

Mining **Future Skills**



MINING QUALIFICATIONS AUTHORITY

**FINAL REPORT**

**FINAL REPORT**

**FOR**

**A STUDY TO IDENTIFY AND ANALYSE THE SPECIFIC MINING AND  
MINERAL SECTOR (MMS)-RELATED SKILLS DEVELOPMENT NEEDS IN  
THE NORTH-WEST PROVINCE**

Prepared by: Wits Mining Institute

## **EXECUTIVE SUMMARY**

### ***Introduction and Background***

The Mining Qualifications Authority (MQA), as a Sector Education and Training Authority (SETA) for the mining and minerals sector (MMS), plays a crucial role in skills development and training. It ensures that both the workforce and communities are equipped with the necessary skills and competencies to meet the current and future needs of the sector. This is achieved through the implementation of various programmes underpinned by the skills demands of the MMS. Central to this is skills planning that integrates local community needs, to ensure that training programmes are tailored to the socioeconomic contexts as well as opportunities found in specific geographical areas.

It is in line with these imperatives that the MQA initiated a study to provide insights into the specific mining and mineral sector related skills development needs in mining communities. By identifying the skills needed by communities, the study will help inform strategies that will lead to the implementation of targeted training programmes needed to address the skills gaps in communities. By identifying the skills needed by communities, the study will inform strategies that will ensure the implementation of targeted training programmes that address skills gaps and shortages in mining communities.

### ***Study Aim and Objectives***

The aim of the study is to provide insights into the specific MMS-related skills development needs in mining communities in the North West province taking into account its unique economic landscape, minerals resources endowments, and their sectoral challenges. This aim is supported by several objectives, including an assessment of policies, legislation, and strategies that support skills development, as well as an analysis of the socioeconomic landscape of the province. Additionally, the objectives encompass establishing the status of the MMS in the province, highlighting its performance and contribution to the provincial economy. Identifying mining-related skills shortages and assessing skills development and training programmes are also key objectives of the study. Given that the economy of the North West province is supported by multiple economic sectors, the study also aims to

identify cross-sector opportunities for skills development to foster an environment that supports skills transfer and application across sectors.

### **Approach to the Study**

The study employed a mixed-methods approach, starting with desktop research to gather relevant literature and documents. This was complemented by surveys completed by community members, who provided valuable insights on the available skills in the province and identified areas where further development is needed. A total of 308 surveys were completed, creating an adequate basis for the analysis. The surveys were complemented by two community workshops held in Klerksdorp and Rustenburg. Quantitative data from MQA's Workplace Skills Plans (WSP) and Annual Training Reports (ATR) was also collected as part of the study.

### **Results and Key Findings**

The following are insights obtained from the community surveys and workshops:

- The gender distribution in the province is nearly equal, as reflected in the study results, with female participants making up 53% of the community members.
- Most participants are within the youth age cohort (18 to 35 years), aligning with the province's demographic profile, which features a significant youth population.
- The majority of community members have completed matric, consistent with the province's overall educational profile.
- A large portion of the community members are unemployed, which is expected given the high unemployment rate in the province.
- Among those who are employed, most work in the construction sector, followed by the MMS.
- The results revealed that a significant percentage of community members who previously worked in mining operations have been retrenched, underscoring the need for retraining and reskilling initiatives.
- Several essential mining-related skills were identified as necessary for community members to participate in the MMS. These include technical skills, engineering-related skills, health and safety, and entrepreneurship, highlighting the need for targeted skills intervention programmes.

- Many community members believe that mining companies do not fully understand the skills needs of the communities, indicating a gap in communication and collaboration.
- Community members pointed out several barriers to skills development, including a lack of information about training opportunities, insufficient training facilities, age restrictions, and stringent entry requirements.
- The majority of community members indicated that they are not familiar with the MQA and its work. Most believe that the MQA's efforts towards skills development and training within communities are not effective
- Community members suggested several areas for improvement, including better communication about available programmes, a wider variety of training programmes, better alignment with job market needs, provision of stipends or financial support during training, a simpler application process, and more accessible training locations.
- The majority of participants identified digital literacy as the most critical skill across various economic sectors. Other essential skills highlighted include project management, safety and health practices, leadership and supervision, equipment operation and maintenance, environmental management, and financial management.
- The agricultural sector was identified as an important area alongside the MMS. In this context, the majority of participants emphasized the significance of mining and agriculture due to their substantial contributions to the provincial economy. This was followed by the importance of mining and renewable energy, as well as mining and manufacturing.

The following are the key insights extracted from the WSP-ATR data analysis:

- Several mining occupations are classified as hard-to-fill, particularly managerial and technical roles such as Mining Engineering Manager, Mine Planning Manager, and Boilermaker.
- The lack of experience was found to be the main barrier affecting recruitment of skilled professionals in mining operations in the North West province.
- Skills gaps are prevalent across a wide range of occupations, with recurring needs in leadership, management, supervisory, mine production processes, first-aid and technical (job-specific).

- The occupation with the most extensive skills gaps is Mine Overseer (Production), requiring a broad set of competencies including planning, project management, and computer literacy.
- Bursaries accounted for the largest share of training programmes offered by mining companies in the North West province. They are followed by internships and short course offerings.
- The bursaries awarded reflect a mix of mining-related and non-mining disciplines with the latter accounting for the largest share.
- The internships awarded by mining companies span both mining-related and non-mining disciplines. Mining-specific internships include fields such as Mining Engineering, Mine Surveying, Metallurgical Engineering, Mechanical and Electrical Engineering, and Analytical Chemistry. The non-mining internships were concentrated in areas such as Human Resources, Business Administration, Communication, and Information Technology. The almost balanced distribution between technical and administrative fields suggests an effort to support a broad spectrum of professional competencies, reflecting the multifaceted operational requirements of the mining sector.
- Short courses primarily focused on portable skills, especially in agriculture, engineering and construction, and machinery operation (e.g., Excavator, ADT, Grader, Dozer, TLB).
- In terms of the beneficiaries, unemployed individuals formed the majority of beneficiaries, with a strong emphasis on youth development. Gender distribution was relatively balanced when looking at male and female beneficiaries. African beneficiaries accounted for the largest share of the beneficiaries.

## **Key Recommendations**

The following recommendations are drawn from the study findings. These are presented according to the SMART framework. This is a goal-setting approach that ensures that recommendations made are Specific, Measurable, Achievable, Relevant and Time-bound.

### ***Recommendation 1: Conduct research to inform the design and development of an integrated youth development programme***

The North West province has a burgeoning youth population, and a significant percentage of the youth are classified as NEET (i.e., Not in employment, education and training). There is therefore a need to develop targeted programmes that focus on skills development equipping the youth with the necessary skills needed to support their participation in the economy of the province. These programmes must be informed by the interests of the youth alongside the skills needs of local industries and businesses to ensure alignment with market demands. It is recommended that MQA conducts research that looks into skill development and training needs of young people in mining communities across the country. The output of this research study should be a training framework that informs the design and development of a ***youth integrated training programme*** that incorporates different set of skills. From the study, the skills that are crucial in terms of supporting youth include technical skills and certifications, mentorship and leadership, soft skills, digital skills, entrepreneurship support and others. Consideration will need to be made in terms of how the programme will be delivered, one of which may be the learning approach that includes online platforms, in-person workshops, and practical workplace experiences. To this end, part of the research should include identifying key local stakeholders that can support the different components of the programme.

<b>Activity</b>	<b>The MQA must commission a study aimed at providing a comprehensive assessment of skills development and training needs of young people in mining communities across South Africa.</b>
<b>Timeline</b>	The research can be conducted within one year (i.e., year 1), the design and development of the programme can also be completed in one year (i.e., year 2) This means the implementation of the programme can be targeted in year 3.

***Recommendation 2: Initiate a study that assesses the gender-responsiveness of MQA skills development and training programmes***

The North West has a relatively balanced population in terms of gender. However, while this is the case, women continue to face challenges that continue to affect their participation in the economy. Skills development and training serve important platforms to empower women by enhancing their employability, fostering economic independence, and enabling them to contribute meaningfully to their communities. To this end, it is important that there is adequate participation of women in skills development and training programmes that are implemented and supported by MQA. It is therefore recommended that MQA undertakes an assessment of its training programmes to ascertain inclusivity and effectiveness of these programmes. This assessment should identify gaps and/or barriers that may hinder participation of women in training programmes and provide actionable insights to enhance their participation and impact of training programmes on women's skills development, economic empowerment, career advancement, and overall socio-economic development.

<b>Activity</b>	<b>The MQA must initiate a study to evaluate the gender-responsiveness of its skills development and training programmes with the aim of identifying strengths, gaps, and opportunities for improvement.</b>
<b>Timeline</b>	The research can be conducted within one year. If resources are available, this study can be earmarked for 2025/2026 financial year.

***Recommendation 3: Launch career guidance campaigns to enhance matriculants' access to post-school qualifications***

Given that a significant portion of the population in the province holds a matric qualification, it is essential to facilitate access to post-school qualifications. The North West is a home to several post-school education and training institutions (PSET) that have campuses across the province and these offer programmes across different disciplines including mining-related programmes. It is recommended that MQA launch a community campaign on career guidance and PSET opportunities that are available in the province. The aim of the campaign should be to motivate those with matric to study further, as well as to give them the necessary

knowledge needed to make informed decisions. This campaign can build on existing initiatives, especially those implemented by universities, TVET, and CET colleges, and expand them to ensure wider dissemination of information. This campaign can comprise of workshops, roadshows, and information sessions delivered to the community in community centres, schools and PSET institutions. MQA will need to bring in key local stakeholders to support the campaigns, including PSETs, mining companies, local and provincial government departments, other SETAs and associated businesses.

<b>Activity</b>	<b>The MQA must organise a series of career guidance workshops and information sessions across the province.</b>
<b>Timeline</b>	The campaign can be implemented within a year, and this includes the preparation and discussions that will need to take place between MQA and the relevant stakeholders.

***Recommendation 4: Establish working relationships with local government agencies that support entrepreneurs in the province to integrate business training support in its programme offerings***

One of key findings from the study was that amongst those that are employed in the province, a considerable percentage are self-employed. Entrepreneurship comes with a lot of challenges that often times lead to businesses failing. It also offers benefits that are much needed particularly in areas where there are high levels of unemployment. Through entrepreneurship, employment opportunities can be created for community members that are struggling to enter the labour market. It is therefore recommended that the MQA establish collaboration with government agencies that are providing business training and support to entrepreneurship within the province. For example, the National Youth Development Agency (NYDA) which already has a growing footprint in the province. The MQA will need to have discussions with the various stakeholders to establish synergies and working relationships ensuring that entrepreneurs receive the support that they need for their businesses to be sustainable.

<b>Activity</b>	<b>The MQA must partner with local government agencies to incorporate business training support into the programme offerings.</b>
<b>Timeline</b>	These discussions can begin next year, with the goal of establishing working relationships by year-end and developing a strategy focused on providing targeted and coordinated support for entrepreneurs in the province.

***Recommendation 5: Conduct a cross-sector skills assessment to identify synergies between MQA and AgriSETA***

Beyond the MMS, several other economic sectors significantly contribute to the province’s economy, providing employment opportunities beyond mining. In particular, the agricultural sector was identified as one of the key sectors in the province. In recognising that the MMS has limitations in terms of providing economic opportunities to mining communities, there is a need to leverage the opportunities that are present within the linkages that the MMS has with the agricultural sectors. Cross-sector collaborations are essential in this regard to ensure that ensure transference of skills increase opportunities for communities for wider participation in the economy. It is recommended that the MQA commissions a study that looks into the potential skills that can be used across the two sectors. This study should identify specific areas where collaboration between the MMS and agricultural sector can be enhanced. This study should be done in collaboration with AgriSETA.

<b>Activity</b>	<b>The MQA must collaborate with AgriSETA to conduct a cross-sector skills assessment to identify synergies between the two SETAs.</b>
<b>Timeline</b>	The discussions with AgriSETA can commence next year with the plan of establishing a joint research project by the end of the year. The study can be earmarked for the 2026/2027 financial year.

***Recommendation 6: Develop and implement a community outreach programme to increase the visibility of MQA and its programmes***

From the findings, it was revealed that most of the community members are not familiar with the MQA and as such, hold the view that MQA’s efforts towards skills development and

training are not effective. There is therefore a need for MQA to increase its visibility and engagement within the community. This can be achieved through targeted awareness campaigns that are implemented in collaboration with local stakeholders including the local municipalities, traditional authorities, community based organisations and other key stakeholders to ensure a wider reach and greater community engagement. By leveraging these partnerships, MQA can effectively disseminate information about its programmes, highlight success stories, and demonstrate the tangible benefits of skills development and training. The MQA hosts stakeholder engagement forums on an annual basis, and these are aimed at providing a platform where it can engage with different stakeholders in the MMS. These forums are mostly attended by representatives of mining companies, training service providers, trade unions with limited participation from community members. It is recommended that MQA, in addition to stakeholders forums, host community sessions where dedicated platforms will be provided to community members in mining regions. These sessions should be hosted in locations where community members will be able to come and attend.

<b>Activity</b>	<b>The MQA must launch a campaign aimed at increasing its visibility amongst communities in mining areas. This must be complemented by annual community information sessions where MQA provide information on its programmes and opportunities for the communities.</b>
<b>Timeline</b>	The campaign which could be a road show should be prioritised and planned for next year. The community information sessions can follow in the 2026/2027 financial year.

***Recommendation 7: Develop targeted upskilling programmes for occupations with considerable skills gaps***

To address the identified skills gaps in the mining sector, there is a clear need for targeted upskilling programmes focusing on planning and project management, leadership and supervisory capabilities, as well as computer literacy and the use of digital tools in mining operations. These competencies are critical for improving operational efficiency and

supporting career progression. These upskilling programmes can be delivered as short courses, ideally accredited to allow professionals to earn Continuing Professional Development (CPD) points. This not only incentivises participation but also ensures alignment with industry standards and professional growth requirements. These courses can be designed in collaboration with industry associations and bodies to ensure relevance. The delivery methods could include blended learning formats, combining online with in-person sessions to accommodate working professionals ensuring accessibility.

<b>Activity</b>	The MQA must develop upskilling courses in collaboration with industry associations and bodies to address the skills gaps for professionals in managerial and supervisory roles.
<b>Timeline</b>	Discussions with industry associations can commence in 2026 with plans to develop an upskilling programme later in 2026.

***Recommendation 8: Assess the impact of short course offerings on employability and participation in the mainstream economy***

Short courses offering portable skills in areas such as engineering, construction, agriculture, and machinery operation play an important role in enabling individuals to access opportunities within and beyond the MMS. With short courses accounting a considerable share of the programmes delivered by mining companies in the province, there is a need to ensure that they serve as entry points into the MMS and other industries in the province. To this end, there is a need to assess the impact of short course offerings on employability and participation in the mainstream economy. It is recommended that the MQA initiate a study that evaluates the effectiveness of these programmes in improving employment outcomes, and participation in the economy of the province.

<b>Activity</b>	<b><i>The MQA must initiate a study to assess the impact of short course offerings on employability and participation in the mainstream economy.</i></b>
<b>Timeline</b>	<i>The research can be conducted within one year. If resources are available, this study can be earmarked for 2026/2027 financial year.</i>

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## LIST OF ABBREVIATIONS AND ACRONYMS

<b>ABBREVIATION/ACRONYM</b>	<b>DESCRIPTION</b>
<b>BIC</b>	Bushveld Igneous Complex
<b>CALS</b>	Centre for Applied Legal Studies
<b>CET</b>	Community Education and Training
<b>CETA</b>	Construction Education and Training Authority
<b>DHET</b>	Department of Higher Education and Training
<b>DMR</b>	Department of Mineral Resources
<b>DMRE</b>	Department of Mineral Resources and Energy
<b>EE</b>	Employment Equity
<b>EPWP</b>	Expanded Public Works Programme
<b>ETDP</b>	Education, Training and Development Practices Sector Education and Training Authority
<b>GDP</b>	Gross Domestic Product
<b>HDISA</b>	Historically Disadvantaged Individual South Africans
<b>HDSA</b>	Historically Disadvantaged South Africans
<b>HRD</b>	Human Resource Development
<b>LAP</b>	Labour Activation Plan
<b>LFPR</b>	Labour Force Participation Rate
<b>LGSETA</b>	Local Government Sector Education and Training Authority
<b>MERSETA</b>	Manufacturing, Engineering and Related Services Sector Education and Training Authority
<b>MMS</b>	Mining and Minerals Sector
<b>MPRDA</b>	Mineral and Petroleum Resource Development Act
<b>MQA</b>	Mining Qualification Authority
<b>NDP</b>	National Development Plan
<b>NEET</b>	Not in Employment, Education and Training
<b>NSDS</b>	National Skills Development Strategy
<b>NSF</b>	National Skills Fund
<b>NYDA</b>	National Youth Development Agency

<b>PDP</b>	Provincial Development Plan
<b>PGMS</b>	Platinum Group Metals
<b>PSET</b>	Post-School Education and Training
<b>SAHRC</b>	South African Human Rights Commission
<b>SETA</b>	Sector Education and Training Authority
<b>SMART</b>	Specific, Measurable, Achievable, Relevant and Timebound
<b>SMME</b>	Small, Micro and Medium Enterprise
<b>STEM</b>	Science, Technology, Engineering and Mathematics
<b>TVET</b>	Technical and Vocational Education and Training
<b>UIF</b>	Unemployment Insurance Fund

## 1. INTRODUCTION AND BACKGROUND TO THE STUDY

### 1.1. Introduction

The Mining Qualifications Authority (MQA) is a Sector Education and Training Authority (SETA) for the mining and minerals sector (MMS) in South Africa. It was established in terms of the Mine Health and Safety Act No. 29 of 1996, and it is a recognised SETA in terms of the Skills Development Act No. 97 of 1998 as amended<sup>1</sup>. The MQA’s vision is to lead skills development and training in the MMS so as to build a “*competent, health and safety oriented mining and minerals workforce*”. This is achieved through several programmes that are embedded within six strategic objectives which encompass the following:

#### Box 1: MQA’s strategic objectives

- Promote efficient and effective governance and administration.
- Improve skills development planning and decision-making through research.
- Promote work-based skills development to support transformation in the mining and minerals sector.
- Facilitate access to occupationally directed learning programmes for the unemployed.
- Support mine community training initiatives to access economic opportunities.
- Ensure the delivery of quality learning programmes in the mining and minerals sector.

The need to support mining communities through skills development and training directly responds to the objectives of the Broad-Based Socio-Economic Empowerment Charter for the Mining and Minerals Sector (i.e., Mining Charter). The Mining Charter is a key policy instrument aimed at transforming the MMS by addressing historical inequalities and promoting socio-economic development. This overarching goal is supported by several objectives, one of which speaks to the need “*utilise and expand the existing skills base for the empowerment of historically disadvantaged persons*” (Government gazette, 2018:12). This is in recognition of the shortage of skills in mining communities which continue to hinder their participation in the mining sector.

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<sup>1</sup> Source: <https://mqa.org.za/company-overview/>. [Accessed: 27 November 2024].

Against this background, the MQA has initiated a study that provides insights into the specific mining and mineral sector (MMS) related skills development needs in mining communities. By identifying the skills needed by communities, the study will help inform strategies that will lead to the implementation of targeted training programmes needed to address the skills gaps in communities. This study takes a case study approach and focuses on the North West province as one of the leading mining provinces in the country.

## **1.2. Background and context**

The MMS remains important in South Africa's development plan which aims to eliminate poverty and inequality by 2030 (National Planning Commission, 2012). The attainment of the National Development Plan (NDP)'s targets has been linked to several priority areas, and these include the need to: increase economic performance and employment, develop economic infrastructure, build an integrated and inclusive rural economy, improve education, training and innovation, and support the transformation of the country's society. These country's imperatives are to be achieved through several strategies. At the centre of these is the need to attract private investment and improve the performance of the labour market and facilitate skills development and support towards small, micro and medium enterprises (SMMEs). The NDP has also highlighted the need to provide access to young and unskilled workers into the labour market (National Planning Commission, 2012).

The mining sector is expected to play a significant role in the various priority areas. It was highlighted by then CEO of Chamber of Mines, Roger Baxter (2015) that the mining sector has the potential to contribute towards the attainment of half of the NDP's objectives. This is linked to the industry's contribution to Gross Domestic Product (GDP), employment, foreign direct investment, export earnings, skills development and other benefits from socioeconomic programmes implemented in response to the obligations towards the Mining Charter, Social and Labour Plans and other legislative requirements.

While the positive benefits of mining are recognised, there are concerns about the performance of the MMS, which has been declining. The key challenges affecting the MMS are commodity price fluctuations, policy and regulatory uncertainty, infrastructure deficits,

electricity supply issues, logistical challenges, labour issues, health and safety concerns, skills shortages, illegal mining and social license to operate which are tied to the environmental and social impacts of mining in communities (Mbazima, 2020).

Several interventions have been identified to address the challenges in the industry and at the centre of this is skills development and training. Over the years, education, training, and skills development have become central to human capital growth in South Africa because it impacts both formal and informal economic sectors. In its attempt to redress the historical imbalances wrought by apartheid in education and also; to address the country's persistent challenges of poverty, unemployment, and inequality, the government established the National Skills Development Strategy (NSDS) (Department of Higher Education and Training, 2019). The NSDS aims to promote targeted skills development, and twenty-one Sector Education and Training Authorities (SETAs) were established to oversee skills development in various economic sectors. The objectives of the NSDS are echoed in several legislative frameworks including the Broad-Based Socio-Economic Empowerment Charter for the Mining and Minerals Industry (i.e., Mining Charter 2018) which highlights the need to *“utilise and expand the skills base for the employment of historically disadvantaged South Africans”*.

Beyond the legislative objectives, skills development and training is driven by many factors within industry which present both opportunities and risks. These include technological advancement which comes with requirements of new skills sets to support the adoption and application of technologies in the mining and minerals sector. Global market demands necessitate high efficiency and productivity, and this translates into the need for a skilled workforce to leverage the opportunities across the global mining value chain. The other key drivers of a skilled workforce are social and political factors and sustainability and environmental concerns. The mining industry is expected to play a considerable role in the just energy transition, and this will have implication on skills. For example, the adoption of green technologies in mining operations will require reskilling, upskilling and side skilling of the current workforce and communities to ensure that they benefit from mining as it evolves.

The MQA as a Sector Education and Training Authority (SETA) of the mining and minerals industry plays a crucial role in skills development and training of both the workforce and communities ensuring that there is a skilled and competent workforce to support the current and future needs of the industry. The MQA drives skills development by *“providing scientifically grounded and empirically based labour market intelligence that informs the supply and demand for skills in the sector”* (MQA, 2023: ii). This data-driven approach is intended to ensure that skills development initiatives are aligned with the evolving needs of the mining industry. In its Sector Skills Plan (SSP) Update 2024/25 Report, the MQA highlighted the Mining Charter’s objective that talks to developing sustainable mining communities. Central to this is *“skills planning that consider the needs of the local communities and align training programmes to address those needs”* (MQA, 2023:22).

### **1.3. Problem statement**

There are a number of factors that affect the employability of mining communities across the country. While the ambitions of the National Skills Development Strategy (NSDS) are well spelt out, of concern is the skills shortages as seen through the hard-to-fill vacancies in the MMS. This raises critical questions around the availability of skills in mining communities and alignment of these with the evolving demands on the MMS. There is also the issue of the quality of the basic education system which has contributed to low levels of skills amongst community members (Minerals Council South Africa, n.d). The participation of communities in the MMS is also affected by lack of experience which can be further linked to lack of economic opportunities to gain experience (Thaba, 2021). This is major factor contributing to the high unemployment rate amongst young people.

Against these challenges, there is a need to establish skills development needs in mining communities taking into account not only challenges and opportunities within MMS but also in other economic sectors. This is in recognition that skills development and training is a cross-cutting issue and hence it needs a multistakeholder approach that involves key stakeholders to create employment opportunities and improve the overall employability of individuals in mining communities.

#### 1.4. Aim and objectives

The aim of the study is to provide insights into the specific MMS-related skills development needs in mining communities in the North West province taking into account its unique economic landscape, minerals resources endowments, and their sectoral challenges. The objectives of the study are to:

- Analysing the effectiveness of current legislation, policies, and strategies driving skills development in the province.
- Assessing the alignment of provincial frameworks with national strategies
- Analysing the population demographics of the province (e.g., age distribution, gender, and racial representation, educational attainment levels and skillsets of working-age population).
- Establishing a detailed profile of the MMS in the province, including:
  - Main mining commodities extracted and processed.
  - Size and composition of the existing workforce
  - Types of companies operating in the sector (national, multinationals, small-scale miners).
- Analysing the economic performance of the MMS compared to other sectors in the provincial economy.
  - Assessing its contribution to Gross Domestic Product (GDP), job creation, and revenue generation.
- Identifying the existing mining-related occupational shortages and skills gaps within the province and reasons thereof.
  - Identify the skill mismatches between the skills required by mining companies and the skills available in the community.
- Assessing the adequacy and effectiveness of existing skills development programmes in addressing provincial needs.
  - Analysing the capacity offerings of technical colleges, universities, and industry-specific training providers in addressing the skills development in the province.
- Identifying the common skills development needs of community members living near mining operations, beyond mining-specific jobs.

- Analysing the demand for skills in related sectors such as agriculture, manufacturing, tourism, and service industries.
- Assessing the need for entrepreneurial and business development skills for local economic empowerment.
- Gathering insights on the community and companies' experiences in accessing skills development offerings from the MQA.
- Exploring the potential synergies between skills development needs of the MMS for upskilling and reskilling existing workforce for diversification into other sectors.
- Identifying potential partners and stakeholders relevant to addressing skills development needs in the province.

### **1.5. Significance of the study**

According to the Bench Mark Foundation (2018), an average of 35 protests take place every month in mining communities in South Africa. From the research that has been done, most of the conflicts between communities and mining operations stem from the lack of socioeconomic benefits from mining. Many communities have raised concerns about rising unemployment and poverty levels, and this is despite the presence of mining operations in their areas. As noted in the Mining Charter 2018, while the mining industry has made considerable in-roads in the transformation of the industry, the participation of HDSAs remain low. The other concern is that the majority of mining communities still live in abject poverty (Government gazette, 2018).

In 2018, ActionAid South Africa in collaboration with Mining Affected Communities United in Action and the Centre for Applied Legal Studies (CALs) at the University of the Witwatersrand conducted an audit to understand the social, economic and political factors affecting mining communities. The study was conducted in eight communities in North West, Mpumalanga, Gauteng, Limpopo, Free State and KwaZulu-Natal provinces. Amongst the major findings of the study were that 64% of the community members had secondary education and only 13% had tertiary qualifications. Most of the community members dependent on social grants as a main source of income, and only 30% were formally employed. About 27% of the community members indicated to have a family member working in the mines. The study also found

concerning disparities between males and females in terms of participation in the mining sector (ActionAid South Africa et al, 2018).

Against the challenges still facing mining communities, the study will provide evidence-based insights that can inform targeted interventions needed to facilitate economic diversification, enhance employability, and promote sustainable community development beyond the life of mining operations. More so, study directly addresses South Africa's broader national development objectives, particularly those outlined in the Mining Charter and the National Skills Development Strategy. The findings of the study will help bridge the gap between the current skills profile of mining communities and the evolving demands of both the MMS and alternative industries.

The study is best positioned to inform the design of skills development programmes that not only meet the immediate needs of the MMS but also prepare communities for opportunities in emerging sectors, thereby reducing dependency on mining activities. This approach is especially crucial given the evolving nature of the MMS that is tied to 4IR and the introduction of technologies in mining operations. Alongside this is the need to create resilient communities capable of thriving in a post-mining economy. Additionally, understanding skills development needs can help address historical inequalities by identifying barriers to skills acquisition and recommending targeted interventions for marginalized groups within these communities. This aligns with the mandates of the Mining Charter, which calls for inclusivity and fair representation in South Africa's labour market.

## **1.6. Structure of the report**

The report is structured into five chapters, and these are elaborated below:

**Chapter 1** provides introduction and background to the study. This is supported by the problem statement as well as aim and objectives of the study. The significance of the study is also included in the chapter.

**Chapter 2** reviews literature and policies, discussing the socioeconomic landscape and current state of the North West province's mining and minerals sector. It includes a skills analysis,

insights on workforce composition, and an overview of education and training. The chapter also covers skills development policies and initiatives in the province.

**Chapter 3** discusses the research methodology that was employed in the study. The Chapter also outlines data collection and analysis methods as well as ethical requirements and challenges and limitations of the study.

**Chapter 4** presents the findings derived from community surveys and workshops, offering community perspectives on their skills development needs.

**Chapter 5** provides an analysis of the WSP-ATR data and highlighting skills gaps and training priorities in the MMS in the North West province.

**Chapter 6** provides the recommendations which are informed by the findings of the study.

## **2. LITERATURE AND POLICY REVIEW**

### **2.1. Introduction**

The chapter presents the literature and policy review. The chapter discusses the socioeconomic landscape of the North West province and provides an overview of the current state of the mining and minerals sector in the province. This discussion is followed by a skills analysis which provides insights on the province workforce composition and skills profiles, skills shortages and gaps and highlights key factors contributing to skills gaps in the province. The chapter also provides a landscape of education and training in the province and discusses skills development policies and initiatives implemented in the province aimed at supporting skills development and training.

### **2.2. Socioeconomic landscape of the province**

#### **2.2.1. *Locality***

The North West province is located to the north of South Africa. It shares borders with Botswana and three provinces in the country, Limpopo, Gauteng and Free State provinces. It is the sixth largest province in South Africa with an area extent of 104,882km<sup>2</sup>. The province houses four district municipalities, namely, Bojanala Platinum, Dr Kenneth Kaunda, Dr Ruth Segomotsi Mompati and Ngaka Modiri Molema district municipalities. Figure 1 shows the four district municipalities and the local municipalities that form part of them. The province has a total of 18 local municipalities. As seen on the figure, of the 18 local municipalities, five are located within three district municipalities (i.e., Dr Ruth Segomotsi Mompati, Ngaka Modiri Molema, and Bojanala Platinum). The remaining three are located within Dr Kenneth Kaunda district municipality.

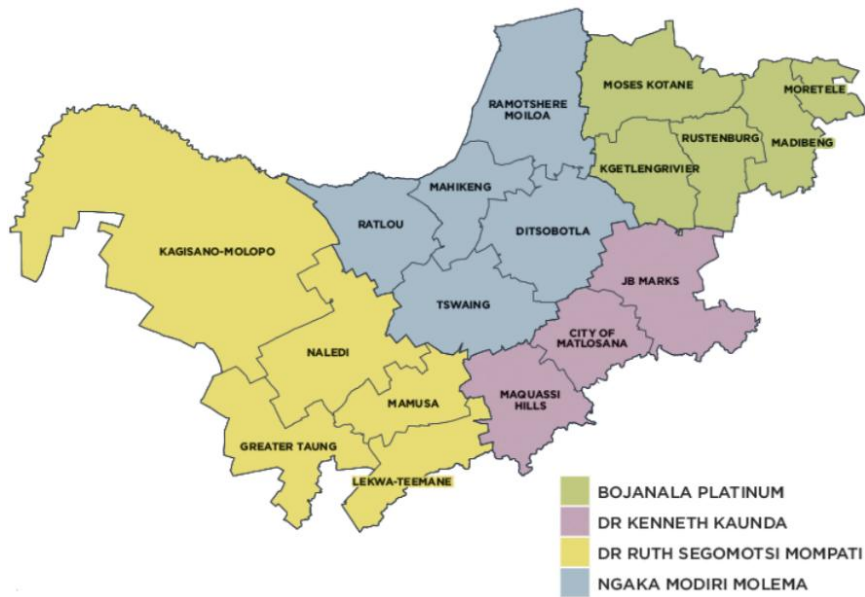


Figure 1: District and local municipalities in the North West province

(Source: Municipalities, n.d)

### 2.2.2. Demographic profile of the province

The North West province is ranked 7<sup>th</sup> in terms of population share in the country. The province had a total population of 3.8 million in 2022. This represents 7% of the country's population. Table 1 shows the growth in population from 1996 to 2022, and this is represented across gender. The population of the province increased by close to 40% between 1996 and 2022. The proportion of female and male has fluctuated in the four census periods. Across all years, the gender distribution is almost equal. In 2022, female accounted the largest share of the population. The female population exceeded the male population by about 34,000 people. According to Statistics South Africa (Statistics South Africa, 2024), while there is a gender balance in the province in terms of population share, gender inequality remains a concern when looking at employment and income especially in rural areas where there are limited economic activities.

Table 1: Demographic profile of the North West province, 1996 to 2022

Census year	Total	Male	Female
1996	2,726,828	1,347,678	1,379,150
2001	2,982,064	1,484,077	1,497,987
2011	3,509,953	1,779,903	1,730,050
2022	3,804,548	1,885,033	1,919,515

(Source: Statistics South Africa, 2024)

Figure 2 shows population distribution across the province. As seen on the figure, the majority of the population is concentrated in Bojanala Platinum district municipality which accounts for 43% of the population in the province. It is followed by Ngaka Modiri Molema which is a home to 25% of the population.

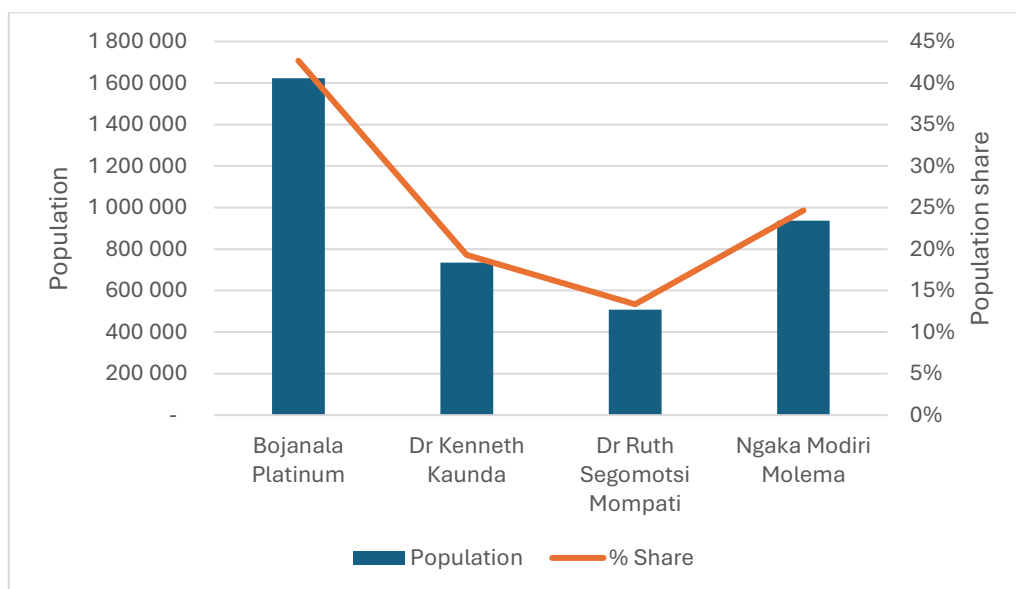


Figure 2: Population distribution and percentage share by district municipalities

(Source: Statistics South Africa, 2023)

Dr Ruth Segomotsi Mompoti is the least populated in the province, with a recorded population of about 500,000. According to the Department of Water and Sanitation (n.d), a large percentage of the population resides in urban areas, in particular Rustenburg, Potchefstroom and Klerksdorp because of the growth in mining and other economic activities. While this is the case, rural population account 56% of the total population. This compares to 44% of urban

population which translate to about 1.7 million people (Department of Water and Sanitation, n.d).

The majority of the population is Black accounting about 93% to the total population. About 4% of the population is White and the remaining groups are Coloureds and Indians (Statistics South Africa, 2024). Figure 3 shows the population share by age. The age groups 0 to 14 years account for 28.3% of the total population. The working-age population (i.e., 15 to 64 years) constitutes 65.6% of the population. The elderly (i.e., 65 years and older) make up the remaining 6.2% of the population. Within working-age population, the youth cohort (i.e., 15 to 34 years) account for 33.8% of the population. This translates to about 1.3 million youth people in the province. According to Statistics South Africa (2024), the number of young people in the province increased from 997,000 in 1996 to 1.3 million in 2022. This equates to a population growth of 286,000 people (i.e., 25% population growth has been recorded during this period). According to Statistics South Africa (2024), of the total youth population, about 2.6% live with disabilities in the province. Nationally, the persons that are living with disabilities constitute 2.4% of the country’s population (Statistics South Africa, 2024a).

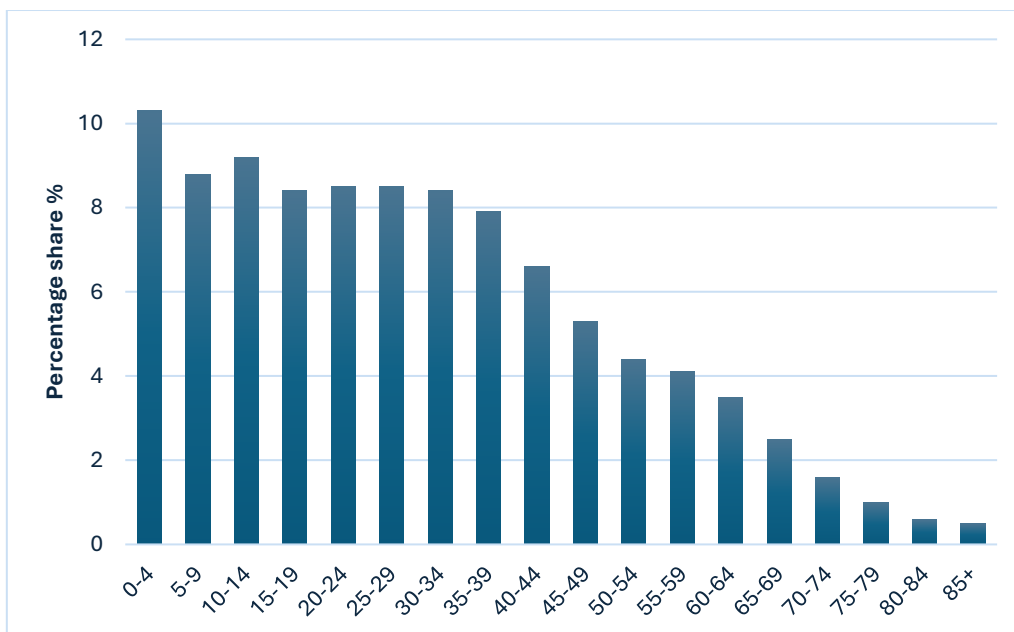


Figure 3: Share of the population by age and gender

(Source: Statistics South Africa, 2024)

### 2.2.3. Education profile

Figure 4 shows the education profile of the province comparing 2021 and 2022. According to Statistics South Africa (2022), of the population falling under the age of educational institution attendance (i.e., age 5 to 24 years), 72.8% are confirmed to be in attendance. This equates to about 929,726 people out of 1.3 million people (i.e., population size of those aged 5 to 24 years). As seen on the figure, there are slight improvements in some levels of education. About 6% of this population group does not have any schooling. A slight increase is seen with the number of people without formal education increasing by about 4,000. A significant percentage of this group has some secondary education (i.e., grade 7 to 11). This is 40% of the population and slight differences are seen between 2021 and 2022. Those with matric qualification accounted for 33% in 2022. This compared to 32% in 2021. In 2023, 81.6% of the matriculants passed their matric. This increased by 1.8% in 2022 (South African Government, 2024).

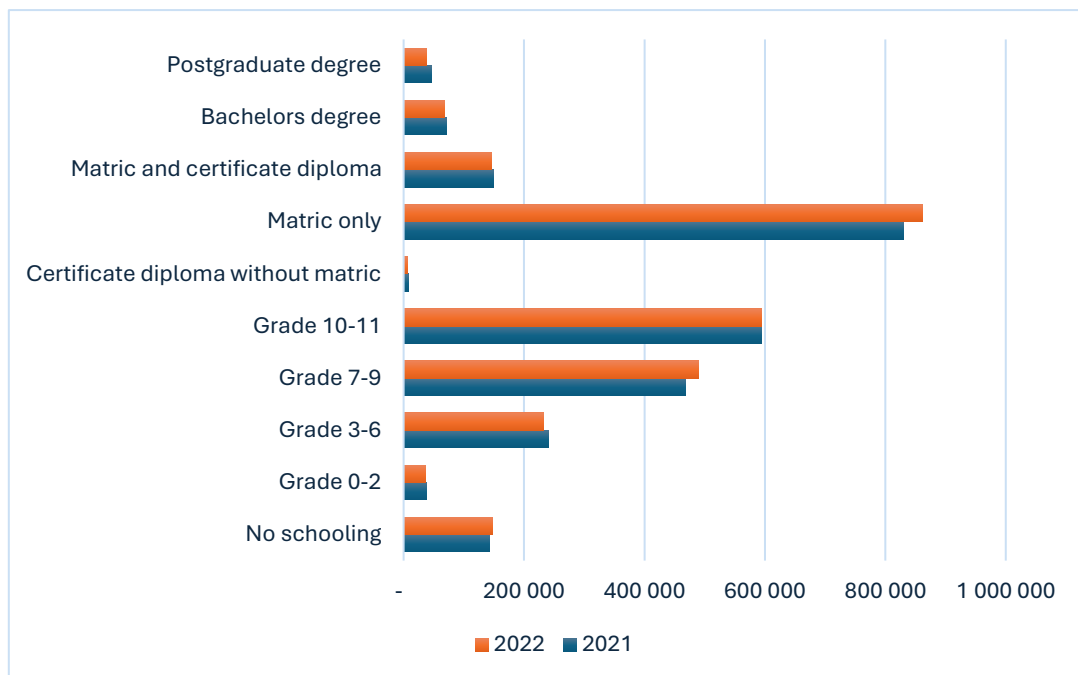


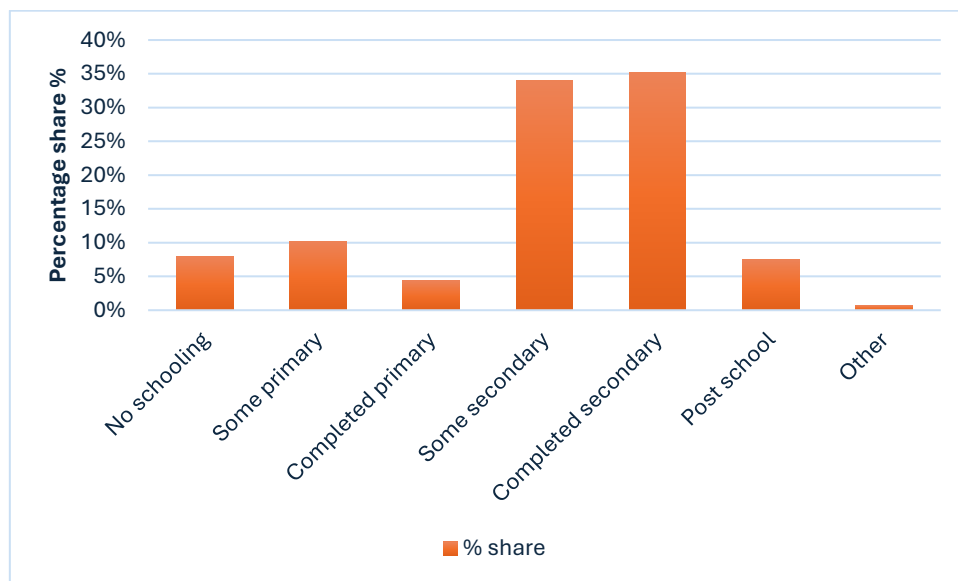
Figure 4: Education profile of the North West province

(Source: North West Provincial Treasury, 2024)

About 10% of the population group has post-school qualifications that includes diplomas, bachelor's degrees, and postgraduate degrees. The low percentage of population with post-school qualification reflect a gap in higher-level skills. The figure also includes those that have

completed certificate qualifications without matric. This group encompasses those that pursued vocational training in offered by Technical and Vocational Education and Training (TVET) colleges.

Figure 5 shows education attainment amongst population aged 20 years and above. About 8% of this population group does not any formal education. A significant percentage of the population (i.e., 34%) have some secondary education, while about 35% completed matric. Those with post-matric qualifications account for 8% of this population group. This equates to about 166,980 people compared to 176,650 of people with no schooling.



*Figure 5: Percentage distribution of persons aged 20 years and above by educational attainment*

(Source: Statistics South Africa, 2023)

#### **2.2.4. Type of households**

Table 2 shows the types of households found in the province and these are classified in three categories, namely, formal dwellings, traditional dwellings and informal dwellings. As seen on the table, the percentage of the population living in formal dwellings have increased and currently account for the largest share of the population. These are followed by households residing in informal dwellings which has declined but still account for a considerable percentage. The households living in traditional dwellings have declined and constitute less than 2%.

Table 2: Distribution of households by type of dwelling and headship

Year	Formal dwelling		Traditional dwelling		Informal dwelling		Other	
	Youth	Non-youth	Youth	Non-youth	Youth	Non-youth	Youth	Non-youth
1996	66.4	70.9	6.0	6.8	27.1	21.8	0.5	0.4
2001	65.1	74.6	4.4	5.1	30.2	20.1	0.3	0.2
2011	68.8	79.2	1.3	1.8	28.8	18.2	1.1	0.8
2022	79.8	90.0	0.8	0.7	18.7	8.9	0.6	0.4

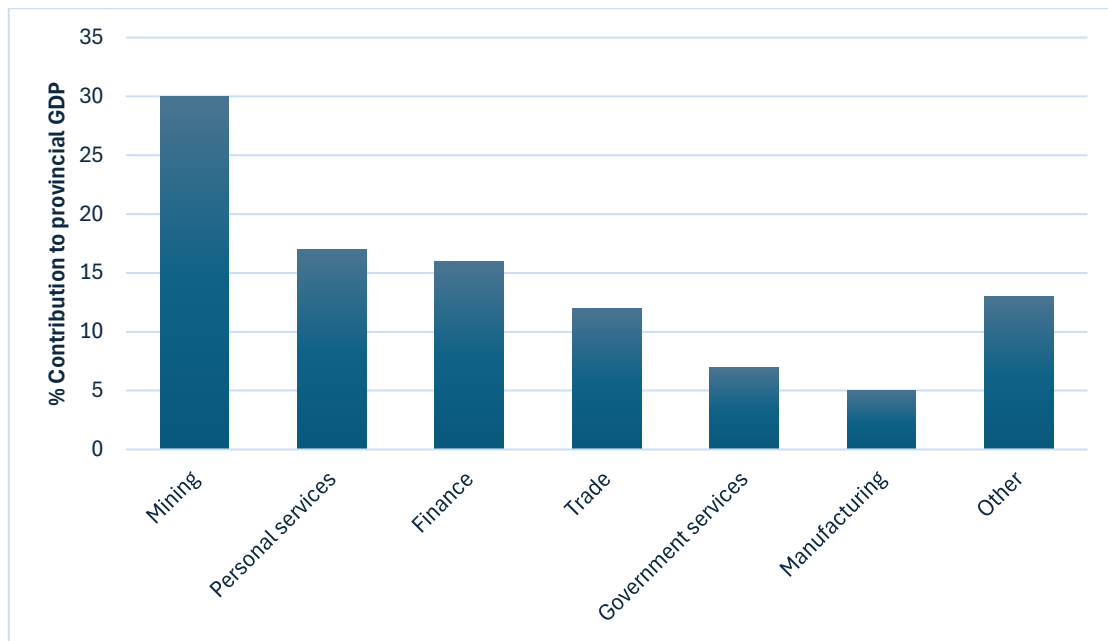
(Source: Statistics South Africa, 2024a)

The table also shows the distribution of households by headship. Two categories are provided, youth-headed households and non-youth headed households. In the report, youth refer to those persons aged between 15 and 34 years, while non-youth refer to persons 35 years and above (Statistics South Africa, 2022a). As noted by Statistics South Africa (2024a), the North West province is amongst the provinces that have higher percentages of youth headed households that resided in informal dwellings in the country. While a decrease in youth-headed households is observed, the percentage remains high compared to other provinces. This is a concern because of the living conditions in the informal settlements. More so, youth-headed households face several socio-economic challenges including financial hardships. These households are at risk of falling in severe poverty because of limited access to income needed to support families (Molemane, 2021). According to Statistics South Africa (2023), the average household size in the province is 3.3 persons. This compares to 3.4 persons as the average household size in the country.

### 2.2.5. Economic landscape

The economy of the North West province is supported by several economic sectors. Figure 6 shows the largest economic sectors in the province as measured by their contribution to the provincial GDP. The mining sector is the largest sector and contributed 30% to the economy of the province. It is followed by personal services and finance which accounted for 17% and 16% respectively. The other sectors including agriculture, electricity, construction, transport and others contributed a combined 13% to the GDP of the province. In particular, the

agricultural and construction sectors accounted 2.7% and 1.7% of the provincial GDP in 2022 (Trade and Industrial Policy Strategies, 2022). The main agricultural activities in the province are maize production, livestock farming and cattle ranching (Statistics South Africa, 2022).



*Figure 6: Contribution of key economic sectors in the economy of the province*

(Source: Statistics South Africa, 2023)

The province also has a growing manufacturing sector, and main activities include food processing and production of goods related to mining. According to Statistics South Africa (2022), the province is also supported by the informal sector which includes small-scale traders, artisans and those involved in service related activities.

As reported by Statistics South Africa (2023), the North West province contributed 6.6% to the country’s GDP in 2022. The economy of the province grew by 0.6% in 2022. This compares to 1.9% of the country’s overall growth rate. Table 3 shows total employment in the North West province and the country in 2023Q2 and 2024Q2. The number of people employed in the province was 881,000 in 2023Q2. A slight increase in the total employment is recorded on the table with 6,000 more people finding employment in 2024Q2. The province accounts for 5% of the country's total employment.

*Table 3: Employment in the province compared to national employment*

	2023Q2	2024Q2
<b>North West</b>	881,000	887,000
<b>South Africa</b>	16,346,000	16,652,000
<b>% Contribution to national employment</b>	5%	5%

(Source: Statistics South Africa, 2024b)

Table 4 shows the characteristics of the labour force in the province. Of the total population, about 2.7 million are working-age population. There was a slight increase in the proportion of working-age population between 2023Q2 and 2024Q2. Of the total working-age population, about 1.5 million people constitute the province’s labour force. This includes persons that are working and those that are unemployed but are available to work. This cohort account for about 55% of the working-age population. From the province’s labour force, 881,000 were working in 2024Q2 and this translates to 58.9% of the total workforce. As seen on the table, about 624,000 people were not working. This increased by 111,000 people from 2023Q2.

*Table 4: Labour force characteristics for the North West province*

<b>Characteristics</b>	<b>2023Q2</b>	<b>2024Q2</b>
Population (15 -64 years)	2,761,000	2,799,000
Labour force	1,394,000	1,511,000
Employed	881,000	887,000
Unemployed	513,000	624,000
Not economically active	1,367,000	1,288,000
Discouraged work seekers	395,000	328,000
Other (not economically active)	972,000	939,000
<b>Rates%</b>		
Unemployment rate	36.8%	41.3%
Labour force participation rate	50.5%	54.0%

(Source: Statistics South Africa, 2024b)

The table also shows a category of the population that is not economically active. There are two groups falling under this category, namely, discouraged work-seekers and other group

(i.e., not economically active) (Statistics South Africa, 2023a). Discouraged work-seekers are “individuals who are unemployed and willing to work but are not pursuing employment due to several factors including lack of economic opportunities, inability to secure employment matching their skills or a sense of despair about the prospect of finding any form of employment” (Statistics South Africa, 2023a). The other cohort encompasses students, homemakers, individuals who are unwell or have disabilities and those that are either too young or too old to engage in work. The number of discouraged work seekers decreased by 67,000 people between 2023Q2 and 2024Q2. Those falling under the other category also decreased from 972,000 in 2023Q2 to 939,000 in 2024Q2. This translates to a 3% change which equates to 33,000 people. Unemployment rate in the province was 41.3% in 2024Q2. This increased from 36.8% in 2023Q2. There are two measures of unemployment in the country, that are the official and expanded unemployment rate. Official unemployment rate is the percentage of the working-age population that is available to work and is actively looking for employment. The expanded unemployment rate, on the other hand, is a broad measure of unemployment that takes into account those that have stopped looking for employment. The expanded unemployment rate of the province was sitting at 54,2% in 2024Q2. This is amongst the highest in the province.

Labour force participation rate (LFPR) which measures the percentage of working-age population that is employed or seeking employment was 50.5% and 54.0% in 2023Q2 and 2024Q2 respectively. The increase in LFPR means that more people are participating in the labour market and seeking employment opportunities. Of the total working-age population, youth (i.e., 15 to 34 years), accounted 50.5% in 2024. According to Statistics South Africa (2024b), youth unemployment rate in the province is amongst the highest in the country. It is sitting at 53.6% in 2024Q1. There are several factors that contribute to rising unemployment rate amongst young people, and these include, low levels of education, rising NEET (i.e., not in employment, education and training) rate and the lack of access to economic opportunities across the country for the youth. The NEET is percentage of percentage of young people aged who are not in education, employment, or training.

The contribution of the different economic sectors to employment in the province differs. Figure 6 shows the number of people employed in the different sectors. As seen on the figure, government services and trade contributed the largest share to the provincial employment.

Government services sector employed 209,000 people in 2024Q2. This decreased by 14,000 people from 2023Q2. An increase in employment was recorded in the trade sector with 9,000 more people being employed in 2024Q2. Finance was the third largest sector in the province in 2024Q2 contributing 14% to the provincial employment.

The mining sector is also amongst the largest employers in the province. In 2023Q2, the sector employed 129,000 people. This declined to 113,000 in 2024Q2 making a percentage decrease of 2%. About 16,000 people lost their employment in the mining sector. Figure 8 shows employment in the mining in the period 2015 to 2024Q2. As seen on the figure, there has been changes in employment in the mining sector. In 2017, the sector employed 225,320 people and this dropped to 132,600 in 2018. A total of 92,720 lost their jobs. According to Statistics South Africa (2017), the PGM and gold which are the largest subsectors in the province contracted by 1.3% and 3.7% respectively in 2017. This led to retrenchments in the mining sector. Since 2017, employment in the mining sector has remained below 150,000 people. Despite the drop in the mining sector’s contribution to employment, it continues to play a significant role in the economy of the North West province

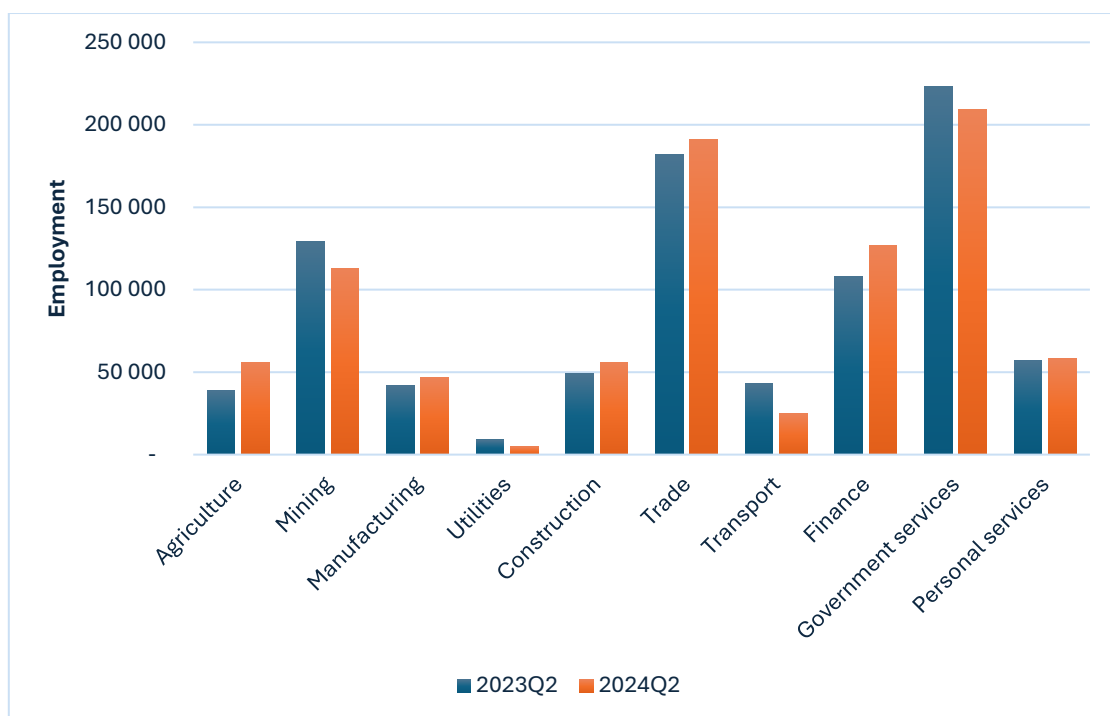
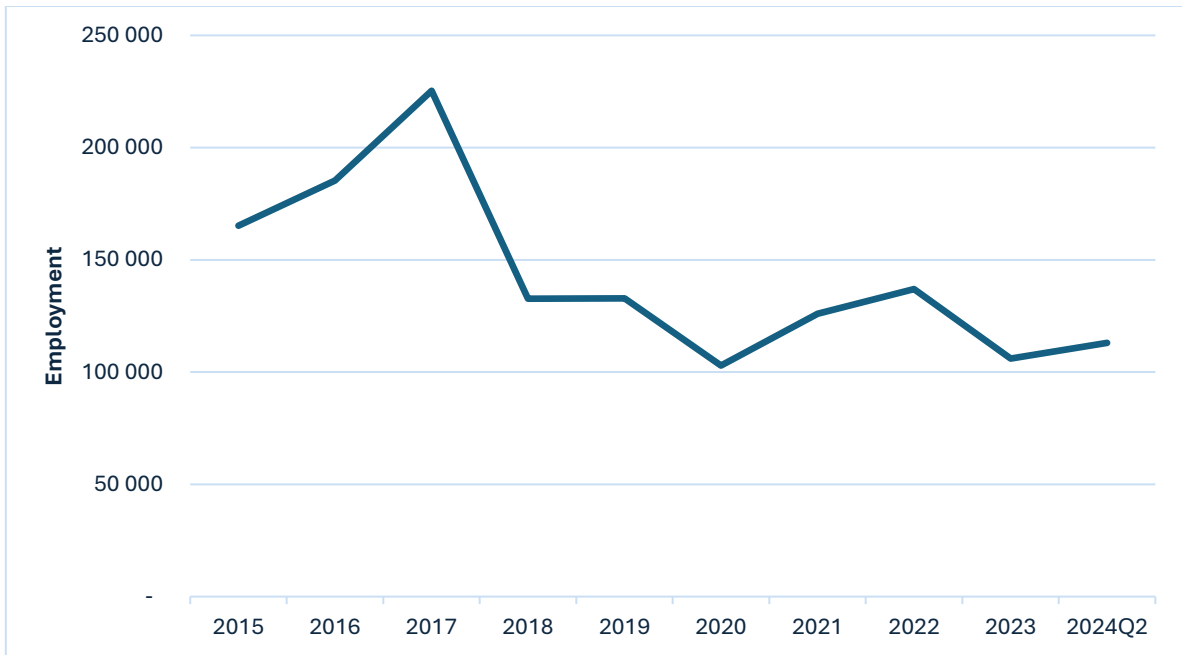


Figure 7: Employment by sector in the North West province

(Source: Statistics South Africa, 2024b)



*Figure 8: Contribution of the mining sector to employment in the province*

(Source: MQA, 2020;2021, Statistics South Africa, 2022;2024b)

### **2.3. State of the mining and minerals sector in the province**

The North West province has a rich history of mining, and it is amongst the leading provinces in the country in terms of mining production. The province is well endowed with diverse mineral resources. It hosts the largest geological formation that hosts differed minerals. This is the Bushveld Igneous Complex. in the heart of the rich Western Bushveld Igneous Complex (BIC) formation. The BIC is known for its rich minerals, and in particular Platinum Group Metals (PGMs). In addition to PGMs, several minerals are found and exploited in the province, namely gold, chrome, diamonds, vanadium, nickel, copper, uranium, fluorspar, manganese phosphates and dimension stones such as granite and slate. According to North West Business (2024), the province produces about 64% of the country’s platinum, 25% of gold, 46% of dimension stone, and 32 % of the country’s chromite. Additional information about the minerals mentioned is discussed below.

**Platinum Group Metals (PGMs)** - The North West Province is the world’s largest producer of platinum and associated minerals such as palladium, rhodium, and iridium. The PGM deposits are mainly found in the Western Limb of the Bushveld Igneous Complex, and most mining

operations are concentrated in Rustenburg and surrounding areas. The province hosts roughly 72 million ounces of reserves, with a projected life of mine of about 19 years considering the current depletion rate of 3.74 million ounces annually (PwC, 2023). Total resources are estimated at 287.22 million ounces. Currently, the North West province accounts for roughly 50% of global platinum output and 65% of PGM production in South Africa (Global Africa Network, 2023). There are 33 PGM mines in the province. PGMs are used in a wide range of applications including automotive, electronics, jewellery and others. The demand of PGMs is expected to increase because of its use in auto catalysts and the hydrogen economy. More so, PGMs are amongst the minerals that have been earmarked for beneficiation in the country (Department of Mineral Resources, 2011). Mineral beneficiation is a critical stage on the mining value chain because of the benefits that can be leveraged from established a beneficiation sector which include job creation, revenue generation, establishment of new industries for supply inputs, and skills development. These opportunities are expected to contribute positively to the economy of the province.

**Gold** - Gold mining in the province is linked to the Witwatersrand Basin which hosts the largest gold deposits in the world. The areas where gold mining is taking place include Klerksdorp and Orkney regions which are located on the border between Gauteng and North West provinces. There are also gold mining operations in Stilfontein. The province used to be a major contributor to the country's gold production, however, over the years, gold production has declined. This is attributed to the depletion of accessible and high-grade gold deposits. As a result, the cost of mining has increased making gold mining more expensive and this is exacerbated by rising cost of energy (Minerals Council South Africa, 2023). The total gold reserves in the province are projected to be about 4.53 million ounces, with an anticipated mine life of about 18 years based on current extraction levels (Global Africa Network, 2023). The province contributes roughly 25% to South Africa's gold output with only two active gold mines.

**Chromite** – The province also produces substantial amounts of chrome which is used in the production of stainless steel. Chrome deposits are also found on the Western Limb of the Bushveld Igneous Complex. There are about 20 chrome mines in the province, and these are concentrated in the Rustenburg area. It is estimated that the province produces about 32% of

the national chromite production (Global Africa Network, 2023). According to PwC (2023), South Africa contributes about 70% to the global chrome supply.

**Uranium** – Uranium mineralisation is found within gold deposits in the province, and these are hosted within the Witwatersrand Basin. As a result, uranium is produced as a by-product during the recovery of gold (North West Business, 2023). To this end, the lifespan of uranium mining is closely associated with gold mining activities.

**Diamonds** – Although at a small scale, the province also host diamond deposits are being exploited. Most of the diamond mining activities are found in Lichtenburg, Christiana and Bloemhof (North West Business, 2023). Both alluvial and kimberlite deposits are found in the province. The province contributes to diamond production, although not at a scale that is comparable to major diamond producing provinces such as Northern Cape, and Gauteng.

**Fluorspar** – Fluorspar, also known as fluorite, is a naturally occurring mineral that contains fluorine and calcium and it is used in many applications including the manufacture of products such as aluminium, gasoline, insulating foams, refrigerants, steel, and uranium fuel (National Minerals Information Centre, n.d). Fluorspar mineralisation is found in Mafikeng and surrounding areas (North West Business, 2023). Globally, South Africa is amongst the top three countries that contain the largest reserves of fluorspar.

**Vanadium** - Vanadium is usually found in PGM deposits within the Bushveld Igneous Complex, especially close to Rustenburg. While detailed quantitative reserves for vanadium are not available, it is produced as a byproduct during the processing of PGMs (Global Africa Network, 2023).

**Additional Minerals** - The North West Province also contains a variety of other mineral resources including limestone, manganese, copper, nickel, phosphate and dimension stone (i.e., the province has large deposits of granite). These minerals support local industries and contribute to national mineral production (PwC, 2023).

Mining activities in the province is dominated by large-scale mining and both open pit and underground mining methods are used to extract the ore from the ground. The dominant producers of minerals in the province include Impala, Sibanye-Stillwater, and Anglo American. Mining activities in the province are mostly concentrated in areas surrounding Rustenburg,

Klerksdorp, Orkney, and Lichtenburg. There are also artisanal and small-scale mining operations in the province, and these exploit a variety of minerals including gold, diamond, chrome and industrial minerals and construction materials (i.e., granite, sand, stone and others).

As the case across the country, the North West province is also dealing with illegal mining taking place in the gold and chrome subsectors. Illegal gold mining has been reported in Stilfontein and Klerksdorp areas. Illegal chrome mining is taking place in communities close to the Rustenburg area. In the past year, illegal mining has received attention with government implementing enforcement measures aimed at combatting illegal mining practices. This is taking place alongside calls for government to put in place mechanisms that will allow those working with appropriate licenses to obtain mining permits. This is in line with Artisanal and Small-Scale Mining (ASM) Policy that was published for implementation in 2022.

In addition to illegal mining, the province encounters several interrelated issues that affect the growth of its mining sector. These challenges include infrastructure issues which cover transportation systems in rural regions. This has been identified to affect the transportation of minerals to the markets (North West Business, 2023). The province has also been dealing with protests taking place in mining communities and these have been linked to several concerns including environmental impacts affecting the health of communities, poor consultation, lack of economic opportunities in the mines, and others (Mining Affected Communities United in Action (MACUA), 2022; Steyn, 2024). The socioeconomic characteristics of the province contributed to the extent of challenges. In particular, shortage of skills continues to affect employment prospects of communities in the MMS.

#### **2.4. Skills analysis in the province**

As the case across the country, there are skilled, semi-skilled and unskilled labour in the province. Skilled labour refers to work that requires specialized knowledge, training, and expertise. Skilled workers have typically completed formal education, vocational training, and would have extensive on-the-job experience. Semi-skilled labour includes those that would have completed vocational training, apprenticeships, or acquired skills through extensive experience. Unskilled labour covers those that do not have formal education and training. They typically perform work that is manual, repetitive and can be learnt quickly (Trade and

Industrial Policy Strategies, 2008). The province has a large percentage of unskilled and semi-skilled workers who are employed in mining, agriculture, and informal sectors.

Of the total working-age population, about 51.4% of the workforce were characterised as semi-skilled workers in 2018 (Statistics South Africa, 2018). Unskilled workers accounted for 32% of the total workforce and skilled professionals constituted 16.5% (Statistics South Africa, 2018). In its sector skills report, Local Government Sector Education and Training Authority (LGSETA) identified a set of skills gaps in the province and these are in the following areas:

- Water and environmental management
- Financial skills
- Construction management
- Computer literacy
- Leadership and management
- Plumbing
- Landscaping
- Driving
- Project management
- Customer care/client services

Some of these skills are transferrable and can be used in the mining sector. The mining sector, in particular, require technically skilled workforce (i.e., engineers, technicians) to support mining operations. Research has indicated that technical and engineering skills are scarce in the province, with mining companies often struggling to fill positions for qualified engineers, geologists, and skilled technicians despite the province's rich mineral resources.

## **2.5. Education and training landscape**

The educational and training environment in the North West Province comprises of various institutions that provide programmes across different disciplines. The province is a home to several universities, Technical and Vocational Education and Training (TVET) institutions, and Community Education and Training (CET) colleges. The North West University (NWU) is located in the province and has campuses in Potchefstroom, Mahikeng, and Vanderbijlpark (i.e., this is in Gauteng province). The University of South Africa (UNISA) also operates a regional centre in the province, situated in Mahikeng. This centre offers a range of support services to

students, such as academic help, administrative aid, and registration assistance. NWU provides a wide array of programmes across its different faculties, including engineering and the built environment, medicine, humanities, law, natural and agricultural sciences, education, as well as economics and management sciences. Entry requirements differ across programmes and institutions. For universities, grade 12 is a requirement and a minimum of 34 Admission Points Score (APS) score is required for engineering courses.

The province has only three TVET colleges, and these are Taletso, Vuselela and ORBIT TVET colleges. Taletso has campuses in Mahikeng, Rustenburg, and Klerksdorp. Vuselela college has five campuses located in Jouberton, Klerksdorp, Matlosana, Potchefstroom, and Taung. ORBIT College has campuses in Brits, Rustenburg, and Mankwe. TVET colleges offer practical training in different fields such as business studies, tourism, engineering, hospitality, and information technology. The entry requirement for colleges is a minimum Grade 9 certificate for national certificate, Vocational NC(V) programmes or a matric certificate for National N Diploma courses. Table 5 lists some of the institutions and highlight programme offerings with a focus on engineering and related programmes. These programmes equip students with practical, industry-relevant competencies that are needed in the mining sector and other economic sectors.

Skills development and training in the province is also supported by different Sector Education and Training Authorities (SETAs) operating across different economic sectors. The Services SETA has set up a provincial office and Skills Development Centre in Klerksdorp to improve training prospects for youth in the area (Services SETA, 2023). The Mining Qualifications Authority (MQA) has established partnership with TVET and CET colleges to enhance mining-related skills in accordance with industry demands. These colleges include North West CET, Vuselela TVET, Orbit colleges (MQA, 2023). The other SETA, namely, Manufacturing, Engineering and Related Services Sector Education and Training Authority (MerSETA), Local Government Sector Education and Training Authority (LGSETA), Agricultural Sector Education Training Authority (AGRISETA), Education, Training and Development Practices Sector Education and Training Authority (ETDP SETA), and Construction Education and Training Authority (CETA), have also implemented numerous skills development programmes throughout different sectors in the province (ETDP SETA, 2022).

Table 5: Post-school education and training institutions and engineering related programmes

Academic Institutions	Names	Programme offerings (i.e., related to engineering)
Universities	North-West University	Bachelor of Engineering in Chemical Engineering
		Bachelor of Engineering in Electrical and Electronic engineering
		Bachelor of Engineering in Mechanical engineering
		Bachelor of Engineering in Industrial Engineering
		Bachelor of Engineering in Electrochemical Engineering
		Bachelor of Engineering in Mechatronics Engineering
		Extended Bachelor of Science with Environmental Sciences with Geography
Technical and Vocational Colleges	Vuselela TVET College	NCV in Civil Engineering and Building Construction (L2 – L4)
		Electrical Infrastructure Construction (L2 – L4)
		Engineering and Related Design (L2 – L4)
	Taletso TVET College	NCV in Civil Engineering and Building Construction
		Electrical Infrastructure Construction

		Engineering and Related Design
		Artisan Development Programmes in various trades relevant to mining, such as: <ul style="list-style-type: none"> <li>• Boiler making</li> <li>• Welding</li> <li>• Electrical Engineering</li> </ul>
	ORBIT TVET College	N1 to N3 Engineering Programmes (Artisan Development)
		Electrical Engineering
		Diesel Mechanic Trade
		Civil Engineering and Building Construction

## 2.6. Skills development policies and initiatives

This section discusses policies, laws and strategies that support skills development and training. These are presented at three levels taking into account national frameworks, sectoral legislation and strategies and provincial development strategies.

### 2.6.1. National policy and strategy frameworks

The *Constitution of the Republic of South Africa* sets out the foundation for the country's socioeconomic development by placing its citizens at the centre. The Constitution aims to address the past injustices and in doing so, support the country in building a society that is based on democratic values, social justice, and fundamental human. Specifically, the Bill of Right enshrines fundamental rights and freedoms for all citizens and ensure that they are enjoyed by various groups within the country. The Bill of Rights promotes equality, human dignity, life, freedom and security, privacy, freedom of expression and others. Section 29 of the Constitution highlights the everyone's right "(a) to a basic education including basic education, and (b) to further education, which the state, through reasonable measures, must make progressively available and accessible" (South African government, 1996:12). This

fundamental right has been realised through various legislative frameworks, one of which is the Skills Development Act (No. 97 of 1998).

The overarching goal of the **Skills Development Act** is to “provide an institutional framework to devise and implement national, sector and workplace strategies to develop and improve the skills of the South African work force” (South African government, 1998). The Act was enacted to address the skills gaps and enhance the overall skill level of the country’s workforce closing the gap between skills supply and demand. Through the Skills Development Act, the National Skills Authority and National Skills Fund were established. More so, sector education and training authorities (SETAs) were formed. There are twenty-one (21) SETAs in the country, and they are mandated to drive skills development in the different economic sectors. The Mining Qualification Authority (MQA) supports skills development in the mining and mineral sector, and its mission is to “ensure that the mining and minerals sector has sufficient competent people who will improve health and safety, employment equity and increase productivity standards”.

Skills development in the country is also embedded in the country’s socioeconomic development frameworks. This is because of the direct relationship between skills development and training and the triple challenges affecting the country (i.e., poverty, inequality and unemployment). The government established the **National Skills Development Strategy (NSDS)** whose aim is to support the realisation of the National Development Plan – Vision 2030. The National Skills Development Strategy III aims to address skills gaps and shortages and promote skills development in the workforce. It also aims to improve the efficiency and effectiveness of the skills development system (Department of Higher Education and Training, 2019). The NSDS III is tied to transformational imperatives in the country considering disparities that are seen across race, class, gender, location, age and HIV/AIDS status. In this regard, the NSDS promotes prioritisation of Blacks South Africans, women, youth, rural areas over urban areas, and people living with disabilities.

### **2.6.2. Sector policies and strategies**

The **Mineral and Petroleum Resource Development Act (No. 28 of 2002)** is the primary legislation governing the mining and minerals sector in the country. Its overarching goal is to ensure equitable access and sustainable development of the country’s mineral and petroleum

resources (Government gazette, 2002). This is in recognition of the history of mining in the country that is characterised by discriminatory practices and the exploitation of mineral resources without consideration of social and environmental objectives that are key to the country's development agenda. To this end, the MPRDA has been instrumental in ensuring that South Africa's mining sector benefits all its citizens, particularly historically disadvantaged communities. Sector 100 of the Act called government to develop a broad-based socioeconomic empowerment charter (i.e., mining charter) that will facilitate the transformation of the mining sector.

Aligned to the objectives of the MPRDA, the ***Mining Charter III*** aims to facilitate sustainable transformation, growth and development of the mining sector (Government gazette, 2018). This objective is supported by several areas of intervention covering ownership, procurement, supplier and enterprise development, human resource development (HRD), employment equity (EE), mine community development, and housing and living conditions. Within human resource development, the charter talks to the need to (1) produce skilled, trained and diverse workforce to meet the needs of the mining sector, (2) develop skills that enhance productivity of workforce increasing the employability of disadvantaged South Africans, and (3) develop entrepreneurial skills to improve livelihood and create opportunities outside of mining (Government gazette, 2018). To support these, mining companies are required to invest a minimum 5% of leviable amount (excluding the statutory skills development levy) on essential skills development activities such as development of science, technology, engineering and mathematics (STEM) skills, adult basic education and training, artisan training, learnerships, bursaries and other skills training initiatives for people in the community which include portable skills training (Centre for Applied Legal Studies, 2017). The MMS has made considerable progress in terms of overall transformation of the sector. In the 2014, an assessment of the mining charter was carried out and amongst the key findings were that the majority of mining communities continue to live in poverty and the participation of Historically Disadvantaged South Africans (HDSAs) remain low. There is therefore a need to move beyond compliance that is necessitated by the need to safeguard the social licence to operate and implement projects that will leave long-lasting impact on communities.

The Mining Charter is implemented through ***Social and Labour Plans*** which SLPs outline the strategies that mining companies intend to use for community development, including their

approaches to skills training. This framework aims to extend socio-economic benefits not only to workers but also to the host communities and labour sending areas (Benya, 2017). According to Centre for Applied Legal Studies (CALs) (2017), the rationale behind SLPs is to ensure that mining companies offer opportunities for workers and communities to benefit from local mineral resources. The implementation period of projects contained in SLPs is five years and mining companies are required to submit annual reports to the Department of Mineral Resources. The SLP projects need to contribute towards mine community development, human resource development, employment equity, housing and living conditions, and address the impacts of downscaling and retrenchments (Department of Mineral Resources, 2010).

The HRD programmes, specifically, need to accommodate both employees and communities equipping them with the skills that are relevant to mining as well as skills that can be used in other sectors of the economy (Centre for Applied Legal Studies, 2017). In 2016, the South African Human Rights Commission (SAHRC) conducted investigative hearings aimed at understanding the socioeconomic challenges affecting mining-affected communities in South Africa. Amongst the concerns raised was limited compliance on regulatory obligations by mining companies. The delivery of SLP projects was highlighted as one of the issues with the level of compliance recorded at about 30% (SAHRC, 2016).

Another concern that has been directed to SLPs as a tool that is key in supporting local economic development is the misalignment with local strategies, specifically Integrated Development Plans (IDPs). The IDPs are a key component of South Africa's strategy for promoting economic growth, job creation, and sustainable development (de Wet et al., 2020). They integrate economic, social, environmental, and fiscal strategies to allocate resources efficiently, ensuring alignment with community and stakeholder needs over a five-year period, with annual reviews for adaptation. The main objectives of IDPs include fostering economic growth, improving quality of life, promoting environmental sustainability, and managing fiscal resources effectively.

There exists a critical gap between SLPs and IDPs where projects implemented by the mine would be outside the priority projects identified in IDPs. This lack of alignment hinders effective implementation and leaves gaps, particularly in providing training and creating

economic opportunities for communities. Furthermore, it is found that the projects implemented by local municipalities tend to restrict focus to other economic sectors, making it difficult to align training programmes with the demands of the mining sector (Lahiff, 2013). There is therefore a need for mining companies to collaborate with local governments to ensure alignment between SLPs and IDPs and other key strategies supporting both regional and local economic development (van der Watt and Marais, 2021). Engagement with communities is also essential to ensure that programmes respond to the needs of the community.

### **2.6.3. Provincial strategies**

The alignment between national and provincial development strategies is important to ensure policy coherence and to optimise implementation of development programmes. It is also important in terms of facilitating stakeholder coordination and support. While this link is important, provincial and local strategies needs to be tailored to suit the provincial context taking into account the socio-economic landscapes and factor endowments that are often unique to particular localities. Factor endowments are resources that regions can use to support economic activity, such as land, minerals, capital, and labour (Ancheta et al, 2023).

The North West Province has several strategies supporting its socioeconomic development that is aligned with the broader national development priorities. The **North West Provincial Development Plan (PDP)** aligns with the objectives of the National Development Plan (NDP) which is to eliminate poverty, unemployment and inequality by 2030 (Department of Economic Development, Environment, Conservation and Tourism, 2020; North West Development Corporation, 2016). The PDP has identified eight of the priorities which are informed by the province's socio-economic context and opportunities. Particular focus is on the rural economy, need for economic infrastructure to support employment in the province, and the transformation of the human settlements (North West Development Corporation, 2016). The implementation of the PDS will be supported by the **Provincial Growth and Development Strategy (PGDS)** which is anchored on the need to promote integrated economic planning and sector contributions in the province (North West Provincial Legislature, 2024). Another key strategy is the **North West Provincial Government's Skills Development Strategy**, and its objectives include strengthening skills development and

training in the province, aligning skills supply and demand across economic sectors, promotion of skills development amongst youth, women and people with disabilities, and fostering collaboration between key stakeholders in the province.

#### **2.6.4. Skills development initiatives in the province**

Skills development and training programmes are crucial for promoting economic growth and decreasing unemployment rates, especially in regions such as North West province where a significant percentage of the population is living below the poverty line. There are several stakeholders that are supporting skills development and training in the province. Box 1 provides some of the stakeholders that have implemented skills development and training initiatives in the province.

#### **Box 1: Skills Development Initiatives**

- North-West Development Corporation (NWDC) skills development initiatives
- University of North West's (UNW) mining-related programmes
- Tshwane University of Technology's (TUT) North-West campuses
- Bojanala Platinum District Municipality's skills development programmes
- North-West Youth Development Agency (NWYDA) skills development programmes
- National Youth Development Agency (NYDA) skills development programmes
- North-West Women's Development Agency (NWWDA) skills development programmes

The key stakeholders include the North West Development Corporation which is an agency of the provincial government. It was established to contribute towards the growth and transformation of the economy of the North West province. Its flagship programmes include SMMEs and corporative, project management, special economic zones, mining, agro-processing, tourism and trade and investment (North West Development Corporation, n.d). These programmes are supported by skills development and training across various areas. The

National Youth Development Agency and provincial office have also supported several skills development programmes in the province. Some of the projects implemented in the province include:

- **Labour Activation Plan**

The Labour Activation Plan (LAP) is a skills development and employment programme implemented by the Department of Labour which is financially supported by the Unemployment Insurance Fund (UIF). This programme provides training for unemployed youth and UIF beneficiaries to bridge the skills gap and enhance the chances of getting employment (South African Government, 2022). Training programmes cover hospitality, such as barista and assistant chef positions, as well as entrepreneurial skills. Trainees are provided with both practical and theoretical instruction and earn certifications at the end of training either, at NQF level 2 or 4, depending on the specific programme. The overarching goal of the initiative is equipping beneficiaries with the necessary skills in order to increase their chances in entering the labour force and/or assisting them to start their own businesses. The LAP is expected to create work and training opportunities for 27,000 unemployed people in the province, in particular, young people (South African Government News Agency, 2024).

- **National Youth Services Fund**

The National Youth Development Agency (NYDA) has supported skills development and training initiatives in the province. The NYDA was established to address the socioeconomic challenges facing the youth in the country. Its interventions are implemented at all levels, national, provincial and local levels. The NYDA has established several programmes, one of which is the funding mechanism that is the National Youth Fund. Through the fund, the North West provincial government is targeting to train more than 1,200 young people. This training will be supported by different government departments including Departments of Public Works and Roads, Social Development, Human Settlement as well as Arts, Culture Sports, and Recreation (South African Government News Agency, 2024). This initiative aims to decrease youth unemployment through increased participation in the labour market and facilitating opportunities in entrepreneurship. The programme also aims to activate the Victor Thebe Sifora bursary programme that will fund approximately 100 learners for the year 2025 (South African Government News Agency, 2024).

- **National Skills Fund**

The National Skills Fund (NSF) is a funding mechanism that support skills development and training in the country. The NSF was used to fund the Sizimisele-Seto Joint Venture North West Discretionary and Innovation Project, which was established to train artisans in the province. which creates artisan training opportunities in the North West province (OECD, 2017). The programme targeted 483 employed and unemployed people across four district municipalities in the province. The targets for the programme included the delivery of 240 apprenticeships, 242 learnerships/professional qualifications and the training of 42 people with disabilities (Department of Higher Education and Training, 2016). Sizimisele-Sesto identified and delivered on a number of scarce and critical skills including professional skills (local government accounting and clothes manufacturing) and technical skills (mechanical, electrical and construction artisans, welding and radiation protection specialists and engineering technicians) (Department of Higher Education and Training, 2016).

- **Skills Development Centre**

The services SETA together with the Department of Higher Education and Training, the North West Provincial Public Works and Roads Department launched the Skills Development Centre in Klerksdorp to provide the youth with training. The focus of the training in on agricultural education and small-scale mining. This involves offering rural communities resources, farming methods, and guidance to improve food security and create jobs.

- **Expanded Public Works Programme**

The Department of Public Works and Infrastructure in collaboration with other government departments and local municipalities launched the Expanded Public Works Programme (EPWP). The EPWP is a key government initiative that aims to ensure decent work and sustainable livelihoods. The programme provides temporary work and skills development for the unemployed people focusing on youth, women, and individuals with disabilities to enhance their socio-economic status. According to the South African Government (2023), in

the period 2019–2024, more than 4.3 million job openings were generated across the country. The Department of Public Works and Roads launched the EPWP at Madibeng Local Municipality in May 2024 (South African Government, 2024a)<sup>2</sup>.

- **Mining Qualifications Authority Programmes**

The Mining Qualifications Authority (MQA) has implemented several programmes in the province. This has been done in collaboration with a number of stakeholders including local authorities, mining companies, Department of Higher Education and Training and others. The primary goal of these initiatives is to enhance the skills of individuals working in the MMS. According to Mineral Council South Africa (2022), more than R6 billion has been spent by mining companies on skills development in mining provinces. As alluded, there are several mining companies in the North West province, and they contribute considerably to skills development and training. Box 1 provides a summary of mining sector specific interventions.

**Box 2: MMS-specific skills development and training initiatives**

- Glencore's training programmes in the North-West (e.g., Rustenburg Operations)
- Sibanye-Stillwater's skills development initiatives in the North-West (e.g., Rustenburg Platinum Mines)
- Mining Industry's Women Development Programmes (e.g., Anglo American's Women in Mining initiative)
- Mining Industry's Youth Development Programmes (e.g., Anglo American's Youth Development Programme)
- Mining Industry's Learnership Programmes (e.g., Anglo American, Exxaro, Glencore)

Mining operations has in-house training facilities that provides technical and vocational training in mining-related skills such as equipment operation, safety procedures, maintenance

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<sup>2</sup> <https://www.gov.za/news/media-advisories/government-activities/mec-gaoage-oageng-molapisi-hosts-provincial-launch>.

and others. Mining companies also have partnerships with local technical colleges and universities, offering bursaries and scholarships to develop local talent in fields like mining engineering, geology, and related disciplines. The investment in education extends to supporting science, technology, engineering and mathematics (STEM) programmes in local schools, helping build the foundational skills needed for future mining sector employment. Mining companies also contribute significantly to community-level skills development through social and labour plans. Some of the key programmes supported by mining companies focus on adult education and literacy programmes in mining communities, coupled with basic business skills training for local entrepreneurs and suppliers. These programmes are steered towards increasing the participation of communities into MMS and also equipping community members with skills that are transferrable for use in other economic sectors.

While there is a growing footprint of skills development and training in the province, there remain challenges particularly when assessing the impact of the various initiatives. The challenges facing the province include mismatch between training programmes and industry demands, limited access to quality technical and vocational education, and poor coordination amongst stakeholders (Department of Higher Education and Training, 2022). These challenges are compounded by socioeconomic challenges in the province, in particular, high youth unemployment, financial constraints limiting access to training, and gender imbalances in technical education (Statistics South Africa, 2023).

## **2.7. Summary of the chapter**

The following key insights can be drawn from the discussion:

- The population of the North West province grew by 40% between 1996 and 2022 and it is expected to continue to grow as people continue to be attracted to the province because of its MMS. Most of the population is concentrated in Bojanala Platinum District Municipality and this is where the majority of mining operations are located. Of the total population, about 65% is constituted by working-age population (i.e., age 15 to 64 years). From this cohort, youth account for 33.8%. The percentage of youth in the province has been increasing, and this is expected to continue on this trend.
- In terms of gender, there is a balance between the percentage of male vs female in the population. Whilst this is the case, gender inequality remains a concern when looking

at employment and income especially in rural areas where there are limited economic activities.

- The education levels in the province have improved, but there are still concerns regarding the percentage of the population that has no formal education as well as those with post-school education. In the latter group, only 8% of the population have tertiary qualifications. Education has strong correlations with employment in the country. High unemployment levels are recorded amongst those with low levels of education.
- As the case in some of the provinces, the North West has a high number of working-age population is that not economically active and a large percentage of this group falls under discouraged work seekers.
- The North West province is amongst the provinces that recorded an increase in the unemployment rate in the country. Amongst the drivers of unemployment is the increase in the number of young people that are characterised as NEET (i.e., not in education, employment and training).
- The economy of the province is supported by different economic sector. The MMS is the largest sector both in terms of contribution to provincial GDP and employment. There are other several sectors that offers opportunities in the province and these include agriculture, manufacturing, construction, trade and finance.
- The North West province is rich in mineral resources and mining is expected to continue to be a critical part of the economy of the province. The contribution of the MMS is dependent on several factors some of which present challenges that need to be addressed. These include illegal mining and tensions with communities which stem from lack of economic opportunities, amongst other concerns.
- The availability of skills has a bearing on the employability of communities in the MMS sector. As the case in some provinces, a significant percentage of the working-age population in the North West is unskilled. As such, mining companies are struggling to fill positions that require skilled professionals.
- The various skills needed by the MMS and other economic sectors can be obtained from universities, TVETs and CET colleges within the province. These institutions offer practical, industry-relevant competencies that are needed by the MMS and other

economic sectors. Skills development and training in the province is also supported by different SETAs which cater for different economic sectors.

Against these insights, several key conclusions can be made, and these are:

- The significant population growth in the province, particularly concentrated around mining operations in the Bojanala Platinum District Municipality, highlights an urgent need for geographically targeted skills development initiatives. With young people accounting a significant percentage of the working age population, this calls for skills development programmes that target the youth in order to harness this demographic dividend for the province economic development.
- The gender parity in population statistics, contrasted with persistent gender inequality in employment and income highlights the need for gender-responsive skills development strategies. Training programmes must prioritise women and these must be designed such that they address the factors affecting female participation in skills development and training initiatives.
- The high proportion of economically inactive working-age population in the province points to a critical need for targeted intervention strategies that go beyond traditional skills development approaches. This situation, coupled with the growing NEET youth population, suggests that skills development initiatives that includes career guidance, job placement assistance, and mentorship programmes to help overcome the psychological barriers that lead to discouragement.
- With the economy of the province being supported by various economic sectors, there is a need for diversified skills development strategies. While mining-specific skills remain crucial, training programmes should be designed such that they offer skills that are transferable that can be applied across multiple sectors including agriculture, manufacturing, construction, trade, and finance. This multi-sectoral approach to skills development would not only enhance employment flexibility but also contribute to economic resilience by preparing workers for opportunities across various sectors. The cross-sector skill development is important considering the cyclical nature of the MMS and hence comes with alternative livelihood opportunities for communities during bust cycles.

- The prevalence of illegal mining and community tensions, stemming partly from lack of economic opportunities, underscores the importance of inclusive skills development programmes that prioritise local community participation. Training initiatives should be designed not only to address the technical skills gaps in the mining sector but also to create pathways for community members to participate in the formal mining economy, thereby potentially reducing illegal mining activities and community tensions.
- The presence of educational institutions in the province including universities, TVET colleges, and CET colleges alongside sector-specific SETAs and other key stakeholders that support skills development and training in the province creates a foundation for developing comprehensive skills development partnerships that will contribute to the attainment of the province’s socioeconomic development objectives and the country’s NDP – Vision 2030.

### **3. APPROACH TO THE STUDY**

#### **3.1. Introduction**

Research methodology is a systematic approach used to address research problems through the collection, analysis, interpretation, and presentation of data. The selection of an appropriate methodology is guided by the study’s objectives, ensuring accurate data collection and analysis to address the research questions. This chapter outlines the methodology employed in the study, covering research design, data collection and analysis methods, research reliability and validity, ethical considerations, and study limitations.

### **3.2. Research design**

The study adopted a mixed-methods research design which presents a framework that addresses gaps inherent in both quantitative and qualitative approaches. Studies of this nature frequently align with a pragmatic research paradigm, which has traditionally dominated this field of inquiry. According to Dawadi et al (2020), the mixed-method research approach enables researchers to respond to research questions with sufficient depth and breadth. Within a mixed-method research study, the quantitative approach helps a researcher to collect the data from a large number of participants; thus, increasing the possibility to generalise the findings to a wider population. On the other hand, qualitative methods provide in-depth understanding of the issues being investigated (Dawadi et al, 2020). Skills development is a multifaceted issue comprising of several dimensions – and hence cannot be unpacked using a single lens. The mixed-method research design is best placed to provide an understanding of its various dimensions.

### **3.3. Data collection methods**

In line with the research approach adopted for the study, both quantitative data and qualitative data was collected. Qualitative data was collected through literature and document review, as well as workshops. During the workshop, structured Focus Group Discussions (FGDs) were conducted to guide the discussions among participants ensuring that representation of diverse perspectives on skills development. Quantitative data was collected through community surveys as well as extracted from MQA’s Workplace Skills Plans and Annual Training Reports (ATR) database. The data collection methods are noted below.

#### **3.3.1. Qualitative data**

***Literature and document review*** - Desktop research was conducted to obtain relevant literature for the study. Different sources of data were used and these included peer reviewed papers, reports, online material, as well as grey literature. Sources of data include sector skills plans, social and labour plans, economic development plans, integrated development plans and other relevant reports.

***Community workshops and Focus Group Discussion*** – Two community workshop were held in Klerksdorp and Rustenburg on the 19<sup>th</sup> and 20<sup>th</sup> December 2024. The workshops aimed to identify opportunities, challenges, skills gaps and development needs in mining communities. The workshops were attended by a combined 47 participants, who included women, men, the youth, and those living with disabilities. In each workshop, three FGDs were conducted to gain in-depth insights on skills development from the participants.

### **3.3.2. Quantitative data**

***Community surveys*** were used to collect information from community members in the province. The survey questionnaire was administered to community participants. It was a requirement that all community members participating in the study were 18 years and above. This was in line with ethical requirements as they pertain to individual consent which was sought before participation in the study. The surveys were completed online and using hard copy documents. The questionnaire was administered by research assistants who were recruited in the provinces. A total of 308 community members took part in the survey. In addition to surveys, the ***WSP-ATR 2024 data*** was extracted from the database provided by the MQA.

### **3.4. Data analysis methods**

The quantitative data was analysed using Microsoft Excel to establish frequencies and percentages, providing insights into the distribution and trends within the data. The qualitative data was analysed content analysis where key themes were extracted as guided by the key questions that were posed.

### **3.5. Research reliability and validity**

Research reliability and validity are important measures in research that ensure the quality and trustworthiness of the research and findings being presented. There are various methods that can be used to establish validity and reliability of quantitative and qualitative research. In this study, reliability and validity will be established through the use of the triangulation method. There are different triangulation methods – data triangulation (i.e., the use of multiple data), investigator triangulation (i.e., involves multiple researchers collecting and analysing the data), theory triangulation (i.e., application of multiple theories to test the findings) and methodological triangulation (i.e., the use of different approaches to collect and

analyse data) (UNAIDS, n.d; Heale and Forbes, 2013). This research study used multiple sources of data (i.e., secondary and primary data as well as different investigators to collect, analyse and cross check the data.

### **3.6. Ethical considerations**

The study was conducted in line with the University's research requirements. During the research, ethical requirements were followed particularly in terms of:

- ***Informed consent*** – consent was sought from the participants before they took part in both the community surveys and workshops. Both written and verbal consent were obtained before participation in the community surveys or workshops.

### **3.7. Study limitations and challenges**

Several challenges were experienced which affected data collection, and these included:

- Some community members were reluctant to participate in the survey, citing a lack of interest in training programmes or fearing reprisals from the mining company as captured by one Research Assistant, "Some ex-mine workers said these surveys are they causes of retrenchment."
- While all research assistants highlighted that the questionnaire was easily accessible with simple language, however, there were mixed feelings about the time allocated for the survey. The 20-minute time frame allocated for the survey was insufficient, given the number of questions and the pace of participants which vary among based on various factors.
- Research assistants faced technical challenges associated with the use of cell phones to administer the surveys.

Overall, the survey proved to be an effective data collection tool, providing valuable insights into the skills development needs and challenges faced by communities in mining areas. The successful implementation of the process can be attributed to a team of well-equipped and trained research assistants. These assistants possess extensive experience in data collection and the use of instruments, strong communication and interpersonal skills, and the ability to effectively engage with community members and other local stakeholders.

### **3.8. Summary of the chapter**

The objective of this chapter was to discuss the research methodology employed in the study. A mixed-methods approach was used to collect and analyse data, incorporating literature and document reviews, as well as rapid appraisal surveys. Both quantitative and qualitative data analysis methods were utilised to consolidate the results for the study. The chapter also highlighted the ethical considerations that were taken into account, along with the study's limitations and challenges encountered. The next chapter presents the preliminary results, primarily drawn from the community survey.

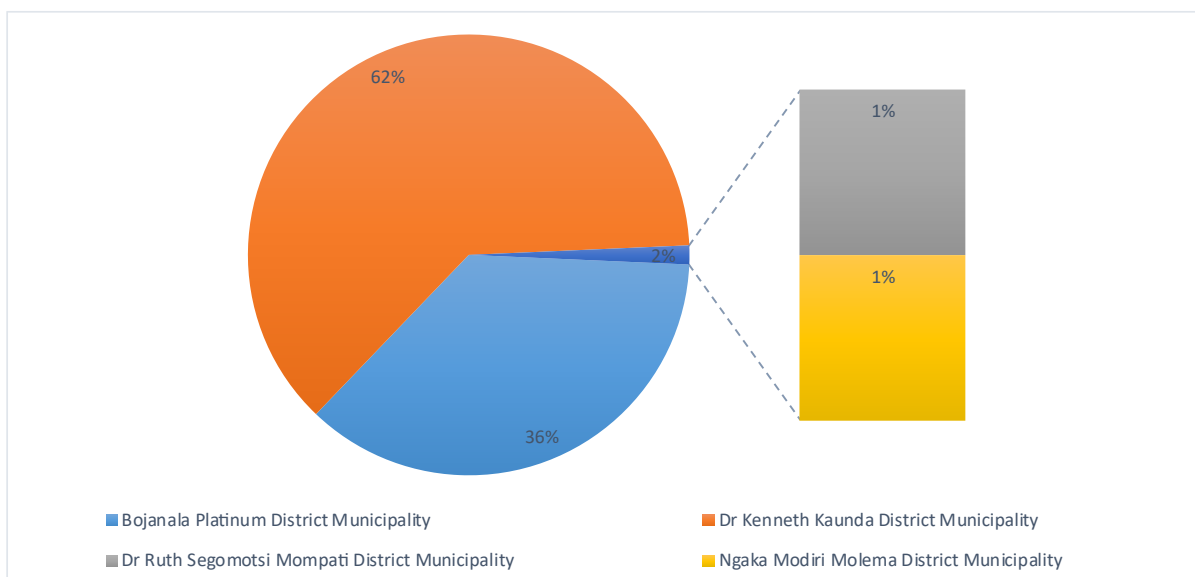
## **4. PART 1: RESULTS AND KEY FINDINGS**

### **4.1. Introduction**

This chapter presents and analyses the survey results. It is organised into seven subsections, detailing the locations within the province where data was collected, the demographic profile of the participants, and their employment status. Additionally, the chapter provides insights into the perspectives of the participants on mining-related skills development and training, future mining skills, the role of MQA in community skills development, and cross-sector skills development opportunities.

### **4.2. Geographic locations within the province**

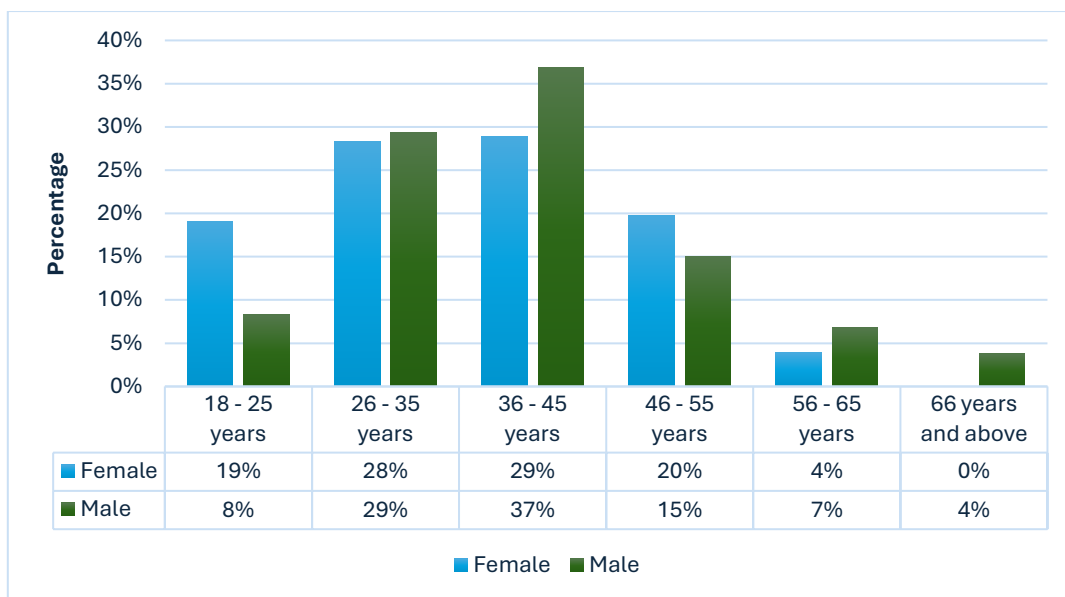
This analysis is based on a total of 308 surveys that were completed in the province. As noted, the North West province has 4 district municipality and data collection took place in all municipalities in the province. Figure 9 shows the participation rate across the municipalities. The largest participation (i.e., 62%) was obtained in Dr Kenneh Kaunda District Municipality, followed by Bojanala Platinum District Municipality (36%). The remaining two municipalities accounted for 2% of the total participation. The level of participation was a factor of accessibility in that the areas that were easily accessed were prioritised, leading to higher engagement and more comprehensive data collection from those regions.



*Figure 9: Participation levels across district municipalities*

### **4.3. Demographic profile**

Of the total participants, 53% were female and the remaining 47% were male. This is a balanced representation across gender, ensuring that perspectives from all genders are equally considered and reflected. Figure 10 shows gender represented alongside the age of the participants. The majority of the participants (i.e., 33%) were in the age group 36 to 45 years. They were followed by those in the age group 26 to 35 years. Generally, there is satisfactory representation of participants across the different age groups, ensuring that the survey results reflect a diverse range of perspectives and experiences. As seen in the figure, the largest percentages of female participants are in the age groups 26 to 35 years, 36 to 45 years and 36 – 45 years. This is the case with male participants, however, there are differences in the number of participants across the different age groups.



*Figure 10: Gender distribution by age group*

The majority of the participants were Black (i.e., 96%) with only 4% of the participants being Coloured. In terms of education, the majority of the participants (i.e., 41%) has completed matric. They are followed by those who have some secondary education (i.e., 42%). This encompasses those whose highest level of education is grade 9, 10 and 11. Of the total participants, about 4% indicated that they live with a disability. During the workshops, participants highlighted several concerns that are affecting the educational attainment in the province. Specifically, the lack of vocational training colleges and community libraries affected education in the province. More so, career guidance is inadequate resulting in a considerable percentage of the young people not pursuing further education. One participant highlighted:

*“The subjects learnt in school shape skills development and those deprived at lower level, might not be able to pursue certain professional courses” (Community workshop, 2025)*

There is also limited financial resources and support in the form of bursaries and scholarships which hinder access tertiary education. It was highlighted that the lack of opportunities in the province has led to drug abuse and alcoholism among the youth. To this end, it was highlighted that there is a need to expand TVET and vocational training to align with community needs.

#### 4.4. Employment status

The majority of the participants (i.e., 76%) indicated that they are currently unemployed. Of those that are working, about 41% are self-employed while 24% have full time employment. A considerable percentage (i.e., 19%) of employed participants have contract employment while 11% are working part time. Figure 11 shows the percentage of employment by economic sector. As seen in the figure, most of the respondents (i.e., 29%) are employed in the construction sector, followed by the MMS. A considerable number of participants are employed in the manufacturing sector.

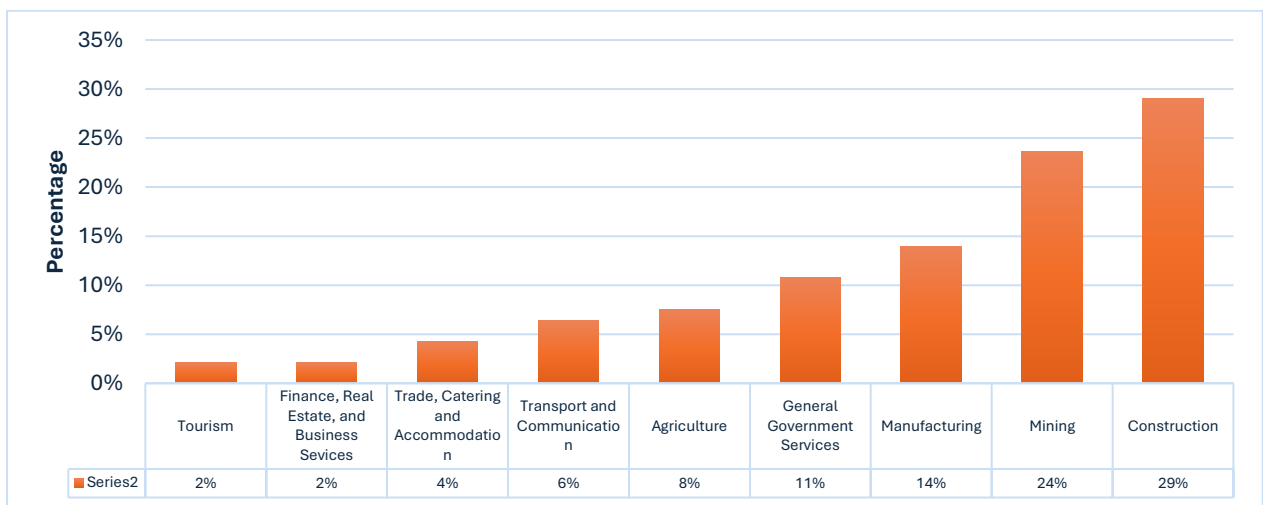


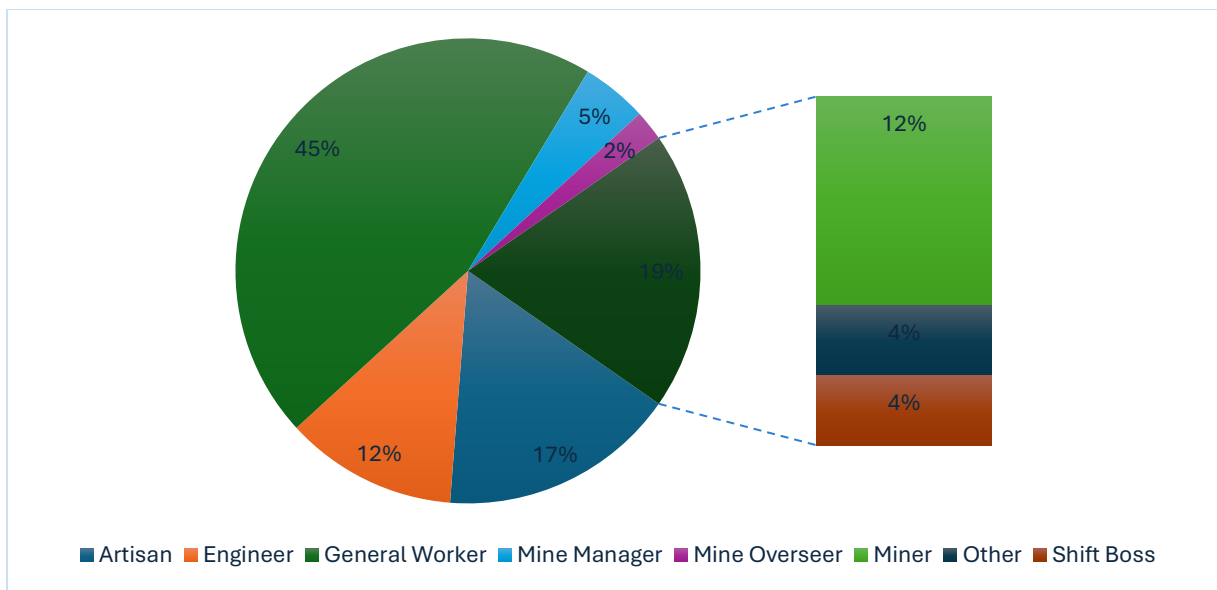
Figure 11: Employment by economic sector

There is a significant difference between the number of participants that are currently employed in MMS and those that have worked in the sector, some of which have been retrenched. Only 22 of those that indicated that they are employed, are working in MMS. When asked how long they have been working in MMS, 66 participants responded. This difference may suggest that 44 participants have been retrenched and are no longer employed in the MMS. In terms of their designation, the majority of participants (i.e., 32%) are working as general workers. About 10% are employed as artisans with 90% being miners.

#### 4.5. Mining-related skills development and training

The purpose of this subsection is to establish the current state of skills within the mining sector, identify gaps and needs, and evaluate the effectiveness of training programmes implemented in the MMS.

The majority of the participants (i.e., 67%) indicated that the MMS is important to the economy of the province. While this is the case, most of the participants (i.e., 92%) indicated that it was difficult to find employment in mining operations. When asked what job they would apply for in MMS, the majority of the participants (i.e., 45%) indicated a general worker. This is followed by artisan, which was selected by 17% of the participants. About 24% (i.e., 12% each) of the participants indicated that they would apply for engineer and miner vacancies.



*Figure 12: Occupations that community members would apply for*

Several mining-related skills were identified as necessary for community members to enable them to participate in the MMS. These cover technical skills, engineering-related skills, health and safety, entrepreneurship and others. The distribution of responses is shown in figure 13. As seen in the figure, most of the participants have identified Engineering (i.e., i.e., mechanical, electrical, mining etc.) as well as technical mining skills (i.e., operation of mining equipment) as being crucial for increasing their employability in mining operations.

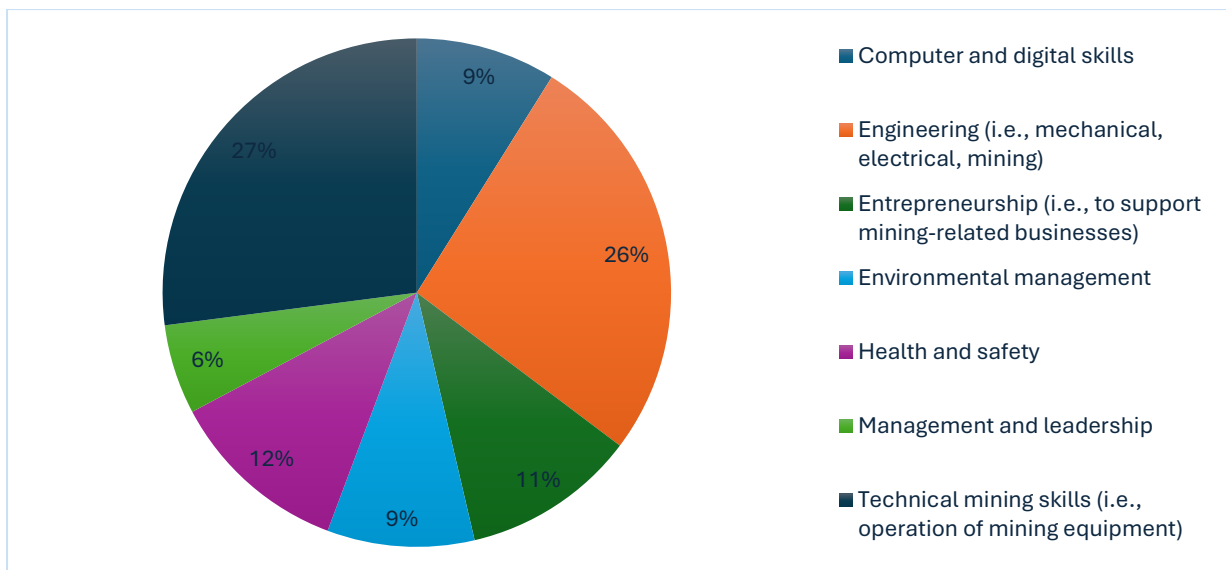


Figure 13: Most needed skills in the community

Several skills were highlighted by the participants during the workshops and FGDs. One participant noted:

*“Not all individuals are talented in academic subjects, but some are good in vocational fields like baking, carpentry, and computers” (Community workshop, 2024)*

In particular, women highlighted the need for skills that will enable them to leverage opportunities within the mining supply chain, and these include catering, plumbing, entrepreneurship skills. In both workshops, the opportunities offered by the artisanal and small-scale mining sector were highlighted and so participants advocated for both legalisation of ASM activities and skills development in the sector. One participant noted that:

*“If we recognise and harness the skills of those already involved in ASM, we can drive community economic development” (Community workshop, 2024)*

In addition, community members called for multi-purpose skills development centres to equip youth and women with entrepreneurial, technical, and leadership skills. There was a request

*“Women need skills training to run community-based organisations (CBOs) and entrepreneurial ventures” (Community workshop, 2024)*

*“As women activists, we need resources to support awareness campaigns against gender-based violence (GBV) and build capacity and skills in handling GBV cases” (Community workshop, 2024).*

Upon soliciting information on skills needs, community members were asked about the key areas that training programmes should focus on within the province, several aspects were highlighted. These are depicted in figure 14. Most of the participants highlighted the need for training programmes to focus on preparing youth for mining careers, developing alternative skills for economic diversification, and supporting local businesses that sever the MMS. The need for training programmes that focus on upskilling current mineworkers was also highlighted.

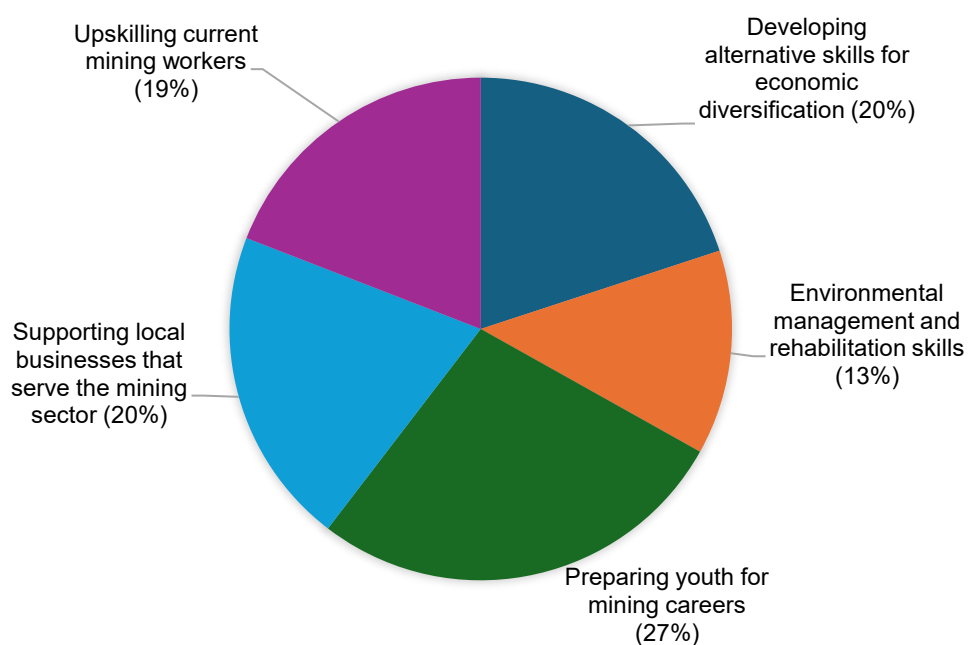


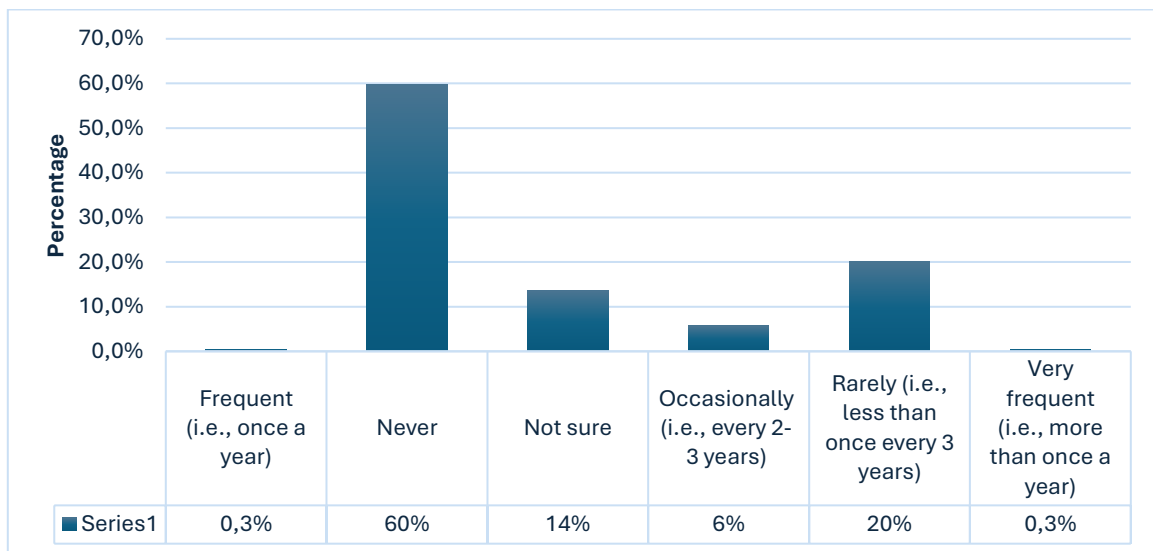
Figure 14: Recommended areas of focus for skills development and training

In addition to these, several areas were considered to be important particularly in terms of supporting the youth within the province. The specific training offerings for the youth include technical skills and certifications (i.e., 33%), mentorship and leadership training (i.e., 31%), entrepreneurship (20%) and soft skills (i.e., 15%). During the workshops, community members highlighted the need for health and safety training programmes and entrepreneurship training as well as support for small businesses. Two participants noted

*“Business has been ours, but we need skills on how to run a small business with government support” (Community workshop, 2024)*

*“We need small business skills training to support agricultural and entrepreneurial ventures” (Community workshop, 2024)*

Several questions were posed to community members on mining-related skills development programmes. Most of community members (i.e., 91%) indicated that they are not aware of any training programmes implemented by mining companies within their communities. Figure 15 shows the community responses on the frequency of skills development and training within their communities. In line with the previous response, most participants indicated that there has not been any training offered to community members by mining companies. Those that are aware of training, highlighted that training rarely takes place.



*Figure 15: Frequency of skills development and training within communities*

Another critical question that was posed to the community members was on whether the training programmes delivered by mining companies were aligned with the needs and opportunities in the MMS. Most of the participants (i.e., 72%) disagreed while only 6% agreed that there is an alignment between training programmes and skills needs in the MMS. To this effect, most participants (i.e., 67%) hold the view that mining companies do not understand the skills needs of communities. This is depicted on figure 16.

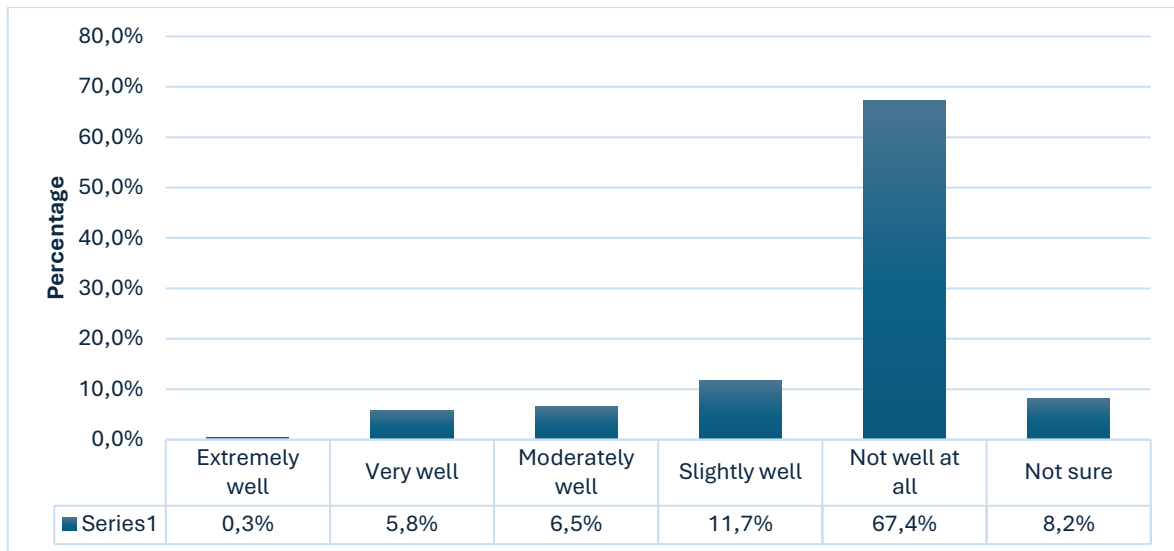


Figure 16: Understanding of community skills needs by mining companies

The participants were also asked about the accessibility of training programmes, and as seen in figure 17, the majority of participants found the programmes to be difficult to access.

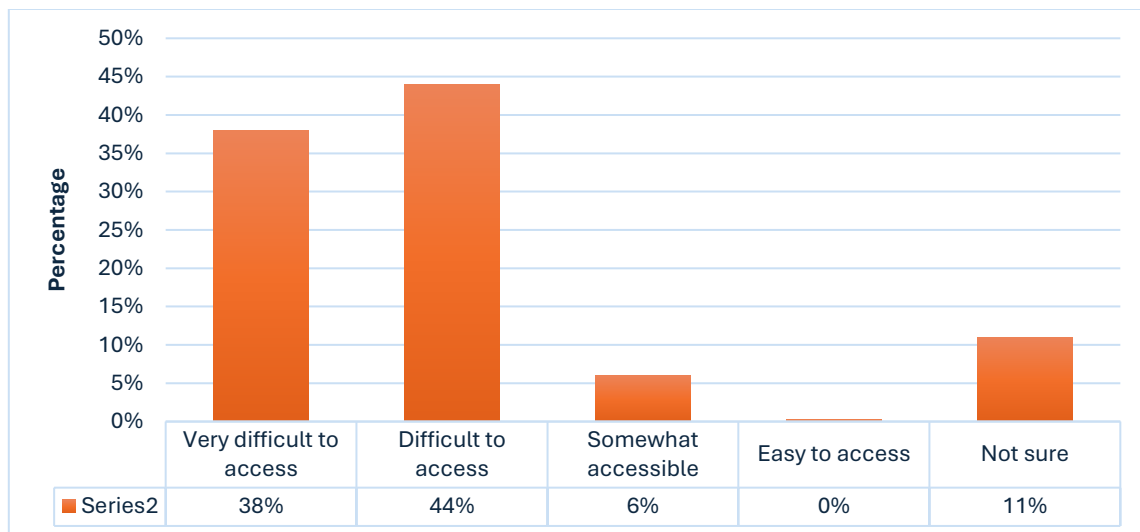


Figure 17: Accessibility of skills development and training programmes

Several barriers were identified that hinder community access to training programmes. These include lack of information about training opportunities, lack of training facilities, high cost of training, entry requirements and others. Figure 18 shows the participants' responses. As seen on the figure, the lack of information and training facilities were selected as the main barriers affecting access to training. These are followed by age restrictions, high cost of training and entry requirements.

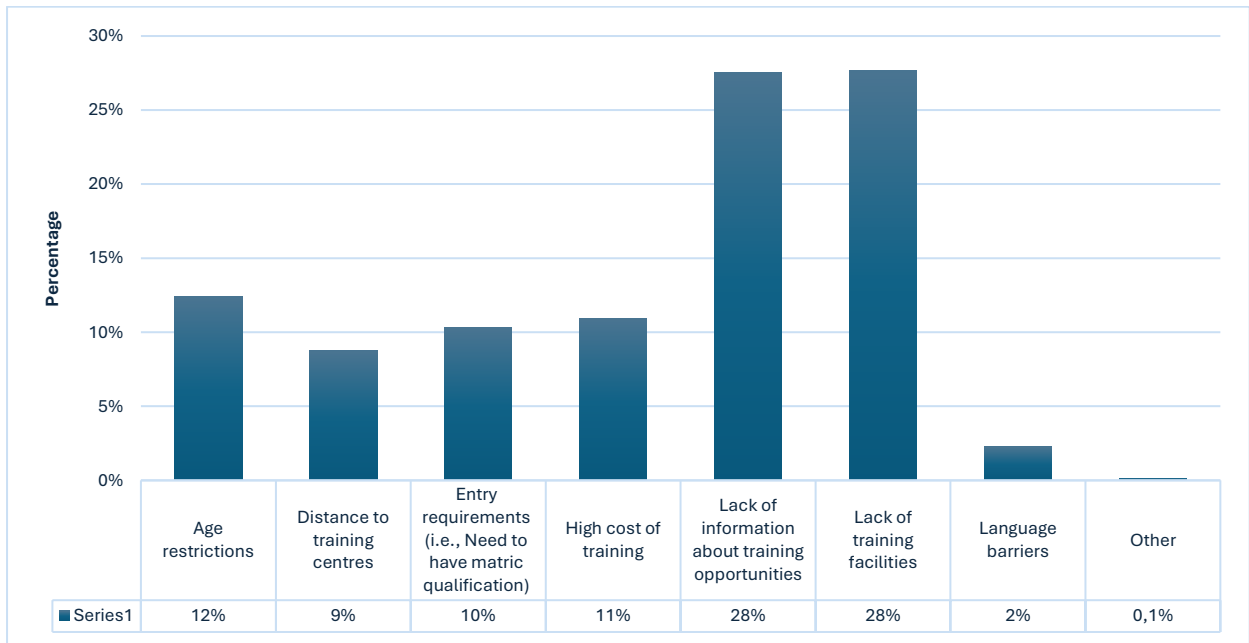


Figure 18: Barriers to accessing skills development programmes in MMS

Several improvements were suggested by community members at the back of the challenges that they are facing. These proposed interventions speak to better communication about available programmes, the need for diverse training programmes, better coordination with local stakeholders, improved facilities and others. These suggestions are presented in figure 19.

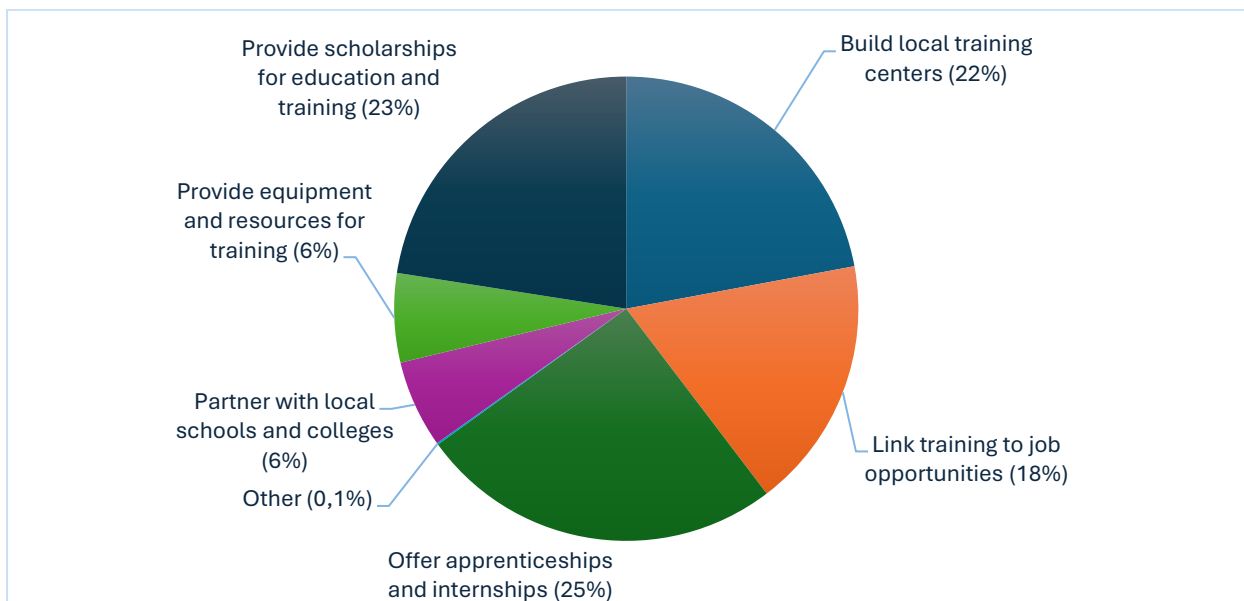


Figure 19: Suggested improvements for mining companies

#### 4.6. MQA and community skills development

The purpose of this subsection is to examine the role of the MQA in fostering community skills development. The results presented focus on how the MQA contributes to enhancing the skills of community members, thereby supporting local economic growth and employment.

The first question posed to the participants was on whether they are familiar with the SETAs. Most of the participants (i.e., 49%) indicated that they are not familiar with any SETAs, while 21% highlighted that they are aware of some SETAs. Following this question, the participants were asked if they are familiar with the work of MQA. About 62% of the participants do not know the MQA and only 16% of the participants are aware of the MQA and the work that it does. Similarly, most of the participants (i.e., 75%) are not aware of any skills development training programmes offered by the MQA. Only 3% of the participants shared the programmes that MQA has implemented in the community which include scholarships, graduate development programme, and in service training.

Likewise, only 5% of the participants indicated that they have participated in MQA training programme. When asked how effective the MQA's efforts were in addressing skills development needs of mining communities, the majority of the participants hold the view that they are ineffective. These responses are shown in figure 20. As seen in the figure, only a few participants rated MQA's programmes as effective in addressing the specific skills development needs of the community.

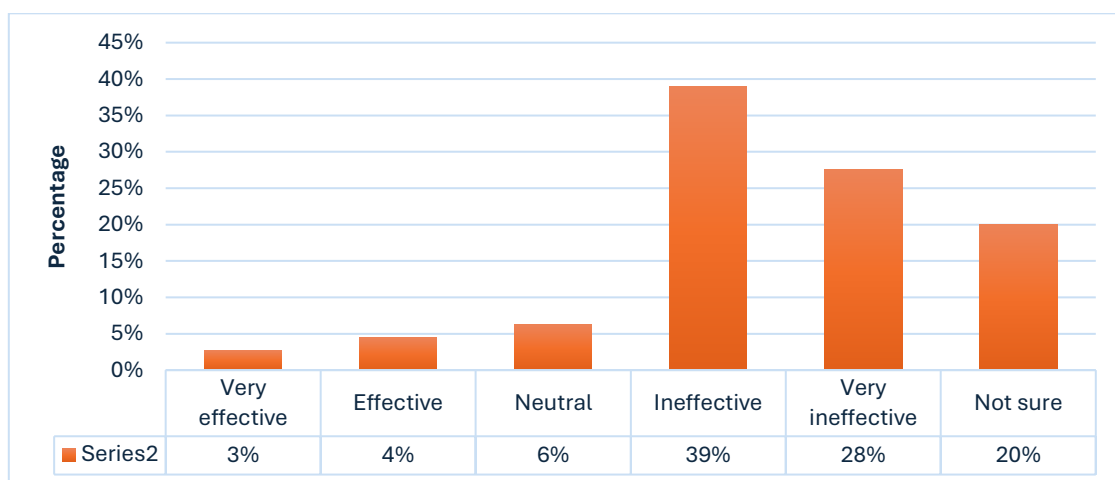


Figure 20: Effectiveness of the MQA's skills development efforts in communities

Several areas of improvement were suggested by communities, and these include better communication on available programmes, more variety in training programmes, better alignment with job market needs, provision of stipend or financial support during training, easier application process and more accessible training locations. The results are presented in figure 21.

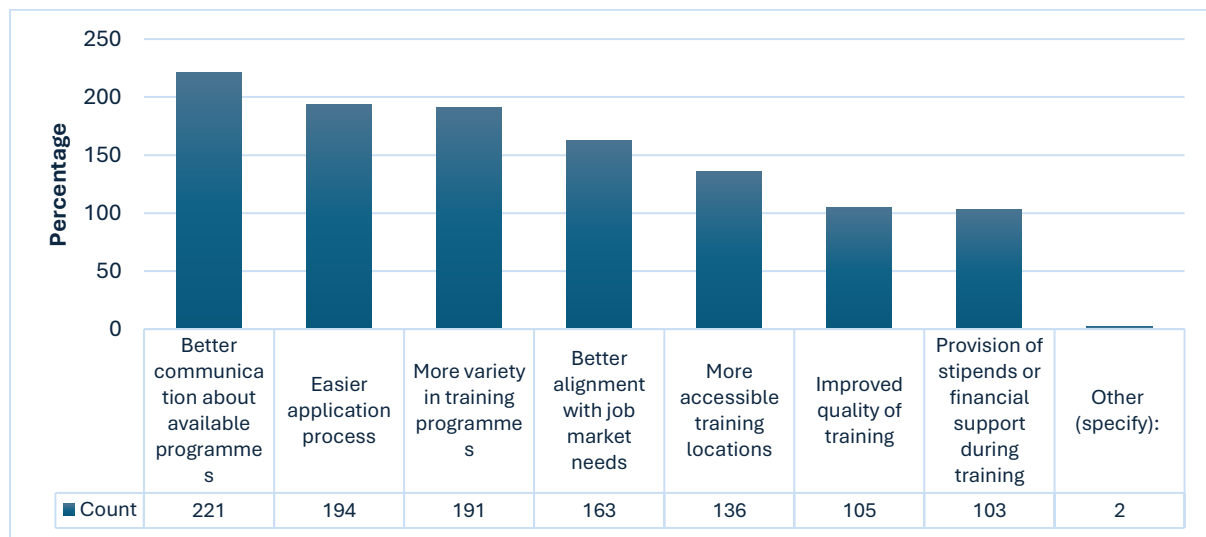


Figure 21: Suggested areas of improvement to increase the impact of MQA's programmes

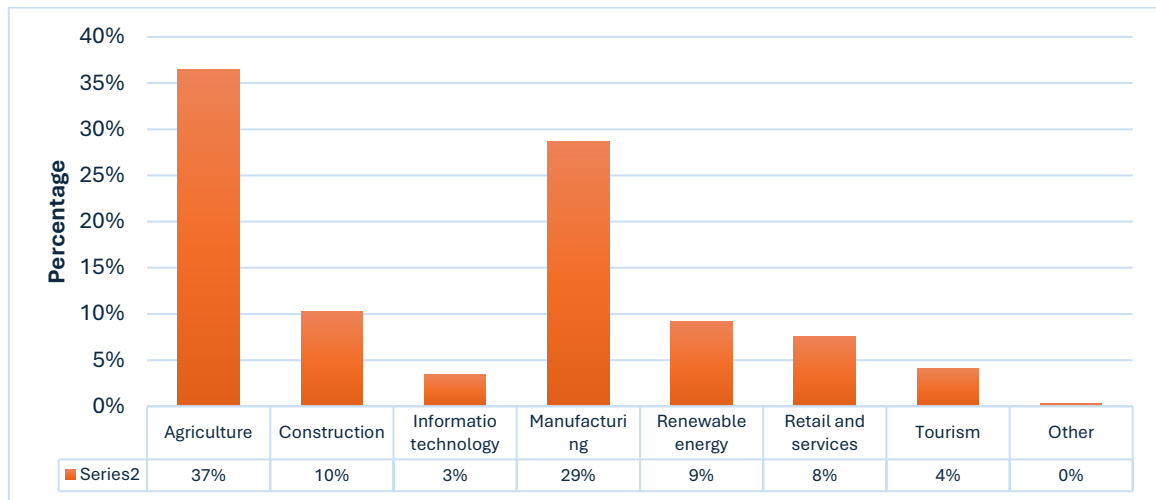
From the workshops, the following were recommended:

- The MQA should collaborate with existing NGOs and CBOs to build on existing skills programmes already taking place in communities. MQA needs to look at NGOs and see how they can assist and work with existing programmes. Instead of starting from zero, there is need to collaborate with CBOs, NGOs, already working in the area.
- Awareness-raising on the roles and functions of the MQA as *“not many community members are aware of the MQA and the work they do”*.

#### 4.7. Cross-sector skills development opportunities

This subsection explores opportunities for skills development across different sectors. The results are presented with the aim of identifying opportunities for skills development that transcend the mining sector, promoting a more versatile and adaptable workforce. In addition to the MMS, there are several economic sectors that are important in driving local development, creating employment opportunities, and contributing to the overall economic

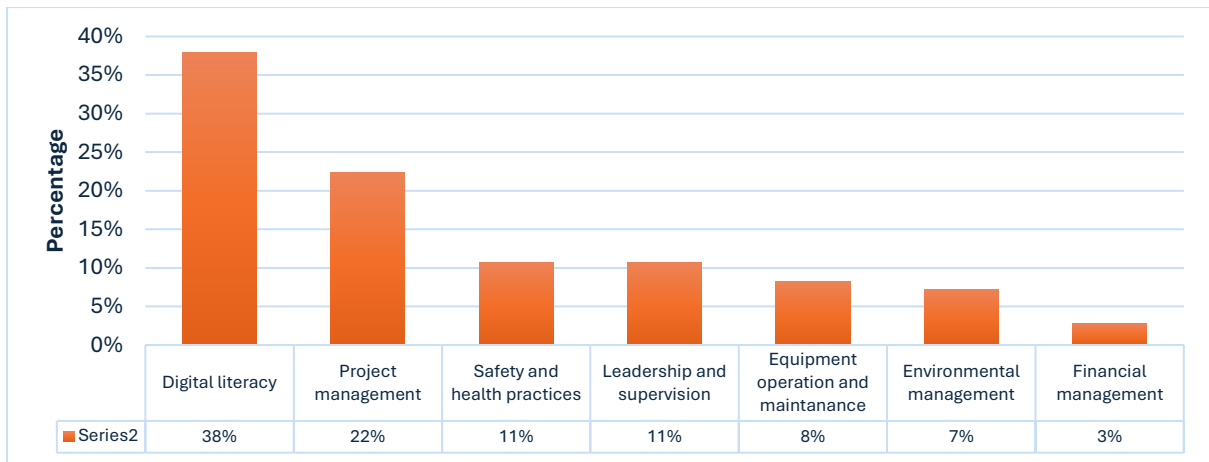
growth of the province. In the case of the North West province, agricultural sector was marked as being the important sector, followed by manufacturing. Figure 22 shows key sectors as identified by community members.



*Figure 22: Key economic sectors as identified by community members*

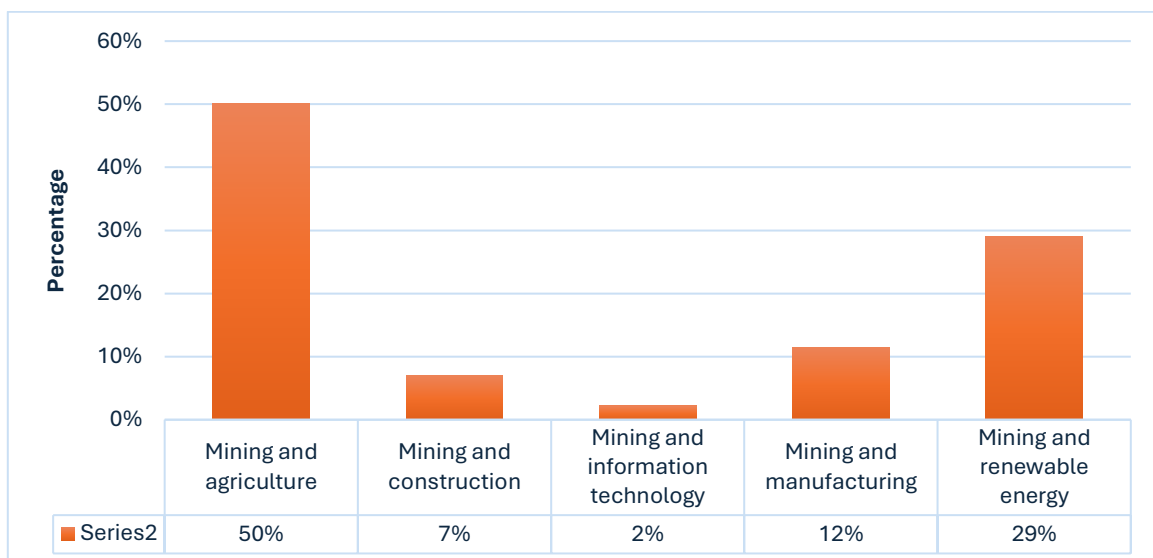
The importance of the agricultural province was also highlighted during the workshops. It was noted that there is vast land is available for farming, livestock rearing, fish farming, and poultry. It emerged during the workshop that the youth may not be interested in agriculture but rather prefer technical skills such as engineering.

In terms of skills, the participants were asked to identify the skills that are valuable across multiple sectors. Figure 23 presents the results which show that digital literacy was identified by most of the participants as being critical across different sectors. The other key skills are project management, safety and health practices, leadership and supervision, equipment operation and maintenance, environmental management and financial management.



*Figure 23: Cross-sector skills as identified by community members*

As the final question, the participants were asked which cross-sector collaborations would benefit their community. Most of the participants highlighted mining and agriculture given the contribution of the two sectors in the economy of the province. This was followed by mining and renewable energy as well as mining and manufacturing. These insights are presented in figure 24.



*Figure 24: Cross-sector collaborations for skills development*

#### 4.8. Key findings and insights

The results reveal the following insights:

- The gender distribution is almost equal in the province, and this is reflected in the results where participation across gender differed by a few percentages with female accounting for 53% of the community members that participated in the study. This gender distribution highlights the need for gender-sensitive programmes and initiatives that ensure equal opportunities and support for both men and women in skills development and employment.
- Most of the participants fall under the youth age cohort (i.e., 18 to 35 years). This corresponds with the age profile of the province, which is characterised by a large youth dividend, presenting a significant opportunity for targeted skills development and training initiatives.
- The majority of the community members have completed matric, and this aligns with the educational profile of the province. This educational foundation provides a strong basis for further skills development, enabling community members to attain post-school qualifications. Specific programmes are also required for those that have some secondary education, and this could include establishing mechanisms that ensure access to vocational training so as to enhance their employability and career prospects.
- Most of the community members are unemployed and this is expected because of high unemployment rate in the province. This situation underscores the urgent need for targeted employment initiatives and skills development programmes to equip community members with the necessary skills and opportunities to enter the workforce and improve their economic prospects.
- Of those that are working, most of them are employed in the construction sector followed by the MMS. This employment distribution highlights the importance of developing specialised training programmes in these sectors to enhance skills and improve job stability for community members.
- A considerable percentage of community members indicated that they are self-employed, highlighting the entrepreneurial skills within the community. This

emphasises the need for support programmes that provide business training to help these self-employed individuals grow and sustain their businesses.

- The results also revealed that a considerable percentage of community members that used to work in mining operations have been retrenched, highlighting the need for targeted retraining and reskilling programmes to help these individuals transition to new employment opportunities in other sectors.
- The occupations that community members indicated they have been applying for include general worker, artisan, and miner positions. This trend underscores the need for targeted job placement programmes and skills training in these specific fields to enhance employability and meet the demands of the local job market.
- Several mining-related skills were identified as necessary for community members to enable them to participate in the MMS. These cover technical skills, engineering-related skills, health and safety, and entrepreneurship, highlighting the need for targeted skills intervention programmes. Such programmes would provide the necessary training and resources to equip community members with the competencies required to secure employment and thrive in the mining sector.
- Most of the community members hold the view that mining companies do not understand the skills needs of communities, and this highlights the need for better communication and collaboration between mining companies and local communities to develop relevant and effective skills training programmes.
- Several barriers were pointed out by community members, including lack of information about training opportunities, lack of training facilities, age restrictions, and entry requirements. These obstacles highlight the urgent need for outreach/awareness programmes, improved access to training resources, and more inclusive policies to ensure that all community members can benefit from skills development initiatives.
- The majority of the community members indicated that they are not familiar with the MQA and their work. Most are of the view that MQA's efforts towards skills development and training within communities are not effective, suggesting a need for improved outreach, communication, and engagement strategies to ensure that the community is aware of and can benefit from the available programmes.

- Several areas of improvement were suggested by communities, and these include better communication on available programmes, more variety in training programmes, better alignment with job market needs, provision of stipends or financial support during training, an easier application process, and more accessible training locations. These suggestions highlight the need for inclusive skills development initiatives that cater to their specific needs and circumstances of community members.
- The agricultural sector was identified as an important sector in addition to the MMS, highlighting the need for targeted skills development and training programmes in agriculture to enhance productivity, sustainability, and employment opportunities within the community.
- The majority highlighted digital literacy as the most critical skill applicable to various economic sectors. Other essential skills identified include project management, safety and health practices, leadership and supervision, equipment operation and maintenance, environmental management, and financial management. These findings underscore the need for targeted skills intervention programmes that focus on enhancing digital literacy and other key competencies to ensure community members are well-equipped to meet the demands of diverse sectors.
- The majority highlighted mining and agriculture, given the significant contributions of these sectors to the provincial economy. This was followed by mining and renewable energy, as well as mining and manufacturing. These insights highlight opportunities that can be leveraged to cross-sector collaborations, providing training and resources to enhance skills in these key areas.

## **5. PART 2: RESULTS AND ANALYSIS**

### **5.1. Introduction**

This section presents an analysis of the Workplace Skills Plan (WSP) and Annual Training Reports (ATRs) data, focusing on hard-to-fill vacancies, top-up skills, and community training programs. Hard-to-fill vacancies are defined as "*occupations that an employer was unable to fill within 12 months or took longer than 12 months to find a suitably qualified and experienced candidate*" (DHET, 2019, cited in MQA, 2023). In contrast, top-up skills refer to skills gaps that typically require short training interventions (DHET, 2019, cited in MQA, 2023).

Both hard-to-fill vacancies and top-up skills highlight skills gaps and serve as proxies to understand the skills demand in the mining sector. Additionally, the training programmes implemented by mining companies indicate priority areas for training, thereby reflecting the demand for specific skills. By analysing these programmes, the areas where training is needed can be identified to meet the industry's requirements and align them with the skills needs of the community.

### **5.2. Hard-to-fill vacancies**

Table 6 shows the occupations that mining companies in the North West province classified as hard-to-fill vacancies. These occupations were reported by four or more mining companies in the province. Several reasons were cited as contributing to challenges of recruitment and these include lack of relevant experience, lack of relevant qualifications, slow recruitment processes, poor remuneration, unsuitable job location, unsuitable working hours, and equity considerations. These challenges are mapped in figure 25 to show the extent to which they contribute to the difficulty in filling these positions.

As seen on the figure, the lack of relevant experience is the largest barrier resulting in hard-to-fill vacancies in the North West province. It is followed by the lack of relevant qualifications which may reflect that either the desired level of study is not attained or inappropriate field of study or inappropriate subject specialisation. Additional barriers include poor remuneration as well as slow recruitment processes, both of which further hinder the ability of employers to attract suitably skilled candidates.

Table 6: Hard-to-fill vacancies

Specialisation/Occupation	OFO Code	Reason/s for the challenge
Works / Workshop Manager (Manufacturing)	2021-132102	Lack of relevant qualifications, lack of relevant experience, poor remuneration, equity considerations
Mining Engineering Manager	2021-132104	Lack of relevant qualifications, lack of relevant experience, poor remuneration, equity considerations, slow recruitment processes, unsuitable working hours, unsuitable job location
Mining Manager	2021-132201	Lack of relevant qualifications, lack of relevant experience, poor remuneration
Mine Planning Manager	2021-132202	Lack of relevant qualifications, lack of relevant experience, poor remuneration, slow recruitment processes, unsuitable job location
Chief Safety Officer Mining	2021-226302	Lack of relevant qualifications, lack of relevant experience, poor remuneration, equity considerations, slow recruitment processes, unsuitable job location
Mine Planning Technician	2021-311701	Lack of relevant qualifications, lack of relevant experience, poor remuneration, equity considerations, slow recruitment processes, unsuitable job location
Mine Operations Foreman	2021-312101	Lack of relevant qualifications, lack of relevant experience, poor remuneration, equity considerations, unsuitable job location
Shaft Timberman	2021-312102	Lack of relevant qualifications, lack of relevant experience, poor remuneration,

		equity considerations, unsuitable job location
Mechanical Foreman	2021-312103	Lack of relevant qualifications, lack of relevant experience, poor remuneration, equity considerations
Boilermaker	2021-651302	Lack of relevant qualifications, lack of relevant experience, poor remuneration, equity considerations
Diesel Mechanic	2021-653306	Lack of relevant experience, poor remuneration, unsuitable job location
Electrician (General)	2021-671101	Lack of relevant qualifications, lack of relevant experience, equity considerations, unsuitable job location
Drill Rig Operator	2021-711301	Lack of relevant qualifications, lack of relevant experience

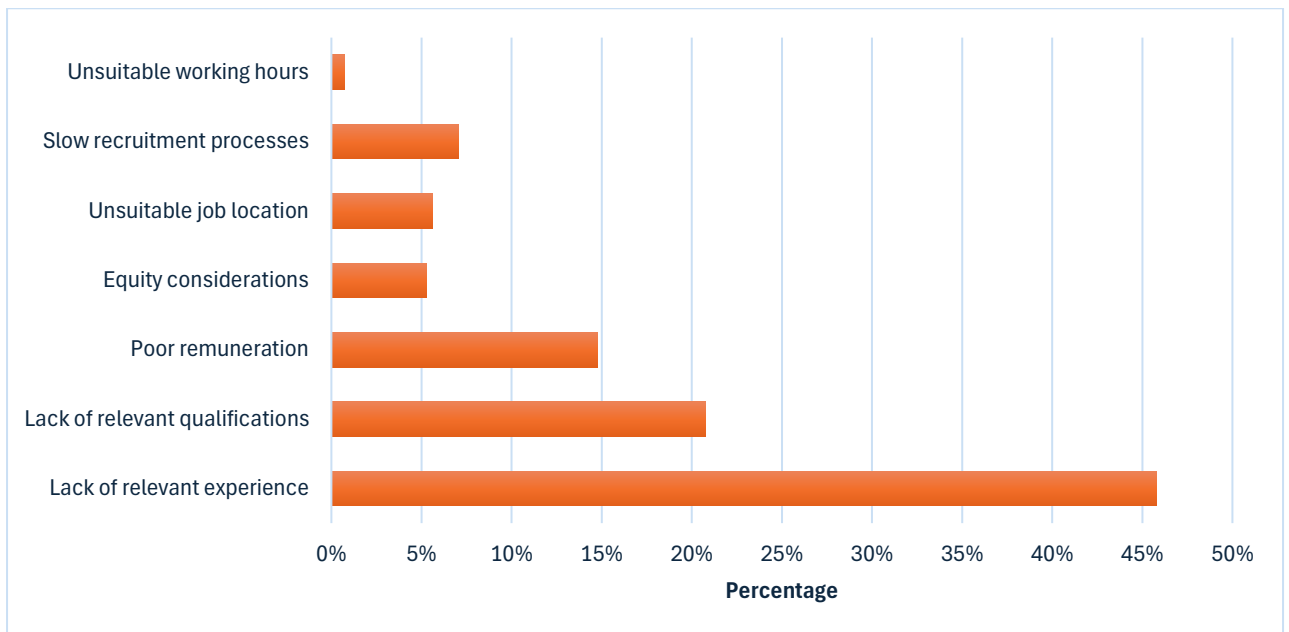


Figure 25: Hard-to-fill vacancies within mining companies in the North West province

### 5.3. Top-up skills

Table 7 provides a summary of the occupations where skills gaps have been identified, as reported by 3 or more companies. The recurring skills needs are leadership, mine production process, management, supervisor, technical (job-specific) and first-aid. As seen on the table, the occupation with the most skills gaps is Mine Overseer (Production) with skills gaps in Leadership, mine production process, production management, planning and organising, computer literacy, supervisor, project management, teamwork, technical (job-specific), first aid.

*Table 7: Top-up skills*

Specialisation/Occupation	OFO Code	Generic Skillset
Plant Manager (Manufacturing)	2021- 132102	Office administration, leadership, mine production process, management, planning and organising
Mine Manager	2021- 132201	Leadership and advanced IT and software
Metallurgical Engineer	2021- 214603	Leadership, production management, management
Mine Overseer (Production)	2021- 312101	Leadership, mine production process, production management, planning and organising, computer literacy, supervisor, project management, teamwork, technical (job-specific), first aid
Hard Rock Miner	2021- 312102	Mine production process, supervisor, teamwork, technical (job-specific)
Engineering Foreman	2021- 312103	Leadership, supervisor, first-aid
Administration Clerk / Officer	2021- 411101	Office administration, leadership, computer literacy

Specialisation/Occupation	OFO Code	Generic Skillset
Plater-boilermaker	2021-651302	Legal, governance and risk, technical (job-specific), first-aid
Earthmoving Plant Operator (General)	2021-734201	Mine production process, first-aid, occupational health and safety skills
Excavator Operator	2021-734204	Mine production process, first-aid, occupational health and safety skills
Mineral Resource Assistant	2021-831310	Technical (job-specific)
Boilermaker Aide	2021-832901	Technical (job-specific)
Mine Planning Manager	2021-132202	Leadership, mine production process, management
Mine surveyor	2021-216502	Technical (job-specific), production management
Safety, Health, Environment and Quality (SHE&Q) Practitioner	2021-226302	Management, leadership, technical (job-specific)
Training and Development Practitioner	2021-242401	Legal, governance and risk, management
Fitter and Turner	2021-652302	Planning and organising, technical (job-specific)
Electrician (Engineering)	2021-671101	Technical (job-specific)
Plant Operator	2021-711201	Mine production process, communication (written)
Trackless Mobile Machinery Operator	2021-733208	Technical (job-specific)

#### 5.4. Community skills development and training programmes

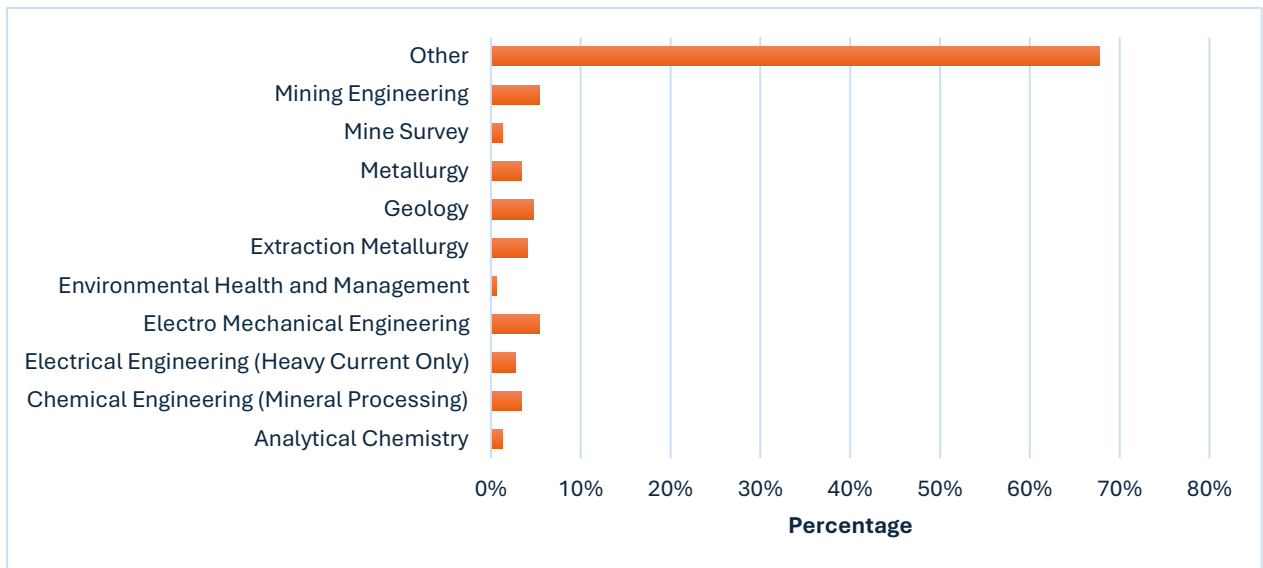
Table 8 provides the training programmes that were delivered by mining companies in the North West province. A total of 446 programmes were reported by mining companies. As seen on the table, bursaries accounted for the largest share of the programmes (i.e., it constituted 33%). It is followed by internships (i.e., 15%) and short courses (i.e.,12%). The other category includes Bachelor’s degree, Masters degree, induction training, operator license renewal, national certificate as well as skills programmes.

*Table 8: Training programmes reported by mining companies*

Programme	Number	% share
Adult Education and Training	36	8%
Bursary	149	33%
Certificate	12	3%
Internship	65	15%
Job Specific Development Programme	9	2%
Learnership	43	10%
Short Course	52	12%
Skills Programme	6	1%
Trade	12	3%
Work Placement	45	10%
Other	17	4%
Total	446	100%

Figure 26 presents the distribution of bursaries by area of study. Approximately 5% of the bursaries were allocated specifically to mining engineering, while 31% were awarded to disciplines closely related to mining—such as Extractive Metallurgy, Geology, Electromechanical Engineering, Chemical Engineering, and other associated fields. The remaining 68%, representing the majority share, were granted to areas of study outside the

mining and related sectors. This distribution suggests a broader prioritisation of educational support beyond core mining disciplines.



*Figure 26: Bursaries by area of study awarded by mining companies*

Figure 27 provides a breakdown of the disciplines classified under the "Other" category. As shown in the figure, engineering remains one of the most frequently supported areas of study, with bursaries awarded particularly in mechanical and electrical engineering. In addition, a notable proportion of bursaries were allocated to qualifications in accounting, science, and management, indicating a broader focus on fields that support both technical and administrative capacities both within the sector and other economic sectors.



construction. The other short courses as reported include training on various machinery such as Excavator, Articulate Dump Truck (ADT), Grader, Dozer, Tractor-Loader-Backhoe (TLB). The other portable skills include training on Cadet, motor repairs, poultry, solar installation and vegetable farming.

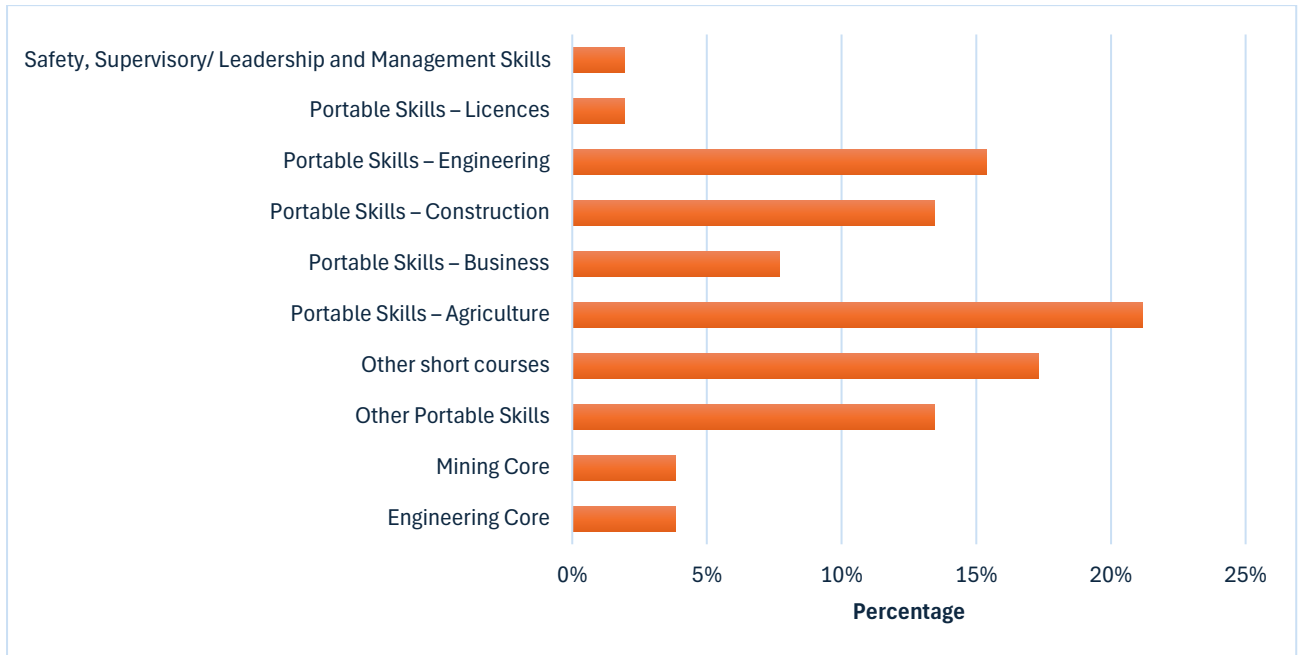


Figure 29: Short course training programmes

According to the WSP–ATR data, a total of 5,945 individuals benefited from the training programmes. The majority of these beneficiaries were unemployed, with only a limited number of programmes targeting employed individuals. Notably, youth participants accounted for the largest proportion—exceeding 80% of the total beneficiaries—highlighting a strong focus on youth development. Table 9 presents the demographic breakdown of the beneficiaries. Of the total, 3,269 were male and 2,676 were female, representing 55% and 44% of the participants, respectively. In terms of racial representation, African beneficiaries constituted 97% of the total beneficiaries.

Table 9: Demographics of the beneficiaries

Gender		Racial representative				Total
Male	Female	African	Coloured	Indian	White	

3,269	2,676	5,784	26	17	118	5,945
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## 5.5. Key findings and insights

The results revealed the following which must be considered in skills planning:

- Several mining occupations are classified as hard-to-fill, particularly managerial and technical roles such as Mining Engineering Manager, Mine Planning Manager, and Boilermaker.
- The lack of experience was found to be the main barrier affecting recruitment of skilled professionals in mining operations in the North West province.
- Skills gaps are prevalent across a wide range of occupations, with recurring needs in leadership, management, supervisory, mine production processes, first-aid and technical (job-specific).
- The occupation with the most extensive skills gaps is Mine Overseer (Production), requiring a broad set of competencies including planning, project management, and computer literacy.
- Bursaries accounted for the largest share of training programmes offered by mining companies in the North West province. They are followed by internships and short course offerings.
- The bursaries awarded reflect a mix of mining-related and non-mining disciplines with the latter accounting for the largest share.
- The internships awarded by mining companies span both mining-related and non-mining disciplines. Mining-specific internships include fields such as Mining Engineering, Mine Surveying, Metallurgical Engineering, Mechanical and Electrical Engineering, and Analytical Chemistry. The non-mining internships were concentrated in areas such as Human Resources, Business Administration, Communication, and Information Technology. The almost balanced distribution between technical and administrative fields suggests an effort to support a broad spectrum of professional competencies, reflecting the multifaceted operational requirements of the mining sector.

- Short courses primarily focused on portable skills, especially in agriculture, engineering and construction, and machinery operation (e.g., Excavator, ADT, Grader, Dozer, TLB).
- In terms of the beneficiaries, unemployed individuals formed the majority of beneficiaries, with a strong emphasis on youth development. Gender distribution was relatively balanced when looking at male and female beneficiaries. African beneficiaries accounted for the largest share of the beneficiaries.

## **6. RECOMMENDATIONS**

The following recommendations are drawn from the findings of the study. These are presented according to the SMART framework. This is a goal-setting approach that ensures that recommendations made are Specific, Measurable, Achievable, Relevant and Time-bound.

***Recommendation 1: Conduct research to inform the design and development of an integrated youth development programme***

The North West province has a burgeoning youth population, and a significant percentage of the youth are classified as NEET (i.e., Not in employment, education and training). There is

therefore a need to develop targeted programmes that focus on skills development equipping the youth with the necessary skills needed to support their participation in the economy of the province. These programmes must be informed by the interests of the youth alongside the skills needs of local industries and businesses to ensure alignment with market demands. It is recommended that MQA conducts research that looks into skill development and training needs of young people in mining communities across the country. The output of this research study should be a training framework that informs the design and development of a **youth integrated training programme** that incorporates different set of skills. From the study, the skills that are crucial in terms of supporting youth include technical skills and certifications, mentorship and leadership, soft skills, digital skills, entrepreneurship support and others. Consideration will need to be made in terms of how the programme will be delivered, one of which may be the learning approach that includes online platforms, in-person workshops, and practical workplace experiences. To this end, part of the research should include identifying key local stakeholders that can support the different components of the programme.

<b>Activity</b>	<b>The MQA must commission a study aimed at providing a comprehensive assessment of skills development and training needs of young people in mining communities across South Africa.</b>
<b>Timeline</b>	The research can be conducted within one year (i.e., year 1), the design and development of the programme can also be completed in one year (i.e., year 2) This means the implementation of the programme can be targeted in year 3.

***Recommendation 2: Initiate a study that assesses the gender-responsiveness of MQA skills development and training programmes***

The North West has a relatively balanced population in terms of gender. However, while this is the case, women continue to face challenges that continue to affect their participation in the economy. Skills development and training serve important platforms to empower women by enhancing their employability, fostering economic independence, and enabling them to

contribute meaningfully to their communities. To this end, it is important that there is adequate participation of women in skills development and training programmes that are implemented and supported by MQA. It is therefore recommended that MQA undertakes an assessment of its training programmes to ascertain inclusivity and effectiveness of these programmes. This assessment should identify gaps and/or barriers that may hinder participation of women in training programmes and provide actionable insights to enhance their participation and impact of training programmes on women's skills development, economic empowerment, career advancement, and overall socio-economic development.

<b>Activity</b>	The MQA must initiate a study to evaluate the gender-responsiveness of its skills development and training programmes with the aim of identifying strengths, gaps, and opportunities for improvement.
<b>Timeline</b>	The research can be conducted within one year. If resources are available, this study can be earmarked for 2025/2026 financial year.

***Recommendation 3: Launch career guidance campaigns to enhance matriculants’ access to post-school qualifications***

Given that a significant portion of the population in the province holds a matric qualification, it is essential to facilitate access to post-school qualifications. The North West is a home to several post-school education and training institutions (PSET) that have campuses across the province and these offer programmes across different disciplines including mining-related programmes. It is recommended that MQA launch a community campaign on career guidance and PSET opportunities that are available in the province. The aim of the campaign should be to motivate those with matric to study further, as well as to give them the necessary knowledge needed to make informed decisions. This campaign can build on existing initiatives, especially those implemented by universities, TVET, and CET colleges, and expand them to ensure wider dissemination of information. This campaign can comprise of workshops, roadshows, and information sessions delivered to the community in community

centres, schools and PSET institutions. MQA will need to bring in key local stakeholders to support the campaigns, including PSETs, mining companies, local and provincial government departments, other SETAs and associated businesses.

<b>Activity</b>	The MQA must organise a series of career guidance workshops and information sessions across the province.
<b>Timeline</b>	The campaign can be implemented within a year, and this includes the preparation and discussions that will need to take place between MQA and the relevant stakeholders.

***Recommendation 4: Establish working relationships with local government agencies that support entrepreneurs in the province to integrate business training support in its programme offerings***

One of key findings from the study was that amongst those that are employed in the province, a considerable percentage are self-employed. Entrepreneurship comes with a lot of challenges that often times lead to businesses failing. It also offers benefits that are much needed particularly in areas where there are high levels of unemployment. Through entrepreneurship, employment opportunities can be created for community members that are struggling to enter the labour market. It is therefore recommended that the MQA establish collaboration with government agencies that are providing business training and support to entrepreneurship within the province. For example, the National Youth Development Agency (NYDA) which already has a growing footprint in the province. The MQA will need to have discussions with the various stakeholders to establish synergies and working relationships ensuring that entrepreneurs receive the support that they need for their businesses to be sustainable.

<b>Activity</b>	The MQA must partner with local government agencies to incorporate business training support into the programme offerings
<b>Timeline</b>	These discussions can begin next year, with the goal of establishing working relationships by year-end and developing a strategy focused on

	providing targeted and coordinated support for entrepreneurs in the province.
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***Recommendation 5: Conduct a cross-sector skills assessment to identify synergies between MQA and AgriSETA***

Beyond the MMS, several other economic sectors significantly contribute to the province’s economy, providing employment opportunities beyond mining. In particular, the agricultural sector was identified as one of the key sectors in the province. In recognising that the MMS has limitations in terms of providing economic opportunities to mining communities, there is a need to leverage the opportunities that are present within the linkages that the MMS has with the agricultural sectors. Cross-sector collaborations are essential in this regard to ensure that ensure transference of skills increase opportunities for communities for wider participation in the economy. It is recommended that the MQA commissions a study that looks into the potential skills that can be used across the two sectors. This study should identify specific areas where collaboration between the MMS and agricultural sector can be enhanced. This study should be done in collaboration with AgriSETA.

<b>Activity</b>	<b>The MQA must collaborate with AgriSETA to conduct a cross-sector skills assessment to identify synergies between the two SETAs.</b>
<b>Timeline</b>	The discussions with AgriSETA can commence next year with the plan of establishing a joint research project by the end of the year. The study can be earmarked for the 2026/2027 financial year.

***Recommendation 6: Develop and implement a community outreach programme to increase the visibility of MQA and its programmes***

From the findings, it was revealed that most of the community members are not familiar with the MQA and as such, hold the view that MQA’s efforts towards skills development and training are not effective. There is therefore a need for MQA to increase its visibility and engagement within the community. This can be achieved through targeted awareness

campaigns that are implemented in collaboration with local stakeholders including the local municipalities, traditional authorities, community based organisations and other key stakeholders to ensure a wider reach and greater community engagement. By leveraging these partnerships, MQA can effectively disseminate information about its programmes, highlight success stories, and demonstrate the tangible benefits of skills development and training. The MQA hosts stakeholder engagement forums on an annual basis, and these are aimed at providing a platform where it can engage with different stakeholders in the MMS. These forums are mostly attended by representatives of mining companies, training service providers, trade unions with limited participation from community members. It is recommended that MQA, in addition to stakeholder forums, host community sessions where dedicated platforms will be provided to community members in mining regions. These sessions should be hosted in locations where community members will be able to come and attend.

<b>Activity</b>	The MQA must launch a campaign aimed at increasing its visibility amongst communities in mining areas. This must be complemented by annual community information sessions where MQA provide information on its programmes and opportunities for the communities.
<b>Timeline</b>	The campaign which could be a road show should be prioritised and planned for next year. The community information sessions can follow in the 2026/2027 financial year.

***Recommendation 7: Develop targeted upskilling programmes for occupations with considerable skills gaps***

To address the identified skills gaps in the mining sector, there is a clear need for targeted upskilling programmes focusing on planning and project management, leadership and supervisory capabilities, as well as computer literacy and the use of digital tools in mining

operations. These competencies are critical for improving operational efficiency and supporting career progression. These upskilling programmes can be delivered as short courses, ideally accredited to allow professionals to earn Continuing Professional Development (CPD) points. This not only incentivises participation but also ensures alignment with industry standards and professional growth requirements. These courses can be designed in collaboration with industry associations and bodies to ensure relevance. The delivery methods could include blended learning formats, combining online with in-person sessions to accommodate working professionals ensuring accessibility.

<b>Activity</b>	The MQA must develop upskilling courses in collaboration with industry associations and bodies to address the skills gaps for professionals in managerial and supervisory roles.
<b>Timeline</b>	Discussions with industry associations can commence in 2026 with plans to develop an upskilling programme later in 2026.

***Recommendation 8: Assess the impact of short course offerings on employability and participation in the mainstream economy***

Short courses offering portable skills in areas such as engineering, construction, agriculture, and machinery operation play an important role in enabling individuals to access opportunities within and beyond the MMS. With short courses accounting a considerable share of the programmes delivered by mining companies in the province, there is a need to ensure that they serve as entry points into the MMS and other industries in the province. To this end, there is a need to assess the impact of short course offerings on employability and participation in the mainstream economy. It is recommended that the MQA initiate a study that evaluates the effectiveness of these programmes in improving employment outcomes, and participation in the economy of the province.

<b>Activity</b>	<b><i>The MQA must initiate a study to assess the impact of short course offerings on employability and participation in the mainstream economy.</i></b>
<b>Timeline</b>	<i>The research can be conducted within one year. If resources are available, this study can be earmarked for 2026/2027 financial year.</i>

## **REFERENCES**

Acharya, A.S., Prakash, A., Saxena, P. and Nigam, A., 2013. Sampling: Why and how of it. *Indian Journal of Medical Specialties*, 4(2), pp.330-333.

ActionAid South Africa (2018). Mining in South Africa 2018. Whose benefit and whose burden? Social Audit Baseline Report.

Aguas, P. (2023). Understanding phenomenological approaches: Exploring personal perspectives in research.

Altman, M. (2007). Low wage work in South Africa. In *International Labour Review*.

Ancheta, A. (2023). How Do Factor Endowments Impact a Country's Comparative Advantage? Available: <https://www.investopedia.com/ask/answers/041615/how-do-factor-endowments-impact-countrys-comparative-advantage.asp>. [Accessed: 18 October 2024].

Baxter, P., and Jack, S. (2008). Qualitative case study methodology: Study design and implementation for novice researchers. *The Qualitative Report*, Vol. 13 (4). Article 2, 544-559. <https://doi.org/10.46743/2160-3715/2008.1573>.

Baxter, R. (2015). The future of the South African mining industry. Chamber of Mines of South Africa, November 2015.

Benya, A. (2009). Unpaid care work and women's empowerment in South Africa. *Journal of International Development*, 21(8), 1131-1144.

Bertelsmann Stiftung. (2020). BTI 2020 – South Africa country report. Bertelsmann Stiftung.

Bezuidenhout, A. (2021). *Equality and diversity in the South African mining industry*. *Journal of Economic and Financial Sciences*, 14(1), 1-12.

Callinicos, L. (2014). The South African Economy: A Historical Perspective. *Journal of Southern African Studies*, 40(2), 213-234.

Centre for Applied Legal Studies (2017). The Social Labour Plan (SLP) Framework: A Report on its Role and Impact in South Africa's Mining Sector.

Christie, P., & Collins, C. (1984). Bantu education: Apartheid ideology and labour reproduction. *Comparative Education*, 20(1), 59-75.

Corbin, J., and Strauss, A. (2008). *Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory* (3rd ed.). Thousand Oaks, CA: Sage.

Crankshaw, O. (2001). Racial segregation and the origins of apartheid in South Africa. *Journal of Historical Geography*.

Crenshaw, K. (1989). Demarginalizing the intersection of race and sex: A black feminist critique of antidiscrimination doctrine, feminist theory and antiracist politics. *University of Chicago Legal Forum*, 1989(1), 139-167.

Crenshaw, K. (1997). "Intersectionality and Identity Politics: Learning from Violence against Women of Colour" in Shanley, M. I., & Narayan, U. (eds, *Reconstructing political theory: feminist perspectives*. University Park, PA: Pennsylvania State university Press. Pp. 178 -193 (1997).

Creswell, J. W. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches* (4th ed.). Sage Publications.

Creswell, J. W., & Plano Clark, V. L. (2018). *Designing and conducting mixed methods research* (3rd ed.). Sage Publications.

Cronin, C., 2014. Using case study research as a rigorous form of inquiry. *Nurse researcher*, 21(5).

Cronin, P. (2014). Case studies in research: A comprehensive guide. *Journal of Business Research*.

Dean, M., & Ford, L. (2017). *Sample Surveys in Developing Countries*.

Denzin, N.K., & Lincoln, Y.S. (2003). *The Landscape of qualitative research theories and issues*. Thousand Oaks, CA Sage.

Department of Economic Development, Environment, Conservation and Tourism. (2020). *Annual report 2019/2020*. North West Provincial Government, Republic of South Africa.

Department of Higher Education and Training (2020). *National Skills Development Plan 2030*.

Department of Higher Education and Training, (2019). *The National Skills Authority in Conjunction with the Minister of Higher Education and Training Convened a Successful National Skills Conference and Skills Awards*. 15 March 2019.

Department of Labour (2018). *Annual Labour Market Bulletin*.

Department of Mineral Resources and Energy (2023) *Annual report on mining employment statistics*. Pretoria: Government Printer.

Department of Mineral Resources and Energy. (2011). *A Beneficiation Strategy for the Minerals Industry of South Africa*. Department: Mineral Resources. Republic of South Africa. June 2011.

Department of Water and Sanitation. (n.d). National Water Services Knowledge System. Available: <https://ws.dws.gov.za/wsk/Default.aspx>. [Accessed 28 October 2024].

Elliott, R., & Tumulak, L. (2020). Researching and understanding the complex: Challenges in qualitative research. In A. Tashakkori & C. Teddlie (Eds.), *Handbook of mixed methods in social and behavioural research* (pp. 233-259). Sage Publications.

Fletcher, A. (2017). Building community research capacity: The role of participatory action research. *Community Development Journal*, 52(3), 445-462..

Futri, I.N., Risfandy, T., & Inrahim, M.H. (2022). Quota sampling method in online household surveys. *MethodsX*, 2022, doi: 10.1016/j.mex.2022.101877.

Global Africa Network. (2023). *Mining Overview: North West Province*. Available at: <https://www.globalafricanetwork.com> (Accessed: 11 November 2024).

Government gazette (2018). Broad-Based Socio-Economic Empowerment Charter for the Mining and Minerals Industry, 2018. Government Notices, No. 1002, 27 September 2018.

Government of South Africa. (2023). *Expanded Public Works Programme (EPWP) Phase 4 creates over 4.5 million work opportunities*. Available at: <https://www.gov.za/news/media-statements/minister-sihle-zikalala-opens-expanded-public-works-programme-epwp-phase-5> (Accessed: 22 November 2024).

Government of South Africa. (2024). *Services SETA launches provincial office and skills development centre in North West Province*. Available at: <https://www.gov.za/speeches/services-seta-launches-provincial-office-and-skills-development-centre-north-west-province> (Accessed: 22 November 2024).

Guba, E. G., & Lincoln, Y. S. (1994). Competing paradigms in qualitative research. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of Qualitative Research* (pp. 105-117). Sage.

Hassim, S. (2008). Social Justice, Care and Developmental Welfare in South Africa: A Capabilities Perspective, *Social Dynamics*, Vol. 34, No. 2:104-118.

Heale, R. and Forbes, D., 2013. Understanding triangulation in research. *Evidence-based nursing*, 16(4), pp.98-98.

James, N. (2018). Perceptions mines are not doing enough for nearby communities fuelling protests [Online]. Available: <https://www.engineeringnews.co.za/article/perceptions-mines-are-not-doing-enough-for-nearby-communities-fuelling-protests-2018-07-20>. [Accessed 04 October 2024].

Kavese, K. and Mbali, A. (2019). Sectoral approach to skills development. Eastern Cape Socio Economic Consultative Council (ECSECC), Eastern Cape, April 2019.

Lahiff, E. (2013). Land Reform and Rural Development in South Africa: Debating the Prospects for a Sustainable Mining Sector.

Local Government Sector Education and Training Authority. (2020). Sector Skills Gaps and Occupational Guide 2019&2020.

Matterson, S. (1990). The Socio-historical Approach. In: The Great Gatsby. The Critics Debate. Palgrave, London. [https://doi.org/10.1007/978-1-349-20768-8\\_4](https://doi.org/10.1007/978-1-349-20768-8_4).

Mbazima, N. (2020). Reviving a declining mining industry. Viewpoints, No. 9, August 2020. Available: <https://media.africaportal.org/documents/viewpoints-reviving-a-declining-mining-industry-norman-mbazima.pdf>. [Accessed: 05 October 2024]

McEwan, C. (2001). Gender and citizenship: Learning from South Africa? Agenda, 47, 47-59.

Mineral Council South Africa. (2024). Comprehensive Facts and Figures 2023. 06 August 2024.

Minerals Council South Africa, (2022). *Skills development in the South African mining industry: Fact sheet 2022*. [PDF] Available at: <https://www.mineralscouncil.org.za> [Accessed 22 November 2024].

Minerals Council South Africa. (2024). Comprehensive Facts and Figures 2023.

Mining Affected Communities United in Action (MACUA). (2022). Kraalhoek Community left with no choice but to embark on rolling protests as DMRE fails to uphold the law. Available: <https://macua.org.za/2022/04/28/re-kraalhoek-community-left-with-no-choice-but-to-embark-on-rolling-protests-as-dmre-fails-to-uphold-the-law/>. [Accessed 24 November 2024].

Mining Qualifications Authority, 2023. Sector Skills Plan Update 2024/25 for the Mining and Minerals Sector Submitted by the Mining Qualification Authority (MQA) to the Department of Higher Education and Training. Final Submission. 31 August 2023.

Mining Qualifications Authority. (2021). Sector Skills Plan for the Mining and Minerals Sector Update for 2022-2023 Submitted by the Mining Qualifications Authority (MQA) to the Department of Higher Education and Training. Final Submission, 02 August 2021.

Molemana, S.P. (2021). The experience and meaning of family in youth-headed households from Gauteng, Katlehong township. University of the Witwatersrand.

Moyo, T. (2018). Community engagement in research: Addressing the challenge of research fatigue. *Journal of Community Engagement and Scholarship*, 11(2), 30-41.

Munakamwe, J. (2018). Emerging political subjectivities in a post migrant labour regime: Mobilisation, participation and representation of foreign workers in South Africa (1980-2013). Johannesburg: University of the Witwatersrand.

Municipalities of South Africa. (n.d). North West Municipalities. Available: [Accessed: 04 November 2024]

National Minerals Information Center. (n.d). Fluorspar Statistics and Information. Available: <https://www.usgs.gov/centers/national-minerals-information-center/fluorspar-statistics-and-information#:~:text=Fluorspar%20is%20used%20directly%20or,%2C%20steel%2C%20and%20uranium%20fuel>. [Accessed 12 November 2024].

National Planning Commission (2012). National Development Plan 2030. Our future – make it work. Department: The Presidency. Republic of South Africa.

Ngcobo, S. (2022). Trust in the mining sector: Community relations and the impact of unfulfilled promises. *Journal of Southern African Studies*, 48(1), 10-25.

Ning,S., Su, B.X., Tang, D.M., Luo, Y., Yuan, Q.H., & Yang Bai, Y. (2024). Cobalt and nickel distribution and controlling factors in the Bushveld layered complex, *Ore Geology Reviews*, Vol.170, <https://doi.org/10.1016/j>.

North West Business (2024) *Mining in the mainstay of the North West economy*. Available at: <https://www.nefcorp.co.za/nef-in-the-media/mining-in-the-mainstay-of-the-north-west-economy-north-west-business/> (Accessed: 11 November 2024).

North West Business. (2023). *Economic Impact of Mining in North West Province*. Available at: <https://www.northwestbusiness.co.za> (Accessed: 11 November 2024).

North West Development Corporation. (2016). Annual Report 2015/2016.

North West Provincial Treasury. (2024). Socio-economic review and outlook (SERO). North West Provincial Government, Republic of South Africa.

Phillips, S., Harrison, K., Mondlane, M., Van Steenderen, W., Gordon, R., Oosthuizen, M., Weir-Smith, G. and Altman, M., 2009. Evaluation of the expanded public works programme (EPWP) in the North West.

PwC. (2023). *SA Mine Report 2023*. Available at: <https://www.pwc.co.za/en/publications/sa-mine.html> (Accessed: 11 November 2024).

Qutoshi, S.B., (2018). Phenomenology: A philosophy and method of inquiry. *Journal of Education and Educational Development*, 5(1).

Ramdoo, I. (2020). The Impact of Covid-19 on Employment in Mining. International Institute for Sustainable Development. June 2020.

Seekings, J., & Nattrass, N. (2005). *Class, race, and inequality in South Africa*. Yale University Press.

Smith, R. (2020). Protest and the politics of community engagement in mining areas. *Mining and Society*, 5(1), 15-29.

South African Academy of Engineering (2016). *Challenges Facing the South African Mining Industry*. Annual Lecture 2016-2017.

South African Government (1998). *The Skills Development (Act No.97 of 1998)*. Government Gazette No. 19420, Volume 401, 2 November. The Republic of South Africa.

South African Government News Agency. (2024). Work opportunities and training for unemployed people, says North West Premier. Available:

<https://www.sanews.gov.za/south-africa/work-opportunities-and-training-unemployed-people-says-north-west-premier>. [Accessed 24 November 2024].

South African Government, (2022). *Employment and Labour Activation Programme launched in Northwest, 1 June*. [online] Available at: <https://www.gov.za/news/media-statements/employment-and-labour-activation-program-north-west-01-jun-2022> [Accessed 22 November 2024].

South African Government, (n.d). *Skills development*. [online] Available at: <https://www.gov.za/issues/skills-development> [Accessed 22 November 2024].

South African Government. (1996). Constitution of the Republic of South Africa (Act No. 108 of 1996). Pretoria.

South African Government. (2024). Premier Bushy Kaobitsa Maape congratulates 2023 matric class on improved results. Available: <https://www.gov.za/news/media-statements/premier-bushy-kaobitsa-maape-congratulates-2023-matric-class-improved-results>. [Accessed 26 October 2024].

South African Government. (2024a). MEC Gaoage Oageng Molapisi hosts Provincial Launch of Expanded Public Works Programme (EPWP) Phase V and 20 Years of EPWP at Brits, 2 May. Available: <https://www.gov.za/news/media-advisories/government-activities/mec-gaoage-oageng-molapisi-hosts-provincial-launch>. [Accessed 24 November 2024]

South African Human Rights Commission (2016). National hearing on the underlying socio-economic challenges of mining-affected communities in South Africa. 13-14 September, 20 and 28 September, 03 November 2016.

Statistics South Africa (2023). Quarterly Labour Force Survey (QLFS). Department: Statistics South Africa. Statistical Release P0211. 14 November 2023.

Statistics South Africa. (1998). Unemployment and employment in South Africa. Republic of South Africa, ISBN 0-621-28729-6.

Statistics South Africa. (2017). Mining: Winners and losers of 2017. Available: <https://www.statssa.gov.za/?p=10963>. [Accessed 15 November 2024].

Statistics South Africa. (2018). Labour Market Dynamics in South Africa, 2018. Report No. 02-11-02 (2018), Department: Statistics South Africa, Republic of South Africa.

Statistics South Africa. (2023). Census 2022. Statistical Release P0301.4, Department: Statistics South Africa, Republic of South Africa.

Statistics South Africa. (2023a). Discouraged Work-Seekers Decline in SA in Q3:2023. Available: <https://www.statssa.gov.za/?p=16848>. [Accessed: 03 November 2024].

Statistics South Africa. (2024). Province: North West. Available: <https://census.statssa.gov.za/#/province/6/2>. [Accessed 05 November 2024].

Statistics South Africa. (2024a). Youth in South Africa, Report No. 03-00-21 (2024), Republic of South Africa.

Statistics South Africa. (2024b). Quarterly Labour Force Survey. Statistical Release, P0211, 14 May 2024. Republic of South Africa.

Steyn, M. (2015). Critical diversity studies: Understanding inequality through decolonial thought. *Journal of Southern African Studies*, 41(2), 381-394.

Steyn, S. (2024). Community protest shuts down Glencore's Rustenburg complex. Available: <https://www.news24.com/fin24/companies/community-protest-shuts-down-glencores-rustenburg-complex-20240517>. [Accessed 24 November 2024].

Strauss, A., & Corbin, J. (1994). Grounded theory methodology: An overview. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research* (pp. 273-285). Sage Publications.

Tellies, W.M. (1997). Application of a Case Study Methodology. *The Qualitative Report*. Vol. 3 (3), Article 1, pp. 1-19. <https://doi.org/10.46743/2160-3715/1997.2015>.

The South African Government. (2024). *North West premier promises jobs and training for the unemployed*. Available at: <https://www.thesouthafrican.com/news/north-west-premier-promises-jobs-and-training-for-the-unemployed/> [Accessed: 22 November 2024].

Trade and Industrial Policy Strategies (2008). Employment intermediation for unskilled and low-skilled work seekers. Part 1: Overview of the Sector. *Second Economy Strategy: Addressing Inequality and Economic Marginalisation*. November 2008.

UNAIDS (nd). An Introduction to Triangulation. UNAIDS Monitoring and Evaluation Fundamentals.

UNESCO. (2018). Sustainable development and education: A global overview. United Nations Educational, Scientific and Cultural Organization.

van der Watt, P & Marais, L. (2021). Implementing social and labour plans in South Africa: Reflections on collaborative planning in the mining industry, *Resource Policy*, Vol. 71, pp. 1-6, <https://doi.org/10.1016/j.resourpol.2021.101984>.

Ward, G. (2022). Big Data: What is a significant sample size? Available: <https://www.worldoil.com/magazine/2022/january-2022/features/big-data-what-is-a-significant-sample-size/>. [Accessed: 21 October 2024].

Yin, R. (2014). *Case study research: Design and methods* (5th ed.). Thousand Oaks, CA: