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GLOSSARY OF TERMS

The following is a list of abbreviations used in the report:

B&B	Bed and Breakfast
BSP	Biodiversity Sector Plan
BPF	Bioregional Planning Framework
BNGHP	Breaking New Ground Housing Policy
C.A.P.E.	Cape Action Plan for the Environment
CBD	Central Business District
CBA	Critical Biodiversity Area
CESA	Critical Ecological Support Area
CKDM	Central Karoo District Municipality
CKDM SDF	Central Karoo District Municipality Spatial Development Framework
CNC	Cape Nature Conservation
DEA&DP	Department of Environmental Affairs and Development Planning
DWA	Department of Water Affairs
DMA	District Management Area
DRC	Dutch Reformed Church
ESA	Ecological Support Area
EIA	Ecological Support Area
EMF	Environmental Management Framework
EMP	Environmental Management Plan
FSP	Fine Scale Biodiversity Planning
IDP	Integrated Development Framework
IAP's	Interested and Affected Parties
LUPO	Land Use Planning Ordinance, 15 of 1985

LED	Local Economic Development
MIG	Municipal Infrastructure Grant
MSA	Municipal Systems Act, 32 of 2000
NEMA	National Environmental Management Act
NSPD	National Spatial Development Perspective
NWA	National Water Act
OESA	Other Ecological Support Area
PA	Protected Area
PAWC	Provincial Administration Western Cape
PGWC	Provincial Government Western Cape
PGDP	Provincial Growth and Development Plan
PGDS	Provincial Growth and Development Strategy
PSDF	Provincial Spatial Development Framework
PPP	Public Participation Process
RDP	Reconstruction and Development Programme
SAHRA	South African Heritage Resources Agency
SANBI	South African National Biodiversity Institute
SDF	Spatial Development Framework
SDP	Spatial Development Plan
SEA	Strategic Environmental Assessment
SKEP	Succulent Karoo Ecosystem Plan
SMME	Small Medium and Micro Enterprises
SPC	Spatial Planning Category
SMA	Special Management Area
WC	Western Cape
WWTW	Waste Water Treatment Works

The following definitions, extracted from relevant national and provincial policy guidelines, apply to this document:

Activity corridor means a linear zone of development flanked by a public transport route with a variety of commercial and high-density residential uses focused on it.

Activity spine means the core of the activity corridor being a main road on which most of the activities are focused, with high-density development adjacent to the road for about half a block on both sides. It should connect the local nodes, mixed use areas and community activities.

Activity Street means a local road that displays the same principles of linearity and accessibility as an activity spine, but at lower levels of intensity, opportunity and market thresholds. It should similarly connect local nodes and reinforce them.

Buffer Areas are made up of remaining natural habitat in endangered, vulnerable and least threatened ecosystems, including remnant (determined by Cape Nature and/or SANBI (South African National Biodiversity Institute)) in accordance with the National Spatial Biodiversity Assessment and \ or applicable fine-scale biodiversity plans. Extensive agriculture occurs as an overlay zone because of the close relationship between dry land grazing and veld quality (biodiversity). There are two types of Buffer Areas: Buffer 1 in which land may be converted to other uses if satisfactory offsets are provided and Buffer 2 where no such offsets will be necessary.

Biological Diversity or Biodiversity is defined as the variability among living organisms from all sources including terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within, between species and of ecosystems.

Biome means a group of ecosystems which may differ considerably in the species that contain, but function in ecologically similar ways. In practice, although biomes contain both plants and animals, for purpose of identifying biomes and mapping them, the vegetation type is used to define the biome boundaries.

Bioregional Planning defined by PGWC as an internationally recognised planning concept aimed at achieving sustainable development.

Client refers to the Central Karoo District Municipality

Core Areas are terrestrial, aquatic and marine areas of high conservation importance (highly irreplaceable) that must be protected from change or restored to their former level of functioning. Both public and private ownership is permitted in Core Areas. Privately owned land should be designated in some way, either as private nature reserves or under the stewardship regulations. There are two types of Core Areas, namely Core 1 which currently enjoys a level of statutory proclamation or designation and Core 2 areas, which should be brought up to Core 1 area status.

Development in relation to place means any process initiated by a person or body to change the use, physical nature or appearance of that place and without limitation includes:

- a) the construction, erection, alteration, demolition or removal of structure or building for which building-plan approval is required;
- b) change of actual land use;
- c) up- or downgrading of development rights, including the subdivision or consolidation of land;
- d) the preparation, surveying or advertising of land in anticipation of approval of amended rights or in a way as to suggest possible approval;
- e) the installation of infrastructure or the preparation of land therefore;
- f) changes to the existing or natural topography of land;
- g) the destruction or removal of vegetation, and
- h) any other physical change being brought about in respect of land, buildings, infrastructure or other structures;

Ecological Corridors are spatially defined (or demarcated) areas necessary for the maintenance of ecological integrity and persistence of ecological processes. Ecological Corridors designated Core 2 areas link the Core 1 areas so that they create a continuous network throughout the province. They differ from Core 1 areas in that they can contain land currently designated to the Buffer, intensive agriculture or urban development. Urban development, intensive and extensive agriculture should be discouraged within these corridors.

Ecotourism is responsible travel to fragile, pristine, and usually protected areas that strives to be of low impact and (often) small scale. It purports to educate the traveller; provide funds for conservation; directly benefit the economic development and political empowerment of local communities; and foster respect for different cultures and for human rights.

Extensive Agriculture refers stock farming on natural veld.

Growth potential means the attributes of both high economic growth prospects and a concentration of human need within a particular locality.

High density residential promotes densities of 25 units per hectare or higher and are normally accommodated in the medium to low income areas

Inclusionary Housing, also referred to as mixed-income housing, is a government driven program to promote mixed-income housing delivery through regulations and/or incentives that require or encourage developers to include a portion of housing units for low and moderate income households into their developments

Integrated development has the same meaning as inclusionary housing and promotes mixed-income housing delivery, single residential, general residential and subsidy units.

Intensive Agriculture land with crop farming or forestry potential or existing agricultural activity or has been ploughed within the previous 10 years.

Low density residential accommodates developments in high-income areas of 10-15 units per hectare

Medium density residential accommodates developments in medium to high income areas of 15-25 units per hectare

Medium Term Urban Edge the Urban Edge drawn up in the SDF delineation process.

Mixed uses imply the horizontal and vertical integration of suitable and compatible residential and non-residential land uses within the same area or on the same land parcel.

Rehabilitation area includes a damaged ecosystem of population to be retained to its original status.

Spatial Integration is a strategy to address the spatial fragmentation legacy of former spatial planning approaches and land use management, associated with acts such as the Group Areas Act, Urban Areas Act, Physical Planning Act and the Homelands Act, etc. The strategy engages issues of urban restructuring, settlement location and property development to reduce urban sprawl, integrating different communities (mixed income and mixed tenure), land use activities (mixed use: commercial, retail, recreational, transport, residential, social service, etc.) and the shift from a single motor car urban design concept to a new urban design concept based on public transport.

Sustainable Development is development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs.

Urban Edge to ensure a target of an average gross 25 dwelling units per hectare within 5-10 years and/or meaningful consolidation of apartheid town element; it is defined as medium term to acknowledge that average gross densities in rapidly growing settlements could achieve the desired average gross density fairly quickly (5 – 10 years) after which the urban edge and growth management policies should be reviewed. Note: to ensure security of investment for agriculture, the medium term edge should remain fixed for at least 10 to 15 years.

Urban restructuring is a strategy to increase urban quality of life and urban citizenship through integrated transport-led land reform (densification, infill and development of strategically located public brown/greenfield sites) within a demarcated urban edge, and upgrade of (previously) degraded areas and new developments.

1. Introduction

The purpose of this report is to provide the relevant, up to date background information for the Central Karoo District Municipal (CKDM) area which include the 26 key sectors which is grouped into the *Bio-physical, Socio-Economic and Built Environment* and more specific the policy framework that need to be taken up in the proposals made in the Spatial Development Framework of the CKDM.

1.1 The Need for a Spatial Development Framework

This document represents the Spatial Development Framework for the Central Karoo District Area. The document is prepared and submitted in fulfilment of the District Municipality's legal obligation in terms of the relevant sections of the Local Government : Municipality Systems Act , Act 32 of 2000 and specifically Section 4 of the Local Government : Municipal Planning and Performance Management Regulations, 2000.

The White Paper on Spatial Planning and Land Use Management (2001), defined Spatial Planning as a *"process that is inherently integrative and strategic and which takes into account a wide range of aspects and how these should be arranged on land"*.

The growth of urban and rural environments in South Africa and its impact on resources over time has previously been managed in terms of spatial planning by municipalities with the key focus on development within certain areas. These known as master plans, have been seen to be developed in a narrow- minded environment.

The spatial development challenges were faced with the new challenges of a dysfunctional spatial fabric informed mainly by the apartheid era and its planning laws. Therefore besides the need for multi-disciplinary and multi-sectoral integration, certain desired elements of the successful integration of land uses within areas of development remained lacking, particularly with respect to the integration of issues to be focussed on such as the provision of Housing, Health; Infrastructure Provision and Maintenance; Environmental Conservation; Disaster Management plans; Agriculture and Mining.

Post 1994 a new system of Spatial Planning, as prescribed through the Development Facilitation Act (DFA), Act No. 67 of 1995 and the Municipal Systems Act (MSA), Act No. 32 of 2000, was adopted and rolled out. This included, firstly, a Spatial Development Framework Plan (SDF) which showed desired land use, directions for future growth and alignment with other areas of development.

The second component was a Land Use Management System (LUMS). The White Paper on Spatial Planning and Land Use Management (2001) clearly defines a Land Use Management System as a mechanism that includes a full spectrum of land use management mechanisms such as zoning regulations – zoning schemes, management tools, building plan approval systems, law enforcement, bylaws and procedural matters, institutional arrangements, etc. These all are applicable to the development rights on a specific land unit, erf or property, which can be changed by way of land use applications submitted and processed known as Rezoning, Special Consent, Subdivision, etc. These changes in land use are often guided by the Spatial Development Framework Plan, which functions as a guide to current and future land uses trends within a specific area.

Since then, the Spatial Planning and Land Use Management Bill 2011 was developed to provide a framework for Spatial Planning and Land Use Management in South Africa. Its main focus is to specify the relationship between the Spatial Planning and the Land Use Management Systems, together with other kinds of planning, and to:

- provide for the inclusive, developmental, equitable, and efficient spatial forward planning at the different spheres of Government across different geographic scales;
- provide a framework for the monitoring, coordination and review of the Spatial Planning and Land Use Management System;

- provide for policies, principles, norms and standards for Spatial Development Planning and Land Use Management;
- coordinate different land development processes and reduce duplication of procedures relevant to land development;
- address past spatial and regulatory imbalances;
- promote greater consistency and uniformity in application procedures and decision-making structures for provincial and municipal authorities responsible for land use decisions and development applications and for appeal procedures;
- provide for the establishment, functions and operations of Provincial Planning Tribunals and Municipal Planning tribunals; and
- provide for the control and enforcement of land use and development measures; and to provide for matters connected therewith.

It is thus clear from the above that the Spatial Development Framework forms part of the planning and development of a specific area, specifically focussed to be a guide plan to achieve the desired state of future and existing land uses and the optimisation of its specific role in context with the planned environment it function in.

The Central Karoo District Spatial Development Framework will mainly focus on the following:

- The structure and roles of settlements, transport and regional services infrastructure across and between the local municipalities within the District area;
- Clear definition of linkages and corridors between the settlements;
- Identification of the growth nodes, priority investment areas and areas of rural decay with the District area;
- Indication of areas of protection and conservation known as protected areas, threatened ecosystems, critically biodiversity areas, valuable agricultural land, water catchment areas and resources of the District area;
- Resolution of contradictions with planning visions of the various local municipalities;
- Description of general urban design principles to be applied in all settlements located in the District area.

In closure, the need for preparing the Central Karoo District Development Framework is summarised as follow:

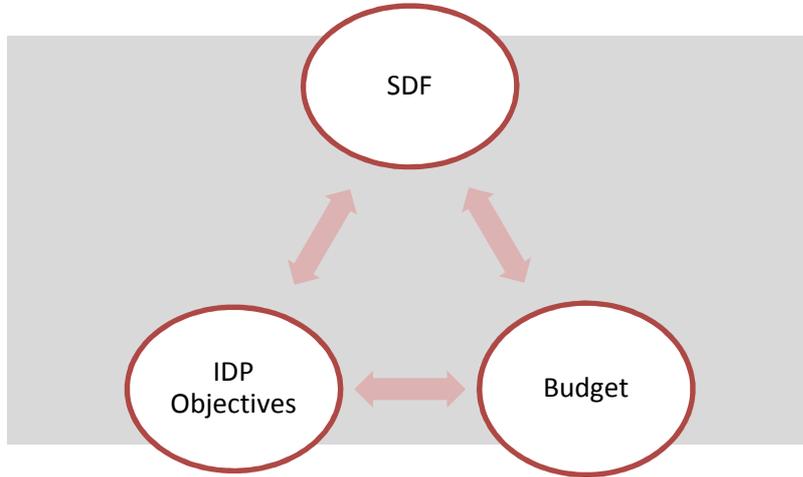
- The legislative requirement as per the Local Government Municipal Systems Act, Act No. 32 of 2000 and its Regulations that all District Authorities shall prepare a Spatial Development Framework;
- The CKDM SDF forms a legally binding component of the Central Karoo Integrated Development Plan (IDP), 2012 and refinement of the spatial framework guidelines as contained in the CKDM IDP;
- The need to formulate and implement spatial planning guidelines and policies;
- The need to implement and maintain sustainability of the natural and built environment.

1.2 Integration with other Plans

The Spatial Development Framework Plan is a spatial representation, or map, of the Integrated Development Plan (IDP)'s objectives which is linked to funded projects through the budget of the District Municipality.

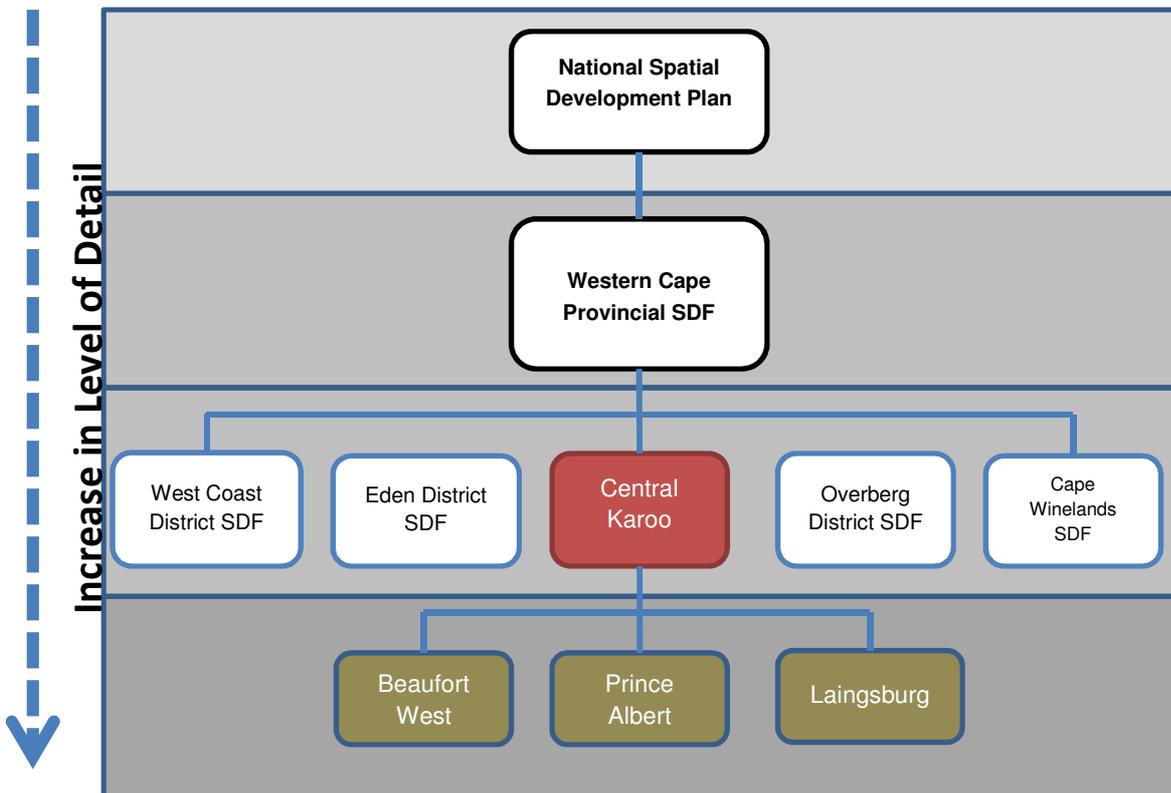
The link between the SDF, IDP and Budget is shown in Figure 1-1 below:

Figure 1-1: Relationship between SDF, IDP and Budget



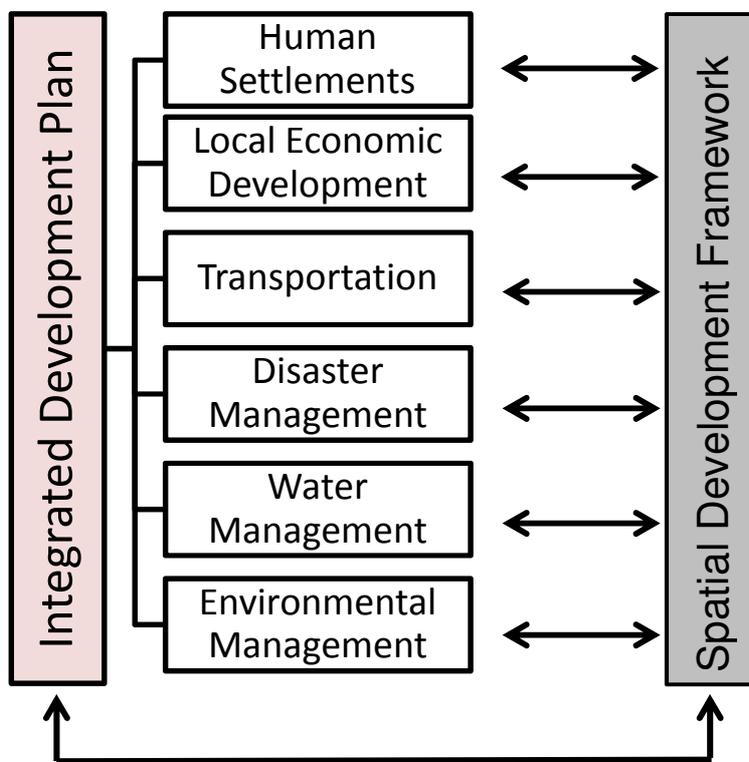
The Central Karoo District SDF is further linked to various spatial policies at different levels of jurisdiction. This includes National Policies such as the National Spatial Development Perspective (NSDP) which provide overarching national objectives, goals and strategies for development. The NSDP further informs the Provincial policies as demonstrated in the following figure.

Figure 1-2: Conceptual Level of Detail in SDF Plans



The SDF should give guidance to all Municipal Departments and consider the impacts of the built environment, such as natural environment, socio- economic issues, infrastructure and services, housing development and any other related aspects. The integration of the sector plans, which form part of the IDP, from the various service departments is a very important that these sector plans inform the SDF and thus inform the plans and objectives as rolled out by the various departments within the respective District Municipality. Figure 3 below shows how this relationship of informants should be implemented.

Figure 1-3: Relationship of SDF with IDP Sector Plans



It should be noted that the various sector plans focus on specific direct needs which in turn is combined and coordinated by the overarching Spatial Development Framework and its implementation within the CKDM area.

1.3 The Central Karoo District Municipal Study Area & its Main Functions

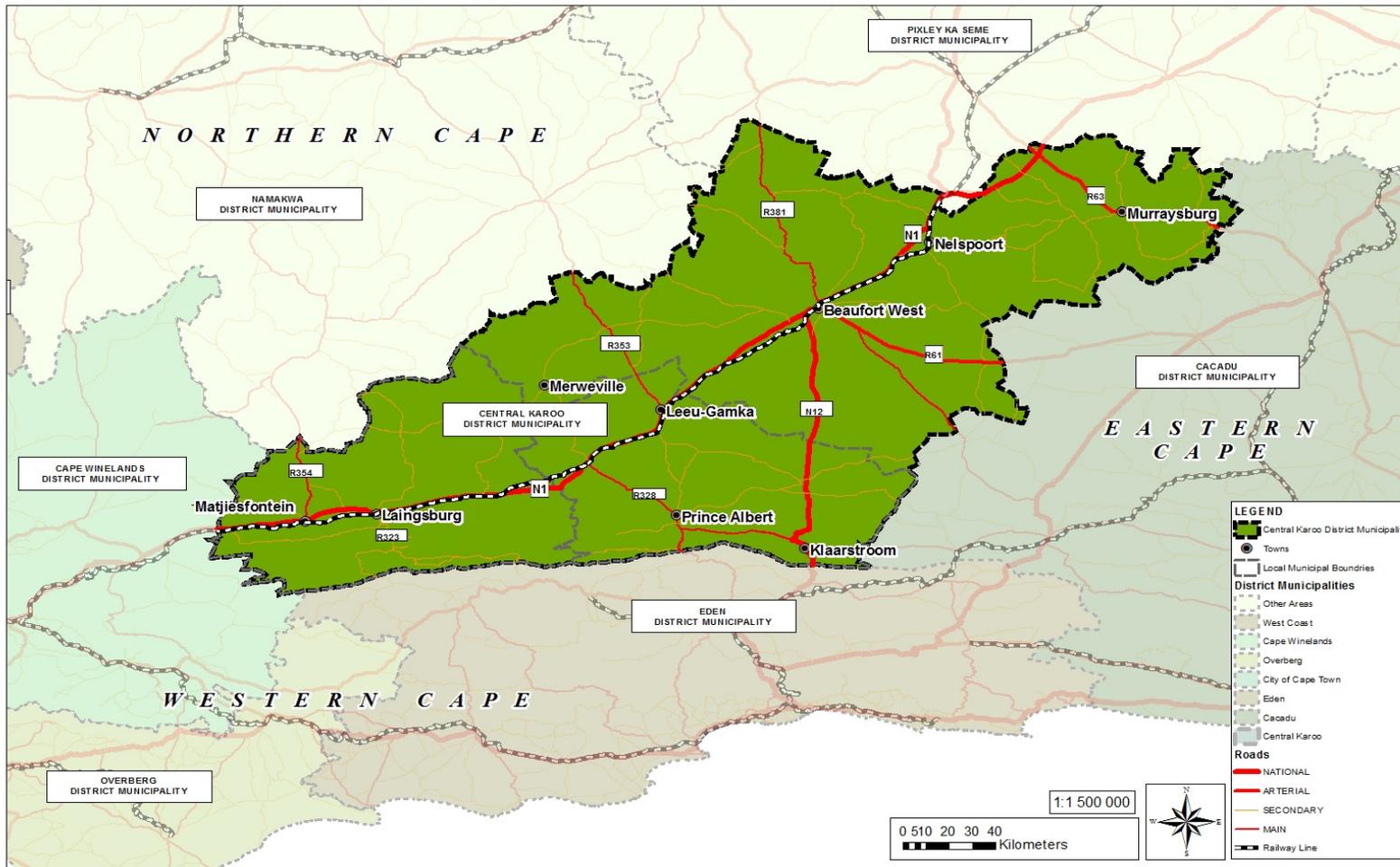
The Central Karoo District Municipality (CKDM) is one of the five Category C District municipalities in the Western Cape Province. The N1 (National road) runs through the District Municipal area, connecting the area to Cape Town (300km south west) and Johannesburg (1200km) towards the north east. Refer to the attached regional locality plan, **Plan 1**.

The CKDM covers a total area of 38 852km², making it the largest district municipality in the province. It includes the Beaufort West, Laingsburg and Prince Albert Municipalities.

The Eden District Municipality, Namakwa Local Municipality, the Cacadu District Municipality as well as the Pixley-ka-Seme District Municipality are all located on the boundaries of the Central Karoo District Municipality..

Main functions of a District Municipality as prescribed in the Constitution include:

- To plan for the development of the District Municipality as a whole.
- Supply of bulk water, sewer and electricity provision for a large portion of the local municipalities within the district.
- Provide for waste disposal sites for the District area.
- Regulate passenger transport services for the District area.
- Municipal Health Services provision for the District area.
- Firefighting Services for the District area.
- Control of cemeteries within the District area.
- Control of the fresh produce markets in the District area (if any).
- Promoting local tourism for the District area.
- Municipal Public Works services for the District area.



Document Path: P:_J02033\J02033\MS-MGMT\SP-LAND\RAW\Final Drawings\September 2013\GIS\PLAN 1 - REGIONAL LOCALITY.mxd

AECOM CENTRAL KAROO DISTRICT MUNICIPALITY: REGIONAL LOCALITY
 Source: Demarcation B, ENPAT

PLAN 1
OCTOBER 2013

1.4 Planning Process

1.4.1 Methodology and Approach

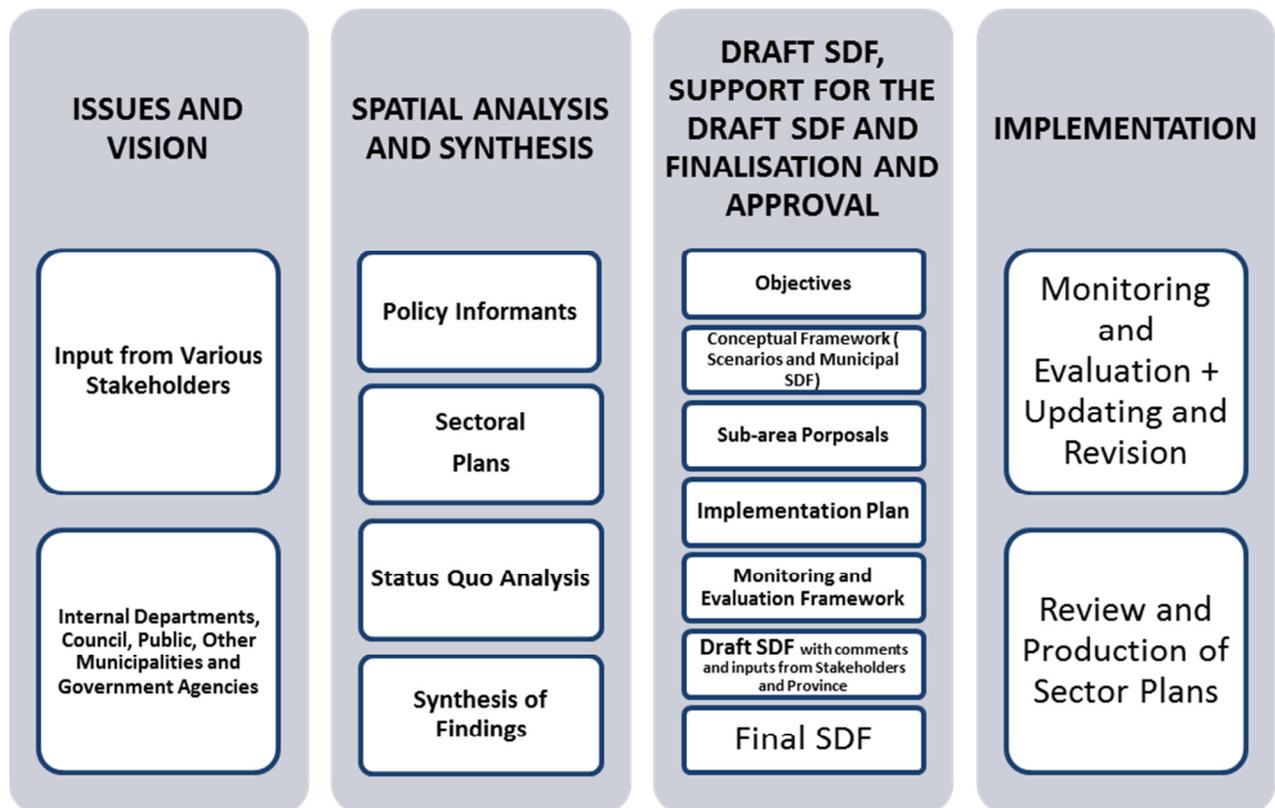
The methodology and approach takes on the needs and requirements of the Client into consideration and is based on the Draft Guidelines for the Formulation of Spatial Development Frameworks August 2011, as issued by the Department of Rural Development and Land Reform, as well as the Western Cape Department of Environmental Affairs and Development Planning Spatial Development Framework Guidelines.

It should be noted that the phased approach includes the relevant phases mentioned as critical milestones in the Terms of Reference, as well as those indicated in the abovementioned Draft Guidelines.

1.4.2 Phased Approach (Planning Process)

The various Phases are illustrated in the figure below.

Figure 1-4: Phases in the Development of the CKDM SDF



1.4.3 Main Stakeholder meetings

The Joint Technical Team and Project Steering Committee have been established to give guidance and technical input to the project. The meetings take place in line with the project programme and SDF phases when and where certain milestones are achieved. The steering committee consists of nominated officials of the Central Karoo District Municipality (the Client) as well as the consultant team.

1.4.4 Public Participation

The Municipal Systems Act, Act No. 32 of 2000 prescribes that a structured public participation process should be followed as part of the IDP process and would therefore also apply to the review of the SDF.

Each of the SDF phases, i.e. analysis, vision and planning principles, land use management guidelines, spatial development strategies and implementation are based on public and stakeholder input with a strong technical basis. The Spatial Development Framework forms part of the Integrated Development Plan as one of its operational strategies. The vision, priorities, objectives and strategies as identified as part of the IDP process will be incorporated into the SDF. The Central Karoo District IDP 2012/2017 has been based on an extensive public and stakeholder input process. The purpose of the Spatial Development Framework is not to regenerate these objectives and strategies. However, the SDF will rather enhance and expand on the spatial aspects thereof.

As part of the preparation of the SDF, two rounds of public participation are included, the first being feedback on the status quo report followed by the second round with the commenting on the draft SDF.

Previous experience has shown that the broader community does not always attend general open house meetings. It was therefore decided to have separate structured meetings, targeting active institutions representing the community, as well open house meetings.

Picture 1: Preparation for 1st Stakeholder workshop in Beaufort West



1.5 **Monitoring and Review**

Monitoring and review of the Spatial Development Framework should be done on an on-going basis. However, the SDF review process can coincide with the IDP review process to include any objectives or development proposals coming forth from the latter. It will be ideal if the SDF could be reviewed at the same time as the IDP process in order to update the framework with any new spatial development that came forth from the IDP review.

2. Legislative and Policy Context

Chapter 2

A number of policies, acts and guidelines need to be considered when drafting a SDF. This section provides a list of legislation which has a direct influence on the drafting of the Central Karoo District Spatial Development Framework and the implications on spatial planning and development within the District.

NATIONAL LEGISLATION

Constitution of the Republic of South Africa, 1996 (Act No. 108 of 1996)

Municipal Systems Act, 2000 (Act 32 of 2000)

Spatial Planning and Land Use Management Bill, 2012 (Bill 14 of 2012)

Development Facilitation Act, 1195 (Act 67 of 1995)

National Environmental Management Act, 1998 (Act 107 of 1998)

National Heritage Resources Act (Act 25 of 1999)

National Spatial Development Perspective (March 2003)

National Environmental Management: Biodiversity Bill (2003)

PROVINCIAL LEGISLATION & POLICY

Western Cape Provincial Spatial Development Framework (November 2009)

Western Cape Planning and Development Act, 1999 (Act 7 of 1999)

Land Use Planning Ordinance (Ordinance 15 of 1985)

Provincial Urban Edge Guideline (DEA&DP, December 2005)

Growth Potential of Towns in the Western Cape (DEA&DP, 2004)

Bioregional Planning Framework for the Western Cape (October 2005)

Provincial Land Transport Framework, Provincial Government Western Cape, Department of Transport & Public Works, April 2011

DISTRICT POLICY

Central Karoo District Local Economic Development (LED), 2009

Central Karoo Integrated Development Plan (IDP), 2012

Central Karoo Environmental Management Framework, 2011

MUNICIPAL POLICY

Laingsburg Spatial Development Framework

Beaufort West Spatial Development Framework

Prince Albert Spatial Development Framework

2.1 National Legislation and Policy

NATIONAL LEGISLATION			
	OBJECTIVES, PRINCIPLES & DIRECTIVENESS	IMPLICATIONS/ALIGNMENT OF THE SDF WITH THIS LEGISLATION	PLAN/DOC REFERENCE
Municipal Systems Act, 2000 (Act 32 of 2000).	<p>The MSA formally introduced IDPs as a form of planning to be adopted by metropolitan, district and local municipalities.</p> <p>The intention is that spatial plans will:</p> <ul style="list-style-type: none"> • spatially integrate sectoral strategies of an IDP; and • include the provision of basic guidelines for a land use management system. <p>It specifies that municipal planning must be aligned with and complement the development plans and strategies of other affected municipalities and other State Organs/Government Departments and alignment being the responsibility of all spheres of Government.</p>	<p>The spatial projects listed in the IDP document will be aligned with the SDF document and spatially addressed & illustrated.</p>	Refer to Plan 20 and Chapter 7.
Spatial Planning and Land Use Management Bill, 2012	<p>The Bill seeks to provide:</p> <ul style="list-style-type: none"> • a framework for spatial planning and land use management in the Republic. • specify the relationship between the spatial planning and the land use management system and other kinds of planning; • for the inclusive, developmental, equitable, and efficient spatial planning at the different spheres of the Government; • a framework for the monitoring, co-ordination and review of the spatial planning and land use management system; to allow for policies, principles, norms and standards for spatial development planning and land use management; • address past spatial and regulatory imbalances; to 	<p>In terms of the Bill, the spatial development frameworks prepared by different spheres of government must be co-ordinated, aligned and be in harmony with each other.</p> <p>The CKDM SDF will clearly indicate the alignment of the SDF with the local municipal SDF's in the area and provide the broader framework for development within the District Area ; and</p> <p>Provide basic guidelines for spatial planning, land development & land use management within the district area.</p>	Refer to Linkages with Local Municipalities, point 6.7.

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	<p>promote greater consistency and uniformity in the application procedures and decision-making by authorities responsible for land use decisions and development applications;</p> <ul style="list-style-type: none"> • provide for the establishment, functions and operations of Municipal Planning Tribunals; to provide for the facilitation and enforcement of land use and development measures; and to provide for matters connected therewith. <p>The Bill advances the following development principles which applies to spatial planning, land use management and land development:</p> <p>Principle of Spatial Justice</p> <ul style="list-style-type: none"> • Improve access to and use of land • Include persons and areas previously excluded (informal settlements, former homelands, areas of poverty, etc.) • Enable redress in access to land by disadvantaged communities and people • Flexible and appropriate land use management systems for disadvantaged areas, informal areas and former homeland areas • Access to secure tenure and incremental upgrading of informal areas • Land value to not affect the decision of a Municipal Planning Tribunal when considering an application. <p>Principle of Spatial Sustainability</p> <ul style="list-style-type: none"> • Promote land development in the Republic • Protect prime and unique agricultural land 		
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NATIONAL LEGISLATION

- Uphold environmental management instruments
- Promote and stimulate land markets
- Consider current and future costs when providing infrastructure and social services
- Limit urban sprawl and promote sustainable land development
- Create viable communities

Principle of Efficiency

- Optimally use existing resources and infrastructure
- Decision-making procedures to minimise negative financial, social, economic and environmental impacts
- Efficient development application procedures to be streamlined and all parties adhere to timeframes

Principle of Spatial Resilience

- Flexible spatial plans, policies and land use management systems to accommodate sustainable livelihoods in communities vulnerable to economic and environmental shocks.

Principle of Good Administration

- Integrated approach to land use and land development across all spheres of government
- All departments to provide their inputs during the preparation of a spatial development framework (SDF)
- Requirements of land development laws to be met timeously
- Transparent public participation processes when

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	<p>preparing or amending spatial plans, policies and land use schemes</p> <ul style="list-style-type: none"> Clearly set policies, legislation and procedures to inform and empower the public 		
Development Facilitation Act (DFA), 1995 (Act 67 OF 1995).	<p>The DFA contains general principles relating to land development and conflict resolution. It serves as a guideline to the administrator for decision making of land use applications.</p> <p>The act highlight the general principle to promote efficient and integrated land development:</p> <ul style="list-style-type: none"> Integrate social, economic, institutional and physical aspects of land development; Integrate land development in rural and urban areas; Promote availability of residential and employment opportunities in close proximity to each other; Promote availability of residential and employment opportunities in close proximity to each other; Discourage the phenomenon of urban sprawl and contribute to development of more compact towns and cities; Contribute to the correction of historically distorted spatial patterns of settlement in Republic; and Encourage environmentally sustainable land development (practices and processes) 	<p>The spatial projects listed in the IDP document to be aligned with the SDF Document and spatially illustrated on the spatial plans.</p> <p>Clearly define linkages in between settlements in the district area, especially in terms of public transportation to improve access to employment opportunities & correct distorted spatial patterns/urban sprawl.</p>	<p>Economic Linkages illustrated on plan 19. The mobility strategy section is included in the document under chapter 3.3.2 discussing accessibility and mobility in the district area.</p>
National Development Plan, 2030	<p>The NDP aims to eliminate poverty and reduce inequality by 2030. According to the plan, South Africa can realise these goals by drawing on the energies of its people, growing an inclusive economy, building capabilities, enhancing the capacity of the state, and promoting leadership and partnerships throughout society.</p> <p>While the achievement of the objectives of the National</p>	<p>In line with the actions of the NDP, the CKDM will aim to:</p> <ul style="list-style-type: none"> Address the constraints on job creation factors in the District area, such as ensuring that more people live closer to their place of work and 	<p>Chapter 6 lists constraints in terms of adequate transport facilities which is seen as a spatial challenge in the district area.</p> <p>Chapter 7 discuss the protection and conservation of biodiversity areas.</p>

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	<p>Development Plan requires progress on a broad front, three priorities stand out:</p> <ul style="list-style-type: none"> Raising employment through faster economic growth Improving the quality of education, skills development and innovation Building the capability of the state to play a developmental, transformative role. 	<p>that public transport facilities are available to work opportunities</p> <ul style="list-style-type: none"> to ensure the conservation and restoration of protected areas, to be in line with the proposed regulatory framework proposed by the NDP. 	
<p>National Environmental Management Act, 1998 (Act 107 of 1998).</p>	<p>Environmental management must place people and their needs at the forefront of its concern, and serve their physical, psychological, developmental, cultural and social interests equitably.</p> <p>Development must be socially, environmentally and economically sustainable, including:</p> <ul style="list-style-type: none"> Avoiding the disturbance of ecosystems or loss of biodiversity (or, where it cannot be avoided, minimised or remedied); Avoiding the disturbance of landscapes and sites that constitute the nation's cultural heritage (or, where it cannot be avoided, minimised or remedied); Responsible use and exploitation of non-renewable resources; Applying a risk-averse and cautious approach; and Anticipating and preventing negative impacts on people's environmental rights. <p>Environmental management must be integrated, acknowledging that all elements of the environment are linked and interrelated and taking into account the effects of decisions on all aspects of the environment and people in the environment by pursuing the selection of the best practical environmental option.</p>	<p>General land use management guidelines for rural areas to be included in the SDF document. The biodiversity plans will highlighting the sensitive land to be protected.</p>	<p>SPC Guidelines, Chapter 6.</p> <p>The Protected areas are illustrated on plan 12.1 and SPC categories illustrated on Plan 20.</p>

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<p>National Heritage Resources Act (Act 25 of 1999).</p>	<p>Provincial Heritage Resources Authorities have been given the task of compiling and maintaining a heritage register. This is a listing of the heritage resource in their province which is considered to be conservation-worthy in terms of the assessment criteria set out in Section 3 (3) of the National Heritage Resources Act (Act 25 of 1999). According to Section 31 (1) of the Act "A planning authority must at the time of compilation of a town or regional planning scheme, or the compilation or revision of a spatial plan, or at the initiative of the provincial heritage authority where in the opinion of the provincial heritage resources authority the need exists, investigate the need for the designation of heritage areas to protect any place of environmental or cultural interest". Those heritage resources, which fulfil the assessment criteria, will then be listed in the heritage register.</p> <p>In order to help local municipalities with heritage issues, Heritage Western Cape was established to give assistance in identifying assets to be added to the heritage register.</p>	<p>Heritage sites should be spatially illustrated with restrictions to provide clear guidelines of acceptable level in these areas.</p>	<p>The heritage sites for each town in the District area is discussed in the local SDF of Prins Albert, Laingsburg and Beaufort-west.</p>
<p>National Spatial Development Perspective (March 2003).</p>	<p>The National Spatial Development Perspective (NSDP) was published by the President's Office in 2003, which suggest inter alia that Provinces determine the potential for economic growth and human need in towns. The Growth Potential of Towns in the Western Cape research study (2004) was undertaken as part of this initiative and is to be discussed in detail in terms of the development potential of each town.</p> <p>The main purpose of the NSDP is to guide the alignment of investment in social and economic infrastructure across department and spheres of Government in order to tackle</p>	<p>Investigate the growth potential of towns within the district area to determine which towns have a low economic growth potential and should only receive human development programs and which towns have a high economic growth potential to receive human development programs and infrastructure investment & identifying growth nodes & priority investment areas on a district level.</p>	<p>The hierarchy and roles of settlements are discussed under point 3.3.1 and illustrated on plan 17.</p>

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	development challenges effectively. It also provides national objectives for spatial development and addresses the changing spatial economy and its impact on commitment to social reconstruction, sustainable growth, social justice and environmental integrity. Lastly, it responds to spatial trends in terms of the impact on infrastructure investment and development spending.		
National Environmental Management: Biodiversity Bill (2003).	<p>The objectives of this legislation, as extracted from the Bill itself, are to provide, within the framework of the National Environmental Management Act, for:</p> <ul style="list-style-type: none"> • The management and conservation of biological diversity within the Republic; • The use of indigenous biological resources in a sustainable manner; • The fair and equitable sharing of benefits arising from the commercialization through bio-prospecting of traditional uses and knowledge of genetic resources; • To give effect to international agreements relating to biodiversity which are binding on the Republic; • To provide for co-operative governance in biodiversity management and conservation; and • To provide for a National Biodiversity Institute to assist in achieving the above objectives. 	<p>The document includes the most updated information on Bioregional Framework Planning, guiding spatial planning in the Western Cape and of specific reference to the Central Karoo District Area.</p> <p>The included Biodiversity plan gives a clear indication of the land category and the permissible land uses for such category in order to protect and manage the sensitive land in the area.</p>	<p>Plans 11 and 15. The biophysical and Environmental included in the document under chapter 3, point 3.1.5.</p>

2.2 Provincial Policy and Legislation

PROVINCIAL POLICY AND LEGISLATION

Western Cape Provincial Spatial Development Framework, WC	The policy provides direction and guidance in terms of spatial development within the province. It further	CKDM should take note of spatial challenges relevant to the Western Cape	The spatial challenges in the district area are discussed
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PROVINCIAL POLICY AND LEGISLATION

PSDF, 2009.

provides proposals for social economic development, urban restructuring and environmental sustainability.

The policy underpins the following objectives:

- Objective 1: Align the future settlement pattern of the province with the location of environmental resources for economic opportunities
- Objective 2: Deliver human development and basic need programs wherever they may be required
- Objective 3: Strategically invest scarce public sector resources where they will generate the highest socio-economic returns
- Objective 4: Support land reform
- Objective 5: Confirm and strengthen the sense of place of important cultural landscapes, artefacts and buildings
- Objective 6: Heal the apartheid structure of urban settlements
- Objective 7: Conveniently locate urban activities and promote public and non-motorised transport
- Objective 8: Protect biodiversity and agricultural resources
- Objective 9: Minimize the consumption of scarce environmental resources particularly water, fuel, burning materials, mineral resources, electricity and land.

The WCPSDF composite map indicates the broad spatial planning categories derived from the approach to bioregional planning. The five broad spatial categories provide policies for development and activities in the:

- Core areas;
- Buffer areas;
- Intensive agriculture areas;

Provincial Government and engage in strategies that compliment, not counteract, efforts to eliminate them.

Highlight the growth potential of towns (with a high social need) that should be focussed on (e.g Matjiesfontein, Murraysburg have very high social needs).

The river corridors, conservancies, natural protected areas as illustrated on plan 11 should be promoted as core areas.

The District SDF should indicate areas of protection & highlight relevant conservation guidelines.

under point 6.1.1.

The conservation guidelines, in line with the PSDF guidelines are discussed under chapter 6.2.

PROVINCIAL POLICY AND LEGISLATION

	<ul style="list-style-type: none"> Urban development; and, The Urban Edge. 		
Western Cape Planning and Development Act, 1999 (Act 7 of 1999).	<p>Indicate where public and private land development and infrastructure investment should take place.</p> <p>Indicate the desired or undesired utilisation of land.</p> <p>Delineate the urban edge.</p> <p>Identify areas where strategic intervention is required.</p> <p>Identify areas where priority spending is required.</p>	<p>The Urban Edge Delineation for each town is illustrated on the spatial proposals plans of each town (refer to municipal linkages section of the document).</p> <p>The spatial proposals indicate the desired utilisation of the available land in each area.</p>	Refer to plan 19 and Chapter 6, point 6.7.
rowth Potential of Towns in the Western Cape (DEA&DP, 2004).	<p>This study is part of the National Spatial Development Perspective and provides for the following:</p> <ul style="list-style-type: none"> The leading growth criteria and indicators for urban development; The growth performance of rural towns in the Western Cape; Evaluation of towns in terms of their development potential and human needs; Comprehending the observed growth dynamic, economic base and place of identity of towns; and Investment opportunities available for each town. <p>Each town within the CKDM area are evaluated and classified in terms of its Development Potential (DP) and the current Human Needs (HN) of the community.</p>	<p>The focus should be on developing the towns with high development potential (Prins Albert and Leeu Gamka) while addressing the social needs in areas where it is most critical.</p> <p>CKDM towns identified with low development potential require various types of investment structures/types i.e. infrastructural Investment, Social (people) investment. This investment structures can be addressed through LED.</p>	Refer to Chapter 6 and plans 17 & 19.
iKapa Elihlumayo: Towards a Provincial Growth & Development Strategy.	<p>Ikapa Elihlumayo comprises of a system of strategies enabling the formation of a framework to the assist the sustainable growth and development of the Western Cape.</p> <p>The goal of these programs is to:</p> <ul style="list-style-type: none"> Increase economic growth, employment and economic participation; Reduce geographic and socio-economic inequality; 	<p>The aim of this program is to increase economic growth, employment and economic participation. The document lists the LED objectives and strategies and will include broad spatial proposals for industrial and business uses to ensure economic growth and local economic development.</p>	<p>Spatial proposals plan for each town (Plan 20).</p> <p>It is necessary for the CKDM to work in conjunction with the Western Cape Provincial government to vertically align goals of local IDP's (and subsequently LED</p>

PROVINCIAL POLICY AND LEGISLATION

	<p>and</p> <ul style="list-style-type: none"> • Provide a sustainable social safety net. 		<p>frameworks) with the iKapa Elihlumayo. This creates ample opportunity and scope for integrand intra-governmental integration, co-ordination and cooperation between spheres to focus resources on agreed upon priority areas (PSC meetings).</p>
<p>Breaking New Ground Housing Plan, 2005.</p>	<p>This is a National Plan for the delivery of homes and the development of human settlements. The main objective is to ensure integrated and sustainable human settlements by redressing the legacy of racial and social divisions, combating urban sprawl, ensuring accessibility/centrality for the poor and creating empowered and vibrant communities through social capital formation.</p> <p>Key aspects of the Plan include:</p> <ul style="list-style-type: none"> • The integration and buildings of secure communities; • A three tier categorizing of housing beneficiaries; and • Redefining the role of Government in the housing market. 	<p>Each town identifies land for future expansion ensuring the delivery of homes and development of human settlement. The integration of communities to be addressed per town with the aim to integrate the existing towns within the CKDM area.</p>	<p>Spatial proposals plan, plan 20.</p>
<p>Bioregional Planning Framework for the Western Cape (October 2005).</p>	<p>The Bioregional Planning Framework aims to:</p> <ul style="list-style-type: none"> • Provide a framework to enable planners in the Western Cape to reach consensus with respect to the management of resources in a sustainable manner; • Support Category B and C municipalities in the preparation of development plans and sectoral plans as described in Act 7 of 1999 and to promote 	<p>In terms of the policy the aim for CKDM would be to evaluation of site specific applications in order to maintain:</p> <ul style="list-style-type: none"> • an sustainable environment, both natural and cultural; • Unfolding settlements in a manner to continuously promote a high quality environment to enhance both the quality 	<p>Plans 11 & 19.</p>

PROVINCIAL POLICY AND LEGISLATION

	<p>cross border co-ordination in respect of bioregional planning and management;</p> <ul style="list-style-type: none"> • Serve as a framework for the demarcation of bioregions, in accordance with bioregional planning principles, within the Western Cape; and • Provide guidelines for land-use classification of the total land area included in Western Cape Province according to Spatial Planning Categories (SPCs), based on a broad spectrum of environmental parameters. 	<p>of life for each town and its community as well as tourists to the area</p>	
<p>Provincial Land Transport Framework, Provincial Government Western Cape, Department of Transport & Public Works, April 2011</p>	<p>The National Land Transport Act (Act 5 of 2009) requires that the Provincial Land Transport Framework (PLTF) be updated every two years</p> <p>The long term vision of the PLTF envisaged that by 2050, the transport system of the Western Cape will be developed along and defined by the following pillars, which will guide the future development of the transport system:</p> <ul style="list-style-type: none"> • Sustainability; • Equity; • Access to opportunity in an economically efficient manner; and • Safety. <p>By 2050, the Transport System in the Western Cape will be defined by the following elements:</p> <ul style="list-style-type: none"> • Fully Integrated Rapid Public Transport Networks (IRPTN) in the higher-order urban regions of the Province. 	<p>The low population density, high poverty and very low economic opportunities in this district make public transport not to be economically viable. Beaufort West being the main economic hub for the district is the only area with regular public transport services.</p> <p>There are no commuter rail services in the Central Karoo</p>	<p>Refer to Chapter 3, point 3.3.2 and plan 18.</p>

PROVINCIAL POLICY AND LEGISLATION

	<ul style="list-style-type: none"> • Fully Integrated Public Transport Networks (IPTN) in the rural regions of the Province • A Safe Public Transport System • A Well Maintained Road Network • A Sustainable, Efficient High Speed Rail Long Distance Public and Freight Transport Network • An efficient International Airport that links the rest of the World to the choice gateway of the African Continent • International-standard Ports and Logistics Systems • A Transport System that is resilient to peak oil 		
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2.3 District Policy

DISTRICT POLICY

<p>Guidelines for Assessing Land Use Management Applications In Rural Areas (2006 Draft).</p>	<p>The focus of the document is on assessing and guiding development applications so as to protect and enhance the landscape character. Thus, the document is concerned with the tools available to municipalities to achieve this. These include forward planning tools, such as the IDP and particularly the SDF and land use management tools such as Zoning Schemes and Council Policies.</p>	<p>Land Use Management Guidelines for Rural Areas includes:</p> <ul style="list-style-type: none"> • Guidelines for management of Land Use Change • Management of holiday accommodation • Management of Rural Resorts, Golf Course, Polo fields and Polo estates • On-farm settlements of farm workers • Tourist & Recreational facilities 	<p>Refer to chapter 5.</p>
<p>Central Karoo Integrated</p>	<p>The key action areas identified by the ISRDP are as</p>	<p>The CKDM should ensure that internal</p>	<p>Refer to Chapter 7.</p>

DISTRICT POLICY			
<p>Sustainable Rural Development Strategy, 2003</p>	<p>follows:</p> <ul style="list-style-type: none"> • Strengthen & focus existing rural development programmes, • Re-align national & provincial budget through IDP's • Match economic potential & social needs in the basket of services • Build local institutional capacity • Mobilise communities to influence process & outcomes; and • Mobilise stakeholders & strategy partners 	<p>capacity be attained to transform the node into an economically viable, socially stable and harmonious functioning entity. Continuously include communities and stakeholders into project inputs to ensure satisfactory outcome in line with community needs.</p>	
<p>Central Karoo Growth and Development Strategy</p>	<p>The Central Karoo GDS is the overarching development strategy for the CK aimed at promoting and revealing sustainable economic growth and development potential. The GDS is the long term mechanism promoting development and initiating growth potential within the CK.</p> <p>Growth and development targets for the CK include:</p> <ul style="list-style-type: none"> • Economic growth targets • Social development targets • Spatial development targets • Strategic Infrastructure development targets • Targets for sustainable development of municipal Institution <p>The Strategy further proposed the following for the District area:</p> <ul style="list-style-type: none"> • Wind power generation project; • Cold storage facility project; • Water demand management strategy; • Economic development agency; • GAP housing development project; • Uranium mine; • Desert knowledge, research and development hub; 	<p>The Growth and Development strategy offers guidance to the CKDM with regard to developmental issues in the region. Central Karoo is faced with various unique and limiting regional challenges. These challenges have to be addressed in a proactive manner to ensure that they do not restrict growth and development in the Central Karoo.</p>	<p>Refer to strategic challenges listed under chapters 5-7 and Plan 20.</p>

DISTRICT POLICY			
	and,		
	<ul style="list-style-type: none"> • Tourism expansion project. 		

2.4 Local Municipality Policy

LOCAL MUNICIPALITY POLICY			
Central Karoo IDP	<p>The IDP has the following vision for the district is: Working Together In Development and Growth.</p> <p>The above vision is supported by the following mission: Ensuring future growth to improve the quality of life in the region with the desire to:</p> <ul style="list-style-type: none"> • be financial sustainable • maintain the rural character • create healthy communities by facilitating economic growth • improving infrastructure and the green energy opportunities • providing and supporting alternative modes of delivery (shared services), • improve marketing, branding and communication with all stakeholders, • provide excellent disaster and risk management services • maintaining housing choices for a range of income levels. <p>The IDP lists the following objectives:</p> <ul style="list-style-type: none"> • To improve and maintain our roads and promote 	<p>The spatial projects highlighted in the IDP document should be incorporated and addressed in the District SDF</p>	<p>Spatial Projects and Proposals, Chapter 7 and plan 20.</p>

LOCAL MUNICIPALITY POLICY

	<p>effective and save transport for all</p> <ul style="list-style-type: none"> • To deliver sound administrative and financial services, to ensure good governance and viability • To effectively plan to minimise the impact of disasters on the community, visitors, infrastructure and environment • To promote a safe, healthy environment and social viability of residents through the delivery of a responsible environmental health service. • To establish an inclusive tourism industry through sustainable development and marketing which is public sector led, private sector driven and community based. • To ensure a united integrated development path in a safe and sustainable environment. • To pursue economic growth opportunities that will create descent work. • To facilitate effective stakeholder participation. 		
<p>Laingsburg/Matjiesfontein SDF</p>	<p>The Laingsburg/Matjiesfontein SDF was compiled in 2011. The SDF highlights the following spatial strategies:</p> <ul style="list-style-type: none"> • Urban, rural linkages between urban and rural • Walking distances • Functional integration • Socio-economic integration • Protect sensitive elements(such as rivers and wetlands) • Ensure basic services to all residents • Appropriate densification • Land use management (Spatial Planning Categories and Zoning Schemes) 	<p>Address linkages between towns especially linkages between urban and rural areas/towns. Ensure socio-economic integration of towns in the district area. Clearly define linkages and corridors between settlements.</p>	<p>Municipal linkages added under chapter 6.</p>

LOCAL MUNICIPALITY POLICY

Beaufort West SDF	The relevant Beaufort-West SDF document was compiled in 2008. The credible SDF document for the town is underway and liaison will be undertaken between the two appointed consultants 9CNDV and AECOM) to ensure that the latest projects and information in for the area be contained in the district SDF.	To be aligned with the SKDM SDF document/proposals	Municipal linkages added under chapter 6.
Prince Albert SDF	The relevant Prince Albert SDF document was compiled in 2008. The credible SDF document for the town is underway and liaison will be undertaken between the two appointed consultants CNDV and AECOM) to ensure that the latest projects and information in for the area be contained in the district SDF.	To be aligned with the CKDM SDF document/proposals	Municipal linkages added under chapter 6.

2.5 Adjacent District Policy

ADJACENT DISTRICT POLICY

Namakwa District Spatial Development Framework (2012)	The northern boundary of the Western Cape abuts the Namakwa District Municipality. The WC PSDF identified Core Areas (2: Ecological Corridors) and Transport Corridors that link the Namakwa District and the Western Cape Province.	The Karoo Hoogland Spatial Development Framework highlights the following that should be taken into account: <ul style="list-style-type: none"> • Calvinia – Williston – Carnarvon and Sutherland Matjiesfontein N1 routes are identified as transport corridors. 	Economic and Transport Linkages highlighted on plan 19.
Cape Winelands District Municipality, SDF	The Cape Winelands SDF provides high order spatial planning policy for the District. Broad spatial planning categories are defined as well as 3 bioregional clusters (A, B & C). The C cluster adjacent to CKDM is under consideration for renewable energy initiatives and the implementation of rural development programmes	Breede Valley Municipality proposes starter land reform projects such as olive farming in the Touwsriver area adjacent to CKDM. LED initiatives that pulls economic activity from the N1 corridor is proposed.	Economic and Transport Linkages highlighted on plan 19.
Eden District Municipality SDF,	Eden District is in the Western Cape and located on the	Spatial Proposals for the CKDM to be	Economic and Transport

ADJACENT DISTRICT POLICY

2009	<p>southern boundary of Central Karoo District Municipality.</p> <p>The Eden District Municipal Integrated Development Plan 2007 – 2011 establishes the following objectives for the Eden District Municipality.</p> <ul style="list-style-type: none"> • Conservation of natural resources and assets • Sustainable resource management • Promotion of sustainable agricultural practices • Good rural and urban design and land use practices • Supporting and developing projects to enable people-centred development <p>The following main issues and trend are highlighted in the SDF document:</p> <ul style="list-style-type: none"> • Recurring natural disasters • Pressure for the development of agricultural and forestry landscapes • Development pressure in agricultural and urban areas • Competition between local municipalities for investment • Inappropriate “rural” development • Poor access of rural communities to services and facilities • Competition between maintenance and new infrastructure costs • Poor secondary network of routes • Uncertainty with regards to the timing and alignment of the proposed N2 • Uncertainty with regards to the future use of the railway lines 	<p>aligned with spatial proposals within the Eden District area, especially with regard to transportation and main transport corridors linking the district areas.</p>	<p>Linkages highlighted on plan 19.</p>
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ADJACENT DISTRICT POLICY

	<ul style="list-style-type: none"> • Insufficient access to the Eden District (airport and harbour) • Need for more job creation in the primary economic sectors 		
Cacadu District Municipality, 2009	<p>The CDM faces the situation where the demands and expectations of its community and stakeholders far outweigh its resources and therefore the CDM has to adopt a planning philosophy that seeks to identify how to appropriately allocate scarce resources, which by implication dictates that :</p> <ul style="list-style-type: none"> • The most important need is for local government to supply basic services to its entire community. • Resources should next be allocated where they will be the most effective and the most beneficial as viewed from a District wide perspective. 	Spatial Proposals for the CKDM to be aligned with spatial proposals within the Eden District area, especially with regard to transportation and main transport corridors linking the district areas.	Economic and Transport Linkages highlighted on plan 19.
Pixley ka Seme District Municipality, 2009	<p>The Pixley Ka Seme District borders the Central Karoo District to the north- east.</p> <p>The following key regional spatial issues were identified as the basis to be address by the spatial development framework.</p> <ul style="list-style-type: none"> • Access to land • Land development • Spatial integration • Sustainable land management • Proper distribution network • Land reform and restitution • Land conservation • Water resource challenges <p>The following development challenges were identified by</p>	Spatial Proposals for the CKDM to be aligned with spatial proposals within the Pixley ka Seme District area.	Economic and Transport Linkages highlighted on plan 19.

ADJACENT DISTRICT POLICY

	<p>the SDF:</p> <ul style="list-style-type: none"> • Lack of diversification of the district economy; • Lack of investment in the region; • Lack of employment opportunities; • Rising level of poverty; • Geographically imbalanced settlement structure; • Lack of skills; • Lack of entrepreneurship; • Small number of SMME's active in the region; • Underutilization of the regions natural resources and economic opportunities; and • Lack of water for irrigation. • Development corridors have been identified along the: <ul style="list-style-type: none"> • N1 • N10 • N8 • N12 • Orange River (irrigation) 		
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3. Situational Analysis

Chapter 3

This section provides a description and overview of the key aspects and characteristics of the Central Karoo District Municipality. This includes the historical, ecological, biophysical and socio-economic characteristics, which collectively shape the cultural and natural landscapes of the CKDM area and represents its intrinsic, systemic and instrumental values.

3.1 Bio-Physical Environment

3.1.1 Climate

Rainfall

The semi desert conditions which prevail within the Central Karoo are a result of the harsh arid climate¹. The average annual rainfall for the district is 260 mm per annum. The highest rainfall occurs to the south with the Groot Swartberg mountain range receiving 500 – 700 mm pa². Approximately 75% of the remaining region received less than 200 mm. The majority of the rain falls during the summer months of November to May; however it is not uncommon for rain to fall throughout the year, particularly the far western portion of the District which experiences almost exclusively winter rainfall (Refer to **Plan 2**).

Temperature

The mean annual temperature of the district ranges between 0°C in winter (June and July) and 37°C in summer (January). Heat wave conditions are common during summer inducing temperatures in excess of 40°C. Frost is common throughout the entire district with severe frost occurring at the higher altitudes. (Refer to **Plans 3.1 & 3.2**)

Wind

The predominant wind direction for the District is from the East. The three other common wind directions are West, West-North-Westerly and South-South-West. Easterly winds are of a lower velocity whilst westerly winds tend be of increased velocity.

Climate Change

Climate change is expected to produce higher temperatures with lower rainfall³. Wind velocities are also expected to increase⁴. These conditions will result in a reduction in Karoo vegetation with a potential increase in fires. Additionally, agriculture is expected to be negatively impacted with a decline in productivity and yield, resulting in a potential economic downturn in the region.

The National Climate Change Resource Strategy (2004)⁵ identified that desertification would pose a significant threat to the following sectors:

- Agriculture;
- Energy;

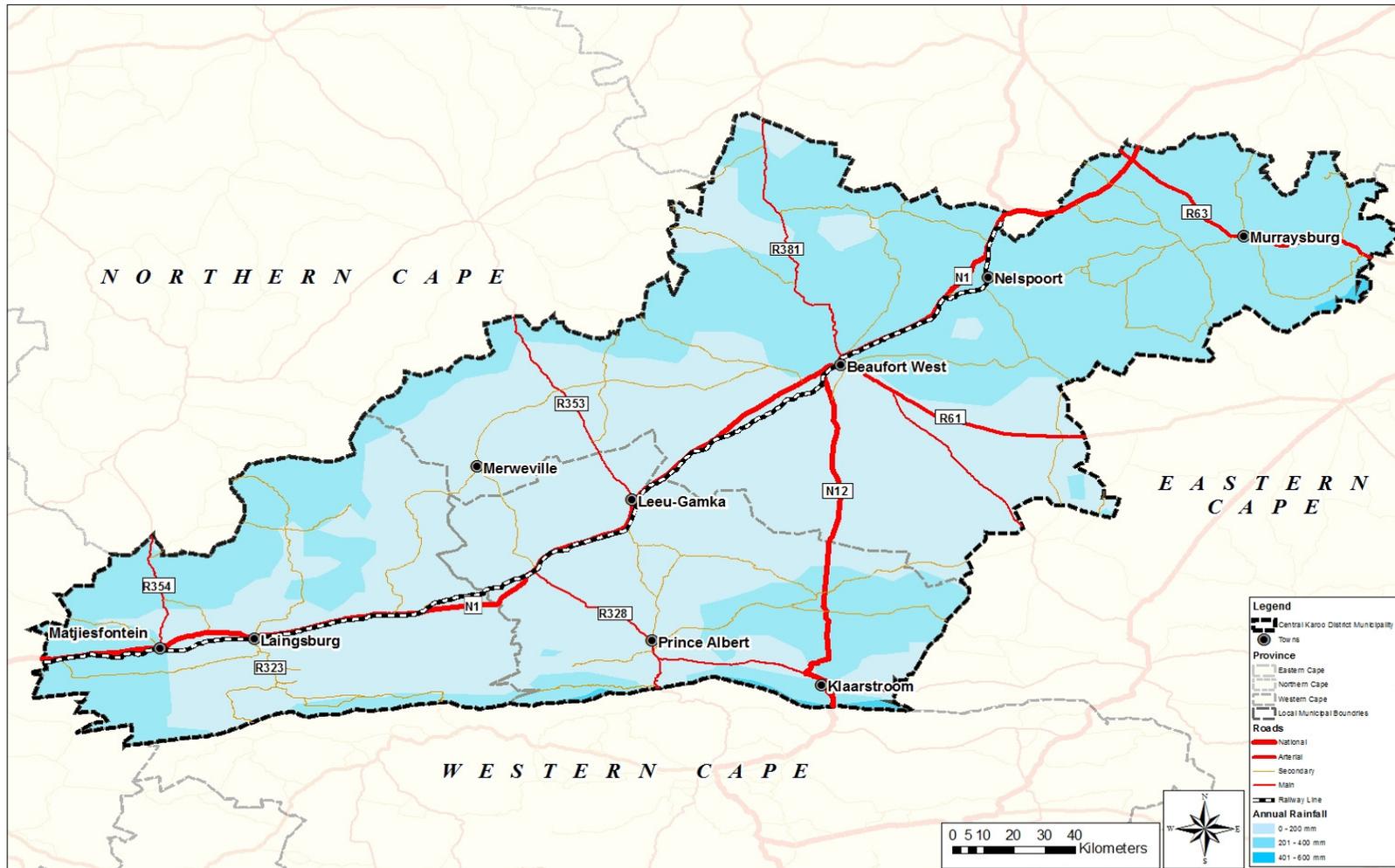
¹ *Agricultural Geo-Referenced Information System.*

² <http://worldwildlife.org/ecoregions/at1203>

³ *CKDM IDP 2012-2017*

⁴ *BWM: Comprehensive Infrastructure Plan – Bulk Water and Sanitation.*

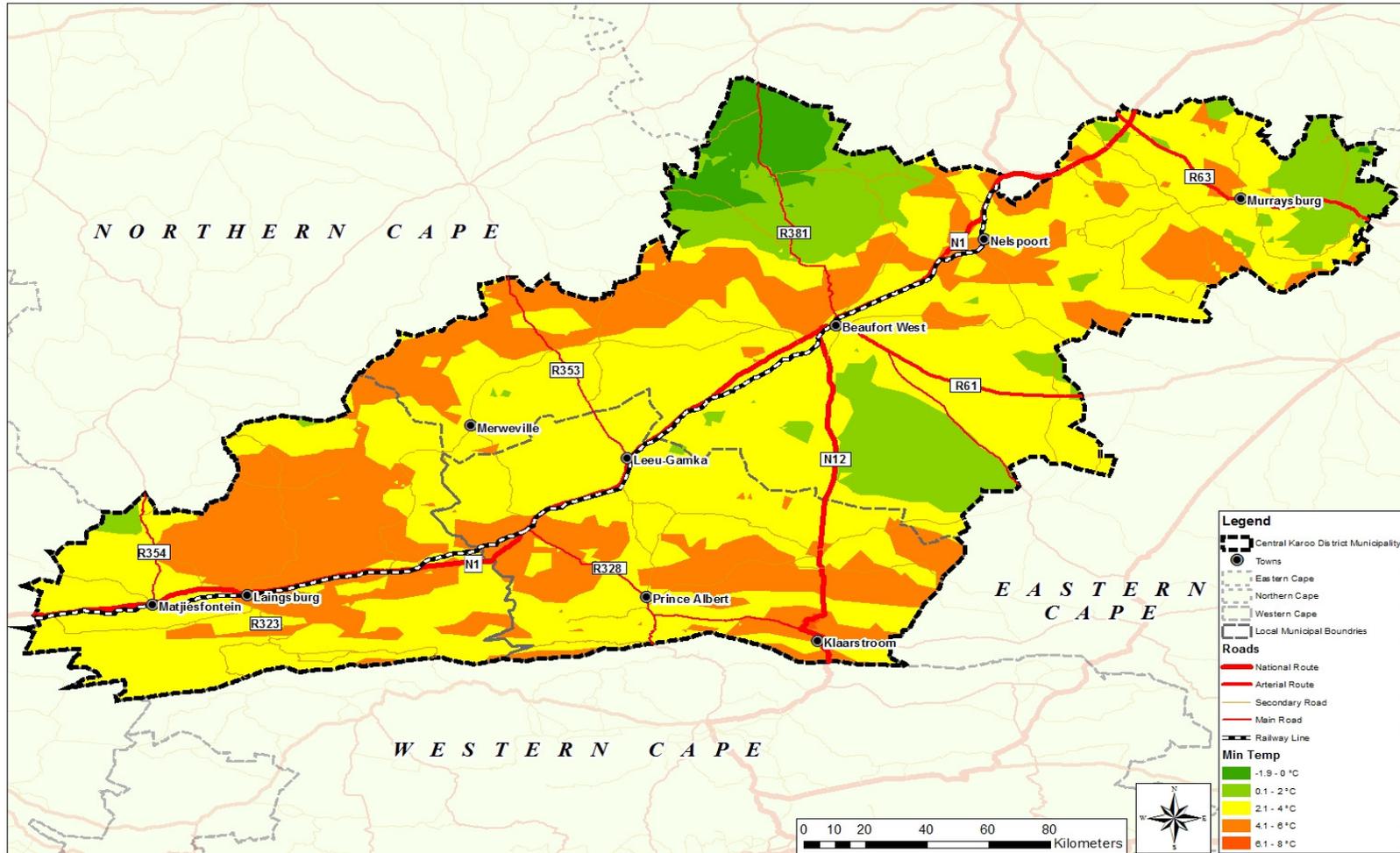
⁵ *CKDM Last Review for 2007-2011: IDP 2010-2011*



CENTRAL KAROO DISTRICT MUNICIPALITY - ANNUAL RAINFALL
 Source : Demarcation B, ENPAT

**PLAN 2
 OCTOBER 2013**

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CENTRAL KAROO DISTRICT MUNICIPALITY - ANNUAL MINIMUM TEMP
Source : Demarcation B, ENPAT

**PLAN 3.1
OCTOBER 2013**

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- Transport; and
- Water resources.

The Climate Change Strategy predicts that the Western Region of Southern Africa would become significantly hotter and drier. It is projected that within the next 50 to 100 years, only the hardiest flora would be able to survive in the increasingly arid climate.

3.1.2 Topography and Slopes

The majority of the district consists of gently undulating plains, however, several mountain ranges provide for a dramatic contrast as illustrated on **Plan 4** and **Plan 5** in the following pages. The Swartberg mountain range in the south of the district provides a natural barrier between the interior and the southern Cape coast. This range, one of the longest in South Africa, spans some 230 km from Laingsburg in the west to Willowmore and Uniondale in the east. The highest peak within the range is the Seweweekspoort at 2,325 m above mean annual sea level (amasl). This range of mountains comprises predominantly of the Table Mountain group, boasting many impressive sand stone strata and rock formations. This mountain range was once considered almost impenetrable, but between 1881 and 1888, the Swartberg pass was built by Thomas Bain. Subsequently two other passes have been constructed, namely the Meiringspoort and Seweweekspoort.

The Nuweveld Mountain range to the north of Beaufort West ranges between 825-1,911 m. Toorberg to the south of Murraysburg forms part of the Sneeuberg range which is the divide between the Central Karoo and the Eastern Cape. The peak is 2,400 metres amasl. Toorberg is known for its many watercourses, fed from annual winter snowfalls.

3.1.3 Geology and Soils

The district's geology comprises of Beaufort, Bokkeveld, Dwyka, Ecca, Table Mountain and Witteberg Groups, resulting in shallow sandy soils of low fertility. Higher lying areas usually comprise of hard or weathering rock. Alluvial soils are found predominantly in the valley bottoms. (**Refer to Plans 6, 7.1 and 7.2**).

3.1.4 Water Resources

Four water catchment areas (illustrated in **Plan 8**), namely Berg River, Fish River to Tsitsikamma, Gouritz and Lower Orange Water Management Areas⁶, exist within the district. Riparian ecosystems within the district, due to their proximity to water, have largely been transformed for agricultural related activities. Based on the National Protected Areas Expansion Strategy (NPAES) freshwater priorities⁷, the district has 6399 km of major river reach, of which 1748 km can be considered critically endangered (27%) and 201 km (3%) endangered. Of the 249 sensitive wetlands identified, 107 comprise vlel type wetlands, 85 pans and 55 dam wetlands⁸

As a result of the arid climate and the soils inability to hold water, the only notable dams within the district are:

- Floriskraal Dam situated near Laingsburg and serving the needs of the Little Karoo;
- Gamkapoort Dam situated near Prince Albert and serving local agricultural needs;
- Leeu-Gamka Dam situated between Beaufort West and Laingsburg and serving local agricultural needs; and
- Oukloof Dam situated near Prince Albert and serving local agricultural needs.

The Central Karoo is known for its erratic rainfall and also for its adversely hot and dry climate. Most of its rainfall occurs in the summer during the months of February to April. The dry climate and erratic rainfall leads to surface run-off in the

6 Western Cape Integrated Water Resources Management Action Plan. 2011.

7 National Protected Areas Expansion Strategy for South Africa 2008. Priorities for expanding the protected area network for ecological sustainability and climate change adaptation

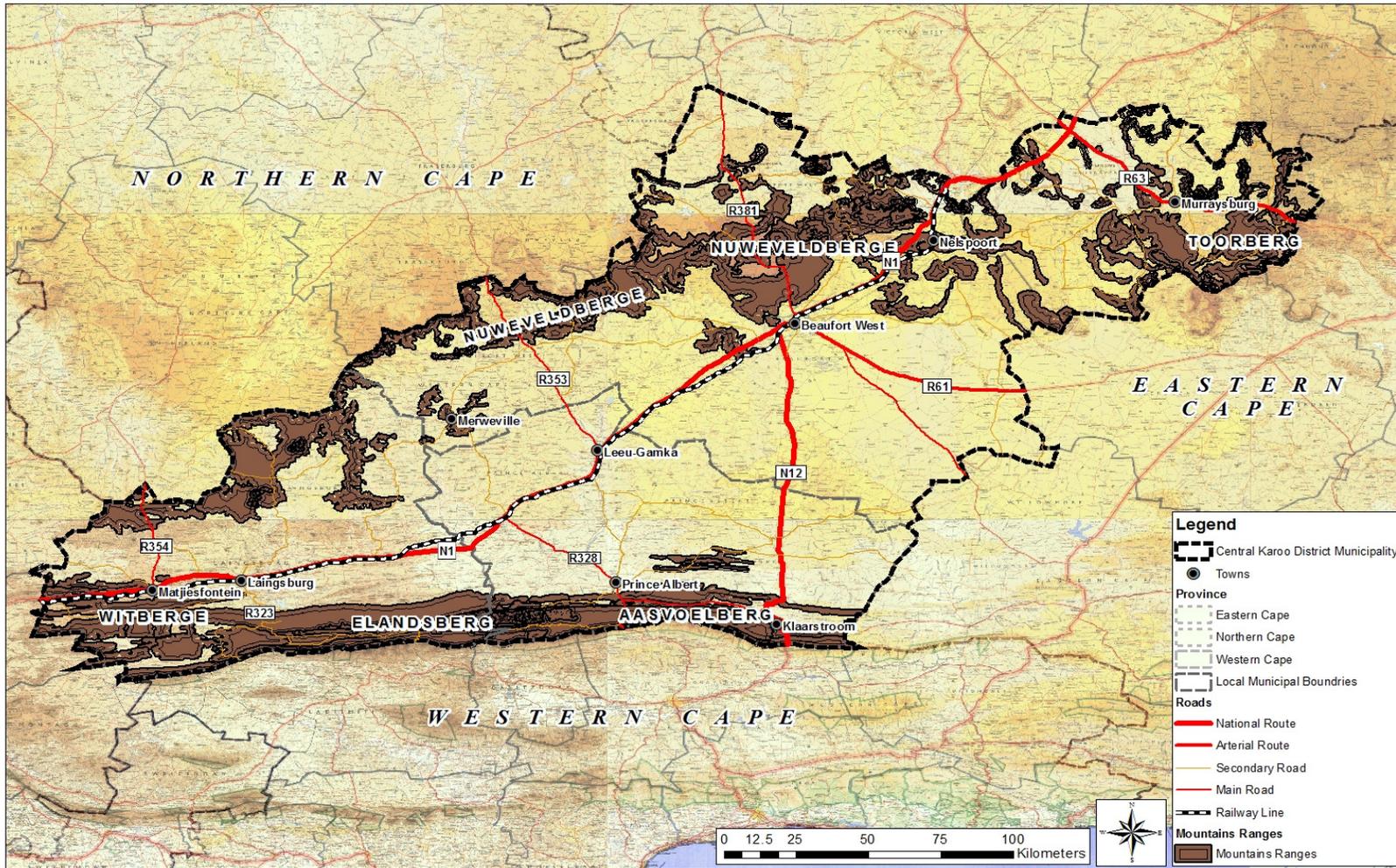
8 Central Karoo Biodiversity Assessment – Final Report 27th August 2009

form of flash floods which fill up the usually empty dams. Due to the scarce precipitation and subsequent surface run-off ground water sources is the primarily use for the supply of potable water. Refer to **Error! Reference source not found.** for the mean annual precipitation (MAP).

Table 3-1: Mean Annual Precipitation

MEAN ANNUAL PRECIPITATION (MAP)		
	MIN (mm/a)	MAX (mm/a)
Beaufort West Municipality	141	215
Prince Alfred Municipality	107	169
Laingsburg Municipality	121	165
Murraysburg	-	289

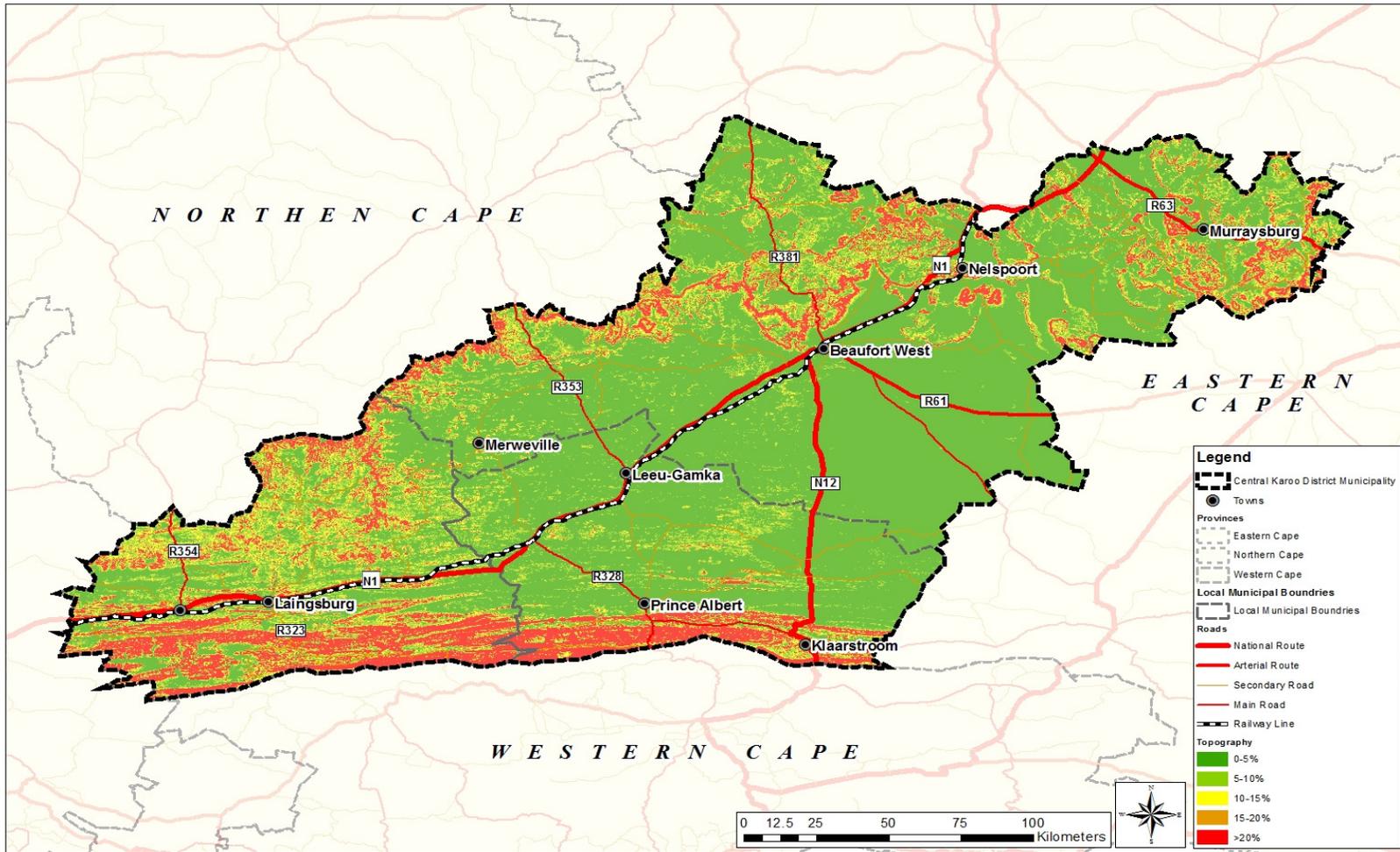
Below find a summary of the current water requirement and supply for the local municipalities within the Central Karoo District Municipality as indicated the Development of Reconciliation Strategies for all *Towns in the Southern Planning Region, Summary Report, Central Karoo District Municipality – Final (October 2011)*.



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AECOM **CENTRAL KAROO DISTRICT MUNICIPALITY - MOUNTAIN RANGES**
 Source : Department of Agriculture

PLAN 4
OCTOBER 2013



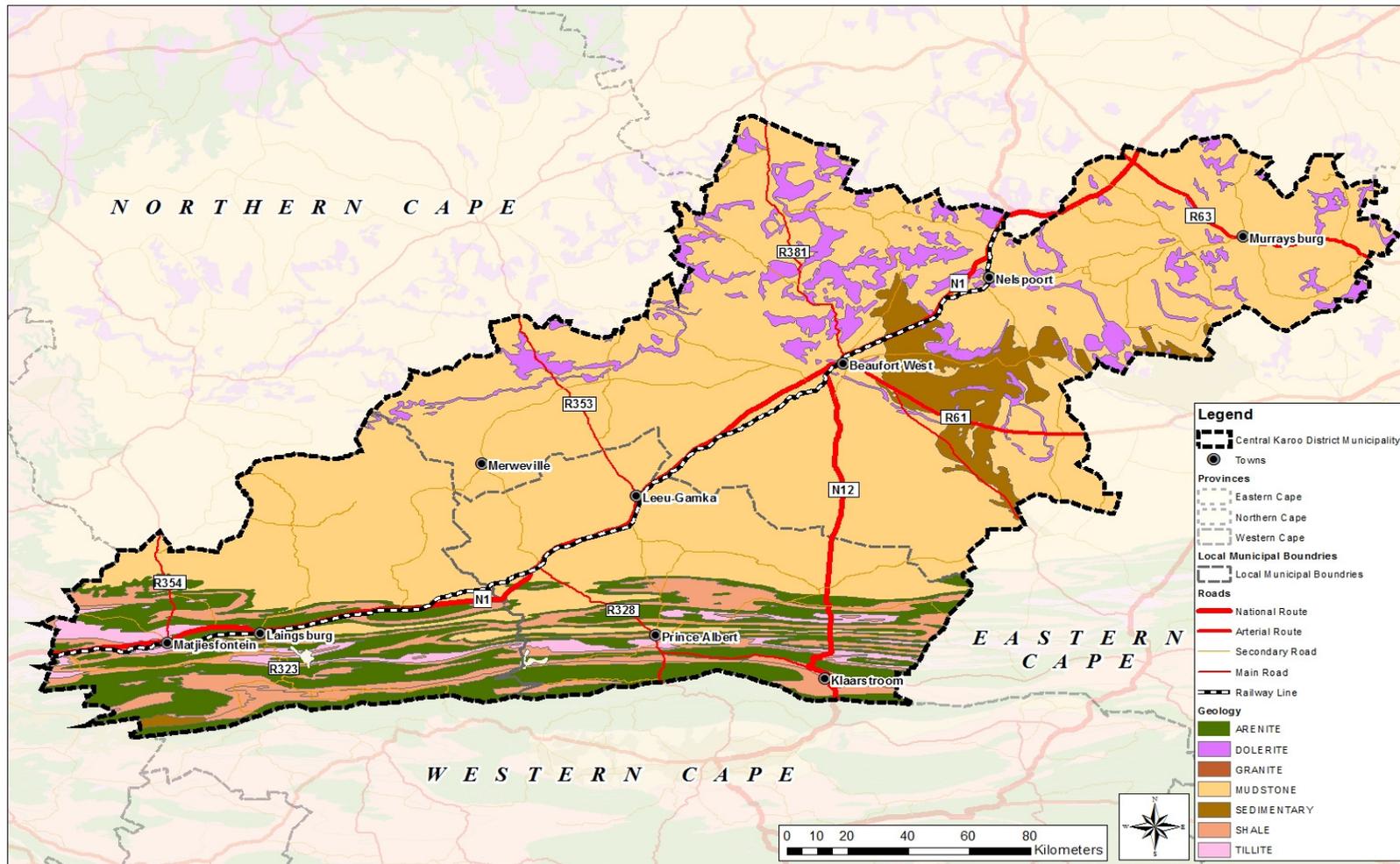
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CENTRAL KAROO DISTRICT MUNICIPALITY - TOPOGRAPHY

Source : CMC

**PLAN 5
OCTOBER 2013**



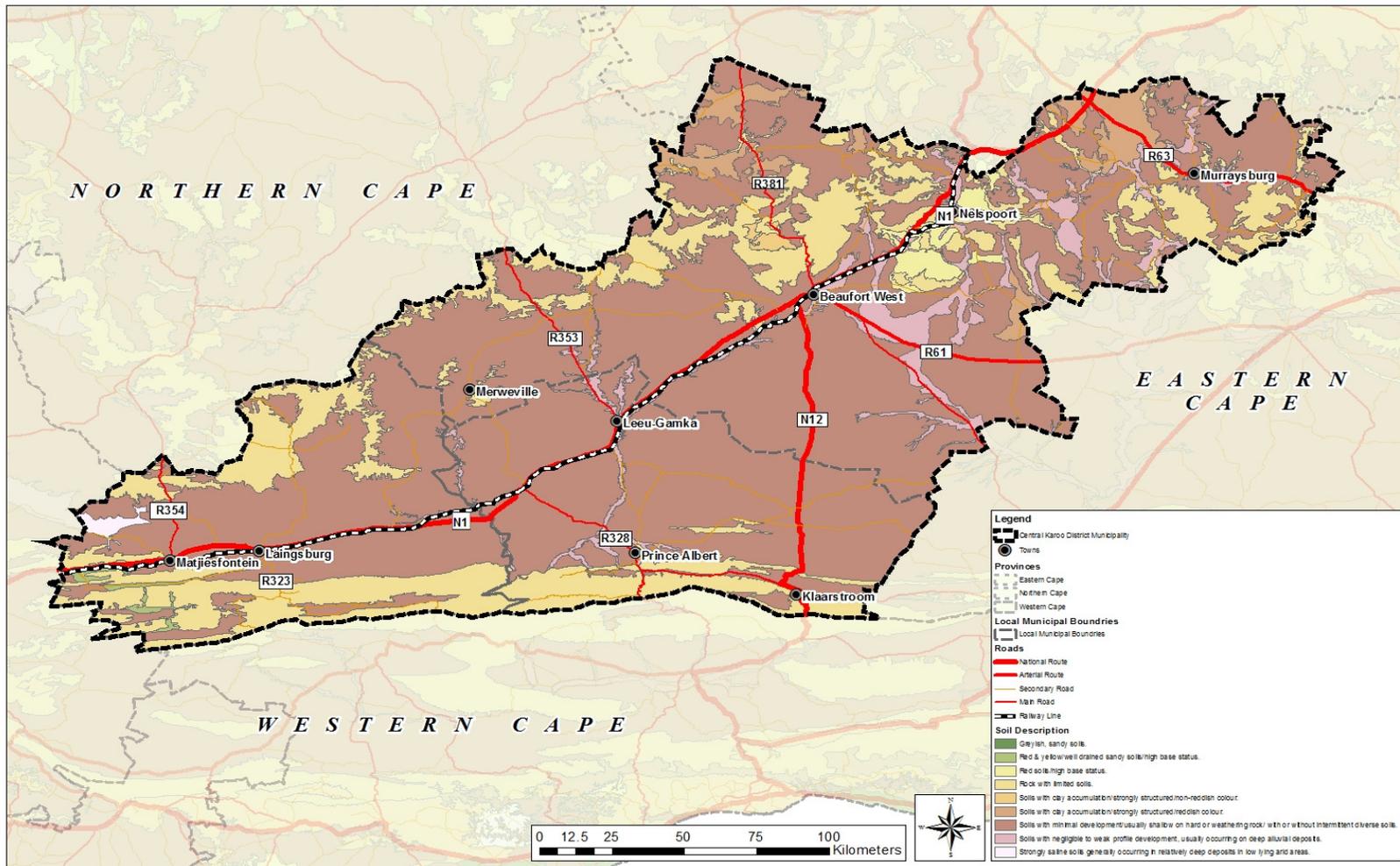
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CENTRAL KAROO DISTRICT MUNICIPALITY - GEOLOGY

Source : DWARF

**PLAN 6
OCTOBER 2013**



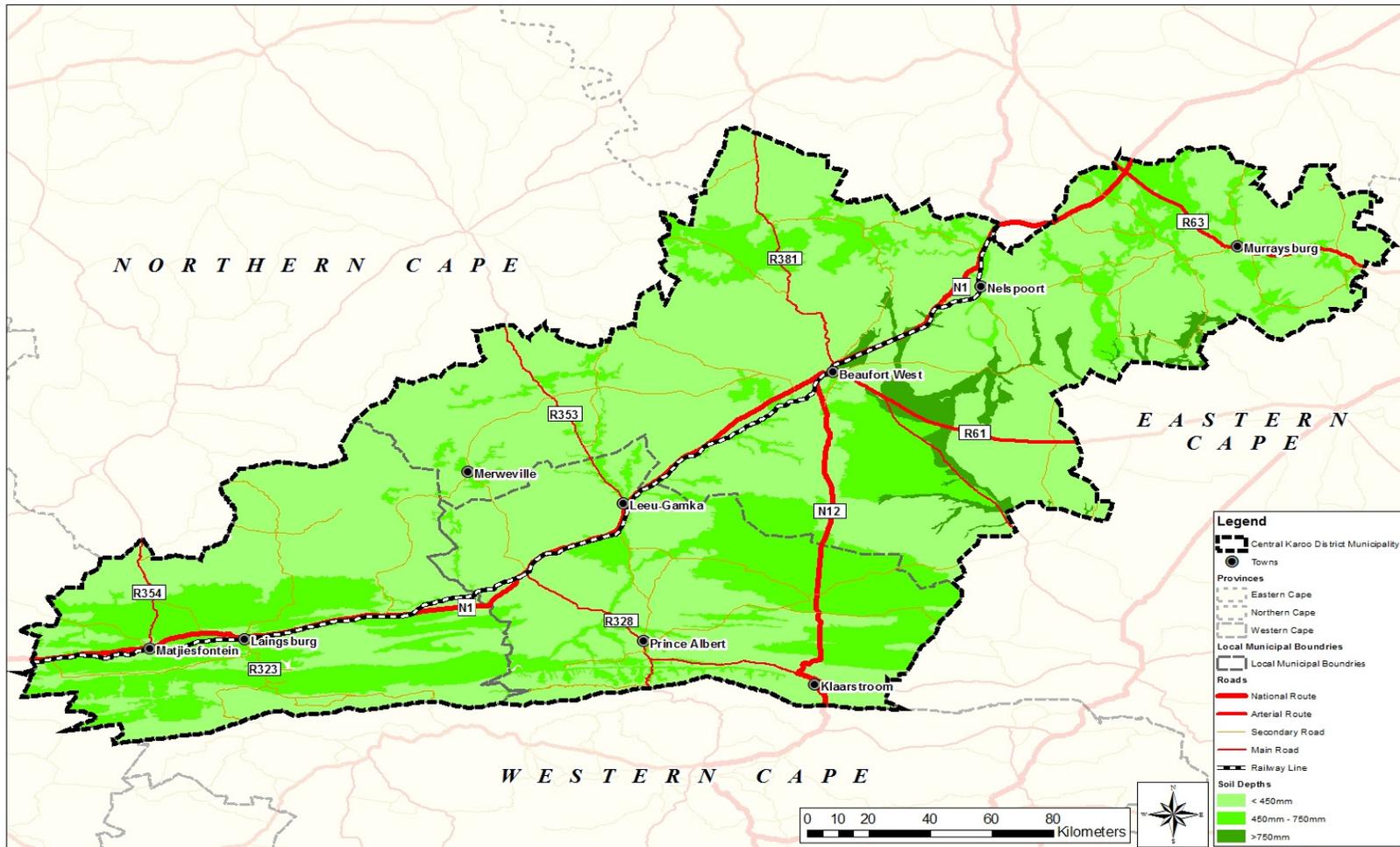
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CENTRAL KAROO DISTRICT MUNICIPALITY - SOIL DESCRIPTION

Source : CMC

**PLAN 7.1
OCTOBER 2013**



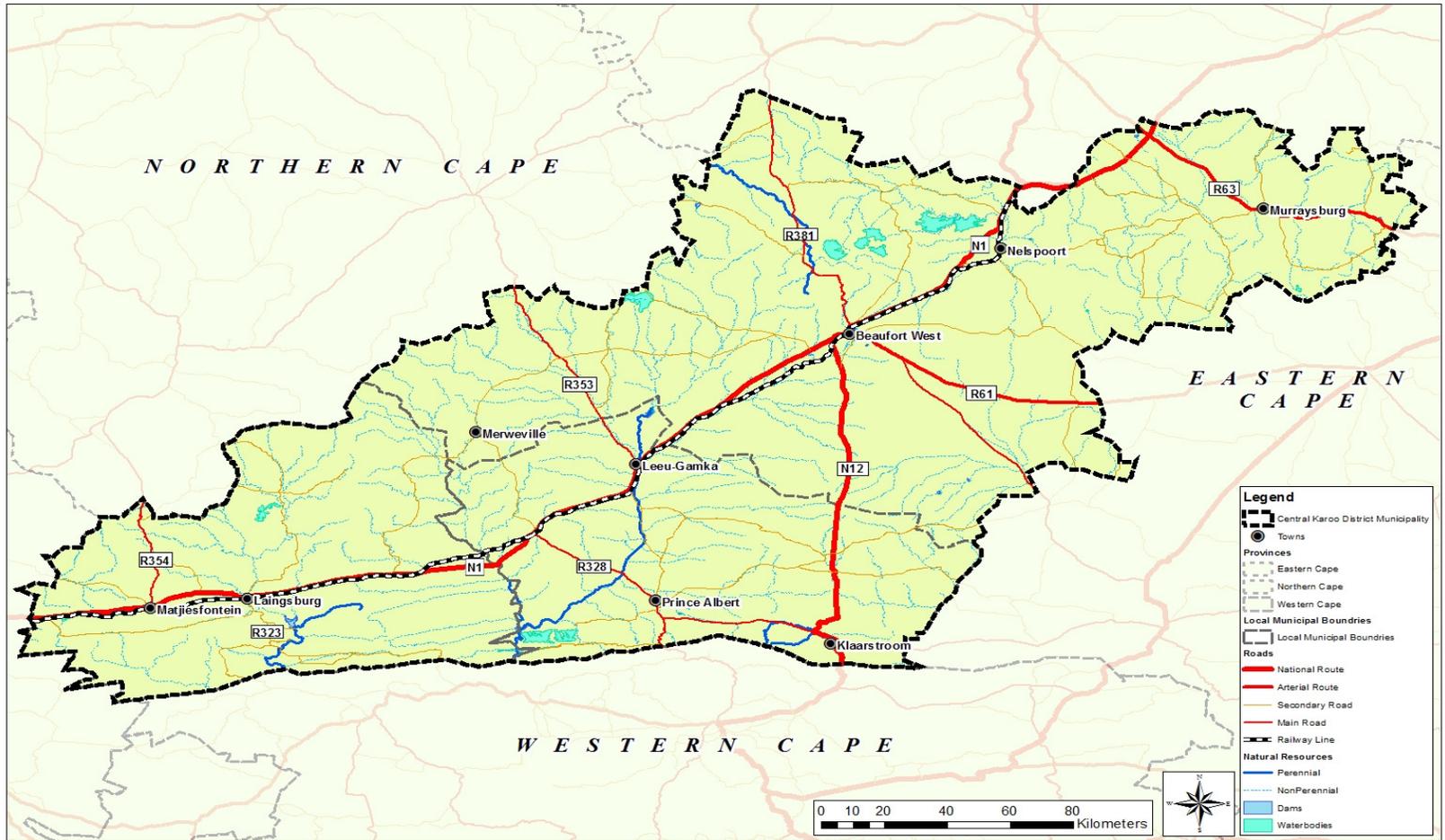
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CENTRAL KAROO DISTRICT MUNICIPALITY - SOIL DEPTHS

Source : ENPAT/CMC

**PLAN 7.2
OCTOBER 2013**



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AECOM **CENTRAL KAROO DISTRICT MUNICIPALITY - HYDROLOGY**
 Source : IWQS, Chief Directorate of Surveys & Mapping

PLAN 8
OCTOBER 2013

3.1.5 Biodiversity

In terms of The National Land Cover 2000 model, an estimated 88% of the district comprises natural vegetation, 10.4% is considered degraded whilst 1.5% is transformed by urbanisation, cultivation, mining and dams.

The predominant natural vegetation comprises the semi desert Nama-Karoo Biome⁹. Other biomes noted within the district include: Albany thicket to the east, Fynbos in the southern mountains; grassland on the high altitude slopes of the north east and the succulent Karoo to the south west. Azonal vegetation allied with the drainage lines occur throughout the district. Refer to **Plan 9**.

Table 3-2: Extent of Biodiversity in Central Karoo District

Biome	Central Karoo District (ha)	Percentage (%)
Albany Thicket Biome	41,661	1.1
Azonal Vegetation	208,184	5.3
Fynbos Biome	360,804	9.3
Grassland Biome	14,765	0.4
Nama-Karoo Biome	2,745,773	70.7
Succulent Karoo Biome	513,063	13.2
Grand Total	3,884,250	100

This has resulted in 136 habitat types being delineated within the district, culminating in 29 vegetation types with 126 threatened plant species.¹⁰ These plant species are indicative of at least three (3) vegetation types being threatened.¹¹ Refer to **Plan 10** for the vegetation.

Table 3-3: Status of the Karoo Vegetation

Karoo Vegetation	Status	Hectare
Buffels River and Floodplain	Endangered	3,084 ha.
Constabel Apronveld	Critically Endangered	4,463 ha.
Gamka River and Floodplain	Vulnerable	1,411 ha.

From a faunal perspective, 16 species of amphibian, 305 species of birds, 233 species of butterfly and 101 species of reptile have been noted within the District. Habitat diversity is the richest within the south-western portion of the District in the Laingsburg Municipality, with a large proportion of the District being designated as Critical Biodiversity Areas (CBA's). (The CBA's have been categorised in terms of core, buffer, agricultural and urban areas). **Refer to Plan 11**.

3.1.6 Conservation

Protected areas within the district comprise 207,917 ha (5.78% of the district), with an additional 9,077 ha (0.23% of the district) under conservation. These protected areas provide varying protection levels (in terms of formal national conservation targets) within the district, namely:

- 1 vegetation type is partially protected;
- 3 are poorly protected;

⁹ Central Karoo District Municipality Draft EMF Status Quo Report.

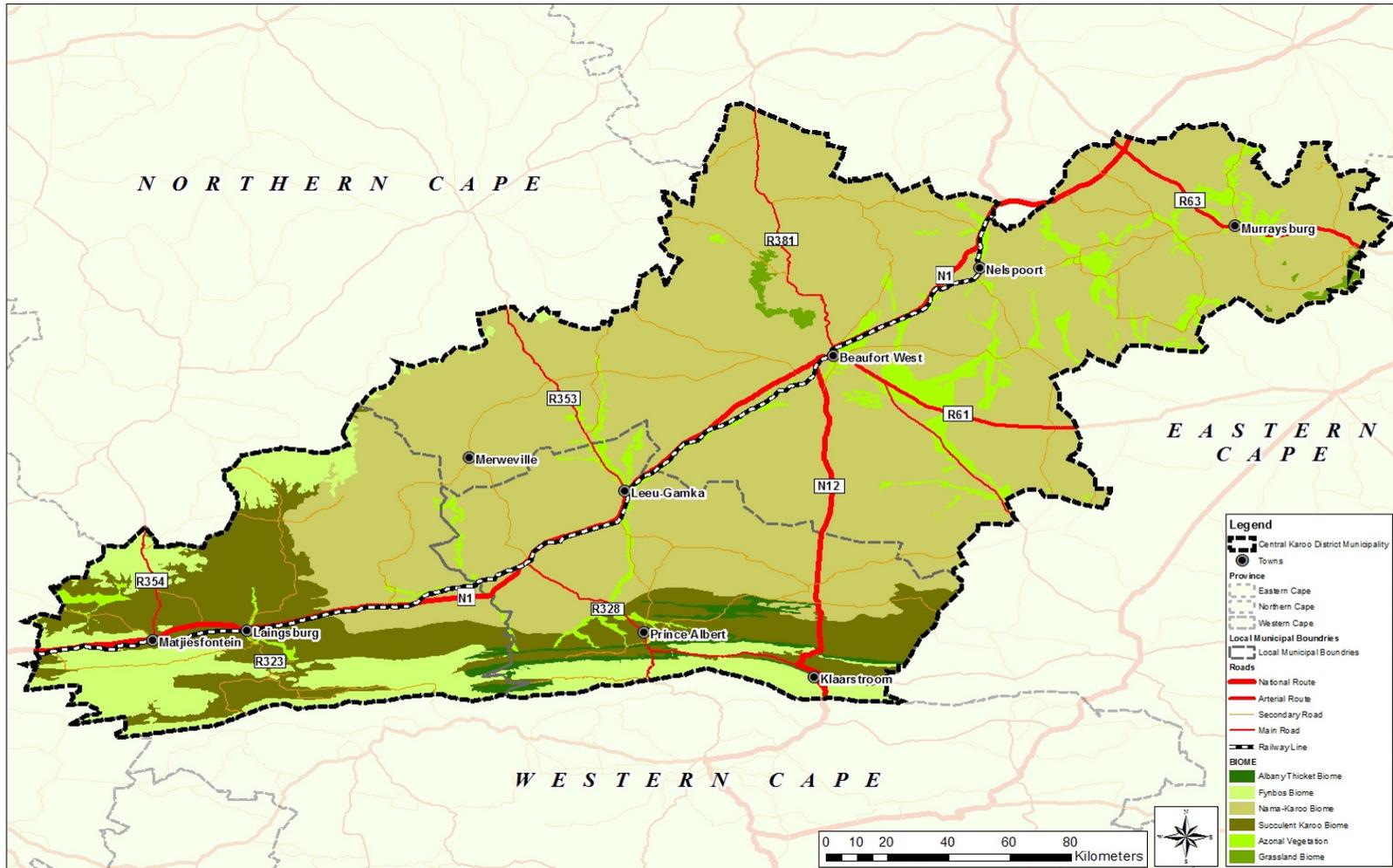
¹⁰ Central Karoo Biodiversity Assessment – Final Report 27th August 2009

¹¹ CKDM IDP 2012-2017

- 8 are very poorly protected;
- 24 have achieved targets in the protected areas network; and
- 100 are not represented within the protected areas network.

The following protection and conservation areas (**illustrated on Plan 12.1 and Plan 12.2**) are present within the district:

- Karoo National Park
- Anysberg Nature Reserve
- Gamkapoort Nature Reserve
- Gamkaskloof Nature Reserve
- Groot Swartberg Nature Reserve
- Swartberg East Nature Reserve
- Towerkop Nature Reserve
- Klein Swartberg Mountain Catchment
- Steenbokkie Private Nature Reserve
- Wolwekraal Nature Reserve
- Drie Riviere Natural Heritage Site



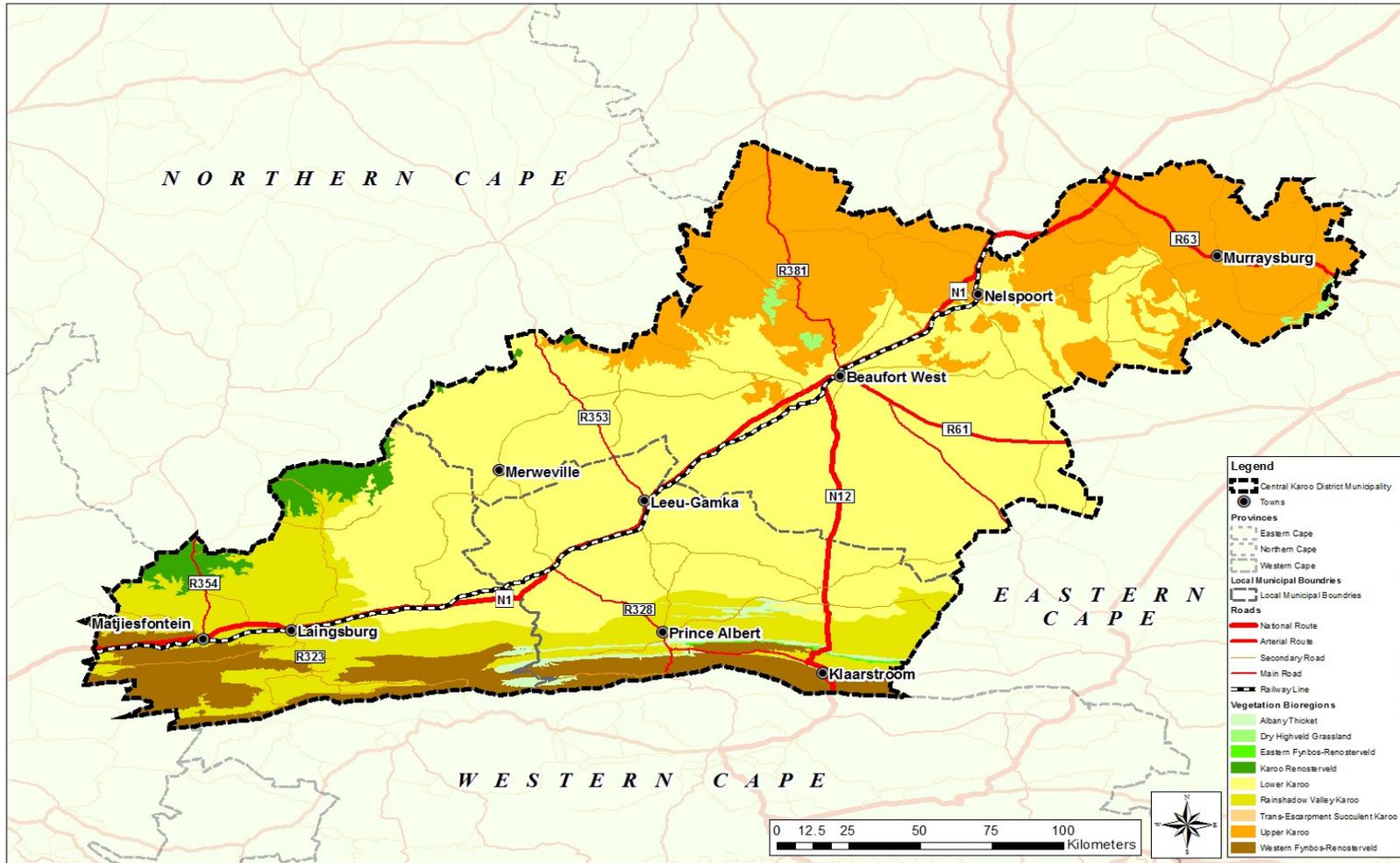
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CENTRAL KAROO DISTRICT MUNICIPALITY - BIOMES

Source: SANBI

**PLAN 9
OCTOBER 2013**

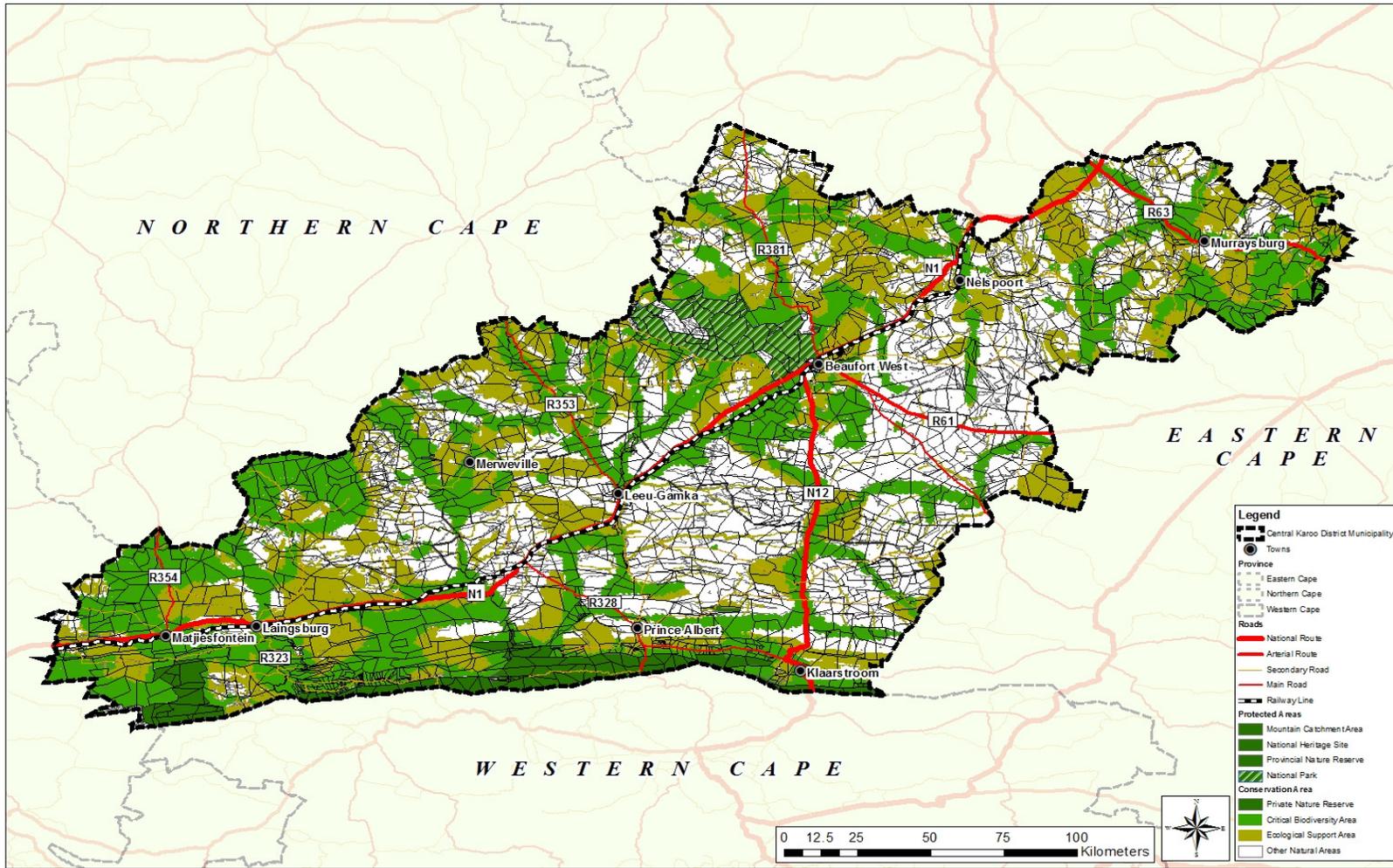


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CENTRAL KAROO DISTRICT MUNICIPALITY - VEGETATION
 Source : SANBI

**PLAN 10
 OCTOBER 2013**

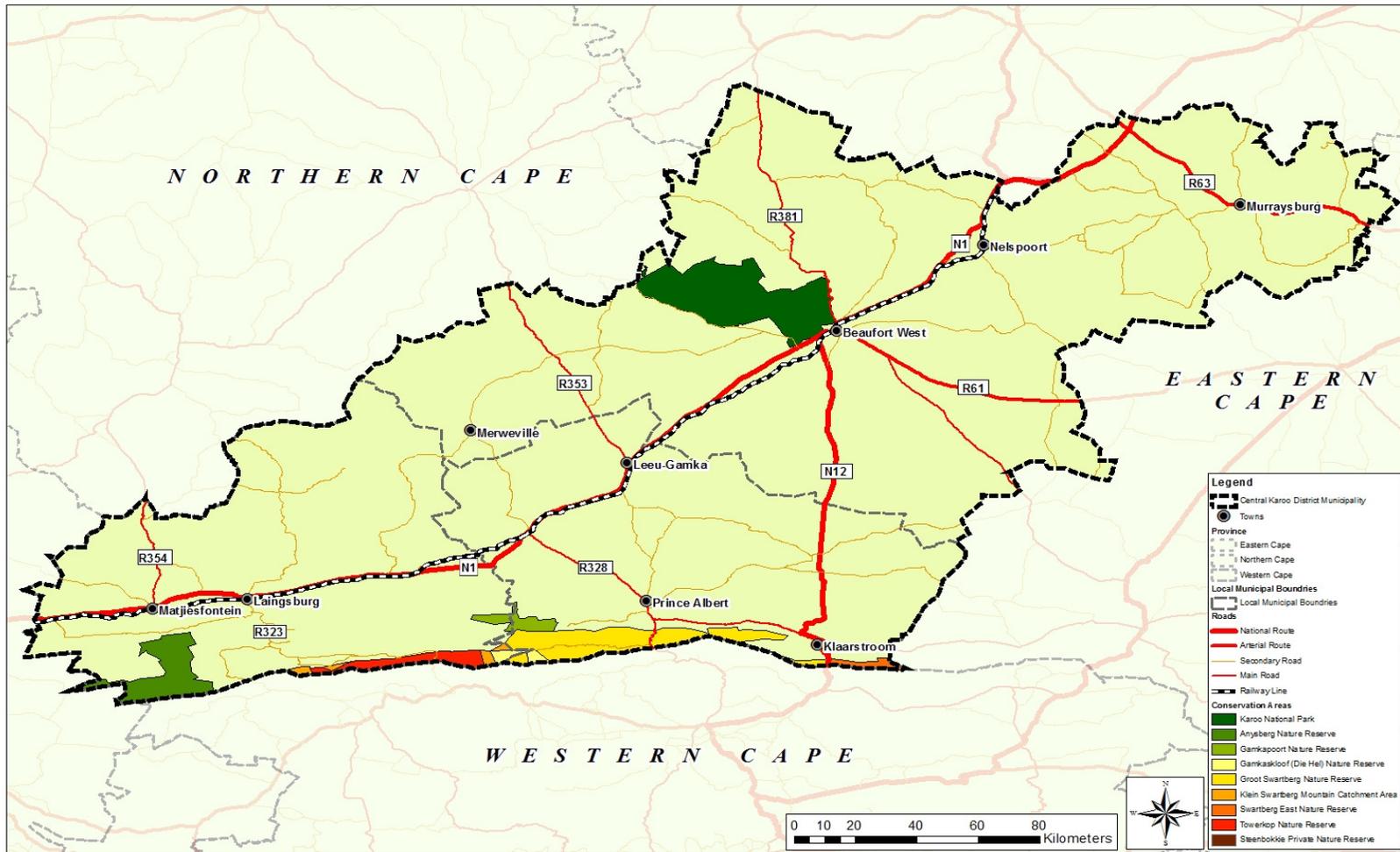


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CENTRAL KAROO DISTRICT MUNICIPALITY - CRITICAL BIODIVERSITY AREAS
 Source: SANBI & CMC

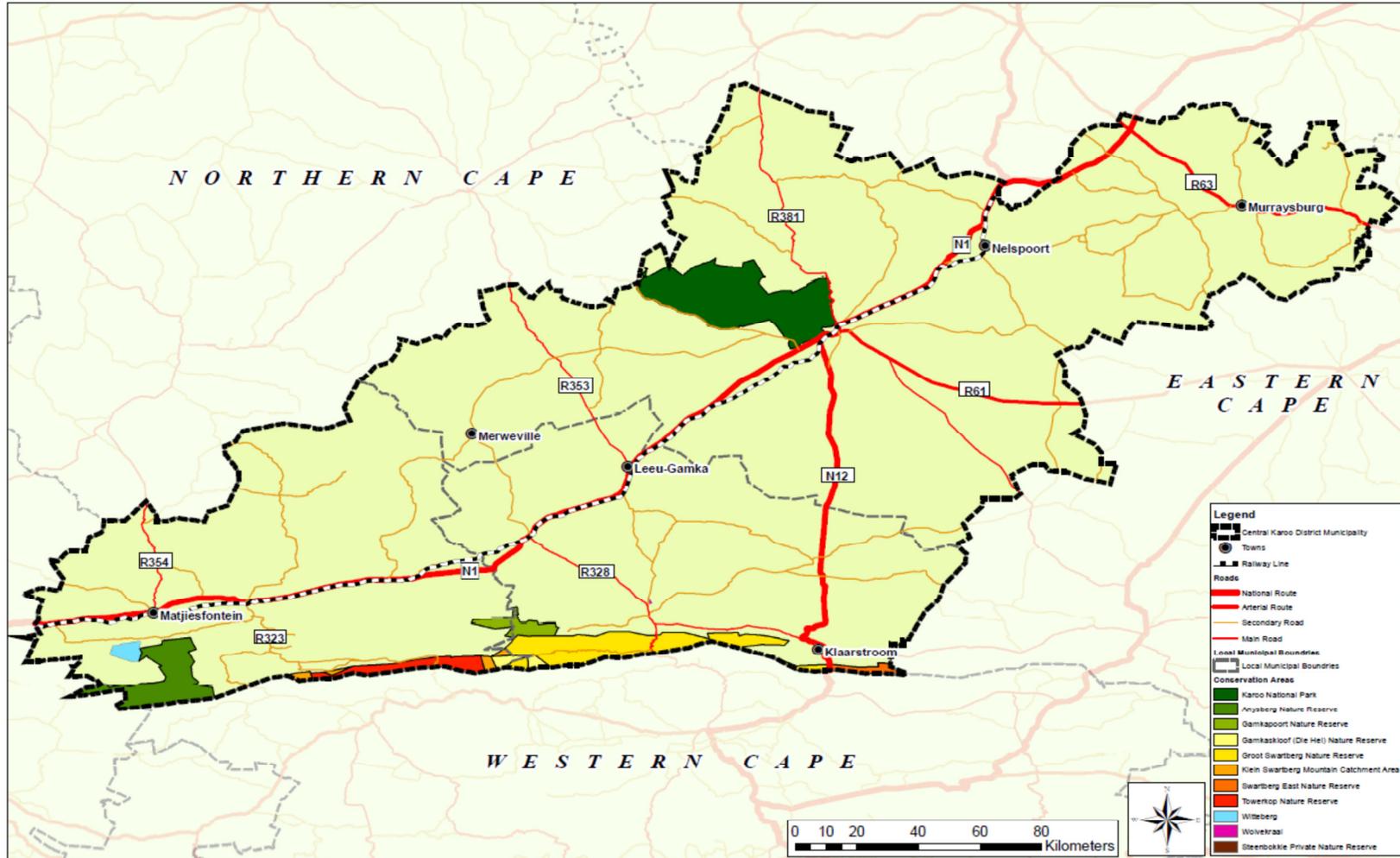
PLAN 11
OCTOBER 2013



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AECOM CENTRAL KAROO DISTRICT MUNICIPALITY - CONSERVATION AREAS (NATURE RESERVES)
 Source: SANBI

PLAN 12.1
OCTOBER 2013



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CENTRAL KAROO DISTRICT MUNICIPALITY - CONSERVATION AREAS (NATURE RESERVES)
 Source: SANBI

PLAN 12.1
OCTOBER 2013

3.1.7 Agriculture

Livestock Farming

The predominant agricultural practice within the district is small stock farming dominated by sheep farming. Breeds favoured include Angora, Boer, Dorper and Merino. However, small scale cattle and ostrich farming also occur. The vegetation of the district provides good grazing whilst sufficient groundwater is accessed via wind pumps. Farms, however, have to be large to provide sufficient carrying capacity for viable livestock practices. Overgrazing is a concern but does not occur on a wide-spread level; severe overgrazing usually occurs on commonage land near the District's main urban settlements. Furthermore, supplementary feeding of livestock is essential during periodic drought periods. The Laingsburg municipal area has the highest grazing capacity at 7.3 hectares per small stock unit (ha/SSU) followed by Prince Albert at 6.0 ha/SSU.

Rain-fed Cultivation

Rain-fed cultivation (wheat) occurs in a limited capacity in the south-western corner of the District Municipality area; however the low protein content of the wheat, the variability of rainfall and high input costs limits the expansion thereof.

Irrigated Crops

Irrigated crops are prominent in the southern regions of the District. The main crops are apricot, olive and wine grapes with smaller plantings of peach, pear, prune, quince and table grapes. Annual crops are mostly vegetable seed of which onion seed dominates. Significant areas under lucerne also occur here. Olive plantings are primarily found at Leeu-Gamka and Prince Albert. Dried apricot is a major agricultural product of the Vleiland and Prince Albert areas whilst small plantings of pear, quince, prune and peach also occur (Refer to Plan 12). The main constraints to irrigated crop production in this region is poor road infrastructure for the transport of delicate and fresh produce, distance to the market, availability and quality of water supplies and the reliability of labour.

Agricultural Economy

The agricultural sector's share of the District economy showed decline between 1999 and 2009 from 15.4% to 9%. This may be as a result of a move from agricultural to tourist and leisure activities as well as deteriorating economic and market conditions for agricultural products. Agri-processing and agri-business opportunities should be further assessed to increase the current 9% agriculture contribution to the district's GDP. **(Refer to Plans 13.1 and 13.2).**

3.1.8 Building Materials and Mining

The CKDM has been noted to be rich in mineral deposits with uranium mining and shale gas extraction being the most significant potential economic drivers¹². Currently there is an increase in environmental impact assessments and applications for the mining thereof¹³.

Shale Gas Extraction (Hydraulic Fracking)

The interim report of the Western Cape Intra-Governmental Shale Gas Task Team (2012) estimates that the Karoo Basin has commercially viable recoverable shale gas reserves in excess of 30 trillion cubic feet (Tcf); the entire Central Karoo District Municipality forms part of the Karoo Basin. The controversial shale extraction involves the propagation of fractures within rock layers by means of pressured liquids. This results in the *in situ* gas being forced to migrate from the *source rocks* to *reservoir rocks*, from where the gas is extracted. Shale gas extraction methods have the potential to

¹² Council for Geosciences

¹³ CKDM IDP 2012-2017

negatively impact the environment. It is estimated that shale gas extraction has the potential to use 6-25 million litres of water for each well drilled. Additionally, ground water is expected to be contaminated with an estimated 3,000 -25,000 litres of chemicals added to water being released during the extraction process¹⁴.

There remains significant uncertainty with regard to shale gas extraction in light of limited scientific data available on the development of this resource; this makes it difficult to accurately determine the risks and opportunities in certain instances. The Western Cape Intra-Governmental Shale Gas Task Team identified several risks in the extraction of shale gas:

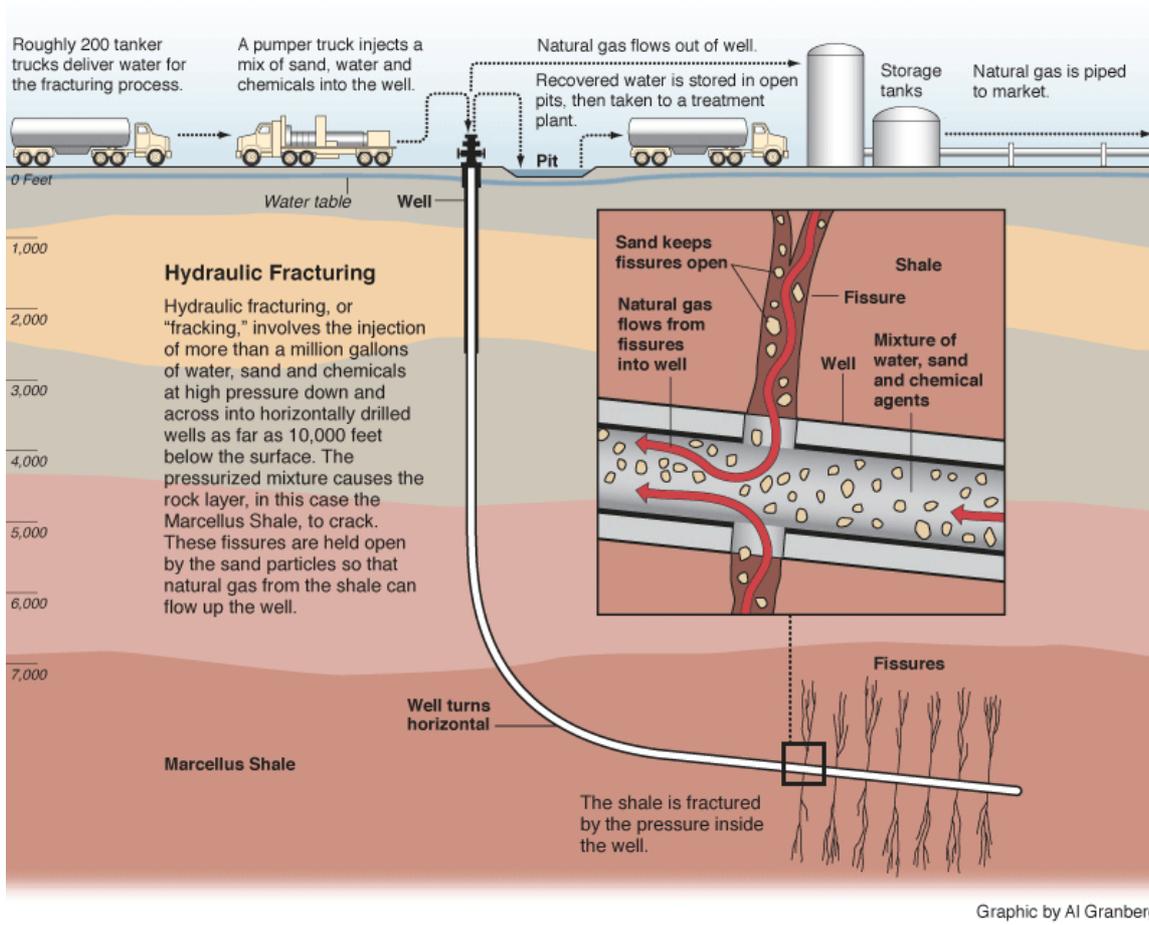
- (i) Groundwater is the largest source of potable water for Central Karoo District Municipality. Although shale will be extracted at a level deeper than current groundwater extraction levels, the potential still exists for valuable upper level aquifers to be polluted through operational activities on the surface such as spillages, leakages and infiltration. As yet it is not possible to quantify the risk of groundwater contamination;
- (ii) Shale gas extraction may lead to a loss of biodiversity of the Nama-Karoo Biome and will have a negative impact not only at site level, but accumulatively, also at the landscape level;
- (iii) The Central Karoo District Municipality is rich in fossils and it is expected that there will be high incidence of negative impacts on archeological and paleontological resources during both the exploration and production phases. The scenic value of the Karoo landscape may also deteriorate particularly once the production phase of development commences;
- (iv) Shale gas extraction will entail the transport of equipment, water, and waste to and from sites which will require the development of adequate transport infrastructure including the upgrade of the District Municipality's transport routes. Other possible transport impacts, depending on the scale and location of activity, may include increased traffic causing delays on provincial and national roads, pavement deterioration, noise, and loss of biodiversity. Increasing infrastructure will also result in ballooning maintenance funding requirements.;
- (v) It is not yet possible to determine with certainty what specific benefits will accrue to local communities once reserves are exploited. Potential local benefits include job creation and community development by way of, for example, tax revenues. Undesirable socio-economic impacts may include community disruption due to the influx of workers, fluctuating land values as a result of an potential initial property boom, competing land demands particularly in relation with agriculture, and unsustainable communities and settlements established to serve resource areas;
- (vi) Typical impacts of shale gas extraction on agricultural activity relates to ground and surface water pollution, and the clearing of agricultural land. It may also impact on the availability of farm labour, game farming and eco-tourism;
- (vii) Shale gas extraction activity may compromise several important land use forms across the Central Karoo District Municipality including, amongst others, land for conservation, tourism, heritage, transportation, and energy;
- (viii) Proximity of shale gas operations to sensitive receptors, for example residential areas, will impact on issues of quality of life including air quality;
- (ix) There is also significant risk in the transporting, removal and treatment of waste produced during shale gas extraction and production. Waste from these operations is classified as hazardous material which would

¹⁴ CKDM IDP 2012-2017

require special treatment measures at a licensed hazardous waste facility. There is no such facility within the Central Karoo District Municipality or in adjacent areas;

- (x) The shale gas extraction process requires significant volumes of water estimated to be potentially 3,600,000m³ during the exploration phase. Water use, however, depends on the number of wells and drilling events over a specific period. Water use estimates do suggest that water requirements for shale gas extraction only will exceed the annual water consumption of the Beaufort West Municipality.

Figure 3-1¹⁵: Diagrammatic representation of hydraulic fracturing



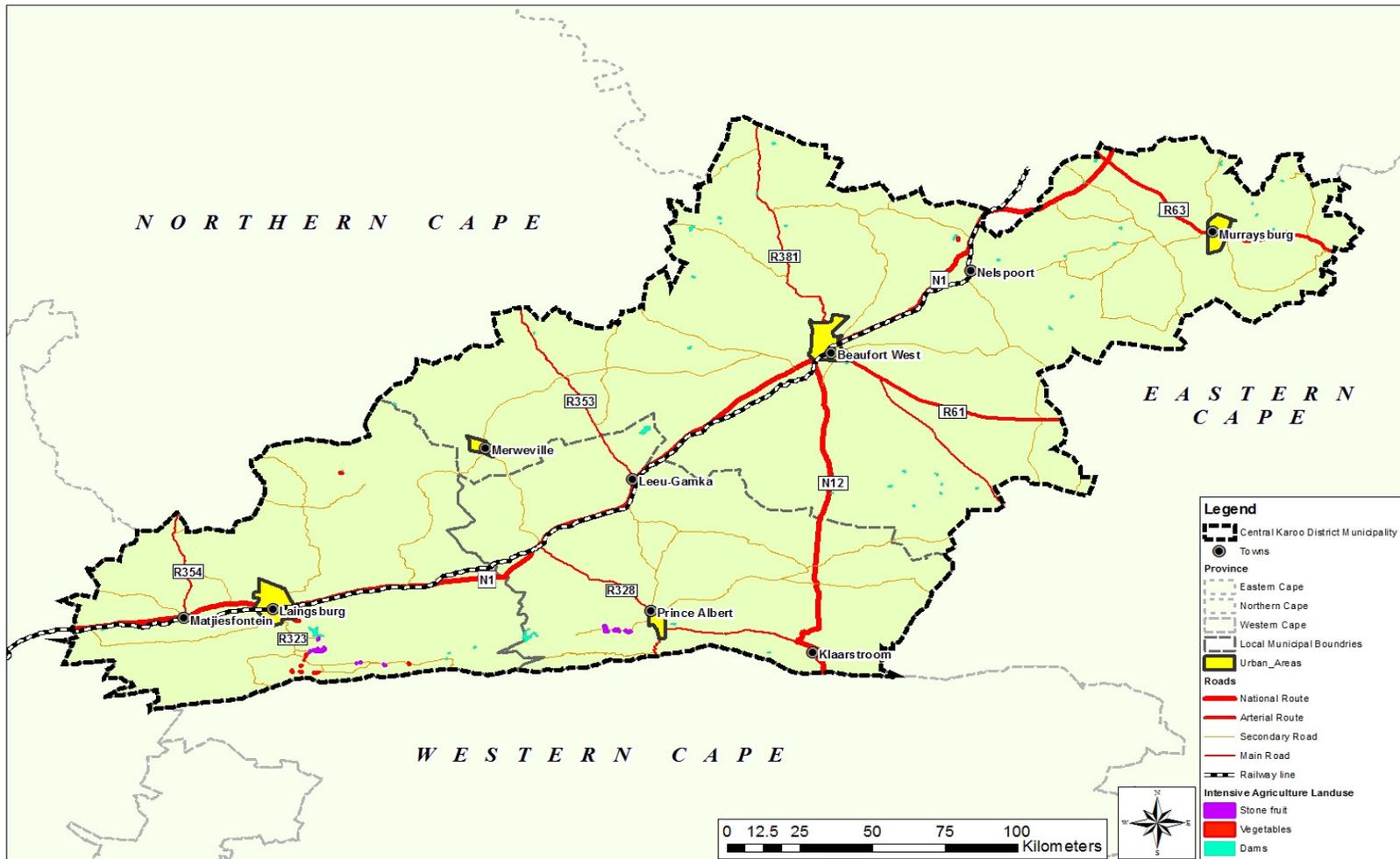
Source: Al Granberg

¹⁵ Al Granberg

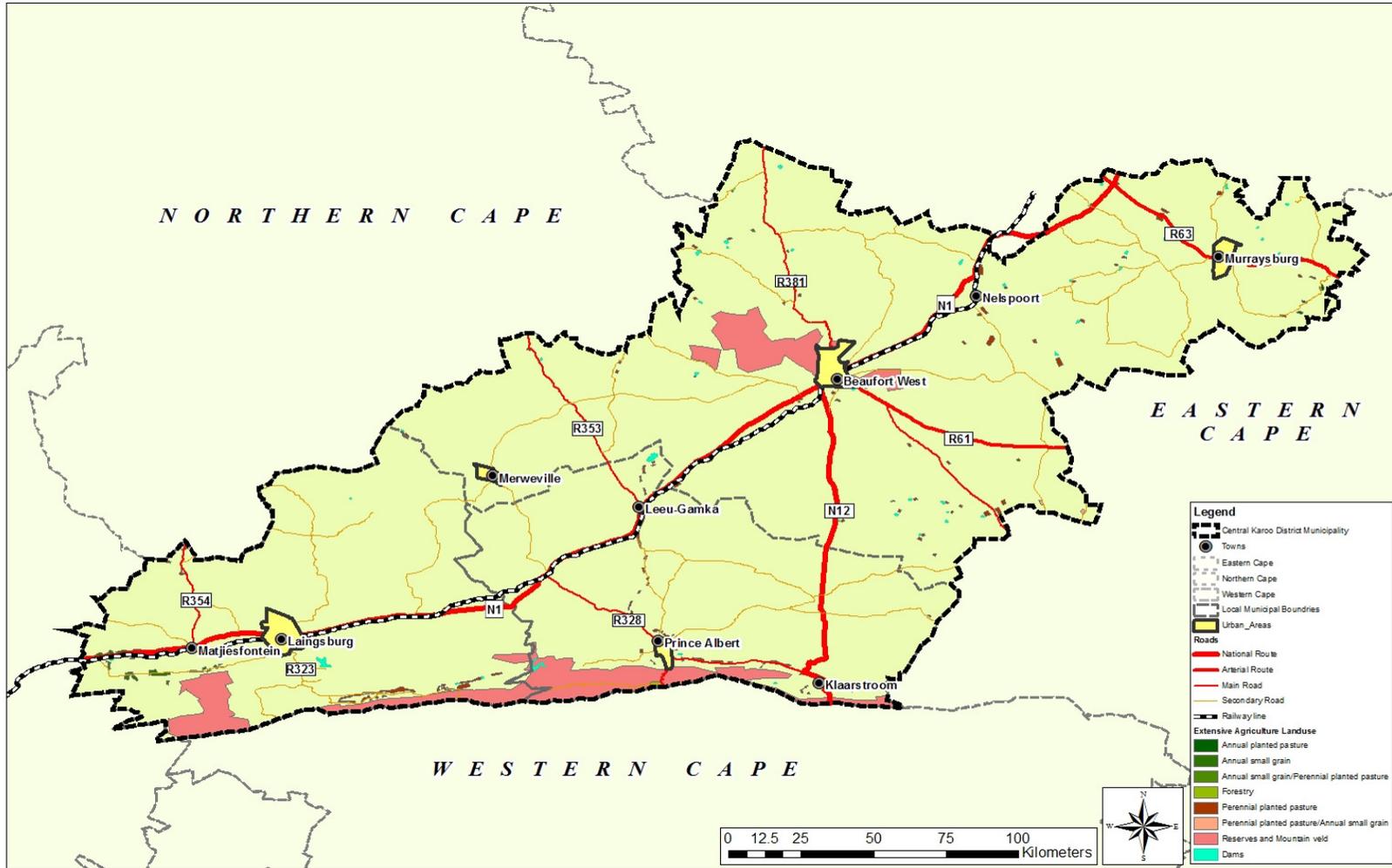
Uranium Mining

Rich uranium deposits have been found within the Beaufort West region, of which seven deposits contain resources between 530 and 2434 t U at an average grade of 0.76 kg U/t. The largest deposit thus far discovered is at Ryst Kuil, approximately 45 km southeast of Beaufort West and has resources of 6791 t U and 7420 t Mo¹⁶. Due to the Non-Nuclear Proliferation Treaty, uranium mining and beneficiation remains a contentious issue and thus these deposits have not yet been exploited. However with an increase in uranium prices, several exploration companies have shown great interest. **(Refer to Plan14).**

¹⁶ http://www.geoscience.org.za/index.php?option=com_content&view=article&id=1526:mineral-resources&catid=31:more-on-western-cape&Itemid=577



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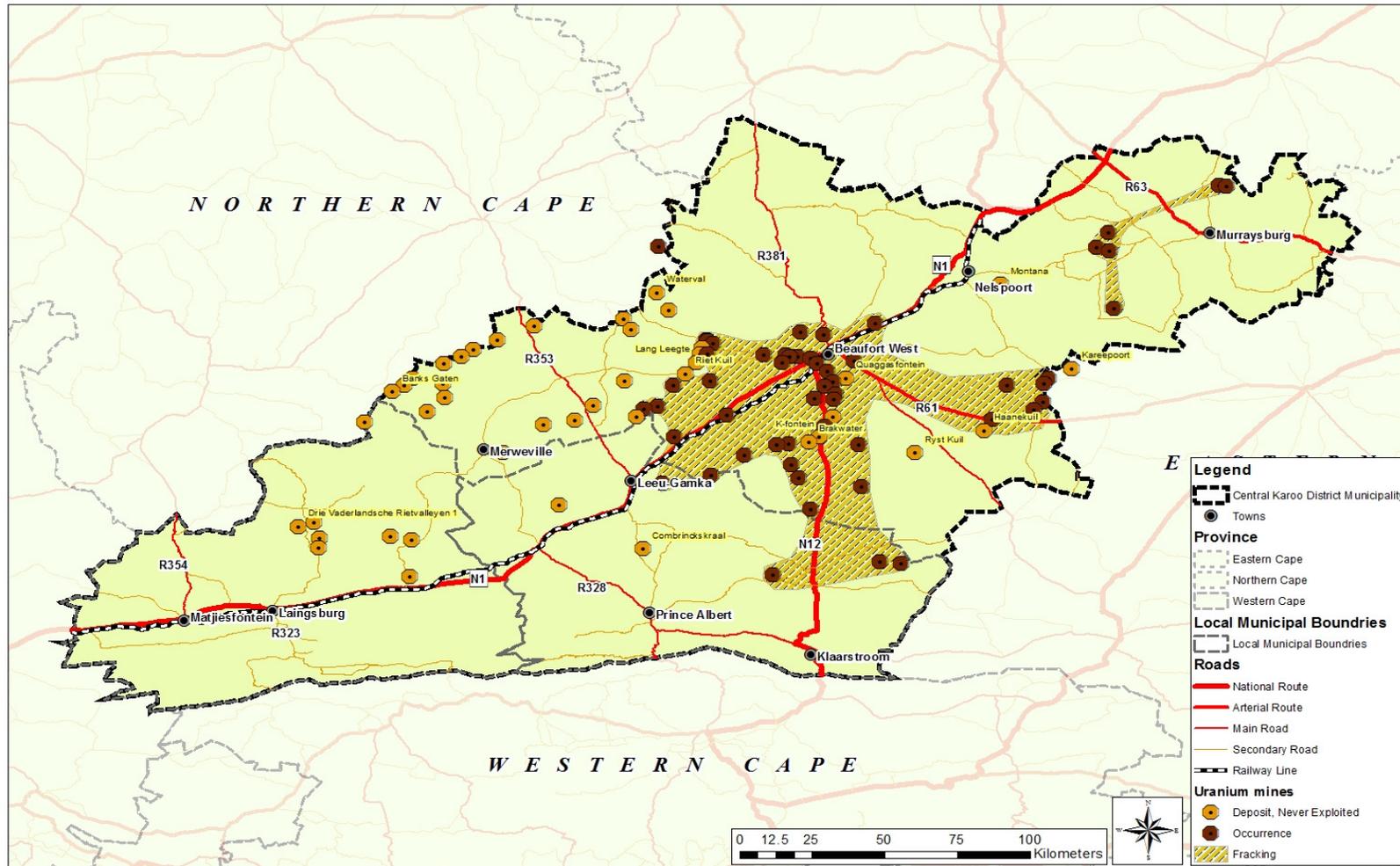
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CENTRAL KAROO DISTRICT MUNICIPALITY - EXTENSIVE AGRICULTURE LAND CAPABILITY

Source: CMC Data

PLAN 13.2
OCTOBER 2013



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CENTRAL KAROO DISTRICT MUNICIPALITY - MINING & FRACKING
 Source : Geosience

**PLAN 14
 OCTOBER 2013**

3.1.9 Implications for the SDF

The following are considered important considerations and informants to the biophysical environment of the Central Karoo District:

- Rainfall in the District is highest in the mountainous areas of the District. The plains are much drier and also receive the highest levels of radiation;
- Existing ecological water reserves and areas need to be protected and adequately monitored, particularly underground water resources;
- The current Protected Areas network is under representative of the District's biodiversity and should be expanded by 180,000 hectares to meet national targets;
- Areas and landscapes subject to severe climate change conditions need to be protected;
- The district comprises largely of poor soil conditions with extremely scarce arable land for intensive agricultural activities. Crop production is primarily found in the Prince Albert municipal area and along river systems and the mountains to the south of Laingsburg. All arable land for crop farming should be protected from all other uses and activities;
- In order to increase stock carrying capacity and improve biodiversity, proper and sustainable veld management practices need to be promoted on farms;
- Existing protected areas should be enlarged where appropriate particularly in respect of riverine areas for the protection of water resources;
- Existing and future mining activities need to consider the availability or supply of water resources. Such activities impact negatively on water resources;
- Mining activities will impact on municipal and transport infrastructure and maintenance within the District. Adequate provision will need to be made in a coherent and sustainable manner to ensure that existing infrastructure will not deteriorate following the start of full-scale mining operations in the region.

3.2 Socio-Economic Environment

3.2.1 Demographic Profile

The Central Karoo District Municipality is the smallest of the district municipalities in the Western Cape and accounts for only 1.2% of the Province's population. The District's percentage share of the Province's total population slipped by a minimal 0.1%; from 1.34% in 2001 to 1.22% in 2011 as shown in the table below.

Table 3-4: CKDM population vs. Western Cape District Municipalities

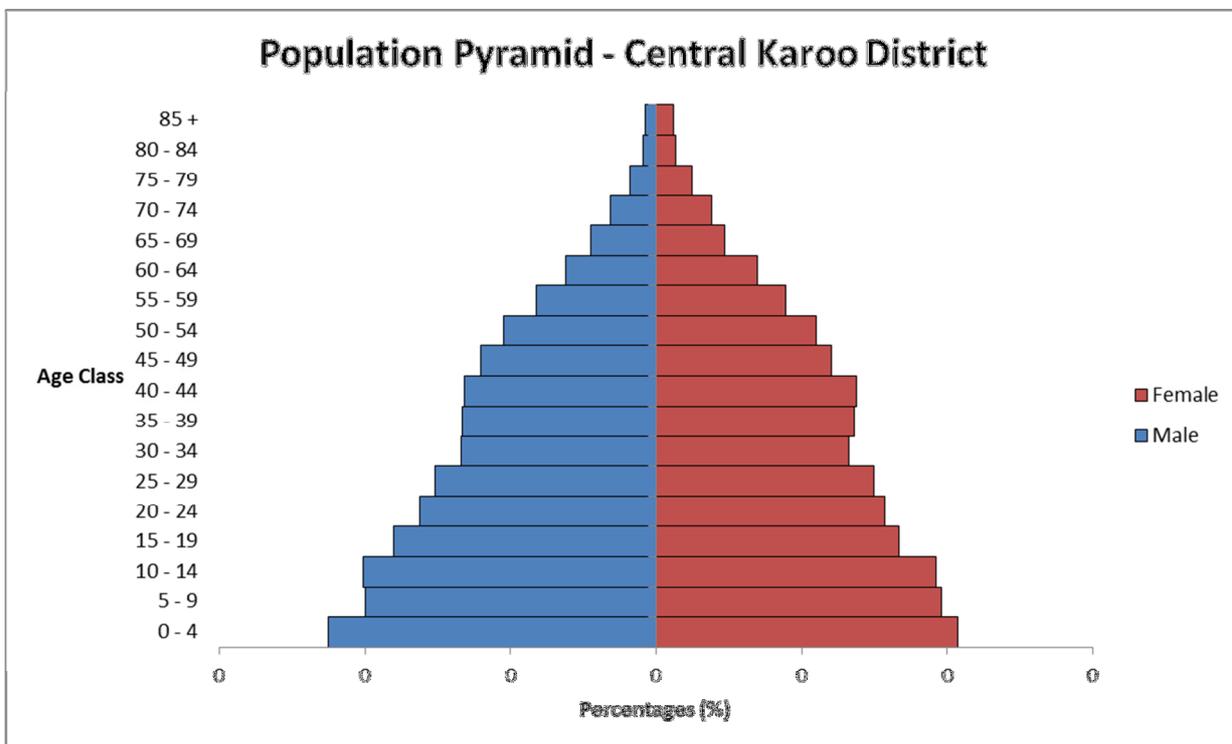
	2001		2011	
West Coast	282 672	6.25%	391 766	6.73%
Cape Winelands	630 284	13.93%	787 490	13.52%
Overberg	203 729	4.50%	258 176	4.43%
Eden	454 924	10.06%	574 265	9.86%
Central Karoo	60 483	1.34%	71 011	1.22%
City of Cape Town	2 892 243	63.93%	3 740 026	64.23%
Western Cape	4 524 335	WC share	5 822 734	WC share

The Census statistics report a total District population of 71,011 in 2011 and 60,482 in 2001. The Community Survey undertaken in 2007 gave an estimated population of 56,230. Census statistics therefore indicate an annual increase of 1.62% from 2001 to 2011 and thus dispute the reliability of the Community Survey which showed a significant population decline of 7% between 2001 and 2007. It is considered unlikely that the District population would have increased by 21% from 56,000 to 71,000 over a period of 4 years from 2007 to 2011. As per the notes of Statistics SA, there were several anomalies in the 2007 data in terms of the following:

- An imbalance in the estimate of men relative to women;
- An underestimate of children younger than 10 years;
- An excess of those aged 85+, in particular among men;
- An undercount of errors in the women aged 20-34 from the Coloured population;
- Mal-distribution of the population by province; and
- Excess of people aged 10-24 in the Western Cape.

The District population as illustrated in the pyramid below has a broad base which suggests an expansive demographic profile with a high birth rate and thus a high young dependency ratio.

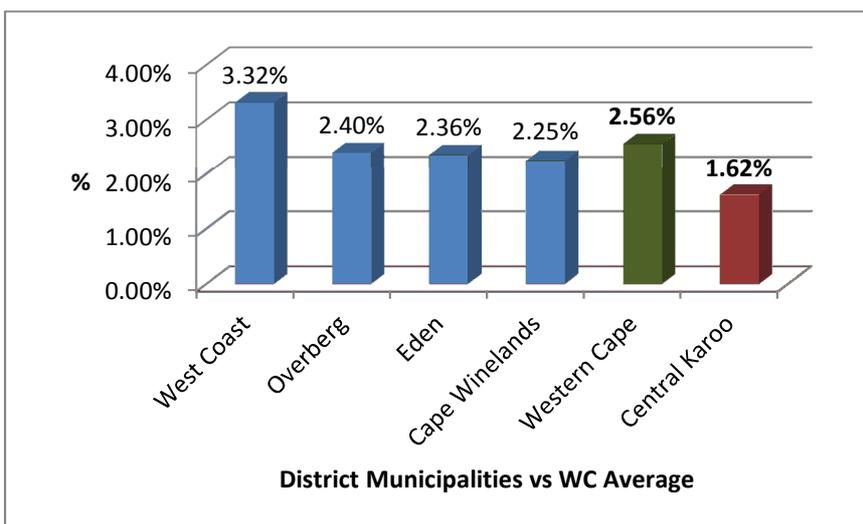
Figure 3-2: CKDM Population Pyramid



30% of the District population is below the age of 15. The slight bulge in the 30 to 45 cohort may suggest a decrease in the mortality rate and/or some level of in-migration. There are no official statistics to prove this hypothesis, however. The sex ratio district-wide is also balanced at 96 males per 100 females; Laingsburg Municipality has the highest at 99 males to 100 females.

Central Karoo District Municipality has the lowest population growth rate of all district municipalities in the Western Cape at 1.62%. The growth is thus well below the provincial average of 2.56% and consistent with the average national population growth rate.

Figure 3-3: CKDM population growth in comparison to WC District Municipalities



Amongst the Local Municipalities within the District, Prince Albert Municipality showed the largest population increase between 2001 and 2011 of 2.25% (2,622) which is above the district average of 1.62% and is also in keeping with the Provincial average growth rate of 2.56% across the same period. Beaufort West Municipality showed the lowest growth rate of 1.37% which is below the Provincial average.

Furthermore, the growth among the various ethnic groups within the District remained consistent between 2001 and 2011 with no significant changes in growth.

Table 3-5: Population growth of Local Municipalities in CKDM

	2001	2007	2011	2001 - 2011	CAGR (%)
Central Karoo	60,482	56,230	71,011	10,529	1.62
Beaufort West	43,290	42,699	49,589	6,299	1.37
Laingsburg	6,680	5,156	8,288	1,608	2.18
Prince Albert	10,512	8,374	13,134	2,622	2.25

The statistics show a growing population rate (albeit at a slower pace) in the District rather than a contracting one, as suggested by recent statistical releases published prior to the Census 2011 statistics release.

3.2.2 Health

Health Care Facilities

Plan 15 shows the distribution of public health facilities within the District Municipality. Four district hospitals provide the highest level of medical care in the Central Karoo District Municipality at the towns of Beaufort West, Murraysburg, Laingsburg and Prince Albert.

Beaufort West district hospital is the only hospital with primary healthcare doctors with an additional 5 doctors serving the town and surrounding areas. Laingsburg and Prince Albert hospitals have one (1) and two (2) doctors respectively whilst Murraysburg does not have a resident doctor. The Beaufort West Municipality has the highest concentration of health professionals with 57 professional nurses, followed by Prince Albert with 11 and Laingsburg with 9. It should be noted that these numbers exclude doctors or health professionals employed in private practice.

Table 3-6: Health Facilities in the CKDM

Municipality	Community Health Centre	Community Day Centres	Clinics	Satellite Clinics	Mobile Clinics	District Hospitals	Regional Hospitals
Central Karoo	0	1	8	3	8	4	0
Beaufort West	0	1	1	1	4	2	0
Laingsburg	0	0	5	1	2	1	0
Prince Albert	0	0	2	1	2	1	0

HIV/Treatment and Prevalence

The District Municipality has a HIV prevalence rate of 9%, the lowest in the Western Cape Province (NDOH, 2011), with only 0.7% of the Province's Anti-Retroviral Treatment (ART) load found in the Central Karoo District. The District has 3 ART sites, of which the third came online during 2010. The HIV transmission rate from mother to child, however, is the highest in the Province at 5.4% compared to a provincial average of 3.2%.

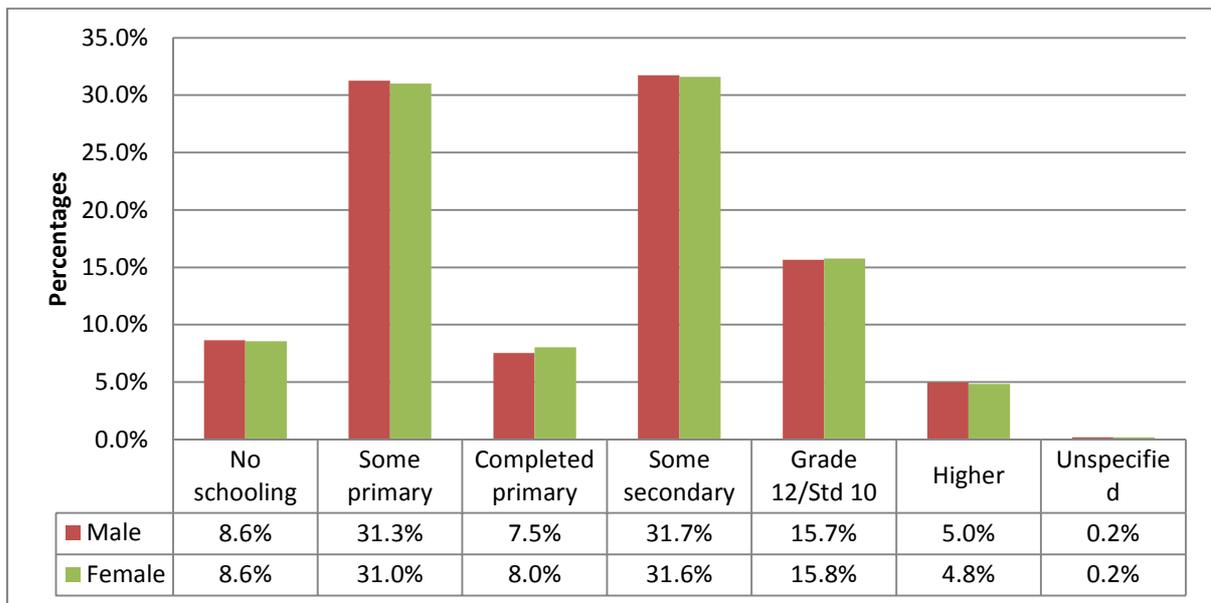
3.2.3 Education

Literacy Rates

Literacy rates do not show a significant improvement in terms of a comparison between 2001 and 2011 census data. Literacy rates remain at the 60% level which refers to those persons aged 14 years and older having completed primary schooling (Grade 7) and/or higher. This may serve as an indication that adult and other education interventions may not be successful and that alternative options may have to be considered to improve literacy rates in the District. However, the number of persons with no schooling has significantly decreased from 16.82% to 8.59% with a resultant increase in persons with some primary education.

As per below, the level of schooling between men and females is somewhat balanced.

Figure 3-4: Level of schooling among males and females in CKDM



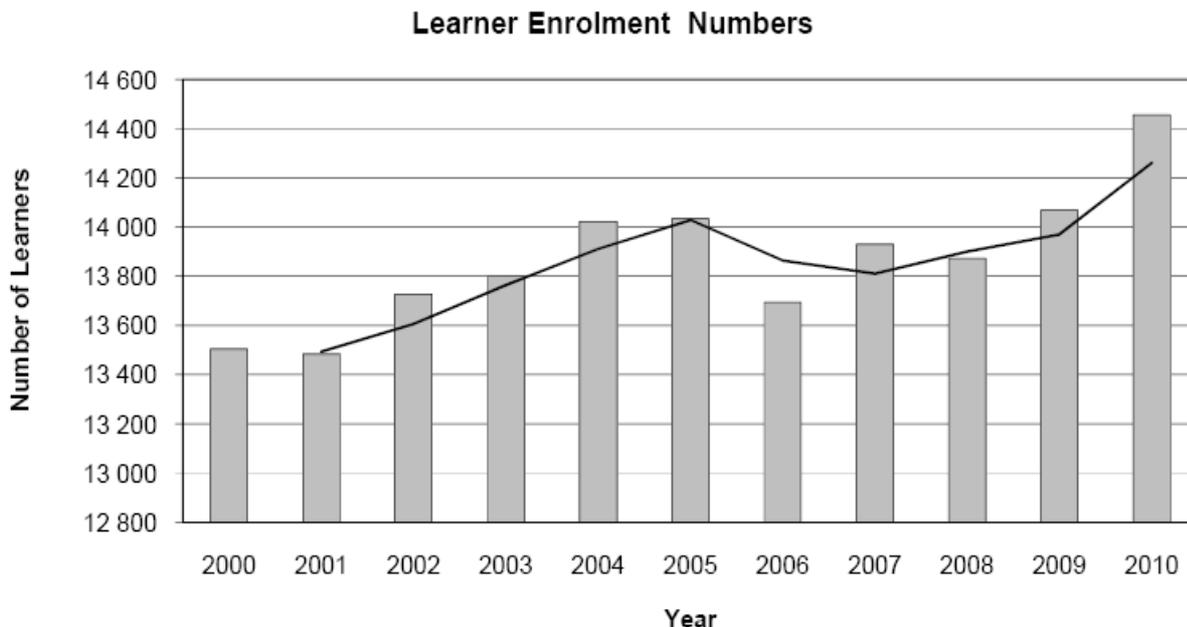
Furthermore, National Department of Basic Education Annual National Assessments for Grade 3 learners undertaken in 2010 indicates that the District Municipality has a literacy and numeracy level of 22% and 7% respectively amongst Grade 3 learners. This serve as in indication of the potential for poor literacy and numeracy levels amongst pupils despite having completed primary school.

Learner Enrolment

The number of learners residing in the Central Karoo District Municipality increased by an annual average rate of 0.7%, from 13,504 learners in 2000 to 14,457 learners in 2010. Learner enrolment trend over the ten year period is positive, except for decreases observed during 2001, 2006 and 2008.

In 2010, 4,565 learners (31.6% of total learners) have enrolled in the foundation education phase, ranging from Grade R to 3. The primary phase (Grades 4 to 7) recorded an enrolment figure of 5,350 learners (37%) whilst a total of 4,487 learners (31%) enrolled in the secondary phases (Grades 8 to 12) in 2010.

Figure 3-5: Central Karoo District Municipality learner enrolment numbers from 2000 to 2010



Source: Western Cape Government Treasury, 2010

Access to Education Facilities

22 of the District Municipality’s 28 public schools are classified as ‘No Fee’ schools; this includes primary, intermediate and secondary schools. At 78.6%, the Central Karoo District has the highest percentage of ‘No Fee’ schools in the Western Cape Province, followed by Overberg (75.6%) and the Eden District (71.1%). This may serve as an indication of the link between it and the literacy rate being underpinned by poverty and the ability of households to spend on primary and secondary education.

Figure 3-6: Percentage No Fee Schools for each District in the Western Cape

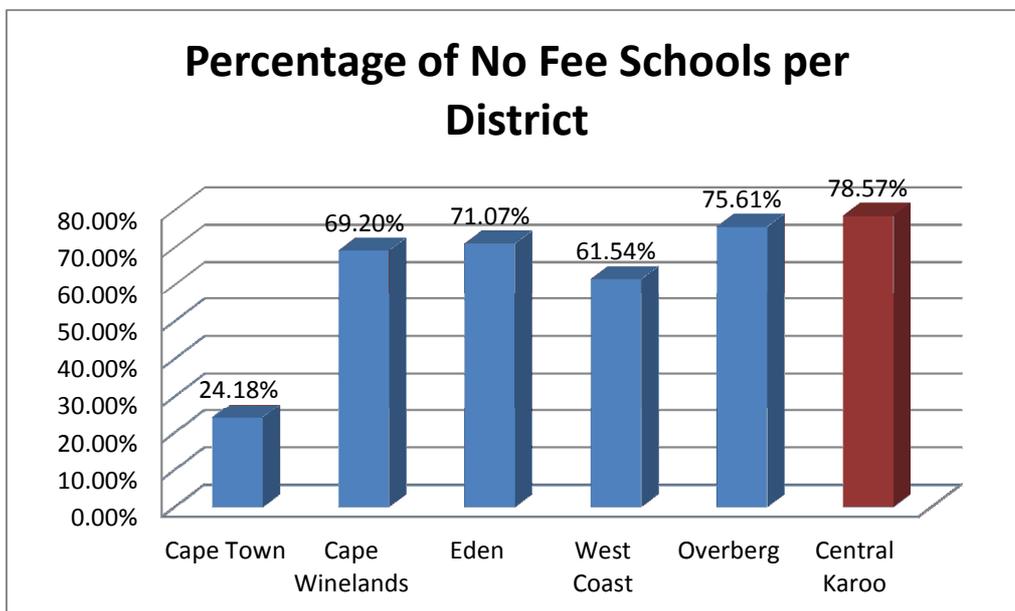
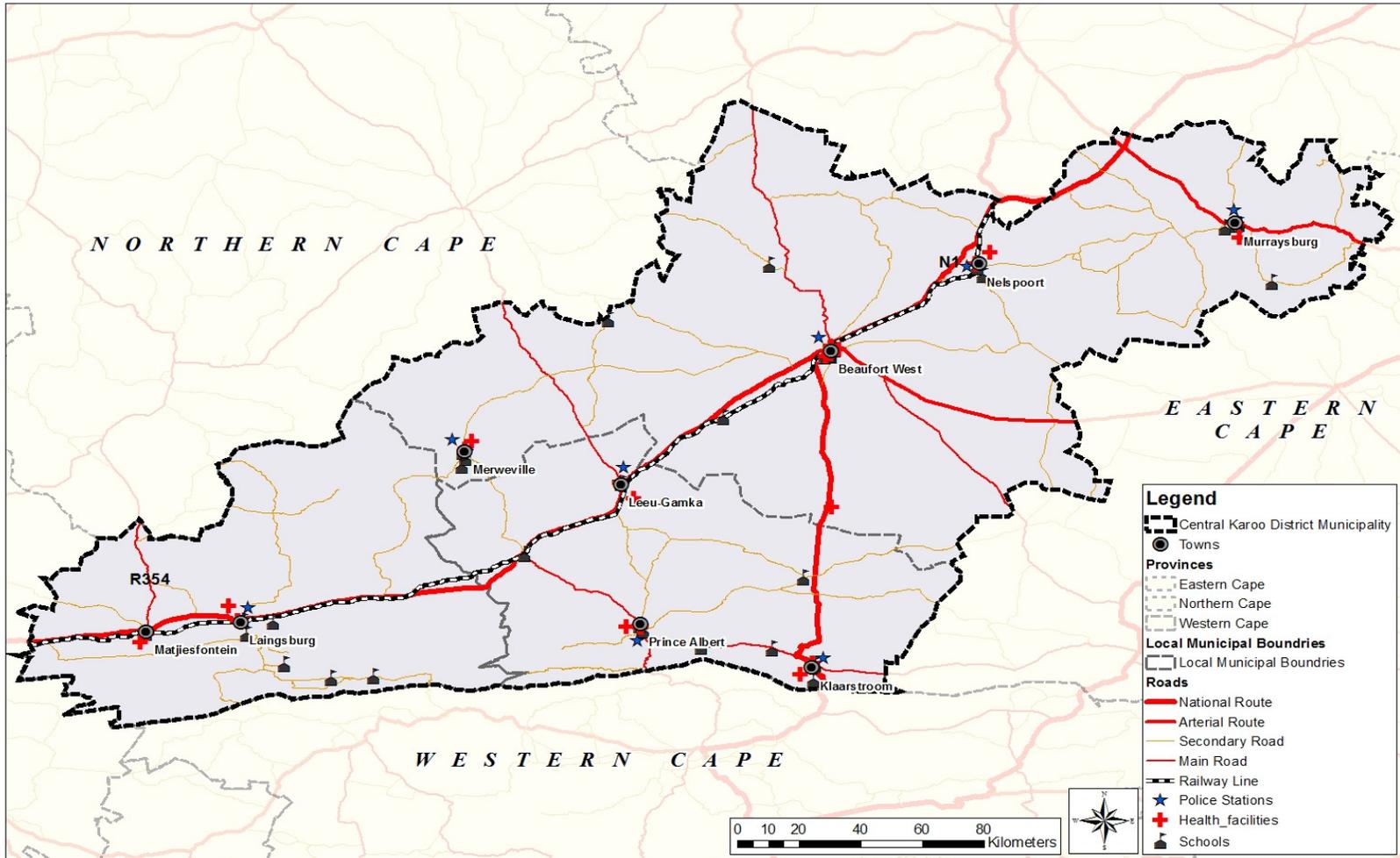


Table 3-7: Schools within Central Karoo District

No	Rural / Urban	Name of School	Town
Laingsburg Municipal Area			
1	Rural	Baardmansfontein Primary	Laingsburg
2	Rural	Rietvlei Primary	Laingsburg
3	Urban	Matjiesfontein Primary	Matjiesfontein
4	Urban	Acacia Primary	Laingsburg
5	Urban	Laingsburg High	Laingsburg
Total Number of Schools			5
Prince Albert Municipal Area			
1	Urban	Klaarstroom Primary	Klaarstroom
2	Urban	Leeu-Gamka Primary	Leeu-Gamka
3	Urban	Prince Albert Primary	Prince Albert
4	Rural	Seekoegat Primary	Prince Albert
5	Urban	Swartberg High	Prince Albert
Total Number of Schools			5
Beaufort West Municipal Area			
1	Urban	Murraysburg Primary	Murraysburg
2	Urban	Murraysburg High	Murraysburg
3	Urban	George Fredericks Primary	Merweville
4	Urban	Restvale Primary	Nelspoort
5	Rural	Klawervlei Primary	Beaufort West
6	Rural	Maddison Primary	Beaufort West
7	Rural	Layton Primary	Beaufort West
8	Urban	Beaufort West Primary	Beaufort West
9	Urban	J.D. Crawford Primary	Beaufort West
10	Urban	St. Matthews Primary	Beaufort West
11	Urban	A.H. Barnard Primary	Beaufort West
12	Urban	Teske Gedenk Primary	Beaufort West
13	Urban	Voorbereiding Pre-Primary	Beaufort West
14	Urban	Niko Brummer Primary	Beaufort West
15	Urban	Beaufort West Secondary	Beaufort West
16	Urban	Mandlenkosi Secondary	Beaufort West
17	Urban	Central High	Beaufort West
18	Urban	Bastiaanse Secondary	Beaufort West
Total Number of Schools			18

The South Cape College has a campus in the town of Beaufort West which is the only tertiary institution in the Central Karoo District Municipal area. People are thus compelled to further their studies elsewhere outside of the District.



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**CENTRAL KAROO DISTRICT MUNICIPALITY
COMMUNITY FACILITIES**

Source: StatsSA/PAWC

**PLAN 15
OCTOBER 2013**

3.2.4 Employment, Occupation and Income

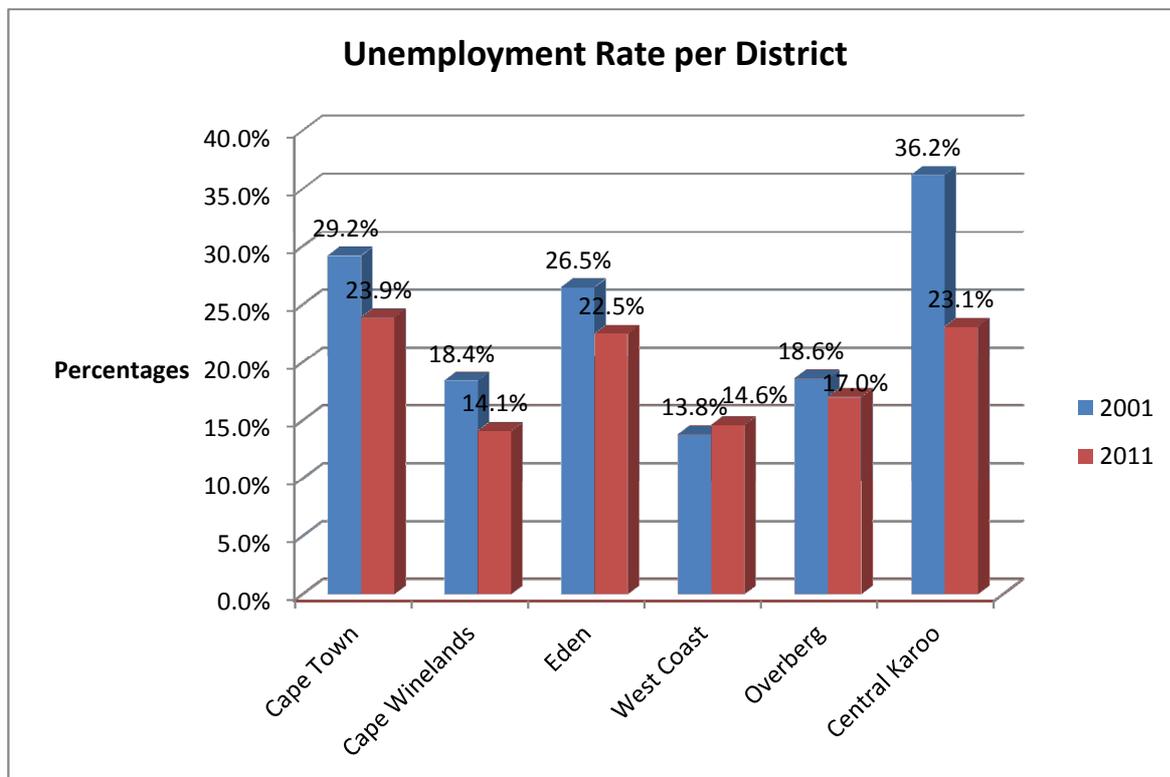
Labour Force Characteristics

Information on unemployment represents official unemployment statistics and does not make provision for discouraged workers. The size of the labour force is determined by the potentially economically active population from ages 15 – 64 years.

The potential economically active population in the municipal area increased from 37,458 in 2001 to 44,954 in 2011, meaning that 7,469 more people were available for employment. This represents an annual labour force increase of 1.84% over the ten year period.

The unemployment rate declined from 36.2% to 23.1% over the same period with an estimated 10,384 of people between the ages of 15 and 64 classified as unemployed. This is a considerable decline from 13,560 people considered unemployed in 2001. The District Municipality also had the greatest decline in the unemployment rate of any District Municipality in the Western Cape Province. The data implies that there was high level of labour absorption and activity over this period which may be attached to government policy interventions and growth in the retail and tourism sectors of the economy.

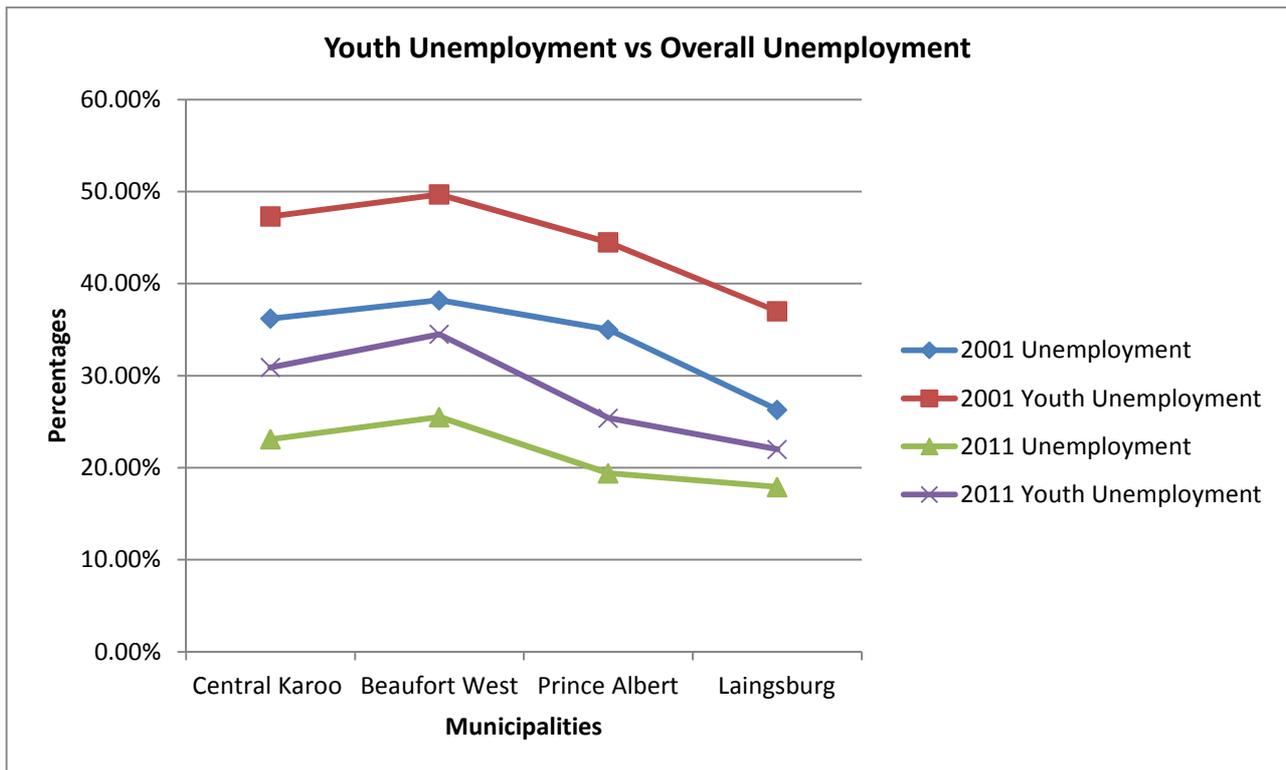
Figure 3-7: Unemployment rate per District in the Western Cape



Youth unemployment within the District remains high although significant ground has been gained in decreasing unemployment among the youth; the gap between the unemployed youth rate and that of the general unemployed has decreased between 2001 and 2011 (see Figure 3-8 below). The District still has the highest unemployment rate among the youth in the Western Cape. Among the Local Municipalities, Laingsburg has the lowest youth unemployment rate of

22% whilst Beaufort West has the highest at 34.5%. A high youth unemployment rate means that there is a greater dependence on the 16-64 working population.

Figure 3-8: Youth Unemployment in the Central Karoo District Municipality



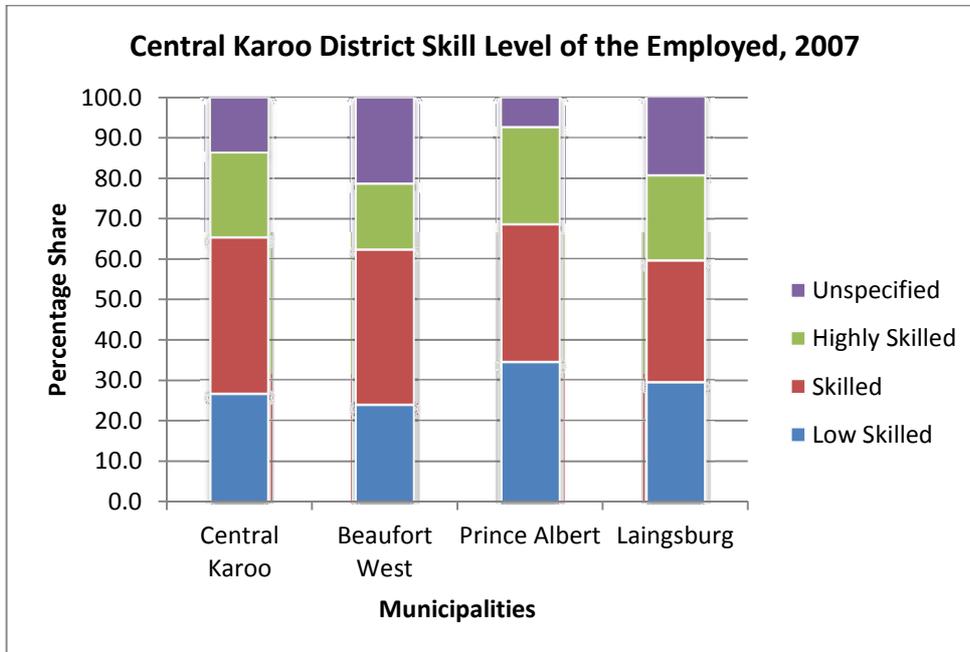
Skill Level of the Employed

Almost 40% of all the employed in Central Karoo District hold skilled jobs. Skilled occupations refer to clerical positions, service and sales workers, crafters, tradesmen and artisans. The concentration of employment in skilled work means that there are relatively few opportunities available to those considered as low skilled employees. Highly skilled occupations account for 21% of the employed whilst low skilled occupations add up to 27%.

It is interesting to note that Prince Albert Municipality has the highest concentration of highly skilled¹⁷ workers at 24%. This may be an underlying contributor to the economic growth experienced in this area as discussed further in this document. This municipality also has the highest percentage of low skilled labour and may be as a result of its agricultural characteristics; the agricultural industry is the biggest employer in Prince Albert Municipality. Of concern is that the decline in the agricultural industry may be to the detriment of employment in Prince Albert. Skills development initiatives would therefore be appropriate interventions in this regard in order to ensure that labour is not lost.

¹⁷ Highly skilled occupations refer to professional and managerial occupations such as senior managers and officials, technicians, engineers, doctors, and other professionals.

Figure 3-9: Central Karoo District Employment Skill Level, 2007



District Economic Characteristics

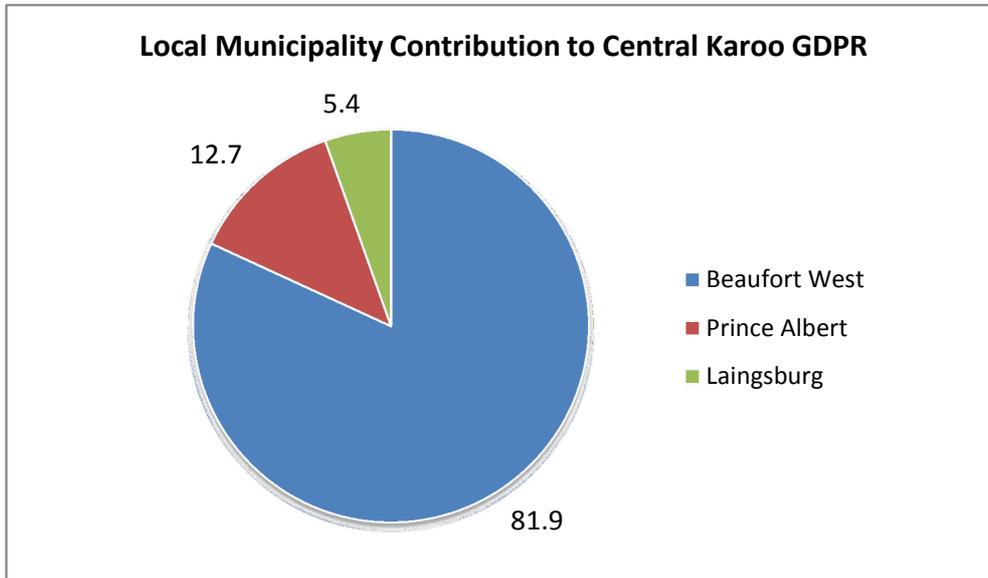
Economic Growth

Central Karoo District is the smallest economy of the district economies in the Western Cape and had an estimated gross domestic product per region (GDPR) of R2.096 billion in 2010. As the largest municipality, Beaufort West accounted for 82% of the District’s GDPR followed by Prince Albert Municipality at 13% and Laingsburg at 5% (see Figure 3-10 below).

The Central Karoo District has shown strong growth for the period of review (1999 to 2009) averaging a 4.3% growth rate. The District economy, however, contracted by 0.2% in 2009 which can be attributed to the global economic recession of 2008/09. During this period the provincial economy also shrunk by 1.2%. Economic growth in the preceding years was robust and peaked in 2008 with an average growth rate of 7% across the District Municipality. Prince Albert Municipality showed the strongest growth among the local municipalities and managed to maintain growth in 2009 albeit low at less than 0.5%.

There appears to be an improving outlook on economic growth for Central Karoo District if the Western Cape Province’s growth rate of 2011 is used as a yardstick. Central Karoo District had economic contraction in 2009 in line with the Western Cape’s decline; the Province however has shown an estimated economic growth rate of 3.6% in 2011 and it is expected that Central Karoo District will follow a similar growth trend.

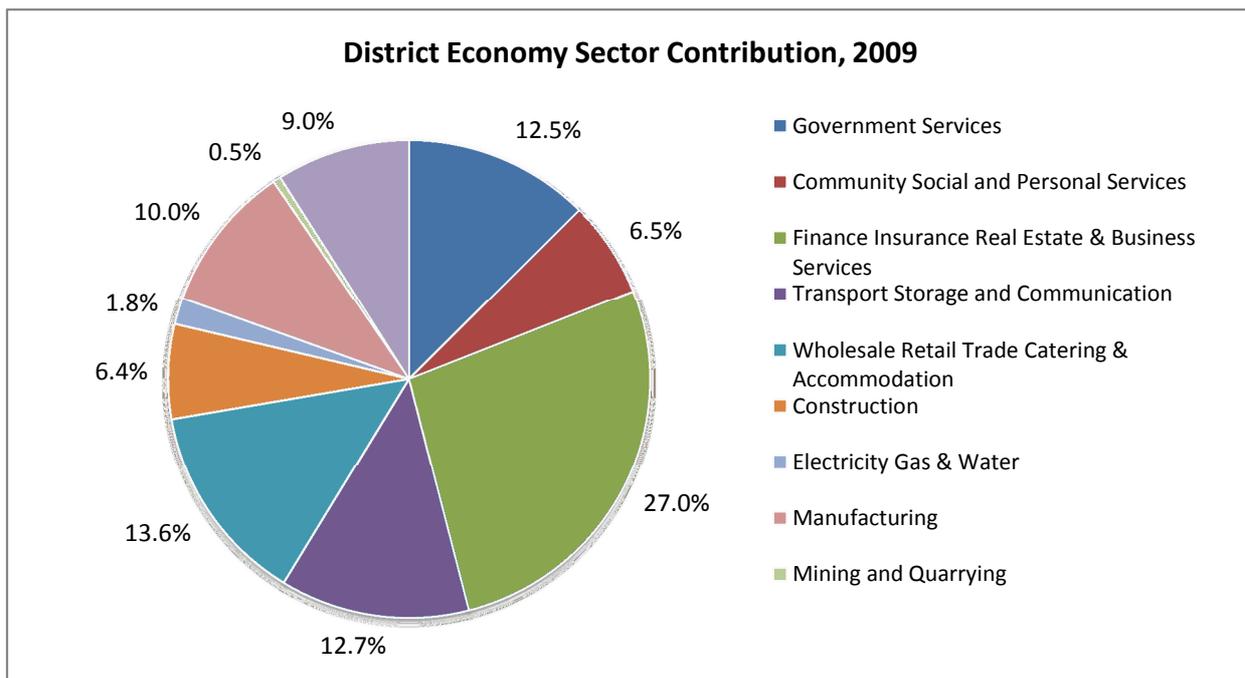
Figure 3-10: Local Municipalities' Contribution to Central Karoo District GDP, 2010



Sector Composition and Growth

For the period of review, contributors to the District economy changed markedly. The Finance, Insurance, Real Estate and Business Services Sector were the largest sector of the economy accounting for almost 30% of economic activity and recorded the highest average growth rate of 8.9%. The growth in this sector has ultimately supported sturdy overall growth the District economy from 2000 to 2008. The Manufacturing Sector followed with an average growth rate of 4.4% and accounts for 10% of the economy compared to 6.4% in 1999.

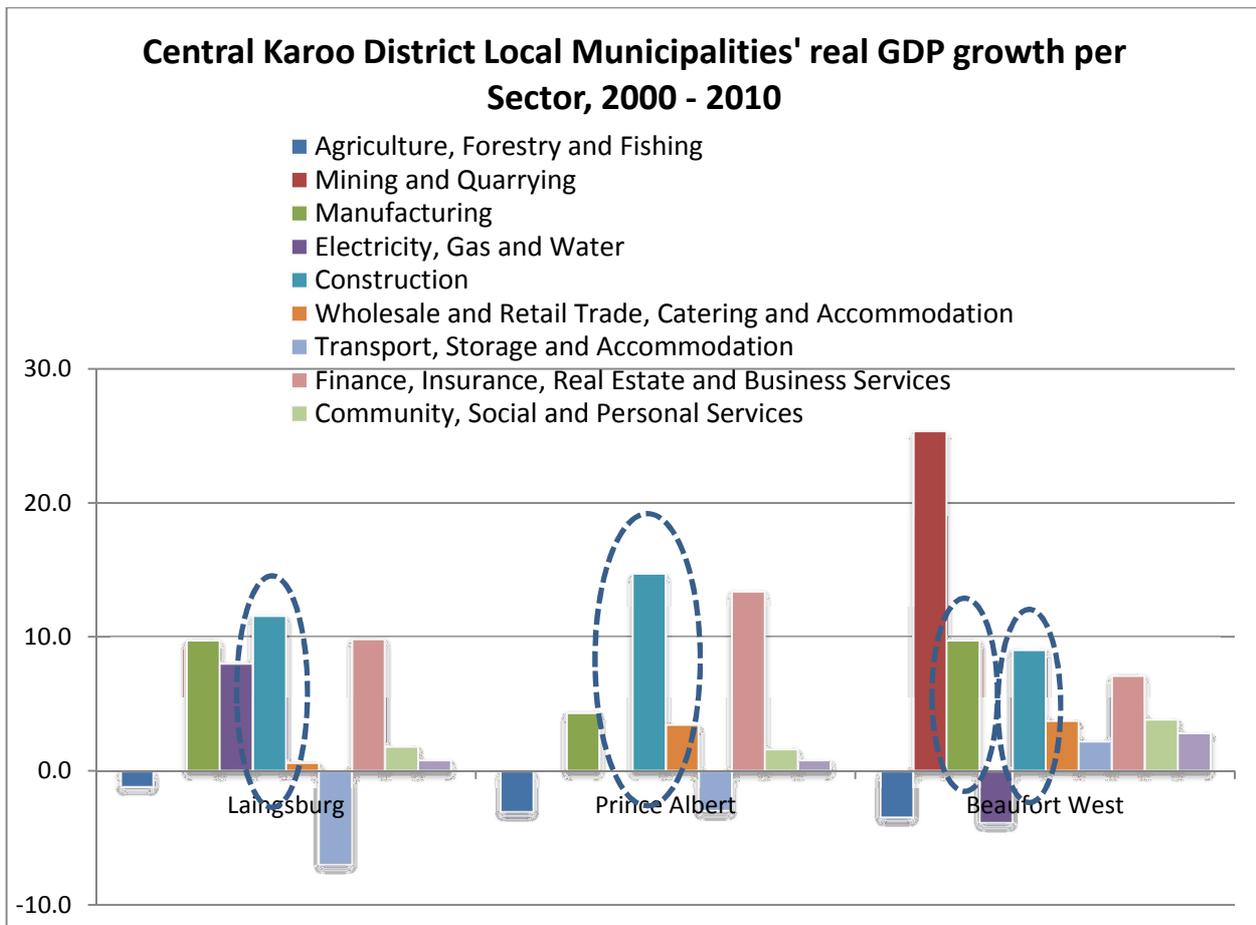
Figure 3-11: District Economy Sector Contribution (2009)



Source: Western Cape Provincial Treasury, 2011

Other important economic sectors are the Wholesale and Retail Trade, Catering and Accommodation Sector (14%), Government Services Sector (13%) and Transport, Storage and Communication Sector (13%). The Agriculture, Forestry and Fishing Sector's share of the District economy declined from 15.4% in 1999 to 9% in 2009 with an annualised decline of 2%; this is concerning as it is a highly labour intensive sector.

Figure 3-12: Central Karoo District Municipalities' real GDP growth per Sector for the period 2000 to 2010



The Mining, Manufacturing, Construction and Finance Sectors showed robust growth in Beaufort West and Prince Albert economies. Mining and Quarrying had the highest growth rate in Beaufort West at 26% whilst the Manufacturing Sector grew at an average rate of 10%. The Construction Sector made the biggest gains at Prince Albert (15%) with the Finance, Real Estate and Business Services Sector marking growth of 14%. The Construction Sector also marked strong growth of 12% in Laingsburg followed by the Manufacturing Sector at 10%.

The Agricultural Sector declined across the board with contractions in Beaufort West and Prince Albert Municipalities exceeding 3%. This decline does not appear to be an anomaly but rather a long-term trend. The underlying conditions which lead to the decline need to be determined in order to formulate policy that would lead to sustained growth in the

agricultural sector. The Transport, Storage and Communication Sector¹⁸ also declined except in Beaufort West Municipality where it posted positive growth of more than 2%; this occurrence may be attributed to centralisation of activities to Beaufort West and decline in some sub-sectors particularly rail transport. Furthermore, the Electricity, Gas and Water Sector¹⁹ in Beaufort West showed reasonable decline of almost 4% which is in contrast to growth at Laingsburg Municipality of 8%.

Employment by Sector

The biggest employers in terms of economic sectors for Central Karoo District is Community, Social and Personal Services (17%), followed by Agriculture (16%) and Wholesale and Retail Trade (14%) thereafter. When comparing these sectors' contribution to GDP, the former two sectors are the most labour intensive sectors. Any marked decline in economic activity in these sectors will thus have a significant impact on employment. Further growth however is likely to achieve a greater than proportionate increase in employment.

3.2.5 Land Reform

In 2001, the Department of Rural Development and Land Reform (DRDLR) initiated a programme to establish and promote black emergent farmers; the Land Redistribution for Agricultural Development (LRAD) grant was developed for this purpose. In response to the Land Summit resolutions of 2005, which called for the acceleration of the pace of land reform, the DRDLR introduced the Proactive Land Acquisition Strategy (PLAS). In 2009, the Department conducted a series of consultations with land reform beneficiaries which resulted in the termination of the use of the LRAD and SLAG grants. The focus shifted towards the acquisition of strategically located agricultural land through PLAS and land is made available to beneficiaries by way of lease agreements (DRDLR, 2012).

The majority of land reform projects of the Department of Rural Development and Land Reform are located within the Beaufort West municipal area. The District PLAS Registry indicates a list comprising 6 current projects with a land area of 36,000 hectares. These projects are located on State land and comprise primarily livestock farming.

Table 3-8: Current PLAS Projects for the Central Karoo District

PLAS Projects							
	Local Municipality	Town	Project Name	Property Description	Extent (hectares)	Registered Owner	Purchase Price
1.1	Beaufort West	Murraysburg	<i>Naartjieskuil</i>	Ptn 3 of the Farm Belvedere, No 73;	3,519.1313	Republic of South Africa	R2,650,000-00
1.2				Ptn 2 of the Farm Montana 123 Div Beaufort West			
2.	Prince Albert	Prince Albert	<i>Swartrivier</i>	Remainder of the Farm Wolvekraal 211 (Swartrivier)	3647.6702	Republic of South Africa	R5,000,000-00
3.	Beaufort West	Beaufort West	<i>Matjieskloof</i>	Remainder of Farm No 421	4739.9000	Republic of South Africa	R5,403,486-00
4.	Beaufort West	Beaufort West	<i>Tulpleegte</i>	Ptn 1 of Farm Tulpleegte No 357; Remainder of the Farm Tulpleegte No 357	6628.7725	Republic of South Africa	R5,300,000-00

¹⁸ Transport, Storage and Communication Sector refers to industries and activities providing passenger and freight transport, cargo handling and storage, postal and courier activities as well as telecommunication industry activities.

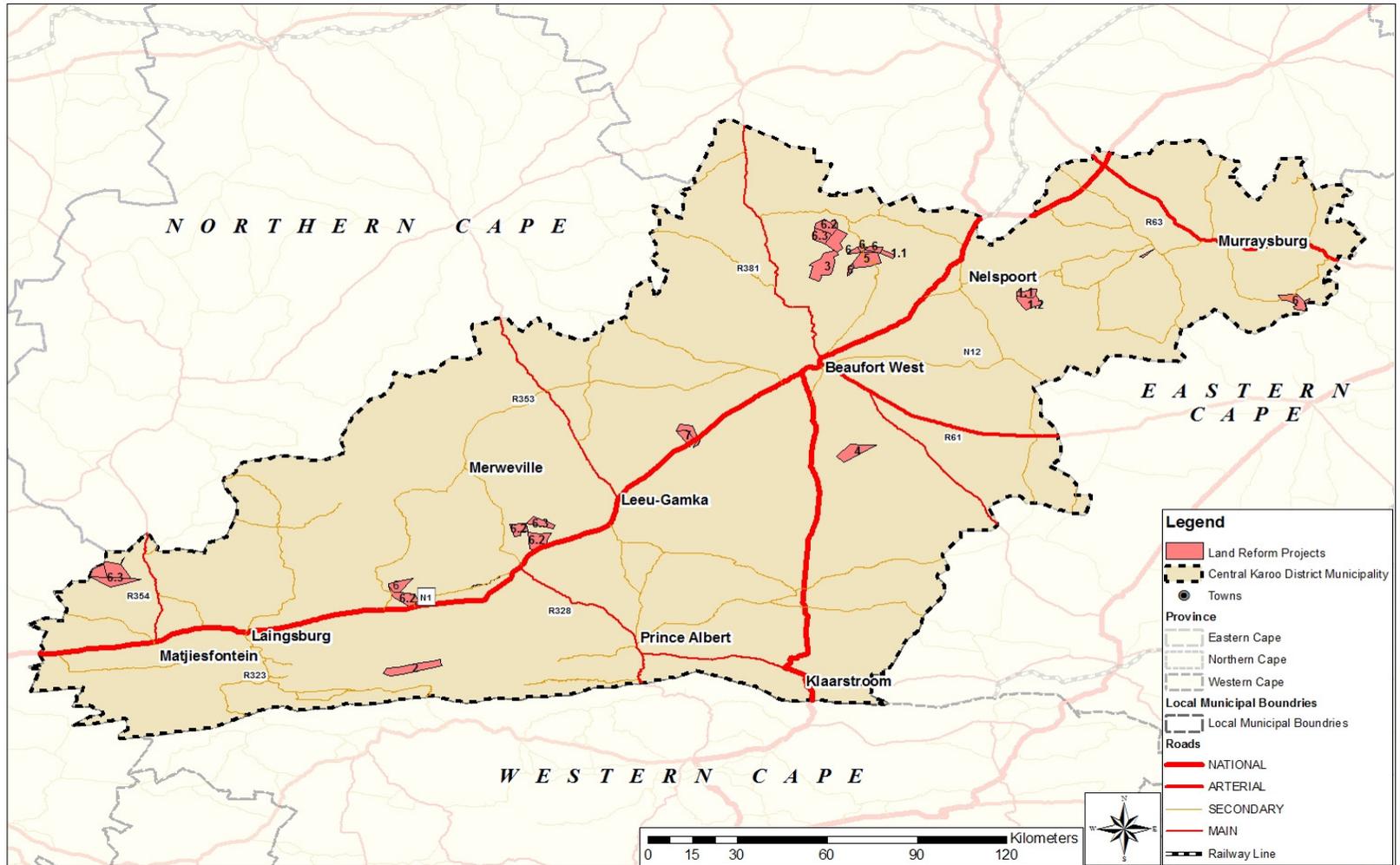
¹⁹ Electricity, Gas and Water Sector refers to industries and activities for the production, collection and distribution of electricity, the manufacturing and distribution of gas as well as the collection, purification and distribution of water.

PLAS Projects							
	Local Municipality	Town	Project Name	Property Description	Extent (hectares)	Registered Owner	Purchase Price
5.1	Beaufort West	Beaufort West	<i>Dassiesfontein</i>	Ptn 6 (South Dassiesfontein) of the Farm Dassiesfontein No.73, Ptn 5 (North Dassiesfontein) (a ptn of Ptn 1) of the Farm Dassiesfontein No. 73	3,280.7445	Republic of South Africa	R14,734,547-00
5.2							
6.1			<i>Rondawel</i>	Ptn 5 of the Farm Bok Poort No. 54, Ptn 6 of the Farm Bok Poort No. 54, Ptn 1 of the Farm Esterville No. 57, Ptn 4 of the Farm Dessisfontein No. 73, Ptn 2 of the Farm Taaibosch hoek No. 75, Ptn 1 of the Farm Scheurfontein No. 112 , Ptn 1 of the Farm Grasplaats No. 113, Ptn 2 (Portion of Portion) of the Farm Grsplaats No. 113	4,932.1822		
6.2							
6.2							
6.3			<i>Melrose</i>	Ptn 2 of the Farm Adj.Driekop No. 48, Ptn 1 of the Farm Taaibosch Hoek No. 75, The Remainder of the Farm Bronkers Valei No. 76	4,860.0212		
6.3	<i>Willemskraal</i>	Ptn 1 of the Farm Bronkers Valei No. 76	1,661.6007				
7.	Beaufort West	Beaufort West	<i>Klein Koedooskop</i>	Portion 5 of Farm Klein Koedooskop No.310, Portion 14 of the Farm Leeuwkraal No. 309 & Remainder of Portion 5of the Farm Leeukraal No. 309	2,807.1072	Republic of South Africa	R3,365,000-00

During the previous fifty (50) years farms in the Central Karoo District Municipality have grown larger and fewer with a resultant loss in farm labour. Farmworkers thus migrated to the urban settlements which have increased the urban unemployed. There are some 660 farms in the District and land sales between 2000 and 2006 averaged 150,000 to 200,000 hectares of commercial farm land (Central Karoo District Municipality ABP, 2008). Although providing marginal employment and economic opportunities, the advent of game and 'life-style' farms pushed land prices above productive value.

Challenges in respect of land reform remain; there are fewer strategic agricultural farms on offer for purchase and high land prices prove to be problematic as well.

Refer to **Plan 16** illustrating the above land reform projects.



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CENTRAL KAROO DISTRICT MUNICIPALITY - LAND REFORM

Source : Department of Rural Development and Land Reform

PLAN 16
OCTOBER 2013

3.2.6 Cemeteries

Cemeteries are well provided for throughout the District area. The following is a summary of the cemeteries in the Local Municipalities:

Beaufort West:

The Beaufort West town has eight (8) cemeteries and these are deemed as adequate to meet the needs of the municipality in the medium term.

Laingsburg:

The Laingsburg town has four (4) cemeteries and Matjiesfontein has one (1). These cemeteries are deemed as adequate to meet the needs of the municipality.

Prince Albert:

There are four (4) cemeteries of historical significance located in the historical town of Prince Albert which may require special preservation.

3.2.7 Heritage

Due to the Central Karoo District Municipality being underlain by the Beaufort Group of rocks consisting of shales, mudstone, sandstone and tillite, with the mountains to the south of the district extending onto these rocks, the district is rich in fossils²⁰ and is thus of great paleontological importance.

Pre-colonial archaeology is evident across the entire district, with particularly San and Khoi artefacts being evident. The San artefacts include rock paintings (in rocky terrain), stone tools and middens containing *inter alia* bones and food items. The middens were generally found along water courses, pans and flood plains. Beaufort West has a rich collection of rock paintings and engravings, with the most notable being Nelspoort²¹.

Khoekhoen pastoralists are known to have inhabited the district. Several stone kraal complexes have been identified. At about 1200-1400AD, a global climatic fluctuation appears to have caused an increase in rainfall. This may have increased grazing availability, resulting in the introduction of cattle into the district. The current climatic conditions however favour small stock, such as sheep and goats.

The colonial period provides greater recorded in-sight into the district's past. Early nomadic pastoralists (Trekboere) paved the way for increased expansion into the interior. This expansion not only resulted in frequent and violent clashes with the last of the stone-age peoples, but also in the indiscriminate hunting of large game, to near extinction. The establishment of early settlements took place from the late 1700's and early 1800's, generally in close proximity to water resources. This in turn resulted in many skirmishes over the scarce resource. Soon, these settlements developed into what are today the main towns within the district.

Evidence of the Anglo-Boer War in the early 1900s still remains in the form of grave sites and blockhouses along the railway line, and places such as Matjiesfontein and Prince Albert were used as garrisons by the British. There a number of provincial heritage sites across the District Municipality and they include the Swartberg Pass and Gamkaskloof Pass. Provincial heritage sites are also found in the towns of Beaufort West and Prince Albert, a few farmsteads such as Baviaanskloof and Vrolikheid, churches in Merweville and Laingsburg, and a corbelled structure on the farm Vlieefontein near Beaufort West. Many more hundreds of individual sites are worthy of formal protection such as fossil sites,

²⁰ Central Karoo District Municipality Draft EMF Status Quo Report.

²¹ Technical Report in support of the EMP for the South Western Karoo Basin Gas Exploration Application Project

archaeological sites, farmsteads, corbelled structures, dwellings, religious sites, graves and burial grounds, and military fortifications. Further detailed investigations and assessments will be required to identify these sites.

Table 9: Heritage Sites in Central Karoo District Municipality

THEME	ELEMENT	DESCRIPTION
Natural Landscapes	Witberge	Comprises one of South Africa's most characteristic landscape – with vast plains or 'vlaktes', flat-topped koppies and rocky outcrops, and defined by great mountain ranges of the escarpment and Swartberg Mountains.
	Suurberg/Waaihoeksberg	
	Elandsberg	
	Groot Swartberge	
	Oukloofberge / Droekloofberge	
	Klein Roggeveldberg / Brandberg	
	Komsberg	
	Nuweveldberge / Die Rant	
	Karoo Koppies	
	Onder Sneeuwberg / Toorberg	
Cultural Landscape	Gamkaskloof rural settlement & reserve	Archaeological remains, stone and fossil sites, San hunter-gatherers & Khoi pastoralists, Trekboer history (Social History) as well as Anglo Boer War remains and relics.
	Nelspoort rock engravings	
	Matjiesfontein Valley	
	Vleiland	
	Scholzeloof	
	Klaarstroom	
Scenic Routes and Passes	Seweweekspoort Pass	Historic mountain passes constructed to provide access from the coast to the hinterland, railway history and important transportation linkages and elements.
	Swartberg Pass	
	Gamkaskloof Pass	
	Meiringspoort	
	Molteno Pass & Roseberg Pass	
	R354 Route	
	Rooinek Pass	
	R353 Route and Teekloof Pass	
	R407 Route	
	Kareedouwberg Pass	
	N12 Route & Droekloof	
	R63 Route	
N1 Route		
Historical Elements	Murraysburg Historic Town	Settlements established as church towns during the 1700's and early 1800's; urban morphology due to river/ribbon and/or grid pattern development; railway and institutional settlements.
	Beaufort West Historic Town	
	Prince Albert Historic Town	
	Merweville Historic Town	
	Matjiesfontein Historic Village	
	Klaarstroom Valley Historic Village	
	Vleiland Valley Historic Valley	

3.2.8 Housing

The Central Karoo District Municipality has one of the highest numbers of households with access to formal housing. There has been a marginal decrease in the number of households which reside in informal housing since 2001. According latest census statistics (2011) 95% of all households have access to formal housing whilst an estimated 5%

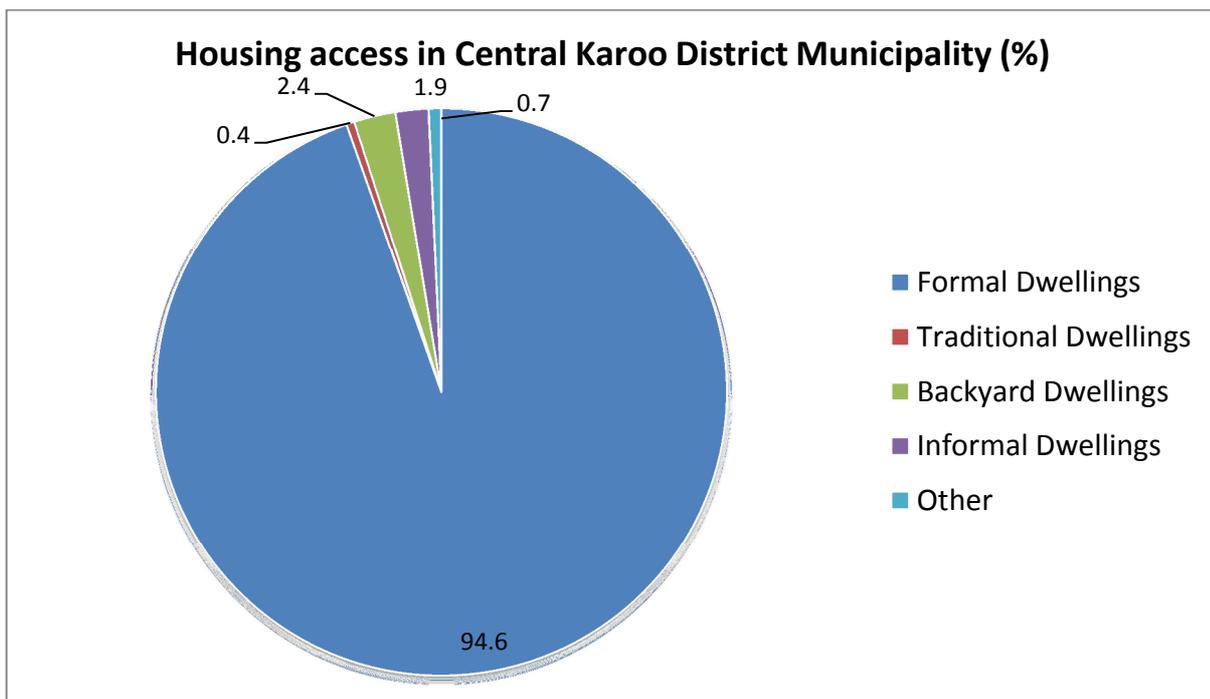
(or 954 households) still have an insecure form of tenure. This amounts to a housing need of a minimum of 954 units, primarily subsidised housing units, in the short to medium term across the District.

The Provincial Department of Human Settlements' Sanitation Backlog Survey however indicates a housing backlog in excess of 2,500 units of which 80% are backyard dwellers with access to shared services. Of concern is that more than 18% of the housing backlog occurs on the District's farms outside of urban settlements with no access to sanitation services. The Department's strategy is the provision of housing in areas of greatest need as well as areas of greatest development potential. Provision is therefore focused on key settlements including Beaufort West, Leeu-Gamka, Laingsburg, and Prince Albert.

Major general challenges in housing provision are the cost and availability of well-located land; the inadequate integration of housing settlements with the broader urban environment; poor provision for the gap market; and delays in transferring title deeds to low-cost housing beneficiaries.

Prince Albert Municipality has the highest percentage number of households living in informal housing at 6.6%, followed by Laingsburg Municipality at 5.4%. An estimated 57% of households living in informal housing reside within the Beaufort West Municipality area.

Figure 3-13: Level of Access to Housing in the Central Karoo District



3.2.9 Tourism

The Central Karoo District Municipality covers a large area of the Karoo which stretches over several provinces; the Western Cape, Eastern Cape, Northern Cape and Free State. As a result of its natural environment, distinctive

landscape and heritage elements (see Section 3.2.7); it offers a diverse range of tourism activities and attractions in terms of the themes²² shown in the table below:

Table 10: Broader Karoo Tourism Themes

THEME	Element Description
Heritage & History	Fossils, rock-art, Anglo-Boer War, cemeteries, historic towns, monuments and museums.
Architecture	Cape Dutch, Karoo Gothic and Neo-Gothic, Victorian, Railway architecture.
Natural & Environmental Tourism	Game viewing, bird watching, hiking, national parks and resorts.
Adventure Tourism	Paragliding, sky-jumping, abseiling, mountain-biking, hunting.
Arts, Crafts & Literature	Guided literary tours, craft-making, craft-selling, artistry, art galleries and exhibitions.
Cuisine	Restaurants, food, wine-making and wine-tasting, cheese-making.

Accommodation establishments are also growing; for example, Beaufort West had more than 40 establishments in 2010, with an additional 20 guest farms across the hinterland. Each of the major towns in the Central Karoo District Municipality has a distinctive character as described in the table below:

Table 11: Comparison of the tourism character of Central Karoo District Municipality towns

TOWN	Heritage & Architecture	Natural & Environmental	Crafts, Cuisine & Other
Laingsburg	Laingsburg flood history and Karoo Architecture.	Star-gazing, nature reserves, Floriskraal Dam.	Craft shopping and overnight accommodation.
Prince Albert	Cape Dutch, Karoo & Victorian architecture.	Die Hel (Gamka's Kloof), Swartberg Pass, Mountains and Reserve, Seweweekspoort, Meiringspoort.	Craft-making and shopping, chef school, agricultural activities (olive, wine and fruit farms) and art galleries.
Beaufort West	Chris Barnard Museum, Block Houses, Khoi-San rock art (Nelspoort).	Karoo National Park, Game hunting, and game farms.	Karoo cuisine, overnight accommodation, crafts shopping, and conferencing.

A much more detailed comparison of the towns needs to be undertaken to enable the identification of collaborative and cross-district marketing opportunities and synergies.

3.2.10 Crime

Crime statistics issued by the South African Police Services (SAPS) over the period 2003 to 2012 indicate consistent marginal decreases in the levels of crime in the District. Contact crimes such as murder and attempted murder show decreasing levels. However, assault and assault with the intent to do grievous bodily harm remains stubbornly high at all reporting stations within the District. The statistics point to individuals resorting to violence to solve disputes rather than apply to the justice system for dispute resolution.

²² Adapted from The Karoo Tourism Strategy (2012) by the Karoo Development Foundation

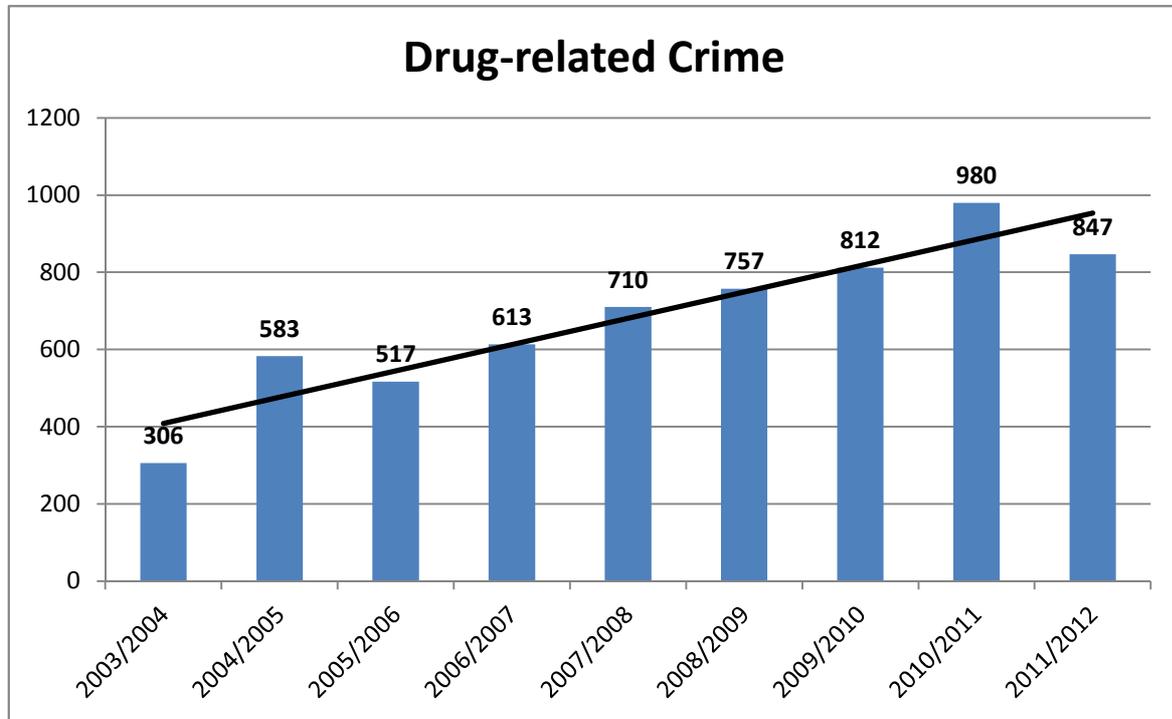
Burglaries at residential premises particularly in Beaufort West has seen little change over the reporting period and remains high. However, Prince Albert has seen significant decline in house burglaries from 80 in 2003/04 to 39 in 2011/12.

Table 3-10: Central Karoo District Crime Statistics, 2003/4 to 2011/12

	Apr '03/Mar '04	Apr '04/Mar '05	Apr '05/Mar '06	Apr '06/Mar '07	Apr '07/Mar '08	Apr '08/Mar '09	Apr '09/Mar '10	Apr '10/Mar '11	Apr '11/Mar '12
CONTACT CRIMES									
Murder	43	43	29	26	35	20	32	24	27
Sexual Crimes	145	129	82	62	60	79	130	154	140
Attempted Murder	21	27	6	12	6	5	11	12	7
Common Assault	719	900	726	694	696	692	698	805	777
Common Robbery	129	120	61	79	102	80	110	99	118
PROPERTY RELATED									
Burglary (Non-Residential)	191	113	93	90	132	149	166	178	176
Burglary (Residential)	588	513	376	384	447	460	518	456	545
Stock-theft	201	129	100	81	85	93	85	79	119
POLICE DETECTION CRIMES									
Drug-related Crime	306	583	517	613	710	757	812	980	847
Driving Under the Influence	103	120	217	281	254	256	226	252	169

The most alarming increase in reports across the District is for drug-related crimes, as well as driving under the influence of drugs or alcohol. At Beaufort West and Prince Albert stations there are a three-fold increases in such crimes reported. These statistics may be partly attributed to improvements in policing and law enforcement but the most important indicator is the socio-economic circumstances in communities particularly among the youth.

Figure 3-14: Central Karoo District Drug-Related Crime, 2003/04 to 2011/12



3.2.11 Implications for the SDF

The following are considered important considerations and informants to the socio-economic environment of the Central Karoo District:

- The population growth rate of the District is much lower than the provincial and national average. It is expected that growth will reach a plateau in the medium term. Municipal and state infrastructure and service provision will thus need to be provided accordingly;
- There appears to be an equal spread of health facilities across the District, however, each rural facility may not have resident health professionals available. The Klaarstroom Clinic currently has priority;
- Short and medium term District economic growth will be constrained by current economic difficulties in the national and global economy. This will limit employment opportunities in certain economic sectors particularly the Finance, Real Estate and Business Services Sector which is the most vulnerable during the economic recession;
- Levels of education are low in the District. It impacts on the employability of the economically active population and in turn dents prospects of continued economic growth in the District;
- Skills and literacy training as well as access to some form of vocational and tertiary training are essential to address the skills gap in the District. An FET College which caters to the entire District is an option particularly as the District has the highest youth unemployment in the Western Cape;
- There is a lack of available land in the District on which to undertake sustainable land reform projects. Existing land reform projects are under-capitalised and individual income potential is very low;
- The District has several historic cemeteries which will need proper protection in terms of facility management;
- The District is experiencing a significant increase in crimes related to alcohol and drug use. Policy interventions should target this form of crime.

3.3 Built Environment

3.3.1 Hierarchy and Role of Settlements

A settlement hierarchy is known by the way in which settlements are arranged within a certain area and is usually based on the population size of the settlements as well as economic and social importance. The greater the population of a settlement, the larger the geographic area, and the higher the status and the greater the availability of services. Position in a settlement hierarchy can also be dependent on the sphere of influence – such as how far people will travel to use the services of a settlement; if people travel further the town becomes more important and ranks higher in the hierarchy.

The settlement hierarchy of the Central Karoo District Municipality consists of one primary settlement, known as Beaufort West, four secondary settlements, namely Prince Albert, Merweville, Laingsburg and Murraysburg and several small settlements strategically located along the N1 route and other local routes. Beaufort West is seen as the main service centre of the District and provide for medical, educational, commercial and administrative activities. Prince Albert and Laingsburg towns are both strategically located within the District area and mostly serve the surrounding farming communities. Laingsburg is also located on the N1 which link Cape Town and Gauteng and the through traffic create positive spin-offs opportunities for the local economy.

The smaller settlements such as Koup, Leeu-Gamka, Luttig, Matjiesfontein and others as indicated on the map are mostly settlements established around farming activities and historic railway activities within the District. Most of them located on or close to the N1 Highway. Refer to **Plan 17**.

The future expansion of settlements within the District is limited to low-cost housing development. Low-cost housing developments are primarily located at the periphery of towns or are planned for such locations. Industrial land use activity is also not expected to grow significantly due to the slow uptake of industrial zoned land in the main nodal towns of each Local Municipality.

3.3.2 Transportation

Road Network

The N1 highway forms part of the South African National Roads Agency (SANRAL) road network and bisects Central Karoo District on a northeast-southwest axis through the towns of Laingsburg and Beaufort West. According the Western Cape Department of Transport and Public Works, the N1-corridor between Beaufort West in Central Karoo District and Paarl in the Cape Winelands District carries an average annual daily traffic (AADT) volume of approximately 3,219 vehicles. In addition, the average annual daily truck traffic (AADTT) is 1,180 vehicles of which 73% are longer combination vehicles (LCV's). It is estimated that 19 million tons of goods are transported on this corridor between Cape Town and Gauteng and is a key provincial and national freight corridor.

The N1 runs along Donkin Street, the main road in the centre of Beaufort West's central business district (CBD). The road has for long impacted both negatively and positively on the town's economy and environment; a number of local businesses depend on trade with passing traffic on the N1 whilst the truck freight traffic causes significant noise pollution, traffic safety issues and emissions in the CBD. A by-pass to circumvent the town's CBD has been considered with a specific study undertaken by SANRAL which assessed alternative alignments for heavy vehicle truck movements. In addition, alternative measures have been implemented along Donkin Street in terms of its upgrading to accommodate the future increase in heavy vehicles and other traffic. This element was supported with caution since the elements of cultural and historic interest (such as the street storm-water furrows) could be negatively impacted. On-street parking provision and layout on this stretch of road were also altered and is highlighted as a priority area in the Beaufort West Municipality Integrated Development Plan. Furthermore, the section of the N1 through the town of Laingsburg has been identified for landscaping and traffic calming.

The N12 links with the N1 at Beaufort West and connects with the N2 southwards in the Eden District Municipality. Although it functions as a national route, it is not maintained by SANRAL as a national road and falls under the jurisdiction of the Provincial Government of the Western Cape’s Department of Transport and Public Works.

The R61 from the N1 at Beaufort West is an important connector to the N9 and Aberdeen in the Eastern Cape. An Average Speed over Distance (ASOD) system has been implemented on a 71.6km stretch of this road which has suffered from a significant number of road traffic accidents and fatalities. It is considered one of the longest camera networks of its kind in the world.

Table 3-11: Central Karoo Road Network Lengths

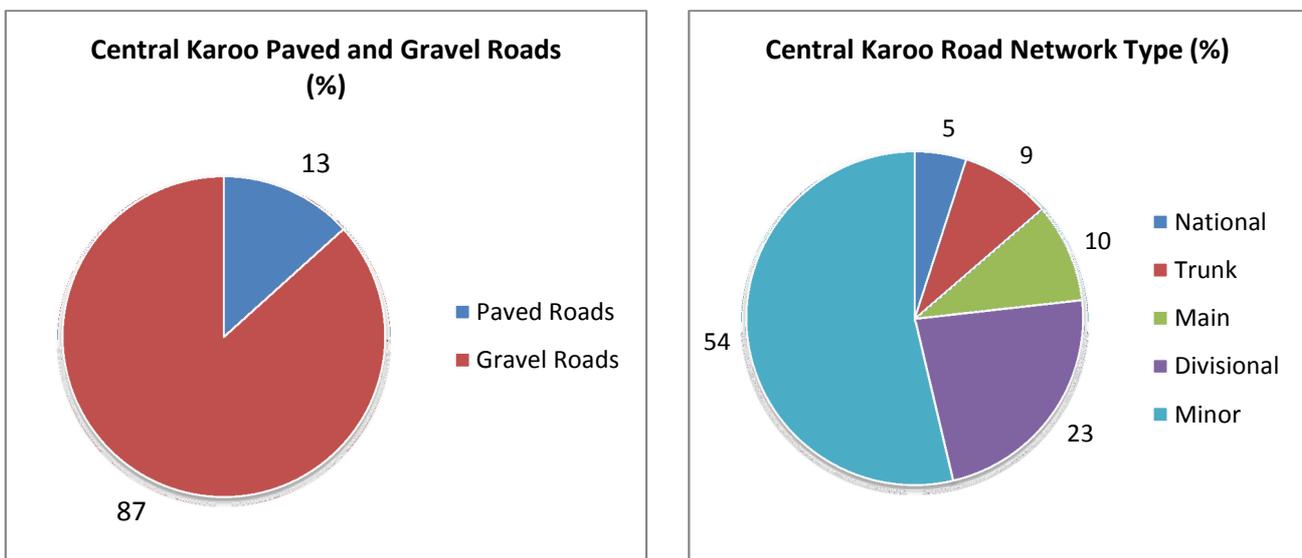
ROAD TYPE	PAVED (km)	GRAVEL (km)	TOTAL (km)	%
National	364	0	364	5%
Trunk	555	83	638	7%
Main	42	662	704	9%
Divisional	15	1684	1699	23%
Minor	0	3945	3945	56%
TOTAL	976	6374	7376	100%

Other roads forming important linkages in Central Karoo District are:

- R328 which connects Prince Albert with the N1 at Prince Albert Road as well as southwards to Oudtshoorn via the Swartberg Pass;
- R407 connecting Prince Albert to the N12 near Klaarstroom;
- R63 connecting Murraysburg with the N1 and Graaff-Reinet in the Cacadu District Municipality;
- R354 connecting the N1 near Matjiesfontein with Sutherland in Namakwa District Municipality;
- R323 from Laingsburg across the Swartberg Mountains on the Seweweekspoort Pass connecting at the R62 near Ladismith;
- R353 from the settlement of Leeu-Gamka towards Merweville and Fraserburg in the Namakwa District Municipality;
- R322 on the R61 near Beaufort West towards Rietbron and connecting at the N12 near Willowmore in Cacadu District Municipality.

Minor and divisional roads account for more than 80% of all roads and are all unpaved; these routes provide primary access to farms and remote rural settlements across the District.

Figure 3-15: Central Karoo District Road Network Characteristics



Railways

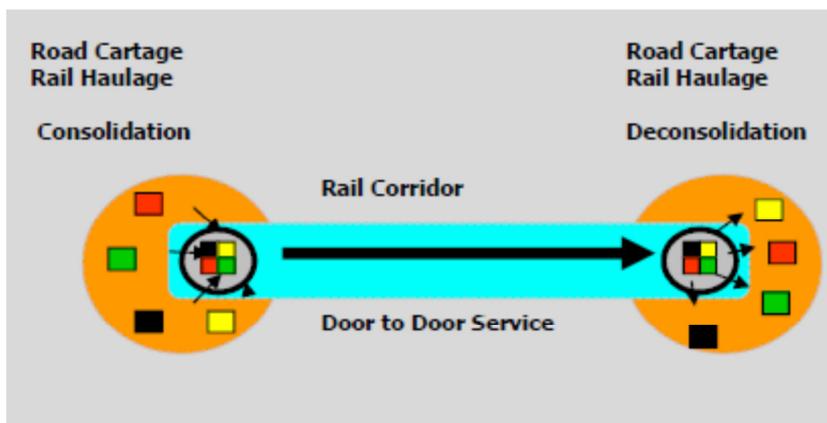
Much of the Central Karoo District towns can ascribe their existence to the major railway line which runs parallel to the N1 highway for its entire stretch through the District. As a result, the national decline in railway services and investment during the 1990's and subsequent years are mirrored in the condition of rural settlements along the railway line. South African railway history is particularly notable at Matjiesfontein station.

The District has two major railway stations; the stations at Beaufort West and Laingsburg accommodates both passenger and freight services. Mainline passenger service Shosholozza-Meyl departs and arrives daily on the Pretoria-Cape Town route as well as on Thursdays for the Cape Town-Durban route. Prince Albert Road station provides access to the town of Prince Albert located 45kms to the southeast. The Rovos Rail and Blue Train luxury services passes through the District several times per week. Nelspoort is also provided with a station that links the town to the main rail network between Cape Town and Gauteng. However, the train to Beaufort West arrives in Nelspoort at 04:00 and returns at 19:00 which does not render it viable as a mode of public transport. The Central Karoo District has significant and relatively modern rail infrastructure which is not used to the benefit of local communities.

Freight Transport

The town of Beaufort West has been identified as the location for a possible '*transport logistical interchange*' or intermodal freight hub. This is a broad term which refers to the concentration of facilities and services related to the freight and logistics industry where the transfer of goods may occur between two or modes of transport for further distribution to multiple destinations. This may not be a feasible due to the nature of the transshipment industry as illustrated in Figure 3-16.

Figure 3-16: Transnet Domestic Supply Chain Model

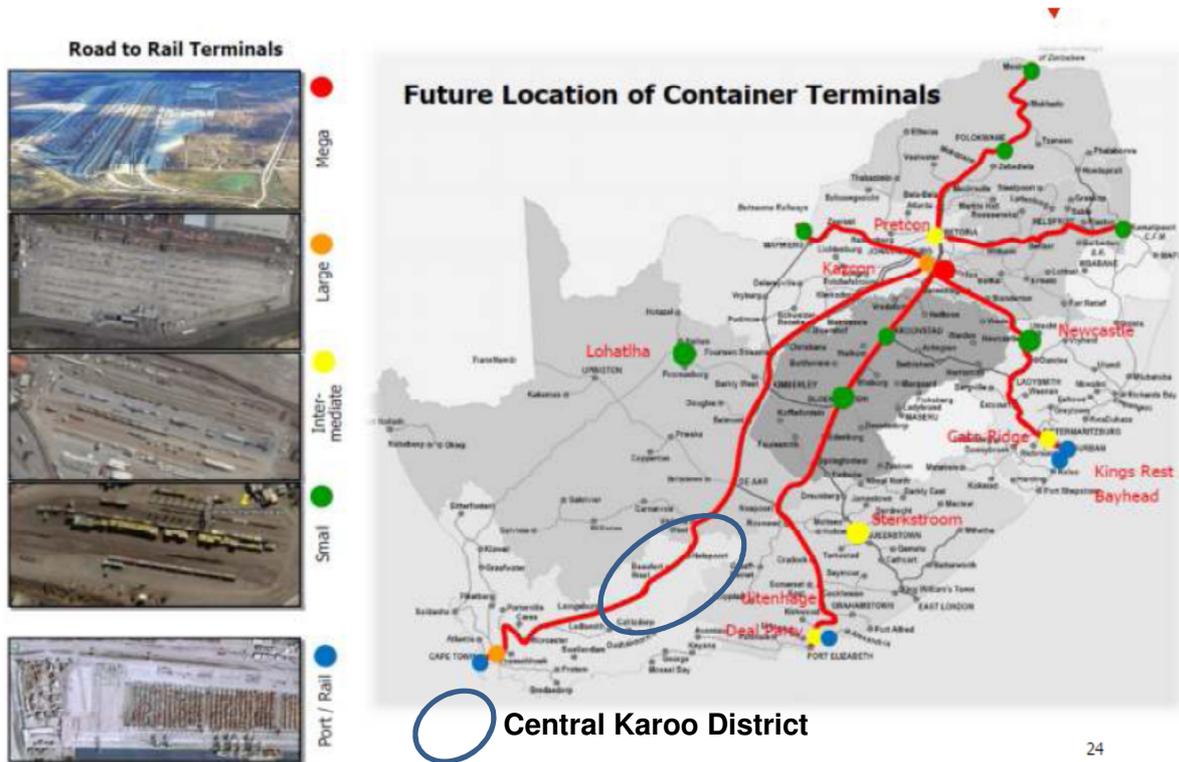


Source: Transnet, 2012

A facility of this nature should be able to provide consolidation and deconsolidation of freight between long haul rail freight (i.e. a distance exceeding 2,000 kilometres) and short haul road freight (i.e. a distance less than 800 kilometres). Short haul road freight requires a large market area similar in characteristics to a metropolitan area. Furthermore, Central Karoo District is not located at the convergence of several national freight routes or corridors as depicted in Figure 3-17. The District is only a transit point for traffic between Cape Town and Gauteng. Moreover, these facilities should ideally be located in close proximity to the trip origin and destination in order to limit costs related to drayage. With an estimated 1,180 heavy vehicles passing through the District daily however there may be opportunities to establish a cluster of road freight industry service businesses in the District.

In order to establish whether a facility of this nature is feasible and to determine the type of facility and operational characteristics, a complete and comprehensive assessment of freight and its movement along the Cape Town – Gauteng freight corridor will be required.

Figure 3-17: Transnet Freight Rail Container Terminal Proposals



Source: Transnet, 2012

Public Transportation

Formal public transport services are limited across the District; mini-bus taxi, sedan taxi and a single bus service are found in the town of Beaufort West; there is thus a mini-bus taxi rank in the CBD of Beaufort West. Irregular mini-bus taxi services operate between settlements across the District in medium to long haul type services. Long distance services are commonly needed for education, healthcare and shopping trips to Cape Town, George, Oudtshoorn and Worcester. District residents have considerable difficulty in accessing transport services for shopping and leisure activities.

Long distance bus operators have scheduled daily stops at Laingsburg, Prince Albert Road and Beaufort West. Destinations include Cape Town, Kimberley, Bloemfontein, Durban, Johannesburg and Pretoria. More than 28 buses (with a potential passenger capacity of 12,000 per week) from established national operators pass through the Central Karoo District daily.

Non-Motorised Transport

Walking is the primary transport mode for intra-town movement. All three Local Municipalities have constructed bicycle and pedestrian paths and sidewalks to a limited extent. Non-motorised transport infrastructure provision has been criticised for not being undertaken in a holistic or coordinated manner which provides linkages to important settlement areas and activities (e.g. between residential neighbourhoods, schools, clinics, shopping areas, etc.). Further planning and budgetary commitments are required for non-motorised transport across Central Karoo District.

Air Transport

There are three landing strips or airfields across the District; one each in every Local Municipality. There are a number of other airfields which has fallen in disuse or have limited access in private ownership. These facilities are primarily used by light aircraft for tourism and leisure purposes.

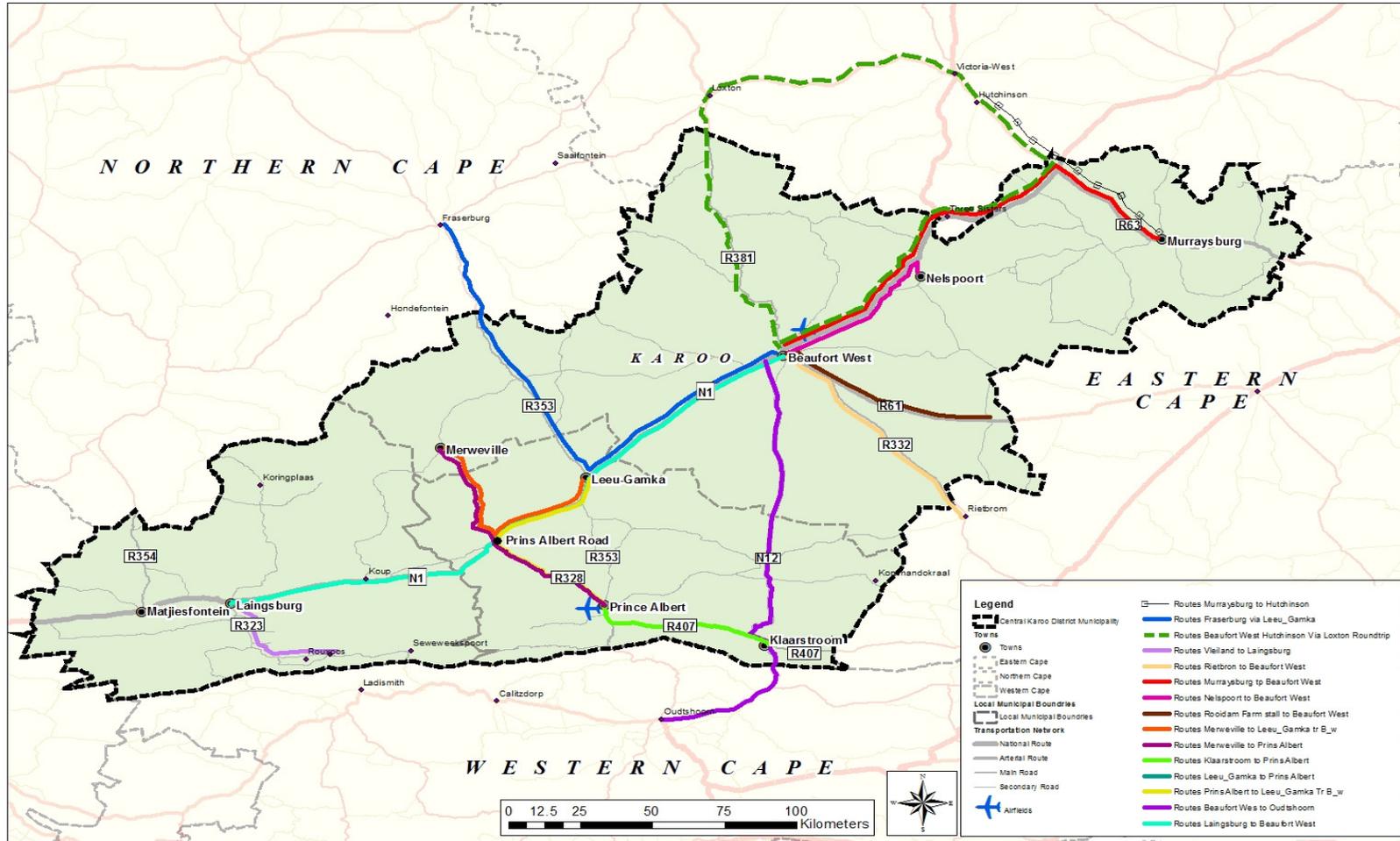
Central Karoo District Municipality Mobility Strategy

The Western Cape Department of Transport and Public Works commissioned a mobility strategy for the Central Karoo District Municipality of which the draft review document was completed in April 2013. The Mobility Strategy is the precursor to the development of an Integrated Public Transport Network (IPTN) Plan for the District Municipality and entails the institutional, infrastructural and operational aspects of the transport system. The review of the Mobility Strategy is to ensure its alignment as an IPTN in terms of the National Land Transport Act (Act 5 of 2009), provide a cost-model for implementation, and greater clarity on the responsibility and legal implications of providing municipal public transport services within the context of the National Land Transport Act.

Once consensus have been reached by all stakeholders in terms of an cooperative governance agreement on the need of such a system, the appropriate institutional structure(s) need to be established in terms of Section 78 of the Municipal Systems Act (Act 32 of 2000). System implementation, i.e. institutional, infrastructure and operations, may follow thereafter.

The Mobility Strategy proposes up to 15 public transport routes connecting most of the primary towns with outlying rural settlements as well as towns outside of the District Municipality, such as Oudtshoorn and Victoria West. A fleet of 13 vehicles including 4 65-seater buses, 4 25-seater midi-buses, 3 mini-bus taxi's and 2 spare vehicles is proposed. Infrastructural implementation includes bus stops and depots at strategic locations across the District Municipality.

Key issues for the implementation of the IPTN is consensus amongst stakeholders, i.e. the Central Karoo District Municipality, all local municipalities within the District, and the Provincial Government; secondly it is expected that operational costs of the public transport system will not be covered by fare or revenue collection and that a subsidy will be required. It will be essential that agreements be reached with the National Department of Transport to ensure that allocations from the Public Transport Operating Grant (PTOG) are made available to fund operating subsidies of the public transport services in the Central Karoo District municipal area. Refer to **Plan 18 illustrating the integrated public transport network.**

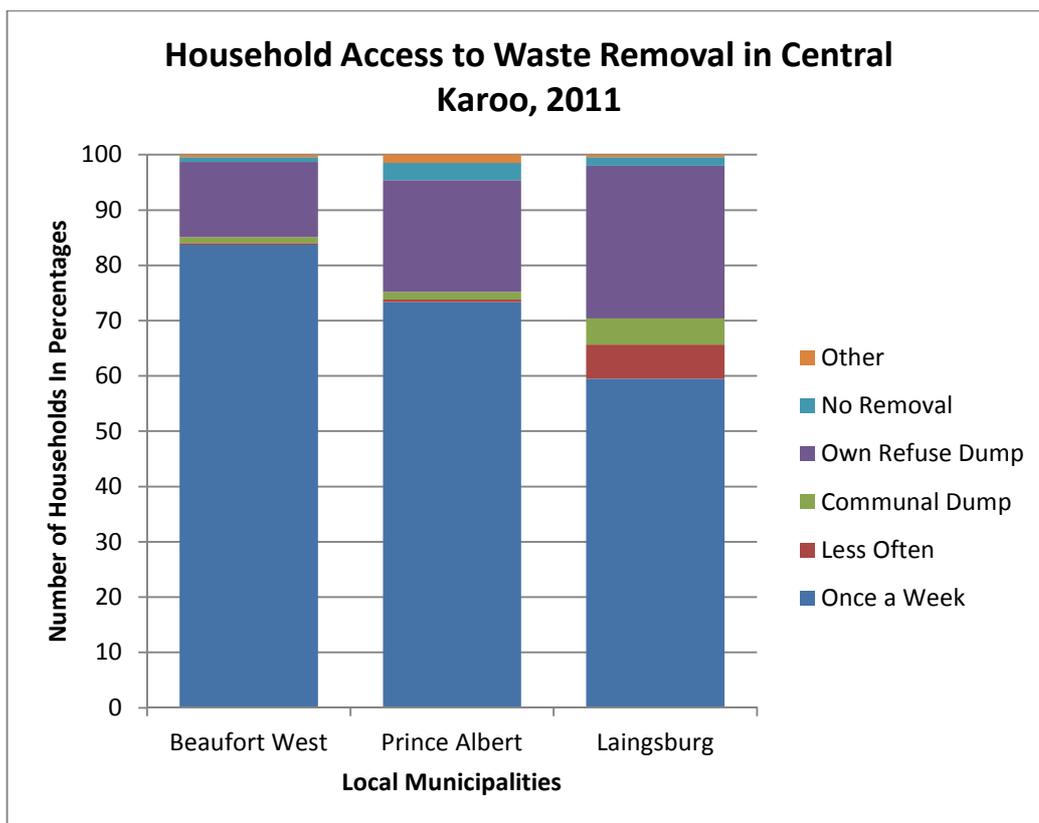


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3.3.3 Solid Waste Management

In the Central Karoo District Municipality 80% of the District’s 19,079 households have their waste removed by the local authority or private company at least once a week and 16% of the household needs to dump their own refuse. Laingsburg Municipality has the highest percentage of households with inadequate access to waste removal at 40% compared to 27% and 17% for Prince Albert and Beaufort West Municipalities respectively.

Figure 3-18: Households with access to waste removal



Source: *Census 2011*

Laingsburg Municipality has a single landfill site and no waste transfer stations; alternative waste management measures should be investigated for this Municipality in terms of a waste management plan particularly in light of 30% of households who dump their own waste. The landfill site at the town of Beaufort West has inadequate capacity and is in need of upgrade. The licencing of and resource capacity at landfill sites across the District is also problematic.

3.3.4 Water

The majority of the households have immediate access to water at a tap in their dwellings or on the household premises by way of the municipal potable water infrastructure. Around 2% of households obtain water from a public tap located in their surrounding area whilst 113 households (0.6%) do not have access to water.

Boreholes are the largest source of bulk potable water for the Central Karoo District followed by the Gamka Dam. Beaufort West Municipality has won a Blue Drop award in 2011 with a 92% average score. Murraysburg has shown a drop in the Blue Drop score; 45.6% in the 2010 assessment to 11.5% in the 2011 assessment. Prince Albert Municipality has scored 55% during the 2010 Blue Drop assessment and improved to 77.5% in the 2011 assessment. Laingsburg Municipality has scored 63.9% during the 2010 Blue Drop assessment and improved to 80.54% in the 2011 assessment.

Figure 3-19: Number of Households with Access to Running Water

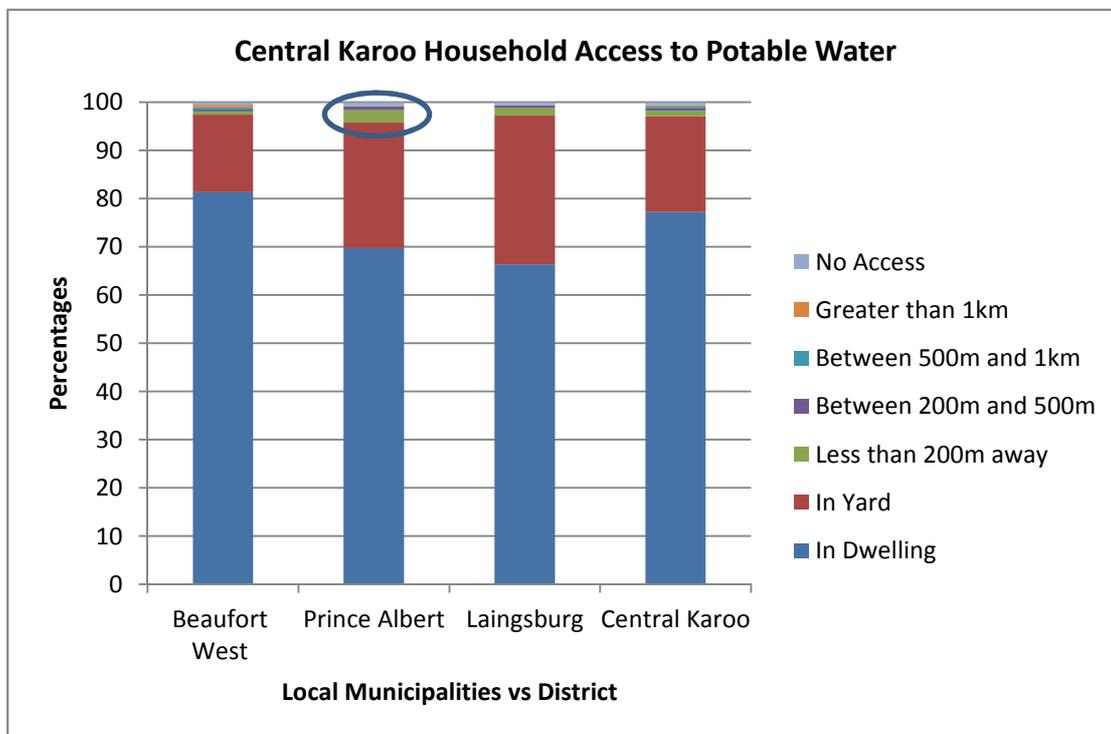


Table 3-12: Summary of water requirement and supply for the towns in Beaufort West Municipality

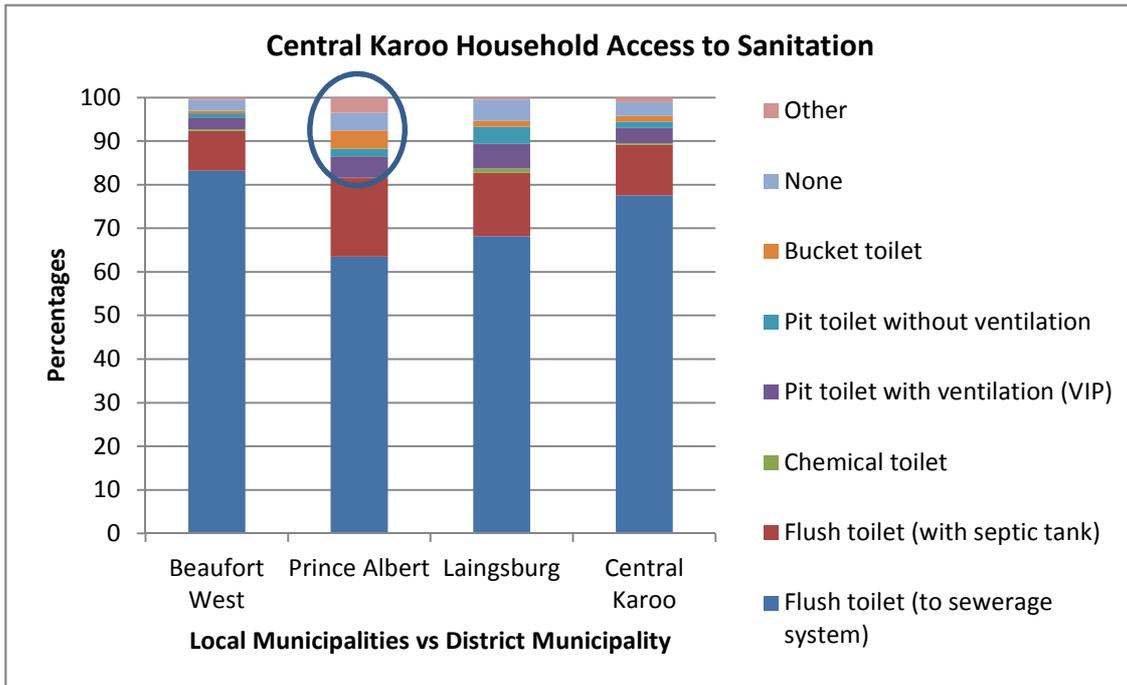
Town	Population	Water requirement million m ³ /a	Supply source	Current yield million m ³ /a
Beaufort West	33 324	2.517	Gamka Dam	0.5
			17 Boreholes and Two Springs	1.564
Merweville	1 240	0.070	Seven Boreholes	0.119
Nelspoort	1 485	0.101	Sout River (weir)	0.100
			Two Boreholes	0.043
Murraysburg	4 416	0.285	Five river boreholes	0.285

Table 3-13: Summary of water requirement and supply for the towns in Prince Albert Municipality

Town	Population	Water requirement million m ³ /a	Supply source	Current yield million m ³ /a
Klaarstroom	356	0.028	Boreholes	0.031
Prince Albert Road	126	0.003	Boreholes	N/av.
Prince Albert	5 487	0.305	Dorps River	0.471
			Boreholes	0.229
Leeu Gamka and Bitterwater	2 234	0.083	Boreholes	0.095

The figure below provides a more detailed representation of household access to sanitation for each Local Municipality as well as the District average.

Figure 3-21: Access to sanitation per Local Municipality



There are a total of 8 waste water treatment plants in the District. Generally waste water treatment facilities in the District have the following difficulties:

- Waste water treatment work permits have expired at several sites and the status of permits are unknown;
- Facilities across the District are poorly staffed;
- Monitoring and compliance are also lacking at most facilities;
- Regular detailed maintenance work is not undertaken.

Table 3-15: Service Levels at Municipal Waste Water Treatment Works

Treatment Works	Capacity (kl/day)	Staffing Levels	Monitoring	Compliance
Beaufort West	4660	Good	Acceptable	Acceptable
Merweville	111	Poor	Poor	Poor
Nelspoort	434	Poor	Poor	Poor
Prince Albert	1000	Poor	Poor	Acceptable
Leeu-Gamka	300	Poor	Poor	Poor
Prince Albert Road	0	0	0	0
Klaarstroom	50	Poor	Poor	Poor
Laingsburg	750	Acceptable	Acceptable	Poor

The treatment plant at Beaufort West has adequate capacity and is in good condition but will require greater and comprehensive maintenance. The Merweville facility is in poor condition has insufficient capacity and standard maintenance requirements will have to be addressed. At Nelspoort there is sludge build-up due to incorrect operations whilst at the town of Prince Albert there appears to be capacity constraints. The settlement of Prince Albert Road along the N1 still makes use of the bucket system. Buckets are emptied at a central tank with soak-away. The facility at Laingsburg is managed at acceptable levels and is generally in a good condition. However, there are concerns that its design capacity and operation capacity does not match. Also, the town of Murraysburg does not have a water-borne sewerage system.

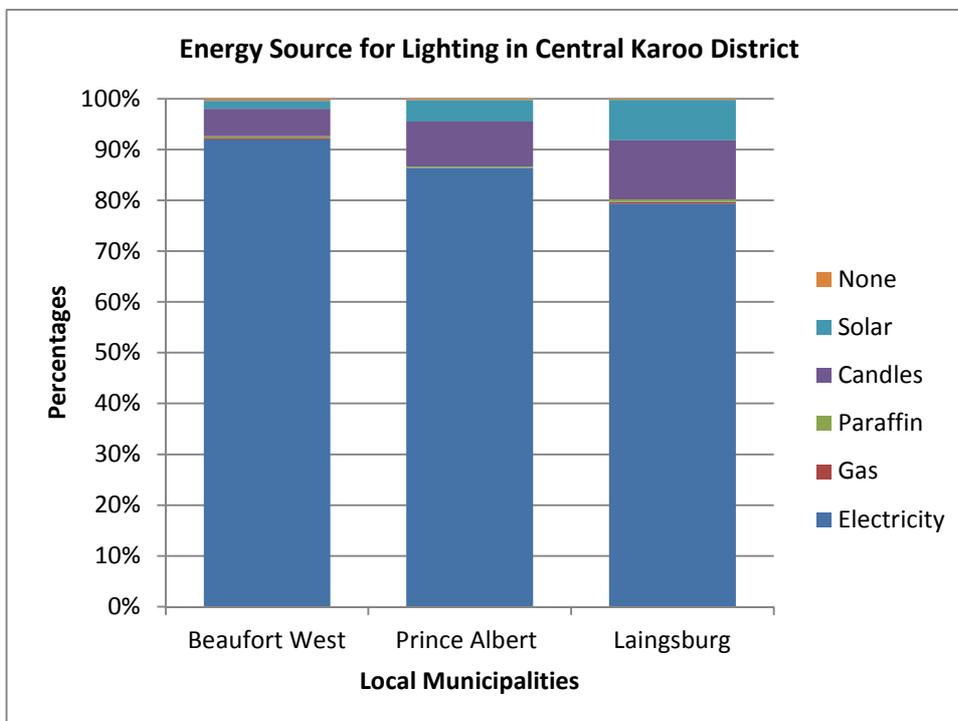
Significant investment will be required in the short to medium term to upgrade waste water treatment facilities across the District in order to provide for existing and future growth in sewer flows.

3.3.6 Energy

Several high voltage ESKOM electricity lines cross the District in a southwest – northeast direction and is the primary source of bulk electricity supply; a high voltage line runs south from Beaufort West to the Eden District Municipality at a substation near Dysselsdorp. Medium voltage electricity lines distribute electricity from substations to towns, settlements and farm areas.

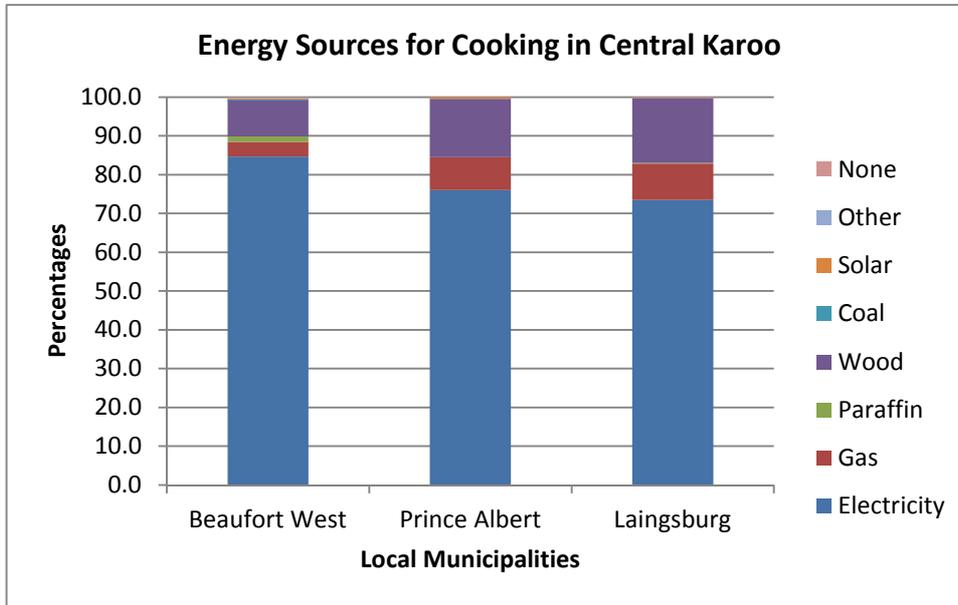
The use of electricity for lighting has significantly increased from 1996; it increased from 79% to 89% in 2011. Laingsburg Municipality has the highest percentage of households using candles (12%) as a source of lighting. In contrast, it has the highest percentage of households making use of solar energy (8%) for lighting, as depicted in 1, when compared to Prince Albert (4%) and Beaufort West (1.6%).

Figure 3-22: Central Karoo District Energy Sources for Lighting, 2011



Around 82% of households in the District make use of electricity for cooking and 66% for heating. A notable occurrence is that wood is still used by almost 12% of all households for cooking whilst 21% of households make use of wood for heating. These numbers may relate to the low average household income in the District.

Figure 3-23: Central Karoo Energy Sources for Cooking, 2011



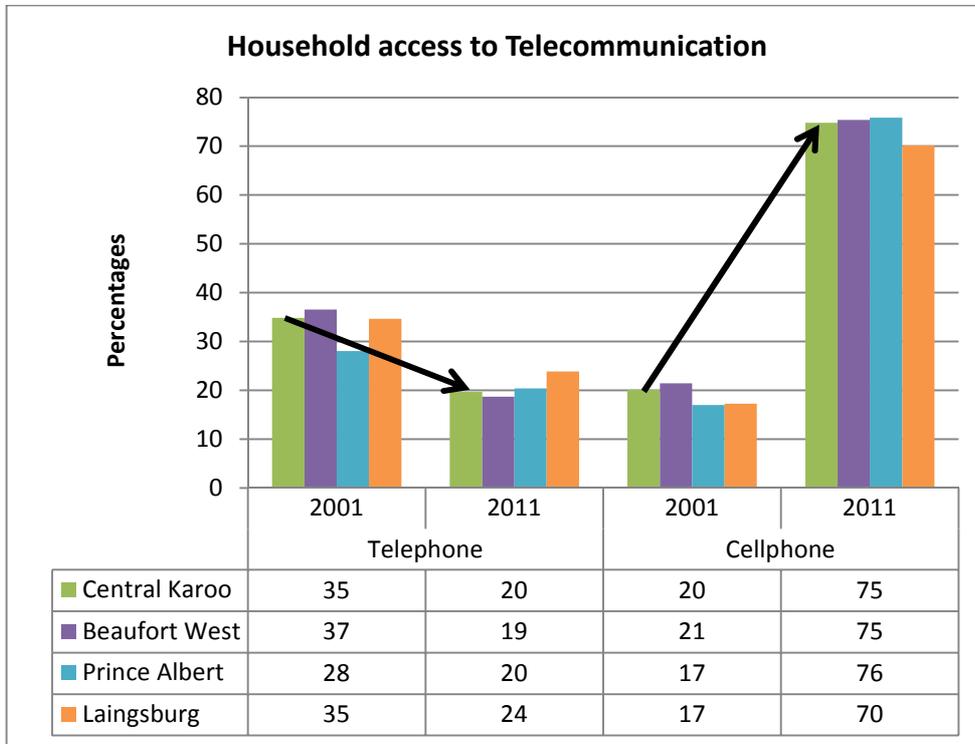
Independent power producers (IPP) are investigating the establishment of solar power plants in certain areas of the District. Electricity generated at these plants will be sold to Eskom and fed into the main power grid.

3.3.7 Telecommunications

The majority of the residents in Central Karoo District do not have landline telephones. The use of landline telephones have seen a marked decline since 2001 down from 35% to 20% of households in 2011 across the District. In 2011 more than 3,750 households have access to a landline telephone compared to 14,270 households with access to a cellular phone. Cellular telephone access has increased nearly four-fold from 20% to 75% of households. Prince Albert Municipality has the highest percentage of households with access to cellular telephones at 76%; Laingsburg Municipality falls below the District average of 75% at 70%.

Furthermore, around 4,670 households (or 25%) in Central Karoo District have access to the internet; Prince Albert has 28% (997), Laingsburg has 25% (611) and Beaufort West has 23% (3,066) of households with access to the internet.

Figure 3-24: Household access to Landline and Cellular Telecommunications, 2001 to 2011



3.3.8 Storm-water

Limited information is available on the storm-water infrastructure and its capacity; storm-water infrastructure primarily consists of open channels which drain to natural water courses with limited formal pipe infrastructure. Furthermore, existing infrastructure does not have the capacity to handle thunder storms and therefore requires upgrading.

A service provider has been appointed to compile the Storm-water Master Plan for Beaufort-West, Laingsburg and Prince Albert. The funding of the available projects is in process and therefore no up to date information is available at this stage. The storm-water master plan information will be obtained and incorporated into the final document.

3.3.9 Implications for the SDF

The following are considered important considerations and informants to the built environment of the Central Karoo District:

- The distances between settlements within the District are vast and therefore access to municipal and government services are problematic. The N1 highway forms the backbone of mobility and economic activity in the District and links all the major settlements within the District;
- Higher order government facilities and services should ideally be located in Beaufort West as the District's major settlement as a result of its transportation links as well as infrastructure and economic base;
- The N1 highway is a strength as a result of the economic and locational opportunities; however, its traffic through the CBD's of Laingsburg and Beaufort West poses a threat in terms of noise pollution, traffic safety and infrastructure maintenance and management;
- The implementation of the N1 by-pass at Beaufort West should be carefully considered in terms of its effect on the local economy;

- There is a lack of public transport in the District and the benefits of a comprehensive and integrated public transport system (including school transport services and non-motorised transport) should be investigated particularly to provide mobility and linkages to outlying rural settlements. The implementation of the Mobility Strategy and IPTN for the Central Karoo District Municipality should thus be sought. ;
- Investigations should be undertaken to determine the feasibility of surfacing a number of important gravel roads across the District such as portions of the R323 and R354 in order to improve access to tourism sites;
- Proper and suitable waste management guidelines should be developed to assist the Local Municipalities in achieving optimal levels of service and to ensure compliance with legislation;
- In order to address water resource scarcity, a District wide Water Demand Management Plan for all sectors, i.e. Business, Domestic, Industry and Agriculture, should be developed. This Plan should also address alternative technology in respect of sanitation as oppose to water borne systems;
- An investigation should be considered into a District Energy Conservation Plan which covers demand side management as well as the use of alternative energy resources.

4. Towards a Spatial Vision for the Central Karoo District

Chapter 4

The following section provides description of the spatial vision of the District Municipality as well as the principles to be applied in the development of the Spatial Development Framework which is informed by the issues identified in the preceding chapter.

The preceding analysis phase confirmed the following issues as important to its future development

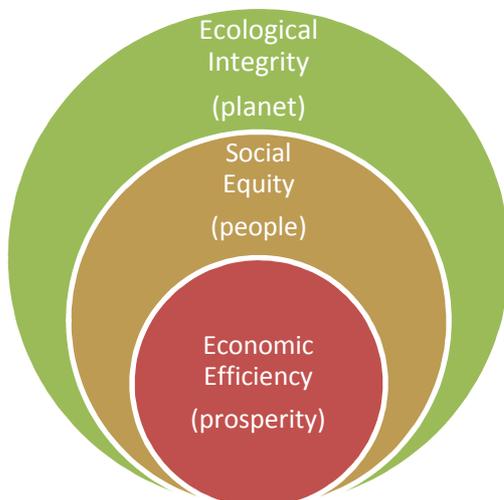
- a) Local Economic Development
- b) Housing
- c) Health
- d) Infrastructure Provision and Maintenance
- e) Environmental Conservation
- f) Disaster Management
- g) Agriculture
- h) Mining
- i) Mobility

In formulating a vision statement for the Central Karoo District Municipality, and to address the issues as mentioned above, the following need to be considered:

According the *Guidelines for the Development of Spatial Development Frameworks* (2010) by the DRDLR, the vision statement of the SDF should not be a restatement of the Integrated Development Plan (IDP) vision but as the spatial representation of the IDP the SDF vision statement should have the following:

- i. It must have a spatial aspect, implication or inference;
- ii. It can also reflect and capture the unique and distinctive nature and characteristics of the District Municipality; and
- iii. The vision statement should not contradict the principles contained in the Development Facilitation Act, 1995 (Act 67 of 1995).
- iv. The statement should be concise and preferably be in one sentence or several statements that addresses the major concerns, characteristics, opportunities, or policy of the District Municipality.

Figure 4-1: The Three Pillars of Sustainability (WCPSDF, 2009)



Further to the above, national and provincial policy and directives must also be considered in the formulation of a vision. *The National Spatial Development Perspective* (2003) supports spatial forms and arrangements that encourage government investment which maximises and achieves sustainable outcomes. One of the normative principles of the NSDP is that urban and rural development of the District Municipality should significantly alter current patterns of resource use so that there is a meaningful reduction in their consumption in order for future generations to also benefit.

The guiding principle of the Western Cape Provincial Spatial Development Framework (WCPSDF) is 'Sustainability in Development' (refer to Figure 4-1). The

term refers to the integration of social, economic and ecological factors into planning, decision-making and implementation to ensure that development serves present and future generations. The WCPSDF refers to the three (3) pillars of sustainability, i.e. Ecological Integrity (Planet), Social Equity (People), and Economic Efficiency (Prosperity) as shown in the figure below. These three pillars of sustainability can be viewed as providers of the capital necessary for each subsequent pillar to function. Thus, economic capital is dependent on social capital which is in turn dependent on ecological capital.

A similar theme is expressed in the IDP of the CENTRAL KAROO DISTRICT MUNICIPALITY; as its strategic management tool the IDP states that the District Municipality needs the SDF to ensure a sustainable environment for current and future human development needs.

4.1 The Goal of Sustainable Development

Sustainable development is defined as '*development that meets the needs of the present without compromising the ability for future generations to meet their own needs*' (United Nations, 1987). Sustainable development encompasses the integration of social, economic and ecological factors into planning, decision-making and implementation so as to ensure that development serves present and future generations (WCPSDF, 2009).

Ecological Sustainability refers to the protection and conservation of non-renewable natural resources which is important for sustaining land, water, and atmospheric processes, as well as plant, animal and human life. Ecological sustainability in relation to the provision of municipal services means the provision of a municipal service in a manner aimed at ensuring that:

- The risk of harm to the environment and to human health and safety is minimised to the extent reasonably possible under the circumstances;
- The potential benefits to the environment and to human health and safety are maximised to the extent reasonably possible under the circumstances;
- Legislation intended to protect the environment and human health and safety is complied with.

The **Social Equity** pillar refers to both material well-being (the absence of poverty) and spiritual well-being. It involves meeting the basic social needs of all communities and includes security of cultural diversity as well access and participation in democratic processes. Social equity can be achieved by prioritising the needs of the poor and disadvantaged groups, by ensuring transparent and fair planning and allocation processes, the facilitation of community participation in planning and development and creating democratic institutions.

Economic efficiency entails the attainment of prosperity or human capital and refers to the optimisation of benefit at the lowest cost, i.e. optimal development must be achieved at the lowest possible ecological and social cost. Moreover, in order to comply with the sustainability principle, it means taking all costs (present and future) into consideration. At a government level, economic efficiency can be achieved by adequate access to education at all levels, instituting policy on the redistribution of wealth, creation of employment opportunities via public programmes, financial and technical support as well as encouraging local production, trading and service provision.

The vision statement of the CENTRAL KAROO DISTRICT MUNICIPALITY as described in its Integrated Development Plan (2012) states the following:

"Working Together in Development and Growth"

In keeping with the central theme contained in national and provincial policy directives as well as that of the Central Karoo District Municipality's IDP and the guidelines for the formulation of the SDF's borne in mind, the following vision statement for the Central Karoo District Municipality is proposed:

"Working Together in Sustainable Spatial Development and Growth"

The above vision statement is for consultation purposes and a means of starting debate on the appropriate vision statement for the District Municipality and is by no means final. All relevant stakeholders within the District Municipal Area will be consulted throughout the planning process on this matter.

4.2 Central Karoo Spatial Principles

In terms of the above, the concept of sustainability brings forward a number of principles which underpins its core values of ecological integrity, social equity and economic efficiency. These principles are adapted from those contained in the Development Facilitation Act, Spatial Planning and Land Use Management Act, and other published material on sustainable development. The Central Karoo District's **Ten Spatial Principles** are as follows:

- i. Poverty Alleviation;
- ii. Focus on Special Needs Groups;
- iii. Gender Equality and Equity;
- iv. Environmental Planning and Management;
- v. Participation and Democratic Processes;
- vi. Local Economic Development;
- vii. Accessibility and Mobility;
- viii. Urban Development and Restructuring;
- ix. Safety and Security;
- x. Variation and Flexibility

These principles should form the basis and part of the key considerations in planning and development in the Central Karoo District Municipality in order to affect the vision of sustainable development. These principles are inter-related and seek to achieve sustainability in a holistic and integrated manner through spatial planning.

4.2.1 Poverty Alleviation

Poverty alleviation refers to creating opportunities for people to earn an income to provide for their basic needs. Planning interventions should focus on satisfying the basic needs of communities by ensuring, at a minimum, access to housing, water, sanitation, and other basic needs and services. Realistic and practical mechanisms are required to overcome poverty and should support sustainable living, e.g. home-based agriculture and enterprises. Furthermore, an essential component in respect of poverty alleviation is access to all levels of education.

Spatial planning should identify communities which lack basic services and infrastructure and devise interventions that will change the conditions of that community for the better. These interventions may be infrastructural, such as roads and housing provision, or economic opportunities in the form of Local Economic Development (LED) proposals, or policy proposals to affect social change.

4.2.2 Focus on Special Needs Groups

Special needs groups are those members of the community which require additional and special care and consideration. These include children, orphans, homeless children, the physically and mentally disabled as well as the elderly. As part of any planning exercise, such special needs groups need to be identified and their specific needs be reflected in planning solutions. The extent of the application of this principle will depend on local conditions as well as the prescriptions and standards contained in Government policy and regulations.

4.2.3 Gender Equality and Equity

The "Women Empowerment and Gender Equality Draft Bill" of 2012 defines gender equality as '*equal recognition, enjoyment or exercise by a person, irrespective of his or her sex, of human rights and fundamental freedoms in the political, economic social, cultural, civil or any other aspect of life*'. The Draft Bill also defines gender equity as '*fair treatment and equal opportunities and outcomes for all genders in all sectors of life through the recognition of their respective needs and interests*'.



Photo 4-1: Local economic development project in Kwa-Mandlenkosi at Beaufort West

LED initiatives should place emphasis on harnessing the resource strength and other unique attributes of the District and local areas to support its objectives. Also of importance is how economic development relates to accessibility; business, both formal and informal, should have access to markets. In this instance, the primary role of municipal government is the provision and maintenance of infrastructure such as roads.

LED initiatives at the District Municipality level should ideally ensure that the local investment climate is functional for the continued growth of local businesses within the District. Support for small, medium and micro-enterprises (SMME's) should be given, when and where possible, and the formation of new enterprises should be encouraged. The ideal is to nurture and expand local spending and revenue generation whilst attracting investment from outside the District. Public sector investments usually include a combination of aspects such as investment in hard infrastructure (such as roads) and soft infrastructure (education, training and institutional support).

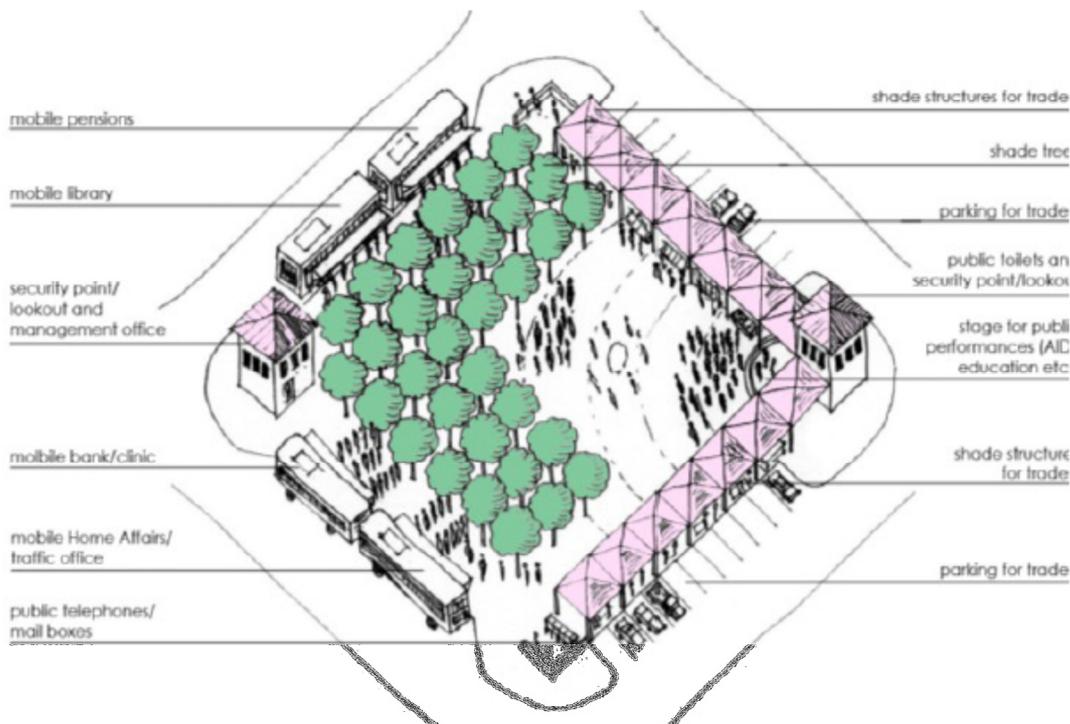
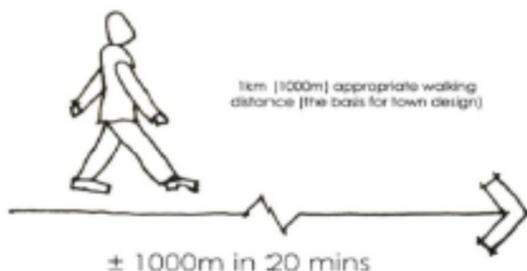


Figure 4-3: Example of Public and Private Investment in support of LED

Source: DRDLR, 2011

Economic development also includes provision for to the informal economy; informal business activity provides economic opportunities to a significant portion of the population. Support to the informal economy in the planning process may include the demarcation of space for informal business activities with its associated and necessary infrastructure to operate.

4.2.7 Accessibility and Mobility



Accessibility is a primary consideration in spatial planning; all parts of the District must be well connected and accessible through transport and movement networks, particularly public transport, to enable the movement of goods and people. Furthermore, the level of accessibility is affected by the state and extent of roads, the level of public transport provision and the cost of transport and movement. Accessibility also refers to people’s ability to access employment, social, recreational,

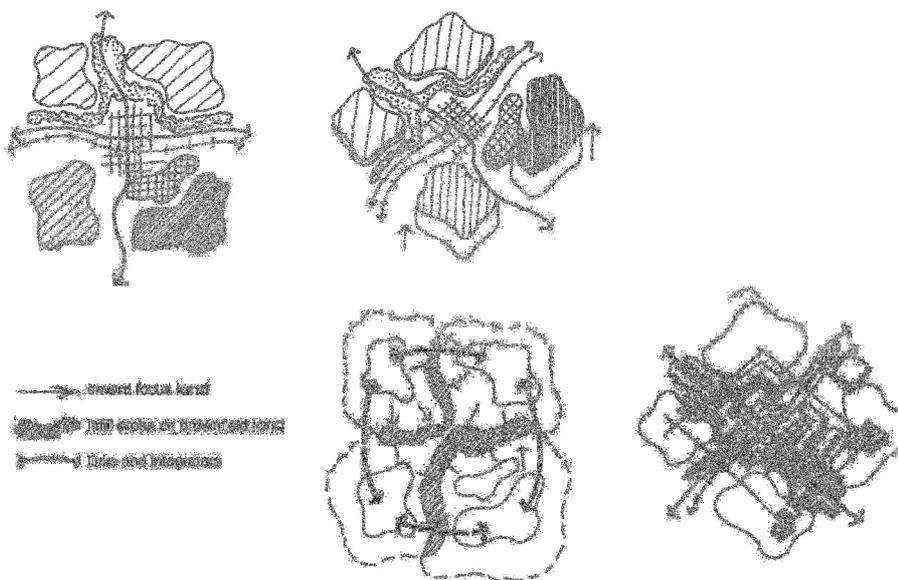
educational, cultural, and government and other public services. It is important that transportation networks provide access to such services to foster sustained economic development as well as social integration.

Specific focus is also needed on non-motorised transport within the rural towns and settlements of the District. Non-motorised transport, particularly pedestrian movement, is the primary transport mode among District 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 and security. Source: DRDLR, 2011.

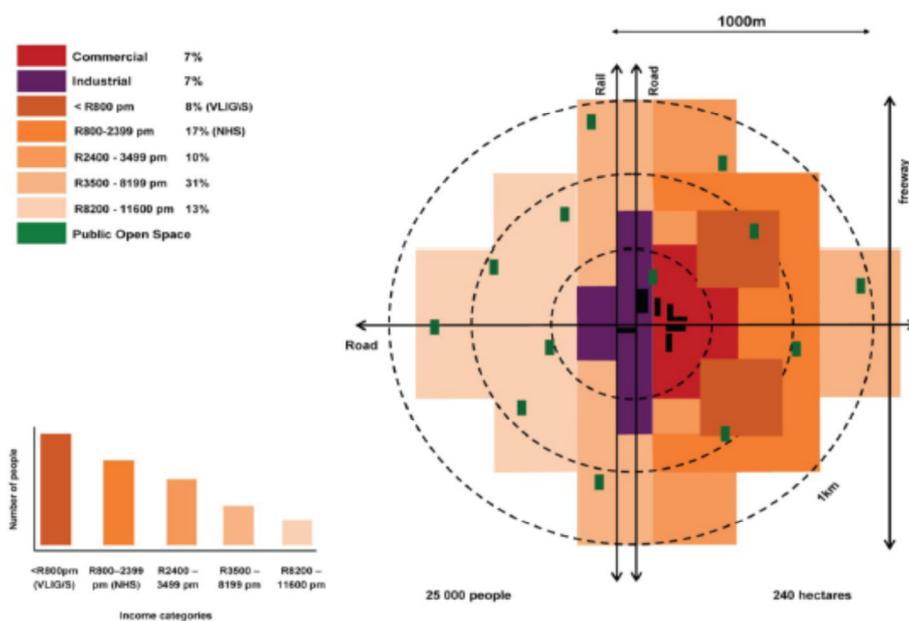
4.2.8 Urban Development and Restructuring

Urban development and restructuring refers to the spatial arrangement of urban uses and activities and its impact on and relatedness to the socio-economic condition of an area. The principle seeks to achieve urban development which encourages functional and socio-economic integration in order to form a foundation for sustainable urban development.

Figure 4-4: Urban restructuring concept, WCPSDF (2009)



This principle details key planning concepts such as mixed use development, corridor development, densification and compaction as well as reducing urban sprawl. Development proposals within main urban settlements should clearly indicate their socio-economic linkages as well as elements which encourage the restructuring of its urban environment.



Source: DRDLR, 2008

This principle is also closely related to Environmental Planning and Management; green spaces are an integral part of an urban environment and are a key consideration in the planning process. Urban restructuring also refers to the protection and conservation of cultural areas, and heritage landmarks and buildings.

4.2.9 Safety and Security

Safety and security as a planning principle refers to both technical and social aspects of development. This principle focuses on crime and violence, traffic and road safety as well as on occupational incidents. The principle aims to create environments of a human scale in which people can move freely without fear of crime and where pedestrians are given priority. Urban structure or environments should be designed in a manner that enables social control as well as public surveillance of the public areas.

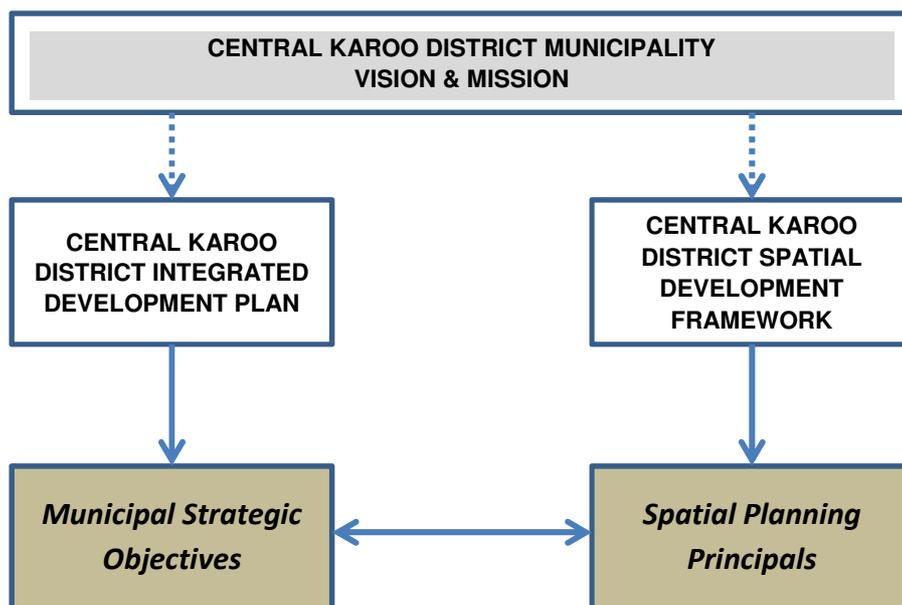
4.2.10 Variation and Flexibility

This principle entails planning and design aspects which encourage differing types of spatial environments and land use activities in an area. The aim is to create attractive, diverse and well-functioning urban areas that can accommodate different socio-economic groups. Variation can be applied in terms of differing housing typologies, building heights, densities, and the provision for different land tenure options which would cater for differing household needs. At a District Municipal level a common concept and understanding of this principle is required as it lends to and can enforce the urban identity of an area. Also, differing solutions and flexibility in terms of land use rights can also be applied in order to achieve the objectives contained in this principle.

4.3 **Relationship between Spatial Principles and Municipal Strategic Objectives**

The table below summarises all the strategic objectives of Central Karoo District Municipality and all its local municipalities and correlates these objectives to the planning principles as described above. It thus forms the relationship between strategic policy and the spatial development of Central Karoo District Municipality.

Figure 4-5: Relationship between Municipal Strategic Objectives and Spatial Planning Principles



	LAINGSBURG	PRINCE ALBERT	BEAUFORT WEST	CENTRAL KAROO	CENTRAL KAROO PLANNING PRINCIPLES
Vision	A desirable place to live, invest and visit, where all people enjoy a sustainable quality of life	Prince Albert, an area characterised by high quality of living and service delivery	Beaufort West, land of space in the Great Karoo strives to improve the lives of all its residents by being a sustainable, expanding and safe town	Working Together in Development and Growth	
Mission	<p>To create people-centred and economically viable municipality where all have equal access to:</p> <ul style="list-style-type: none"> • Basic social services; • Educational and skills enhancement programmes; • Entrepreneurial and job opportunities as well as; <p>Enjoy a clean, sustainable environment embedded in safety and security, which is</p> <p>Governed by a participative, professional, transparent and accountable administration.</p>	To create an enabling environment to achieve our vision, in the delivering of quality and sustainable services to our community	To reflect the will of the South African People as reflected by the Constitution and Parliament	Central Karoo place a high priority upon ensuring that future growth improves the quality of life in the region. It is the desire to be financially sustainable, maintain the rural character and create healthy communities by facilitating economic growth, improving infrastructure and the green energy opportunities, providing and supporting alternative modes of delivery (shared services), improve marketing, branding and	

	LAINGSBURG	PRINCE ALBERT	BEAUFORT WEST	CENTRAL KAROO	CENTRAL KAROO PLANNING PRINCIPLES
				communication with all stakeholders, provide excellent disaster and risk management services, and maintaining housing choices for a range of income levels	
Strategic Objectives					
Economic Development	Create an environment conducive for economic development	To stimulate, strengthen and improve the economy for sustainable growth	Agricultural business to improve the job creation potential	To pursue economic growth opportunities that will create decent work	(i) <i>Poverty Alleviation</i> (ii) <i>Focus on Special Needs Groups</i> (iii) <i>Gender Equality and Equity</i> (vi) <i>Local Economic Development</i>
			Creation of employment to reduce unemployment to acceptable levels		
			To reduce poverty and to promote the empowerment of women		
			HIV/AIDS sufferers involved in economic and household responsibilities		
Standard of	Improve the standards of living of	To improve the	To create a crime free, safe	To ensure a united	(i) <i>Poverty Alleviation</i>

	LAINGSBURG	PRINCE ALBERT	BEAUFORT WEST	CENTRAL KAROO	CENTRAL KAROO PLANNING PRINCIPLES
Living	all people in Laingsburg	general standards of living	and healthy environment	integrated development path in a safe and sustainable environment.	<i>(ii) Focus on Special Needs Groups</i> <i>(vi) Local Economic Development</i> <i>(ix) Safety and Security</i> <i>(x) Variation and Flexibility</i>
	Improve the social environment with community beneficiation, empowerment and ownership			To promote a safe and healthy environment and social viability of residents through the delivery of a responsible environmental health service.	
	Developing a safe, clean, healthy and sustainable environment for communities			To effectively plan to minimise the impact of disasters on the community, visitors, infrastructure and environment	
Service Delivery		To provide equality, affordable and sustainable services on an equitable basis	To create affordable and sustainable infrastructure for all residents and tourists	To improve and maintain our roads and promote effective and safe transport for all	<i>(iii) Gender Equality and Equity</i> <i>(vii) Accessibility and Mobility</i> <i>(viii) Urban Development and</i>

	LAINGSBURG	PRINCE ALBERT	BEAUFORT WEST	CENTRAL KAROO	CENTRAL KAROO PLANNING PRINCIPLES
					<i>Restructuring</i>
Sport			To develop the region as sport and recreational Mecca of the Karoo		<i>(viii) Urban Development and Restructuring</i>
Tourism			Business initiatives and the optimising of tourism (South African and foreign)	To establish an inclusive tourism industry through sustainable development and marketing which is public sector led, private sector driven and community based.	<i>(iv) Environmental Planning and Management</i> <i>(vi) Local Economic Development</i>
Sound and Credible Municipal System	To provide accountable and ethical leadership that enhance trust in the municipality amongst its stakeholders	To achieve financial viability & sustainability through prudent expenditure, and sound financial systems	An effective municipal system, maintained with the highest standards	To deliver sound administrative and financial services, to ensure good governance and viability	<i>(v) Participation and Democratic Processes</i>
	To achieve financial viability in order to render affordable services to residents		Creating and maintaining an effective financial management system		
Skills Development	To create an institution with skilled employees to provide a professional service to its clientele	To commit to continuous improvement of human skills and	Empowerment of personal, management and Council members for effective		<i>Non-Spatial Element</i>

	LAINGSBURG	PRINCE ALBERT	BEAUFORT WEST	CENTRAL KAROO	CENTRAL KAROO PLANNING PRINCIPLES
	guided by municipal values	resources to deliver effective services	service delivery		
Stakeholder Involvement	To enhance community involvement in municipal planning and implementation	To enhance participatory democracy		To facilitate effective stakeholder participation	<i>(v) Participation and Democratic Processes</i>

5. Development Framework

Chapter 5

This section provides a conceptual development framework for the District Municipality which is informed by the previous status quo analysis and planning principles discussed in the previous section. It provides the foundation for the formulation of spatial planning proposals to follow in Chapter 6.

5.1 Major Structuring Elements

There are two primary structuring elements in the Central Karoo District:

- i. The **Swartberg Mountain Range** in the south and the **Nuweveld Mountains** in the north; both mountain ranges have a differing effect on climatic and environmental conditions in the District. These mountain ranges isolate the District Municipality from neighbouring economic areas such as the Klein-Karoo to the south, the Cape Winelands in the west and the Northern Cape to the north;
- ii. The **N1 highway** and the **north-south railway line** between Cape Town and Gauteng form the major movement corridor through the District and carries significant freight traffic through the country from north to south. It links all major and smaller settlements throughout the District and thus plays a significant role in terms of development, accessibility and integration.

These structuring elements provide the framework for settlement development as well as for inter- and intra-movement patterns. More than 75% of the District population reside along the N1 highway; the towns and settlements were primarily developed in support of the railway and to a limited extent serve as agricultural service centres. The predominant settlement location lends to land use intensification or densification along the N1 corridor. In this rural and sparsely populated area context, densification refers to expanding existing settlements along this corridor at a density and spatial layout suitable to local conditions. Urban restructuring policies particularly urban edges should be applied in terms of Local Municipality SDF guidelines and guidelines by the Western Cape Provincial Government.

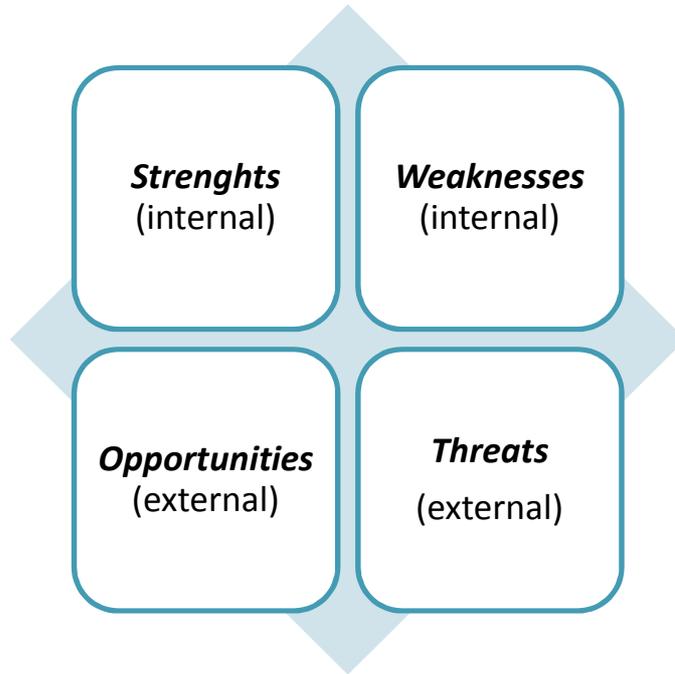
Several of the District's towns depend on neighbouring municipal areas for public and business services; socio-economic linkages are maintained in the following manner:

- Merweville, Nelspoort and surrounding rural settlements maintain socio-economic linkages with Beaufort West;
- Prince Albert, Klaarstroom, surrounding rural settlements, and agricultural areas, maintain socio-economic linkages with Oudtshoorn in Eden District Municipality;
- Laingsburg and Matjiesfontein maintains socio-economic linkages with neighbouring Cape Winelands District Municipality (Worcester);
- Murraysburg maintains socio-economic linkages with Graaff-Reinet in Cacadu District Municipality in the Eastern Cape;

There is therefore significant leakage out of the District; as a result of distance, cost and other factors communities are compelled to leave the District to access health, education, shopping and leisure, and other public services. Policy intervention should thus seek to attract and retain essential services within the District to limit leakage from the District.

5.2 SWOT Analysis

The overall implications of the various trends, flows and overlays and relationships as identified in the Ecological and Socio-Economic relationship of the area of the Central District Karoo Municipality is hereby highlighted by the SWOT analysis. This includes:



5.2.1 Internal Factors

The following Table illustrates the main strengths and weaknesses of the various elements that are generally under the direct influence and control of the Central Karoo District Municipality.

Table 5-1: Strengths and Weaknesses to Central Karoo District Municipality

FACTOR	STRENGTHS	WEAKNESSES
Cemeteries	<ul style="list-style-type: none"> Cemeteries of significant historical value. 	<ul style="list-style-type: none"> Poor maintenance of cemeteries.
Health	<ul style="list-style-type: none"> High level of health care and acceptable distribution of facilities. 	<ul style="list-style-type: none"> Low levels of primary health care practitioners distributed throughout the District; Highest percentage rate of HIV transmission from mother to child in the Western Cape Province; No Regional Hospital within District Municipality.
Housing	<ul style="list-style-type: none"> High percentage of households with access to formal housing. 	<ul style="list-style-type: none"> Lack of integration amongst housing and/or neighbourhood areas. An estimated housing backlog of 2,500 units across the District

FACTOR	STRENGTHS	WEAKNESSES
Agriculture	<ul style="list-style-type: none"> Large agricultural sector providing considerable employment. 	<ul style="list-style-type: none"> Poor veld management practices in some areas particularly on commonage land.
Transportation	<ul style="list-style-type: none"> N1 transverses the District Municipality; Various Regional (R) routes which are in reasonably good condition. 	<ul style="list-style-type: none"> Capacity and safety constraints in the area where N1 runs along the main road of Beaufort West; Poor public transport provision across the District Municipality.
Solid Waste	<ul style="list-style-type: none"> Most households within the District Municipality have their waste removed at least once a week. 	<ul style="list-style-type: none"> Lack of a district-wide waste management plan.
Waste Water Infrastructure	<ul style="list-style-type: none"> Sufficient capacity in some areas for the treatment of sewer flows. 	<ul style="list-style-type: none"> Sanitation in Prince Albert Road still consist of bucket system; Concerns towards designs and operational capacities of some of the treatment works. Permits of certain facilities have expired; Monitoring and compliance at facilities are lacking Facilities are poorly staffed.
Water Infrastructure	<ul style="list-style-type: none"> Consistent positive Blue Drop award across the District. Majority of households have access to a tap and water; 	<ul style="list-style-type: none"> Periods of drought and availability of quality water sources. Irrigation dams primarily provide water to agricultural areas of the Klein-Karoo in the Eden District Municipality.
Heritage & Tourism	<ul style="list-style-type: none"> Diverse offering of heritage sites across the District Municipality. 	<ul style="list-style-type: none"> Lack of coherent tourism marketing strategy for the District Municipality.

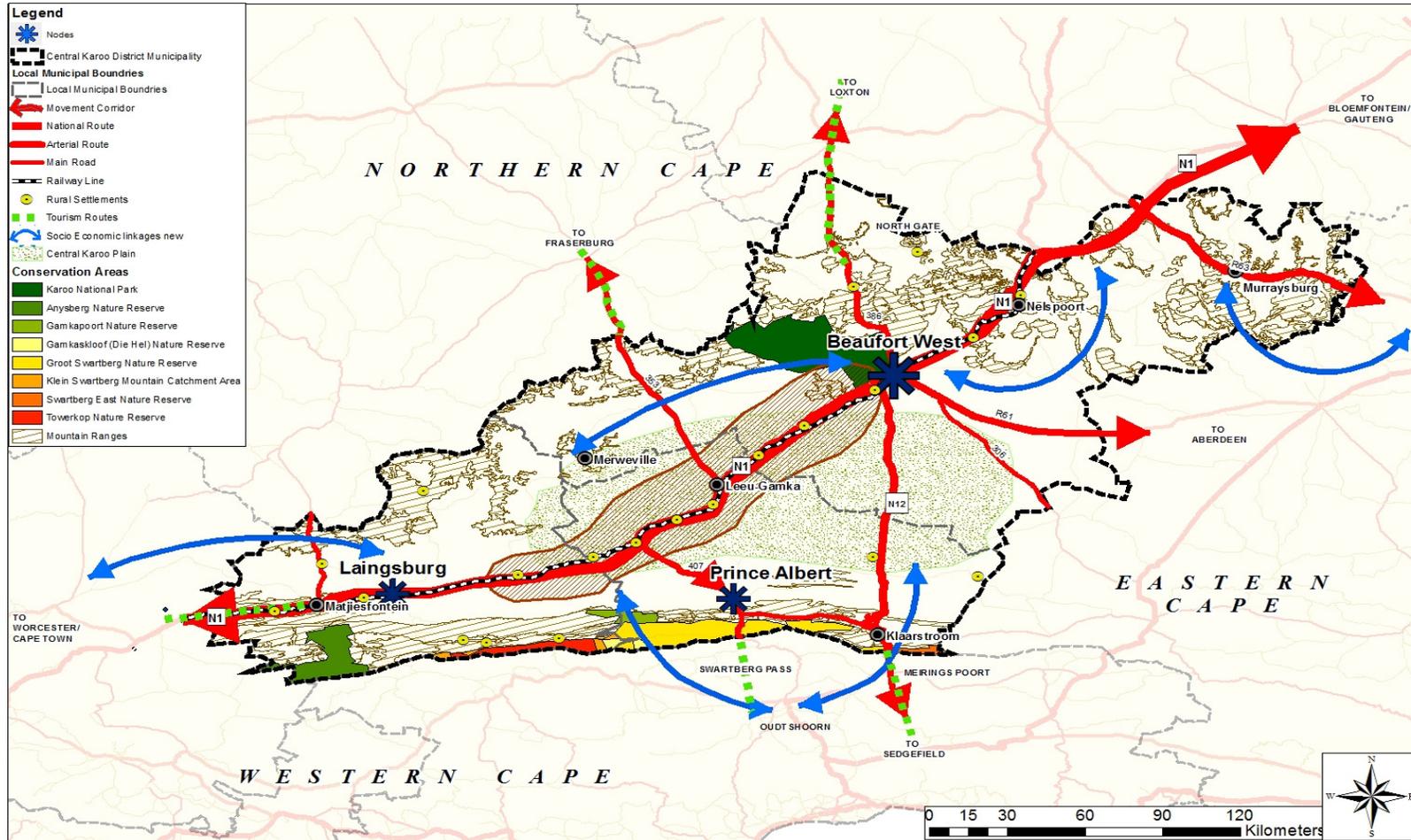
5.2.2 External Factors

The following Table illustrates the main strengths and weaknesses of the various elements that generally has an indirect impact on the area and thus not under the direct control of the Central Karoo District Municipality.

Table 5-2: Opportunities and Threats External to Central Karoo District Municipality

FACTOR	OPPORTUNITIES	THREAT
Agriculture	<ul style="list-style-type: none"> Small stock farming is prevalent within the District Municipality. Dry land farming is practiced in suitable areas of the District Municipality. 	<ul style="list-style-type: none"> Agriculture sector's share of the economy in the district is declining. Environmental degradation of valuable agricultural land.
Employment, Occupation and Income	<ul style="list-style-type: none"> Economic growth forecasts for the District Municipal area are positive; Significant growth in the Finance & Business Services and Mining sectors; High percentage of highly-skilled labour in Prince Albert 	<ul style="list-style-type: none"> Steady decline in agriculture as contributor to GDP; Youth unemployment rate remain high although gains have been made; There is a high percentage of unskilled labour in the District Municipality particularly Prince

		Albert.
Crime	<ul style="list-style-type: none"> Most crime rates and other offences are generally stabilising across the District Municipality. 	<ul style="list-style-type: none"> Significant increase in drug-related crimes.
Demography	<ul style="list-style-type: none"> Increase in population and high birth rates albeit at a slow pace of less than 2%; District average growth rate in keeping with the provincial growth rate. 	<ul style="list-style-type: none"> High young dependency ratio;
Education	<ul style="list-style-type: none"> Notable decrease in number of persons with no schooling; 	<ul style="list-style-type: none"> Highest number of “No-fees” schools in Western Cape. Low literacy and numeracy levels amongst current primary school learners.
Land Reform	<ul style="list-style-type: none"> Past and present land reform projects exceed 36,000 hectares of land. 	<ul style="list-style-type: none"> Fewer strategic agricultural farms on offer as a result of high land prices and a general decline in the agricultural industry of the District.
Transportation	<ul style="list-style-type: none"> High volumes of freight traffic along the N1 through the District Municipality; Relatively modern under-utilised rail infrastructure. 	<ul style="list-style-type: none"> There is continuous immobility amongst Central Karoo District Municipality residents; Negative impact of freight traffic along the N1 on adjacent communities.
Land Use Management	<ul style="list-style-type: none"> Pending land use management legislation may provide a uniform land use management system for each local municipality within the District and possibly expand the role of the District Municipality. 	<ul style="list-style-type: none"> Inadequate resource capacity at local municipality level and at the District Municipality may hinder the implementation of new land use management legislation.
Environment & Climate	<ul style="list-style-type: none"> There are at least 3 biomes within Central Karoo District Municipality. 	<ul style="list-style-type: none"> Climate change is expected to produce higher temperatures with lower rainfall in much of the District municipal area.
Energy	<ul style="list-style-type: none"> There are opportunities for wind and solar energy generation in specific areas of Central Karoo District Municipality. 	<ul style="list-style-type: none"> The domestic use of renewable and alternative forms of energy remains low.
Settlements	<ul style="list-style-type: none"> Most settlements are located along or in close proximity of the N1 corridor. 	<ul style="list-style-type: none"> Low-cost housing development is located on the periphery of towns.
Building Materials and Mining	<ul style="list-style-type: none"> Uranium deposits are found across the District Municipality. 	<ul style="list-style-type: none"> The impact of fracking and mining on the District’s environment and infrastructure.
Telecommunication	<ul style="list-style-type: none"> Large cellular network coverage. 	<ul style="list-style-type: none"> Poor household access to the internet.



Drawing name: PLAN 19 DEVELOPMENT FRAMEWORK AND SYNTHESIS REV 2



CENTRAL KAROO DISTRICT MUNICIPALITY - DEVELOPMENT FRAMEWORK & SYNTHESIS

PLAN 19
NOVEMBER 2013

6. Spatial Development Framework

Chapter 6

This section describes the Spatial Development Objectives for Central Karoo District Municipality as well as the Spatial Development Strategies necessary to achieve the desired outcome as captured in the Spatial Vision and to fulfil in the objectives. The draft Spatial Development Framework Plan surmises key concepts and proposals affecting the spatial development of the Central Karoo District Municipality and will inform the Implementation Framework thereafter.

6.1 Spatial Objectives and Strategies

6.1.1 Spatial Challenges

The situational analysis has highlighted several spatial challenges for the Central Karoo District Municipality. These are summarised as follows:

- Poor housing provision and land availability for housing for farm dwellers;
- Lack of adequate and affordable public transportation and non-motorised transportation;
- Lack of land for land reform projects and over-utilisation of commonage land;
- Poor land and land use management particularly in respect of game farms and environmental management;
- Decline in agricultural activity;
- Areas vulnerable to climate change;
- Poor infrastructure maintenance;
- Under-provision of land for conserving biodiversity and water sources (river systems);
- Lack of integrated human settlements;
- Incoherent framework of investment in settlements in terms of public and private investment;
- Uncertainty on mining (fracking) and land, infrastructure and resource availability to support mining.

6.1.2 Spatial Development Objectives

The spatial development objectives are considered as strategic measures to overcome the spatial challenges experienced by Central Karoo District Municipality and are set to achieve the District Municipality's Spatial Vision of "Sustainable Spatial Development and Growth".

Central Karoo District Municipality's Spatial Development Objectives are as follows:

- i. To support the establishment of appropriate and functioning land use management systems;
- ii. To protect and preserve environmentally sensitive areas and areas of significant biodiversity;
- iii. To establish a system of functionally defined development nodes (settlements) to guide priority public and private investment;
- iv. To create an efficient and integrated urban settlement pattern;
- v. To provide a framework for sustainable, strategic and accelerated land, infrastructure and economic development;
- vi. To establish effective linkages for access to and mobility between settlements and locations of important economic, social and tourist interest.

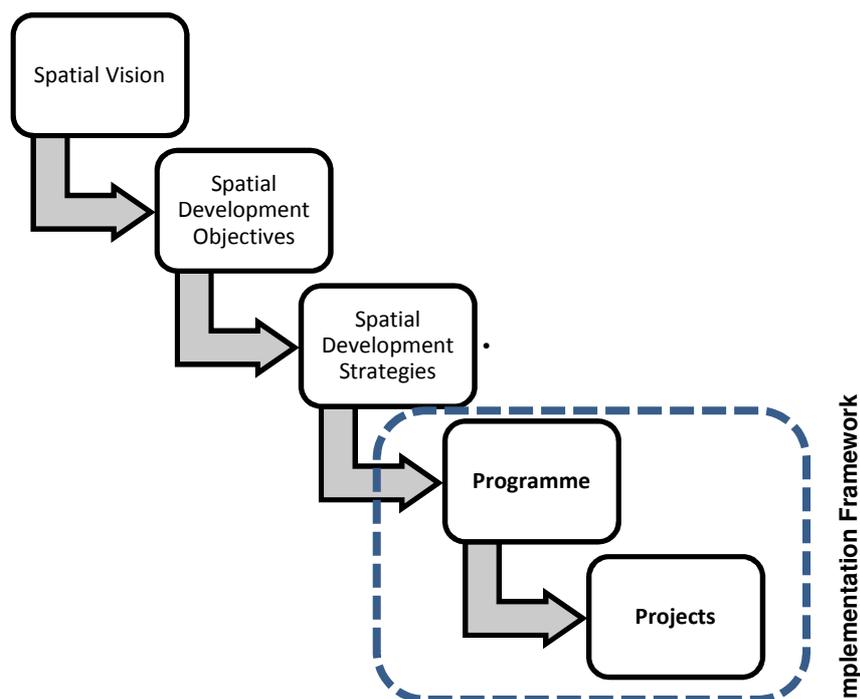
6.1.3 Spatial Development Strategies

In order to achieve the desired outcomes in terms of each spatial development objective, the following strategies are proposed to give effect to the Spatial Development Framework vision:

- i. Continue and accelerate improvements in facility management and infrastructure maintenance;
- ii. Expand government employment and skills development programmes particularly amongst the youth;
- iii. Implement alternative energy use plans and support alternative and sustainable energy sources;
- iv. Improve access to as well as resource capacity at health-care centres;
- v. Gaining inroads in eradicating the housing and sanitation backlog amongst farm-dwellers in rural areas;
- vi. Implement alternative and sustainable waste management practices and solutions;
- vii. Improve access to telecommunication and information technology services;
- viii. Implement safe and affordable public transportation and support non-motorised transportation;
- ix. Provide, protect and encourage the sustainable use of scarce and quality water resources;
- x. Support land reform initiatives that strengthen the agricultural sector in order to enable economic and employment growth;
- xi. Support mining activity that applies sustainable resource use, consumption and practices;
- xii. Reinforce development potential and urban efficiencies of towns with economic growth potential;
- xiii. Achieve synergy with veld management programmes that will improve both biodiversity conservation and stock carrying capacity;
- xiv. Establish integrated human settlement planning in order to reduce spatial inefficiencies in urban areas.

The spatial development strategies will form the basis for the development and formulation of project programmes and, consequently, specific projects for the implementation of the spatial development framework.

Figure 6: Spatial Development Framework Plan Proposal



The Central Karoo Spatial Development Framework is underpinned by guidelines and principles for the development of the District Municipality and includes the use of (i) the bioregional planning framework (Spatial Planning Categories), (ii) settlement hierarchy, (iii) infrastructure provision and maintenance, (iv) land reform and rural development, and (v) mining and extractive industry.

6.2 Spatial Planning Categories (SPC)

Bio-regional Planning focuses on planning and land development management that will ensure sustainable development through an underlain philosophy of the relationship between conservation of environment, the well-being of communities and economic efficiency within a geographical area. In accordance with the bioregional planning framework that the Western Cape has adopted, the Central Karoo District Municipality SDF shall comprise development proposals that are in line with the inherent land use suitability of its varying landscapes.

The SDF Plan comprises the following SPC’s:

- i. Core
- ii. Buffer
- iii. Intensive Agriculture
- iv. Human Settlement

CBA MAP CATEGORY						
Spatial Planning Category	Formal Protected Areas	Critical Biodiversity Area (CBA)	Ecological Support Area (ESA)	Other Natural Areas (large intact land or natural remnants adjacent to CBA or ESA)	Other Natural areas transformed or used for extensive agriculture	No Natural Area Remaining
Core 1						
Core 2						
Buffer 1						
Buffer 2						
Intensive Agriculture						
Settlements						

These SPC’s are consistent with the principles of bioregional planning and should be interpreted to include zonings and uses as listed in current Zoning Scheme Regulations. SPC’s should be aligned over time with land use categories as contained in the Land Use Management System (LUMS) of a municipality.

a) Core Areas (1 and 2)

Two components of the rural landscape make up Core 1 Areas:

- (i) All areas with formal conservation status (i.t.o. the Protected Areas Act), namely: national parks; provincial nature reserves; designated mountain catchment areas (i.t.o. the Mountain Catchments Areas Act); forestry reserves; wilderness areas;
- (ii) Critical Biodiversity Areas (CBA), as identified through a systematic conservation planning process that has no formal conservation status. These may comprise terrestrial or aquatic habitats, remnants or features that must be conserved to meet national biodiversity pattern or process thresholds.

The purpose of Core 1 is:

- (i) Designate which parts of the rural landscape are of highest conservation importance, and if they are currently protected or not.
- (ii) Informs expansion of the protected area network.
- (iii) Delineates areas that must be maintained in, or restored to, a natural state in order to sustain biodiversity patterns and processes and the functionality of eco- system services.
- (iv) Identify areas of land that could serve as biodiversity offset receiving areas.
- (v) In combination with Core 2 Areas, they spatially define the 'core' of the rural landscape's ecological network.

This category includes:

- (i) Areas currently not yet exhibiting high levels of biodiversity loss, but which should be protected and restored in order to ensure biodiversity pattern and ecological process targets can be met in the most efficient way possible.
- (ii) Ecological Support Areas (ESA) to Critical Biodiversity Areas (i.e. river reaches within priority CBA sub-catchments which prevent degradation of CBA's).
- (iii) CBA aquatic Buffer areas including CBA catchment areas.
- (iv) River and ecological corridors (those not classified essential as per Core 1 definition).

Mountain Catchment Areas.

The purpose of Core 2 is to manage, restore and sustain eco-system functioning, especially ecological processes (i.e. rivers and seep clusters and their respective buffers) in support of wetlands and rivers in Critical Biodiversity Areas.

Formally protected natural areas such as the Karoo National Park, Groot Swartberg Nature Reserve, Anysberg Nature Reserve, Gamkapoort Nature Reserve, Gamkaskloof Nature Reserve, Towerkop Nature Reserve, Klein Swartberg Mountain Catchment Area.

Large Core Biodiversity Areas (CBA's) as identified by the South African National Biodiversity Institute (SANBI) are also included.

b) Buffer Areas (1 and 2)

Buffer 1 SPC comprises large intact portions and remnants of natural or near natural vegetation not designated as CBA or ESA, especially in proximity/adjacent to CBAs and/or ESA:

The purpose of Buffer 1 category is:

- (i) To restore & maintain ecological processes.
- (ii) To retain landscape scale biodiversity corridors.
- (iii) To strengthen the conservation and extensive agricultural economies through, incentivising the consolidation and maintenance of extensive agricultural units, and broadening the agricultural economic base through farm diversification of use and revenue generation (e.g. farm tourism).
- (iv) To buffer Ecological Support Areas (including CBA Buffer Areas) which support Critical Biodiversity Areas.
- (v) To enhance biodiversity through innovative agricultural practices (e.g. veld management) and rehabilitation of previously disturbed agricultural land.
- (vi) To buffer against the impacts of climate change.

The Steenbokkie Private Nature Reserve;

Ecological corridors along the Gamka and Dwyka Rivers as well as from the neighbouring Namakwa District at Tankwa National Park across the Karoo National Park to Cacadu District and the Gamdeboo National Park.

These areas also include areas for the potential or possible expansion of existing formally protected areas such as the Karoo National Park.

The Buffer 2 SPC category includes areas designated as Other Natural Areas, located in an extensive and/or intensive

agriculture matrix (i.e. livestock production) as the dominant land use

The purpose of Buffer 2 category is:

- (i) Manage for sustainable development of current land use in the area.
- (ii) Protect existing agricultural activity (i.e. livestock production) to ensure food security, contribution to the regional economy, maintenance and management of rural areas and contributing and to the working agricultural and cultural landscape.
- (iii) Facilitate agricultural diversification and non-agricultural opportunities (e.g. game farming, tourist facilities) and “value-adding” to the primary product (e.g. cheese-making).
- (iv) Accommodate space extensive and nuisance urban uses, and extensive agricultural uses (e.g. waste water treatment plants, piggeries, mushroom growing plants, etc.).
- (v) Enhance biodiversity through innovative agricultural practices (e.g. veld management).
- (vi) Minimize fragmentation of remaining natural habitats and corridors.
- (vii) Reverse lost biodiversity in order to reinstate buffer zones and corridors.
- (viii) Rehabilitate degraded areas (e.g. agricultural, mining).

The predominant land use in Central Karoo District is extensive agricultural activity by way of natural grazing for small livestock farming. Agriculture is the greatest land user in the District at more than 90% and therefore has an immense responsibility in respect of conservation and sustainable development. The low availability of water has limited growth of intensive agricultural activities with extensive agricultural activities dominating the agricultural economy.

c) Intensive Agriculture

The Intensive Agriculture SPC comprises a consolidation of the existing and potential intensive agricultural footprint (i.e. homogeneous farming areas made up of cultivated land and production support areas).

The Intensive Agriculture SPC includes:

- (i) *Irrigated crop cultivation (annual & perennial);*
- (ii) *Dry land crop cultivation including tillage of non- irrigated crops (annual & perennial);*

The purpose of Intensive Agriculture category is:

- (i) Consolidating & protecting existing & potential agricultural landscapes.
- (ii) Facilitating sustainable agricultural development, land and agrarian reform, and food security.

Intensive agriculture is found in areas of adequate water availability for irrigation. The Prince Albert municipal area has cultivated crops such as lucerne and vegetable seeds as well as perennial crops such as olives, peaches and wine grapes. A limited number of olive plantations are also found in the Beaufort West Municipality. Existing intensive agricultural areas which produce crops should be protected to sustain food security. Expanded agricultural activity dependant on irrigation should only be considered with the availability of water resources.

d) Urban Related Areas

Urban related areas refer to areas in which a mix of land uses occur such residential, commercial, education and recreational uses. SPC's describe several sub-categories for urban related areas; this report will cover those sub-categories applicable to the Central Karoo District Municipality. The purpose of this category is to develop and manage existing and new settlements on a sustainable basis. Where-ever possible existing settlements should be used to accommodate non-agricultural rural development activities and facilities. This is for reasons of:

- local economic development;
- consolidating, integrating and reinforcing settlement structure;
- improving service delivery;

- strengthening rural-urban linkages;
- promoting socio- economic development; and
- increasing thresholds for service delivery and social facilities

In line with the principles of the Provincial Growth and Development Strategy, new settlements in the rural landscape should only be established in essential circumstances (e.g. power station, mine, etc.). Settlement proposals are further expanded in section 6.3 of this report.

<i>Main Local Town</i>
Beaufort West
<i>Local Towns</i>
Prince Albert
Laingsburg
<i>Rural Settlements</i>
Leeu-Gamka
Klaarstroom
Matjiesfontein
Merweville
Murraysburg
<i>Institutional Settlements</i>
Nelspoort (medical)
Prince Albert Road (railways)

The following are guidelines and proposals for each Category:

Core 1
<ol style="list-style-type: none"> 1. Essentially 'no-go' areas from a development perspective. Accordingly they should, as far as possible, remain undisturbed by human impact. Conservation management activities such as alien clearing, research and environmental education should be encouraged. Subject to stringent controls the following biodiversity- compatible land uses (i.e. those of very low impact) may be accommodated in Core areas: 2. Non-consumptive low impact eco-tourism activities such as recreation and tourism (e.g. hiking trails, bird and game watching, and visitor overnight accommodation). 3. Harvesting of natural resources (e.g. wild flowers for medicinal, culinary or commercial use), subject to EMP demonstrating the sustainability of harvesting. 4. Where Core areas are identified on land that has no formal conservation status (e.g. private farm), no further loss of natural habitat should occur. 5. Given the often high visual or aesthetic value of these landscapes, no large-scale eco-tourism developments to be permitted. 6. Land consolidation should be encouraged and sub-division prohibited.
Core 2
<ol style="list-style-type: none"> 1. Biodiversity – compatible and low impact conservation land uses as per Core 1 Areas, but allowing for a limited increase in scale of development in less sensitive areas (provided ecological processes not disrupted). To be informed by environmental sensitivity mapping, transformation thresholds and cumulative impacts. Biodiversity offsets may be necessary in this case. 2. Where existing agricultural activities (e.g. livestock) occur in Core 1 or Core 2 Areas, it needs to be subject to: <ul style="list-style-type: none"> • Lower impact practices • Lower than standard stocking rates • Resting cycles (i.e. rotational grazing) • Wetland & river bank protection to avoid over- grazing, trampling and destabilization • Avoiding areas containing red data species. • Limiting “value-adding” to nature-based tourism.

3. Incentivise consolidation of the conservation estate by:
 - Introducing limited low density rural housing development rights
 - Financial incentives
 - Other incentives (e.g. resource economic approaches)
4. No further extensions of intensive or extensive agriculture

Buffer 1

- (i) Conservation activities as per Core 1 and 2 Areas including sustainable consumptive or non- consumptive uses.
- (ii) Biodiversity compatible land uses as informed by transformation thresholds, including:
 - Low density Rural Residential Development
 - Resort and holiday accommodation
 - Tourist and recreational facilities
 - Additional dwelling units
- (iii) Development (e.g. structures) in support of both tourism and biodiversity conservation in Core Areas preferably be located in Buffer 1 and 2 if logistically feasible.
- (iv) Extensive agriculture comprising extensive game and livestock farming, subject to the following:
 - Lower impact practices be favoured (e.g. indigenous game farming as opposed to domestic livestock production)
 - Lower than standard stocking rates be employed
 - Resting cycles (i.e. rotational grazing) be employed
 - Buffer areas be protected from over- grazing and trampling in order to avoid wetland shoreline and river bank erosion and destabilization
 - Avoidance of areas containing red data species
 - Strictly limited “value-adding” through intensified tourism (e.g. resort or recreational facilities) or consumptive uses (e.g. hunting).
- (v) Extension of extensive accommodated if accompanied with biodiversity offsets with receiving areas for such offsets being on- site or in other Core 1 areas.

Buffer 2

- (i) Activities and uses directly relating to the primary agricultural enterprise
- (ii) Farm buildings & activities associated with the primary agricultural activity, including a homestead, agricultural buildings and worker accommodation.
- (iii) Additional dwelling units, including:
 - units approved under the agricultural-land policy equating to 1 additional non- alienable dwelling unit per 10ha to a maximum of 5 per agricultural unit
 - units permissible in terms of Rural Residential Development
- (iv) Additional land uses to facilitate diversification and “value adding” including:
 - Small-scale holiday accommodation (farmstay, B&B, guesthouse, boutique hotel,);
 - restaurant, lifestyle retail, venue facility;
 - farmstall & farmstore;
 - home occupation
 - local product processing (e.g. cheese-making)
 - tourist & recreational
 - facilities (e.g. hiking trail, 4x4 routes)
- (v) No fragmentation of farm cadastral unit, with spot zoning and consent uses employed to accommodate non-agricultural uses
- (vi) On-farm settlement of farmworkers, using existing housing stock or upgraded hostels.
- (vii) Buffer 2 Areas within the “fringe” of urban settlements to accommodate the following uses not suited to location within the urban edge:
 - space extensive requirements (e.g. regional sports & recreation facilities, tourist facilities)

	<ul style="list-style-type: none"> nuisance and buffer requirements (e.g. waste water treatment plants, cemeteries, solid waste disposal sites, airports, feedlots, quarries and mines, truck stops)
Intensive Agriculture	
(i)	Activities and uses directly related to the primary agricultural enterprise.
(ii)	Farm buildings and associated structures (e.g. homestead barns, farm worker accommodation, etc).
(iii)	Additional dwelling units approved under the policy of 1 additional non- alienable dwelling unit per 10ha, up to a maximum of 5 per farm.
(iv)	<p>Ancillary rural activities of appropriate scale that do not detract from farming production, that diversify farm income, and add value to locally produced products, e.g:</p> <ul style="list-style-type: none"> small-scale rural holiday accommodation (e.g. farmstay, B&B, guesthouse, boutique hotel); restaurant, rural lifestyle retail; function venue facility; farmstall and farmstore; home occupation (farm product processing); local product processing (e.g. winery, olive pressing); and rural recreational facilities (e.g. riding school)
(v)	Ancillary on-farm activities in an Intensive Agriculture SPC will be impacted on by surrounding farming activities (e.g. dust generation, spray drift, etc), and these impacts are not grounds for restricting farming production.
(vi)	Large scale resorts and tourist and recreation facilities should not be accommodated within Intensive Agriculture SPCs as they detract from the functionality and integrity of productive landscapes.
(vii)	Intensive-feed farming should not be accommodated in Intensive Agriculture SPCs due to their operational impacts (e.g. odour and traffic).
(viii)	Nurseries in Intensive Agriculture SPCs should limit propagation to local crop types
Settlements	
<p>Agricultural activities of excessive scale and non-agricultural activities not suited for location in the Intensive Agricultural and Buffer 1 and 2 Areas to be located within settlements or their “fringe areas”. These activities include:</p> <ul style="list-style-type: none"> Off-farm residential development and farm worker accommodation (e.g. in “agricultural suburbs”) Agricultural industry (e.g. wine bottling plant) and regional product processing (e.g. fruit cannery) Institutions (e.g. jail or rehabilitation centre) Agricultural colleges and schools Large-scale tourist accommodation (e.g. hotel) and facilities (e.g. waterpark) Service trades Footloose business, including farming co-operatives, agricultural requisites and filling stations 	

Further to the above, the following proposals are also made:

- Limit the impact and expansion of settlement development within this region with the application of settlement planning tools such as ‘urban edges’ and urban restructuring particularly at Beaufort West.
- Investigate and identify rural settlements along the N1 for possible railway heritage tourism. These settlements are favourably located along the N1 for ease of access from passing tourists. The intention is to attract passing traffic and have them remain in the District for longer and thus create a positive environment for small business activity;
- Providing technical support to sustain and maintain key heritage areas in Prince Albert and Laingsburg;
- Implement landscaping and urban design elements in Prince Albert and Laingsburg Main Roads and Central Business Districts. These upgrades should include appropriate storm-water drainage provision;
- Implement landscaping and urban design elements in targeted rural settlements where infrastructure need, tourism and development potential has been identified;
- Investigate in conjunction with CapeNature natural veld management guidelines and management plan for this region to improve veld carrying capacity in support of local sheep farmers.

7. Maintain gravel road network to ensure agricultural area connectivity and access to heritage areas such as block-houses and the Swartberg Mountain Pass;
8. Eco-tourism activities such as mountain-biking and hiking should be supported and promoted in selected locations. Careful consideration should be given to motorised tourism activities such as 4x4 and motorcycle trails. These should not degrade sensitive environmental areas or cause erosion; and
9. Develop a District-wide policy to guide private game reserve development and its economic and environmental impact. Game farm development should ideally occur in terms of an holistic plan targeting specific areas which may benefit from rehabilitation and supports District and Provincial ecological corridors;
10. In the absence of general policy, fracking should only be permitted at the completion of Environmental Impact Assessments (EIA's) which include, amongst others, extensive groundwater, geohydrological, and traffic impact studies to the satisfaction of the District Municipality and the affected Local Municipality;
11. Settlements in support of any major mining activity should be located in existing settlements as far as possible;
12. Due consideration should be given to the Western Cape Province Rural Land Use Planning and Management Guidelines; and
13. Water availability remains crucial in the District and a water management strategy and plan which include conservation and demand management should thus be developed for the region.

6.3 Settlement Hierarchy

The town of Beaufort West has the largest population (estimated at 34,000), which is more than the combined population of all other towns and settlements in the District. The town has a high concentration of government and administrative services and serves as an agricultural service centre for the local area.

The town of Prince Albert serve as agricultural service centre for its local area whilst Laingsburg provides essential basic services to local inhabitants.

New settlements should be restricted to:

- Servicing of geographically isolated farming areas;
- servicing rural resource exploitation (e.g. mine);
- servicing significant infrastructural developments (e.g. new power plant) situated in an isolated location.

In terms of the Western Cape Provincial Spatial Development Framework (WCPSDF), the town of Beaufort West has the highest development need followed by Prince Albert and Laingsburg. Prince Albert has shown the strongest growth in economic activity as a result of strong activity in the construction, tourism, real estate and finance and business sectors. The settlements of Murraysburg, Merweville, Leeu-Gamka and Matjiesfontein were seen as settlements of high need and low development.

The following settlement hierarchy is proposed:

- i. **High order investment node** with a population exceeding 10,000 in order to support high order public investment to serve the entire District and has high development and social need.
- ii. **Primary investment node** with a population of more than 5000 residents but less than 10,000 serving as rural and agricultural service centres and has high development potential in terms of agriculture and tourism development, and high social need.
- iii. **Secondary investment node** refers to rural settlements of smaller than 5,000 inhabitants which has a high social need and low development potential.
- iv. **Lower order investment nodes** are rural settlements with low development potential which may experience high social need without appropriate and timeous intervention.

No.	Settlement Type	Location
ST 01	High Order Investment Node	Beaufort West
ST 02	Primary Investment Node	Prince Albert, Laingsburg
ST 03	Secondary Investment Node	Merweville, Murraysburg, Matjiesfontein, Leeu-Gamka
ST 04	Lower Order Investment Node	Klaarstroom, Nelspoort

The WCPSDF is currently under review and it is expected that settlement hierarchies are to change in line with current socio-economic conditions. The proposed hierarchies have been developed with this in mind and will be subject to review based on forthcoming provincial spatial policy.

6.4 Infrastructure

Planning and infrastructure project proposals include the following:

- A proposed transport logistical interchange facility for the interchange of road freight transported along the N1 highway. The N1 as a freight corridor transports goods through the District between the Western Cape (Cape Town) and Gauteng (Johannesburg/Pretoria) and the District is thus not a destination or a converging point of regional or national freight points. It may therefore be more feasible to investigate a regional truck and freight service centre along the N1 to service road freight along this corridor.
- A District-wide water management strategy and plan in conjunction with the Department of Water Affairs should be developed to provide policy guidance and implementable measures for water management in a water scarce area. Such a plan needs to be sensitive of the impact of mining and hydraulic fracking on the District's water resources.
- The implementation of the District Mobility Strategy in order to provide affordable and meaningful transportation for District inhabitants in terms of patient, scholar and general public transport. Non-motorised transport (NMT) should be prioritised for implementation and accelerated in settlements across the District to establish improved accessibility.
- An investigation of the condition and capacity of waste water treatment works (WWTW's) and implementation and upgrade thereof across the District Municipality, particularly at Merweville and Leeu-Gamka.
- Investigation on obtaining national protection for heritage cemetery sites in the towns of Prince Albert and Laingsburg; the maintenance of these sites must be prioritised in terms of its cultural and tourist value.
- The impact of mining on the road, water, and energy infrastructure must be considered as part of a multi-pronged and multi-disciplinary investigation. Its aim should be the development of strategies and plans for managing public infrastructure investment to support the possible growth of the mining industry in the District.

6.5 Land Reform and Rural Development

Land reform and rural development should contribute to regional food security as well as provide an income to emerging black farmers through participation in the rural economy. In terms of Central Karoo District it is important to improve the carrying capacity of land by way of veld management interventions. Intensive or planted pastoral agricultural activities

should be investigated on commonage land in close proximity to settlements subject to the availability of water, the suitability of soils and the presence of appropriate institutional structures such as co-operatives.

It is considered that non-urban land or land within Category C of SPC's (excluding Category A and B) should be earmarked for land reform projects, where feasible. Land reform and rural development projects should not only focus on agricultural activities and interventions but seek invest in broader rural development which encourages participation of previously disadvantaged communities in the rural economy.

6.6 Principles for Mining and Extractive Industry Uses Guidelines

The following general principles should be considered when formulating detailed land use management guidelines for mining and other extractive land uses. All other legislation and regulations pertaining to such land uses, such as the National Environmental Management Act, 1998 (Act 107 of 1998), the Mineral and Petroleum Resources Development Act, 2002 (Act 28 of 2002) the National Heritage Resources Management Act, 1999 (Act 15 of 1999) and other applicable legislation will still apply. These principles seek to inform and guide the District Municipality and its Local Municipalities on land use change to permit mining.

The following are key considerations in the assessment of land use change applications as recommended by the International Union for the Conservation of Nature and Natural Resources (IUCN):

Principle 1:

Mining operations should be planned to minimise the creation of dust, carbon and other gas emissions such as perfluorinated carbon compounds.

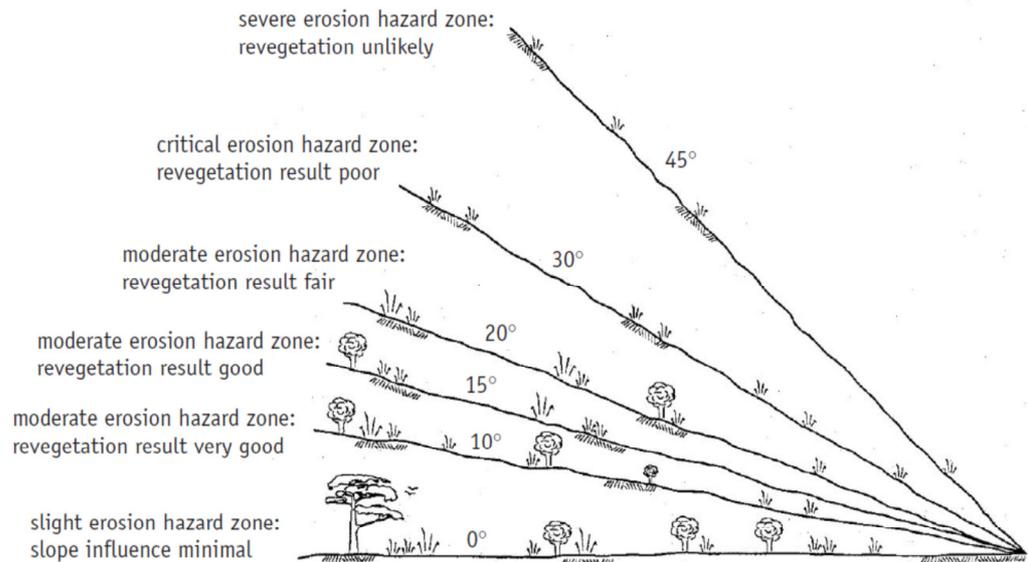
Principle 2:

Topsoil resources in areas subject to mining or extractive land uses shall prior to the commencement of any activities be characterised and mapped in order to determine the quantity of soil, soil texture and depth and the composition of vegetation.

Principle 3:

The District Municipality is subject to brief and severe thunderstorms which causes flash flooding; erosion control shall therefore be applied at all mining activity sites by using appropriate soil stabilisation techniques. These techniques could either be by way of mechanical means to stabilise wind-blown soil or the establishment of permanent plant cover.

Figure 7: Influence of Angle Slope on Re-vegetation and Erosion



Principle 4:

Restoration and rehabilitation of landscapes affected by mining and extractive land uses should be agreed to with the District Municipality and affected Local Municipality as part of an application for land use change and prior to the land use and other rights granted in terms of national or provincial legislation being taken up.

Principles 5:

Water use should be minimised and water conservation maximised by harvesting rainfall, reinstating the surface hydrological system on completion of the project or increasing the potential for groundwater recharge through the creation vegetated areas and wetlands. A waste management plan drafted in terms of an environmental management plan should also address waste minimisation and the impact of waste on water resources (including minimisation, containment, modification and removal of waste from water resources)

Principle 6:

Survey and mapping of plant species shall be undertaken before mining activities are undertaken. The seeds of local plant species and topsoil shall be conserved for rehabilitation and ecosystem restoration.

Principle 7:

Surveys of wildlife in affected mining areas shall be undertaken prior to any mining activities being undertaken. If endemic or threatened species are identified, special protection measures must be considered.

Principle 8:

Mining companies and developers shall provide adequate protection or support to any affected settlement within the District in respect of relocations, dust pollution, contaminated ground water, noise pollution and any other detrimental impacts as determined by authorities in consultation with affected communities and the Local Municipality and District Municipality. Mining companies and developers shall provide the necessary support through development levies and contributions to improve infrastructure affected by mining operations. These include roads, water, energy, housing and other public services.

Principle 9:

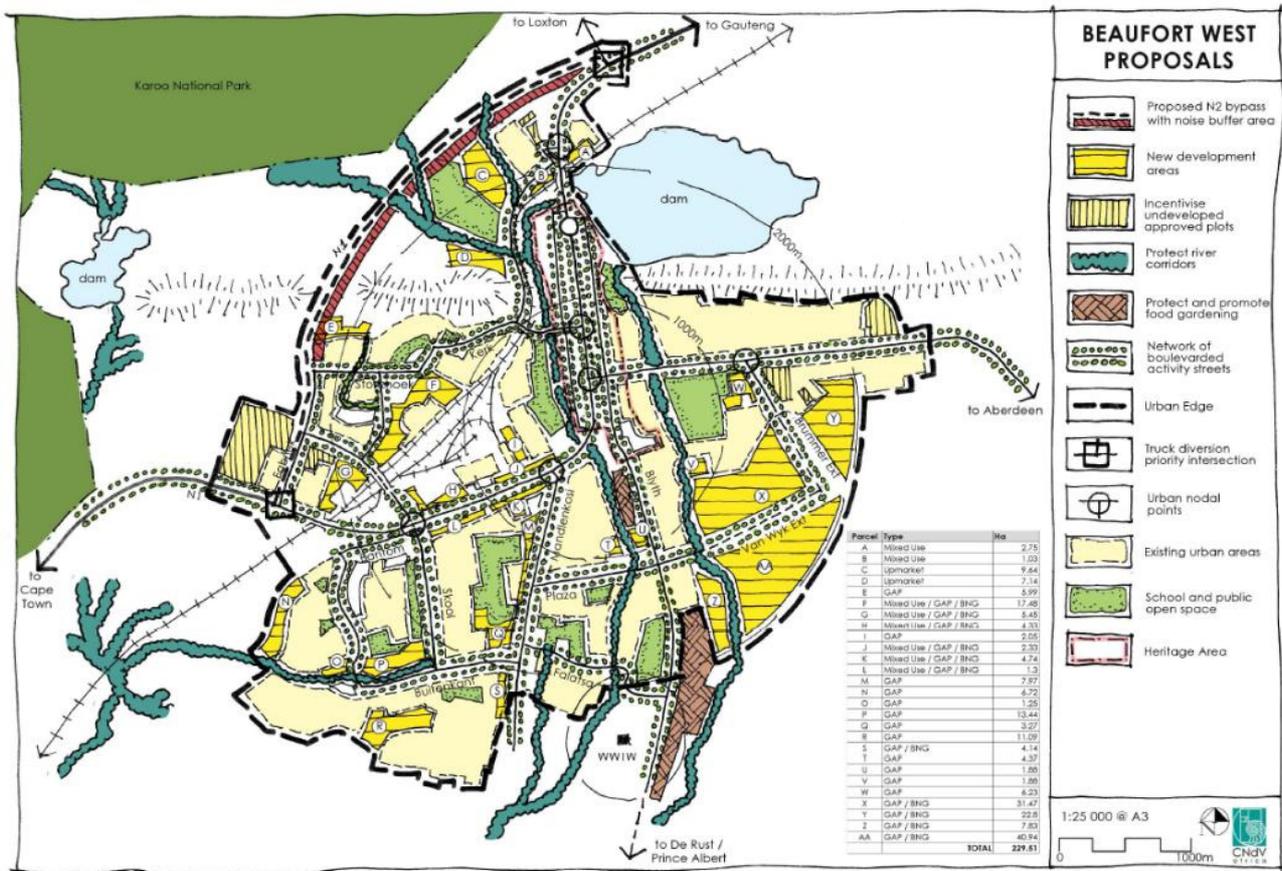
Mining companies and developers shall consult with local communities, Local Municipalities, District Municipality, Provincial and National Government to build local capacity for economic development in industries supplying the mining industry.

6.7 Linkages with Local Municipalities

The Local Municipalities of Central Karoo District Municipality have recently commenced a process of SDF formulation. Key spatial proposals of District significance is summarised below.

6.7.1 Beaufort West Municipality

The Beaufort West Municipality SDF supports the protection of river corridors in urban areas/towns, provides for a network of integrating boulevards connecting neighbourhoods and economic areas of towns, and the promotion of food gardening or urban agriculture in suitable locations for all areas; the town of Beaufort West, Murraysburg, Nelspoort and Merweville.



The town of Beaufort West is earmarked to provide more than 230 hectares of land for new development. Urban restructuring tools such as an urban edge and integration are adequately applied. Furthermore, the key focus of the town is the proposed N1 bypass which is to primarily divert freight traffic movement from the historic Central Business

District of the town. Heritage areas are also identified for the Central Business Districts of Beaufort West, Murraysburg and Nelspoort.

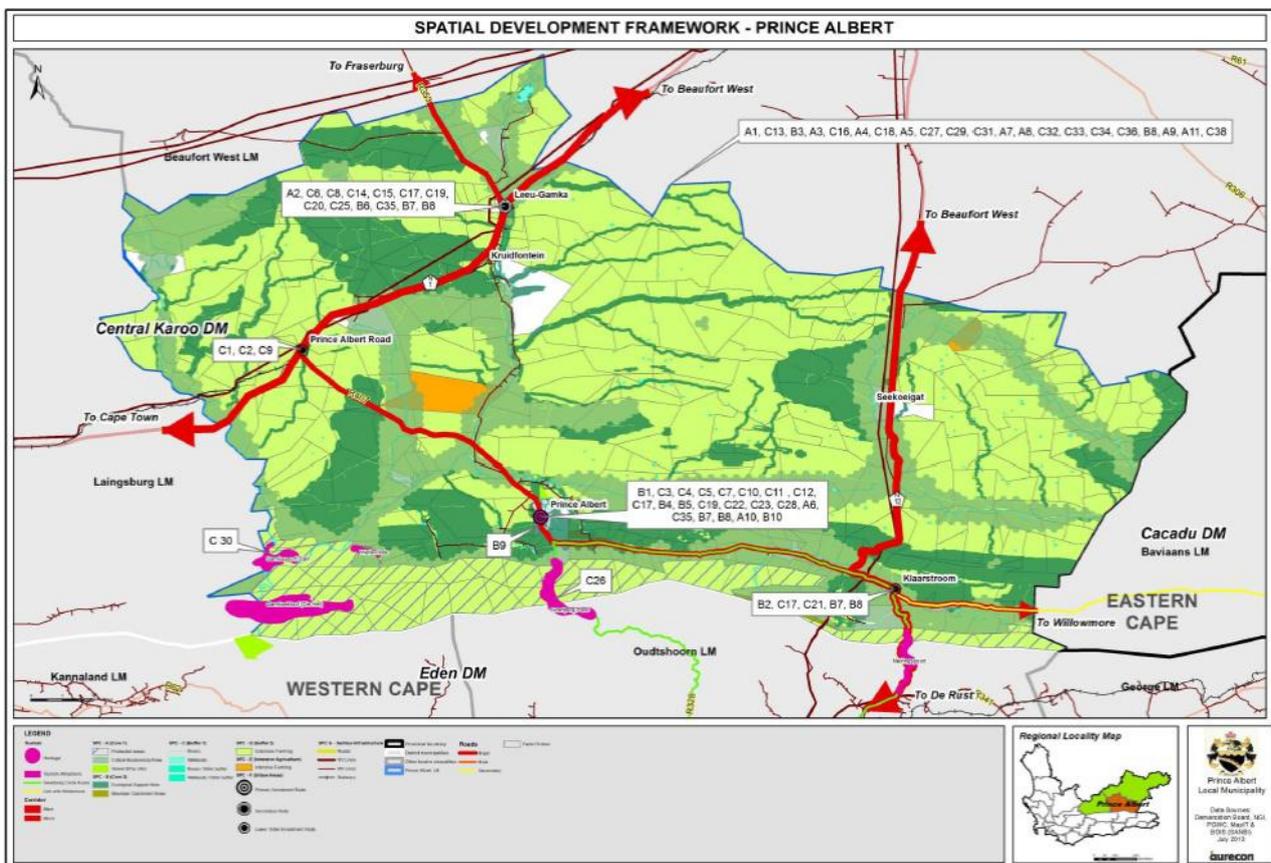
The SDF proposals support the spatial development objectives of the Central Karoo District Municipality in terms of protecting and preserving environmentally sensitive areas, creating efficient and integrated urban settlements and establishing effective linkages for access to and mobility between areas.

6.7.2 Prince Albert Municipality

The Prince Albert Municipality Spatial Development Framework re-emphasise the historic value and significance of the Prince Albert historic town centre. The upgrade of this area is therefore suggested with due consideration of historic and cultural aspects and the special needs of inhabitants particularly the disabled.

The following are key proposals contained in the SDF:

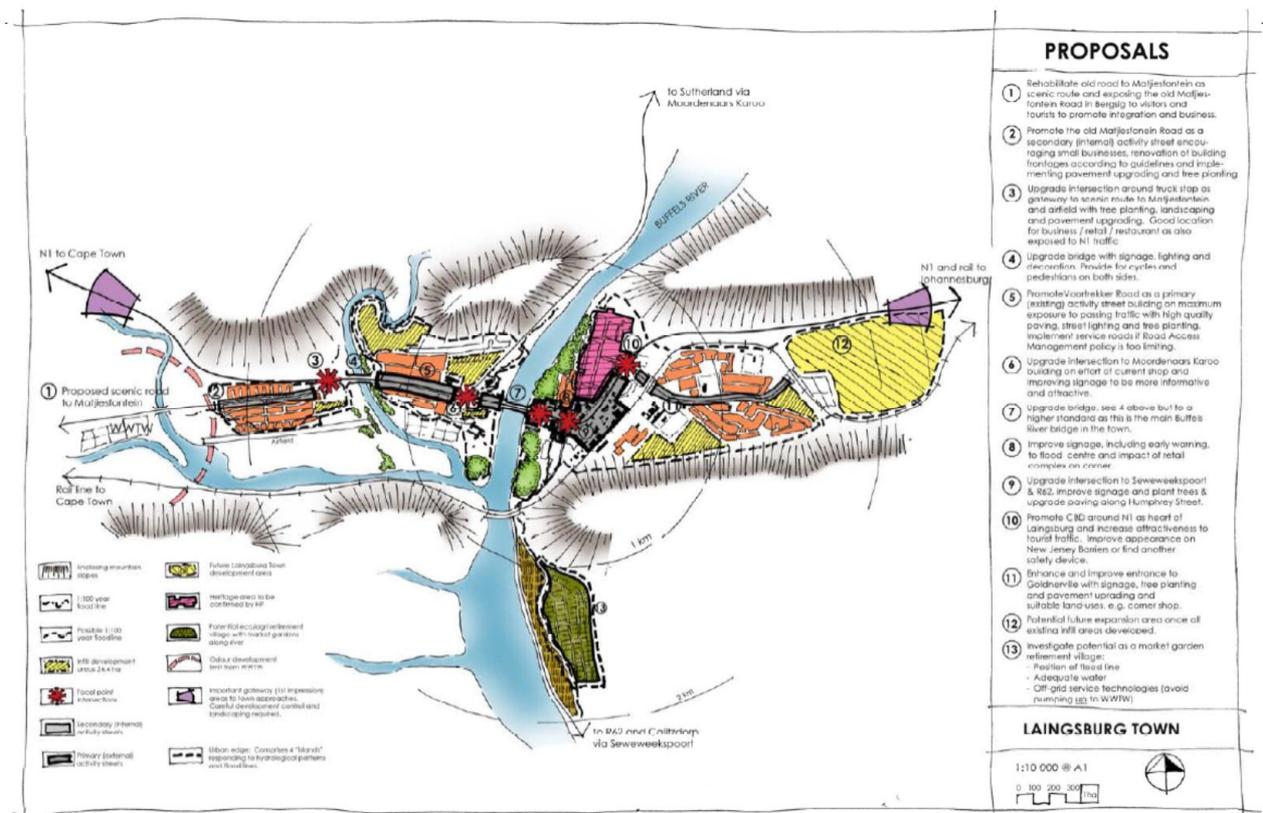
- The N1 and N12 are recognised as significant corridors in the Prince Albert municipal area;
- The town of Prince Albert is the primary investment and tourism node of the municipal area;
- Utilises spatial planning tools such as urban edges, infill development, densification and integration to affect spatial restructuring;
- The upgrading of waste water treatment works at Prince Albert Road;
- The development of a Storm-water Management Plan for the municipal area;
- Waste disposal site upgrades and improvements at Prince Albert and Leeu-Gamka.



6.7.3 Laingsburg Municipality

The Laingsburg Spatial Development Framework focuses on leveraging the benefits of the N1 highway through the town. In terms of urban development, proposals aim to strengthen and improve existing areas by encouraging infill development to expand urban density and reduce sprawl.

The SDF proposes the upgrade of the Laingsburg Central Business District with landscaping, intersection improvements and signage. A retirement village is proposed at Matjiesfontein as well as a possible market gardening scheme on 17 hectares of land. A scenic route between Matjiesfontein and Laingsburg is proposed.



7. Implementation Framework

Chapter 7

This section provides a framework for the implementation of SDF and is informed by the preceding Spatial Development Framework Plan in Chapter 6. A list of projects is provided and, importantly, includes an exercise of prioritisation.

7.1 Spatial Development Framework Project List

The Spatial Development Framework strategies and proposals provide the framework for project formulation and gives effect to the practical implementation of SDF in order to realise the vision of the document. The projects or programmes have its roots in the spatial development objectives as described in the table below.

Proposal No	Spatial Development Objective	Programme/Project	Cost Estimate (R'000)	Implementation Agent
PROP 1	Establishment of functioning land use management system	Integrated Land Use Management System	1 400	Local Municipalities
PROP 2	Protect and preserve biodiversity & conservation areas	Karoo Veld Management Programme	750	Central Karoo District
PROP 3	Protect and preserve biodiversity & conservation areas	Audit & Registration of Key District Historic Sites	500	Central Karoo District
PROP 4	Protect and preserve biodiversity & conservation areas	Prince Albert and Laingsburg CBD Upgrade	1 400	Central Karoo District
PROP 5	Establishment of functioning land use management system	Guidelines for Private Game Reserve Development	900	Central Karoo District
PROP 6	Protect and preserve biodiversity & conservation areas	District Water Demand Management Strategy	1 500	Central Karoo District
PROP 7	Strategic land, infrastructure and economic development	Beaufort West Regional Truck and Freight Centre	900	Central Karoo District
PROP 8	Strategic land, infrastructure and economic development	District Commonage Land Management Plan	600	Central Karoo District
PROP 9	Strategic land, infrastructure and economic development	Regional Landfill Site Study	1 000	Central Karoo District
PROP 10	Strategic land, infrastructure and economic development	Investigation into New Aquifers	60	Central Karoo District
PROP 11	Strategic land, infrastructure and economic development	Investigation on Murraysburg Waste Water Plant	500	Beaufort West Mun
PROP 12	Establishment of functioning land use management system	Laingsburg: Update policies, plans and by-laws	300	Laingsburg Mun

Proposal No	Spatial Development Objective	Programme/Project	Cost Estimate (R'000)	Implementation Agent
PROP 13	Establishment of functioning land use management system	Annual Review of Spatial Development Framework	200	Central Karoo District

PROPOSAL 1

Spatial Development Objective	To support the establishment of appropriate and functioning land use management systems		
Spatial Development Strategy	Establish integrated human settlement planning in order to reduce spatial inefficiencies in urban areas		
PROJECT NAME	Description	Cost Estimate (R'000)	Implementation Agent
<i>Implementation of Integrated Land Use Management System</i>	The development and planning of an integrated LUMS, comprising SDF's, land use schemes and building control across all Local Municipalities based on an electronic and automated geo-spatial land information management system. The project entails a scoping and stakeholder engagement (Local Municipalities) exercise to determine system requirements and components, human resource capacity issues and service level agreements between / amongst municipalities.	1 400	Central Karoo District Municipality/ Beaufort West Municipality/ Prince Albert Municipality/ Laingsburg Municipality

PROPOSAL 2

Spatial Development Objective	To protect and preserve biodiversity and conservation areas		
Spatial Development Strategy	Achieve synergy with veld management programmes that will improve both biodiversity conservation and stock carrying capacity		
PROJECT NAME	Description	Cost Estimate (R'000)	Implementation Agent
<i>Karoo Veld Management Programme</i>	Study and planning exercise on suitable Karoo veld management practices for various locations across the Central Karoo District Municipality area, comprising key tasks and an implementation plan.	750	Central Karoo District Municipality/ CapeNature

PROPOSAL 3			
Spatial Development Objective	Protect and preserve biodiversity and conservation areas;		
Spatial Development Strategy			
PROJECT NAME	Description	Cost Estimate (R'000)	Implementation Agent
<i>Central Karoo Audit of Historic Sites</i>	Audit of possible heritage sites, buildings and locations across the District and the registration of key sites	500	Central Karoo District Municipality
PROPOSAL 4			
Spatial Development Objective	Protect and preserve biodiversity and conservation areas; To establish a system of functionally defined development nodes (settlements) to guide priority public and private investment;		
Spatial Development Strategy	Reinforce development potential and urban efficiencies of towns with economic growth potential		
PROJECT NAME	Description	Cost Estimate (R'000)	Implementation Agent
<i>Central Karoo District CBD Upgrade Project</i>	Feasibility study, formulation of a framework, business plan and planning programme for the upgrade of Prince Albert and Laingsburg CBD comprising urban design elements, landscaping, parking, storm-water management, etc.	1 400	Central Karoo District Municipality
PROPOSAL 5			
Spatial Development Objective	To support the establishment of appropriate and functioning land use management systems		
Spatial Development Strategy			
PROJECT NAME	Description	Cost Estimate (R'000)	Implementation Agent
<i>Guidelines for Private Game Reserve Development</i>	The formulation of land use guidelines to inform applications for land use change to game reserves for all areas of the Central Karoo District Municipality.	900	Central Karoo District Municipality

PROPOSAL 6			
Spatial Development Objective	To protect and preserve biodiversity and conservation areas		
Spatial Development Strategy	Provide, protect and encourage the sustainable use of scarce and quality water resources		
PROJECT NAME	Description	Cost Estimate (R'000)	Implementation Agent
<i>District Water Demand Management Strategy</i>	The development of water demand management strategy and plan which include conservation and demand management; The plan is to include clear projects, programmes and initiatives for implementation.	1 500	Central Karoo District Municipality

PROPOSAL 7			
Spatial Development Objective	Strategic land, infrastructure and economic development		
Spatial Development Strategy			
PROJECT NAME	Description	Cost Estimate (R'000)	Implementation Agent
<i>Beaufort West Regional Truck and Freight Centre</i>	Feasibility study and investigation into the establishment of a regional truck and freight centre (or hub) at Beaufort West town which can service the passing trucking and freight industry in terms of servicing, repairs, maintenance, warehousing, administration, etc. Project to include a land identification exercise	900	Central Karoo District Municipality

PROPOSAL 8			
Spatial Development Objective	Strategic land, infrastructure and economic development		
Spatial Development Strategy	Support land reform initiatives that strengthen the agricultural sector in order to enable economic and employment growth		
PROJECT NAME	Description	Cost Estimate (R'000)	Implementation Agent

PROPOSAL 8			
<i>District Commonage Land Management Plan</i>	The development of a comprehensive management plan for commonage land within Central Karoo District Municipality in order to support land reform initiatives and improve carrying capacity of land.	600	Central Karoo District Municipality
PROPOSAL 9			
Spatial Development Objective	Strategic land, infrastructure and economic development		
Spatial Development Strategy			
PROJECT NAME	Description	Cost Estimate (R'000)	Implementation Agent
<i>Central Karoo District Regional Landfill Site</i>	A study, investigation, feasibility and business plan for the establishment of a Central Karoo District regional landfill site; Project includes site identification and environmental scoping.	1 000	Central Karoo District Municipality
PROPOSAL 10			
Spatial Development Objective	Strategic land, infrastructure and economic development		
Spatial Development Strategy	Provide, protect and encourage the sustainable use of scarce and quality water resources		
PROJECT NAME	Description	Cost Estimate (R'000)	Implementation Agent
<i>Investigation into New Aquifers in Central Karoo District</i>	An investigation into the identification of new aquifers within the Central Karoo District Municipality	60	Central Karoo District Municipality
PROPOSAL 11			
Spatial Development Objective	Strategic land, infrastructure and economic development		
Spatial Development Strategy	Continue and accelerate improvements in facility management and infrastructure maintenance		

PROPOSAL 11			
PROJECT NAME	Description	Cost Estimate (R'000)	Implementation Agent
<i>Upgrade of Murraysburg Waste Water Treatment Plant</i>	Undertake an investigation into the major upgrade and expansion of Murraysburg Waste Water Treatment Works	500	Central Karoo District Municipality
PROPOSAL 12			
Spatial Development Objective	Establishment of a functioning land use management system		
Spatial Development Strategy	Establish integrated human settlement planning in order to reduce spatial inefficiencies in urban areas		
PROJECT NAME	Description	Cost Estimate (R'000)	Implementation Agent
<i>Laingsburg: Update policies, plans and by-laws</i>	Update and/or review of municipal policies, plans and by-laws across sector departments in Laingsburg Municipality	300	Central Karoo District Municipality/ Laingsburg Municipality
PROPOSAL 13			
Spatial Development Objective	Establishment of a functioning land use management system		
Spatial Development Strategy	Establish integrated human settlement planning in order to reduce spatial inefficiencies in urban areas		
PROJECT NAME	Description	Cost Estimate (R'000)	Implementation Agent
<i>Annual Review of the Central Karoo District Municipality Spatial Development Framework</i>	Undertake a review of the Central Karoo Spatial Development Framework in line with policy and legislative amendments and changes as well as considering new statistical data and municipal and state initiatives, if deemed necessary.	200	Central Karoo District Municipality

7.2 IDP Capital Investment Framework

No	Programme/Project	Implementation Agent	Cost Estimate (R'000)	2013/14	2014/15	2015/16	2016/17
PROP 1	Klaarstroom Community Brickmaking Project	Prince Albert Municipality	100	100	-	-	-
PROP 2	Prince Albert Community Swimming Pool	Prince Albert Municipality	4 000	2 500	1 500	-	-
PROP 3	Upgrading & Development of Sidewalks: Prince Albert	Prince Albert Municipality	5 000	2 500	1 500	1 000	-
PROP 4	Laingsburg: Provision of VIP Toilets & Solar Panels	Laingsburg Municipality	210	70	70	70	-
PROP 5	Nelspoort: New Bulk Water Supply	Beaufort West Municipality	1 200	1 130	-	-	-
PROP 6	New Refuse Transfer Station	Beaufort West Municipality	500	500	-	-	-
PROP 7	Laingsburg: Greening Project - Building Town Pride	Laingsburg Municipality	330	310	-	-	-
PROP 8	Central Karoo Integrated Public Transport System	Central Karoo District Municipality	26 000	-	-	-	-
PROP 9	Non-Motorised Transport Infrastructure	Central Karoo District Municipality	-	-	-	-	-
PROP 10	Upgrade Gravel Roads: Beaufort West	Beaufort West Municipality	2 500	2 463	-	-	-
PROP 11	Upgrade Gravel Roads: Murraysburg	Beaufort West Municipality	4 000	3 972	-	-	-
PROP 12	Rehabilitate Gravel Roads: Beaufort West	Beaufort West Municipality	9 000	-	9 000	-	-
PROP 13	Rehabilitate Gravel Roads: Rustdene, Kwa-Mandlenkosi, Hillside	Beaufort West Municipality	2 900	2 836	-	-	-
PROP 14	Upgrade of Recreational Facilities: Prince Albert	Prince Albert Municipality	2 900	2 900	400	400	-
PROP 15	Nelspoort: Upgrade Waste Water Treatment Plant	Beaufort West Municipality	2 000	2 000	-	-	-
PROP 16	External Stormwater: Buitenkant St - Beaufort West	Beaufort West Municipality	5 200	5 131	-	-	-
PROP 17	New Stormwater Retention - Hillside	Beaufort West Municipality	450	451	-	-	-
PROP 18	New High Mast Lighting: Beaufort West, Merweville, Nelspoort	Beaufort West Municipality	700	-	-	-	-

7.3 Project Prioritisation

The projects and programmes identified needs to be prioritised in terms of each project's importance to the Central Karoo District Municipality and how each project relates to its vision and objectives. The prioritisation of projects is done through the utilisation of specific prioritisation criteria. The identified prioritisation criteria will form the basis of a prioritisation model and ultimately assist in the identification of anchor projects for the implementation of the Central Karoo District Municipality Spatial Development Framework.

The number of criteria has been specifically selected for the highest level of convenience and simplicity. The following prioritisation criteria have been identified for the Central Karoo District Municipality Spatial Development Framework proposals:

- (i) The strategic importance of the project;
- (ii) The public desirability of the proposal;
- (iii) The environmental impact of the project;
- (iv) The broader socio- economic impact and benefits of the project;
- (v) The feasibility of the proposal.

7.3.1 Strategic Importance

The strategic importance of a project refers to the degree of compliance with or adherence to municipal and government policies, directives and objectives. Furthermore, this criterion identifies projects that are multi-sectoral and indispensable to other municipal and government facilities and services. Projects with a high degree of adherence to municipal and government policies and objectives and are multi-sectoral shall score highest in terms of priority.

7.3.2 Public Desirability

This criterion measures the responses, perceptions and opinions of different stakeholder groups to a specific proposal. It looks into the political support within the administration and whether there has been a negative or positive response from resident groups, non-governmental organisations, or the public at large.

7.3.3 Environmental Impact

The direct and indirect environmental impacts of a project are identified as part of this criterion. These impacts may be locally or at a regional level within the urban and natural environments. Higher scores should be given to projects that make an improvement to living standards, conservation and protection.

7.3.4 Socio-economic Impact

This criterion refers to projects that improve societal and economic qualities for citizens; it emphasises projects that improve overall quality of life. Projects with a pro-poor focus are given a higher ranking as well as those which create significant local employment and contribute to local or regional economic growth and development.

7.3.5 Feasibility

Feasibility of projects measures the likelihood for the implementation of projects measured in terms of cost, funding and resource capacity. The capital and/or operating costs of a project must be carefully considered against funding capabilities of the Municipality as well as its resource capacity to affect implementation. A reasonable balance between these factors will ensure the most favourable ranking in terms of prioritisation.

7.3.6 Project Prioritisation Model

The prioritisation model should be populated by the above criteria elements to which each will be assigned a weighting which adds to a factor of 1.0. Each project is assessed in terms of the scale table of low, medium, and high level importance and given a score. The scores per criteria are tabulated and the sum of scores of all criteria per project is summed up.

The weighting for each criterion, and ultimately the project prioritisation process, is to be determined through and informed by the Central Karoo District Municipality IDP consultation process with the involvement of Councillors, Council structures, non-governmental organisations, and other interest groups.

See table on reverse for example of the project prioritisation matrix.

		Criteria	Strategic Importance	Public Desirability	Environmental Impact	Socio-Economic Impact	Feasibility	TOTAL
	R('000)	Weight	0.20	0.15	0.15	0.25	0.25	1.0
Integrated Land Use Management System	1 400	Central Karoo District						
Karoo Veld Management Programme	750	Central Karoo District						
Audit & Registration of Key District Historic Sites	500	Central Karoo District						
Prince Albert and Laingsburg CBD upgrade	1 400	Central Karoo District						
Guidelines for Private Game Reserve Development	900	Central Karoo District						
District Water Demand Management Strategy	1 500	Central Karoo District						
Beaufort West Regional Truck and Freight Centre	900	Central Karoo District						
District Commonage Land Management Plan	600	Central Karoo District						
Regional Landfill Site: Beaufort West	1 000	Central Karoo District						
Investigation into New Aquifers	60	Central Karoo District						
Investigation: Murraysburg Waste Water Plant	500	Beaufort West Municipality						
Laingsburg: Update policies, plans and by-laws	300	Laingsburg Municipality						
Annual Review of Spatial Development Framework	200	Central Karoo District						
		Scale	1-4 Low level Importance		5-7 Medium-level Importance		8-10 High level Importance	

