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Socio-economic Impact Assessment

Mining right application for the Ryst Kuil
Project on various farms in the Beaufort
West Local Municipality, Western Cape
Province

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Cape Province

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DRAFT REPORT

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Aquatox Consulting (Pty) Ltd

Submitted by:

Kayamandi Development Services Pty Ltd

Tel: 012 346 4845 / 083 289 5119

Russell@kayamandi.com

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Company: Kayamandi Development Services Pty Ltd

Author: Russell Aird

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LIST OF ACRONYMS

BWLM	Beaufort West Local Municipality
CKDM	Central Karoo District Municipality
CKD	Central Karoo District
CPP	Central Processing Plant
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
HDI	Human Development Index
IDP	Integrated Development Plan
LED	Local Economic Development
MERO	Municipal Economic Review and Outlook
MPRDA	Mineral and Petroleum Resources Development Act
SEP	Socio-economic Profile
SEIA	Socio-economic Impact Assessment
WCGPT	Western Cape Government Provincial Treasury

EXECUTIVE SUMMARY

The Ryst Kuil Project in the Western Cape Province is a mining rights application by Lukisa Invest 100 Pty Ltd that forms part of the Karoo Uranium Project. The Ryst Kuil Project is situated on various farms approximately 40 kilometres south of Beaufort West in a sparsely populated rural area. The project will consist of open cast pits and underground mining operations as well as a central processing plant (CPP).

The Beaufort West Local Municipality (BWLM) is the largest of the municipal areas in the Central Karoo District (CKD). The CKD comprises of three local municipalities, being Beaufort West, Laingsburg and Prince Albert Municipalities. At the core of the BWLM is the town of Beaufort West, a hub of economic activity and the centre of the region's public sector services. Positioned strategically along the N1 this town serves as a pit stop for tourists and transporters. This municipal area is also home to a few smaller towns such as Merweville, Murraysburg and Nelspoort.

It is estimated that the most likely population of BWLM for planning purposes is approximately 54 000 in 2025 but could potentially range between 52 000 and 56 000. According to the SEP the population in 2024 was 52 667. It is expected that future growth could be between 0.3% and 1.0% per annum for the next five years. According to the SEP this slow growth in comparison to the province can be attributed to limited economic opportunities, underdeveloped infrastructure, and harsh environmental conditions in the predominantly rural and semi-desert region. It is estimated that the most likely population in 2030 will be between 55 500 and 57 000.

According to the SEP, despite the growth in population and households it is noteworthy that the household size has remained consistent at 3.8 between the Census figures of 2011 and 2022. The dependency ratio at 66.2 reflects a regression, indicating a growing proportion of those who are dependent on the working-age population, i.e. the children and the aged population groups. This emphasizes the need for school infrastructure and social development initiatives. The sex ratio, however, reflects a sex ratio of 92.4 males per 100 female's indicative of immigration patterns for men and the resulting increase in female headed households.

The educational situation faces challenges like improving retention rates at high schools. Implementing programs for vulnerable learners and increasing vocational training institutions could help address these issues. In terms of health, the immunisation rates, teenage pregnancies, neonatal mortality rate and low birth rate remains a concern.

The BWLM due to its rural nature and lack of economic diversification recorded exceptionally low GDP per capita compared to that of the province and recorded the second lowest GDP per capita in the district. The unemployment rate in the Beaufort West municipal area reflects improvement at 24.2% recorded in 2023.

The economic cost and social cost of crime cannot be over emphasised as it has an implication for well-being and resource allocation by government, businesses and citizens. In terms of safety and security, sexual offences, murder and commercial crime saw deteriorations, while the other categories improved such as drug related crime, residential crimes etc.

The economy of BWLM is characterised by a diverse range of sectors, with notable contributions from both the tertiary and primary sectors. In 2023, the tertiary sector was the largest contributor to the economy, accounting for a significant 66%. The community, social and personal services sector was the leading contributor within the tertiary sector, followed by finance, insurance, real estate, and business services, and transport, storage, and communication. These sectors highlight the prominence of services and administrative functions in BWLM economic structure, underscoring the role of both government services and private business in the local economy.

The primary sector, dominated by agriculture, forestry, and fishing, remains a key pillar of BWLM economy, contributing 14% of GDP. Agriculture continues to be vital, with farming activities providing essential employment opportunities and contributing to the overall economic activity in the region. The semi-arid climate is well-suited for extensive grazing, making livestock farming a sustainable economic activity. In addition, game farming and some crop production contribute to the agricultural sector's significance.

In terms of employment, the economy of BWLM also reflects the mix of sectoral contributions, with the services sectors providing substantial opportunities for both skilled and semi-skilled workers. The agriculture sector, while highly productive, remains heavily reliant on low-skilled workers, which plays a crucial role in local employment dynamics. However, the economy is evolving, with continued emphasis on diversifying employment opportunities across all skill levels, particularly as the region focuses on infrastructure growth and expanding its service-oriented sectors.

The employment distribution in Beaufort West reveals a strong reliance on the tertiary sector, particularly in public administration and services. This highlights the significant role of government as a provider of stable employment, particularly in the areas of local governance and public service delivery. Retail and hospitality sectors, including automotive fuel retailing and short-term

accommodation activities, also contribute notably to job creation. These sectors are key to the service-based economy, benefiting from both local demand and tourism, and are vital for supporting the region's growth.

The key objectives of this socio-economic impact assessment are to:

- Provide a baseline description of the current social, cultural and economic aspects surrounding the proposed site
- Highlight the possible socio-economic impacts, both positive and negative during construction, operations and decommissioning stages of the proposed mining project
- Identify mitigation measures in response to the identified impacts, that would further develop positive impacts and mitigate negative impacts
- Determine the extent of the impacts and whether they can be sufficiently mitigated

The envisaged socio-economic impacts due to the planned uranium mine may have both positive and negative effects, which have been specifically identified during the construction, operation and decommissioning stages of the planned mine. The significance, probability and duration of these impacts are given along with proposed mitigation measures. These mitigation measures aim to decrease/minimise the extent of negative impacts and enhance the potential positive impacts.

Although many potential impacts are identified and mitigation measures are suggested, few of the socio-economic impacts will be experienced in the Ryst Kuil application area. These include the potential worker influx, increased economic activity and accommodation of workers. However, due to the integrated nature of any changes in the socio-economic fabric of any population, this report also highlights the cumulative socio-economic impacts of the proposed mine in the whole area and not just the application area.

The positive socio-economic impacts during the first two phases will be major job creation, improved education and training amongst the population and a positive impact on the economy of Beaufort West and possibly the region. These positive impacts will however turn negative during the decommissioning phase when the mine closes leading to retrenchments and a negative impact on local businesses and the property market.

Local negative impacts around the application site will relate to nuisance aspects such as noise, dust, visual disturbance and traffic. Other negative aspects could also include health and safety aspects, loss of agricultural land, uncertainty relating to project and land availability, impact on the property values and uncertainty which impacts longer term agricultural planning.

The socio-economic impact assessment cannot assess all the impacts and the other specialist studies should also be consulted including heritage, biodiversity, ground and surface water, air quality, traffic, radiation, geochemistry and visual impacts.

Other negative impacts that will mostly manifest in the town of Beaufort West include influx of workers and work seekers, pressure on municipal services and infrastructure, shortage of accommodation and impact on property prices and community health and safety. The various levels of government need to be consulted and on board to assist with many of the mitigation measures which should be implemented before the project even starts. With adequate mitigation of the potential negative impacts and enhancing of the potential positive impacts through consultation and planning, the proposed project may offer an opportunity towards more sustainable development.

It is considered most likely that the combined positive impacts of the project would exceed its negative impacts resulting in an overall net benefit with mitigation. The project is therefore deemed acceptable in terms of socio-economic impacts and should be allowed to proceed.

A summary of the potential impacts after mitigation is provided below.

Summary of Potential Impacts after Mitigation

POTENTIAL IMPACT	PHASE	TOTAL	SIGNIFICANCE POINTS
Influx of workers and work seekers	Construction	50	M
Employment opportunities	Construction	60	Pos M
Community Health, Safety and Wellbeing	Construction	21	L
Infrastructure and services	Construction	24	L
Accommodation	Construction	36	M
Economic activity	Construction	44	Pos M
Employment opportunities	Operations	75	Pos H
Infrastructure and services	Operations	45	M
Accommodation	Operations	65	M
Economic activity	Operations	70	Pos M
Landowners and surrounding farms	Operations	50	M
Employment Loss	Decommissioning	75	H
Local Economy	Decommissioning	40	M
Accommodation and Property Market	Decommissioning	65	M
Landowners and surrounding farms	Decommissioning	24	L
Community Safety	Decommissioning	21	L

1. INTRODUCTION

1.1 Background

This Socio-economic Impact Assessment (SEIA) forms part of the Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP) of the mining right application submitted in terms of Section 22 of the Mineral and Petroleum Resources Development Act, Act 28 of 2002 (MPRDA) by Lukisa Invest 100 Pty Ltd for the Ryst Kuil Project on various farms in the Beaufort West Local Municipality in the Western Cape.

1.2 Description of Project

The project will consist of open cast pit and underground mining operations as well as a central processing plant (CPP). The siting of the proposed infrastructure was initially based on both the proximity to the mining operations to reduce haulage time and therefore reduce diesel consumption as well as on the topography of the specific areas. Rocky ridges, sloping topography and drainage channels (episodic drainage lines) were avoided where possible. The data generated by the specialists will be further utilized during the Impact Assessment phase of the project to re-locate infrastructure where necessary.

The plant will be situated where the historic head gear and underground access (Cameron shaft, now sealed) is situated. Three possible Alignment were considered to connect the pit complexes to the west and south-west with the CPP.

The application area is 50820 hectares as shown in **Figure 1-1**. The farms included are Eerste Water 349/4, Farm (Neverset) 394/R, Haane Kuil 335/1, Haane Kuil 335/4, Haane Kuil 335/7, Haane Kuil 335/RE, Kant Kraal 360/RE, Kat Doorn Kuil 359/RE, Nieuw Jaars Fontein 340/1, Ryst Kuil 351/2, Ryst Kuil 351/RE and Vlak Plaats 350/1.

The proposed layout and infrastructure are provided in **Figure 1-2**.

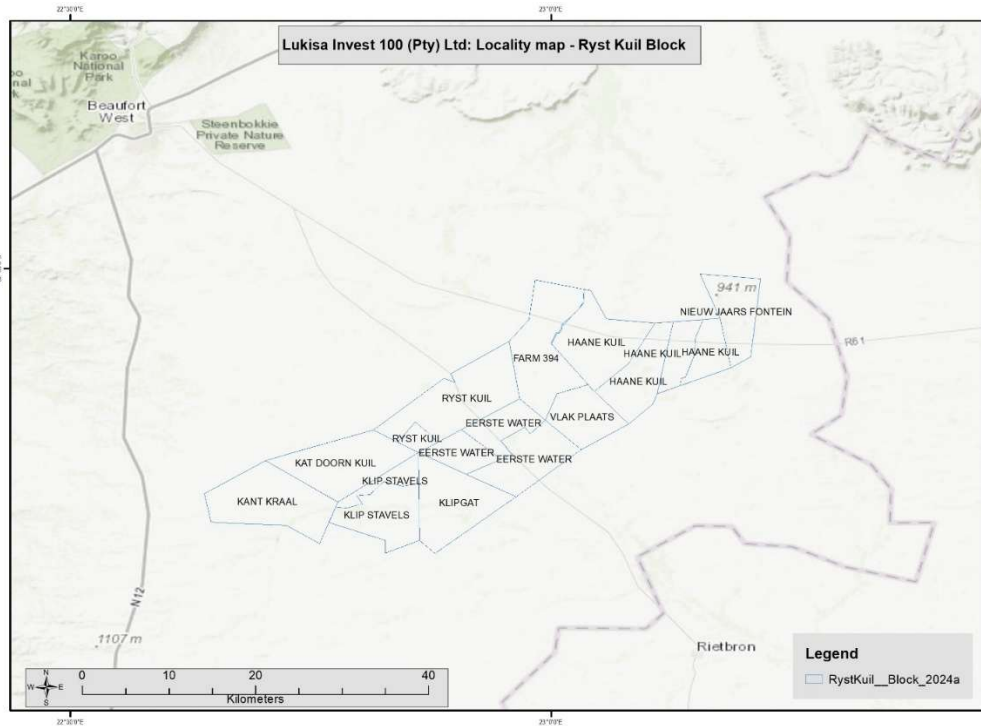


Figure 1-1: Locality Map

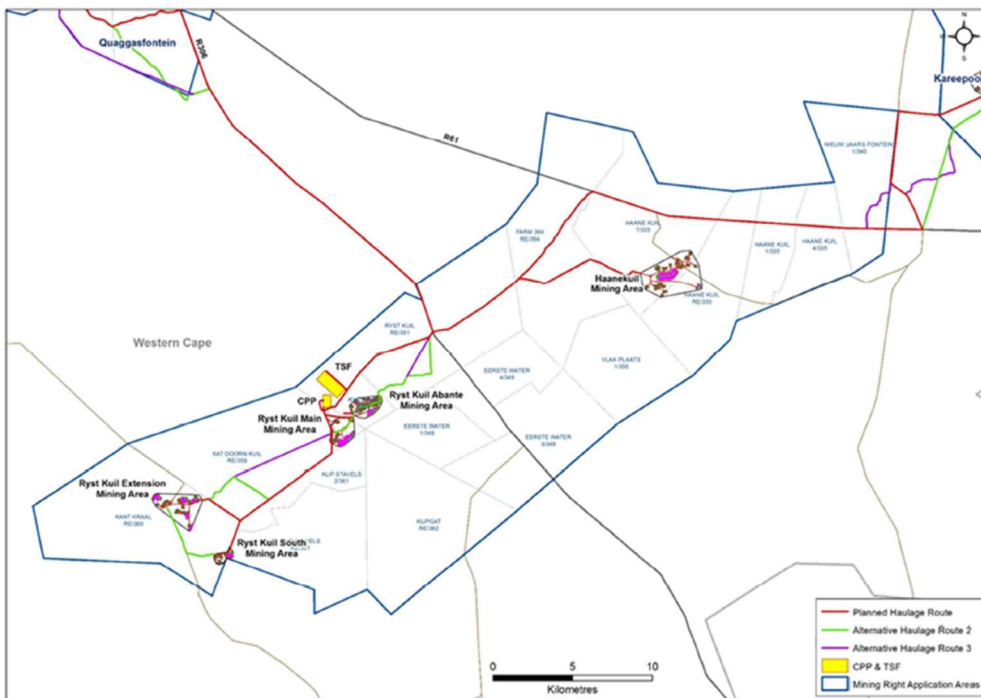


Figure 1-2: Proposed Infrastructure and Layout

1.3 Approach and Methodology

The approach adopted involved the following steps in line with accepted EIA practice:

- Investigate the existing context within which the project would be established.
- Identify impacts.
- Assess impacts without mitigation measures.
- Recommend mitigation measures.
- Re-assess impacts assuming mitigation measures are implemented.
- Provide a reasoned opinion regarding the impacts and acceptability of the project.

Guidance on the approach was taken primarily from the Department of Environmental Affairs and Development Planning (Western Cape) guidelines on economic specialist input to EIA processes augmented by the guidelines on social specialist input to EIA processes. This included guidance on the appropriate level of detail required for the assessment in order that it be adequate for informing decision-making.

The vision of this SEIA Report is to ensure the health and safety, protection of the community, implementation of the best-practice techniques and using available human resources in a way that would positively transform the way in which the mining activities are conducted. This will enable sustainable work enabling the local authorities to implement infrastructure development, therefore improving quality of life of local inhabitants and building thriving communities in the affected areas.

1.4 Assumptions and Limitations

The following assumptions and limitations apply to the study:

- All information provided by the EAP, the applicant and the applicant's project team involved in the EIA are assumed to be correct. Not all information was available yet and will be included at a later stage if appropriate.
- The quantification of impacts to inform the assessment of the significance of impacts was not always possible, nor considered necessary, for all impacts. Where possible, quantification focused on impacts considered to be most important in the overall assessment.
- All impacts are assessed individually and then as a whole to the degree possible and appropriate. Given uncertainties and the potentially subjective nature of comparisons between impact categories, the emphasis in the report is on presenting assessments of impact categories with less emphasis on trying to reconcile them in an overall assessment of net effects.

- The findings of the assessment reflect the best professional assessment of the author drawing on relevant and available information within the constraints of time and resources.

1.5 Study Area

The application area is approximately 40 kilometres south of Beaufort West in a sparsely populated rural area. Direct impacts relating to the land will be addressed in terms of the affected farms and owners as well as the surrounding farms. Many of the impacts will however be more widespread, and the analysis will deal with Beaufort West town, Beaufort West Local Municipality as well as the Central Karoo District (CKD).

The Beaufort West Local Municipality (BWLM) is the largest of the municipal areas in the CKD. The CKD comprises of three local municipalities, being Beaufort West, Laingsburg and Prince Albert Municipalities. At the core of the BWLM is the town of Beaufort West, a hub of economic activity and the centre of the region's public sector services. Positioned strategically along the N1 this town serves as a pit stop for tourists and transporters. This municipal area is also home to a few smaller towns such as Merweville, Murraysburg and Nelspoort.



Figure 1-3: Central Karoo District Municipality and local municipalities

Source: <http://www.localgovernment.co.za/districts/view/44/Central-Karoo-District-Municipality#map>

1.6 Structure of Report

The report is structured as follows:

Section 1 provides key background information and purpose of the report.

Section 2 describes the policies affecting future development in the area.

Section 3 provides the socio-economic status of the municipality

Section 4 identifies the economic status quo of the municipality

Section 5 provides a synthesis of the issues, weaknesses and opportunities of Beaufort West town and the municipality

Section 6 identifies the identified socio-economic impacts

Section 7 provides mitigation measures and extent of the impacts

Section 8 provides the conclusions.

2. POLICIES IMPACTING DEVELOPMENT

2.1 Introduction

This section outlines the major policies that could have an impact on the future development of the Beaufort West Local Municipality and its surrounding. The purpose is to understand the social and economic opportunities and constraints to development.

2.2 Policies

2.2.1 The National Spatial Development Framework 2050 (NSDF)

The National Spatial Development Framework (NSDF), which is the first of its kind in South Africa was approved by National Cabinet in 2022 and seeks to make a bold and decisive contribution to bringing about the peaceful, prosperous, and truly transformed South Africa, as articulated in the Freedom Charter, the Reconstruction and Development Programme and the NDP.

The foundation for the NSDF is premised on the main frame for the Ideal Post-Apartheid National Spatial Development Plan as spatially illustrated in **Figure 2-1** and five sub-frames. These emanate from the National Development Plan 2030 priorities, the National Spatial Development Vision and Logic, as well as development issues identified through the analysis process.

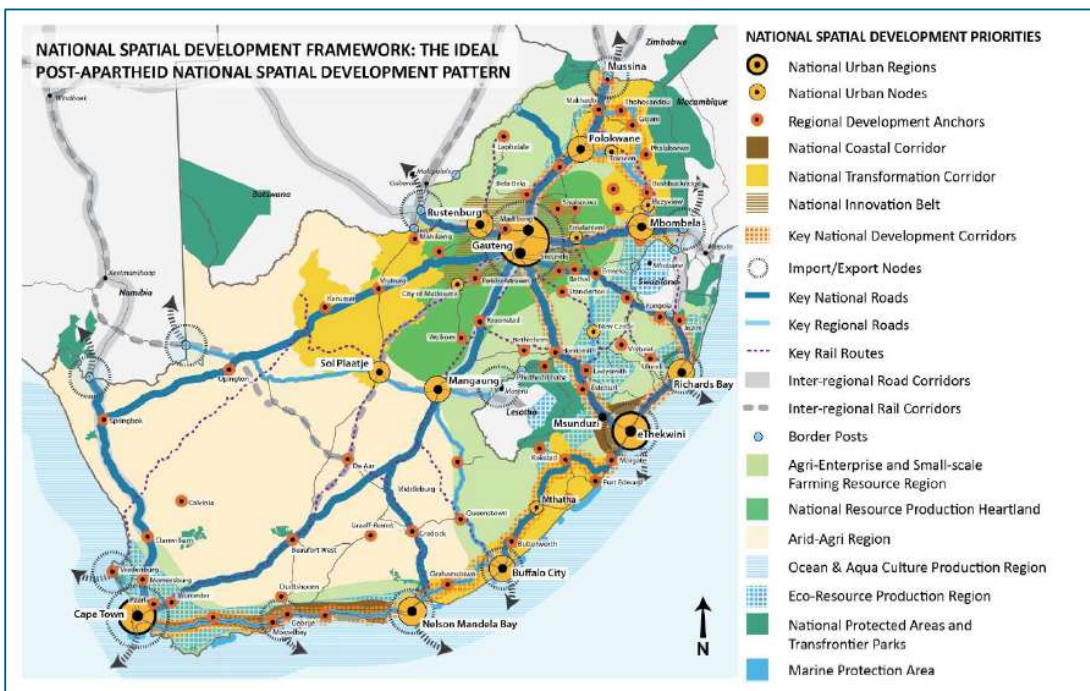


Figure 2-1: NSDF Mainframe

The five Sub-Frames forming the foundation for the NSDF are listed below, along with an analysis of the key spatial implications for Beaufort West Municipality:

- **NSDF Sub-Frame One:** Inter-Regional Connectivity. This sub-frame is focused on connections to other SADC countries, but the national rail link between Cape Town and Johannesburg is highlighted as an inter-regional Rail Corridor. This corridor passes through Beaufort West Municipality and is an important spatial informant to the municipality. The town of Beaufort West, and other settlements along this rail route, have inherent latent future potential to benefit passing passenger and freight rail. These opportunities should be identified, and space made provision for them to materialise.
- **NSDF Sub-Frame Two:** The National System of Nodes and Corridors. The key spatial implication of this sub-frame is that Beaufort West Town is listed as a Regional Development Anchor. It is identified as an example of one of the anchors under stress and in need of support through targeted settlement planning and development, higher-order social infrastructure provision, and focused support for small and medium-sized enterprise development, industrialisation, and economic diversification. Regional connections to neighbouring anchors De Aar (in the Northern Cape) and Oudtshoorn are also important at the national scale. As a Regional Development Anchor, the town of Beaufort West is the primary investment node for certain government and private sector services and facilities. Future potential facility and service opportunities should be identified and enabled by the municipality, to promote employment creation and maintain the multiplier effect of ensuring funds generated within the municipal area are reinvested within the businesses of the towns of the municipality.
- **NSDF Sub-Frame Three:** The National Resource Economy Regions. Beaufort West falls into the National Arid-Agri Innovation Region as illustrated in **Figure 2-2**. The NSDF notes that, for the region that Beaufort West falls into, changing climatic conditions will significantly impact on national food production and require regional agricultural adaptation and effective land use management. Additionally, it states that within remote and arid regions in the western and north-western parts of the country, the cumulative impact of a growing number of wind farms, solar plants and mining and energy-related projects should be carefully evaluated in regional context. The growth of existing towns close to these areas is supported, but new and on-site settlement far away from existing towns is not. In the context of Beaufort West, shale gas extraction and renewable energy development zones have been identified as future potential industries. The spatial planning categories of the MSDF must make provision for the location and management of these activities, being clear where it is appropriate to accommodate them, and where such activities should not be accommodated

(and provide reasons for this – whether it is due to landscape character considerations, important scenic viewsheds routes, or from a biodiversity or riverine constraints perspective).

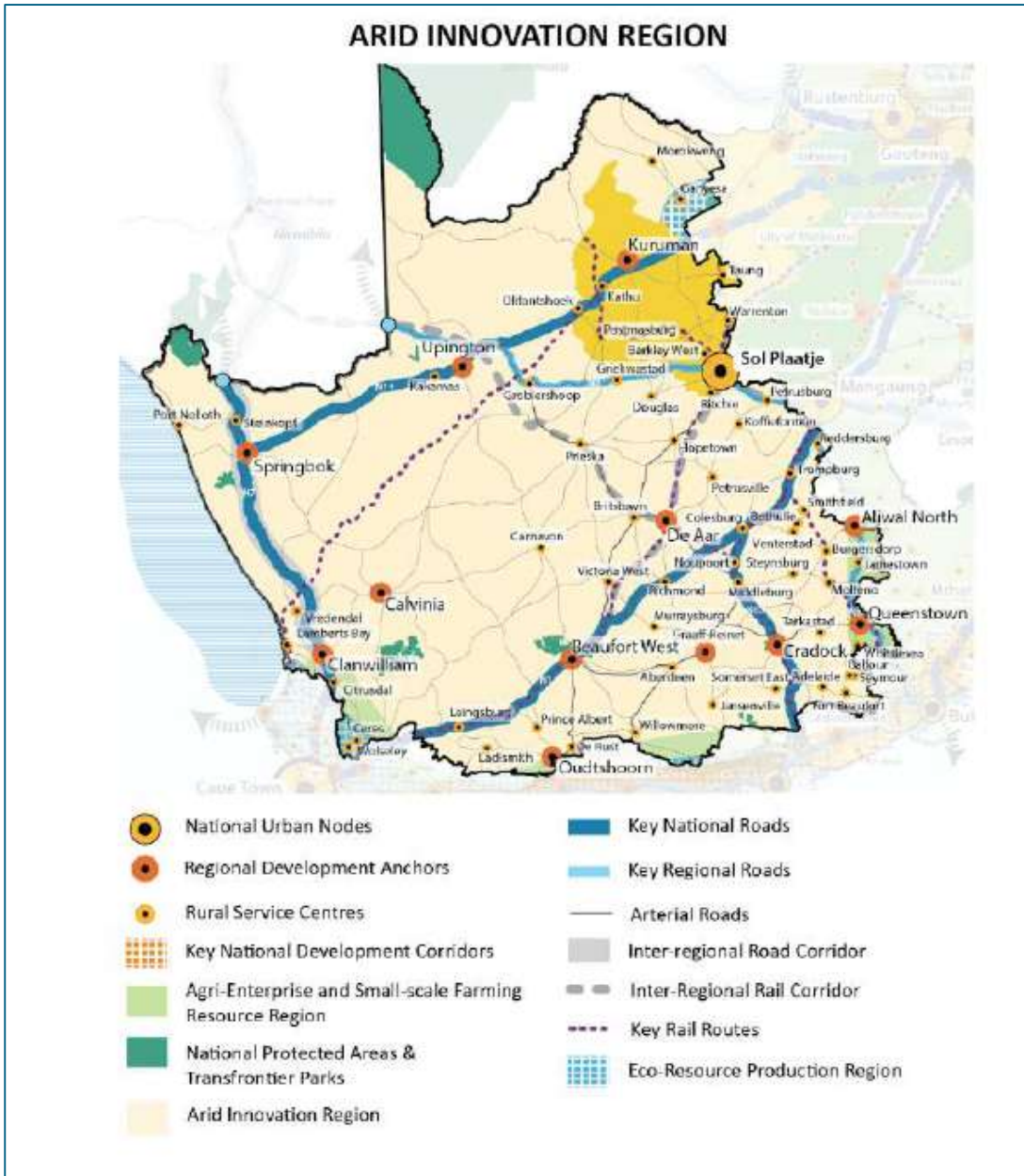


Figure 2-2: Arid Innovation Region

- NSDF Sub-Frame Four:** The National Movement and Connectivity Infrastructure System. Beaufort West sits on an Inter-regional National Road and under-utilised Rail Corridor, with both the N1 and railway highlighted as being of national importance. Similarly, the access roads to rural hinterlands are important for the NSDF’s regional-rural development mode as illustrated in **Figure 2-3**. Future rail opportunities exist in significantly increasing passenger and freight rail. The potential also exists for high-speed rail opportunities between Cape Town

and Gauteng (and potential connections through Beaufort West) which brings economic opportunities.

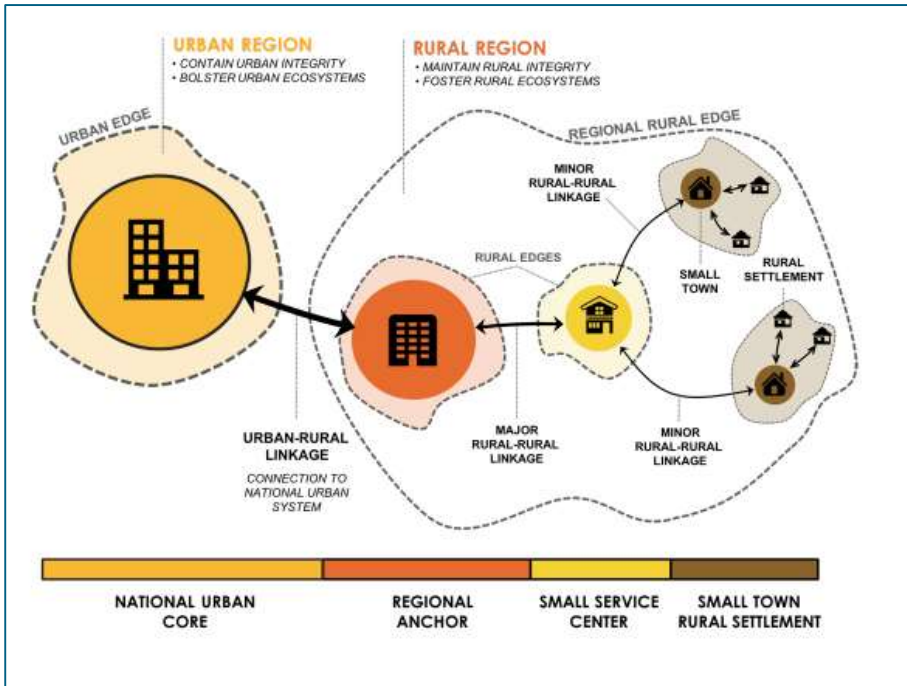


Figure 2-3: NSDF Regional-Rural Development Model

- NSDF Sub-Frame Five:** The National Ecological Infrastructure and Natural Resource System. The Karoo National Park is identified as a key ecological resource at the national scale. Various critical biodiversity areas, environmental support areas, and other natural areas have been identified in the Western Cape’s biodiversity spatial plan, which builds on SANBI’s extensive biodiversity information and knowledge management systems.

2.2.2 The Draft Karoo Regional Spatial Development Framework (KRSDF)

The Karoo RSDF is the first RSDF to be drafted under SPLUMA. It covers a region that encompasses 40% of South Africa’s surface area, including the Central Karoo District Municipality and Beaufort West Municipality and it also gives expression to the Arid-Agri Innovation region identified in the NSDF.

The draft KRSDF in its current form aligns with the NSDF in identifying Beaufort West Town as a Regional Development Anchor and highlighting the importance of the N1 and rail route as being connectors of high national importance. A major additional layer to the KRSDF is the demarcation of a Renewable Energy Development Zone (REDZ) that covers much of Beaufort West Municipality.

This REDZ forms part of an Economic Functional Region centred around Beaufort West as illustrated in **Figure 2-4**.

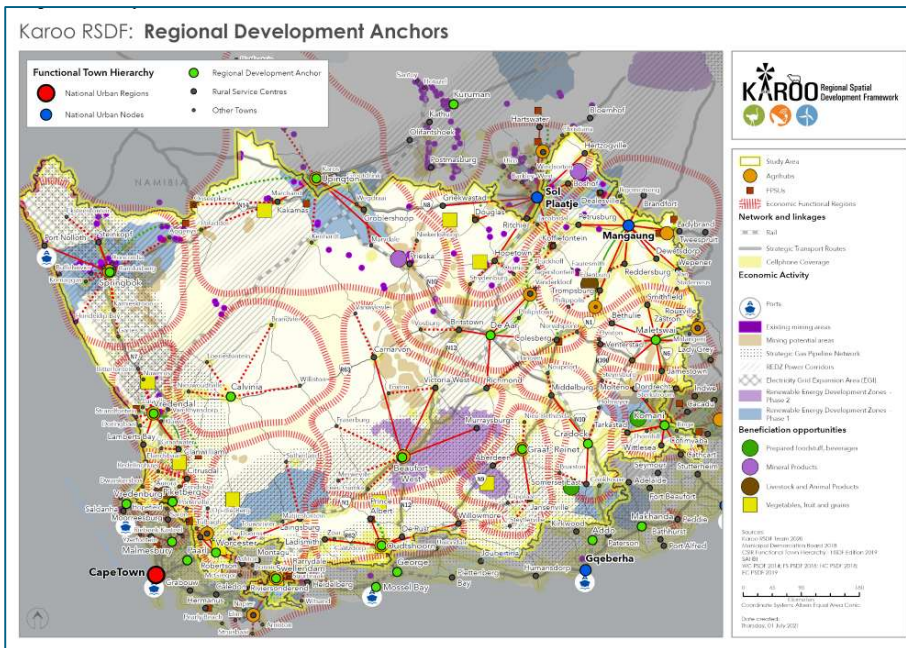


Figure 2-4: Economic Functional Regions in the draft KRSDf

As a result of these factors, the KRSDf proposes the following roles for the Beaufort West settlement:

- **Economic Focus and Opportunity:** Extensive agriculture, regional transit node: connecting point for regional and national routes, tourism gateway and eco-tourism.
- **Economic Infrastructure and Expansion in Functional Region:** REDZ, power corridors, on the national road network, on the national rail network, Agri-Hub, and Farmer Production Support Units.

It notes the following supportive actions for the anchor and region:

- Investigate the feasibility of commercial airport to strengthen the gateway function.
- Improve ICT connectivity.
- Support services for sustainable energy generation.
- Risk management:
 - Potential shale gas extraction;
 - Climate change impact: decreased rainfall;
 - Stressed water catchment area; and
 - The strategic gas pipeline network.

In addition, the draft KRSDf highlights the following issues that are relevant to Beaufort West Municipality:

- Critical biodiversity areas and protected areas adjacent to the Northern Cape have special significance for smaller towns in this region to serve as assets considering conservation tourism (attracting tourists).
- Water is a shared and scarce resource and a determining factor for growth and expansion of towns located in the more arid parts of the Karoo.
- Extraction of mineral resources is a concern given water constraints and the potential impact mineral resource extraction could have on the water resource – this is particularly an issue in the Shale Gas exploration areas in the Karoo Basin.
- Landscape and scenic are mostly road-based attractors that also benefit the more isolated municipalities and towns, bringing in visitors. This places a requirement to align road infrastructure maintenance at the scale of the RSDF.
- Energy systems: Rural development nodes near Beaufort West and Laingsburg are remote and need to be connected with ICT and have appropriate road connections/conditions.
- Accessibility challenges are significant in the central and southern Karoo regions, which creates a need for coordinated social service delivery.
- Housing: Isolated housing projects (sites) carry a risk of creating pockets of poverty, far from employment opportunities, and requisite facilities and services to support vulnerable and indigent populations. This creates additional burdens on the education, health, social services, and other government functions in serving these areas. All new subsidy housing should be delivered as integrated settlement housing opportunities, within existing settlements (consider growth/decline trends).
- Growth potential of towns: Most towns in the southern part of the Karoo RSDF (in the Western Cape Province) do not have significant growth prospects; some might even decline further in future, both in economic and population terms.

2.2.3 The Western Cape Provincial Spatial Development Framework (PSDF) (2014)

The Western Cape PSDF identifies Beaufort West Town as a Regional Centre, while the N1 and N12 highways are prioritised as Regional Connector Routes as illustrated in **Figure 2-5**. This is in broad alignment with both the NSDF and the draft KRSDf. The PSDF includes four spatial themes, namely: Resources, Space Economy, Settlement and Spatial Governance. The PSDF composite map graphically portrays the Western Cape's spatial agenda. In line with the provincial spatial policies, the map shows what land use activities are suitable in different landscapes and highlights where efforts should be focused to grow the provincial economy.

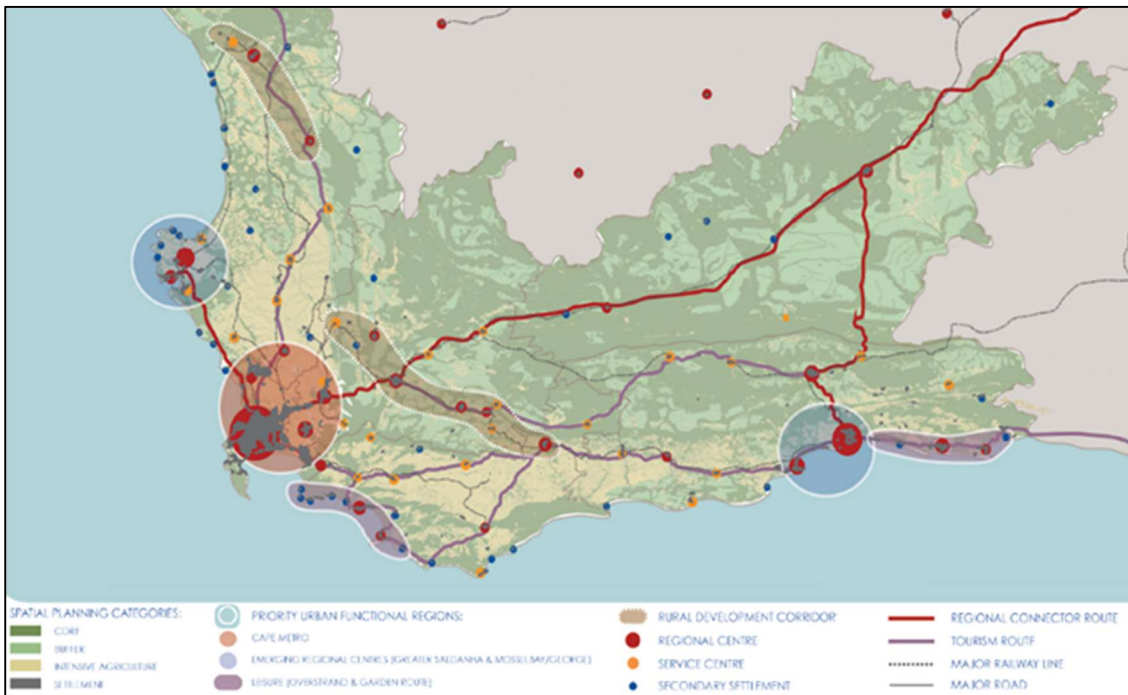


Figure 2-5: Western Cape PSDF 2014

The logic underpinning the PSDF's spatial strategy is to:

- Capitalise and build on the Western Cape's comparative strengths (e.g., gateway status, knowledge economy, lifestyle offering) and leverage the sustainable use of its unique spatial assets.
- Consolidate existing and emerging regional economic nodes as they offer the best prospects to generate jobs and stimulate innovation.
- Connect urban and rural markets and consumers, fragmented settlements, and critical biodiversity areas (for example, freight logistics, public transport, broadband and priority climate change ecological corridors).
- Cluster economic infrastructure and facilities along public transport routes (to maximise the coverage of these public investments and respond to unique regional identities within the Western Cape).

It is noted that the 2014 PSDF is due for a review and as such the vision, spatial strategies, policies proposals etc. that the province adopts for the next 10 years could to some extent change.

2.2.4 Central Karoo District Spatial Development Framework (CKDM SDF) 2020

The CKDM SDF identifies the Karoo National Park as a Core Area (SPC Category 1). Consequently, the area is delineated as a statutory conservation area. Alignment requirements include:

- Ensure the conservation of the biodiversity of the area
- Provide for eco-tourism opportunities
- Provide planned and controlled outdoor recreation opportunities.

Additionally, Beaufort West town is identified as the Regional Service Centre for the CKDM, with the N1 and N12 defined as routes of National Importance and Priority. Murraysburg is a Major Rural Settlement as illustrated in **Figure 2-6**.

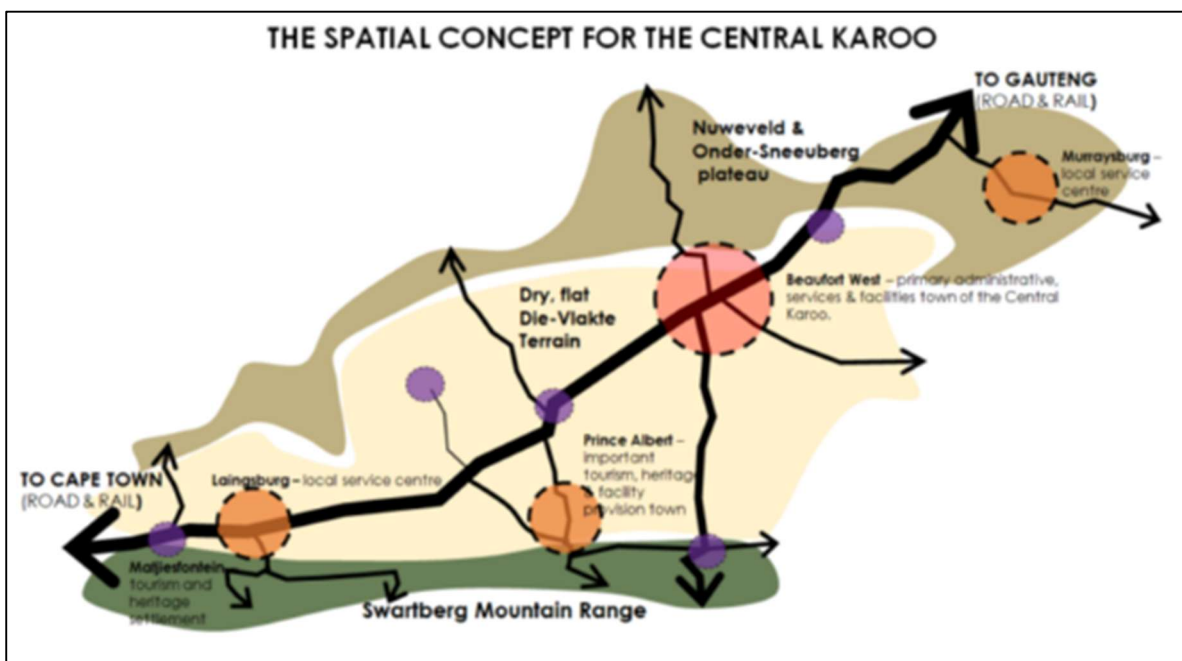


Figure 2-6: Spatial Concept for the CKDM SDF

2.2.5 Draft Beaufort West Municipal Spatial Development Framework (2023)

Spatial vision of Beaufort West Municipality:

To work together to develop Beaufort West into a thriving Regional Development Anchor that is the economic, tourism and transport gateway to the people, mountains, and plains of a resilient Central Karoo.

From a spatial planning, development planning and land use management perspective the implications of this vision are as follows:

- Beaufort West town has a responsibility to present itself as a welcoming and convenient centre for catering to the needs of through travellers as well as to attract visitors to spend time in the sub-region.
- An important aspect of improving the presentation of the town is constructing the proposed bypass to remove heavy truck traffic from the main street. It is important to note the following:
- The proposal should be implemented in a manner so that it does not detract from the economic activity that supports the town – namely fuel and refreshment purchases which are a result of private cars, buses, taxis, and freight trucks stopping to refuel
- Only truck traffic should be able to use the bypass. It is not desirable for cars, taxis, and buses to bypass the town
- It is envisaged that facilities for taxis and buses are not allowed along the proposed bypass.
- Promoting urban tourism opportunities in the municipality's settlements will require upgrading their main streets, the creation and management of heritage precincts where appropriate and considerable effort into creating a town and township tourism culture based on B&Bs, restaurants and cultural activities such as the music for which the region has become well known (Karoo Kitaar Blues)
- Beaufort West should position itself as a tourist destination due to its expansiveness and desolation, particularly the areas north of the town in the Karoo National Park and the surrounding mountain regions
- The main rural economic resource outside of eco-tourism is extensive agriculture. The growth of this resource depends on improving the carrying capacity of the land through good veld management practices. It would appear that the National Department responsible for agriculture intends to declare significant portions of the Karoo as Protected Agricultural Areas for grazing
- Wildlife preservation continues to be an issue in the Karoo. The preservation of biodiversity will require 'Fair Game' practices to be employed in sheep farming. 'Karoo Lamb' must become a trademark geographic indicator to increase its value and contribution to the economy
- Accessibility and mobility issues, which are dire, can only be addressed if a Rural Integrated Public Transport Network is implemented, which supplies periodic, affordable, reliable, and safe services. Current costs of transport are affecting the poor

Intensive engagement should continue with the shale gas exploration and **open cast uranium mining proponents to successfully resolve the following issues to protect the long-term interests of the municipality and its residents**, which could be:

- **Maximizing job opportunities** for locals and identify what skills training will be required to enable this
- **Ensuring that the nature and location of any infrastructure maximizes long term benefits** – e.g., staff housing should be located in existing settlements
- **Rehabilitation plans**, including proper topsoil stock piling, are prepared, and implemented on a phased basis as extraction proceeds and not left until all extraction is completed. Mines should be prevented from starting further production phases until rehabilitation milestones of open cast pits or well head pads have been achieved
- **Key areas such as Critical Biodiversity Areas, conservancies and stewardship areas and visually sensitive landscapes contributing to long term heritage and tourism opportunities should be off limits to mining and shale gas exploration.** The visual impact of Shale Gas Extraction on the Karoo landscapes could be severe, considerably diminishing its long-term tourism appeal unless properly rehabilitated
- One of the potential impacts of shale gas exploration is the anthropogenic contamination of underground water aquifers. It should be noted that both Beaufort West and Nelspoort are in a state of potential water shortage and, from time to time, actual crisis regarding their water supplies. These are increasingly dependent on groundwater as surface water sources have been inadequate for a number of years in spite of wide-ranging water demand management efforts although there is not much evidence of rainwater harvesting, especially in new low income housing areas. However, in recent years water demand has increased while recharge has decreased due in part to below average rainfall (<250mm p.a.). Beaufort West's boreholes have experienced a one metre per annum drop in the water table.
- Beaufort West is **exploring aquifers such as Rytkuil to the south of the town. However, this also underlies a potential open cast uranium mine.** Clearly if the water supplies of these settlements are undermined or compromised their future will be in question.
- Short term impacts of shale gas extraction will include transport and traffic and issues around accommodating mining crews, physically (housing) and socially (employment, recreation, entertainment, schooling, health– HIV, alcohol, drugs; crime and prostitution).

Beaufort West Municipality comprises of five main structuring elements:

- The N1 road and adjacent rail route are the main transport and socioeconomic artery through the municipality, significantly increasing its opportunities compared to other similar sized municipalities not enjoying such access.
- The Nuweveld Mountains to the north form an impressive scenic backdrop to the municipality. They contain large areas of significant CBAs and most of the formal and informal conservation areas – these constitute 14% of the total area.

- The Gamka river basin contains the settlements of Beaufort West town and Merweville and is mostly used for extensive farming – small stock grazing.
- South of Beaufort West is a large area of significantly degraded land in the Sout River basin with extremely low stock carrying capacity and low concentrations of people. This area requires extensive rehabilitation if it is not to become a dustbowl.
- To the west Murraysburg forms an almost separate eco and social system. It is not linked to Beaufort West but is accessed off the R63 between Graaff Reinet and Victoria West. It is the highest, wettest, and most fertile part of the municipality where most of the small areas of intensive farming are found, particularly in the west. In the south the landscape rises up to the Sneeuberg. It is 91kms from Graaff Reinet in the Eastern Cape and 158kms from Beaufort West. This remote location creates a significant challenge as it depends on services delivered from Beaufort West.

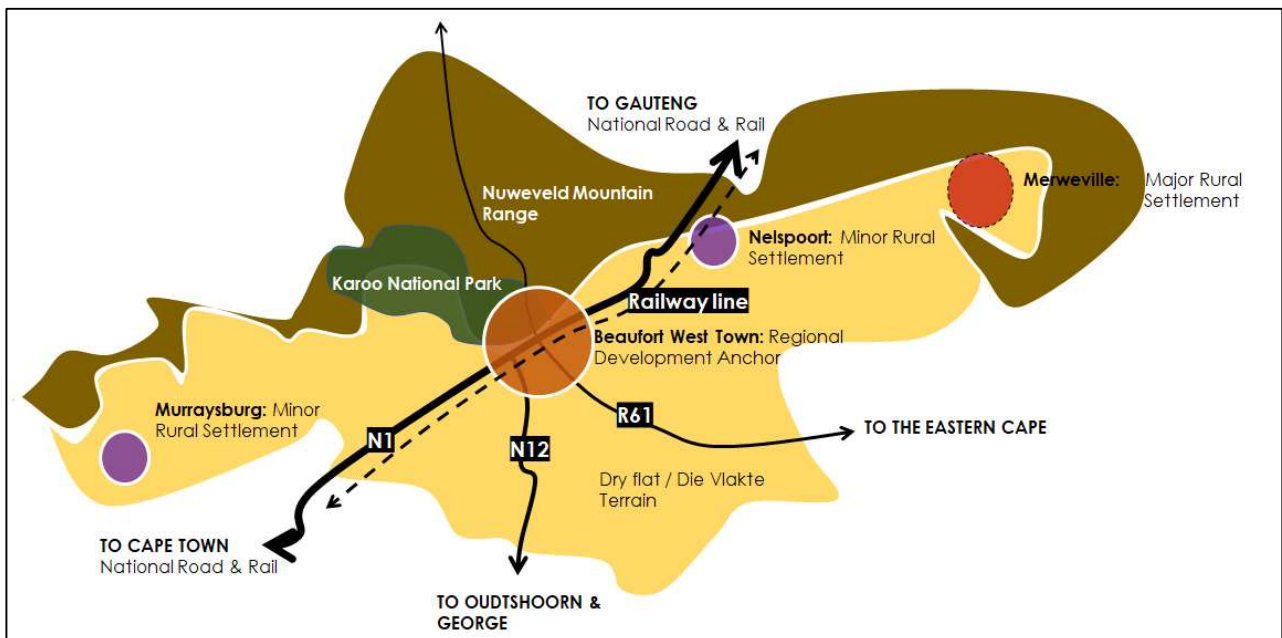


Figure 2-7: Spatial Concept for the Beaufort West MSDP (2023)

As articulated in the spatial vision, the spatial concept for the municipality focusses on sustainable development, resilience, and partnerships. The four strategies of the municipal wide spatial concept are:

- A region that protects the environment, enhances resilience, and capitalises on and honours the Karoo charm in support of a vibrant people and economy.
- Improve regional and rural accessibility and mobility for people and goods in support of a resilient economy.

- Allocate government resources, infrastructure and facilities in a manner that uplifts and skills people and focusses on maximising impact on the most possible people, while providing a basic level of service for all.
- Partnership-driven governance and administration towards improved financial and non-financial sustainability and resilience.

The above translates spatially in the region as follows:

- Protect and enhance the natural systems of the municipality, ensuring continuity in the natural systems Karoo (such as the Karoo National Park, the Onder-Sneeuberg and Nuweberg mountain ranges) and ensure the river corridors in the region (Gamka river – and its tributaries) are provided with the necessary buffers and setbacks (of at least 32m from the side of each riverbank) to preserve continuity and integrity of biodiversity systems. Prioritise the protection of Critical Biodiversity Areas and Environmental Support Areas from development.
- Protect and enhance water catchment areas and water resources by demarcating Critical Biodiversity Areas and Environmental Support Areas and preventing inappropriate development within these areas.
- Capitalise on the tourism appeal of the various assets that exist in the Karoo, such as the heritage appeal of existing town centres, as well as the Karoo National Park. Ensure that all development in the Karoo is compatible with the sense of place, Karoo character and charm. This intrinsic value create lifestyle, tourism, and hospitality opportunities, as is seen in Merweville, and hence creates employment opportunities and assists in poverty alleviation.
- Ensure the development and maintenance of a road network that provides good access and mobility for the region, as well as ensure the regional rail network is equipped to provide for the movement needs. The N1, N12 and R62 corridors are key economic and social assets in the Municipality area as well as the District which requires regular maintenance and upgrading. Attention should be placed on appropriate measures to ensure road safety in the municipality.
- Specific focus is also needed on non-motorised transport within the region. Non-motorised transport, particularly pedestrian movement, is the primary transport mode among residents. Key interventions for implementation in this area are pedestrian walkways, bridges and underpasses, and cycle paths. An important consideration in the planning of such interventions is safety, security particularly for the most vulnerable members of society, which provides good lighting, visual surveillance as well as shelter from the heat.
- Ensure that the town of Beaufort West, as the Regional Development Anchor, provides the primary regional services and facilities in the region. Business opportunities within the town

are to be maximised to encourage the multiplier effect of investment and expenditure. From a governance, capital investment and maintenance perspective, Beaufort West town is a crucial driver of growth and development opportunities.

- Strongly encourage value-add, industrial and agri-processing industries locating in the Regional Development Anchor of Beaufort West town to create jobs and add value to the region's agricultural goods and services. Specifically, Beaufort West and Murraysburg present opportunities for value-add and agri-processing activities.
- Focus government investment, facilities, services and housing opportunities in Beaufort West and to a much lesser extent Murraysburg. Prevent the creation of new low-income settlements in low growth, job deficient towns that have little prospect of creating employment opportunities.
- Seek partnerships to enhance various interventions, with a focus on the top 3 most impactful and critical interventions for the municipality. These will have to be determined based on the priorities of the municipality and the transversal nature of the issues. Currently water, gas and energy, and rural mobility are three areas of potential partnership between all spheres of government and civil society.

The spatial concept for the municipality focusses on **sustainable development, resilience, and partnerships**. The four strategies of the municipal wide spatial concept are:

- A region that protects the environment, enhances resilience and capitalises on and honours the karoo charm in support of a vibrant people and growing the economy
- Improve regional and rural accessibility and mobility for people and goods in support of a resilient economy
- Allocate government resources, infrastructure and facilities in a manner that uplifts and skills people and focusses on maximising impact on the most possible people, while providing a basic level of service for all
- Partnership-driven governance and administration towards improved financial and non-financial sustainability and resilience.

2.2.6 Beaufort West Municipality: Local Economic and Tourism Strategy, Final Draft (2024)

The economic SWOT analysis for Beaufort West town is provided below:

Strengths

- Location on the other edge of the Western Cape Province with direct access via N1 to Cape Town and Johannesburg.

- Highly attractive tourism environment, San & Khoi painting, historical, old Dutch, Victorian buildings, etc.
- Vast open land with natural beauty which can attract tourists.
- Unspoiled nature with various game farms and Karoo National Park.
- Farm stays are increasingly popular as a “digital time-out” or digital detox.
- Rich geology and anthropology, with a variety near the town.
- Established tourism sector with the potential to grow.
- Renewable energy potential.
- Karoo Lamb and Biltong .
- A few good Agri-processing producers with quality goods,
- Export potential.

Weaknesses

- Business space not well developed for SMMEs.
- Limited activities for overnight tourists.
- No branding of Beaufort West. We used to be referred to as the warm heart of the Karoo, perhaps this should be reinstated.
- Municipal regulation (red tape)
- Rental of Business space is expensive for small businesses.
- Lack of cooperation between role players.
- No community tourism.
- The entrance to Beaufort West is not visually attractive.
- Lack of tourism signage. Unfortunately, there are way too many illegal signs all over town, which are causing all sorts of problems - visual cluttering
- Beaufort West and small towns are not seen as tourist destinations.
- Drought and Climate Change (water scarcity)
- Lack of agricultural processing activities.
- Lack of access to funding.
- Wish list of projects (should be changed to goal-oriented SMART projects)
- Poor maintenance and upgrading of public spaces (parks etc)
- Delays in the processing of land use applications

Opportunities

- To become the gateway to the Central Karoo (Rail, road, and airport Hub)
- Logistic / Distribution center
- Sports Tourism
- Agri-tourism

- Performing arts-tourism.
- Development of historical precincts (reviving of pear tree landscape in the main road, enhancing historical building visage)
- Land Reform: land available for small upcoming farmers.
- Need for marketing campaign/marketing on social media necessary.
- Build a brand around “Karoo Tourism”.
- Town Greening (Pear Tree Planning)
- Natural endowments: uranium and shale gas
- Renewable Energy Hub.
- Beautification of the main road (painting of buildings)

Threats

- Too many foreign-owning businesses in towns and townships.
- Negative government perception
- Social Grant dependency
- High percentage of school dropouts.
- Skills shortage and capacity.
- High level of youth unemployment/ lack of unemployment opportunities
- Poor Municipal Revenue Base
- Labour regulations
- Lack of research in agriculture development.
- Climate change/ Drought
- Business closing (B&B) due to water shortage challenge and the Covid Pandemic
- Silo approach to tourism, there is no collaboration between towns and Municipalities. (As an LTO we work with all our neighbours, however, this is not always the case with the municipalities).
- No local production currently
- High freight transportation costs from farm to rail
- Investment costs
- Lack of access to funding
- The town is not visually attractive: no visual and physical landscape that captures the town’s identity. Vandalism

The following potential and opportunities were identified for the tourism sector:

- Create opportunities for township dwellers to benefit meaningfully from the local tourism economy (Township Tourism)

- Rebuild and enhance existing tourism locations to be more sustainable and create employment.
- Destination Plan, Branding & Product development (Digital marketing and knowledge)
- Heritage Tourism
- Film destination
- Town Beautification
- Business and Event Conference
- Skills development for Tourism SMME (especially women and youth)
- Create opportunities for township dwellers to benefit meaningfully from local tourism economic.

Local Economic and Tourism Vision Statement:

“Beaufort West, economic gateway in the central Karoo, where people are developed and live in harmony together”

Local Economic and Tourism Mission Statement

“To implement infrastructure to grow and create jobs”

The projects identified are either projects that remedy an existing blockage, problem, or constraints or new initiatives within a strategic theme.

The Strategic Themes are:

- Good Governance, SMMEs Support and Development
- Diversification of Economic Space and Infrastructure development
- Sustainable Tourism Development

The projects include the following:

- Good Governance, SMMEs Support and Development
- Reduce Red tape and administrative processes
- Developing a Public, Private Partnership Strategy
- Leasing vacant Municipal Buildings to SMMEs
- SMMEs needs/ skills Assessment Research
- SMME Training Programs
- Diversification of Economic Space and Infrastructure development
- Farming Innovation Program

- Integrated transport system (developing of an airport)
- Development of Green Energy Plan
- Development of a Private Hospital
- Sustainable Tourism Development
- Destination Plan, Branding & Product development
- Film Location Initiative
- Beautification Strategy
- Art and Culture Forum
- Heritage Tourism in Nelspoort
- Transformation Tourism Strategy

3. SOCIO-ECONOMIC STATUS

3.1 Introduction

The purpose of this section is to provide a comprehensive socio-economic profile of the BWLM to understand the existing weaknesses and opportunities in terms of the future development of the mining project.

3.2 Socio-economic Data Sources

The 2022 Census data is the most up to date and comprehensive official socio-economic set of data available. The data has only been released up to a LM level as of June 2025 although Stats SA did promise to have the subplace level data available at the end of February 2024. The data that has been released at the LM level in many cases shows significantly higher growth rates than in the past and seems to go against some of the long-term demographic trends. Many researchers and demographers have questioned the data when it was released.

A more recent study **The 2022 South African Census A Technical Report** prepared for the South African Medical Research Council by Tom Moultrie and Rob Dorrington at the Centre For Actuarial Research (CARE), University Of Cape Town, June 2024 made the following observations which are important for policy and planning purposes:

- Indications that the population of 62.03 million revealed by the 2022 Census might be overstated by approximately one million people.
- An underestimate and implausible age profile of the numbers of migrants implied by the questions on migration in the census.
- Incoherent and implausible results at a sub-national level, with the incoherence escalating at increasingly fine levels of spatial disaggregation.
- Serious concerns about the scope and scale of adjustments made to the census results in the light of the reported undercount of 31 per cent.

The following conclusions were reached in the study:

- Much of the data from the 2022 census, which would aid in understanding the results, is yet to be released. This includes the data on fertility, mortality, and more detailed data on migration based on place of residence at the previous census. These data should be released without delay.

- Uncritical use of the 2022 census results for policy and planning purposes would be unwise.. CARe is working to produce an alternative set of population estimates at the census date that will resolve, as far as possible, the inconsistencies identified.
- It would be inadvisable for population projections (including the official mid-year population estimates (MYPE)) to base projections on the 2022 census results without any adjustments for the problems identified above.

A Stats SA reply shortly after the CARe study was released stated that the claims made about the Census 2022 results, not meeting standards, are unfounded and misleading. Stats SA stated that they are dedicated to upholding standards of data accuracy ensured by quality checks at every stage of the census process from data collection to fieldwork monitoring. Stats SA firmly denies the CARe's claim that Census 2022 figures should be treated as estimates due to undercounting issues. Stats SA further states that the numbers from the Census 2022 Report serve as counts for government planning and resource allocation every decade. The accuracy of these numbers is further validated by a review conducted by a group of local and international statistical experts, under the supervision of the Statistics Council. The Council has assured both the Minister in the Presidency and the Statistician General that the Census 2022 data is indeed reliable.

After the Stats SA reply to the CARe study, Stats SA have since stated that based on Census data quality evaluation exercises undertaken by Stats SA's subject matter specialists and Census 2022 technical experts on various census themes, the following variables/themes will not be published:

- Income
- Labour module
- Demography themes - mortality and fertility.

This information is critical to understand the population figures and was specifically requested by the Centre for Actuarial Research.

Based on the questionability of the population figures from Census 2022 especially at the local municipality level, the decision was made to not unequivocally accept the Census figures but also to utilise the Mid-Year Population Estimates (MYPE) from Stats SA together with any other figures to gain a better perspective.

Other socio-economic data sets utilised in this study are provided below:

- 2011 Census data – official population statistics available at a more detailed level than per local municipality, such as by main place, sub-place, and small area level (SAL). Most recent official statistics available at a lower geographic level than LM.
- Stats SA Community Survey 2016 – official population statistics released between the 2011 and 2022 Census but only available at a local municipal level. Data not available at main place, sub-place or SAL.
- Stats SA Local municipal Population projections (2002-2031) – Only official population projections available. Only available at a local municipality level and up to 2031. The Mid-Year estimates do not include inputs from the 2022 Census. The cohort-component methodology was used to estimate the 2022 mid-year population of South Africa. The estimates cover all the residents of South Africa at the 2022 mid-year point and are based on the latest available information. Estimates may change as new data become available.
- CSIR Green Book population projections to 2030 and 2050 – Only known long-term projections of population at a local municipal level. The Green Book determined population growth shifts and development trajectories of South African local municipalities to determine the future growth and decline nationally over the next three decades. The objective was to understand the pressures associated with these development trajectories on scenario-driven assessments of climate change impacts.
- Although not datasets as such, but the Western Cape Government produces the Municipal Economic Review and Outlook (MERO) for districts and the annual Socio-economic Profile (SEP) for all the municipalities in the province which have been utilised extensively in this report. The reports are based on existing datasets and not new datasets. The latest reports available are the CKD MERO 2024/25 and BWM SEP 2024.

3.3 Population and Households

The CKD makes up 1.0 per cent of the total Western Cape population, the least populous District in the province. In the CKD, Beaufort West has the largest population share at nearly 70%.

The population of BWM is provided in **Figure 3-1** for all the sources identified above.

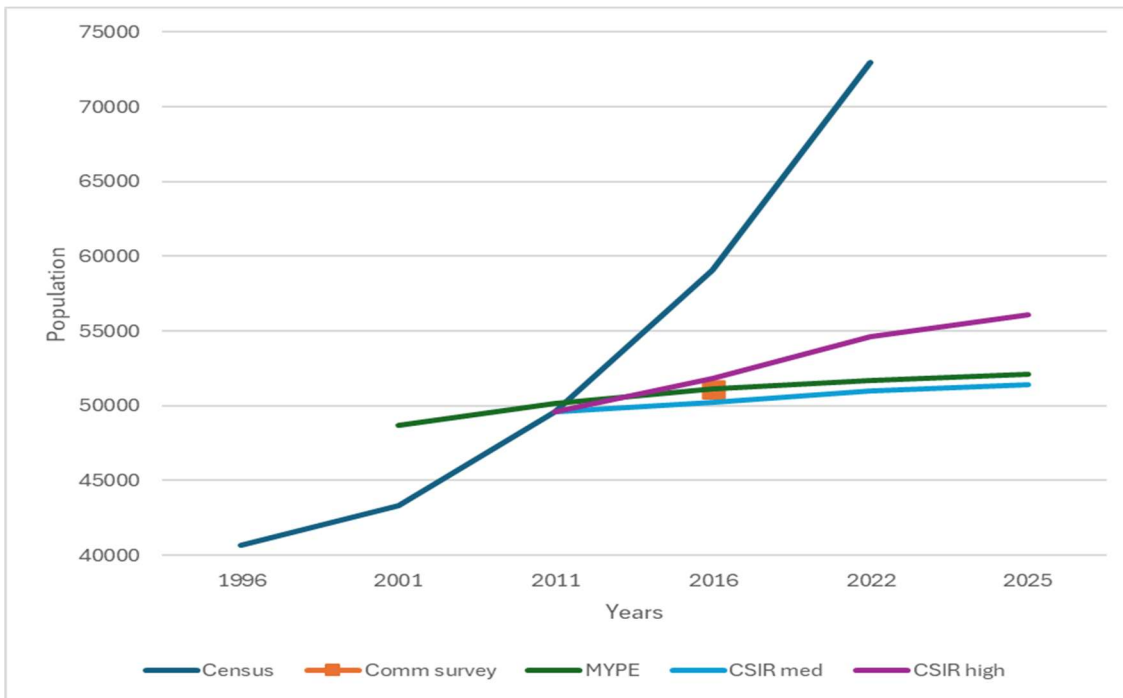


Figure 3-1: Beaufort West LM Population

As can be seen the majority of the sources show a population of between 51 000 and 55 000 for 2022, except for the 2022 Census which shows a population of 73 792. The Western Cape Government which produces the Municipal Economic Review and Outlook (MERO) and the annual Socio-economic Profile (SEP) for all the districts and municipalities in the province also have an issue to decide which set of figures need to be utilised.

The annual population growth rates for all the sources are provided in **Figure 3-2**

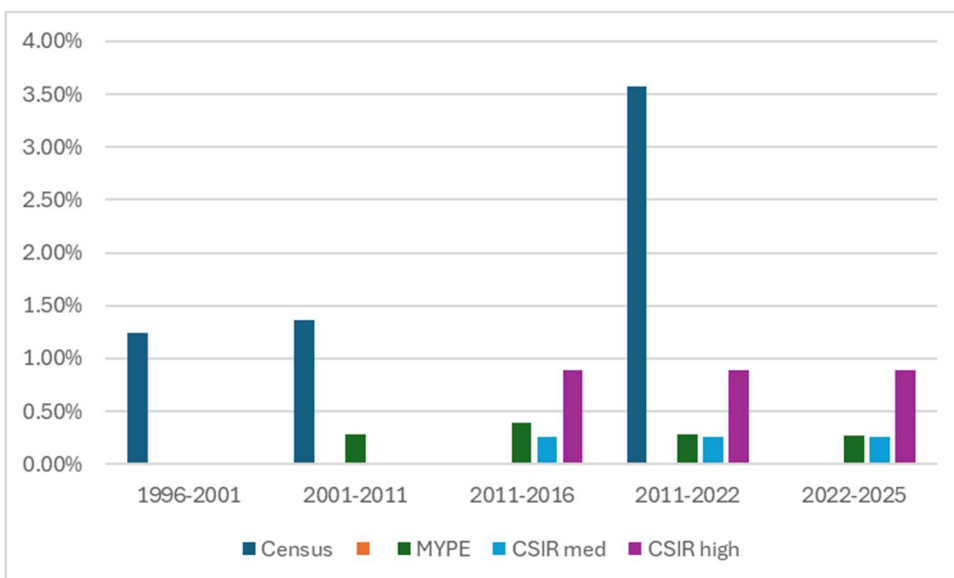


Figure 3-2: Beaufort West LM Annual population growth per period

The Census growth between 2011 and 2022 is 3.6% which is far higher than the other sources of between 0.3% and 0.9% for the same period. In order to understand the growth rate more fully the annual growth rate for BWM is compared to other areas using the Census as well as the MYPE datasets which are both sets of official data from Stats SA, as shown in **Figure 3-3**.

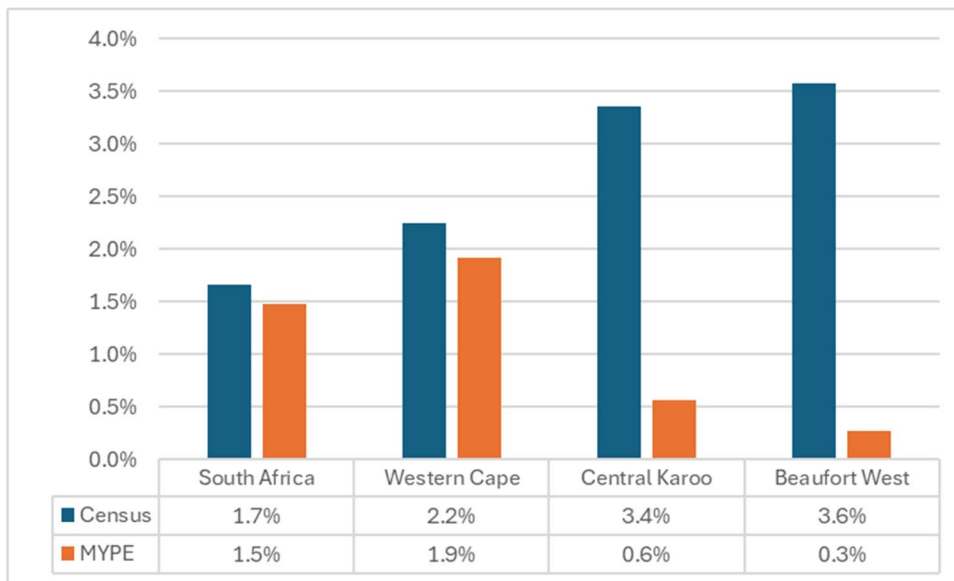


Figure 3-3: Annual Population Growth Rate Comparisons

The Census growth rates are higher than the MYPE for all the geographic areas, but the difference increases with the more localised the geographic areas, which shows a higher level of uncertainty. Based on the uncertainty over the Census 2022 population figures and discussions with the BWM and CKDM, it is believed highly unlikely that the growth rate for Beaufort West was 3.6% over an 11 year period.

It is estimated that the most likely population for planning purposes is approximately 54 000 in 2025 but could potentially range between 52 000 and 56 000. According to the SEP the population in 2024 was 52 667. It is expected that future growth could be between 0.3% and 1.0% per annum for the next five years. According to the SEP this slow growth in comparison to the province can be attributed to limited economic opportunities, underdeveloped infrastructure, and harsh environmental conditions in the predominantly rural and semi-desert region.

It is estimated that the most likely population in 2030 will be between 55 500 and 57 000.

According to the SEP, despite the growth in population and households it is noteworthy that the household size has remained consistent at 3.8 between the Census figures of 2011 and 2022. This implies that while there is an increase in the number of households, the average size of each household has not undergone significant changes over this period. An analysis of the expected population and household growth reveals significant insights into trends across the CKD's municipalities. Laingsburg and Prince Albert, with the smallest number of households, have strong growth in both number of households and population, positioning it as key area of expansion within the district. In contrast, Beaufort West is larger, with lower growth rates, indicating a more gradual development trajectory. This trend suggests the need for careful spatial economic, social, and environmental planning.

It is estimated that based on the most likely scenario there are approximately 14 200 households in the BWM in 2025, although it could range between 13 500 and 15 000. According to the SEP the number of households in 2024 was 13 715. The number of households is expected to increase to between 14 500 and 15 000 by 2030.

According to MERO, the CKD is highly urbanised, with 86.9 per cent of its population living in urban areas reflecting the significant development across its municipalities. The stable level of urbanisation is expected, as rural-urban migration is a long-term trend that tends to remain relatively static. Beaufort West emerges as the most urbanised municipal area in the district, with a 89.7% urbanisation level. This highlights Beaufort West as a predominantly urban area partly due to its attractive living conditions and economic opportunities. Prince Albert and Laingsburg have lower levels of urbanisation, though these remain relatively high. These urbanisation rates underscore a region that successfully merges the benefits of urban living with the appeal of rural environments, offering a unique blend of lifestyle choices to its residents.

The largest urban settlements are Beaufort West at 38% and Rustdene at 16%. Notably, urban areas experienced considerably more population growth than rural areas with the largest increase in Rooivlakte and Beaufort West.

According to SEP, amidst rapid urbanisation across the Western Cape, population density figures will aid public sector decision makers to mitigate environmental, individual health and service delivery risks. The BWM area covers an area of 21 916 km². The municipal area is sparsely populated, with a population density of only 2.4 persons per km². Rooivlakte, Rustdene and Kwa-Mandlenkosi experienced the highest density change.

- **Beaufort West** **2.4 people/km²**

- Laingsburg 1.1 people/km²
- Prince Albert 1.9 people/km²
- Central Karoo District 2.0 people/km²

3.4 Demographic Profile

Figure 3-4 provides an overview of the municipal area's population distribution across different age groups, presented as a dependency ratio, indicating the workforce (ages 15 - 64) versus dependents (children and seniors). Demographic insights are vital for economic planning, highlighting potential challenges in resource allocation and social welfare programs.

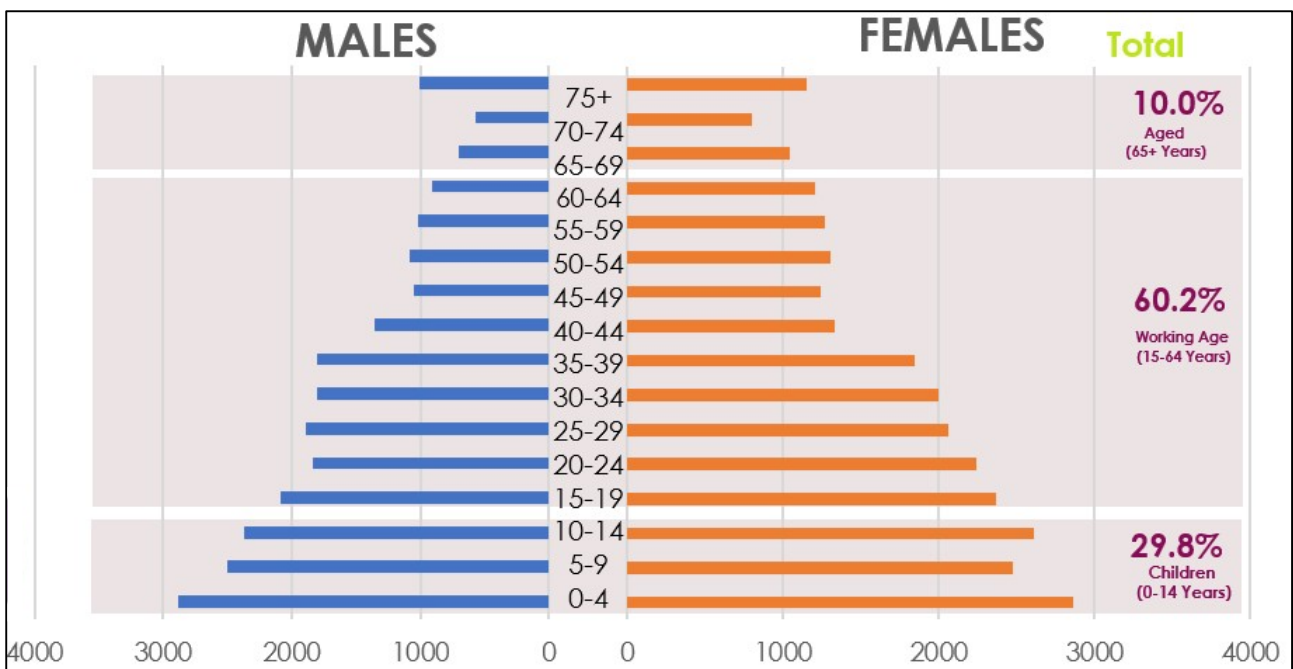


Figure 3-4: BWM Age and Sex Profile, 2024 (SEP)

According to SEP, a thorough examination of the demographic structure within the municipal area highlights that 60.2 per cent of the population falls within the economically active age group, spanning from 15 to 64 years in 2024. The second-largest demographic segment is constituted by children, accounting for 29.8 per cent of the population, while the aged, those above 65, make up a modest 10 per cent of the total population.

The population structure reveals a regression in the dependency ratio, which stood at 66.2 per cent in 2024 which is rather very high. The regression in the dependency ratio is attributed to the growth observed in the children group and age population (This demographic trend signifies

a positive trajectory in terms of the municipality's evolving age distribution, signaling a potential boost in the productivity and economic contributions of the working-age population.

Understanding of the racial demographics is vital for formulating targeted policies, fostering social cohesion, and addressing disparities, ensuring a more equitable and inclusive economic development trajectory in the region. The racial split within the BWM area echoes that the population is predominately coloured; the coloured racial group accounts for 71.5 per cent of the population, this is followed by the Black Africans accounting for 20.4 per cent, white racial group at 7.6 per cent, while Indians and Asians represent 0.5 per cent of the population.

The sex ratio indicates a lower male to female ratio; with males accounting for 47.2 per cent of the population versus females at 52.8% resulting in a sex ratio of 91.4 males per 100 females in 2024. This indicates a situation where there are fewer males relative to females in the population. A lower sex ratio can be influenced by various factors such as migration patterns, socioeconomic conditions, or specific demographics within the population.

3.5 Spatial & built environment/ housing

There are four settlements in Beaufort West Municipality:

- Beaufort West Town
- Nelspoort
- Murraysburg
- Merweville

According to the CSIR, “a settlement refers to a distinct human community in its physical, socioeconomic, and environmental whole which requires the provisioning of services such as engineering and social services. Settlements can be ordered by size and other factors to define a settlement hierarchy, ranging from city regions to hamlets or dispersed rural settlements”. Often, population is a crucial factor in determining the hierarchy of settlements in a region and deciding where to target essential basic services.

Beaufort West is a predominantly rural municipality, with Beaufort West town functioning as a regional service centre for the CKD and the broader region. It is home to most of the medical, educational, commercial, and regional administration activities in the local and district municipalities. The NSDF defines Beaufort West Town as a Regional Development Anchor – although it should be noted that the town’s economic potential is in decline and this hierarchy may change. Murraysburg is a major rural settlement which offers some services mentioned above to the surrounding farming communities. Minor rural settlements like Merweville and Nelspoort offer limited services that are

structured around farming, railway and transport activities. The settlement hierarchy for Beaufort West Municipality is shown in **Figure 3-5**.

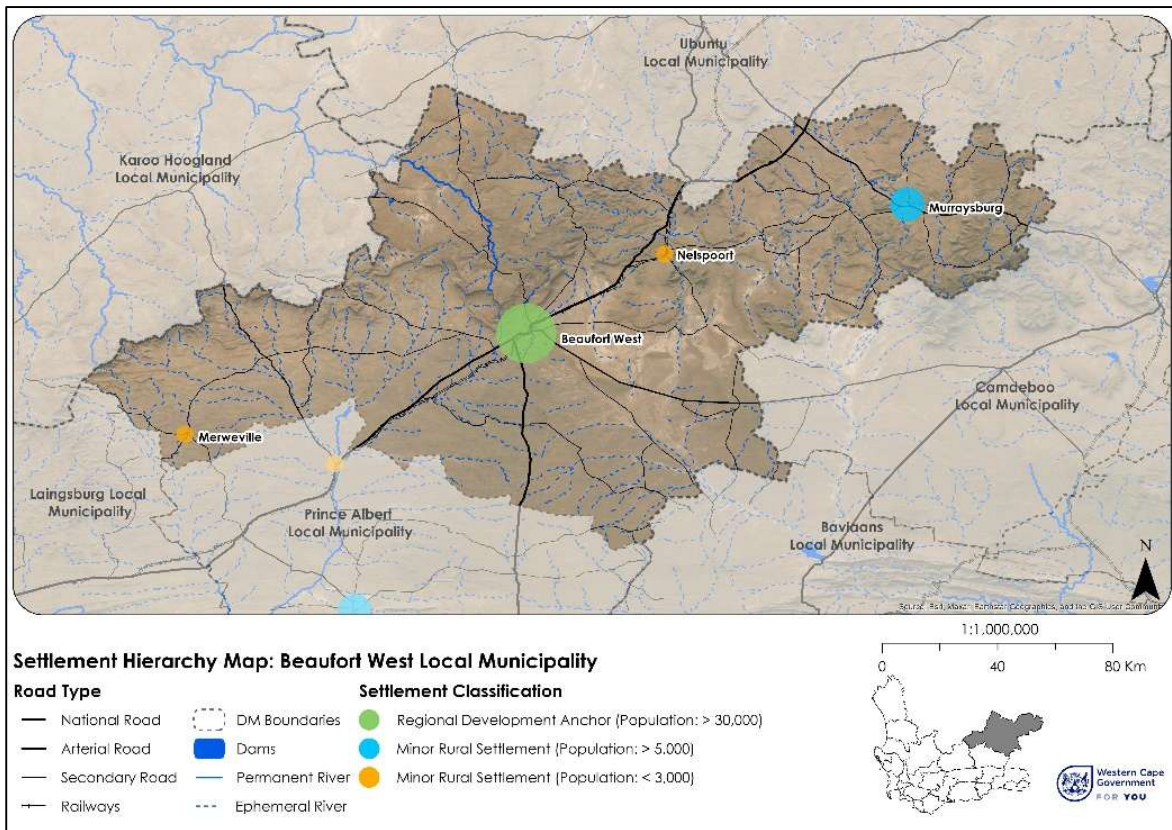


Figure 3-5: Settlement Hierarchy for Beaufort West Municipality (BWM SDF)

3.6 Education

According to SEP, education is on one of the primary resources of change, its role is to help people acquire knowledge and skills, which can, in turn be used to acquire jobs. Education indicators include learner enrolment and educational facilities, learner retention, teacher ratios and matric pass rates. These indicators provide important information for policy formation and evaluation and are used in funding formulas to distribute public funds to the education sector.

According to SEP, a total of 11 239 learners were enrolled in 2023 in the BWM, which decreased from 11 502 in 2022 reflecting an increase in enrolment of 0.3% between 2021 and 2022. These learners were enrolled in the 18 public schools. SEP states that 77.8% of the public schools in the BWM are categorised as no fee schools as per the education policy implying that these schools have the right not to charge school fees. Fourteen public schools in the area have library facilities which assist students to find and use information and serve as a storehouse of information related to textbooks and beyond.

Learner teacher ratios are indicative of the capacity of schools to accommodate more learners. Learner-teacher ratio upper limits of 40:1 in ordinary primary schools and 35:1 in ordinary high schools is set by the Department of Education. Low learner-teacher ratios are associated with more interaction between teachers and learners which could contribute to better quality education. According to the 2021 Schools Realities Publications the learner teacher ratio is high for government only paid teachers meaning that teachers paid by government are faced with larger numbers of learners per teacher. SEP indicates that the learner teacher ratio recorded an improvement of 31.4 learners per teacher in 2023 from 32.4 learners per teacher in 2022 in the municipal area.

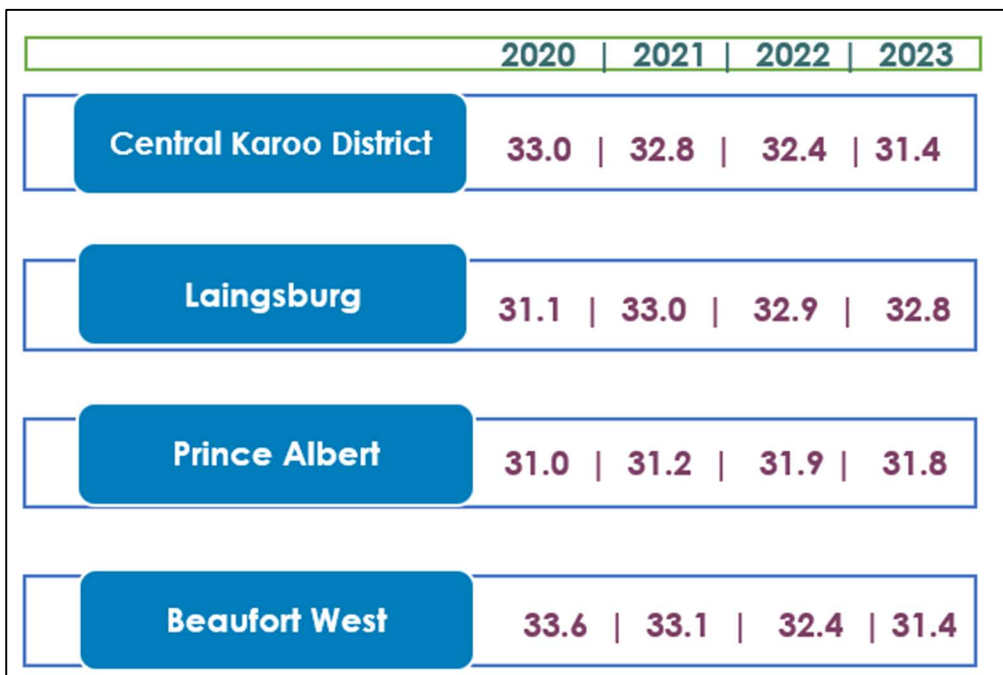


Figure 3-6: Learner Teacher Ratio, 2020-2023 (SEP)

The learner retention rate measures the proportion of learners in Grade 12 who were in Grade 10 two years prior. SEP states that the learner retention rate improved from 60% in 2022 to 66.3% in 2023 as learners returned to the schooling system after COVID-19. Although there were improvement in 2023 this percentage was still lower than 79.5% recorded in 2020. This implies that 34% of learners did not successfully complete their studies or were not retained in the education system. These learners leave the schooling system without the necessary skills to adequately contribute to the economy.

Learner dropout rates have implication for other social ills such as teenage pregnancies and drug use. Measures to address school drop-out rates can include expanding learner opportunities in technical and vocational streams, implementing early intervention that motivates learners to stay at

school and increased support to learners at risk of dropping out, implementing behavioural programmes and psychological support to learners.

The BWM experienced fluctuations in education outcomes, recording a regression from 79.0% recorded in 2022 to 74.0% in 2023, according to SEP. This number should also be read in conjunction with the dropout rates as many students dropped out of the education system which will have an impact on the future prospect of finding jobs which will further worsen the youth unemployment rate.

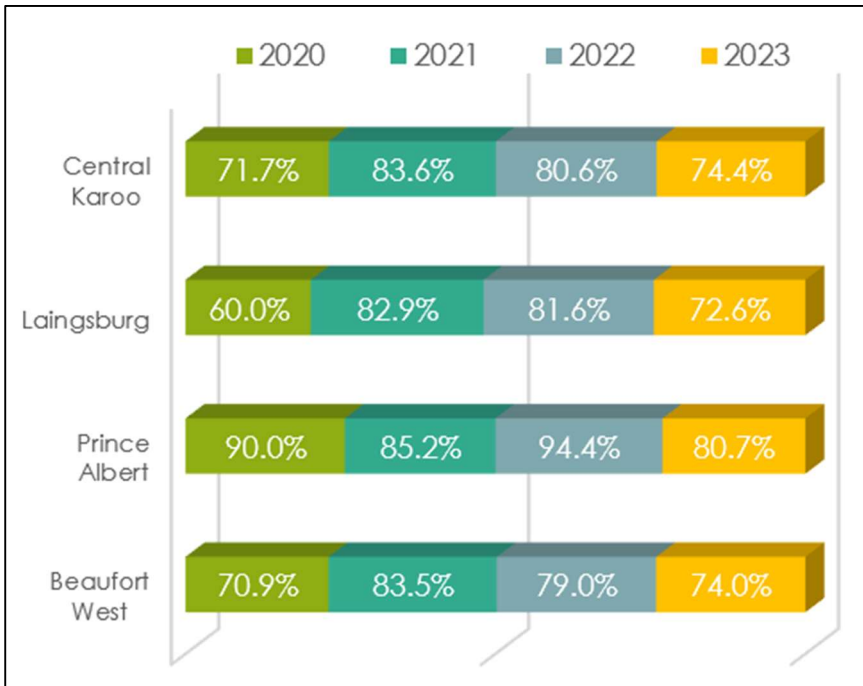


Figure 3-7: Matric Outcomes, 2020-2023 (SEP)

Unfavourable outcomes have been recorded for Mathematics, Physical Science and English in 2023. On the other hand, Mathematical literacy and Afrikaans home language shows better pass rates.

3.7 Health

Understanding the indicators related to health care access, facilities, emergency services, child and maternal health provides valuable insights into the population’s overall wellbeing. By assessing factors such as infant mortality rates and maternal healthcare access, the progress in promoting the health and welfare of mothers and children within the region can be determined.

According to SEP, in 2023, the BWM was equipped with a total of 5 primary healthcare facilities. In addition, there are 2 district hospitals, 5 mobile/satellite clinics, 8 Antiretroviral Therapy (ART)

treatment sites and 7 Tuberculosis (TB) clinics, reflecting comprehensive healthcare infrastructure within the region.

To ensure prompt emergency response and medical assistance, the area was served by 8 ambulances. It is important to note that this translates to 0.6 ambulances per 10 000 people in 2023. This figure specifically pertains to Provincial ambulances and does not account for any services provided by private ambulance providers. However, it's important to assess whether this ratio meets the demand for emergency services and whether there are any geographical or logistical considerations that might impact response times.

The maternal mortality rate is recorded at 0.0 maternal deaths per 100 000 population in 2023/24, according to SEP. This rate is on par with the district rate in 2023/24.

SEP provides the incidence of teenage pregnancies, defined as births to women under 19 years old, stands at 18.9% in 2023/24 having increased from 17.4% in 2022/23. This rate is marginally higher than the recorded Central Karoo District rate of 18.3% in 2023/24. Teenage pregnancies and subsequent childbirth have been identified as prominent factors contributing to high school dropout rates among teenage girls. It is imperative to implement interventions aimed at mitigating these issues, with a particular focus on comprehensive family planning initiatives. Termination of pregnancies associated with unplanned pregnancies is recorded at 0.3%, almost on par with the Central Karoo District rate of 0.2%, according to SEP

There has been a regression in the immunisation coverage rate for children under the age of one in the municipal area. In 2023/24, the coverage rate according to SEP, declined to 56.4% compared to 76.2% recorded in 2022/23. It is noteworthy that the municipal area's immunisation coverage rate remains lower than the Central Karoo District average in both 2022/23 and 2023/24. It is further observed that the broader Central Karoo District has also experienced a decline in its average compared to the preceding year. This highlights the need for continued efforts and targeted interventions to sustain and improve immunisation rates, not only within the municipal area but also at the district level.

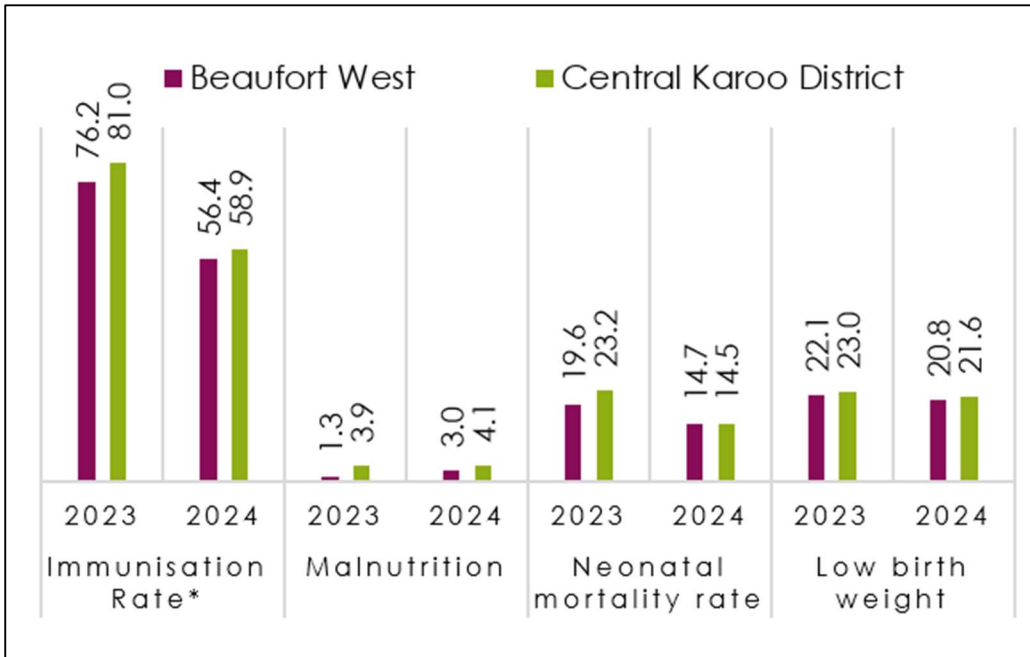


Figure 3-8: Child Health Indicators, 2023-2024 (SEP)

Malnourished children under the age of five years (severe acute malnutrition) are recorded at 3.0 per 100 000 in 2023/24 compared to 1.3 per 100 000 population in 2022/23, based on SEP. SEP states that the neonatal mortality rate (deaths per 1 000 live births between 6 and 28 days of life) improved from 19.6 deaths per 1 000 live births in 2022/23 to 14.7 deaths per live deaths in 2023/24. Effective interventions such as improved care around the time of birth and vaccination remains critical. In terms of data availability, updated quality and disaggregated data which allow the most vulnerable children to be identified are critical to achieving the goal of ending preventable deaths of children. The number of all babies born in health facilities that weighed less than 2 500 grams improved to 20.8% in 2023/24 from 22.1% in 2022/23.

The number of patients registered for ART saw a notable increase from 1 572 patients in 2022/23 to 1 958 patients in 2023/24 according to SEP. This change reflects a 25% increase in the number of individuals registered for ART during this timeframe. There was also an increase in the number of patients receiving TB treatment, which increased from 465 in 2022/23 to 504 registered patients in 2023/24, according to SEP. This upswing implies a proactive approach in identifying and treating individuals with TB in the community, contributing to better public health outcomes.

3.8 Income and Poverty

Gross Domestic Product by Region (GDPR) per capita measures the total economic output of a region relative to the size of the population living there. The GDPR per capita is useful for comparing

living standards across regions and growth in GDP per capita is considered a summary indicator of economic development in a particular area.

An increase in GDP per capita, i.e., GDP per person, is experienced only if the economic growth rate exceeds the population growth rate. While Beaufort West municipal area is the biggest economy in the district, it only recorded a GDP per Capita of R28 069 which is below the District GDP, according to SEP. This means that people in Beaufort West have lower levels of income than the provincial average. It should be noted that GDP per capita fluctuated in the BWM over the 3-year period.

Unlike GDP per capita, which measures the average economic output per person, median income reflects the typical income level, making it a more accurate indicator of the most prevalent income levels. While GDP per capita experienced an overall decline in 2023, the median income in the CKD and its municipalities saw only slight decreases. Laingsburg, with a median income of R4 587, reported the lowest among the municipalities, reflecting the typically lower incomes associated with small-scale agricultural activities and limited economic diversification. Prince Albert, with a slightly higher median income of R4 664, has a similar reliance on agriculture but with a modest contribution from tourism due to its cultural and historical attractions.

Beaufort West, with a notably higher median income of R9 447, underscores its position as a key economic hub in the region, driven by its strategic location on national transport routes and a more diversified economic base. The overall CKD median income of R6 730 reflects the combined impact of these disparities, balancing the economic strengths of Beaufort West against smaller and less economically diverse municipalities like Laingsburg and Prince Albert.

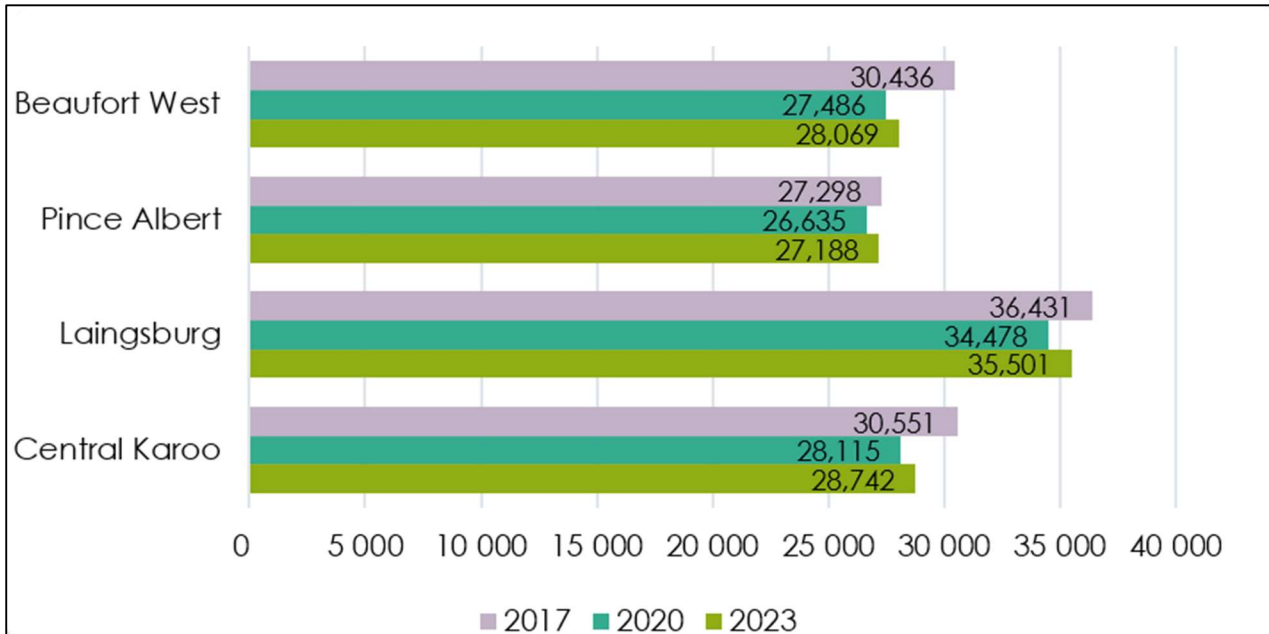


Figure 3-9: GDP per Capita, 2024 (SEP)

Income inequality is a measure of the uneven distribution of income within a population. It is a critical economic and social indicator that reflects the gap between the wealthy and the poor. Various metrics are used to assess income inequality, each providing a different perspective on the economic conditions of a society. The Gini Index is one of the most widely used measures of income inequality. It is a number between 0 and 1, where 0 corresponds to perfect equality (everyone has the same income) and 1 corresponds to perfect inequality (one person has all the income, and everyone else has none).

South Africa suffers among the highest levels of inequality in the world when measured by the Gini index. Inequality manifests itself through a skewed income distribution, unequal access to opportunities and regional disparities.

From 2020 to 2023, the CKD and its municipalities have seen a further equalisation of income levels. Over this period, the CKD’s Gini coefficient decreased from 0.601 in 2020 to 0.575 in 2023, signalling progress in reducing income inequality across the region. This gradual improvement can be attributed to focused efforts on education and skills development, enhancing workforce participation and creating better employment opportunities and wage growth, particularly for historically disadvantaged communities.

The National Development Plan (NDP) envisions a transformed South Africa by 2030. Key goals include eliminating households with a monthly income below R419 per person, reducing this percentage from 39.0 per cent to zero, and decreasing the Gini coefficient from 0.690 to 0.600.

Achieving these objectives requires addressing the root causes of poverty and inequality, shifting from short-term to evidence-based policies, and ensuring a “decent standard of living” for all South Africans by 2030.

According to SEP, the BWM income inequality has improved from 0.59 to 0.58 in 2023, however, it was the highest Gini coefficient of the three municipal areas in the CKD during the reference period. Insufficient economic diversification is central to the lack of high-paying jobs in Beaufort West. This is particularly apparent in the towns of Leeu-Gamka and Klaarstroom, which have the lowest median incomes in the CKD. These low incomes are accompanied by significant income inequality. A substantial proportion of individuals earn even less than the average median income contributing to a disparity in living standards.

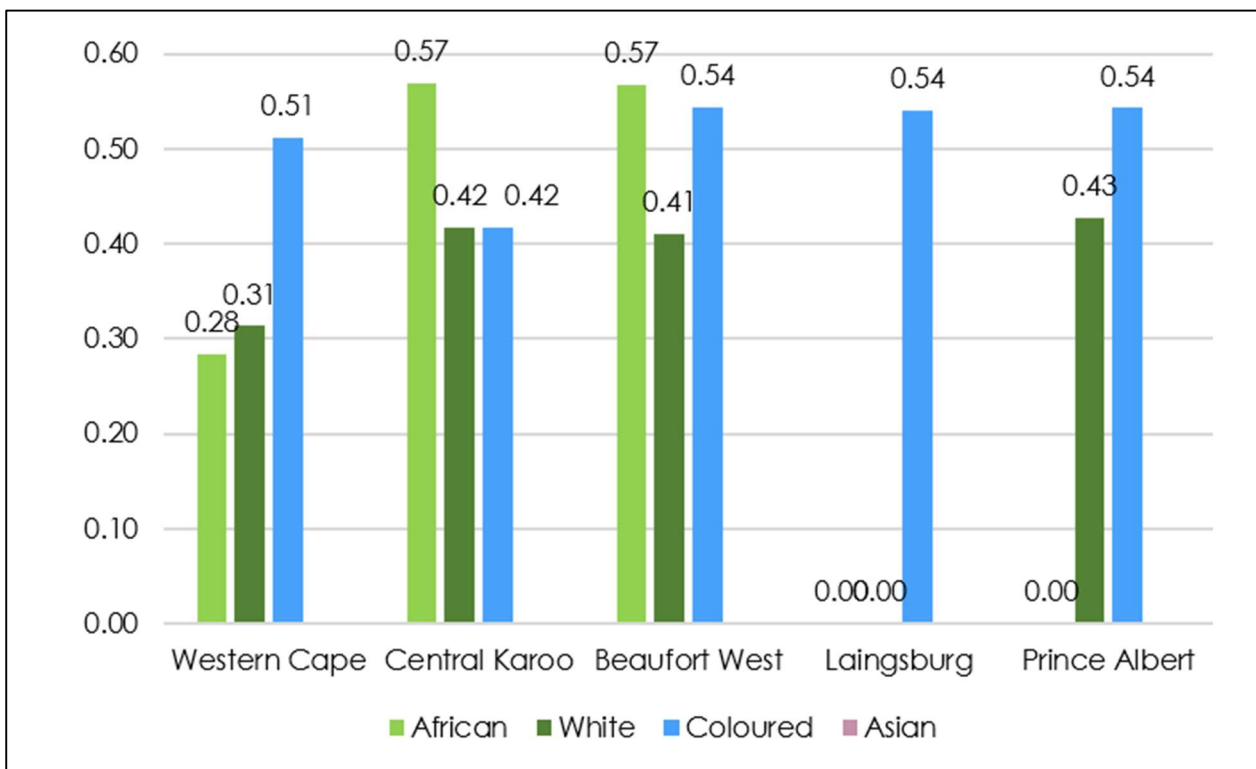


Figure 3-10: Income Inequality, 2024 (SEP)

Based on SEP, income disparities are noticeable in the African racial group with a Gini coefficient of 0.57 in 2023, followed by the Coloured racial group with 0.54. The white racial group on the other hand indicates a more equal distribution of wealth with a Gini coefficient 0.41.

The Upper Bound Poverty Line (UBPL) head count ratio is the proportion of the population living below the UBPL i.e., that cannot afford to purchase adequate levels of food and non-food items. The UBPL in South Africa is R1 417 (in April 2022 prices) per person per month. Poverty affects the

social development of communities through lower life expectancy, malnutrition and food insecurity, higher exposure to crime and substance abuse, lower educational attainment and poor living conditions.

According to SEP, the population below the upper bound poverty line was recorded at 83.7% in 2023. Developing livelihoods and creating job opportunities are crucial. Public works programs, skills development initiatives, and support for small businesses can help reduce unemployment and poverty. In addition, investing in infrastructure, such as roads, schools, and healthcare facilities, can improve access to essential services and support economic growth.

The definition of indigent households in the CKD’s municipal areas municipalities reflect the socio-economic conditions and cost of living in each area. The low level of the income threshold in the Laingsburg reflects the prevalence of low-income households, and the need to ensure access to basic services among these. Prince Albert has a slightly higher income threshold of R4 000. In Beaufort West, the threshold for indigent households is set at a combined income not exceeding twice the All Pay Pension amount, which is R4 900. These indigent policies are essential for providing targeted support to low-income families, helping to alleviate poverty and improve living standards in each municipal area.

In the CKD, the number of indigent households decreased by 10.2 per cent from 8 426 in 2022 to 7 570 in 2023 (37.5 per cent of total households), according to MERO. This overall decline is driven by a decline in the unemployment rate. Beaufort West saw a contraction in indigent households of 10.3 per cent from 6 673 in 2022 to 5 985 in 2023 (44.1 per cent of total households), driven by economic disparities in the region, as residents in urban areas typically have access to a more diverse array of opportunities and earn higher incomes than those in the rural parts of Beaufort West.

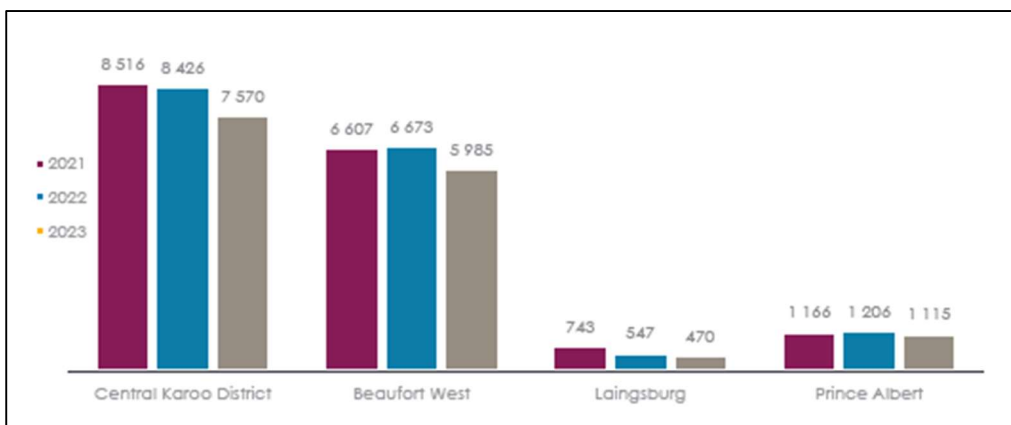


Figure 3-11: Number of Indigent Households, 2021-2023 (MERO)

Source: Quantec, 2024

Food security is a condition in which people have physical, social, and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life. It encompasses four key pillars: availability, access, utilisation, and stability according to Bureau for Food and Agricultural Policy (BFAP). Food insecurity refers to limited access across these dimensions.

In 2023, the percentage of the population below the food poverty line in CKD was 42.2, indicating the growing challenge in ensuring food security. In Laingsburg, the proportion of food insecurity increased from 35.7 per cent in 2022 to 40.2 per cent in 2023. Prince Albert experienced a notable increase in the proportion of food insecurity, with rates rising from 39.8 per cent in 2022 to 43.6 per cent in 2023. In Beaufort West, the proportion of food insecurity increased from 39.7 per cent in 2022 to 42.2 per cent in 2023, an increase driven by economic instability and high unemployment rates. The worsening of food insecurity in the district warrants a more nuanced understanding of the determinants of poverty and a tailored approach that can deal with the root cause.

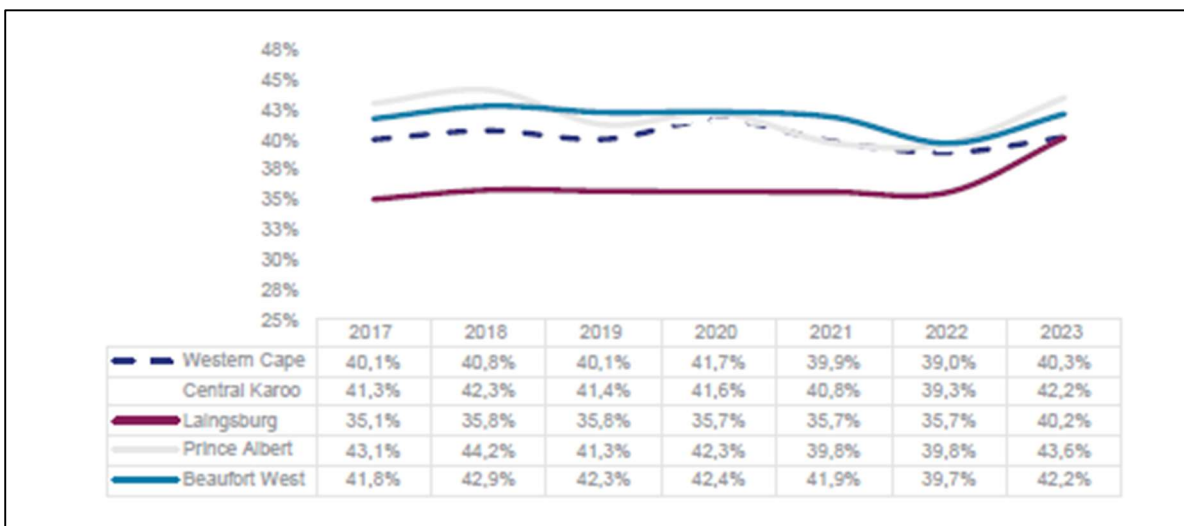


Figure 3-12: Proportion of Population below the Food Poverty Line, 2017-2023 (MERO)

Source: Quantec, 2024

3.9 Human Development Index (HDI)

The HDI is a measure created by the United Nations Development Programme (UNDP) to assess a country’s overall progress. It allows for evaluation in terms of three fundamental aspects of human development: life expectancy, education and standard of living. The index serves as a metric to gauge the average level of achievement across these aspects within a country.

The impact of COVID-19 on life expectancy, education and employment was noteworthy and subsequently affected income levels in the district. The CKD’s HDI has started to recover from the

post-pandemic levels thanks to improvements in income levels, education attainment and health. In 2023, the CKD recorded an HDI of 0.694, compared to 0.686 in 2022, according to MERO.

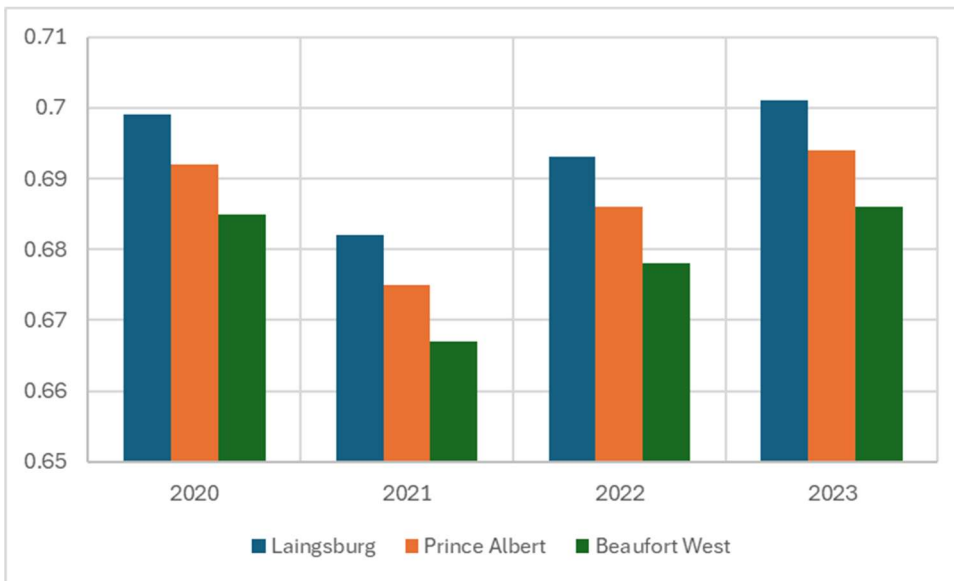


Figure 3-13: HDI per Municipal Area, 2020-2023 (MERO)

Source: Quantec, 2024

The HDI levels vary significantly within the district. However, the HDI levels are quite differentiated with the district. The Laingsburg municipal area recorded the highest HDI in 2023, at 0.701, despite high levels of unemployment and inequality. It was closely followed by the Prince Albert municipal area at 0.694, largely influenced by disproportionately low incomes associated with work in the informal agricultural sector. Lastly, the Beaufort West municipal area reported a relatively lower HDI of 0.686, reflecting slightly higher incomes and improved access to education and healthcare. These disparities underscore the urgent need to address socio-economic inequalities, expand educational opportunities, and raise income levels to uplift communities and create a more equitable and prosperous region.

The HDI provides a multidimensional view of a region’s socio-economic development. A region’s economic performance holds immense significance in determining the quality of life of its residents. As economies thrive, human development tends to improve, translating into better quality of life for individuals. The prosperity and growth of an economy can foster advancements in education, healthcare and access to resources, which in turn contribute to the overall wellbeing of the population.

3.10 Housing and Services

The Constitution stipulates that every citizen has the right to access adequate housing and that the state must take reasonable legislative and other measures within its available resources to achieve the progressive realisation of this right. Access to housing also includes access to services such as potable water, basic sanitation, safe energy sources and refuse removal services, to ensure that households enjoy a decent standard of living.

According to SEP, 99.6% of households in BWM had access to formal housing which is slightly higher than the district average of 99.0% in 2024. BWM also has the lowest proportion of informal dwellings within the district, at a total of 0.4% compared to the district's total of 0.8%. The BWM however, due to its household size has the highest housing demand in the CKD, with 75.0% of households registered on the Western Cape Housing Demand Database. This demand stems from the fact that Beaufort West has a vast area and population compared to the other CKD municipalities. The total recorded housing demand in Beaufort West municipality is 6 242 people or 75% of the total demand in the Central Karoo. 389 people fall within the gap market and may be eligible for the FLISP housing program. The largest percentage (89.5% or 4 880 persons) of these people reside in Beaufort West Town. Murraysburg has the second largest housing demand at 848 or 13.6% of the municipal demand.

Though small, the Municipality has 3 informal settlements that are spread between Beaufort West (± 30 households), Merweville (± 10 households) and Murraysburg (± 6 households).

The spatial implications are as follows:

- Most of the sites are peripheral to the settlement, making them poorly located in addition to creating challenges in accessing opportunities.
- The housing typology is not conducive to enabling economic opportunities and lacks variety of land use and lacks visual attraction.
- Insufficient attention is paid to the public spaces between housing projects, and to the interface between housing and the public domain.
- Quality public open space is limited, if not completely unavailable
- Higher density typologies must be provided on better-located sites in future.

In addition to suitable housing, access to basic services such as water and sanitation plays a pivotal role in the overall wellbeing of communities. Local municipalities are essential in cultivating an

environment that promotes private investment and entrepreneurship, resulting in local economic opportunities that positively impact the community.

Apart from refuse removal services, access levels in the BWM were at better levels of access than the district average. According to SEP, access to piped water inside the dwelling/yard/communal tap was at 99.8%, access to electricity (for lighting) at 97.2% and access to flush toilet /chemical toilet at 98.0% in 2023. Removal of refuse at least weekly by local authority at 79.5% of households was lower than the 81.4 per cent average for the district for refuse removal in 2023.

Municipalities also provide a package of free basic services to households who are financially vulnerable and struggle to pay for services. The number of households receiving free basic services in the BWM has fluctuated between 2019 to 2023, with 5 985 households classified as indigent households in 2023 compared to 6 673 indigent households in 2022.

3.11 Risk and Vulnerability Factors

According to the CSIR Green Book, Beaufort West has a general overall tendency to be exposed to an increase in drought. Climate change will result in a nett decrease in annual rainfall, based on intensification of rainfall in winter and summer, but greater decreases in spring and autumn. Projections indicate that by 2050, drought risk in the Central Karoo District Municipality will increase from 2 possible drought years per decade to 4 years per decade. Lower overall rainfall combined with higher rates of evaporation will increase the risk of water supplies running low, especially in spring. Insufficient water will interrupt agricultural production as well as agricultural product processing, whilst placing severe constraints on towns and settlements. Seasonal impacts on agriculture need to be anticipated.

A deteriorating water catchment system, through ecosystem loss (transformation or land use change) and alien infestation, or watercourse and wetland modification, will lead to lower inputs into the water supply systems, and a lower overall water security due to lower natural retention and lower quality of water. The higher our dependence on groundwater, the more likely we are to suffer water security issues.

Temperatures in the Beaufort West municipal area will continue to rise, resulting in up to 24 more hot days (temperatures above 30 degrees Celsius) per year by 2050, mostly in summer. By 2050, the region will also average 2-5 fewer frost days, possibly all but eliminating frost. On hot days productivity becomes constrained, and the risk of wildfires skyrockets. This poses a serious threat to human settlements and agriculture.

According to the KRSDf (2020), the implications of drought and climate change risk could include: The region is possibly the area that has the highest dependency on ground water in South Africa, and the extent, availability and quality of this resource is poorly understood.

The low rainfall, and days without precipitation, as well as the possibility of occasional flash flooding in the area, may necessitate a large effort to divert/channel floodwaters towards groundwater recharge and storage areas (e.g., areas with porous soils).

Increased temperature extremes and more frequent or longer heatwave episodes will impact human and animal activities.

Alternative service provision modalities, e.g., dry sewerage solutions may have to be considered. Except for irrigation areas, livestock and game farming require large spaces for low density farming, bringing with it a set of financial and practical challenges. The viability of stock farming in the future is uncertain, given the current drought and future climate change predictions.

4. ECONOMIC STATUS QUO

4.1 Introduction

The purpose of this section is to analyse the local and district economy to understand the ability to growth and support the proposed project.

4.2 Economic Performance

According to SEP, the BWM had the largest economy in the CKD in 2023, contributing nearly 70% (R2.089 billion). The economy of Beaufort West is characterised by a diverse range of sectors, with notable contributions from both the tertiary and primary sectors. In 2023, the tertiary sector was the largest contributor to Beaufort West’s economy, accounting for a significant 65.9% of total GDP. The community, social and personal services sector was the leading contributor within the tertiary sector, comprising 19% of GDP, followed by finance, insurance, real estate, and business services at 18%, and transport, storage, and communication at 16%. These sectors highlight the prominence of services and administrative functions in Beaufort West’s economic structure, underscoring the role of both government services and private business in the local economy.

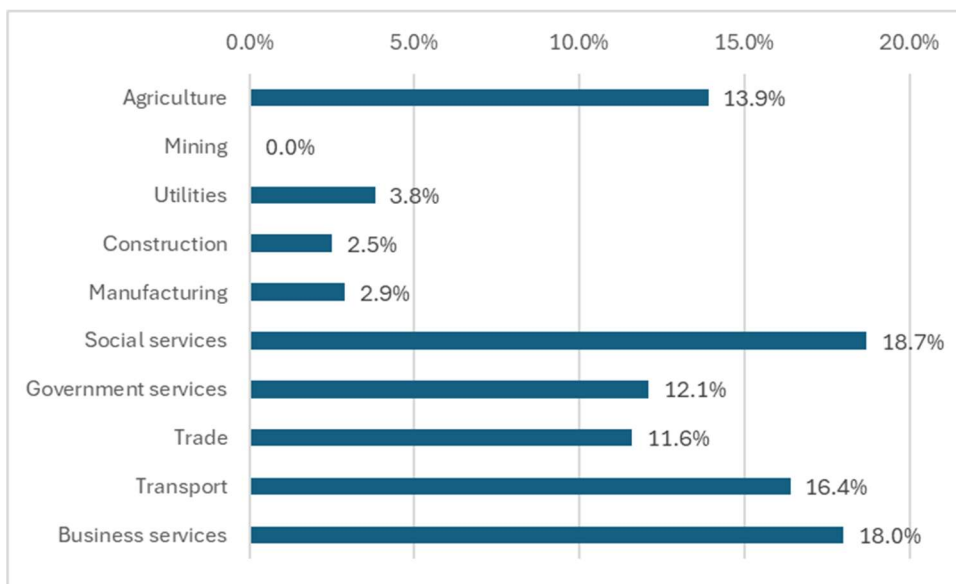


Figure 4-1: Sectoral Contributions to GDP, 2023 (SEP)

The primary sector, dominated by agriculture, forestry, and fishing, remains a key pillar of Beaufort West’s economy, contributing 14% of GDP. Agriculture continues to be vital, with farming activities providing essential employment opportunities and contributing to the overall economic activity in the region. The semi-arid climate is well-suited for extensive grazing, making livestock farming a sustainable economic activity. In addition, game farming and crop production contribute to the

agricultural sector’s significance. However, mining and quarrying, while present, made a negligible contribution of 0.04 per cent.

The secondary sector in Beaufort West plays a supporting role in the economy, contributing 9.2 per cent to GDP, with manufacturing contributing 2.9 per cent, construction at 2.5 per cent, and electricity, gas, and water at 3.8 per cent. These sectors are key to the region’s infrastructure development, particularly construction and utility services, which are essential for urban growth and the continued expansion of Beaufort West.

In terms of employment, the economy of Beaufort West also reflects the mix of sectoral contributions, with the services sectors providing substantial opportunities for both skilled and semi-skilled workers. The agriculture sector, while highly productive, remains heavily reliant on low-skilled workers, which plays a crucial role in local employment dynamics. However, it is clear that the economy is evolving, with continued emphasis on diversifying employment opportunities across all skill levels, particularly as the region focuses on infrastructure growth and expanding its service-oriented sectors.

The economy of BWM area is forecast to grow by 0.5% in 2024 and by 0.7% in both 2025 and 2026. The BWM growth forecast is considerably lower than for the CKD.

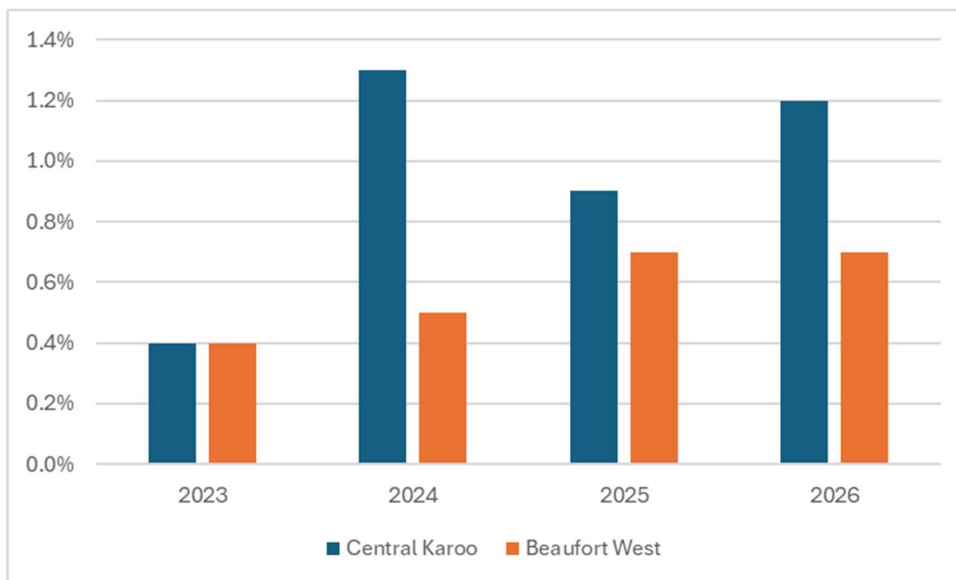


Figure 4-2: GDPR Growth Forecast, 2023-2026 (SEP)

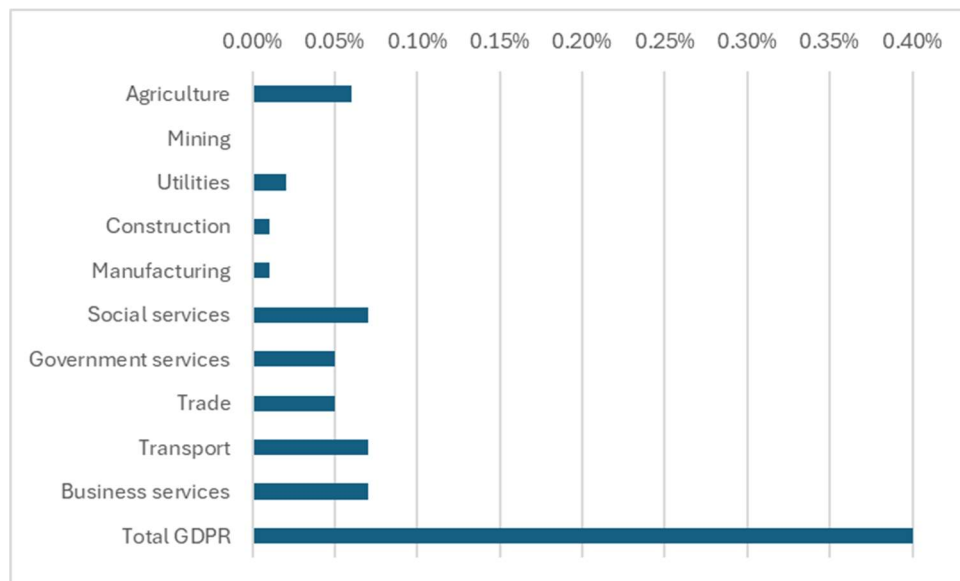


Figure 4-3: BWM Sectoral Contributions to GDP Growth, 2022 – 2023, (MERO)

According to MERO, the importance of economic diversity in Beaufort West is evident when we examine the drivers of its sectoral contributions to the total GDP growth of 0.4 per cent in 2023.

The wholesale and retail trade, catering, and accommodation sector, along with transport, storage, and communication, are key contributors to economic growth, with both sectors contributing 0.05 percentage points each. The finance, insurance, real estate, and business services sector, along with general government, each contributed 0.07 percentage points to GDP growth, highlighting their importance in sustaining Beaufort West's economy. The community, social, and personal services sector also made a modest contribution of 0.07 percentage points, reflecting its ongoing role in local development.

On the other hand, sectors such as manufacturing, construction, and electricity, gas, and water had more moderate contributions to GDP growth, with each sector contributing only 0.01, 0.01, and 0.02 percentage points, respectively. The agriculture, forestry, and fishing sector, while contributing positively with 0.06 percentage points, also faces challenges related to climate resilience, which could hinder future growth.

According to SEP, Beaufort West recorded a trade deficit of R20.5 million in 2023 with imports valued at R22.9 million and exports of R2.4 million. Between 2022 and 2023, exports increased by 83.8 per cent (R1.3 million in 2022 to R2.4 million in 2023), while imports increased by 66.4 per cent (R13.8 million in 2022 to R22.9 million in 2023). Ultimately, this resulted in a worsening of the trade balance. The trade dynamics in Beaufort West are heavily influenced by the manufacturing and agriculture sectors. The manufacturing sector dominated both imports and exports, with exports valued at R2.4 million and imports at R21.9 million in 2023, marking an 84.5% growth in exports year-on-year.

Harvesting machinery, machinery and other agricultural products were the top imported products in 2023. The top three exported products in 2023 were tractors, wine of fresh grapes and other vegetables. However, the trade balance of the area remains negative.

The tourism sector accounted for 9.3% of GDP in 2023 compared to 9.6% in 2022, according to SEP. To further develop tourism in the municipal area and ensure that the industry is sustainable over the long term, it is essential that strategies be put in place to attract visitors during off-peak periods.

4.3 Employment

According to MERO, the analysis of employment data in the region reveals mixed trends in both formal and informal sectors. Despite a significant recovery in 2023, with a modest increase of 11 FTE (Full-Time Equivalent) jobs, there are notable shifts within the local labour market. Over the past decade, skilled workers have consistently had better employment prospects compared to semi-skilled and low-skilled workers, especially in the formal sector. However, as formal employment stagnated in 2022, the informal sector became an increasingly important source of job creation, contributing to 17.8% of total employment in 2021. This surge in informal employment, particularly in trade, helped offset the losses in formal sector jobs during the challenging years of 2020 and 2022.

The total number of FTE jobs in the area stood at 4 043 in 2023, reflecting a steady but modest recovery. This overall increase marks a return to pre-pandemic job levels, but the recent stagnation in growth, along with the challenges faced by the formal sector, highlight the ongoing need for skills development and better access to training programmes to equip workers for the demands of the modern economy. Addressing the gaps in skill availability, particularly in the formal sector, will be crucial for ensuring long-term job creation and economic resilience.

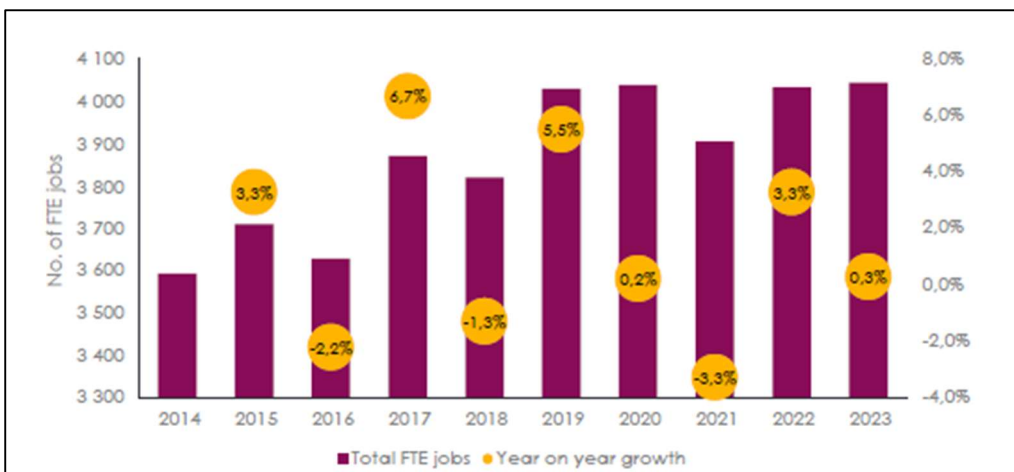


Figure 4-4: Full-Time Equivalent Jobs Growth, 2014 – 2023, (MERO)

Source: Nell, A & Visagie, J. Spatial Tax Panel 2014 – 2023 (dataset). Version 3. National Treasury Cities Support Programme and Human Sciences Research Council (producer and distributor), 2024

The employment distribution in BWM reveals a strong reliance on the tertiary sector, particularly in public administration and services. General public administration at local and provincial government levels is the largest employer, with 887 and 512 FTE jobs, respectively. This highlights the significant role of government as a provider of stable employment, particularly in the areas of local governance and public service delivery. Retail and hospitality sectors, including automotive fuel retailing and short-term accommodation activities, also contribute notably to job creation, with 272 and 160 FTE jobs, respectively. These sectors are key to the service-based economy, benefiting from both local demand and tourism, and are vital for supporting the region's growth.

While the tertiary sector is the dominant source of employment, the secondary sector, including manufacturing and skilled trades, provides essential jobs. The slaughtering, dressing, and packing of livestock, alongside plumbing, heating, and air-conditioning installation, represent important secondary sector occupations, employing 112 and 103 FTEs, respectively. These industries offer semi-skilled and skilled employment opportunities, contributing to economic growth through the provision of essential goods and services. Despite its smaller share of the workforce, the secondary sector plays a crucial role in driving local industrial activity and infrastructure development.

The labour market also highlights disparities between employment and GDP contributions. While sectors like finance and business services make significant contributions to GDP, they do not generate substantial employment opportunities in comparison to more labour-intensive industries like retail and public services. This underscores the need for strategic investments in skills development to align the local workforce with high-value sectors. Enhancing the productivity and resilience of labour-intensive sectors, while fostering growth in high-value industries, will be key to ensuring balanced, sustainable economic development and increasing job opportunities.

Table 4-1: Top 10 Sectors by Number of FTE Jobs, Beaufort West, 2023 (MERO)

Main Sector	Occupation	No. of FTE jobs
Tertiary	General public administration at Local Government level	887
Tertiary	General public administration at Provincial Government level	512
Tertiary	Public order and safety activities at National Government level	329
Tertiary	Retail of automotive fuel in specialised stores	272
Tertiary	Short term accommodation activities of guesthouses, bed and breakfast	160
Tertiary	Food service activities of take away counters	125

Main Sector	Occupation	No. of FTE jobs
Tertiary	Residential care activities for the elderly and disabled	117
Secondary	Slaughtering, dressing and packing of livestock, including poultry and small game for meat	112
Secondary	Plumbing, heat and air-conditioning installation	103
Tertiary	General public administration at National Government level	102

Source: Nell, A & Visagie, J. Spatial Tax Panel 2014 – 2023 (dataset). Version 3. National Treasury Cities Support Programme and Human Sciences Research Council (producer and distributor), 2024

The local economy experienced a mixed employment performance, with a net loss of 41 jobs when comparing the top five sectors with job gains vis-à-vis those top five sectors with job losses. While 170 jobs were gained across various sectors, 211 jobs were lost, indicating challenges in certain industries. The tertiary sector, particularly in retail (52 jobs gained in automotive fuel sales), health services (29 jobs), and security systems (22 jobs), saw positive employment growth. The primary sector also made gains, notably in sheep and goat farming (40 jobs) and livestock slaughtering (27 jobs). These sectors demonstrate the continued demand for services and the diversity of the local economy.

In contrast, the primary and tertiary sectors also faced significant job losses. Agriculture, particularly mixed farming, experienced a loss of 70 jobs, while support activities for petroleum extraction lost 42 jobs. The tertiary sector saw declines in local government administration (-52 jobs), short-term accommodation services (-22 jobs), and religious organisations (-24 jobs). These losses reflect ongoing challenges such as economic constraints, limited infrastructure, and skills shortages, which hinder growth in key sectors. Addressing these issues, particularly through investments in skills development and business support, will be crucial to stabilising employment and fostering sustainable economic growth.

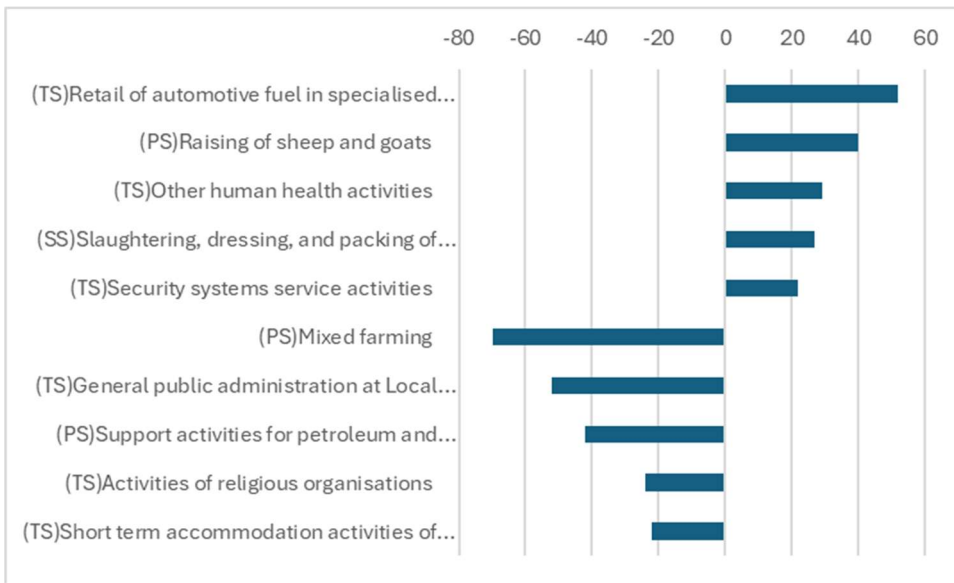


Figure 4-5: Top Five Sectors for Job Creation and Job Losses, 2022 – 2023, (MERO)

Source: Nell, A & Visagie, J. Spatial Tax Panel 2014 – 2023 (dataset). Version 3. National Treasury Cities Support Programme and Human Sciences Research Council (producer and distributor), 2024

The analysis of GDP and employment performance in Beaufort West for 2023 as provided by MERO, presents a multifaceted view of the region’s economic dynamics. While high-value sectors like finance, insurance, real estate, and business services contribute significantly to GDP growth, with a contribution of 18.0% to GDP, they are not major drivers of employment. Primary and tertiary sectors, such as agriculture and public administration, are the key employers in the region. The agriculture sector, despite contributing 13.9% to GDP, continues to provide essential employment opportunities, though it faces challenges such as climate resilience that may affect future growth.

Similarly, the public administration sector, which provides stable employment in both local and provincial government, is another major source of jobs. Despite the overall economic growth, employment trends in Beaufort West reveal some imbalances. The tertiary sector has been expanding, particularly in areas such as retail, health services, and local government, which have seen notable job gains in 2023. However, the agriculture sector, which employs a large portion of the workforce, has faced job losses, particularly in mixed farming, highlighting the vulnerability of labour-intensive industries. Job losses were also recorded in sectors such as accommodation services, religious organisations, and support activities for petroleum extraction. These trends underscore the need for targeted investments in infrastructure, skills development, and economic diversification to ensure that the region can support sustainable growth and employment opportunities across both high-value and labour-intensive sectors. By addressing these challenges, Beaufort West can enhance its economic resilience and foster more inclusive employment opportunities for its residents.

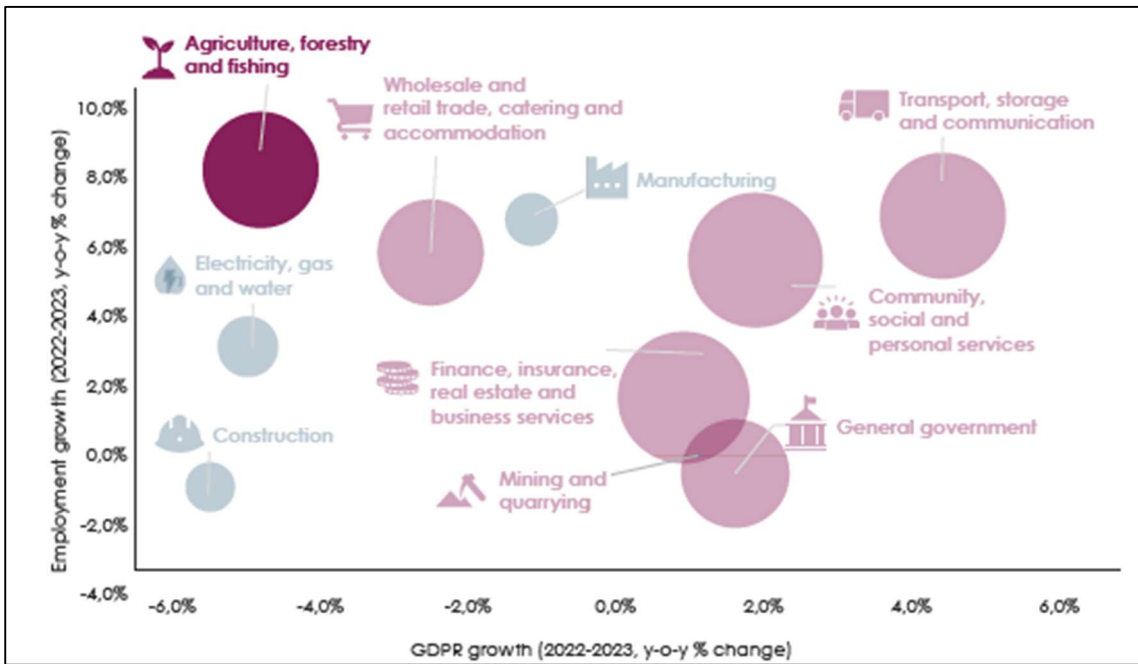


Figure 4-6: Employment & GDP Performance by Sector, 2022 – 2023, (MERO)

Source: Quantec, 2024

4.4 Labour Skills and Salaries

Skills facilitation is becoming essential in ensuring that local labourers find employment, according to SEP. Over the past decade, skilled workers were more likely to be employed in the BWM than semi-skilled or low-skilled workers. Low skilled and semi-skilled are more likely to be employed at Murraysburg and Nelspoort mostly in the mixed farming industry.

It is estimated that BWM employment in 2023 was 12 316 workers, of which 9 783 (79.4%) were employed in the formal sector and 2 533 (20.6%) are informally employed. Most of the formally employed consisted of semi-skilled (40.7%) and low skilled (34.6%) workers. The skilled category only contributed 24.7% to total formal employment.

Wage levels are higher in the BWM, which has a diversified economy and is the epicentre of public sector services in the CKD. In addition, the town of Beaufort West is the most significant urban centre within the district. Based on SEP, 26.3% of workers in the municipal area also earned between R3 200 and R6 400 in 2023, 20.9% of workers earned between R6 400 - R12 800 and 20.2% of workers fell into the R12 800 to R25 600 wage bracket. In addition, 16.3% of workers in the area fell into higher salary brackets (those for earnings above R25 600) the largest such share in the CKD. In 2023, the BWM also had the highest median income in the CKD at R9 447.

MERO states that across the municipalities, wage disparity based on formal employment is evident, with most individuals earning close to the basic minimum wage. Those earning above the minimum wage (approximated as higher than R3 200) constitute 51.2% of the population. On the other hand, those earning R25 600 to R51 200, account for 13.9%, reflecting district-wide income inequality, and the limited disposable income available to afford access to basic services.

In 2023, according to MERO, the accommodation and food service industry had the highest proportion of workers (77.7%) earning within the R3,200–R6,400 wage band, reflecting the prevalence of low-wage positions in this sector. Roles such as housekeeping, kitchen staff, and general service positions often require lower skill levels and are typically part-time or seasonal, tied to the tourism-driven nature of the region’s economy. The CKD’s reliance on tourism is supported by its appeal as a destination for both local and international visitors, drawn to its rugged landscapes, charming small towns, and rich cultural heritage.

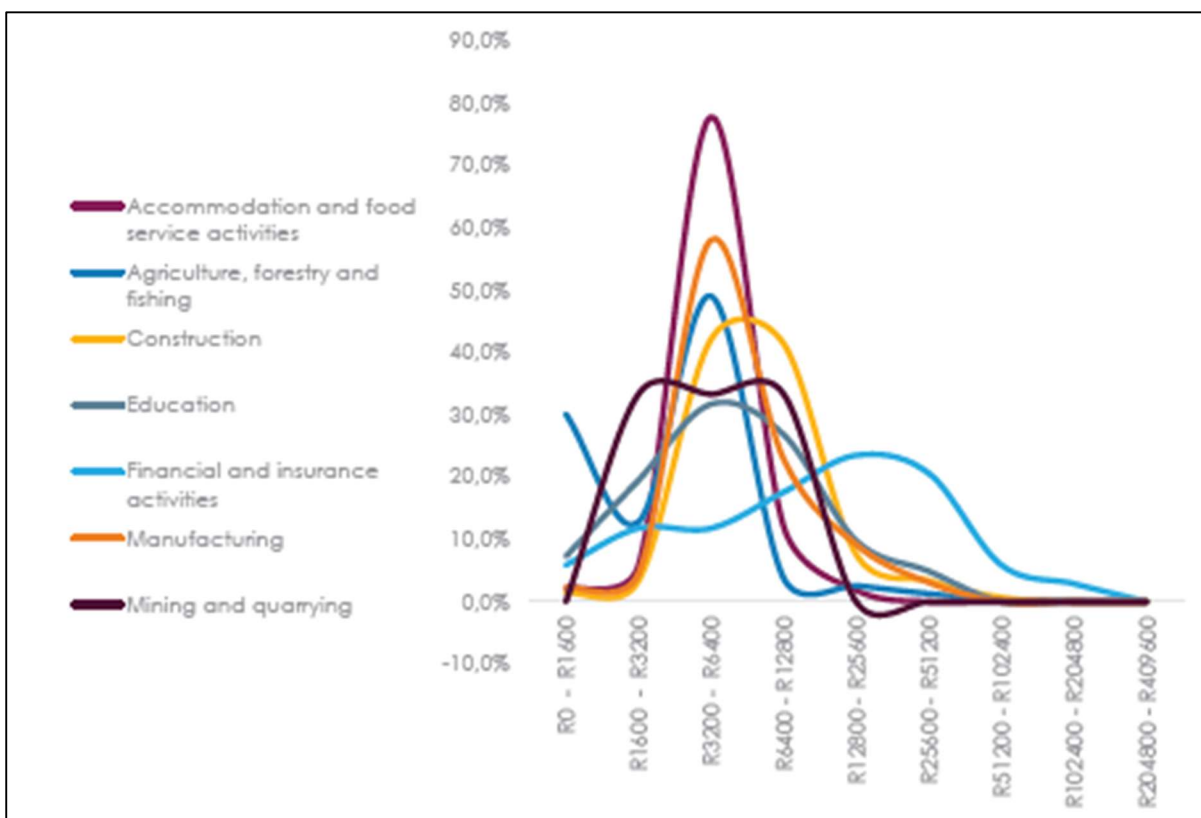


Figure 4-7: Wage Distribution per Industry in CKD, 2023 (MERO)

Source: Nell, A & Visagie, J. Spatial Tax Panel 2014 – 2023 (dataset). Version 3. National Treasury Cities Support Programme and Human Sciences Research Council (producer and distributor), 2024

The Income Tax Act of 1962 (the Act) governs the imposition of income taxes in South Africa. Under the Act, tax is levied on taxable income, essentially gross income, less any relevant exemptions and deductions permitted by law. Taxes enable the financing of public sector goods and services.

According to MERO, the CKD experienced a 3.4% increase in the number of taxpayers, rising from 6 218 in 2021 to 6 430 in 2022. This contrasts with the Western Cape Province, which recorded a slight overall decline in taxpayers during the same period. Within the district, Beaufort West was the largest contributor to this growth, adding 107 taxpayers. Laingsburg and Prince Albert also saw increases, with 59 and 46 additional taxpayers, respectively.

While the CKD experienced an increase in taxpayer numbers, the average monthly taxable income rose from R16 672 to R17 354 per month, reflecting a 4.1% inflation-related adjustment, equivalent to R682 per month. This indicates that a greater number of individuals were paying taxes and earning higher incomes on average. The average taxable income is however far lower than the average of the province at R28 502 in 2022.

Laingsburg recorded the largest growth in municipal average income, increasing from R17 104 to R17 954, a 5.0% adjustment. Beaufort West followed with an increase from R17 309 to R17 857, reflecting a 3.2% rise. Prince Albert, while having the lowest municipal average income, saw a slight increase from R13 427 to R13 476, marking a modest 0.4% adjustment.

4.5 Economic Sector Analysis

This section will analyse the most important public sectors in the local economy.

4.5.1 Tourism

The Karoo Regional Spatial Development Framework places a significant focus on tourism within the Karoo region, arguing for the development of a single Karoo brand to market the region to visitors. While it is important to develop tourism at the regional scale, the unique assets of individual places and streetscapes within towns are key to doing this. Tourist attractions in Beaufort West include the Karoo National Park and the Chris Barnard Museum, along with attractions like Karoo architecture, charm, cuisine, and culture.

Most tourists visiting the Central Karoo District (92.5%) are domestic tourists. The Western Cape accounts for the highest share of visitors to the district (with 41% of visitors originating in the province), followed by Gauteng with 23%. The majority (77%) of visitors coming to the district do so for the purposes of leisure, followed by business (12%) and visiting family and friends as shown in

Figure 4-8. Culture and heritage are the dominant (68%) activity undertaken followed by crafts/food markets (22%) and Karoo lam (20%) as shown in **Figure 4-9**.

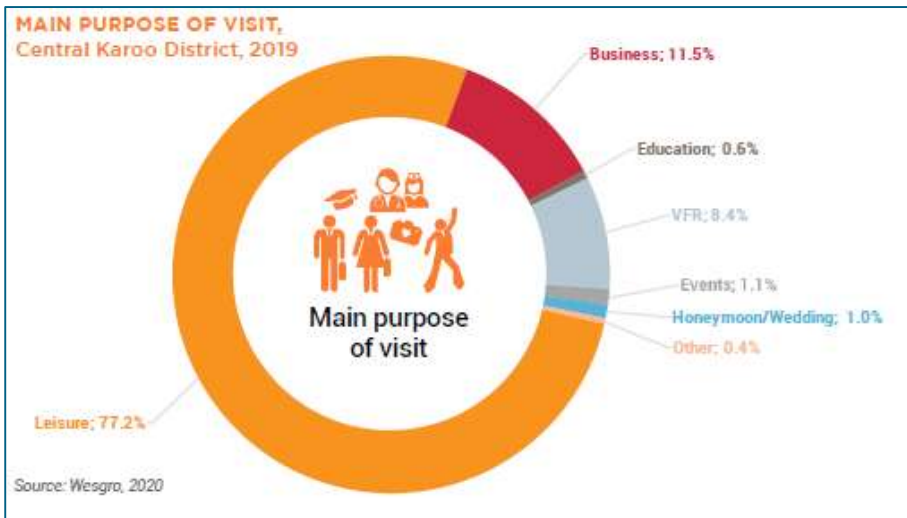


Figure 4-8: Main purpose of visit to the CKDM, 2019 (Western Cape Government, 2020)

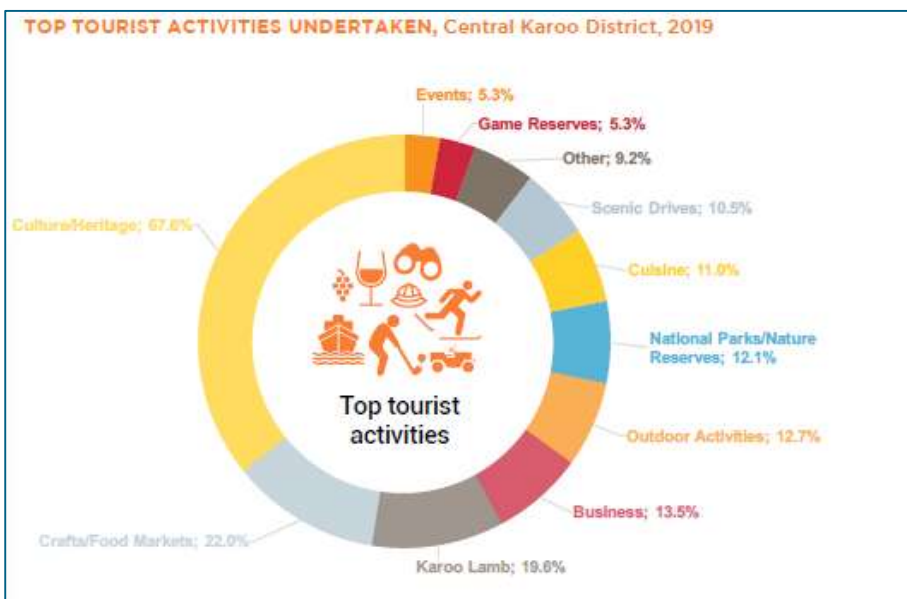


Figure 4-9: Top Tourist Activities Undertaken in the CKDM, 2019 (Western Cape Government, 2020)

The spatial implications of this suggest that preserving and enhancing Beaufort West’s existing heritage, streetscapes, karoo charm and architecture and natural resources is an important driver of economic activity and job creation going forward. Specifically, Donkin Street of Beaufort West (in many ways, the “face” of Beaufort West) can be significantly enhanced with necessary municipal investment, landscaping, and urban design improvements, as well as the heritage areas of Merweville, Nelspoort and Murraysburg, which can attract private sector initiative, entrepreneurship and investment, and hence attract tourism opportunities.

The Beaufort West Municipality is also home to the Karoo National Park, an important environmental conservation asset and tourist attraction for the area. It is critical that the site of the park and its buffer zones as shown in **Figure 4-10**, are protected from the effects of harmful development to protect the ecological integrity, scenic landscape, and tourism value of the park. The municipality should seek to assign a budget to improve conservation activities.

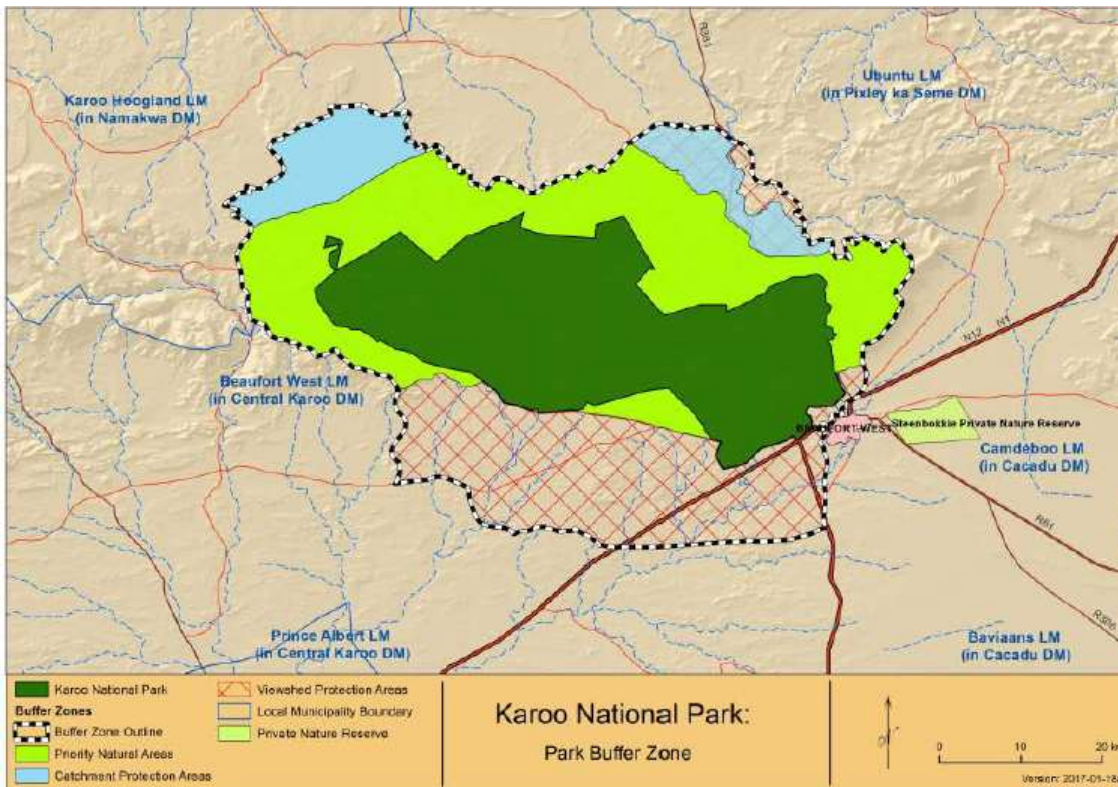


Figure 4-10: The Karoo National Park and Buffer Zones (SANParks, 2021)

The spatial implications are that the areas designated as Critical Biodiversity Areas and Ecological Support Areas in the Western Cape Biodiversity Spatial Plan must be appropriately managed, and safeguarded against future inappropriate development, in line with the WCBSP. The WCBSP will thus be a key informant of the Spatial Planning Categories that will underpin the proposals of the MSDF, specifically to manage land use in the rural areas of the municipality (outside of the urban edges of the settlements). Ecological Infrastructure focus areas are mountain catchments, rivers, wetlands, and rangelands. These areas should be prioritised accordingly, and the Karoo National Park must be protected. Development within the buffer zones must be prevented or mitigated to prevent activity-related disturbances to the park.

4.5.2 Trade

While the Central Karoo District as a whole has a positive trade balance, BWM has minimal import or export activity and contributes very little. While the district exported goods to the value of R67.4 million in 2019, Beaufort West contributed only R35 703 to this figure. This is in spite of Beaufort West having the largest economy in the area. The district's positive trade balance is driven by Prince Albert, with dairy and wine products being the major exports. The manufacturing sector has also been a significant contributor to trade in the district, with food and beverages, metals, metal products and equipment, and electrical machinery and apparatus being the key products that are manufactured in the district. These products are linked to agricultural production, and as such there is a clear relationship between the agriculture and manufacturing sectors within the district.

Agricultural activity has been declining in BWM which may explain its negligible contribution to trade in the district. Given that drought conditions are only expected to worsen, and the relationship between agriculture and manufacturing, the only sector that can be expected to make a sustained contribution to trade activity in the municipality in the future is the mining and quarrying sector. This is due to the potential for shale gas development and uranium mining. There may, however, be unrealised manufacturing activities that BWM could benefit from due to its location between Cape Town and Gauteng on the N1. Private sector investment generally, however, only follows where a municipality is seen to be well run, and hence the municipality must proactively improve its governance, urban management, infrastructure maintenance and renewal, and attractiveness of the municipality to encourage such investment.

4.5.3 Agriculture

While agriculture is an important sector for the Karoo region and other municipalities in the Central Karoo District Municipality, Beaufort West Municipality has limited agricultural resources largely because of the region being water scarce – a situation that has been compounded by the near decade-long drought. Agriculture is a relatively minor contributor to the regional economy, with agriculture, forestry, and fishing accounting for 11.7% of regional GDP for 2018. In addition, the agricultural sector is expected to have contracted by 8.7% in 2019 (Western Cape Government, 2020). There are very few areas of cultivated land in the municipal area, with the majority of this land located close to Murraysburg. The nature of the agricultural activities in the Beaufort West municipal district is directly derived from the type of soils in the area, precipitation, and associated water availability. Two main types of agricultural activities take place, namely lucerne and feed-grain production and livestock production (mainly sheep), with livestock farming being the largest.

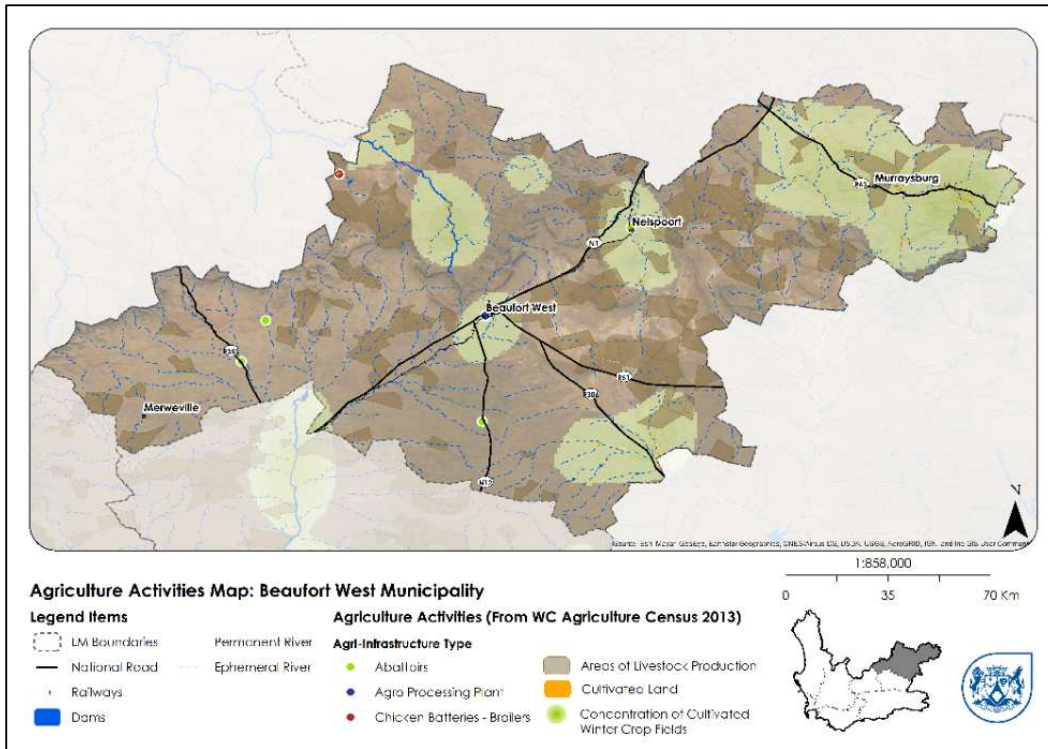


Figure 4-11: Agricultural Activities Map for BWM (KRSDF, 2020)

Beaufort West Town has been identified as an Agri Hub by the National Department of Agriculture, Land Reform and Rural Development due to its position on key transport routes in the N1 and N12 highways, along with the railway line. This means that the town and the municipality have a significant role to play for agriculture in the region and district beyond agricultural production within the municipality.

The relatively low levels of agricultural production in the municipality have been compounded by the current drought conditions and other factors impacting land availability. These include large land acquisitions in the last several years within the Karoo region by the state for the Square Kilometre Array, national parks, and defence force testing sites. These have removed land from production and have contributed to a decline in agricultural activity (Karoo Regional Spatial Development Framework, 2020).

The key issues for agriculture in Beaufort West Municipality are:

- Water availability (or lack thereof)
- Climate change, with predicted increased average temperatures and drought occurrences
- Rangeland degradation (due to alien invasive plants and poor agricultural management)

The key opportunities for agriculture in Beaufort West Municipality are:

- Agri-Tourism
- Investing in the Green Economy (wind/solar energy)
- Agricultural sector embracing new 4IR applications (use of drones)
- Investing in ecological infrastructure for improved resilience and job creation

4.5.4 Minerals and mining

The municipality is on the verge of major change in the mineral resources sector.

Firstly, the Central Karoo District in general has extensive uranium deposits, which begin north of Prince Albert and Laingsburg and reach their highest density north of the N1 in the vicinity of Merweville. These deposits have attracted the attention of energy and mining conglomerates but remain untouched. Secondly, shale gas exploration within the Central Karoo basin has become an increasingly important consideration for Government. Several companies intend to explore shale gas within the Karoo region, and this has become a contentious issue among environmentalists, farmers, residents and various government and non-government institutions.

The entire Beaufort West Municipality is in the area designated for shale gas exploration. Should the proposed shale gas extraction through shale gas exploration acquire approval from the relevant competent authorities, an important consideration for the municipality will be to protect the ground water resource and ensure that areas of critical biodiversity value are protected from such activity.

The issues around shale gas exploration and development are complex. Much of the impact of development will depend on the outcome of the exploration that is currently taking place. The Strategic Environmental Assessment (SEA) conducted by the Council for Scientific and Industrial Research (CSIR) (Scholes, Lochner, Schreiner, Snyman-Van der Walt, & de Jager, 2016) outlines the impacts according to three potential scenarios: Small, Medium and Big Gas. The production stage of Shale Gas Development operations might last 10-30 years, probably with the highest level of activity in the first 3-5 years. It involves the development of production wells (and access roads to the well pads), the establishment of a gas pipeline network to convey produced gas to a central treatment processing plant, and the export of the treated gas by pipeline for the downstream uses. During production, a typical shale gas wellfield occupies an area of about 900 km², which contains 50-60 well pads, each supporting around 10 wellbores. Importantly, the SEA highlights that including more natural gas in South Africa's energy mix would make the energy system more resilient, efficient, cheaper, and reliable and it is understood that gas forms a critical component of the transition away from oil and coal as a bridge to renewable energy sources. The Integrated Resource

Plan (Department: Energy, 2019) seeks to accelerate the identification of local gas resources, to shift away from gas imports.

However, there are significant potential risks relating to the receiving environment, particularly for groundwater and scenic resources. Additionally, shale gas development will have significant spatial impacts – and associated demands for transport infrastructure and housing demand, but also urban and non-urban infrastructure, facilities and services. According to the CSIR's SEA, towns near Shale Gas Development (SGD) activities will experience growth exceeding projections based on past trends. For the Big Gas scenario, the risk is assessed as high but can be mitigated to moderate. Enhanced resource and institutional capacity to plan for and address increased service delivery demand for housing, water provision, social services, electricity and roads will be required.

Shale gas exploration and development adds considerable uncertainty to Beaufort West's development trajectory. There are significant spatial implications associated with any potential development. The areas identified for protection in the WCBSP must be adhered to, and groundwater resources must be carefully monitored, protected, and avoided. Any new residential or commercial development that takes place due to shale gas development must take place within the municipality's existing towns and must adhere to development guidelines therein.

5. BEAUFORT WEST SYNTHESIS

5.1 Introduction

This section provides a summarised analysis for the Beaufort West Local Municipality as well as the town of Beaufort West in terms of the following:

- Natural environment
- Built environment
- Socio-economic systems.

The information was directly extracted from the Beaufort West Municipal Spatial Development Framework, 2023.

5.2 Beaufort West Local Municipality

5.2.1 Natural Environment Synthesis

The key issues affecting Beaufort West municipality's natural systems at the municipal scale are:

- The topography in the South of the municipal area mainly consists of gently undulating plains. In contrast, the northern extent is characterised by the Nuweveld Mountain range, with peaks ranging between 825 to 1,911 m. Toorberg to the south of Murraysburg forms part of the Sneeuberg range which is the divide between the Central Karoo District and the Eastern Cape.
- There are very few perennial river systems in the municipal area. There is a serious need for veld rehabilitation in the highly degraded Sout River basin which could become a dustbowl.
- Drought is a serious and persistent issue in the municipality, with climate change predicted to compound this issue. The north-eastern area around Murraysburg has historically seen higher rainfall than the rest of the municipality and has been the agricultural hub of the municipality as a result. However, the recent drought appears to have put an end to much of this activity.
- The Karoo National Park is the major Protected Area in the municipality. It is a key strategic asset at the regional scale and contributes to tourism in Beaufort West as well as being ecologically important to the natural environment.
- Critical Biodiversity Areas and Environmental Support areas have been mapped for the entire municipality and must be protected from inappropriate development such as urban development, intensive agricultural activity, or shale gas / mining activity.
- Shale gas extraction presents both environmental risks and economic opportunities.

- Aquifers are significant ground water resources for the municipality and need to be better studied to understand their capacity and extent.
- Scenic routes worthy of protection are the Karoo National Park and CBA areas in the municipality. Development within the buffer zones must be prevented or mitigated to prevent activity-related disturbances to the park.
- Environmental pressure points in the municipality are the threat of degradation to sensitive natural areas, and the potential effects of shale gas extraction.
- Environmental Opportunities in the municipality are mountain catchments, rivers, wetlands, and rangelands. These areas should be prioritised for protection or rehabilitation.
- Environmental or Disaster risk areas in the municipality are the seriously degraded Vaalkoppies landfill site, and the ongoing drought.

5.2.2 Built Environment Synthesis

The key issues affecting Beaufort West municipality's-built environment at the municipal scale are:

- The N1, the N12, and the rail network are significant national and regional assets. Beaufort West is situated between South Africa's two largest economic centres. Freight transport over road and rail brings a high volume of traffic and economic activity into the town and the municipality. The rail system is currently functioning sub-optimally. This needs to be urgently addressed.
- The lack of rainfall appears to have had a particularly detrimental effect on Murraysburg, with the local economy struggling as a result and the urban environment of the town declining, and in distress – needing maintenance and improvement.
- The towns in Beaufort West Municipality are separated by large distances. Maintenance of their connecting infrastructure is highly important to their functioning. The road connecting Merweville to the N1 was recently tarred, which appears to have had a positive effect on Merweville's development, with the town experiencing a degree of economic regeneration as a result of the improved connecting infrastructure.
- The area surrounding Beaufort West Town, along with the land around the major roads in the municipality, is classified as having a high vulnerability to landcover change by 2050. This vulnerability will be exacerbated if measures are not taken to curb the effects of pollution as a result of the degradation of the landfill site outside Beaufort West Town.
- Water infrastructure systems are ageing, resulting in frequent service cuts to water services. Augmentation of the existing groundwater resources for Beaufort West is a priority, as is upgrading of the Nelspoort and Murraysburg oxidation ponds. The refurbishment and upgrading of the existing water and sewer networks and pump stations must be prioritized.

The provision of basic services to rural communities located on private farms must also be prioritized.

- Waste infrastructure systems are in serious decline. Urgent intervention is required at the Vaalkoppies landfill site. The development of additional housing in the municipality must be managed carefully as the municipality cannot address its current waste management crisis.
- Electricity infrastructure systems are relatively stable. Budget has been given for upgrading and maintenance of substations, high mast lighting in Beaufort West and Nelspoort. However, funding has not been secured for the majority of these projects.
- There are two electrical services policies needed in the municipality: small-scale electricity generation, and fibre optic and network telecom. The existing policies are outdated and must be reviewed.

5.2.3 Socio-economic Synthesis

The key issues affecting Beaufort West municipality's socioeconomic systems at the municipal scale are:

- Higher-order social services and facilities are clustered in Beaufort West Town. This is where the major population pressure exists and where new facilities are most likely to be needed. The smaller towns are adequately serviced for their populations. Focus needs to be on maintaining existing social facilities and upkeep of the existing facilities, particularly in Murraysburg. Sites for new facilities need to be identified in Beaufort West Town, as there are areas with high residential densities and very limited access to services, in spite of the high number of facilities overall. This is discussed in more detail in the town-level synthesis.
- The REDZ and Strategic Gas Pipeline hold economic opportunity for the Municipality, as evidenced by the number of renewable energy applications. Much of the economic future in the municipality will depend on the outcome of shale gas exploration.
- The results of the facility calculator outputs show that, should Beaufort West grow by 1 256 households by 2035, the cost of additional facilities will be R216 973 972. The most urgent requirement will be for additional primary schools and secondary schools.
- The biggest economic opportunity lies in the potential for shale gas extraction, which could bring an influx of workers and visitors to the municipality. While the economic benefits of shale gas extraction would be significant, this must be balanced against the environmental and social pressures. Shale gas extraction and its associated activities will place notable burdens on existing transport infrastructure and basic services, as well as posing a significant threat to the already severely constrained groundwater supply.

5.3 Beaufort West Town

This section outlines the issues and opportunities emanating from the synthesis analysis of Beaufort West town.

5.3.1 Biophysical Synthesis

- The Karoo National Park is a significant asset and tourism attraction located in close proximity to Beaufort West Town.
- There is an inconsistency between the buffer zone for the Karoo National Park and the built environment of the town. The buffer zone extends into the urban edge of the town and over areas that have already been developed for housing.
- The state of the Vaalkoppies landfill site is a severe environmental risk. The overflow of waste poses a significant threat to all of the natural systems in the town.
- The majority of the land around the town constitute Critical Biodiversity Areas or Ecological Support areas. This is cause for additional concern around the state of the landfill site.
- The riverbeds running through the centre of the town represent a flood risk when the area receives rain and are often filled with dumped rubbish particularly the poorer areas of the town.
- The hilly topography to the North of the town is a constraint on development.
- There is a fault line running through the town in the North that should be noted.

5.3.2 Built Environment Synthesis

- The Vaalkoppies waste site, located to the South-East of the town, is overflowing and in need of urgent intervention. The degradation of the waste site is leading to litter getting blown into the town and the surrounding areas. This is an environmental health hazard to residents and a threat to the Critical Biodiversity Areas surrounding the town.
- The rail network and the N1 highway are a spatial buffer between the suburb of Hillside and most of the town's commercial land uses. These transport systems are important assets at this area – and where open space does exist, it is usually in the form of a walled off sports field that is separated from the public realm.
- Future housing pipeline projects fall between Hillside and the railway area. These housing projects are separated from the commercial centre of the town by the railway.
- The primary commercial land uses in the town occur along the N1 at the entrance to the West, and along Donkin Street in the town's CBD.
- The main industrial uses in the town are located close to the railway line and highway at the Western entrance to the town. The rail network is currently underutilised. Its upgrading and

maintenance should be prioritised as it offers a significant strategic advantage for Beaufort West Town and the municipality.

- There is a proposed heritage overlay zone around the CBD to protect the character of the historical buildings in this area.
- The low-density residential areas to the East and South of the CBD are well located and enjoy easy access to the commercial opportunity along Donkin Street.
- There is limited state-owned land available for infill housing. However, the water reticulation network extends South of the well-located areas to the East of the CBD. Given the existence of this infrastructure, and the problems with accessibility in the areas North of the railway line, this area should be considered for infill housing.
- Interventions that improve accessibility across the rail system in particular should be prioritised.
- The densest area of the town is the suburb of Hillside, in the Northwest of Beaufort West. There is very little public open space in the area.

5.3.3 Socio-economic Synthesis

- Hillside is drastically under-serviced. A single school and a single clinic service the entire area to the North of the railway line. Many of the newer houses in the area are a minimum of fifteen minutes' walk from a school or healthcare facility, and parts of the newer housing developments are outside the fifteen-minute walking distance band. This is a significant problem, considering that non-motorised transport is the primary mode of transport for most residents in Beaufort West Town.
- Rustdene and Kwamandlenkosi are relatively well serviced in terms of social facilities and community centres. This uneven distribution of facilities has created a situation where children are either bussed to school from Hillside or are forced to cross the N1 and rail system on foot.
- Property values are lowest in Hillside and the Southern areas of Rustdene and Kwamandlenkosi. There is some economic activity in the North of Rustdene, close to the N1. This is reflected in relatively higher property values in this area.
- The highest residential property values in Beaufort West Town are in the area to the East of the CBD. This area around De Villiers Street is close to the economic centre of the town and is well serviced by social facilities and public open space.
- Economic activity primarily occurs in the CBD, along Donkin Street. This is reflected in the clustering of businesses, community service centres, financial institutions, restaurants, and shops in this area.
- As mentioned above, there is some economic activity towards the North of Rustdene and at the entrance to the town from the East (these are primarily businesses serving trucks passing

through Beaufort West along the N1). There is no discernible formal economic activity occurring in Hillside.

5.3.4 Opportunities for the town

- The Beaufort West Town is strategically located at the confluence of the N1, N12 and R61 routes which connects Beaufort West to Gauteng, Cape Town, Oudtshoorn, George and the eastern Cape.
- The town is perfectly placed to be a refreshment and rest stop for travellers between Gauteng and Cape Town and has high quality tourism accommodation & experiences.
- Similarly, it is well placed to serve truckers and future rail opportunities / logistics.
- The town has mechanic & motor related services to service passing traffic.
- The town could enhance and capitalize on its karoo charm, architecture and streetscape to attract more coffee shops and tourism related stops.
- Bird Street is a significant tourism asset, which has high quality tourism accommodation and interface with the adjacent stream running from the Gamka Dam.
- Portions of Donkin Street offer a quality urban Karoo Charm experience, but this is fragmented and requires more attention. Along this road, there are museums, a public square, and historic architecture.
- The middle-income housing stock on the north-eastern portion of the town (to the south of the ridgeline running between the Gamka Dam and the town) is an attractive area to live, where people take pride in their frontages through planting, and landscaping, providing a quiet, small town and peaceful atmosphere. The interface between this suburb and the wilderness of the Karoo is peaceful and attractive.
- This town acts as an oasis in a very dry area – offering refuge, services, shops, and facilities to this part of the Karoo area.
- The town still has the potential to attract tourists with BnB's along the main street and the enhancement town's sense of place and public streetscapes through paving, tree planting along the main roads could significantly improve its attractiveness.
- The implementation of basic urban management practices and waste management programmes could significantly improve the Town's attractiveness to visitors or tourists.
- The town-centre mall seems vibrant and well-integrated into urban fabric.

5.3.5 Key Weaknesses

- Recent drought conditions undermined the carrying capacity of the town, since water scarcity limits business and industrial opportunity.
- The existing lack of urban management and cleaning in the town undermines its attractiveness to private sector investors (and even for regional public sector investments).

- The high level of unemployment and poverty is evident – which shows generally low levels of economic opportunity.
- The waste site is poorly managed, resulting in extensive wind-blown litter in the natural veld.
- Parks need to be upgraded. Libraries are not prominent elements of the public environment, which could be used to uplift / enhance areas.
- Low-income areas (such as Hillside) seem devoid of quality public spaces.
- Low-income areas lack economic opportunities and structure in the urban environment for economic opportunity to accrete along.
- Parks and recreation facilities are old, not maintained, and swings broken.
- Much of the infrastructure seems old and worn, with municipal roads nearing or at the end of their design life. There is a clear need to implement (or upscale) an infrastructure maintenance programme.
- From a socio-economic perspective, the town and its people are visibly struggling.
- Levels of service are under pressure, affordability of service provision is under pressure, and the finances of the municipality are under pressure.

6. SOCIO-ECONOMIC IMPACTS

This section identified the potential socio-economic impacts per phase of the project, namely:

- Construction
- Operations
- Decommissioning

6.1 Impacts raised through Public Participation

A survey amongst Beaufort West residents in 2013 regarding the potential of uranium mining in the area showed that many of the residents consulted were very positive about “the economic implications of possible uranium mining” (Atkinson, Myles, van Rooyen and Nurizon, 2013, p. 75) and although some were concerned about the environment (21% thought it could be a health hazard) and social impacts (16% were concerned about drunkenness and moral decay), more people were positive about the possibility of more employment (38%), and the transfer of knowledge and skills (35%) (Atkinson et al, 2013; Van Rooyen, 2013).

Stakeholder concerns that have been raised include the following:

- A possible influx of migration workers with or without the necessary skills; destabilisation of the labour market, recruiting employees with the necessary skills from ‘outside’ the affected community
- The number of job opportunities available and skills levels required
- Lack of skills of current unemployed labour force, the need for training of local population
- Transparent recruitment processes to be followed
- Effects of these employment changes on use of services such as schools and clinics
- Opportunities for local businesses
- Use existing businesses and service providers for goods and services needed
- Impact on tourism
- Inability to conduct long term planning (farming investments) due to the unknown timeline for development of the mine
- Change in sense of place and character of the area, in turn affecting tourism
- Traditional quiet lifestyles will be affected
- Increased traffic
- Increased crime and other social ills such as alcohol abuse and gambling
- Making a contribution to poverty alleviation
- Pressure on social service and service delivery

- Ability to absorb increased need for accommodation
- Will remuneration of employees enable them to afford housing in the desired areas
- Will employees live on their own or in the current communities
- Increased use of educational services as a result of influx. Learner teacher ratio already constrained and no busses from more rural areas
- Increased use of health services
- Increased taxation revenue to provide for service delivery
- Disturbance of livestock and game, increased poaching
- A ‘boom and bust’ scenario developing in the town as a result of speculation on housing

6.2 Assessment of impacts during construction

This section identifies the possible socio-economic impacts during the construction phase of the project.

6.2.1 Employment Opportunities

It is expected that there will be an inflow of construction workers during the construction phase. These would include contractors, sub-contractors and those employed by these contractors, whether locals from the area, or an outside workforce. At this stage it is uncertain how many people will be employed during the construction phase. A rather visible short-term increase in the population profile is expected due to construction. This trend will not necessarily continue in the longer term as it is anticipated that outside construction workers will exit the area on completion of the construction phase.

On average the construction sector nationally employs around 17% skilled workers (post matric), 46% medium skilled (artisan) workers and close to 37% unskilled workers. Due to the average low level of skills found amongst the local population in the study area, as well as the main employment sector being the government services sector, it is unlikely that all the semi-skilled and skilled positions could be filled by locals. As the construction sector in Beaufort West is limited it is expected that the specialists would also probably be sourced from all over South Africa and in certain cases, even abroad.

It is the stated intent of the project to use local labour as far as possible, although the main contractors will be sourced from outside the study area and maybe even the province. If the low levelled skill work can be sourced from locals it would have a positive impact on the localised unemployed without any form of income and those dependent on grants or others as main income

source. Even if these opportunities would only be limited and temporary, it can provide relief to the poorer households for some time.

Localised procurement opportunities during the construction phase are expected to be low, as no large construction activities have taken place recently close by and the construction sector in the area is very limited. Specialised material and structures for the project will be obtained and manufactured elsewhere before being transported to the site. As there is a shortage of credible localised suppliers of the materials and equipment required, local procurement during the construction phase would only be focused on general goods, materials and services. General building supplies, equipment rental and security services could be procured from Beaufort West, as the business component in this regard is relatively well developed.

Should the majority of contract workers be sourced from outside the local area, a range of local impacts differing in nature and intensity, are anticipated. It is thus important to consider that jobs are a scarce commodity in the local area, with most opportunities being work within the government sector. Introducing various new types of construction related job opportunities into this environment by itself is likely to create competition among the local jobless. Furthermore, introducing a large group of outsiders, especially with regards to difference in age, race, ethnical composition and local culture, is therefore expected to aggravate possible discontentment with regards to the project and possibly social conflict between the groupings.

Skills development and on-site training would be imperative to enhance capacity building and the possibility of workers being employed on construction related projects in future.

6.2.2 Influx of Workers and Work Seekers

During the construction phase it is anticipated that there will be an inflow of construction workers to Beaufort West but also additionally potential job seekers. While the presence of construction and other workers does not in itself constitute an impact, the way the temporary residents conduct themselves can affect the local community and lead to increased social ills.

Community concerns are common, especially in smaller communities, regarding the negative impacts associated with an influx of outside workers particularly during the construction of large projects. These concerns include those associated with negative impacts on social structures and increased 'social ills' such as increased crime levels, increased alcohol and drug use, increased teenage and unwanted pregnancies, increased prostitution and increases in sexually transmitted diseases (STDs such as HIV). These types of impacts are more commonly associated with the influx of people looking for work without success but can also be associated with workers that do find work.

Although it is difficult to determine whether these impacts will occur, the sensitivities in this regard should be noted and mitigated by implementing strict guidelines for worker conduct.

The extent of an uncontrolled inflow of people to the area is usually determined by the following factors:

- The proximity of the construction site to existing low-income or informal settlements and the ease of access to the site
- The unemployment levels of those residents near the construction site or in the study area
- The type of construction activity and the need for unskilled or semi-skilled workers
- The length of the construction period
- The scale of the construction activities
- The existing presence of jobseekers who already came to the area in search of employment at other sources of possible employment
- Whether recruiting of labourers is taking place at the construction site itself
- The confidence of the jobseekers with regards to actually securing employment.

If recruiting is pro-actively undertaken and managed, it is anticipated that the inflow of jobseekers to the area could be limited without creating socio-economic problems. It is likely that a significant proportion of workers would be sourced locally especially low and medium skilled workers. These workers would already be part of the local community and its social structures thereby reducing the risk posed by influx.

Another potential issue raised is that the influx of workers from outside the area during construction may overwhelm towns in the area in terms of available accommodation. As part of the assessment of tourism impacts it was estimated that Beaufort West and surrounds probably has at least 800 to 1200 beds available and there is additional accommodation in the surrounding towns. It therefore stands to reason that the area will be able to accommodate construction workers, but that demand from construction would likely be strong with implications for the pricing of tourism establishments. This inflow will thus result in positive impacts for the local and even regional hospitality and trade sectors.

The potential for strain on municipal services is also relevant for the construction phase but is a relatively greater risk during operations and is therefore discussed in the following section.

6.2.3 Impacts on Community Health, Safety and Wellbeing

The project area is a typical rural, sparsely populated community and the affected communities are largely unaccustomed to projects of this nature. As such, risks to community safety and health will be experienced during the construction phase due to the presence of a relatively large workforce and construction vehicles in the area.

The main concerns with regards to community safety relate to the inflow of large numbers of workers to the area as it is commonly perceived that this could negatively impact on the local crime levels in the area. The local criminal sector could also view the presence of these workers as a new offset point for their stolen goods and even stolen animals.

Noise related impacts created during the construction phase of the project are highly probable. These are anticipated to emanate from heavy vehicles travelling to and from the site, the noise created by the “reverse indication” of the trucks, and the noise generated by the general construction activities. In terms of vehicle movement, the use of construction vehicles will add to the existing ambient levels and will most likely cause a disturbing noise along the access roads used and at the construction site. Given the general low ambient noise levels in the area, this noise could be particularly intrusive at the construction site. However, due to the distance of existing dwellings to the construction site, a possible, but negligent impact is expected on the surrounding property owners’ quality of life.

The site is located outside of the town of Beaufort West and it is likely that construction vehicles would only have to travel through the town at the beginning and end of the construction period. Residents and pedestrian would thus not really be at risk. The construction vehicles crossing the public roads during construction is believed to be minimal but should be mitigated and managed. The transport of construction employees to the site and back daily would increase the traffic in town and along the N1 between the town and the site, in the mornings and late afternoon but is expected to have a relatively minimal impact. The vehicle movement and traffic will be addressed in detail in the relevant specialist report.

There is a potential of increased dust due to construction activities and vehicular movement along untarred roads. The potential impact will be addressed by the specialist studies in traffic as well as air quality.

The potential impact during construction on surface and ground water will be addressed in separate specialist studies.

Fire risks always remain a concern during the construction process. This will be applicable to the project due to the large workforce associated with the construction and the number and movement of construction vehicles.

Fencing of the property, lighting, cameras, and 24-hour guarding will improve security at and around the site and can limit any possible negative impacts on the adjacent landowners. A Health and Safety plan according to SHE best practices will be mandatory.

The project will not cause the relocation of any people or structures. As far as could be ascertained there are also no graves or marked human remains in the study area. A relevant specialist heritage study has however also been undertaken and will provide expert analysis of the impact.

The construction companies should also ensure that employees receive nutrition and nutrition education, as this forms an integral part of the healthy productive workforce. This should be done by means of regular education and health screening of employees. This could be addressed by means of a disease management program for employees, an HIV policy in line with best practice, an HIV/AIDS prevention education program, and an annual HIV/AIDS awareness campaign.

6.2.4 Visual Impact and Sense of Place

Disturbance of the visual environment during the construction phase (e.g. site clearance, storage of equipment, lighting at night and so forth) would lead to temporary negative visual impacts. The landscape is distinguished by overall flat relief, limited different types and heights of vegetation and some elevated areas. Local residents may be disturbed by the elevated construction structures as well as lights at night.

The sense of place will be disturbed due to structures and lights being visible from far distances and the localised construction vehicle activity. A relevant specialist study has however also been undertaken and will provide expert analysis of the impact.

The Karoo is a special place and attracts significant numbers of tourists to the area and is a major economic contributor. The construction of the project is more than 40 kilometres away from Beaufort West town and the N1 and more than 20 kilometres from the N12 and thus is likely to not have a significant impact on the sense of place in terms of tourists.

6.2.5 Attitudes and Sentiment towards Project

Residents' attitudes and sentiment towards the project can be formed either by direct actions or media coverage of the project. Possible negative attitudes against the project can easily occur due to the recruitment and identification of locals for employment on the project. It is important that recruitment processes are clear and easily understood with everyone having an equal chance of employment.

The project will use local labour as far as possible, although the main contractors will most probably be sourced from outside the study area and possibly even the province. A key mitigation measure, however, is to provide up-skilling opportunities for unskilled and semi-skilled local workers to lessen any possible skills disparity between the local skills available and the requirements of the project.

Procurement should also be well advertised locally in order to give local businesses an opportunity to provide the necessary materials or services for the project.

An important aspect will be for the project owners to continually provide information and updates on the project which should be available in local media as well as social media. The largest source of discontentment of the local population with a project is the lack of up to date credible information.

6.2.6 Economic Activity

It is expected that the construction activities will have an impact on the local economy in a number of ways:

- Negatively impact farming activity due to a loss of agricultural land for the plant, access roads and services, and the mining area.
- An increase in the local employment levels especially the unskilled and lower skilled residents and the spending of the salaries and wages within the town
- Influx of construction workers to the town with additional spending on accommodation, meals and other necessities
- Potential procurement of goods and services for the project from local merchants
- Spending of wages/salaries and from other businesses in the town could stimulate an increase or expansion in local businesses.

6.2.7 Infrastructure and Services

Community access to infrastructure and services may experience negative impacts as a result of the proposed project.

Access to community facilities such as hospitals, educational facilities, emergency facilities, recreational facilities, etc may become busier with access becoming more difficult or delayed.

With potentially many more people in the town for long periods, the municipal infrastructure will be under additional strain and may suffer more breakdowns, capacity constraints or shortages. The BWLM will need to ensure that budgets are available to service and maintain the local infrastructure especially that relating to water provision, water treatment and electricity provision.

6.2.8 Accommodation

Changes in number of people living/working in the area will lead to a demand for accommodation at the appropriate level/s of income. In some instances, this may result in more temporary housing being erected if not otherwise catered for, however, this may also lead to increased demand for accommodation in existing establishments during construction. This may present a business opportunity for development of housing, should the current supply not be sufficient. This may also lead to increases in need for rentals and houses in the market.

Temporary accommodation can be provided by the tourist accommodation providers in Beaufort West. This however may crowd out potential tourists to the area especially during peak periods. It is recommended that an accommodation audit be conducted before the project commences to understand what is available and what the temporary and permanent need of the project could be. This should be done in full cooperation with the BWLM. Insufficient housing may lead to urban sprawl or informal settlements especially in the case of aspirant work seekers that are not successful.

6.3 Assessment of Impacts During Operational Phase

This section identifies the possible socio-economic impacts during the operational phase of the project.

6.3.1 Employment Opportunities

It is estimated that the project will employ a maximum of 650 workers permanently during the operational phase. This figure may however decrease once the mining and operational plan has been revised and finalised. The 650 employment opportunities are extremely significant and will represent an approximate 16% increase in total jobs within the BWLM and is likely to be the second largest employer after the local municipality.

Lukisa expressed the commitment to recruit all farm labourers directly affected by job losses, which is expected to be minimal. Although most of the highly skilled workers are expected to come from outside the area, it is still expected to have a major positive impact with most of the unskilled and

semi-skilled workers coming from BWLM. It is estimated that at least 70% of the workers or approximately 450 employment opportunities will be able to be filled by local residents. The benefits to the local communities can be enhanced through ongoing and focused training initiatives.

6.3.2 Infrastructure Services

One of the ways in which an influx of people can impact a municipality is through the additional strain they place on the provision of municipal services. This is especially true of job seekers who do not end up finding work, as they will be less likely to contribute to municipal finances through payments for services. Those who do find work, or who relocate to the area because they have been offered a job, are more likely to have a net positive impact on municipal finances, thus allowing the municipality to scale-up services provision as demand increases. In this case there may be a likelihood of additional strain on municipal services resulting from the project, as potential job seekers enter the area.

6.3.3 Accommodation

It is estimated that a maximum of 30% of the workforce could potentially come from outside the area which would mean that accommodation for approximately 200 families would be required. The workforce from outside the area is expected to have higher paying jobs and could afford to pay for formal accommodation. Tourist accommodation could be used as a temporary measure, but it is expected that employees would want to obtain permanent accommodation. The additional demand for housing in Beaufort West could stimulate the local housing market and push prices up. This could relate to property sales prices as well as rental properties. Although this would be positive for the property market it would have a negative impact on local residents trying to get into the property market, or due to increases residents unable to afford the increased rental amounts.

Should the property market be sufficiently stimulated and there is a shortage of units, local developers may develop suitable accommodation within the town. The BWLM should ensure that sufficient planning is undertaken, and budgets are available for the provision of services. It would be important that a variety and range of accommodation is provided to address all the workers income levels, including the gap housing market.

The BWLM would need to manage the unplanned or uncoordinated influx of potential work seekers and not allow land invasions or the development of informal settlements. The development of subsidy housing should be planned and budgets sought to ensure the orderly development of the town.

6.3.4 Landowners and surrounding farms

Due to the size and scale of the proposed mining operations it is expected to have a significant negative impact on the property values of the affected and surrounding farms. The uncertainty associated with the development of such a facility due to it being an “unfamiliar” development will negatively influence the property prices maybe even before the project begins.

It is proposed that Lukisa start negotiations and interactions with affected and surrounding land owners as soon as possible in order to provide clarity for landowners on whether properties will be leased, only portions leased, purchased or not affected, to enable longer term planning.

It is uncertain how other nearby farms that have uranium deposits that are not part of this application would be affected by this proposed mine.

Given the large size of the farms and the dominant use for dry-land extensive agricultural (livestock) farming, the impact on the property prices of adjacent farms that do not have uranium deposits should be limited.

Concerns have been raised on the water use/quantities and potential pollution of water resources in the area by the mine and impact on agricultural practises. The impacts are addressed in the specialist studies that have been undertaken for ground water, surface water, geochemistry and radiation.

6.3.5 Local Economy

The project is expected to have a significant positive impact on the local economy with employment of 650 persons and an estimated monthly wage bill of R15 to R20 million, which will predominantly be spent in the local economy. It is expected that a portion of the mines operational procurement expenditure will also be spent in the local economy which will help to boost local business growth and expansion.

Based on previous research, it can be expected that tourists “seeking Karoo experiences” could experience some traffic densification, some noise and visual disturbances and some crowding out of tourists. This may lead to a slight contraction of the tourism industry but is considered to be extremely small if at all. Considering the number of accommodation providers that might directly be affected (four, although unlikely due to the distance from the proposed sites), the impact is estimated to be very low. Mitigation is however important and will result in limiting any possible impact.

Due to a loss of agricultural land, the agricultural sector is expected to be negatively affected, but due to the extensive nature of livestock farming predominantly practised in the area, the impact is expected to be minimal.

The development of the mine will also assist in diversifying the local economy and contributing to its robustness.

6.3.6 Visual

From a socio-economic perspective, there will potentially be a negative impact on surrounding landowners, but it is not considered to be significant due to the low population density and the location of homesteads to the facilities, thereby limiting the number of permanent observers. The visual impact will however be dealt with in a specialist study in considerably more detail.

6.3.7 Nuisance Factors

Neighbouring landowners may be subject to increased noise impacts. Noise sensitive areas would include homesteads, farmhouses and settlements.

The closest dwellings and thus sensitive receptors that were identified were approximately 2.7 km to the northeast of C05 and 2 km to the south of F02 of the WEF. Due to the distance of these 55

to the turbines, it is anticipated that the predicted noise levels will not exceed the standard values and that the potential noise would be within acceptable limits.

The project area is a typical rural, sparsely populated community and the affected communities are largely unaccustomed to projects of this nature. As such, the size of the project and employment, noise, dust, traffic, etc will have a negative impact on the surrounding landowners and farms.

Noise related impacts created during the operational phase of the project are highly probable. These are anticipated to emanate from heavy vehicles travelling from the mining areas to the processing plant and the operation of the plant. Given the general low ambient noise levels in the area, this noise could be particularly intrusive. However, due to the distance of existing dwellings to the plant, a possible, but negligent impact is expected on the surrounding property owners' quality of life.

The transport of construction employees to the site and back daily would increase the traffic in town and along the N1 between the town and the site, in the mornings and late afternoon but is expected to have a relatively minimal impact. The vehicle movement and traffic will be addressed in detail in the relevant specialist report.

There is a potential of increased dust due to operational activities and vehicular movement along untarred roads. The potential impact will be addressed by the specialist studies in traffic as well as air quality.

The potential impact during operation on surface and ground water will be addressed in separate specialist studies.

6.3.8 Possible attitude formation against the project

As indicated in the construction phase, possible attitude formation against the project can occur due to the limited number of locals that are permanently employed for higher skilled jobs as a result of the discrepancy between skills locally available and the skills required for specialised work. This aspect would thus apply to the operational phase as well.

The project proponent must continue to maximise local employment throughout the operational life of the facility. Up-skilling opportunities for unskilled and semi-skilled local workers and capacity building must continuously be undertaken to lessen any possible skills disparity between the local skills available and the requirements of the project.

6.4 Assessment of Impacts During Decommissioning Phase

This section identifies the possible socio-economic impacts during the decommissioning phase of the project.

6.4.1 Employment Loss

The permanent job opportunities created during the operational phase of the project will be lost once the project is decommissioned. This can impact approximately 650 households that will have to find alternative sources of employment and income. These families would possibly have to relocate if no other employment can be found in the area.

Decommissioning and its associated closure programmes must ensure that employees are not left stranded without alternative forms of livelihoods, with subsequent degradation of the communities' socio-economic quality of life.

6.4.2 Accommodation and Property Market

If the workforce cannot find alternative work opportunities, many households may decide to leave Beaufort West. This sudden departure of households will seriously affect the property market with many houses on the market at the same time and people desperate to sell. Property prices will drop significantly, and properties will remain in the market for longer.

6.4.3 Landowners and surrounding farms

The open cast mining areas and waste rock dumps will remain on the properties but through proper management the areas can be revegetated and could return to agricultural use after decommissioning. Access tracks and access roads may be retained, subject to landowner requests. As all infrastructure can be removed no visual impact will remain, other than vegetated mining areas and dumps which should blend into the landscape over time.

6.4.4 Local Economy

The project decommissioning is expected to have a significant negative impact on the local economy as 650 persons will lose their jobs and the estimated monthly wage bill of R15 to R20 million will no longer be spent in the town. The mines operational procurement expenditure will also cease to be spent in the local economy. The major decrease in expenditure in the town will adversely affect the local businesses and some may even have to close down. The economy would also shrink and the economic diversity that mining provided will disappear.

6.4.5 Nuisance Factors

Decommissioning will result in similar impacts as the construction phase in terms of dust and noise pollution, as well as the movement of heavy vehicles and workers. These intrusions will be intermittent and of a short duration and can be mitigated.

6.4.6 Community Safety

The plant contains hazardous materials and therefore care should be taken during the decommissioning that the infrastructure is properly disposed of to avoid any possible contamination resulting in community health risks and soil contamination.

7. MITIGATION AND IMPACT EXTENT

7.1 Measurement of impacts

In order to clearly stipulate the possible impacts in the affected areas surrounding the proposed site, the following methodology was used. The objectives of the socio-economic impact assessment are first to compile a comprehensive baseline, second to determine the socio-economic impacts of the proposed development, thirdly to propose mitigation measures in order to limit negative impacts and improve potential positive impacts of the project and lastly to illustrate the magnitude of the impacts before and after mitigation.

The impacts identified in the previous section are defined in terms of their potential magnitude, the duration of the impact, the scale or extent (geographical spread) of the impact, the probability that it will occur and finally the significance of the potential impact.

Assessment scores are indicated in line with the best-practice Scoring System for Assessment of Significance in **Table 7-1** .

Table 7-1 : Assessment Scoring System

Magnitude	Duration	Scale	Probability
10 Very high / I don't know	5 Permanent	5 International	5 Definite/I don't know
8 High	4 Long-term (impact ceases of mine closure)	4 National	4 Highly probable
6 Moderate	3 Medium-term (5-15 years)	3 Regional	3 Medium probability
4 Low	2 Short-term (0-5 years)	2 Local	2 Low probability
2 Minor	1 Transient	1 Site Only	1 Improbable
1 None			0 None

The scoring system, provided in **Table 7-2** is used for ranking the significance of the potential impacts using the following formula:

$$SP \text{ (Significance point)} = (\text{magnitude} + \text{duration} + \text{scale}) \times \text{probability}$$

Table 7-2 : Scoring System and Ranking

Significance Points		Environmental significance
Max: 100		Maximum
> 76	Where it would influence the decision regardless of any possible mitigation. An impact which could influence the decision about whether or not to proceed with the project.	High
31-75	Where it could have an influence on the decision unless it is mitigated. An impact or benefit which is sufficiently important to require management. Of moderate significance - could influence the decisions about the project if left unmanaged.	Moderate
< 30	Where it will not have an influence on the decision. Impacts with little real effect and which should not have an influence on or require modification of the project design or alternative mitigation.	Low
+	+ Positive impact. An impact that is likely to result in positive consequences / effects.	Positive

7.2 Possible Mitigation Measures

The following mitigation measures during construction phase are suggested.

Table 7-3: Suggested mitigation measures to address identified impacts during Construction

POTENTIAL IMPACT	MITIGATION
Influx of workers and work seekers	<ul style="list-style-type: none"> Contractors should maximise the use of local labour, especially for the semi-skilled to unskilled employment categories as this would limit the negative impacts associated with a sudden population increase and to avoid possible conflict arising between locals and the outside workforce

POTENTIAL IMPACT	MITIGATION
<p>Employment opportunities</p>	<ul style="list-style-type: none"> • The local labour procurement strategy as well as proof of residence required should be clearly communicated in the local community and broader regional media well in advance of the construction phase • Clear communication of available employment to minimise population influx. • Clearly communicated preference for local people to work at the Ryst Kuil operations. • Publicised recruitment of farm workers directly affected by job losses.
<p>Community Health, Safety and Wellbeing</p>	<ul style="list-style-type: none"> • Clearly define and communicate the required number of jobs and skills. • Recruit from the local community first, regardless of the required skills level. • Establish a 'labour desk' to enable effective communication. • The skill requirements should be communicated to the local community leaders and community based organisations • Provide up-skilling opportunities for unskilled and semi-skilled local workers to lessen any possible skills disparity. • Use existing and local construction businesses as subcontractors.
	<ul style="list-style-type: none"> • The construction area should be fenced or access to the area should be controlled to avoid unauthorised entry • Employ permanent security personnel for the duration of the construction period • Adhere to the Occupational Health and Safety Act (Act 85 of 1993) through the development of an Occupational Health and Safety Plan. • Develop and Implement an Occupational Health and Safety, Community Security and Emergency Preparedness and Response Plan • In order to protect employees during the construction of the project, only qualified personnel undertaking tasks relevant to their duties must be allowed • Personal Protection Equipment (PPE) must be provided to all construction workers and contractors • Adhere to the National Veld and Forest Fire Act (Act 101 of 1998) • A Fire/Emergency Response and Management Plan should be developed and implemented. • Contractors and construction workers must be trained with regards to the implementation of the Fire/Emergency Response and Management Plan • Regularly review the functionality and efficiency of these plans in conjunction with the local emergency teams, management, community representatives and neighbouring landowners • Appropriate fire-fighting equipment should be on site and construction workers should be appropriately trained for fire fighting • All construction vehicles should be in a good condition and adhere to the road worthy standards • Implement regular safety briefings, road signage as well as speed control measures • Speeding of construction vehicles must be strictly monitored

POTENTIAL IMPACT	MITIGATION
	<ul style="list-style-type: none"> • Sufficient warning signs should be erected at the public road crossing and turn-offs. See also relevant specialist reports • Consider public transport of workers to and from the site on a daily basis • Restrict the activities and movement of construction workers and vehicles to the immediate construction sites and existing access roads. • Ensure that all temporary employees, sub-contractors and contractors understand and are aware of the requirements and adhere to the EMPr • Transgressions to be dealt with through verbal instructions, then written communication and contract notices (in the case of serious transgressions). • A Complaints Register must be available at the security office • The mitigation measures of the Noise and Air Quality Impact Assessments are relevant. See also relevant specialist reports • Dust suppression measures should be applied if and when necessary. See also relevant specialist reports • Install low-impact lighting on the exterior of the site where night-time lighting is essential. See also relevant specialist reports • The stakeholders (through a forum) should be kept informed of the construction schedules and activities. • Ensure that road use is limited through towns and does not impact on other road users on main roads such as the N1 and N12. • Retain natural vegetation adjacent to the development footprints. • Make use of existing access roads where possible. • Limit the construction of roads and plan location of additional roads required in such a way that clearing of vegetation is minimised and that limited cut and fill requirements would be necessary. • Limit erosion risks as erosion scarring can create areas of strong contrast which can be visible from far distances.
<p>Infrastructure and services</p>	<ul style="list-style-type: none"> • Take increased population into consideration during infrastructure planning in consultation with the local municipality. • Integrate into existing municipal systems • Assist BWLM if required with skills and equipment to ensure services are well maintained and able to handle the increased loads from additional population • See also accommodation mitigation
<p>Accommodation</p>	<ul style="list-style-type: none"> • Contractors to ensure that workers from outside the local area reside in suitable facilities and not establish informal houses. • Due to the size of the construction workforce, a contractors accommodation facility can be considered. • In the event that a contractors accommodation facility is constructed, the contractors must ensure that all relevant legislation is adhered to. • Housing and development should occur within the town's 'urban edge' and uphold the character of the town, by contributing architecturally to the town.

POTENTIAL IMPACT	MITIGATION
<p>Economic activity</p>	<ul style="list-style-type: none"> • Integrate both temporary and permanent employees into the community. • Integrate housing in existing neighbourhoods in town, not removed from current economic hub • Avoid creation of housing that would not be used later on, or that does not fit in with the character of the town. • Do not make excessive use of tourism accommodation providers (do not exceed 3- month stay period at any one establishment) • Construction is a growing industry in BWLM, opportunities to provide adequate accommodation for mine employees pose a viable entrepreneurship avenue. <ul style="list-style-type: none"> • Enlist current businesses and vendors. • Explore the possibility of using local suppliers of goods and services by drawing up a list of services offered. • Make information of required supplies and services available to the community to encourage tenders from the local area. • Focus procurement on businesses in the Beaufort West area that could supply non-core goods and services (e.g. security, catering and cleaning)

The following mitigation measures during operational phase are suggested.

Table 7-4: Suggested mitigation measures to address identified impacts during Operations

POTENTIAL IMPACT	MITIGATION
<p>Employment opportunities</p>	<ul style="list-style-type: none"> • Training during construction phase will allow for local people to be employed during operation phase. • Establishment of a training centre, to assist in skills development of locals. • Clearly define and communicate the required number of jobs and skills. • Recruit from the local community first, regardless of the required skills level. • Establish a 'labour desk' to enable effective communication. • The skill requirements should be communicated to the local community leaders and community based organisations • Provide up-skilling opportunities for unskilled and semi-skilled local workers to lessen any possible skills disparity. • Use existing and local businesses as suppliers and service providers
<p>Infrastructure and services</p>	<ul style="list-style-type: none"> • Municipal Planning should take this into consideration • Take increased population into consideration during infrastructure planning in consultation with the local municipality. • Integrate into existing municipal systems

POTENTIAL IMPACT	MITIGATION
	<ul style="list-style-type: none"> • Assist BWLM if required with skills and equipment to ensure services are well maintained and able to handle the increased loads from additional population • See also accommodation mitigation
Accommodation	<ul style="list-style-type: none"> • Due to the character of the towns of Beaufort West, urban planning and architects should be used when housing is developed to improve on the existing nature of the town. • Assist permanent employees to secure housing and/or to achieve home ownership • Housing and development should occur within the town's 'urban edge' and uphold the character of the town, by contributing architecturally to the town. • If additional housing is required, identify and communicate the additional housing need to construction companies and developers who may be able to take up the opportunity to develop new housing in the area.
Landowners and surrounding farms	<ul style="list-style-type: none"> • Ensure that sufficient safety and security measures are in place at the site • Employ permanent security personnel • Install low-impact lighting on the exterior of the site where night-time lighting is essential • The facility should be managed according to international best practice • Establish communications with adjacent landowners to register and resolve issues related to the operations of the mine • Landowners affected by the project must be appropriately compensated for sterilisation of their land or the land should be purchased. The process should include identifying and negotiating with the multiple landowners across the project site to acquire the sections of land enabling the optimal site design and layout. • It must also be considered if the farmers will be able to continue their farming activities on the land between the development.
Local economy	<ul style="list-style-type: none"> • Compile a list of local suppliers of goods and services by drawing up a list of services offered. Continually source from local enterprises. • Project should create conditions that are conducive for the involvement of entrepreneurs, small businesses, and SMME's during the operational phase for rendering ancillary services to the proposed facility • The following areas have been identified as opportunities where local business entrepreneurs can be supported: <ul style="list-style-type: none"> ○ Security ○ Ore transport ○ Transport of employees
Visual and nuisance factors	<ul style="list-style-type: none"> • See mitigation during construction • See mitigation measures in specialist reports.

The following mitigation measures during decommissioning phase are suggested.

Table 7-5: Suggested mitigation measures to address identified impacts during Decommissioning

POTENTIAL IMPACT	MITIGATION
Employment Loss	<ul style="list-style-type: none"> • Develop a retrenchment and training programme. • Identify possible alternate developments using similar skills. • Project to assist employees, prior to the decommissioning, during and after closure of the project to be marketable for other positions. This could include undergoing a skills development programme in advance of the proposed retrenchment dates. • Retrenchments to be phased over a period as the project prepares for decommissioning • Aid employees to source jobs in similar sectors within the municipal area and beyond • Assist with growing and diversifying the economy to be able to better absorb the retrenched workers
Accommodation and Property Market	<ul style="list-style-type: none"> • With phased retrenchments the properties that enter the market will also be phased and prevent a glut in the market • Estate agents could look at alternative markets for potential buyers such as weekend holiday makers or retirees to stimulate the market
Landowners and surrounding farms	<ul style="list-style-type: none"> • Mined areas should be revegetated soon after mining is completed • Revegetated areas can be returned to agricultural use as soon as possible • Interested employees can be trained in agriculture and could farm the revegetated areas
Local Economy	<ul style="list-style-type: none"> • Development of skills, training and diversifying of business opportunities throughout the lifetime of the mine is recommended. This will ensure relevant qualification and experiences and enable better employment opportunities after decommissioning of the mine. • Alternative projects should be identified and implemented to provide employment to retrenched employees • LED unit should identify projects and start implementation while the mine is operational to assist in funding. The growth and expansion of these projects could provide additional employment
Community Safety	<ul style="list-style-type: none"> • See mitigation during construction • See mitigation measures in specialist reports
Visual and nuisance factors	<ul style="list-style-type: none"> • See mitigation during construction • See mitigation measures in specialist reports.

7.3 Magnitude of impacts

The following table shows the significance of the impacts identified during the construction period of development, both before and after mitigation.

Table 7-6: Impact and intensity identification during the construction phase of development

POTENTIAL IMPACT	BEFORE MITIGATION						AFTER MITIGATION					
	M	D	S	P	Total	SP	M	D	S	P	Total	SP
Influx of workers and work seekers	6	4	2	5	60	M	4	4	2	5	50	M
Employment opportunities	6	2	3	5	55	Pos M	6	3	3	5	60	Pos M
Community Health, Safety and Wellbeing	4	2	2	3	24	L	3	2	2	3	21	L
Infrastructure and services	4	3	2	3	27	L	3	3	2	3	24	L
Accommodation	6	2	2	4	40	M	5	2	2	4	36	M
Economic activity	4	2	2	4	32	Pos M	5	3	3	4	44	Pos M
Heritage, biodiversity, air quality, traffic, noise and visual impacts are dealt with in the specialist reports in the EIA.												

The following table shows the significance of the impacts identified during the operational period, before and after mitigation.

Table 7-7: Impact and intensity identification during the operational phase

POTENTIAL IMPACT	BEFORE MITIGATION						AFTER MITIGATION					
	M	S	D	P	Total	SP	M	S	D	P	Total	SP
Employment opportunities	7	4	3	5	70	Pos M	8	4	3	5	75	Pos H
Infrastructure and services	4	4	2	5	50	M	4	3	2	5	45	M
Accommodation	8	3	3	5	70	M	7	3	3	5	65	M
Economic activity	6	4	3	5	65	Pos M	7	4	3	5	70	Pos M
Landowners and surrounding farms	6	3	2	5	55	M	5	3	2	5	50	M
Ground and surface water, air quality, traffic, noise, radiation, geochemistry and visual impacts are dealt with in the specialist reports in the EIA.												

The following table shows the significance of the impacts identified during the decommissioning, both before and after mitigation.

Table 7-8. Impact and intensity identification during the decommissioning phase

POTENTIAL IMPACT	BEFORE MITIGATION						AFTER MITIGATION					
	M	S	D	P	Total	SP	M	S	D	P	Total	SP
Employment Loss	10	4	3	5	85	H	8	4	3	5	75	H
Local Economy	6	3	3	4	48	M	5	2	3	4	40	M
Accommodation and Property Market	8	3	3	5	70	M	7	3	3	5	65	M
Landowners and surrounding farms	5	2	2	3	27	L	4	2	2	3	24	L
Community Safety	4	2	2	3	24	L	3	2	2	3	21	L
Heritage, biodiversity, air quality, traffic, noise and visual impacts are dealt with in the specialist reports in the EIA.												

8. CONCLUSION

Although many potential impacts are identified and mitigation measures are suggested, few of the socio-economic impacts will be experienced in the Ryst Kuil application area. These include the potential worker influx, increased economic activity and accommodation of workers. However, due to the integrated nature of any changes in the socio-economic fabric of any population, this report also highlights the cumulative socio-economic impacts of the proposed mine in the whole area and not just the application area.

The positive socio-economic impacts during the first two phases will be job creation and a positive impact on the economy of Beaufort West and possibly the region. These positive impacts will however turn negative during the decommissioning phase when the mine closes leading to retrenchments and a negative impact on local businesses and the property market.

Local negative impacts around the site will relate to nuisance aspects such as noise, dust, visual disturbance and traffic. Other negative aspects could also include health and safety aspects, loss of agricultural land, uncertainty relating to project and land availability, impact on the property values and uncertainty which impacts longer term agricultural planning.

The socio-economic impact assessment cannot assess all the impacts and the other specialist studies should also be consulted including heritage, biodiversity, ground and surface water, air quality, traffic, radiation, geochemistry and visual impacts.

Other negative impacts that will mostly manifest in the town of Beaufort West include influx of workers and work seekers, pressure on municipal services and infrastructure, shortage of accommodation and impact on property prices and community health and safety. The various levels of government need to be consulted and on board to assist with many of the mitigation measures which should be implemented before the project even starts.

The expected impacts and significance are provided below for the construction phase.

POTENTIAL IMPACT	SIGNIFICANCE POINTS
Influx of workers and work seekers	M
Employment opportunities	Pos M
Community Health, Safety and Wellbeing	L
Infrastructure and services	L
Accommodation	M

POTENTIAL IMPACT	SIGNIFICANCE POINTS
Economic activity	Pos M

The expected impacts and significance are provided below for the operational phase.

POTENTIAL IMPACT	SIGNIFICANCE POINTS
Employment opportunities	Pos H
Infrastructure and services	M
Accommodation	M
Economic activity	Pos M
Landowners and surrounding farms	M

The expected impacts and significance are provided below for the decommissioning phase.

POTENTIAL IMPACT	SIGNIFICANCE POINTS
Employment Loss	H
Local Economy	M
Accommodation and Property Market	M
Landowners and surrounding farms	L
Community Safety	L

It is considered most likely that the combined positive impacts of the project would exceed its negative impacts resulting in an overall net benefit with mitigation. The project is therefore deemed acceptable in terms of socio-economic impacts and should be allowed to proceed.

9. REFERENCES

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