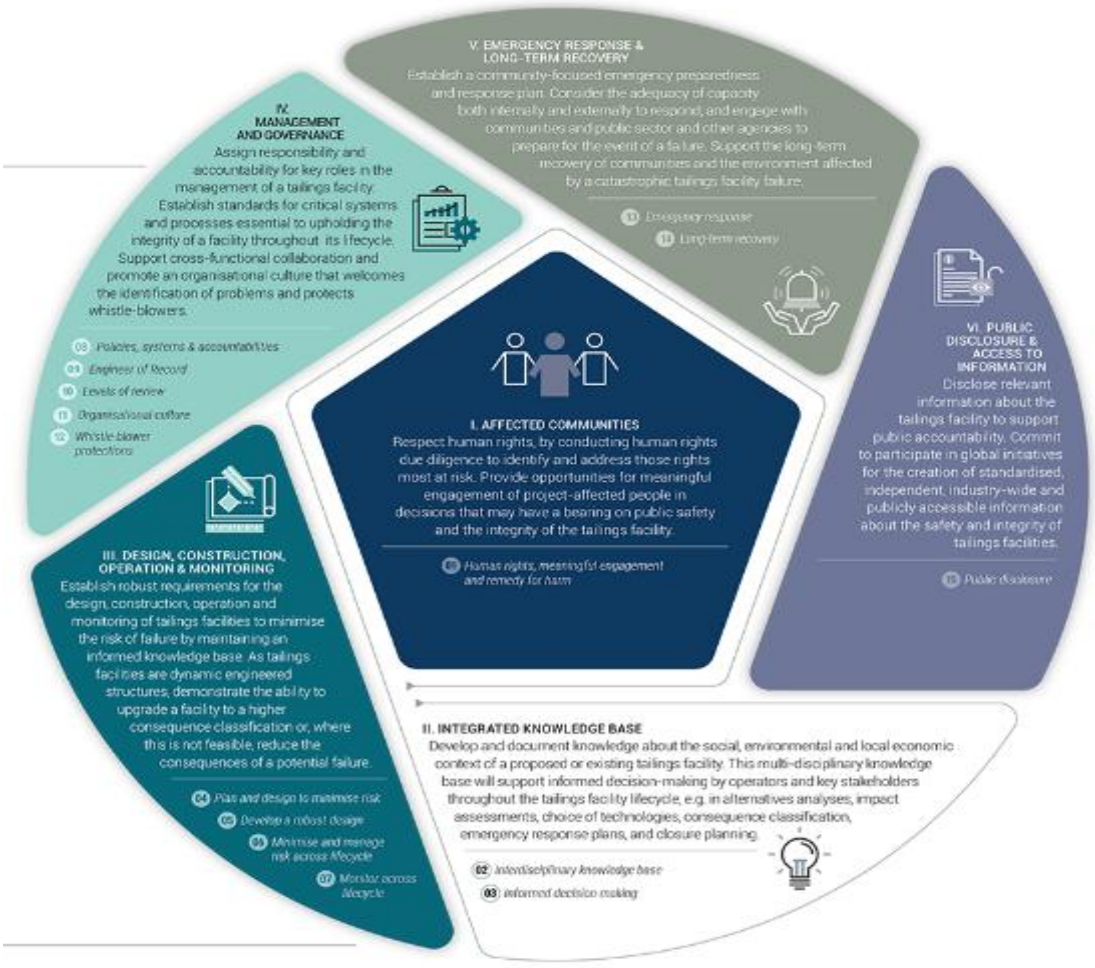


Figure 6-1: Summary of GISTM.

[1] Social performance refers to how a company handles its commitments, interactions, and activities as they relate to local communities.

6.1 Topic I – Affected Communities

Topic I contains four explicit social-performance requirements:

- consideration of human rights throughout the life cycle of the TSF;
- Free, Prior and Informed Consent (FPIC) of indigenous and tribal peoples where applicable;
- meaningful engagement with project-affected people;
- and the operation of a grievance mechanism.

in the project context this requires sustained, accessible engagement with Deelkraal Village, Blyvooruitzicht, Wedela, Elandsrand, the surrounding farms and smallholdings, and informal land users, conducted in the dominant local languages, together with a functioning, community-friendly grievance mechanism and human-rights due diligence across the life cycle.

6.2 Topic II – Integrated Knowledge Base

Topic II brings together social, environmental and local-economic conditions, and emphasises an understanding of local context, human exposure and vulnerability, supported by impact assessment and mitigation planning. This SIA, read with the other specialist studies (including the surface- and groundwater, air-quality and biodiversity assessments), forms part of the integrated knowledge base. The presence of vulnerable residents (elderly and ill persons in Deelkraal Village), informal occupiers and artisanal miners on or near the footprint, and downstream water users, are all elements of human exposure and vulnerability that must inform the knowledge base.

6.3 Topic III – Design, Construction, Operation and Monitoring

Although primarily technical, Topic III carries social requirements where additional steps are taken to minimise the consequences of a potential failure, and it requires that international standards be followed where involuntary resettlement is necessary. The proposed lined design of the TSF is a measure that reduces seepage and groundwater-contamination risk; the social dimension is to communicate such design measures to affected communities in an accessible way, and to apply international resettlement and livelihood-restoration standards should the relocation of any occupiers or land users be unavoidable.

6.4 Topic IV – Management and Governance

Topic IV requires a tailings governance framework and confirms the Environmental and Social Management System (ESMS) as an integral component. It requires the nomination of one or more Accountable Executive(s) responsible, among other matters, for avoiding or minimising the consequences of a tailings-facility failure for local people, supported by multidisciplinary risk assessment and the review and audit of the ESMS. The social outputs of this SIA, the SIMP and the grievance mechanism should be embedded within the operator's ESMS and governance arrangements.

6.5 Topic V – Emergency Preparedness and Recovery

Topic V is critically important from a social-performance perspective and is highly relevant to this project. It requires meaningful engagement with employees and contractors in developing Emergency Preparedness and Response Plans (EPRPs), and 'locks in' the role of project-affected people in co-developing community-focused emergency-preparedness measures. It also addresses the long-term recovery of people and the environment in the event of a catastrophic failure, including engaging, before any failure, with the public-sector agencies and organisations that would participate in medium- and long-term social and environmental response. In the local context, Deelkraal Village and downstream water users (with drainage reporting to the Mooi River system and the Boskop and Potchefstroom dams) must be meaningfully involved in emergency-preparedness planning, and the elderly and ill residents identified during fieldwork require specific consideration in evacuation and response arrangements.

6.6 Topic VI – Public Disclosure and Access to Information

Topic VI requires the regular publication and updating of information and responses to reasonable requests for additional information. This is fundamental to meaningful engagement at the local level and to generating trust across the stakeholder spectrum, a particularly important consideration in this project given the prevailing mistrust between communities and mining operators and the active land and service-delivery disputes in the area.

7 Receiving Environment

The impacts of a project on people can only be understood within their environmental and social context. This section describes the receiving social environment at provincial, district and local levels, and then sets out the site-specific conditions recorded during fieldwork. The social environment encompasses the physical surroundings, social relationships and cultural settings within which people live and interact, together with the institutionalised historical power relations embedded within them.

7.1 Provincial and district context

The project is situated in Gauteng Province, South Africa's smallest province by area but its most populous, and the economic powerhouse of the country. Although gold mining's relative contribution has declined, the province retains a strong historical association with the gold-mining industry, especially on the West Rand. At district level the project falls within the West Rand District Municipality (WRDM), historically shaped by gold and uranium mining and now the poorest-performing region in Gauteng in terms of GDP contribution. Economic restructuring following mine closures has produced a dual labour market, a small core of formal mining and government employment alongside a larger share of informal, precarious work, high youth unemployment, and growing reliance on social grants. The WRDM IDP prioritises the revitalisation of mining towns and a transition to a 'green and sustainable' economy under the slogan 'Green is the New Gold'.

7.2 Merafong City Local Municipality

Merafong City Local Municipality is the largest of the three local municipalities in the West Rand District and lies about 65 km south-west of Johannesburg, encompassing Carletonville, Fochville and Wedela as well as several mining settlements and rural farming zones. Its development is rooted in the discovery of gold in the West Wits Basin in the 1930s, and its settlement patterns, infrastructure and economy were shaped by mining for decades. The terrain is dolomitic, with associated sinkhole risk. The economy remains tied to mining but has contracted sharply through closures, resource depletion and retrenchments; the municipality is pursuing diversification under its 'Reimagining Merafong 2035' strategy. Mining now contributes only about 3% of local Gross Value Added, with transport and logistics, business services, construction and trade contributing larger shares.

7.2.1 Demographic and socio-economic profile

- *Population and households*: Merafong's population was about 225 476 in 2022, up roughly 14% from 197 520 in 2011, slower than the provincial average, reflecting mining decline and out-migration. The average household size is small (about 2.9 persons), consistent with single-person and migrant-worker households typical of mining regions.

- *Population composition*: The population is predominantly Black African (about 89%), followed by White (about 9%), Coloured and Indian/Asian groups. Some wards (for example those including Deelkraal and parts of Fochville) retain a higher White population share.

- *Language*: The dominant home languages are Setswana, isiXhosa and Sesotho, with Afrikaans and English more common in certain wards. Engagement should be conducted primarily in Setswana, isiXhosa and Sesotho, supported by Afrikaans and English where appropriate.

- *Employment and income:* Employment patterns reflect the declining mining economy, with high unemployment (particularly among youth), a significant economically inactive share, and growing reliance on informal work and social grants. A substantial share of households fall in the lower-income brackets, and a notable proportion earn very low annual incomes.

- *Dependency and poverty*: Dependency ratios have risen (to about 41% in Merafong), and although multidimensional poverty has eased slightly, structural poverty linked to unemployment and dependency persists, especially in wards affected by mine closures.

- *Services:* Service coverage is relatively high at municipal-average level – most households have access to municipal water, piped water, flush sanitation, electricity for lighting and weekly refuse removal – but there are marked intra-ward disparities, and the fieldwork (below) shows that this average masks acute, localised service-delivery failure in some settlements.

The study area includes or borders Wards 5, 11, 12, 14, 20, 22, 23 and 27 (2016 ward delineation), comprising long-established mining settlements (including Blyvooruitzicht, West Village, Wedela, Elandsrand and Deelkraal), formal residential areas, informal settlements, smallholdings, farms and tailings storage facilities.

7.3 Site-specific conditions (fieldwork findings)

Fieldwork in the project area revealed a receiving environment under significant social and economic stress, in which the legacy of mine decline, service-delivery failure, crime and tenure insecurity strongly shape how communities are likely to experience the project. The following site-specific conditions were recorded and form an important part of the social baseline.

7.3.1 Deelkraal Village

- Deelkraal Village is a self-contained former mine village with its own water and refuse arrangements, a clinic operating from a privately owned house, a club and a library; children attend school in Elandsrand, Fochville and Carletonville.

- The village has experienced a prolonged loss of electricity supply (reported as several months at the time of fieldwork) following the switching-off of power and the plundering and burning of the local power station and the theft of power-line towers. As a consequence, sewage can no longer be pumped, and the village has relied on water tankering over an extended period.

- The resident population includes a significant number of elderly and vulnerable people, including persons dependent on oxygen. Rentals are comparatively low, and a number of houses (reported as around 38) stand vacant and are subject to vandalism and cable theft.

- There is internal social tension associated with rent and service-payment disputes, and the village is subject to a court-supervised arrangement. Ownership and rental arrangements are contested (see the land-ownership dispute in the stakeholder analysis).

- Despite these pressures, residents described the village as relatively safe internally, with controlled (boom-gate) access and good inter-group relations, and noted aspirations to develop a retirement village and other facilities.

- Residents expressed specific concerns about dust from the proposed TSF, about construction and operational traffic passing through or near the village to reach the TSF, about the condition and maintenance of the private access road, and about the consequences of a potential TSF failure given that the local stream flows towards Potchefstroom.

7.3.2 Farms and smallholdings

- Farming in the area includes cattle and game; for some farms an on-farm dam and stream are the only water source for livestock, game and people, and these depend in part on runoff water associated with the mine.

- Landowners reported persistent theft (including the theft of Eskom infrastructure and the loss of livestock to theft and slaughter), and emphasised that during construction gates must be kept closed and fences kept intact to prevent livestock loss and straying.

- Open excavations and trenches pose a hazard to livestock, as does construction litter (for example plastic and safety tape) which animals may ingest.

- Residents reported seismic tremors and cracking of houses, variously attributed to mining-related seismicity and to dolomitic ground movement.

7.3.3 Informal occupiers and artisanal miners (zama-zamas)

- A small settlement of informal occupiers, reported as a group of men, many said to be foreign nationals, is present in the area, with some having lived there since around 2009 and artisanal mining activity reported from around 2016. Occupants include cattle herders and artisanal miners; family members reportedly do not live on site.

- The occupiers keep livestock (a reported 200–400 cattle, together with goats, pigs and poultry) which graze in the area and are sold at auction, and they cultivate crops including maize, spinach, peppers and chillies. This is reportedly the only cattle kraal in the immediate area, and the occupiers indicated they do not know where they would graze their livestock if they could not remain.

- Occupants were reported to be largely illiterate and to have limited English, which has implications for the accessibility of engagement. Medicinal plants were observed in the area.

- Cultivation and a kraal were observed on the proposed TSF footprint. The occupiers are not present with formal legal authority; nonetheless, their presence raises livelihood, vulnerability and potential-displacement considerations that must be managed in line with international standards, irrespective of tenure status. While the occupiers may not have legal rights to the land,

international human rights standards recognise that all persons are rights-holders, regardless of tenure status. As such, any impacts on their livelihoods, shelter, access to resources or well-being should be identified and managed in a manner consistent with good international industry practice.

7.3.4 Broader settlement conditions

Across the surrounding settlements, fieldwork and consultation recorded very high local unemployment, widespread dependence on social grants, deteriorating municipal services and roads (with some areas only accessible by four-wheel-drive vehicle), substance-abuse and crime problems (including drug dealing and stock theft), insecure tenure and the absence of title deeds for some occupiers, and a strong reluctance among some residents to relocate from mine-linked settlements that are bound up with severance arrangements and a sense of place. Mistrust of both the municipality and mining operators was a recurring theme, and the presence of artisanal mining and infrastructure theft is a pervasive feature of the operating environment. These conditions form the backdrop against which the project's social impacts will be experienced.

8 Stakeholder Identification and Analysis

Stakeholders include all individuals and groups who are affected by, or can affect, a given operation, and consist of individuals, interest groups and organisations. Stakeholder analysis is a deliberate process of identifying the stakeholders of a project and understanding their concerns about, and relationship with, it. It assists the proponent in understanding the local cultural and political context. It is acknowledged that different stakeholder groups have different interests, and that there are individual differences within stakeholder groups. In line with the brief, stakeholders are referred to by group throughout; the names of individuals are not reported.

For this project, a stakeholder is defined as any person or organisation that can be positively or negatively impacted by, or can cause an impact on, the proposed project. The principal stakeholder types are internal stakeholders, government, business, environmental interest groups, societal organisations, and residents and communities (including landowners, land users and informal occupiers).

8.1 Detail of stakeholder groups

Table 8-1 sets out the stakeholder groups identified for the project.

Table 8-1: Stakeholder groups

Stakeholder grouping	Description
Internal stakeholders	The applicant (Randfontein Estates Limited), its holding company (Harmony Gold Mining Company Limited), the board, management, shareholders, and employees involved with the project. Internal stakeholders are generally supportive, as the project extends the life of the operation, supports continued employment, recovers value from historical tailings, and supports tailings-management and dam-safety objectives.
Government – decision-makers and regulators	The Department of Mineral and Petroleum Resources (competent authority); the Department of Water and Sanitation (water use); the Department of Forestry, Fisheries and the Environment, including its Directorate: Biodiversity Conservation; the Gauteng provincial environmental authority; and the South African Heritage Resources Agency.
Government – local and district	Merafong City Local Municipality and the West Rand District Municipality (service delivery, IDP alignment, local economic development, disaster management), and ward councillors and community representatives.
State-owned entities and regulators	Eskom (electricity infrastructure, much of which has been affected by theft in the area); the South African National Roads Agency (SANRAL), which indicated no objection as no roads under its jurisdiction are affected; and the

Stakeholder grouping	Description
	National Nuclear Regulator (given the uranium-bearing nature of the material).
Business and other industry	Local and regional businesses providing primary services (contractors and suppliers) and secondary services (food, hospitality, transport and retail), local SMMEs and informal traders, and neighbouring mining operators (for example Sibanye-Stillwater, which indicated it would participate in engagement).
Environmental and civil-society interest groups	Environmental and sustainability organisations and watchdog bodies (for example the Federation for a Sustainable Environment), and academic and research interests engaging with the project.
Societal organisations and institutions	Community-based organisations, residents' associations and civic structures (including a Deelkraal residents' association reported to be affiliated with national civic and mining-affected-community organisations), schools, churches, and the local clinic.
Residents and communities	Residents of Deelkraal Village, Blyvooruitzicht, Wedela, Elandsrand, West Village and surrounding settlements, including homeowners, tenants and a vulnerable population of elderly and ill residents.
Landowners and land users	Commercial and game farmers and smallholders within or adjacent to the project footprint and pipeline corridors, and the owners of commercial property in the affected settlements.
Property-rights claimants / parties in dispute	Parties who contend that certain portions within the project area were sold to them and should have been transferred, who have registered objections and indicated possible litigation in respect of the project (see Section 8.4).
Informal occupiers and artisanal miners (zama-zamas)	Informal occupiers, cattle herders and artisanal miners present on and around the proposed footprint, including persons cultivating crops and grazing livestock, many reportedly foreign nationals with limited literacy and English.

8.2 Stakeholder matrix

Table 8-2 plots the stakeholder groups according to their ability to influence the project's activities (horizontal axis) and the degree to which they are affected by the project (vertical axis). Directly affected residents, landowners, land users, businesses, contractors and suppliers are most likely to experience both positive and negative impacts but generally have limited influence over the applicant's decisions. Landowners, property-rights claimants and regulators have the greatest ability to influence the project.

Table 8-2: Stakeholder matrix

		Ability to influence the project →		
Degree to which affected		**Low**	**Medium**	**High**
↓	**High**	Directly affected residents and communities; businesses, contractors and suppliers; informal occupiers and artisanal miners	Property-rights claimants / parties in dispute	Directly affected landowners and land users
	Medium	Neighbouring farmers and residents	State-owned entities and regulators; environmental and civil-society groups; neighbouring operators	Government decision-makers and regulators; local and district government
	Low	Societal organisations; general public	Academic / research interests	Internal stakeholders (the applicant)

8.3 Summary of stakeholder groups and issues raised

Table 8-3 summarises the key issues and concerns raised by the principal stakeholder groups during fieldwork and consultation, together with their expectations and recommendations. Issues are attributed to groups, not individuals.

Table 8-3: Stakeholder key issues and concerns

Stakeholder group	Key issues / concerns raised	Expectations / recommendations
Deelkraal Village residents and property owners	Prolonged loss of electricity and the resulting failure of sewerage pumping and reliance on tanker water; vacant and vandalised housing; the presence of a vulnerable elderly and ill population; dust from the proposed TSF; construction and operational traffic routing through or past the village; condition and maintenance of the private access road; security of any new pipeline against theft; and fear of the consequences of a TSF failure given downstream drainage towards Potchefstroom.	Route project access away from the village where possible; ensure security of infrastructure; maintain the access road if used; provide dust control; engage the village (including its vulnerable residents) in emergency-preparedness planning; and clarify how construction access will be obtained.
Commercial and game farmers / landowners	Dependence on the on-farm dam, stream and mine-associated runoff for livestock, game and domestic water; theft of livestock and infrastructure; risk to livestock from open	Agree farm-access, gate-and-fence, communication and compensation protocols before construction; protect and avoid

Stakeholder group	Key issues / concerns raised	Expectations / recommendations
	trenches, ingestion of construction litter, and straying through open gates or damaged fences; and reported seismic tremors and structural cracking.	disrupting shared water sources; secure infrastructure against theft; and maintain a single, consistent point of contact.
Commercial property owners in affected settlements	Long-running dust concerns and air-quality monitoring; the cost of obtaining independent environmental advice; the perception that mining operators do not adequately discharge social responsibility; deteriorating roads and municipal services; the view that settlements should not lie in the path of a potential TSF failure; and the perceived lack of maintenance of existing tailings facilities.	Demonstrate genuine and sustained social investment and responsibility; provide credible, accessible monitoring information; site and design infrastructure to protect settlements; and improve the maintenance of facilities and access roads used by the project.
Property-rights claimants / parties in dispute	A contention that certain portions within the project area were sold and should have been transferred, and that the applicant accordingly lacks the surface rights to undertake activities on the affected properties; objection to the project on those grounds; concern about an unlined facility, seepage, acid mine drainage and cumulative impacts on downstream water resources; and the adequacy of public participation. The parties have indicated that legal remedies may be pursued.	Recognition of the ownership dispute as a material issue; consideration of supporting documentation once submitted; reconsideration of the footprint should ownership claims be substantiated; ongoing engagement; and accurate reflection of concerns in project documentation (see Section 8.4).
Informal occupiers and artisanal miners (zama-zamas)	Loss of grazing land and the only kraal in the area, and of cultivated plots, should the footprint be developed; uncertainty about where livestock could be grazed; and limited literacy and English, which affect access to information and engagement.	Accessible engagement appropriate to literacy and language; consideration of livelihood and vulnerability impacts in line with international standards on involuntary resettlement and livelihood restoration, irrespective of tenure status; and management of the interface between project activities and artisanal mining.
Residents' associations and civic structures	Expectations of community beneficiation in line with government guidance (including local business development, employment, project lifespan and area development), and the desire for a meaningful and ongoing relationship with the project.	Establish a meaningful, structured engagement relationship; clarify the roles of the applicant and the EAP; respond to beneficiation expectations through the SIA, SLP and community-development processes; and provide opportunities to comment and attend public meetings.

Stakeholder group	Key issues / concerns raised	Expectations / recommendations
Regulators and government	Protection of surface and groundwater resources and prevention of acid mine drainage and seepage; comprehensive air-quality and dust management; assessment of socio-economic impacts including displacement and livelihoods; biodiversity and heritage protection; and accessible, multilingual public participation. SANRAL indicated no objection as no roads under its jurisdiction are affected.	Address water, air-quality, biodiversity, heritage and social concerns in the EIA and specialist studies; hold accessible public meetings; and provide executive summaries in Afrikaans in addition to English.
General interested and affected parties / academic interests	Interest in being kept informed, and in participating; concern about heritage and species loss and wetland impacts; questions about the types of jobs that will be available and the prioritisation of local people; and a request that employment opportunities be shared first with those who participated in the process.	Provide ongoing information, maps and accessible materials; clarify employment types and recruitment processes; and prioritise host and neighbouring communities for employment opportunities.

8.4 The land-ownership dispute

A material land-ownership dispute affects certain portions within the project area. Parties contend that the applicant entered into a historical commercial transaction in terms of which various portions of land and associated surface rights were sold; that payment was made; and that settlement arrangements were reached regarding the transfer of specific parcels and the completion of rehabilitation activities. On this basis, the parties argue that the applicant is proposing activities on land that, in their view, should have been transferred and over which the applicant no longer holds the relevant surface rights, and they have objected to the project and indicated that litigation may be pursued. The parties referred to agreements, correspondence, payment records, maps and other documentary evidence which they indicated would be submitted to the project team.

The SIA does not seek to determine the legal merits of the ownership dispute, and the matters raised are recorded as stakeholder positions rather than as findings of fact. The existence of the dispute is, however, relevant to the assessment because it has the potential to influence stakeholder perceptions, community relations, project legitimacy, future land-use planning, livelihood opportunities, land access and the project's social licence to operate. Should the ownership claims ultimately be substantiated, the dispute may also have implications for land access and project implementation. For these reasons the dispute warrants consideration in the broader assessment, and the concerns raised should be brought to the

attention of the project team for appropriate consideration and response, with any supporting documentation reviewed once received.

8.5 Vulnerable and disadvantaged groups

The following groups within the project area of influence may experience the adverse impacts of the project more acutely than others or may be at risk of exclusion from its benefits, and require specific attention.

Table 8-4: Vulnerable and disadvantaged groups in the project area

Vulnerable / disadvantaged group	Characteristics	Specific vulnerabilities or risks
Elderly and ill residents of Deelkraal Village	Older persons and persons with health conditions (including reported dependence on oxygen) in a settlement experiencing service-delivery failure.	Heightened vulnerability to service disruption, dust and emergency situations (including TSF failure); reduced mobility for evacuation; and limited capacity to absorb additional stress.
Informal occupiers and artisanal miners	Occupiers, herders and cultivators on and near the footprint, many reportedly foreign nationals with limited literacy and English and insecure tenure.	Risk of displacement and loss of grazing and cultivation livelihoods; exclusion from information and engagement; and limited capacity to assert rights or negotiate, irrespective of tenure status.
Unemployed youth	High youth unemployment with limited access to training and work experience, and associated substance-abuse vulnerabilities.	Raised expectations and potential frustration if local jobs do not materialise; risk of involvement in crime or antisocial behaviour; and competition and tension over scarce opportunities.
Women and female-headed households	Underrepresented in formal employment and local decision-making, with greater household-care responsibilities.	Risk of exclusion from project benefits and engagement; and increased exposure to gender-based violence and health risks associated with population influx.
Tenants and occupiers without secure tenure or title	Households occupying mine-linked housing or land without formal title or secure rental arrangements, in a contested tenure environment.	Insecurity of housing and income; vulnerability to disputes and relocation; and limited recourse.
Local SMMEs and informal traders	Small enterprises and traders operating with limited capital, information and market linkages.	Risk of exclusion from procurement due to compliance capacity and competition from external contractors.

9 Description of Potential Social Impacts

As Vanclay observes, “almost all projects almost always cause almost all impacts; therefore, more important than predicting impacts is having ongoing monitoring and adaptive management.” Accordingly, this assessment focuses on the most material impacts and emphasises active, adaptive management over once-off prediction and mitigation. Impacts are assessed from a community perspective; where an impact falls on a specific group it is identified as such. It must be remembered that the social impacts of the project began when it was announced, and that management should begin as early as possible and continue to closure.

A defining feature of this project is that it is proposed within an environment that is already heavily impacted by mining and by acute socio-economic stress. Many of the potential impacts therefore represent the continuation or intensification of existing impacts rather than entirely new ones. Many of the underlying issues such as service-delivery failure, unemployment, crime and tenure insecurity, have historic roots and relate to predecessors of the current operation, to the failure of government at various levels to deliver services, and to the broader socio-economic conditions in the area, and they cannot be attributed to, or resolved by, the project alone.

9.1 Social change processes

The principal social change processes that the project is likely to set in motion include: demographic processes (a potential influx of jobseekers); economic processes (employment, procurement and income, and competition for these); geographic processes (changes in land use and access along the TSF footprint and pipeline corridors); institutional and legal processes (the land-ownership dispute, engagement and grievance handling, and regulatory interactions); and socio-cultural processes (changes in sense of place and perceptions of risk). Whether these processes result in social impacts, and how severe those impacts are, depends on the characteristics of the host communities and on the extent and success of mitigation.

9.2 Key social impacts

9.2.1 Heightened community expectations (employment and procurement)

The announcement of the project has raised expectations of employment, procurement and beneficiation in an area of very high unemployment and acute need. If expectations are not transparently managed, the result can be frustration, disappointment, conflict between beneficiaries and non-beneficiaries, and damage to community relations and the social licence. This is a negative impact that begins in the planning

phase and that can largely be mitigated through transparent, multilingual communication about the type, number and timing of opportunities and the recruitment and procurement processes.

9.2.2 Employment, skills development and procurement opportunities

The project will create temporary employment during construction and a smaller number of longer-term opportunities during operation, together with procurement and SMME opportunities and the potential for skills development. These are positive impacts. They can be enhanced by prioritising host and neighbouring communities, maintaining transparent local labour desks, procuring goods and services locally as far as reasonably possible, and supporting capacity-building and supplier development. Barriers to entry for local SMMEs (certification, capacity and capital) should be actively addressed.

9.2.3 Influx of jobseekers

The prospect of employment may attract jobseekers and opportunistic settlers, placing pressure on already-stressed housing, services and social systems and potentially encouraging informal settlement. Given the existing skills base in this mining region, a large influx is not inevitable, but the risk is real and should be managed through an Influx Management Plan developed with local authorities, clear communication that recruitment will prioritise local people, and discouragement of spontaneous settlement near the TSF and servitudes.

9.2.4 Nuisance impacts: dust, noise, traffic and visual intrusion

Construction and operational activities, heavy-vehicle movement and the TSF itself will generate dust, noise, traffic and visual intrusion, affecting nearby settlements (notably Deelkraal Village and Blyvooruitzicht) and farms. Dust is already a significant concern in the area. These impacts can be reduced through dust suppression, progressive vegetation of completed TSF sections, scheduling and management of vehicle movements, adherence to speed limits near settlements, and a monitoring programme with results communicated to communities. Visual and sense-of-place impacts are more difficult to mitigate fully and require early, honest communication about the footprint, design and timing.

9.2.5 Community safety, crime and infrastructure theft

The area experiences high levels of crime, including stock theft, the theft of Eskom and other infrastructure, and artisanal mining, and the destruction of the local power station illustrates the scale of the risk. New pipelines and infrastructure may be targeted (including in the mistaken belief that pipelines carry gold), and the influx of workers and vehicles can increase petty crime and affect community safety.

A Community Safety Plan should be developed with local law enforcement and existing community security initiatives; infrastructure should be secured; and a Code of Conduct, identification of all project personnel, and induction training should be enforced. The interface between project activities and artisanal mining requires specific, carefully managed attention.

9.2.6 Impacts on farming livelihoods and shared water sources

Construction along pipeline corridors and around the TSF may disturb farming operations, damage fences, leave gates open or create open excavations that endanger livestock, and generate litter that animals may ingest. Some farms depend on shared water sources (an on-farm dam, a stream and mine-associated runoff) for livestock, game and domestic use, and disruption of these would have serious consequences. Farm-access, fencing, communication and compensation protocols should be agreed with affected landowners before construction; productive and occupied land should be avoided where possible; shared water sources should be protected; and disturbed areas should be restored.

9.2.7 Access and disturbance associated with Deelkraal Village

Routing construction and operational access through or past Deelkraal Village would expose a settlement with a vulnerable population to additional traffic, dust, noise and safety risk, and residents have expressed a clear preference that access not pass through the village. Access should be routed away from the village where feasible; where the private access road is used, it should be maintained; and the village should be engaged on access arrangements.

9.2.8 Potential displacement and loss of livelihood of informal occupiers

The proposed footprint is used by informal occupiers for grazing (the only kraal in the area) and cultivation. Although these occupiers are not present with formal legal authority, their potential physical and economic displacement raises livelihood and vulnerability impacts that must be managed in line with international standards on involuntary resettlement and livelihood restoration. Engagement must be accessible given limited literacy and English; alternatives for grazing and cultivation should be considered; and vulnerability should be recognised irrespective of tenure status. The interface with artisanal mining must be managed in a manner that protects safety and human rights.

9.2.9 Fear of TSF or pipeline failure and water contamination (GISTM)

This is the most significant subjective impact and the one most directly engaged by the GISTM. Communities living close to TSFs carry a persistent fear of failure, reinforced by the memory of past South

African and international tailings disasters, and this fear is heightened where local drainage reports towards downstream water users – here, towards the Mooi River system and the Boskop and Potchefstroom dams. Concerns about seepage, acid mine drainage and cumulative contamination compound this fear. The proposed lined TSF design reduces seepage and groundwater-contamination risk, and detailed surface- and groundwater and dam-break modelling will be undertaken; from a social perspective, the operator must meaningfully engage affected people and downstream users in emergency-preparedness and response planning, give specific consideration to vulnerable residents, communicate design and monitoring information accessibly, operate a grievance mechanism, and comply fully with the GISTM throughout the life of the facility.

9.2.10 Cumulative impacts

The project must be assessed against a baseline that is already shaped by extensive mining, multiple tailings facilities, service-delivery failure and socio-economic decline, rather than on a clean slate. The cumulative effect of adding a further facility to an already-stressed environment – in terms of dust, water, perceived risk and pressure on services – is a material consideration. Equally, the project's re-use of historical tailings and recycling of process water, and the avoidance of new greenfield mining disturbance, are cumulative benefits. Active, adaptive management and credible monitoring are essential to managing cumulative perceptions and trust.

9.2.11 Decommissioning and closure

At decommissioning and closure, the loss of project-related employment and income, and post-closure uncertainty regarding TSF stability and land use, are negative impacts. These should be managed through early closure planning, retrenchment procedures and portable-skills training, progressive rehabilitation and long-term stability monitoring, clear communication of closure timelines and safety measures, and the continued application of the GISTM and a closure-stage grievance mechanism.

9.3 Impact significance ratings

The tables below provide indicative significance ratings for the principal impacts, before and after mitigation, using the methodology set out in Annexure 1. Ratings are expressed as Low, Medium or High (negative or positive). Consistent with the adaptive nature of social impacts, these ratings should be revisited through ongoing monitoring. **See Annexure 2 for detailed Impact Assessment Tables**.

Table 9-1: Impact ratings – planning and construction phase

Impact	Phase	Nature	Significance (pre-mitigation)	Significance (post-mitigation)
Heightened community expectations (employment / procurement)	Planning / Construction	Negative	Medium to high neg	Low neg
Employment, skills development and procurement opportunities	Construction	Positive	Medium to high pos	Medium to high pos
Influx of jobseekers and opportunistic settlement	Construction	Negative	Medium to high neg	Low neg
Nuisance: dust, noise, traffic and visual intrusion	Construction	Negative	Medium to high neg	Low neg
Community safety, crime and infrastructure theft	Construction	Negative	High neg	Medium to high neg
Impacts on farming livelihoods and shared water sources	Construction	Negative	Medium to high neg	Low neg
Access and disturbance through / past Deelkraal Village	Construction	Negative	Medium to high neg	Low neg
Potential displacement / livelihood loss of informal occupiers	Planning / Construction	Negative	High neg	Medium to high neg

Table 9-2: Impact ratings – operational and closure phase

Impact	Phase	Nature	Significance (pre-mitigation)	Significance (post-mitigation)
Long-term employment and procurement opportunities	Operation	Positive	Medium to high pos	Medium to high pos
Continued nuisance (dust and visual intrusion)	Operation	Negative	Medium to high neg	Low neg
Fear of, and exposure to, TSF / pipeline failure and seepage	Operation	Negative	High neg	Medium to high neg
Cumulative impact on an already-stressed environment	Operation	Negative	Medium to high neg	Medium to high neg
Re-use of historical tailings; recycling of process water; avoided greenfield mining	Operation	Positive	Medium to high pos	Medium to high pos
Loss of employment and income at closure	Decommissioning	Negative	Medium to high neg	Low neg

Impact	Phase	Nature	Significance (pre-mitigation)	Significance (post-mitigation)
Post-closure safety and land-use uncertainty	Decommissioning / Closure	Negative	Medium to high neg	Low neg

No impact is rated as a fatal flaw. The impacts of highest concern – community safety and infrastructure theft, the potential displacement of informal occupiers, and the fear of and exposure to a TSF or pipeline failure – can be reduced to medium significance through the diligent application of the management measures set out in the SIMP, but they require sustained commitment and cannot be addressed through once-off measures.

10 Social Impact Management Plan (SIMP)

The Social Impact Management Plan sets out the management actions required to avoid, minimise and manage negative social impacts and to enhance positive outcomes. The plan is not a once-off exercise: it should be implemented from the planning phase, sustained through to closure, and reviewed and updated regularly (at least annually) as conditions and stakeholder interests change. Stakeholders should provide input into the plan and its supporting instruments.

Table 10-1: Social Impact Management Plan

#	Management action	Phase / timing	Responsibility	Monitoring / output
1	Maintain and adequately resource a Stakeholder Relations function, including a Stakeholder Relations Manager and a Community Liaison Officer (CLO) who is trusted by, and accessible to, affected communities.	All phases	Applicant management	A functioning Stakeholder Relations function with a designated CLO
2	Operate a community-friendly grievance mechanism developed with communities and landowners; maintain a grievance register; check it regularly; and provide regular feedback to communities.	All phases	Stakeholder Relations Manager; CLO	Grievance register and monthly feedback reports
3	Develop and implement a transparent communication and expectation-management strategy covering the type, number and timing of opportunities and the recruitment and procurement processes, in Setswana, isiXhosa and Sesotho, supported by Afrikaans and English.	Planning; Construction; Operation	Stakeholder Relations Manager; CLO	Communication strategy; community briefings; public notices
4	Develop and implement an Influx Management Plan in coordination with local authorities; communicate that recruitment prioritises local people; and discourage spontaneous settlement near the TSF and servitudes.	Planning; Construction	Applicant; local authorities	Influx Management Plan; monitoring records
5	Develop and implement a Community Safety Plan with local law enforcement and existing community-security initiatives; secure project infrastructure against theft; and manage the interface with artisanal mining.	Construction; Operation	Safety Manager; CLO; SAPS / local security	Community Safety Plan; incident records
6	Adopt and enforce a Code of Conduct for all staff and contractors; require visible	Construction; Operation	Applicant; contractors	Signed Code of Conduct;

#	Management action	Phase / timing	Responsibility	Monitoring / output
	identification; and conduct induction training before site access.			induction records
7	Agree farm-access, gate-and-fence, communication and compensation protocols with affected landowners before construction; avoid productive and occupied land where possible; protect shared water sources; and restore disturbed areas.	Planning; Construction	Applicant; affected landowners	Signed access and compensation protocols; restoration records
8	Route project access away from Deelkraal Village where feasible; where the private access road is used, maintain it; and engage the village on access arrangements.	Construction; Operation	Applicant; CLO	Access route plan; maintenance records
9	Address the situation of informal occupiers and artisanal land users in line with international standards on involuntary resettlement and livelihood restoration; engage accessibly given limited literacy and English; and recognise vulnerability irrespective of tenure status.	Planning; Construction	Applicant; specialist support; CLO	Livelihood / resettlement approach consistent with IFC PS5
10	Maximise local employment and procurement within realistic skill constraints; operate local labour desks; support SMME participation and capacity building; and prioritise host and neighbouring communities.	Construction; Operation	Applicant; local business chamber	Local labour and procurement records; supplier agreements
11	Implement the dust, noise and visual mitigation measures recommended in the specialist studies, with a monitoring programme and results communicated to communities.	Construction; Operation	Applicant; environmental team	Monitoring data; community feedback forums
12	Fully implement the social-performance requirements of the GISTM for the existing and new TSF – human-rights due diligence, meaningful engagement, grievance handling, emergency preparedness co-developed with affected people, and public disclosure.	All phases (life of the TSF)	TSF Engineer; Accountable Executive; Stakeholder Relations Manager	As prescribed by the GISTM
13	Co-develop Emergency Preparedness and Response Plans with employees, contractors and affected people (including downstream users and vulnerable residents), and engage public-sector agencies on medium- and long-term recovery.	Operation; Closure	Safety Manager; TSF Engineer; CLO	EPRP; engagement records; drills

#	Management action	Phase / timing	Responsibility	Monitoring / output
14	Refer the land-ownership dispute to the appropriate project representatives; review supporting documentation once received; and ensure concerns are accurately reflected and responded to in the EIA documentation.	Planning; Construction	Applicant; legal; EAP	Dispute recorded and responded to in the public participation record
15	Plan for closure early, including retrenchment procedures, portable-skills training, progressive rehabilitation, long-term stability monitoring, and clear communication of closure timelines and safety measures.	Operation; Decommissioning; Closure	Applicant; Stakeholder Relations Manager	Closure and social transition plan

11 Stakeholder Engagement Plan

Because social impacts begin in the planning phase, stakeholder engagement should start as early as possible and continue throughout the life of the project. A Stakeholder Engagement Plan outlines the applicant's approach to communicating efficiently with stakeholders and should be updated at least annually to remain relevant and to capture new information. Stakeholders should provide input into the plan.

The plan should, as a minimum:

- Identify and segment stakeholders (using the analysis in Section 8) and tailor engagement to each group, giving particular attention to vulnerable groups and to accessibility (language, literacy, location and timing of meetings);
- Provide for engagement in the dominant local languages – Setswana, isiXhosa and Sesotho – supported by Afrikaans and English, with accessible materials (including maps and plain-language summaries) and executive summaries in Afrikaans;
- Establish clear, consistent communication channels through a single point of contact (the CLO) and structured community forums with representation from affected settlements;
- Integrate the grievance mechanism, so that concerns can be raised, recorded, tracked and responded to, with feedback to communities;
- Provide for meaningful engagement of affected people (including downstream users and vulnerable residents) in emergency-preparedness and response planning, consistent with the GISTM;
- Disclose project information regularly and respond to reasonable requests for additional information, consistent with the GISTM's public-disclosure requirements; and
- Be monitored, reviewed and updated regularly, recognising that stakeholder interests change between the construction and operational phases.

Engagement should be approached as a relationship rather than a compliance exercise. Given the prevailing mistrust of mining operators and the municipality, the unmet beneficiation expectations, and

the active land and service-delivery disputes, the credibility of engagement will depend on the applicant demonstrably following through on commitments over time.

12 Conclusions and Recommendations

The proposed Deelkraal II TSF and associated infrastructure are located in a long-established mining landscape characterised by mine decline, high unemployment, poverty, service-delivery failure, crime, tenure insecurity and the presence of artisanal mining. Against this backdrop, many of the project's social impacts represent the continuation or intensification of existing impacts rather than entirely new ones, and many of the underlying problems have historic and structural roots that lie beyond the project's control.

From a social perspective, no fatal flaw was identified. The project carries genuine potential for positive impacts – employment and skills development, local procurement, the productive re-use of historical tailings, the recycling of process water, and the avoidance of new greenfield mining disturbance – and these benefits would fall away if the project did not proceed. At the same time, the project carries material negative impacts, of which community safety and infrastructure theft, the potential displacement and livelihood loss of informal occupiers, and the fear of and exposure to a TSF or pipeline failure are the most significant. These can be reduced to manageable levels, but only through the sustained, adaptive implementation of the management measures in the SIMP.

The following recommendations are made:

- Maintain and resource a functional Stakeholder Relations function with a trusted, accessible CLO.
- Implement and sustain a community-friendly grievance mechanism developed with affected communities and landowners.
- Develop and implement a transparent, multilingual communication and expectation-management strategy for employment and procurement.
- Develop and implement an Influx Management Plan and a Community Safety Plan with local authorities and community-security initiatives, and secure project infrastructure.

- Agree farm-access, fencing, communication and compensation protocols with affected landowners before construction, and protect shared water sources.
- Route access away from Deelkraal Village where feasible and maintain any access road used by the project.
- Address the situation of informal occupiers and artisanal land users in line with international resettlement and livelihood-restoration standards, recognising vulnerability irrespective of tenure status.
- Fully implement the social-performance requirements of the GISTM for the existing and new TSF, including emergency preparedness co-developed with affected people and downstream users, and public disclosure.
- Ensure that social requirements in the mitigation measures are included in contracts with contractors and sub-contractors.
- Refer the land-ownership dispute to the appropriate project representatives, review supporting documentation once received, and ensure concerns are accurately reflected and responded to in the EIA documentation.

It is recommended that the project be supported from a social perspective, on condition that the recommendations above and the measures in the SIMP are implemented and incorporated into the conditions of the Environmental Authorisation.

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14 Annexure 1: Impact Assessment Criteria

The impact tables and ratings were adapted from the environmental sciences, and it is acknowledged that it is not always possible to compartmentalise social impacts; allowance for the changing and adaptive nature of social impacts should be made when interpreting the impact tables. The significance-rating methodology is guided by the requirements of the NEMA EIA Regulations 2014 (as amended).

The approach determines the risk (R) of an impact by considering its consequence (C) and the probability (P) of its occurrence. Consequence is determined from the Nature (N), Extent (E), Duration (D), Magnitude (M) and Reversibility (R) of the impact, as follows:

$$C = ((E + D + M + R) \times N) / 4$$

Risk is then calculated as R = C × P. A prioritisation factor (PF), derived from the potential for cumulative impact and irreplaceable loss of resources, is applied to the post-mitigation risk to determine the final significance (S). The rating scales are summarised below.

Table A1: Criteria for determination of consequence

Aspect	Score	Definition
Nature	- 1	Likely to result in a negative/ detrimental impact
	+1	Likely to result in a positive/ beneficial impact
Extent	1	Activity (i.e. limited to the area applicable to the specific activity)
	2	Site (i.e. within the development property boundary),
	3	Local (i.e. the area within 5 km of the site),
	4	Regional (i.e. extends between 5 and 50 km from the site
	5	Provincial / National (i.e. extends beyond 50 km from the site)
Duration	1	Immediate (<1 year)
	2	Short term (1-5 years),
	3	Medium term (6-15 years),
	4	Long term (the impact will cease after the operational life span of the project),
	5	Permanent (no mitigation measure of natural process will reduce the impact after construction).

Magnitude/ Intensity	1	Minor (where the impact affects the environment in such a way that natural, cultural and social functions and processes are not affected),
	2	Low (where the impact affects the environment in such a way that natural, cultural and social functions and processes are slightly affected),
	3	Moderate (where the affected environment is altered but natural, cultural and social functions and processes continue albeit in a modified way),
	4	High (where natural, cultural or social functions or processes are altered to the extent that it will temporarily cease), or
	5	Very high / don't know (where natural, cultural or social functions or processes are altered to the extent that it will permanently cease).
Reversibility	1	Impact is reversible without any time and cost.
	2	Impact is reversible without incurring significant time and cost.
	3	Impact is reversible only by incurring significant time and cost.
	4	Impact is reversible only by incurring prohibitively high time and cost.
	5	Irreversible Impact

Table A2: Probability scoring

Score	Definition
1	Improbable (the possibility of the impact materialising is very low as a result of design, historic experience, or implementation of adequate corrective actions; <25%),
2	Low probability (there is a possibility that the impact will occur; >25% and <50%),
3	Medium probability (the impact may occur; >50% and <75%),
4	High probability (it is most likely that the impact will occur- > 75% probability), or
5	Definite (the impact will occur),

Table A3: Criteria for the determination of prioritisation.

Aspect	Score	Definition
Cumulative Impact (CI)	Low (1)	Considering the potential incremental, interactive, sequential, and synergistic cumulative impacts, it is unlikely that the impact will result in spatial and temporal cumulative change.

	Medium (2)	Considering the potential incremental, interactive, sequential, and synergistic cumulative impacts, it is probable that the impact will result in spatial and temporal cumulative change.
	High (3)	Considering the potential incremental, interactive, sequential, and synergistic cumulative impacts, it is highly probable/definite that the impact will result in spatial and temporal cumulative change.
Irreplaceable loss of resources (LR)	Low (1)	Where the impact is unlikely to result in irreplaceable loss of resources.
	Medium (2)	Where the impact may result in the irreplaceable loss (cannot be replaced or substituted) of resources but the value (services and/or functions) of these resources is limited.
	High (3)	Where the impact may result in the irreplaceable loss of resources of high value (services and/or functions).
Degree of Confidence	Low	<30% certain of impact prediction
	Medium	>30% and <60% certain of impact prediction
	High	>60% certain of impact prediction

Each impact is rated before mitigation (pre-mitigation) and after the implementation of management and mitigation measures (post-mitigation), allowing the degree to which an impact can be managed to be assessed. The prioritisation factor is applied to the post-mitigation risk to account for cumulative impacts and the potential for irreplaceable loss of resources.

15 Annexure 2: Impact ratings

Impact	Phase	Pre-Mitigation									Post-Mitigation									Confidence	Impact Prioritisation		Priority Factor	Final Score	Final Significance Score
		Nature	Extent	Duration	Magnitude	Reversibility	Consequence	Probability	Pre-mitigation ER	Pre-mitigation significanice	Nature	Extent	Duration	Magnitude	Reversibility	Consequence	Probability	Post-mitigation ER	Post-mitigation significance		Cumulative Impact	Irreplaceable Loss			
Heightened community expectations (employment / procurement)	Planning	-1	3	2	3	2	-2,5	4	-10	Medium to high -	-1	2	2	2	1	-1,75	2	-3,5	Low -	Medium	1	1	1,00	-3,50	Low -
Employment, skills development and procurement opportunities	Construction	1	3	2	3	2	2,5	4	10	Medium to high +	1	3	3	3	2	2,75	4	11	Medium to high +	Medium	1	1	1,00	11,00	Medium to high +
Influx of jobseekers and opportunistic settlement	Construction	-1	3	3	4	3	-3,25	3	-9,75	Medium to high -	-1	2	2	2	2	-2	2	-4	Low -	Medium	2	1	1,13	-4,50	Medium to low -
Nuisance: dust, noise, traffic and visual intrusion	Construction	-1	3	2	3	2	-2,5	4	-10	Medium to high -	-1	2	2	2	1	-1,75	2	-3,5	Low -	High	2	1	1,13	-3,94	Low -
Community safety, crime and infrastructure theft	Construction	-1	3	3	4	4	-3,5	5	-17,5	High -	-1	3	3	3	3	-3	4	-12	Medium to high -	Medium	2	1	1,13	-13,50	Medium to high -

Impact	Phase	Pre-Mitigation									Post-Mitigation									Confidence	Impact Prioritisation		Priority Factor	Final Score	Final Significance Score
		Nature	Extent	Duration	Magnitude	Reversibility	Consequence	Probability	Pre-mitigation ER	Pre-mitigation significanice	Nature	Extent	Duration	Magnitude	Reversibility	Consequence	Probability	Post-mitigation ER	Post-mitigation significance		Cumulative Impact	Irreplaceable Loss			
Impacts on farming livelihoods and shared water sources	Construction	-1	3	2	4	3	-3	4	-12	Medium to high -	-1	2	2	2	2	-2	2	-4	Low -	Medium	2	1	1,13	-4,50	Medium to low -
Access and disturbance through / past Deelkraal Village	Construction	-1	2	2	4	2	-2,5	4	-10	Medium to high -	-1	2	2	2	1	-1,75	2	-3,5	Low -	Medium	1	1	1,00	-3,50	Low -
Potential displacement / livelihood loss of informal occupiers	Construction	-1	2	4	5	4	-3,75	5	-18,75	High -	-1	2	3	3	3	-2,75	4	-11	Medium to high -	Medium	1	2	1,13	-12,38	Medium to high -
Long-term employment and procurement opportunities	Operation	1	3	4	3	2	3	4	12	Medium to high +	1	3	4	3	3	3,25	4	13	Medium to high +	Medium	1	1	1,00	13,00	Medium to high +
Continued nuisance (dust and visual intrusion)	Operation	-1	3	4	3	2	-3	4	-12	Medium to high -	-1	2	3	2	1	-2	2	-4	Low -	High	2	1	1,13	-4,50	Medium to low -
Fear of, and exposure to, TSF / pipeline failure and seepage	Operation	-1	4	4	4	4	**-4**	5	-20	High -	-1	4	4	3	3	-3,5	3	-10,5	Medium to high -	Medium	2	2	1,25	-13,13	Medium to high -

Impact	Phase	Pre-Mitigation									Post-Mitigation									Confidence	Impact Prioritisation		Priority Factor	Final Score	Final Significance Score
		Nature	Extent	Duration	Magnitude	Reversibility	Consequence	Probability	Pre-mitigation ER	Pre-mitigation significanice	Nature	Extent	Duration	Magnitude	Reversibility	Consequence	Probability	Post-mitigation ER	Post-mitigation significance		Cumulative Impact	Irreplaceable Loss			
Cumulative impact on an already-stressed environment	Operation	-1	4	4	3	2	-3,25	4	-13	Medium to high -	-1	4	4	3	2	-3,25	3	-9,75	Medium to high -	Medium	3	2	1,38	-13,41	Medium to high -
Re-use of historical tailings; recycling of process water; avoided greenfield mining	Operation	1	3	4	3	2	3	4	12	Medium to high +	1	4	4	3	2	3,25	4	13	Medium to high +	Medium	1	1	1,00	13,00	Medium to high +
Loss of employment and income at closure	Decommissioning	-1	3	3	3	3	-3	4	-12	Medium to high -	-1	2	2	2	2	-2	2	-4	Low -	Medium	1	1	1,00	-4,00	Low -
Post-closure safety and land-use uncertainty	Rehab and Closure	-1	3	5	3	3	-3,5	3	-10,5	Medium to high -	-1	2	4	1	1	-2	2	-4	Low -	Medium	1	1	1,00	-4,00	Low -

16 Annexure 3: Detailed description of the social environment

16.1 Receiving environment

According to the National Environmental Management Act (NEMA, 1998) environment refers to the surroundings in which humans exist. When viewing the environment from a socio-economic perspective the question can be asked what exactly the social environment is. Different definitions for social environment exist, but a clear and comprehensive definition that is widely accepted remains elusive. Barnett & Casper (2001) offers the following definition of human social environment:

> *"Human social environments encompass the immediate physical surroundings, social relationships, and cultural milieus within which defined groups of people function and interact. Components of the social environment include built infrastructure; industrial and occupational structure; labour markets; social and economic processes; wealth; social, human, and health services; power relations; government; race relations; social inequality; cultural practices; the arts; religious institutions and practices; and beliefs about place and community. The social environment subsumes many aspects of the physical environment, given that contemporary landscapes, water resources, and other natural resources have been at least partially configured by human social processes. Embedded within contemporary social environments are historical social and power relations that have become institutionalized over time. Social environments can be experienced at multiple scales, often simultaneously, including households, kin networks, neighbourhoods, towns and cities, and regions. Social environments are dynamic and change over time as the result of both internal and external forces. There are relationships of dependency among the social environments of different local areas, because these areas are connected through larger regional, national, and international social and economic processes and power relations."*

Environment-behaviour relationships are interrelationships (Bell, Fisher, Baum & Greene, 1996). The environment influences and constrains the behaviour of people, but behaviour also leads to changes in the environment. The impacts of a project on people can only be truly understood if their environmental context is understood. The baseline description of the social environment will include a description of the area within a provincial, district and local context that will focus on the identity and history of the area

and a description of the population of the area based on a number of demographic, social and economic variables.

16.1.1 Description of the area

The proposed project is situated within the Merafong City Local Municipality, which forms part of the West Rand District Municipality in Gauteng Province. The project footprint and associated infrastructure are located within, or adjacent to, Wards 5, 11, 12, 14, 20, 22, 23, and 27 (based on the 2016 ward delineation). The baseline description therefore considers conditions within these wards as well as directly neighbouring areas. **Error! Reference source not found.** illustrates the location of the proposed project in relation to the surrounding social and physical infrastructure.

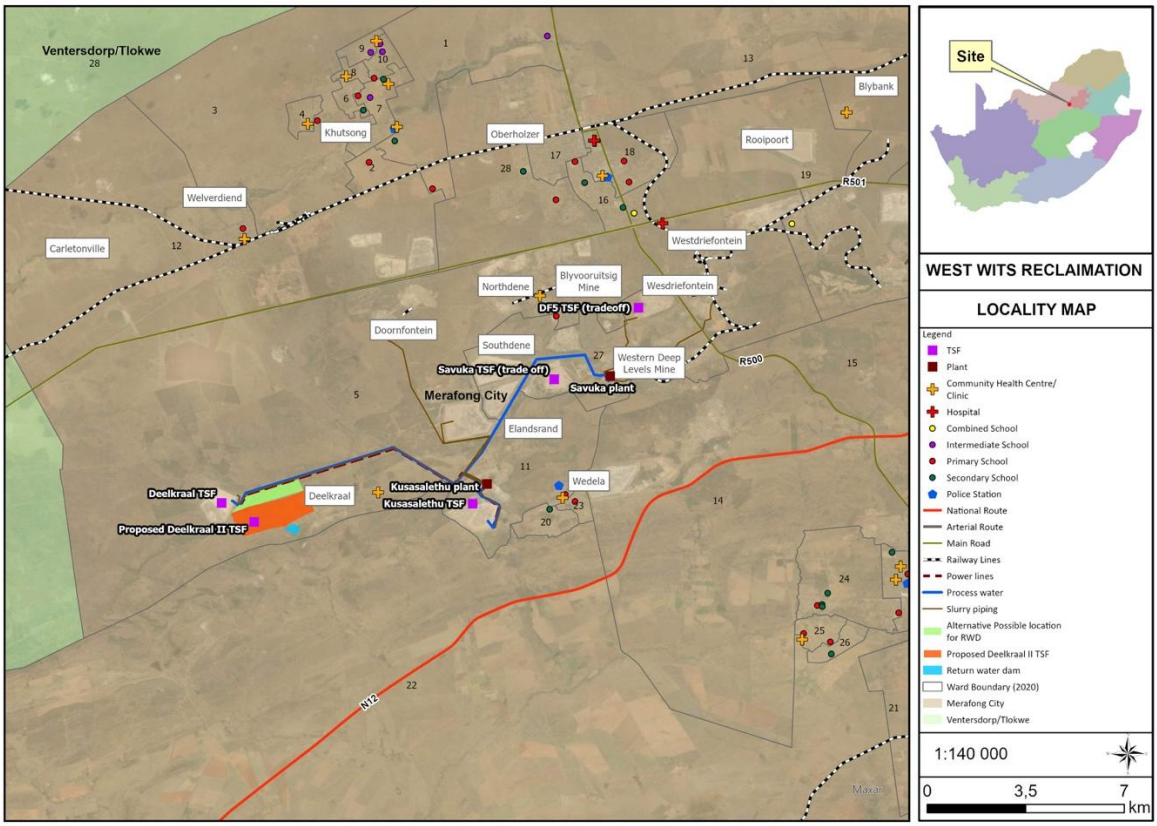


Figure 16-1: Location of the proposed West Wits Reclamation Project.

16.1.1.1 Gauteng Province

Gauteng is South Africa's smallest province by land area, covering only 18 178 km², or approximately 1.4% of the country's total surface area. Despite its small size, Gauteng is the country's most populous province, home to an estimated 13.4 million people (about 24% of the national population). The province lies on

the high interior plateau of the South African Highveld and is bordered by the Free State, North West, Limpopo, and Mpumalanga provinces (www.municipalities.co.za).

Gauteng comprises three metropolitan municipalities and two district municipalities, which are further divided into six local municipalities:

- Metropolitan municipalities: City of Johannesburg, City of Tshwane, and City of Ekurhuleni.
- District municipalities: Sedibeng District Municipality and West Rand District Municipality.
- Local municipalities: Emfuleni, Midvaal, and Lesedi (within Sedibeng); and Mogale City, Merafong City, and Rand West City (within West Rand).

The provincial capital is Johannesburg, South Africa's financial hub and historical centre of the gold-mining industry. Pretoria, within the City of Tshwane, serves as the country's administrative capital (www.grco.ac.za). The province also includes major industrial and residential areas such as the East Rand, West Rand, and Vaal Triangle.

Gauteng remains the economic powerhouse of South Africa and the wider subcontinent, generating approximately one-third of national GDP. The broader Gauteng City-Region, which extends into parts of neighbouring provinces, contributes up to 45% of total national output.

The provincial economy is highly diversified. The most important sectors include finance, real estate, and business services, followed by manufacturing and general government services. Gauteng serves as the financial capital of Africa, hosting the head offices of more than 70 foreign banks and most of South Africa's major banks, insurers, and stockbrokers. The headquarters of leading mining and industrial companies such as Anglo American and De Beers are also based here. Although gold mining's relative contribution has declined, it still accounts for roughly 80% of the province's mineral production.

Beyond Gauteng's borders, the wider urban region extends to towns such as Rustenburg (a global centre for platinum mining), Sasolburg (coal-to-oil production), and Witbank, Middelburg, and Secunda (coal, steel, and energy industries). To the southwest, older mining centres such as Potchefstroom and Klerksdorp remain linked to the region despite slower economic growth following the decline of gold mining.

As South Africa's most economically dynamic province, Gauteng continues to attract internal migrants from across the country and international migrants from elsewhere in Africa. The perception of greater employment, education, and living opportunities has given the province a highly cosmopolitan and diverse population. This constant inflow fuels its economic dynamism but also places increasing pressure on housing, transport, and service infrastructure.

Despite its economic dominance, Gauteng faces persistent inequality, poverty, and unemployment. Wealthy suburbs and business districts exist alongside extensive informal settlements, and spatial patterns of apartheid-era segregation remain entrenched. Youth unemployment remains high, and access to formal economic opportunities is uneven.

While parts of the province enjoy living standards comparable to those of developed-world cities, many residents experience social exclusion and limited access to quality services. These disparities, combined with rapid in-migration, contribute to urban congestion, service delivery pressure, and occasional social tensions, particularly between established residents and newcomers.

16.1.1.2 West Rand District Municipality

At a district level, the project area falls within the West Rand District Municipality (WRDM), a Category C municipality situated in the western part of Gauteng Province. The WRDM covers an area of approximately 4 090 km² and comprises three local municipalities: Mogale City, Merafong City, and Rand West City. The district's administrative seat is in Randfontein.

The West Rand extends from Randfontein in the west to Roodepoort in the east and includes major urban centres such as Krugersdorp, Westonaria, Carletonville, Fochville, and Magaliesburg. It borders Bojanala Platinum District Municipality (North West Province) to the north-west, the City of Tshwane to the north-east, the City of Johannesburg to the east, Sedibeng District Municipality to the south-east, and Dr Kenneth Kaunda District Municipality (North West Province) to the south-west. The district is strategically located within commuting distance of Gauteng's economic core and is traversed by the N12 and N14 national roads, which link the region to Johannesburg, Pretoria, and Rustenburg.

The district's landscape forms part of the Highveld plateau and includes dolomitic terrain, agricultural land, and urban and peri-urban settlements. It is home to the Cradle of Humankind World Heritage Site, which spans parts of Mogale City and Merafong City. This internationally recognised heritage area

represents both a significant tourism asset and an important environmental management area for the district.

While mining has historically dominated land use, parts of Krugersdorp and surrounding areas have increasingly taken on a residential and service-oriented role for people working in Johannesburg and other metropolitan centres. Agricultural activities and eco-tourism also play a growing role in rural portions of the district, especially around Magaliesburg and Muldersdrift.

The West Rand's economy has long been shaped by mining, particularly gold and uranium extraction, but it has diversified over time to include manufacturing, community services, finance, and trade. Despite this diversification, the district remains the poorest-performing region in Gauteng in terms of GDP contribution. Economic restructuring following mine closures and declining production has led to a shift toward secondary industries, small-scale enterprises, and regional logistics (WRDM IDP 2025/26).

Manufacturing and industrial activities are concentrated in Randfontein, Krugersdorp, and Westonaria, while Carletonville and Fochville retain strong ties to the gold-mining industry. The district's close proximity to the Johannesburg and Tshwane metropolitan areas presents opportunities for supply-chain integration, agro-processing, and green industrial development (WRDM IDP 2025/26).

Labour market conditions within the West Rand reflect broader structural challenges associated with the decline of large-scale mining. Many mine-linked settlements have experienced economic stagnation and limited job creation in recent years. The result is a dual labour market, characterised by a small core of formal employment in mining and government sectors, and a larger share of informal, service-oriented, or precarious work (WRDM IDP 2025/26).

Youth unemployment remains high, and there is growing reliance on social grants and informal trade. The district's labour force is therefore increasingly mobile and commuter-based, with residents often travelling to employment centres in Johannesburg and Tshwane. Economic diversification and local enterprise development are key to addressing these structural constraints.

The West Rand District Integrated Development Plan (IDP) 2025/26 identifies the revitalisation of mining towns and the development of a green and sustainable economy as strategic priorities under the slogan "Green is the New Gold." The district seeks to reposition itself through:

- Economic diversification into agro-processing, renewable energy, and tourism;

- Infrastructure renewal and maintenance, including road, water, and sanitation networks;
- The promotion of public-private partnerships to stimulate investment and local economic development; and
- Skills development and youth empowerment programmes aligned with the District Development Model (DDM).

These initiatives aim to strengthen the resilience of the local economy, reduce dependence on mining, and improve long-term socio-economic sustainability across the district.

16.1.1.3 Merafong Local Municipality

The Merafong City Local Municipality is a Category B municipality located in the West Rand District of the Gauteng Province. It is the largest of the three local municipalities in the district, covering approximately 1 630 km², which accounts for nearly half of the district's total land area (www.municipalities.co.za). The municipality lies about 65 kilometres southwest of Johannesburg and is strategically located along major transport corridors, including the N12 (Johannesburg–Cape Town route) and the N14 (Gauteng–Mahikeng via Ventersdorp). The municipal area encompasses Carletonville, Fochville, and Wedela, as well as several mining settlements and rural farming zones. Its boundaries include some of the richest gold deposits in the world.

Merafong's development is deeply rooted in the discovery of gold in the West Wits Basin in the early 1930s. Fochville, the oldest town in the area, was declared in 1951, while Carletonville was established in 1948 following the discovery of the West Wits gold field by Guy Carleton Jones of Gold Fields Ltd. The town was named in his honour and became a key centre for gold mining operations. Wedela, established in 1978 as a mining village between Western Deep Levels and Elandsrand mines, derives its name from these two operations. It gained municipal status in 1990. This strong historical association with mining shaped the municipality's settlement patterns, infrastructure, and economy for decades (Merafong IDP 2025/26).

The municipality's terrain is characterised by dolomitic geology, which has resulted in sinkhole risks that pose significant challenges for land use planning and infrastructure maintenance. The area is also intersected by key rivers and drainage systems, contributing to the broader hydrological network of the West Rand.

The Merafong economy remains closely tied to the mining sector, although this dominance has gradually declined due to mine closures, resource depletion, and restructuring within the gold mining industry. The municipality has been severely affected by retrenchments and reduced gold output, resulting in economic contraction and loss of employment opportunities. As a result, the municipality is pursuing diversification through the "Reimagining Merafong 2035" strategy, which promotes new investment in manufacturing, logistics, renewable energy, and agro-processing sectors (Merafong IDP 2025/26).

According to the latest IDP data, Merafong's main economic sectors by contribution to Gross Value Added (GVA) include:

- Transport and logistics (17.96%)
- Business services (15.25%)
- Construction (13.64%)
- Trade (10.76%)
- Manufacturing (6.49%)
- Mining (2.95%)
- Agriculture (0.03%)

This economic profile highlights the municipality's gradual shift from a mining-dependent economy toward a more service- and trade-oriented structure, though mining still underpins much of its urban and labour landscape.

Labour market patterns in Merafong mirror the broader challenges of post-mining economies. Unemployment levels remain high, particularly among youth and low-skilled workers, while opportunities for re-employment in the formal sector are limited. Many residents commute daily to other employment centres such as Krugersdorp, Randfontein, and Johannesburg. Informal trading, small-scale agriculture, and social grants play an increasing role in sustaining local livelihoods. The municipality's economic revitalisation strategy seeks to address these dynamics through skills development, entrepreneurship support, and partnerships with private investors (Merafong IDP 2025/26).

Merafong's "Reimagining Merafong 2035" strategy envisions an economically sustainable, community-oriented, and safe city. Its six strategic pillars focus on:

- Economic diversification and investment attraction;
- Infrastructure rehabilitation and resilience to dolomitic risk;
- Urban renewal and spatial integration;
- Environmental management and green energy;
- Institutional capacity-building and governance; and
- Youth empowerment and social development (Merafong IDP 2025/26).

The municipality aligns its planning priorities with the West Rand District's "Green is the New Gold" agenda and Gauteng's Growing Gauteng Together (GGT) 2030 strategy, emphasising inclusive economic growth, sustainability, and regional collaboration. Despite financial and infrastructural constraints, Merafong's strategic position within the Gauteng City Region offers opportunities for economic linkages, logistics growth, and renewable energy development (Merafong IDP 2025/26).

16.1.2 Description of the population

The socio-economic baseline assessment focuses on the Merafong City Local Municipality (MCLM) within the West Rand District Municipality, Gauteng Province. The study area comprises the communities and residential areas located in close proximity of the proposed West Wits Reclamation Project. These include wards characterised by long-established mining settlements, formal residential areas, informal settlements, and rural or farming zones. The wards covered are as follows:

- Ward 5: Blyvooruitzicht (The Village), Doornfontein, West Village, and associated tailings storage facilities.
- Ward 11: Wedela and Elandsrand village.
- Ward 12: Deelkraal, Welverdiend (outside the 5 km radius), parts of Khutsong (outside the 5 km radius), farms, and tailings storage facilities.

- Ward 14: Numba Wani residence, West Wits Mining Village, Mohaleshoek informal settlement (the majority of households have been resettled, but there are still some structures visible in the area), farming areas, tailings storage facility, and a portion of Fochville.
- Ward 20: Wedela.
- Ward 22: Farms and smallholdings, tailings storage facility, part of Kokosi.
- Ward 23: Wedela.
- Ward 27: West Wits residences, Blyvooruitzicht (The Hill), and tailings storage facilities.

Wards 5, 11, 14 and 27 are characterised by a high incidence of mining activities, while Wards 12, 20, 22 and 23 have a more heterogeneous socio-economic and land-use profile.

Gold mining has historically been the economic backbone of the Merafong area, shaping its settlement patterns, employment structures, and social dynamics. However, the sector has experienced a steady contraction over the past decade. Nationally, direct employment in gold mining declined by approximately 1.2% between 2022 and 2023, and by 0.9% relative to 2019 levels (pre-COVID-19), reflecting reduced production and cost pressures. Large-scale retrenchments before 2020 significantly affected mine-linked communities such as Blyvooruitzicht, Wedela, and Deelkraal. While the downward trend appears to be stabilising, the socio-economic consequences remain visible in elevated unemployment, increased informal activity, and changing population dynamics across the study area

The primary purpose of this baseline study is to provide a detailed overview of the current socio-economic conditions in the project area. This understanding forms the foundation for identifying and assessing potential social impacts associated with the proposed West Wits Reclamation Project. The analysis explores demographic, social, and economic indicators at provincial, district, local, and ward levels, providing context for potential project-related changes.

The analysis draws primarily on data from Statistics South Africa's Census 2011, Community Survey (CS) 2016, and Census 2022. Where possible, the data will be reviewed on a ward level. Both Census 2022 and Census 2011 were de facto censuses where individuals were counted based on where they were on the census reference night. For Census 2022 the reference night was the night of 2 February 2022 and for

Census 2011 it was the night of 9 October 2011. The results should be viewed as indicative of the population characteristics in the area and should not be interpreted as absolute.

StatsSA released limited data for Census 2022 on 10 October 2023 and will release more detailed data in future following a phased approach. ***The data that was released are only available up to local municipal level, and not on ward level.*** As such the data from Census 2022 will be supplemented by data from Census 2011 and Community Survey 2016. Census 2011 that contains the latest ward level data has been categorised according to the 2016 ward delineations, but not according to the current ward delineations. For this reason, the baseline data according to ward level will be analysed according to the 2016 delineations (Figure 16-2), using the best available corresponding data for each ward. The 2016 and 2020 ward delineations of this area differ slightly.

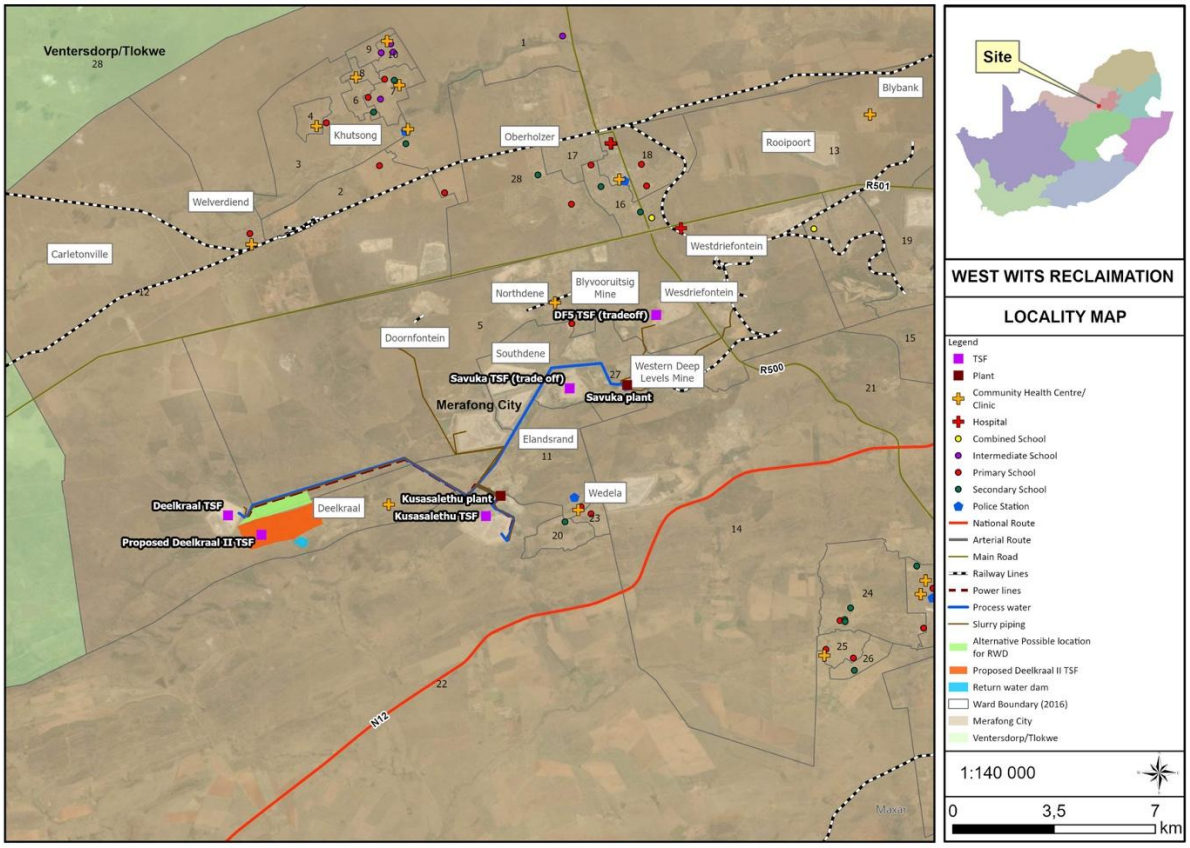


Figure 16-2: Location of the proposed West Wits Reclamation Project (2016 ward boundaries).

Perhaps the most striking feature of Census 2022 is the very high undercount of 31% of people and 30% of households. While census undercounts are the norm rather than the exception (about a 5% undercount is acceptable), the undercount of this census may set a new international record (ww.wits.ac.za). At

aggregate level Census 2022 is robust, but at sub-national, and especially sub-provincial, levels it might be less so.

In terms of Census 2011, the following points must be kept in mind (www.statssa.co.za):

- Comparisons of the results of labour market indicators in the post-apartheid population censuses over time have been a cause for concern. Improvements to key questions over the years mean that the labour market outcomes based on the post-apartheid censuses must be analysed with caution. The differences in the results over the years may be partly attributable to improvements in the questionnaire since 1996 rather than to actual developments in the labour market. The numbers published for the 1996, 2001, and 2011 censuses are therefore not comparable over time and are different from those published by Statistics South Africa in the surveys designed specifically for capturing official labour market results.

- For purposes of comparison over the period 1996–2011, certain categories of answers to questions in the censuses of 1996, 2001 and 2011, have either been merged or separated.

- The tenure status question for 1996 has been dropped since the question asked was totally unrelated to that asked thereafter. Comparisons for 2001 and 2011 do however remain.

- All household variables are controlled for housing units only and hence exclude all collective living arrangements as well as transient populations.

- When making comparisons of any indicator it must be considered that the time period between the first two censuses is five years and that between the second and third census is ten years. Although Census captures information at one given point in time, the period available for an indicator to change is different.

16.1.2.1 Population and household sizes

According to Census 2022, the population of Gauteng Province stood at approximately 15,1 million, reflecting an increase of just over 23% since 2011 (Table 16-1). Within the West Rand District Municipality (WRDM), the population grew by 21,6% to around 998 000, while Merafong City Local Municipality (MCLM) increased from 197 520 to 225 476 people, or roughly 14%. This growth was more modest than the provincial average, reflecting the broader economic decline in mining employment and associated

out-migration trends. Population density in Merafong City rose from 121 to 138 people per km², indicating continued urbanisation despite slower population growth.

Table 16-1: Population density and growth estimates (sources: Census 2011, Census 2022)

Area	Size in km²	Population 2011	Population 2022	Population density 2011	Population density 2022	Growth in population (%)
Gauteng Province	18 178	12 272 263	15 099 422	675,12	830,64	23,04
West Rand DM	4 087	821 191	998 466	200,93	244,30	21,59
Merafong LM	1 631	197 520	225 476	121,10	138,24	14,15

Household numbers have risen faster than population growth. Between 2011 and 2022, the number of households in Merafong City increased by about 16,5%, from 66 624 to 77 599, compared to 36% in Gauteng and 33% in the West Rand (Table 16-2). The average household size declined slightly to 2,9 persons per household, consistent with higher rates of single-person and migrant worker households typical of mining regions. This reflects a demographic trend of smaller, more dispersed households, partly due to labour migration and changing family structures.

Table 16-2: Household sizes and growth estimates (sources: Census 2011, Census 2022)

Area	Households 2011	Households 2022	Average household size 2011	Average household size 2022	Growth in households (%)
Gauteng Province	3 908 826	5 318 665	3,14	2,84	36,07
West Rand DM	267 460	356 530	3,07	2,80	33,30
Merafong LM	66 624	77 599	2,96	2,91	16,47

The total dependency ratio is used to measure the pressure on the productive population and refer to the proportion of dependents per 100 working-age population. As the ratio increases, there may be an increased burden on the productive part of the population to maintain the upbringing and pensions of the economically dependent. A high dependency ratio can cause serious problems for a country as the largest proportion of a government's expenditure is on health, social grants and education that are most used by the old and young population.

In the Merafong Local Municipality, the total dependency ratio increased from 37.3% in 2011 to 40.95% in 2022, showing a moderate rise in the share of dependents per 100 working-age individuals (Table 16-3).

A similar upward trend occurred across the West Rand District Municipality (from 38.37% to 40.83%) and the Gauteng Province (from 37.95% to 38.85%), indicating a provincial-wide pattern of growing demographic pressure.

The increase in both youth dependency (from 32.98% to 34.13%) and aged dependency (from 4.31% to 6.83%) in Merafong reflects both a youthful population structure and gradual ageing. The employed dependency ratio also remains high (above 66%), signalling a relatively small employed base supporting a large number of dependents. Within Merafong, Ward 11 showed particularly elevated total and youth dependency ratios in 2011, correlating with higher observed levels of poverty and unemployment in that ward.

Table 16-3: Dependency ratios (source: Census 2011, Census 2022).

Area	Total dependency	Youth dependency	Aged dependency	Employed dependency
Gauteng Province	37,95	32,38	5,56	63,60
Gauteng Province '22	38,85	31,30	7,55	
West Rand DM	38,37	33,22	5,14	64,27
West Rand DM '22	40,83	33,33	7,51	
Merafong LM	37,30	32,98	4,31	66,26
Merafong LM '22	40,95	34,13	6,83	
Ward 5	14,20	13,28	0,92	53,02
Ward 11	23,56	22,62	0,94	42,86
Ward 12	39,12	30,84	8,28	67,84
Ward 14	18,73	12,79	5,93	37,02
Ward 20	40,04	39,00	1,04	68,56
Ward 22	50,89	45,50	5,39	77,34
Ward 23	37,18	35,49	1,70	65,75
Ward 27	14,79	13,71	1,08	35,76

Poverty is a complex issue that manifests itself in economic, social, and political ways and to define poverty by a unidimensional measure such as income or expenditure would be an oversimplification of the matter. Poor people themselves describe their experience of poverty as multidimensional. The South

African Multidimensional Poverty Index (SAMPI) (Statistics South Africa, 2014) assess poverty on the dimensions of health, education, standard of living and economic activity using the indicators child mortality, years of schooling, school attendance, fuel for heating, lighting, and cooking, water access, sanitation, dwelling type, asset ownership and unemployment.

The poverty headcount refers to the proportion of households that can be defined as multi-dimensionally poor by using the SAMPI's poverty cut-offs (Statistics South Africa, 2014). The intensity of poverty experienced refers to the average proportion of indicators in which poor households are deprived (Statistics South Africa, 2014).

Between 2011 and 2016, the poverty headcount in Merafong Local Municipality declined from 8.5% to 6.4%, while the intensity of poverty decreased slightly from 44.5% to 43.6% (Table 16-4). Consequently, the SAMPI score dropped from 0.038 to 0.028, suggesting a small but positive reduction in the breadth of deprivation. The same pattern is evident at district and provincial levels, with the West Rand recording a SAMPI decline from 0.035 to 0.028 and Gauteng Province from 0.210 to 0.020.

Although Merafong's poverty levels are lower than many mining-dependent municipalities in South Africa, economic vulnerability persists—particularly in wards affected by mine closures and limited diversification of employment. The data suggest that while living standards have improved slightly, the municipality continues to face structural poverty linked to unemployment, dependency, and uneven access to services.

Table 16-4: Poverty and SAMPI scores (sources: Census 2011 and Community Survey 2016).

Area	Poverty headcount 2011 (%)	Poverty intensity 2011 (%)	SAMPI 2011	Poverty headcount 2016 (%)	Poverty intensity 2016 (%)	SAMPI 2016
Gauteng Province	4,8	438	0,210	4,6	44,1	0,020
West Rand DM	7,8	44,3	0,035	6,3	44,7	0,028
Merafong LM	8,5	44,5	0,038	6,4	43,6	0,028

16.1.2.2 Population composition, age, gender and home language

The population of Merafong City is predominantly Black African, accounting for approximately 89% of residents in 2022, followed by White (8,8%), Coloured (1,3%), and Indian/Asian (0,3%) groups (Figure 16-3). This aligns closely with broader trends in the West Rand, though Merafong shows a slightly higher Black population share than the district average. At the ward level, Wards 5, 11, 20, 22, and 23 are over

90% Black African, while Ward 12 has a more mixed profile, and Ward 14 retains a relatively higher White population (around 35%).

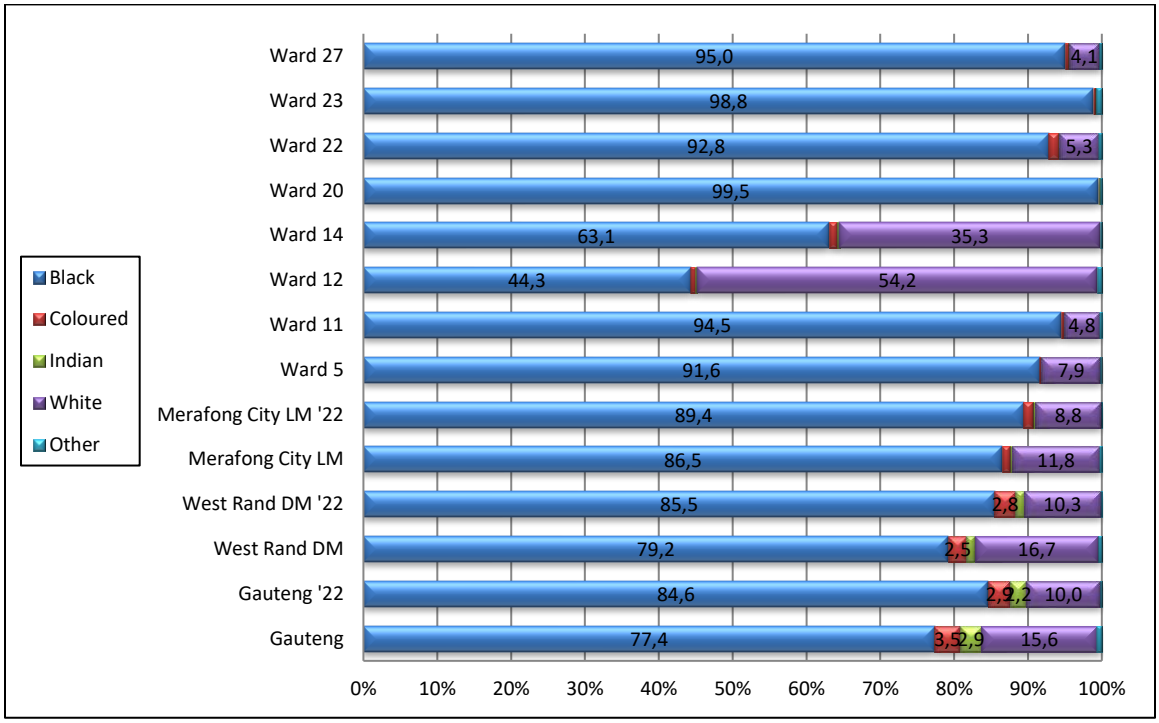


Figure 16-3: Population distribution (shown in percentage, source: Census 2011, Census 2022)

The average age is very similar on local, district and provincial level (Table 5), with a higher average age on a ward level, except in Ward 11 where the average age was lower.

Table 16-5: Average age (source: Census 2011, Census 2022).

Area	Average Age (in years)
Gauteng Province	29,31
Gauteng Province '22	30,97
West Rand DM	29,53
West Rand DM '22	30,65
Merafong LM	29,41
Merafong LM '22	30,40
Ward 5	34,50
Ward 11	32,27
Ward 12	32,52
Ward 14	36,94

Ward 20	25,29
Ward 22	27,21
Ward 23	26,85
Ward 27	34,02

The age distribution suggests a mature population structure, with 24% under 15 years and 12% aged 50 years or older (Figure 16-4). Youth (15–34 years) comprise about 36% of residents, indicating a significant working-age cohort. Ward-level variation is marked: Wards 5 and 27 have higher proportions of adults aged 35–64 years, while Ward 20 has a comparatively younger population, with over 49% under 25 years. The average age in Merafong City is approximately 30,4 years, similar to both the provincial and district averages.

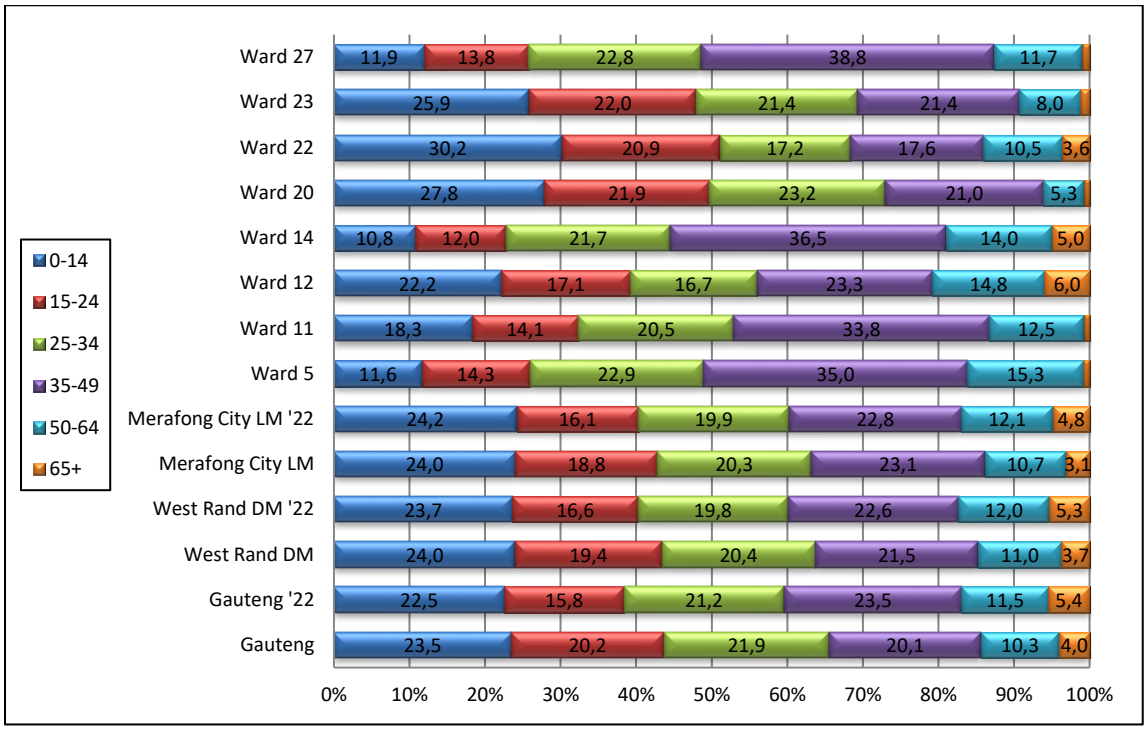


Figure 16-4: Age distribution (shown in percentage, source: Census 2011, Census 2022)

16.1.2.3 Sex

Sex distribution is nearly balanced, with males representing 51% and females 49% of the total population (

). However, several wards such as Wards 5, 14, and 27 exhibit male-dominant ratios (above 65%), consistent with the presence of mining operations that attract migrant male workers.

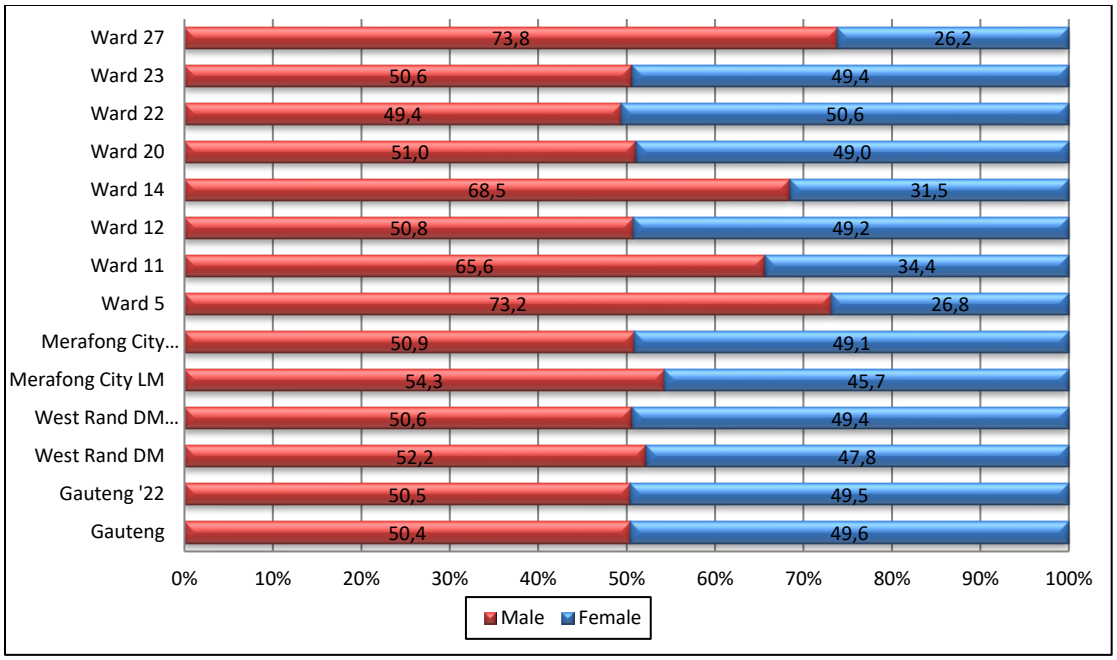


Figure 16-5: Sex distribution (shown in percentage, source: Census 2011, Census 2022)

16.1.2.4 Language

Home language data indicates linguistic diversity, though Sesotho (21%), isiXhosa (26%), and Setswana (28%) are the dominant languages across the local area (

). Afrikaans (9%) and English (2%) are less prevalent overall, but more common in Ward 12 and Ward 14. Communication and engagement initiatives in the area should therefore be conducted primarily in Sesotho, isiXhosa, and Setswana, supported by Afrikaans and English translation where appropriate.

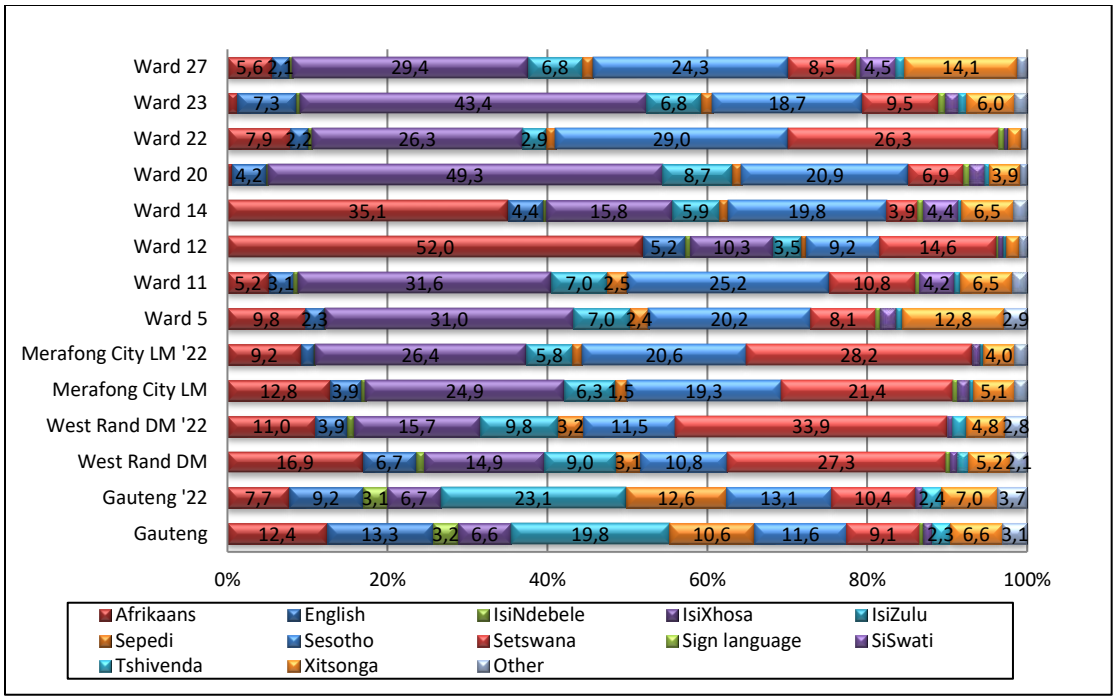


Figure 16-6: Language distribution (shown in percentage, source: Census 2011, Census 2022)

16.1.2.5 Education

Educational attainment in Merafong City has improved since 2011, although disparities remain. Approximately 53% of adults (20 years and older) have some secondary education, and 38% have completed Grade 12 or higher (

). Only about 7% of residents possess post-secondary or tertiary qualifications. Wards 12 and 14 show the highest proportion of residents with matric or higher education levels, while Wards 5 and 22 display larger shares of residents with incomplete primary or secondary schooling. The decline in the share of adults without schooling (from over 6% in 2011 to below 5% in 2022) reflects gradual educational progress over the past decade.

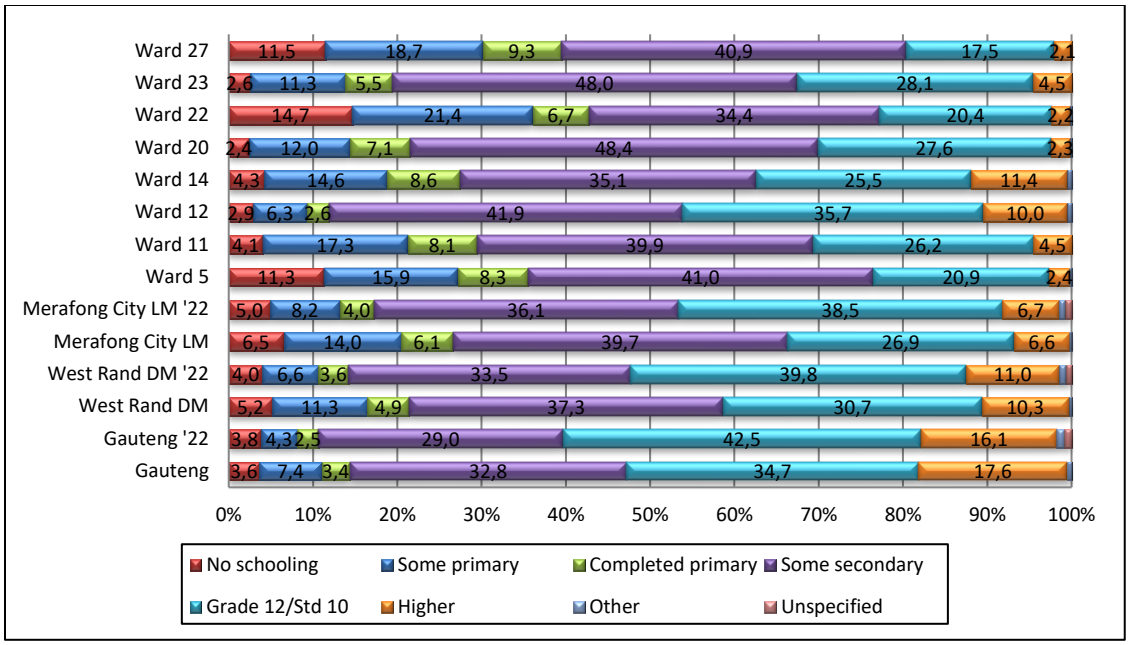


Figure 16-7: Education profiles (those aged 20 years or older, shown in percentage, source: Census 2011, Census 2022)

16.1.2.6 Employment

Employment patterns in Merafong City reflect the declining mining economy. In 2022, approximately 46,5% of working-age residents (15–64 years) were employed, while 17% were unemployed and a further 33% economically inactive (

). Employment rates are notably higher in Wards 11, 14, and 27 (above 65%) and lower in Wards 20 and 22 (around 35–45%). Formal sector employment dominates, accounting for over 80% of all jobs, with the remainder in informal or private household work (Figure 16-9). Mining, manufacturing, and public services remain the leading employment sectors.

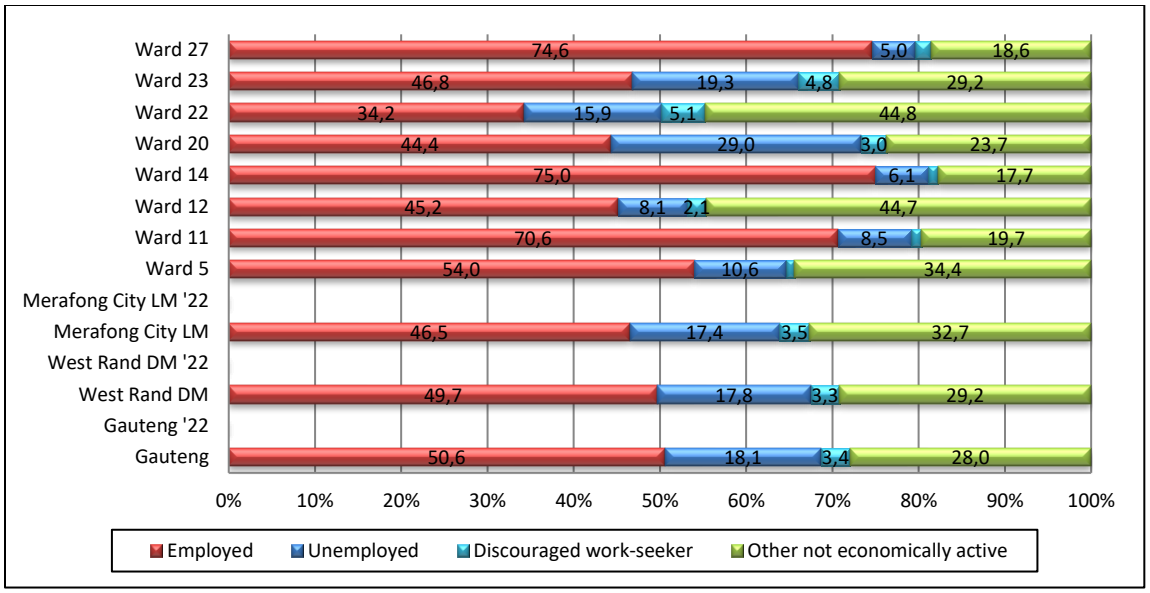


Figure 16-8: Labour status (those aged between 15 - 65 years, shown in percentage, source: Census 2011)

The gendered nature of employment is apparent: men are overrepresented in mining and industrial work, while women are more likely to be engaged in domestic work or the informal economy. The overall labour absorption rate remains below the provincial average, consistent with the post-mining economic decline and limited local diversification.

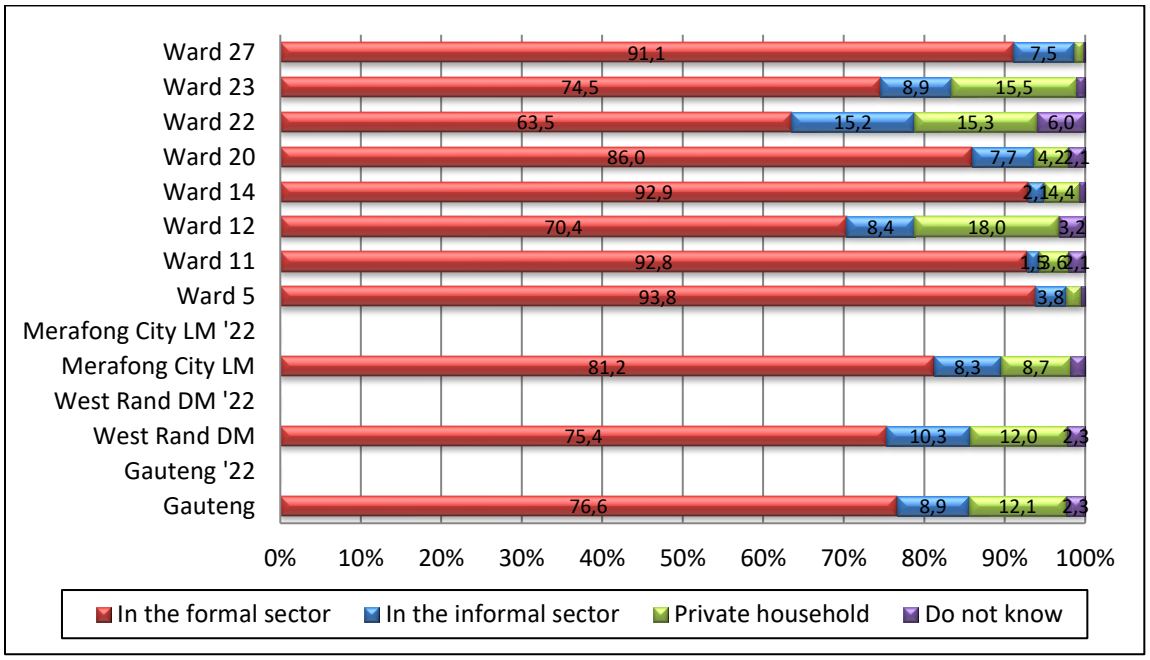


Figure 16-9: Employment sector (those aged between 15 - 65 years, shown in percentage, source: Census 2011)

16.1.2.7 Household Income

Household income levels in Merafong City reveal high levels of economic inequality. Around 21% of households earn less than R19 601 per year, which is significantly lower than in 2011 but still indicative of multidimensional poverty in certain wards (Figure 16-10). Wards 22 and 20 display the highest proportion of low-income households (above 35%), while Wards 11 and 27 have a greater concentration of middle-income earners (R38 200–R76 400 per year). Only a small fraction (below 2%) of households earn more than R1,2 million annually. The majority of households fall within the R19 601–R76 400 range, aligning with the lower-middle income bracket typical of former mining towns.

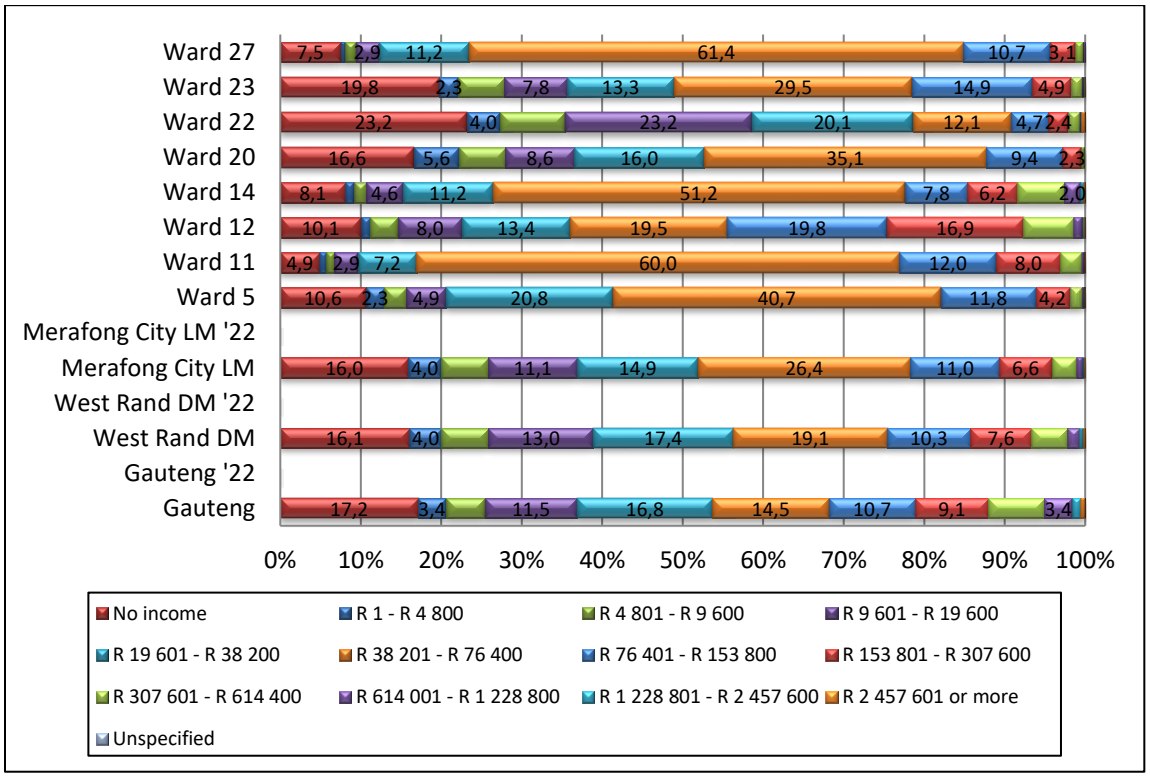


Figure 16-10: Annual household income (shown in percentage, source: Census 2011)

16.1.2.8 Housing

The vast majority of households (97%) in Merafong City live in urban areas, with a small proportion (2,6%) residing on farmland (

Table 16-6). Most dwellings are formal houses or brick structures on separate stands (83%), though informal dwellings remain present, especially in Wards 22 and 23 where informal structures account for more than 20% of households (

). Ward 14 has a notable proportion of flats and apartments (around 40%), reflecting more compact, higher-density housing.

Table 16-6: Geotypes (source: Census 2011, Census 2022, households)

Area	Urban	Tribal/Traditional	Farm
Gauteng Province	97,6	0,9	1,5
Gauteng Province '22	97,2	1,2	1,6
West Rand DM	93,2	0,0	6,8
West Rand DM '22	92,5	0,0	7,5
Merafong LM	96,9	0,0	3,1
Merafong LM '22	97,4	0,0	2,6
Ward 5	100,0	0,0	0,0
Ward 11	100,0	0,0	0,0
Ward 12	95,6	0,0	4,4
Ward 14	98,4	0,0	1,6
Ward 20	100,0	0,0	0,0
Ward 22	84,5	0,0	15,5
Ward 23	100,0	0,0	0,0
Ward 27	100,0	0,0	0,0

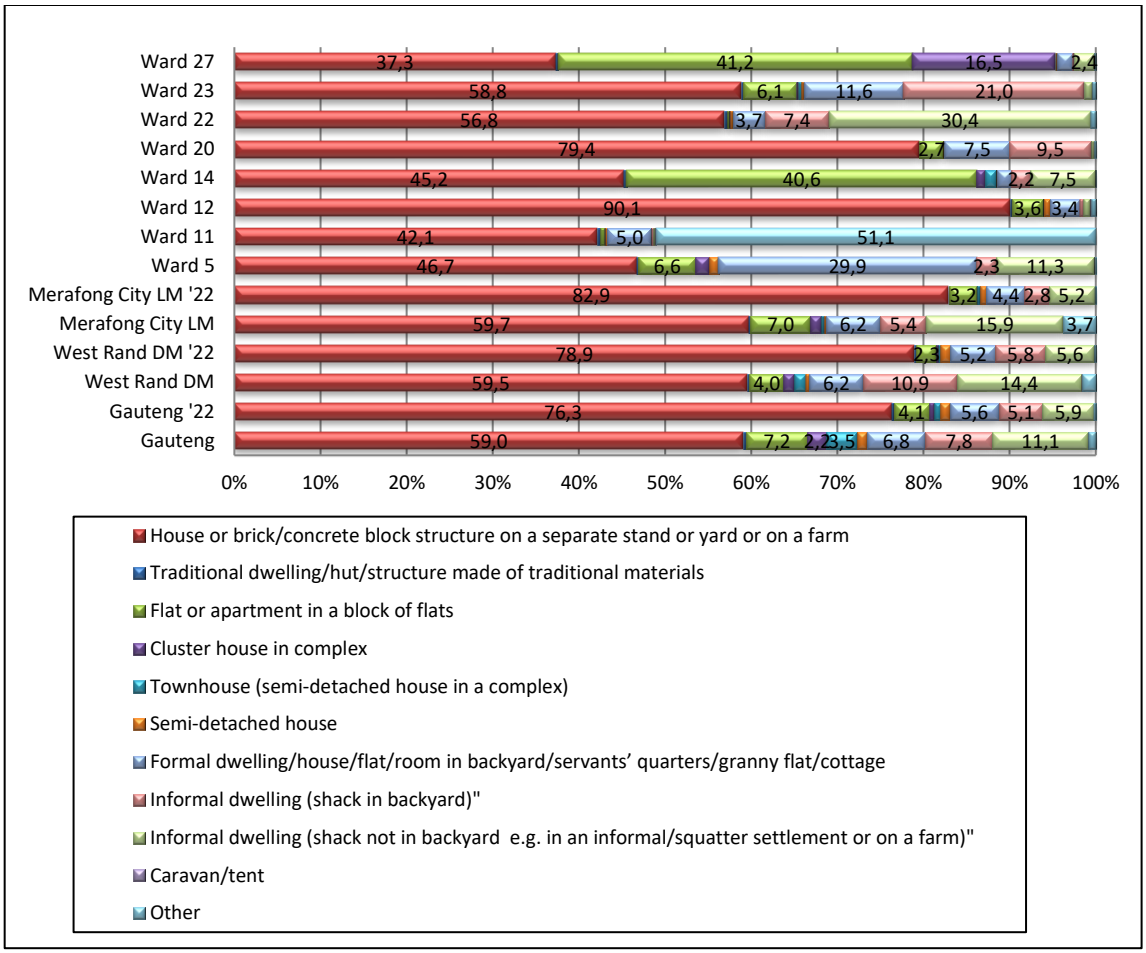


Figure 16-11: Dwelling types (shown in percentage, source: Census 2011, Census 2022)

Tenure status shows that 35% of households rent their dwellings, while 32% own their homes outright and 27% occupy them rent-free (

). Renting is most common in Wards 11, 14, and 27, where rental occupancy exceeds 70%. Owner-occupied, fully paid-off dwellings are more prevalent in Wards 22 and 23. These figures suggest a relatively mobile and mixed housing market, influenced by labour migration and the fluctuating local economy.

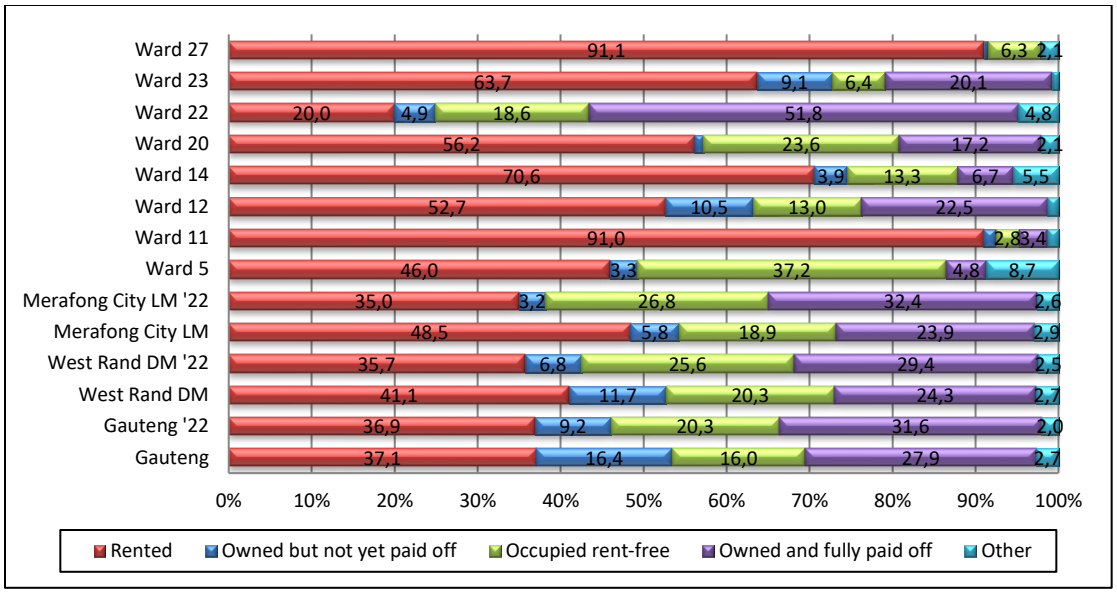


Figure 16-12: Tenure status (shown in percentage, source: Census 2011, Census 2022)

16.1.2.9 Household Size

Household sizes are relatively small, with 55% of households in Merafong City consisting of one or two persons (Figure 16-13). Wards 5 and 27 have particularly high shares of single-person households (above 65%), while Wards 12 and 20 display slightly larger average household sizes. This pattern is consistent with areas characterised by migrant workers and temporary accommodation arrangements.

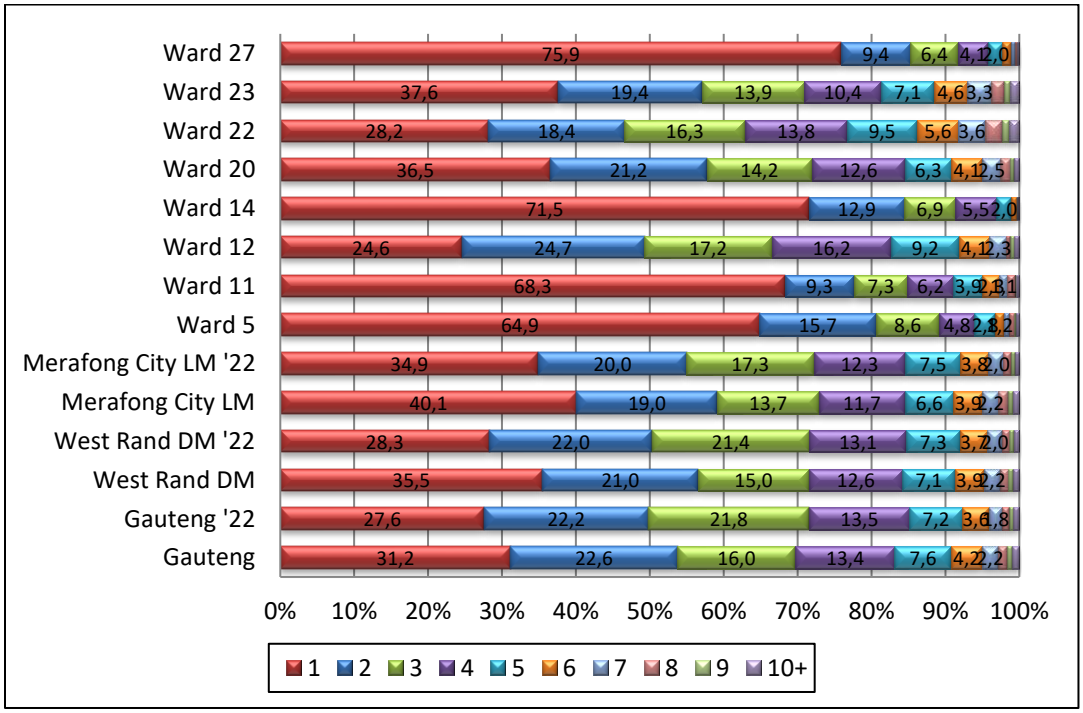


Figure 16-13: Household size (shown in percentage, source: Census 2011, Census 2022)

16.1.2.10 Access to water and sanitation

Access to water in Merafong City is relatively high, with 95% of households receiving water through a local or regional scheme operated by the municipality (Figure 16-14). Boreholes and alternative sources (such as rainwater or tankers) serve fewer than 5% of households. Ward 22 shows slightly lower municipal supply coverage (around 77%), with a small proportion relying on boreholes or tanker deliveries. These findings indicate that while water infrastructure coverage is good overall, there are localised gaps in reliability and access.

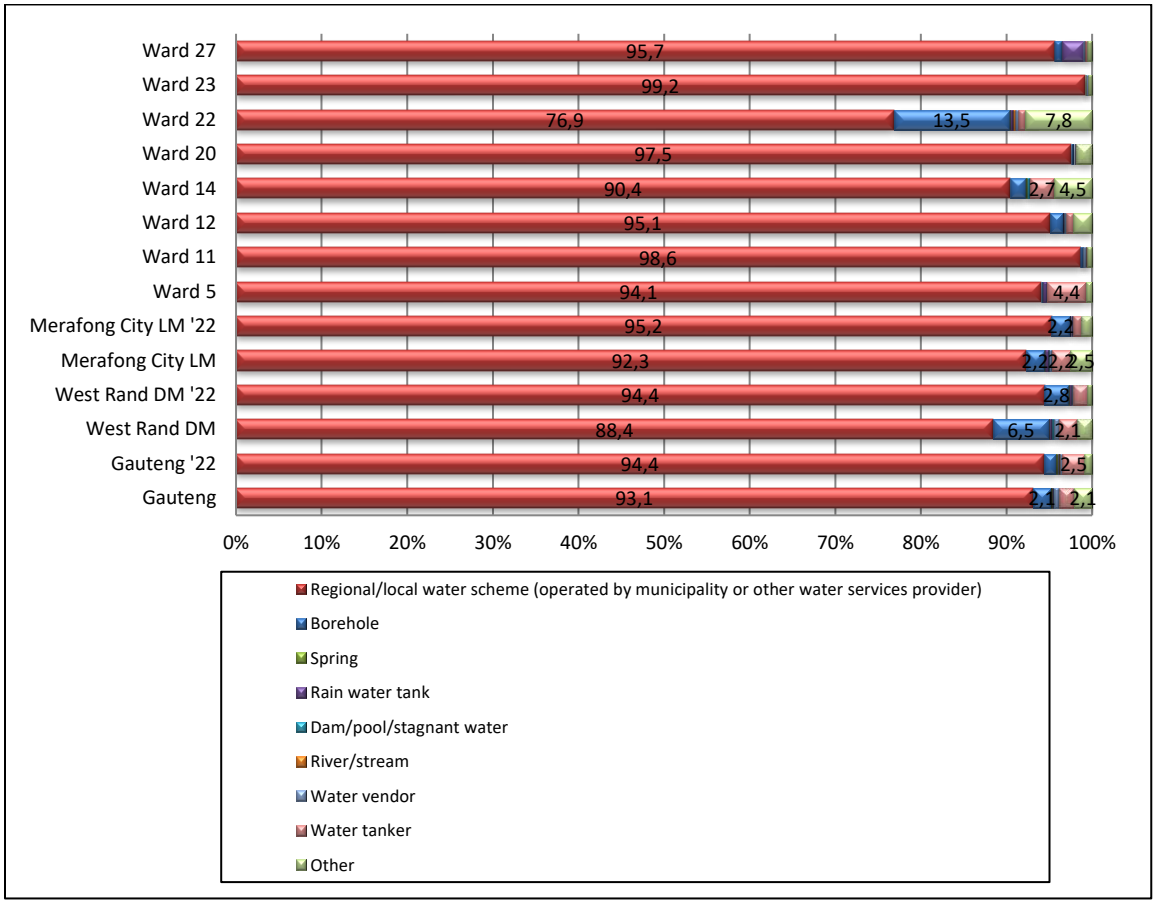


Figure 16-14: Water source (shown in percentage, source: Census 2011, Census 2022)

Access to piped water, electricity and sanitation relate to the domain of Living Environment Deprivation as identified by Noble et al (2006). In 2022, 82% of households in Merafong City had piped water inside their dwellings, an improvement from 2011 (Figure 16-15). Another 14% accessed water within their yards. Wards 12 and 22 have lower internal piped water access (below 35%), while Ward 11 exceeds 90%. A very small share of households (1–2%) have no access to piped water and rely on communal sources. The data reflects generally high infrastructure coverage with some intra-ward disparities.

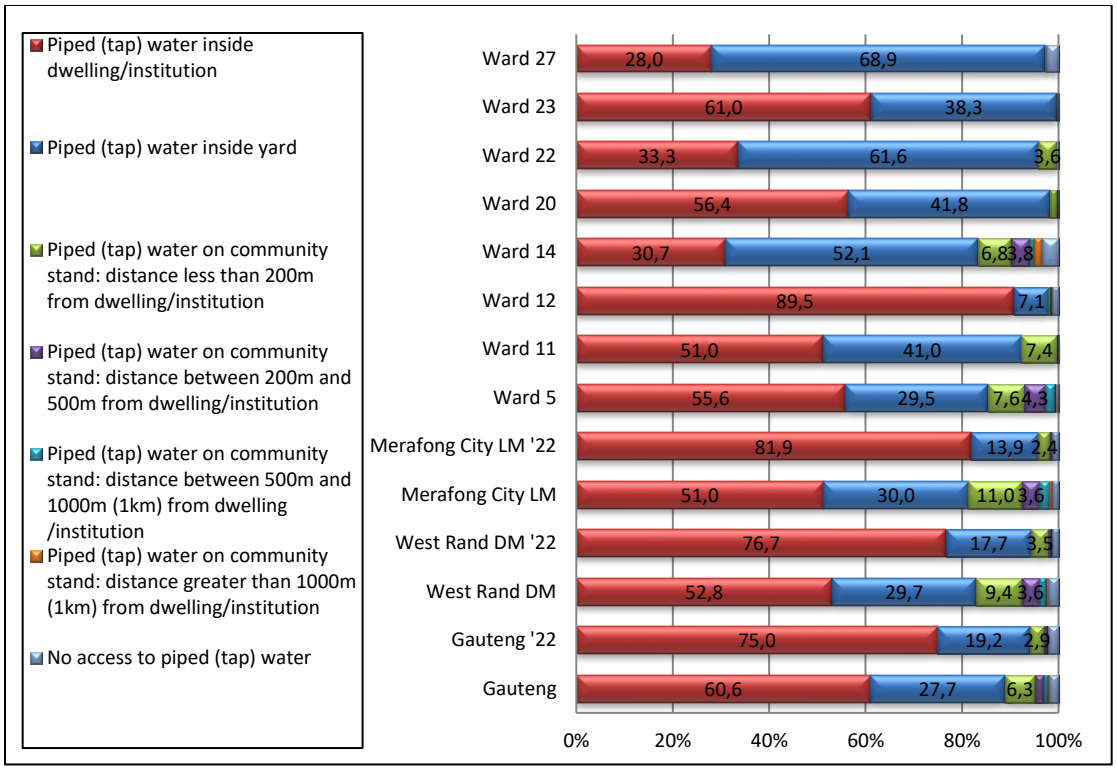


Figure 16-15: Piped water (shown in percentage, source: Census 2011, Census 2022)

Sanitation access in Merafong City is above the national average, with 93% of households connected to a flush sewerage system (

). Wards 11 and 23 show near-universal coverage (above 95%), while Ward 22 records the lowest rate (around 79%) and a higher use of pit toilets or bucket systems. The share of households without any sanitation facility has declined to less than 0,5%. This reflects significant progress in sanitation provision, though informal settlements remain pockets of vulnerability.

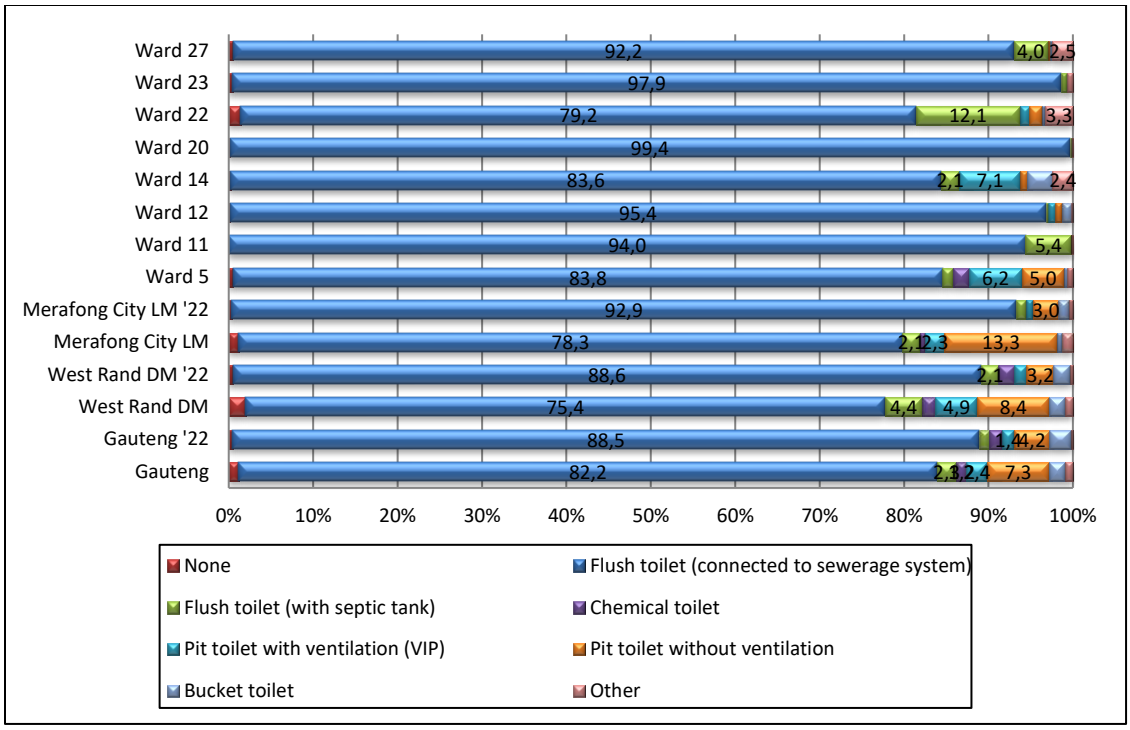


Figure 16-16: Sanitation (shown in percentage, source: Census 2011, Census 2022)

16.1.2.11 Energy

Electricity is seen as the preferred lighting source (Noble et al, 2006) and the lack thereof should thus be considered a deprivation. Even though electricity as an energy source may be available, the choice of energy for cooking may be dependent on other factors such as cost. Electricity is the dominant energy source in Merafong City. Nearly 98% of households use electricity for lighting, and 72% for cooking (Figure 16-17). However, paraffin remains in limited use (around 2–5%), particularly in Wards 22 and 23. The use of gas for cooking has increased since 2011, particularly in urbanised wards such as Ward 14. Access to electricity for heating purposes is high, though affordability challenges persist for lower-income households.

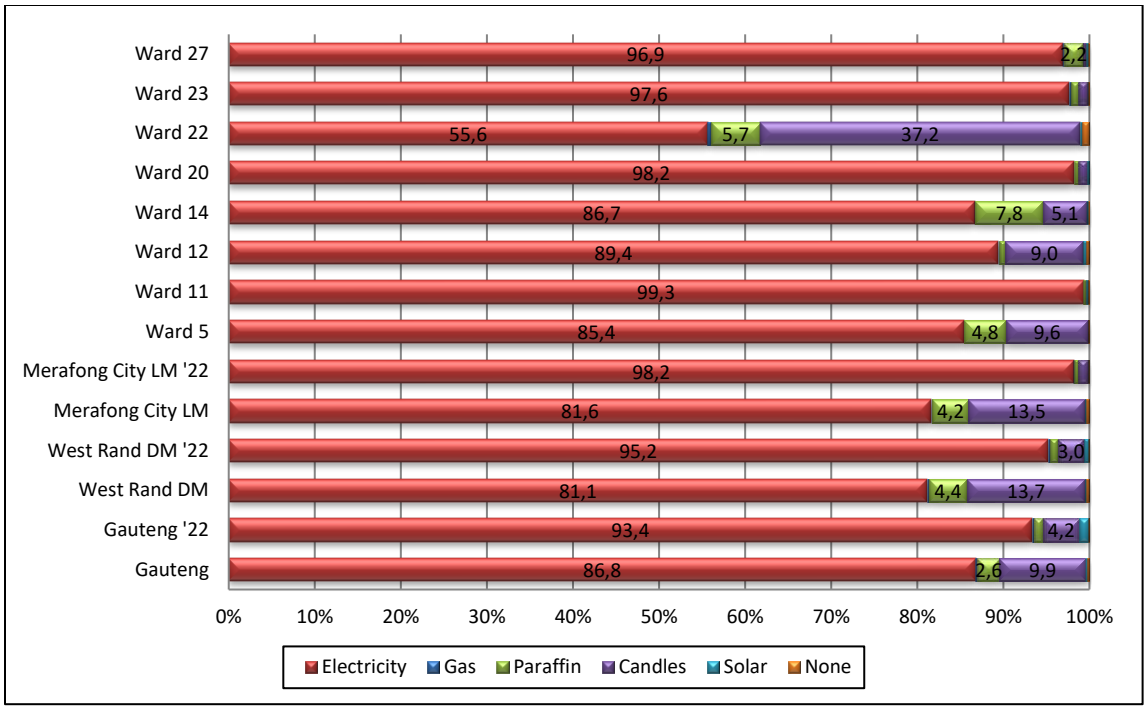


Figure 16-17: Energy source for lighting (shown in percentage, source: Census 2011, Census 2022)

16.1.2.12 Refuse removal

Waste management services are well established in most parts of Merafong City. Approximately 82% of households have their refuse removed at least once a week by a local authority or private contractor (

). In Wards 11 and 23, this figure exceeds 90%. However, in Ward 22, only about 55% of households receive regular collection, with many relying on own refuse dumps or communal disposal sites. Expanding consistent waste removal in peripheral areas remains a local service delivery priority.

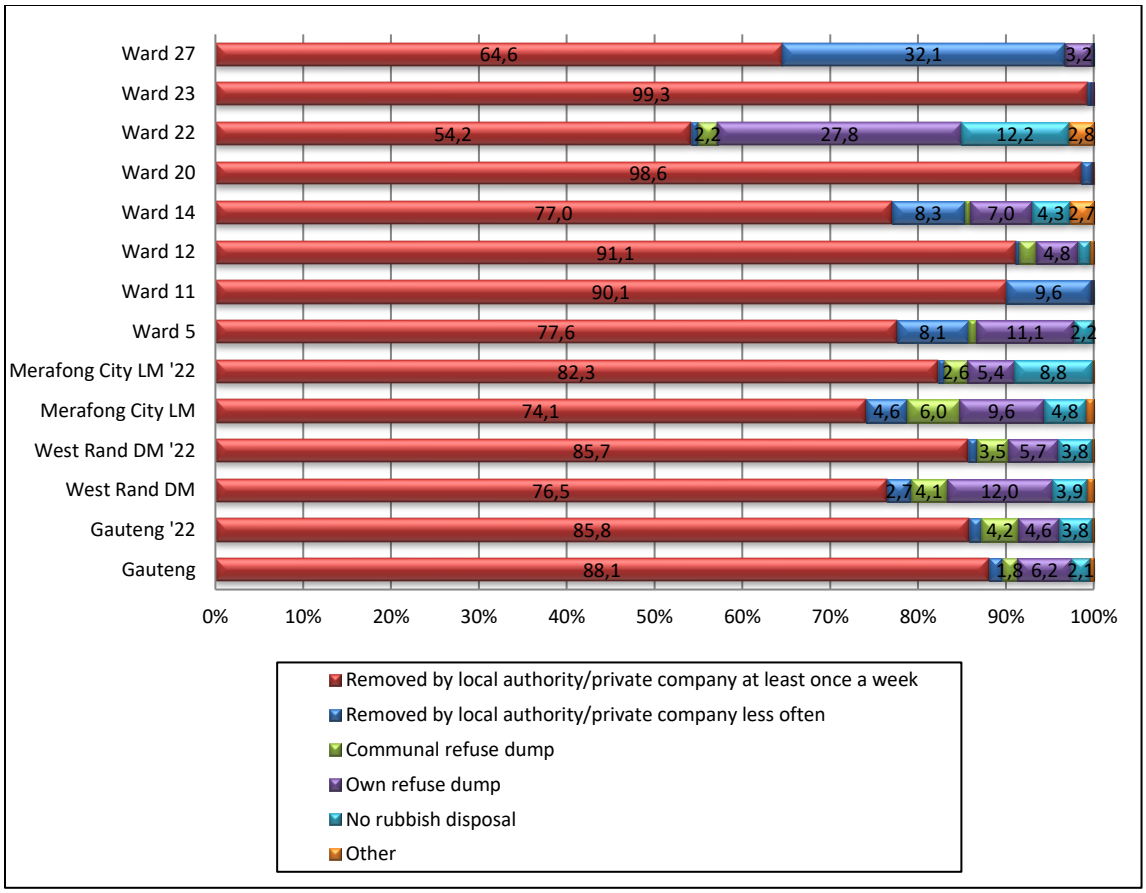


Figure 16-18: Refuse removal (shown in percentage, source: Census 2011, Census 2022)

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