



Mpumalanga Spatial Development Framework

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Table of Contents

SECTION 1: INTRODUCTION	1		
1 Introduction	2		
1.1 Purpose of the Mpumalanga Provincial Spatial Development Framework	2		
1.2 Introduction to Mpumalanga Province	2		
SECTION 2: LEGAL AND POLICY FRAMEWORK.....	5		
1 The Legislative context in South Africa	6		
1.1 South African Constitution	6		
1.2 Spatial Planning and Land Use Management Act (SPLUMA) ..	6		
2 International Policies and Directives	10		
2.1 United Nations' Sustainable Development Goals	10		
2.2 UN-Habitat International Guidelines on Urban and Territorial Planning.....	11		
2.3 Man and the Biosphere Programme (UNESCO)	11		
2.4 SADC Transfrontier Conservation Areas	12		
2.5 NEPAD Spatial Development ProgrammeS.....	13		
2.5.1 Maputo Development Corridor	13		
2.5.2 Phalaborwa Spatial DEVELOPMENT Initiative	13		
2.6 Trans National Spatial Development Initiatives.....	13		
3 National Spatial Plans, Policies and Directives	15		
3.1 National Development Plan 2030.....	15		
3.2 National Spatial Development Framework	17		
3.3 Medium Term Strategic Framework	19		
3.4 National Infrastructure Plan	20		
3.5 Industrial Policy Action Plan	21		
3.6 The Regional Industrial Development Strategy.....	22		
3.7 Agricultural Policy Action Plan	26		
3.8 National Transport Master Plan (NATMAP), 2050	26		
3.9 Integrated Urban Development Framework (IUDF)	29		
3.10 National Strategy for Sustainable Development	31		
4 Provincial Policies and Directives.....	32		
4.1 Mpumalanga Vision, 2030 (2013-2030)	32		
4.2 Mpumalanga Economic Growth and Development Path, 2011 38			
4.3 Mpumalanga Spatial Development Framework - Draft (2013) 39			
4.4 Mpumalanga Infrastructure Master Plan.....	43		
4.5 Human Settlement Master Plan (2013)	43		
4.6 Mpumalanga Tourism Growth Strategy (2018)	47		
4.7 Provincial Comprehensive Rural Development Programme .49			
4.8 Biodiversity Sector Plan, 2014	50		
4.9 Mpumalanga Industrial Development Plan.....	52		
5 District Spatial Development Frameworks	55		
5.1 District Spatial development frameworks.....	55		
5.1.1 Gert Sibande District Municipality	55		
5.1.2 Ehlanzeni District Municipality	57		
5.1.3 Nkangala District Municipality	58		
6 District Rural Development Plans	61		
SECTION 3: MPUMALANGA 2017-18.....	63		
1 Biophysical Theme Analysis.....	64		
1.1 Topography and Landscapes	64		
1.2 Geology and Minerals.....	64		
1.2.1 Geology.....	64		
1.2.2 Minerals.....	65		
1.3 Climate	66		
1.3.1 Temperature	66		

1.3.2	Rainfall	66	3.1	Spatial Structure and Settlement Patterns	106
1.4	Natural Resources	69	3.1.1	Spatial Structure	106
1.4.1	Air	69	3.1.2	Settlement Patterns	106
1.4.2	Water	69	3.2	Settlement Typology	107
1.4.3	Land	74	3.3	Human Settlements.....	111
1.4.4	Agriculture and Forestry	75	3.3.1	Informal Settlements and Basic Services.....	111
1.5	Biodiversity and Protected Areas	78	3.3.2	Housing	112
1.5.1	Ecosystems.....	78	3.4	Transport Movement Services.....	112
1.5.2	Freshwater Ecosystems.....	79	3.4.1	Corridors and Transport	112
1.5.3	Ecological Corridors.....	81	3.4.2	Condition of Roads	114
1.5.4	Protected Areas	85	3.4.3	Travel Patterns	115
1.5.5	Critical Biodiversity Areas	85	3.4.4	Aviation Facilities	116
1.6	Resource Consumption and Disposal.....	88	3.4.5	Logistic (Freight)	116
1.6.1	Energy.....	88	3.4.6	Road Freight	116
1.6.2	Waste	88	3.4.7	Rail Network.....	117
1.6.3	Climate Change.....	89	3.4.8	Coal Haul Roads.....	117
1.7	Biophysical Challenges and Opportunities	89	3.5	Infrastructure	120
2	Socio-economic Theme Analysis	92	3.5.1	Water.....	120
2.1	Demography	92	3.5.2	Wastewater and Sanitation	121
2.1.1	Population.....	92	3.5.3	Energy and Electricity	122
2.2	Education	95	3.6	State Land	122
2.3	Employment Status	95	3.7	Built Environment Challenges and Opportunities	125
2.3.1	Employment	95	SECTION 4: MPUMALANGA 2050	128	
2.3.2	Poverty.....	95	1	The Approach towards Phase 3.....	129
2.3.3	Income Inequality	95	2	Spatial Vision and Objectives.....	130
2.4	Provincial Space Economy	96	2.1	Spatial Development Objectives.....	130
2.4.1	Size of the Economy	96	2.1.1	Spatial Goals.....	130
2.4.2	Spatial Distribution of Economic Activities	97	2.2	Spatial Vision	131
2.4.3	Economic Growth Rate	98	2.3	Spatial Objectives	131
2.4.4	Sectors of the Economy	99	2.3.1	Connectivity and Corridor Functionality.....	131
2.5	Rural Development	101	2.3.2	Sustainable Concentration and Agglomeration	131
2.6	Tourism.....	102	2.3.3	Conservation and Resource utilisation.....	132
2.7	Socio-Economic challenges and Opportunities.....	103	2.3.4	Liveability and Sense of Place	133
3	Built Environment Theme Analysis.....	106	2.3.5	Rural Diversity and transformation.....	133

3	Spatial Development Concept and Objectives	134
3.1	Spatial Development Concept for Mpumalanga	134
3.2	Spatial Development Objectives.....	136
3.2.1	Connectivity and Corridor Functionality	136
3.2.2	Sustainable Concentration and Agglomeration	155
3.2.3	Conservation and Resource Utilisation	187
3.2.4	Liveability and Sense of Place	225
3.2.5	Rural Diversity and Transformation	241
3.3	Composite Mpumalanga Provincial Spatial Development Framework	249
4	Land Use Budget	251
4.1	Medium Growth Scenario	251
4.2	High Growth Scenario	256
SECTION 5: IMPLEMENTATION FRAMEWORK		262
1	Spatial Guidance	263
1.1	Institutional Framework	263
1.2	Co-ordinating Structure/ Custodianship	264
1.3	Spatial Frameworks versus Plans	265
1.4	Monitoring and Evaluation.....	265
1.5	Reporting, Amendment and Review.....	265
1.6	Partners in the Spatial Development CONTEXT	266
2	Implementation Framework	270
SECTION 6: ANNEXURES		300
1	ANNEXURES	301
	Annexure 1: Population Projection (2025, 2035 & 2050)	301
	Annexure 2: Restructuring Zones	302
	Annexure 3: Mpumalanga Tourism Nodes	304
	Annexure 4: Definitions	306

List of Figures

Figure 1: SPLUMA Development Principles	9
Figure 2: The NDPs Proposed National Schema for Spatial Targeting	17
Figure 3 Five frames to achieve our desired future spatial pattern	18
Figure 4: RIDS Core Regions and Spatial Economic Linkages	24
Figure 5: RIDS Specific Districts with Significant Inherent Economic Potential	25
Figure 6: NATMAP 2050 Alignment with SIPS and National Corridors	28
Figure 7: Core Elements of the IUDF	30
Figure 8: Plans informed by the Vision 2030.....	33
Figure 9: Organising structure of the MP Vision 2030	34
Figure 10: Vision 2030 key drivers	35
Figure 11: Human Settlement Priority Nodal Areas	46
Figure 12: Consolidated Housing Programme	46
Figure 14: Contributions of the Provinces to the National GDP (at 2010 Constant Prices)	96
Figure 15: Annual GDP Growth Rates.....	98
Figure 16: Outline to the Approach towards Phase 3	129
Figure 17: Draft Spatial Vision	130
Figure 18: Polycentric System for Mpumalanga.....	135
Figure 19: Liveability Concept	225
Figure 20: CSIR Service Wheel	235
Figure 21: Urban-Rural Anchors	241
Figure 22: Relationship between SDF's and Implementation plans <i>Source: DRDLR SDF Guidelines</i>	268
Figure 23: Institutional framework for PSDF implementation	269

List of Tables

Table 1: The Industrial Centres of Competence and Links to Priority Rural and CRDP Nodes	53
Table 2: Biome per area size	79
Table 3: Percentage of Biodiversity in Protected Areas	85

Table 4: Population Distribution in Local and District Municipalities	93
Table 5: Gini Coefficients and Palma Ratios for South Africa, Mpumalanga and its Districts	96
Table 6: Municipalities' GDP and Share in Provincial GDP and Population	97
Table 7: Contributions of Economic Sectors to GVA(R billion at 2010 constant prices)	100
Table 8: Settlement Typology for Mpumalanga Towns	107
Table 9: Mpumalanga Informal Settlements	111
Table 10: Major National Corridors in Three Districts	114
Table 11: Mode of Travel in Percentage	116
Table 12: No drop assessment for Mpumalanga	120
Table 13: State Owned Land	123
Table 14: Major corridors along with key urban areas/ nodes	137
Table 14: Key Economic Growth Centres and Alternative Growth Centres in Mpumalanga	168
Table 16: Additional land required to accommodate anticipated population and non-primary economic sector activities (Medium/Baseline Growth Scenario)	252
Table 17: Additional land required to accommodate anticipated population and non-primary economic sector activities (2020-30) – High Growth Scenario	257
Table 18: Implementation Framework	270
Table 19: Population Projection (2025, 2035 & 2050)	301
Table 33: Urban Restructuring	302

List of Maps

Map 1: Mpumalanga Province	4
Map 2: Regional Spatial Development Initiatives	14
Map 3: Mpumalanga PSDF 2013 Indicative Framework	42
Map 4: Mpumalanga Biodiversity Sector Plan	51
Map 5: Industrial Centres of Competence	54
Map 6: District Spatial Development Framework	60
Map 7: Temperature in Mpumalanga	67

Map 8: Mean Annual Rainfall in Mpumalanga	68
Map 9: Land Cover	76
Source: Mpumalanga Tourism and Parks Agency	
Map 10: Land Capability and Degradation	77
Source: Mpumalanga Tourism and Parks Agency	
Map 11: Health of River Ecosystems	83
Map 12: Ecological Corridors	84
Map 13: Critical Biodiversity Areas	87
Map 14: Population Distribution per Kernel Density	94
Map 15: Mpumalanga Settlement Typology	110
Map 16: Conditions of Regional Roads	118
Source: http://mp-rams.co.za/rams/rams.html	
Map 17: Coal Haulage Roads	119
Source: http://mp-rams.co.za/rams/rams.html	
Map 18: Location of State Land	124
Source: DRDLR	
Map 19: Leveraging the N4 Corridor	140
Map 20: Proposed Corridors	143
Map 21: Proposed Tourism, Economic and Rural Roads	147
Map 22: Proposed Passenger Rail Corridors	150
Map 23: Freight Movement	153
Map 24: Economic Growth Centres	167
Map 25: MIDP and Vision 2030 Economic Proposals	175
Map 26: Economic Diversification	178
Map 27: Overview of the Economic Proposals	186
Map 28: Terrestrial CBAs	192
Map 29: Sensitive Water Areas	194
Map 30: Agricultural Potential Land	199
Map 31: Special Control Mining Areas	224
Map 32: Liveability Proposals	240
Map 33: Rural Diversity and Transformation Proposals	244
Map 34: Mpumalanga Provincial Spatial Development Framework 1	249
Map 35: Mpumalanga Provincial Spatial Development Framework 2	250

List of Abbreviations

Abbreviation	Meaning
ANA	Annual National Assessments
APAP	Agriculture Policy Action Plan
APP	Annual Performance Plan
BBBEE	Broad-Based Black Economic Empowerment
CBA	Critical Biodiversity Areas
COGTA	Cooperative Governance and Traditional Affairs
CRDP	Comprehensive Rural Development Programme
CRU	Community Residential Units
CRR	Critical Risk Ratings
CSIR	Council for Scientific and Industrial Research
DARDLEA	Department of Agriculture, Rural Development, Land and Environment Affairs
DAFF	Department of Agriculture, Forestry and Fisheries
DEDT	Department of Economic Development and Tourism
DHS	Department of Human Settlements
DM	District Municipality
DHS	Department of Human Settlements
DMR	Department of Mineral Resources
DOE	Department of Education
DOH	Department of Health
DRDLR	Department of Rural Development and Land Reform
DSD	Department of Social Development
DTI	Department of Trade and Industry

Abbreviation	Meaning
DPWRT	Department of Public Works, Roads and Transport
DWA	Department of Water Affairs
DWS	Department of Water and Sanitation
EIAs	Environmental Impact Assessments
ESD	Education for Sustainable Development
ESAs	Ecological Support Areas
FPSU	Farmer Production Support Units
GIS	Geographic Information Systems
GSDM	Gert Sibande District Municipality
GVA	Gross Value Added
ICA	Infrastructure Consortium for Africa
IDMP	Infrastructure Development Master Plan
IDP	Integrated Development Plan
IPAP	Industrial Policy Action Plan
IRDP	Integrated Residential Development Programme
KMIA	Kruger Mpumalanga International Airport
KNP	Kruger National Park
LCCA	Life Cycle Cost Analysis
LM	Local Municipality
LUMS	Land Use Management Systems
MaB	Man and the Biosphere Programme
MBSP	Mpumalanga Biodiversity Sector Plan
MDC	Maputo Development Corridor
MEGA	Mpumalanga Economic Growth Agency
MEGDP	Mpumalanga Economic Growth and Development Path

Abbreviation	Meaning
	Monitoring, Evaluation and Impact Assessment
MEIA	Assessment
MIDP	Mpumalanga Industrial Development Plan
MIMP	Mpumalanga Infrastructure Master Plan
MP	Mpumalanga Province
MPG	Mpumalanga Provincial Government
MTEF	Medium-Term Expenditure Framework
MTSF	Medium Term Strategic Framework
MTPA	Mpumalanga Tourism and Parks Agency
MRTT	Mpumalanga Regional Training Trust
MW	Megawatt
NATMAP	National Transport Master Plan
NDM	Nkangala District Municipality
NDP	National Development Plan
NEMA	National Environmental Management Act
	National Environmental Management: Biodiversity Act
NEMBA	Biodiversity Act
NEMPAA	National Environmental Management: Protected Areas Act
NEPAD	New Partnership for Africa's Development
	National Framework for Sustainable Development
NFSD	Development
NGO	Non- Governmental Organisation
NGP	New Growth Path
	National Strategy for Sustainable Development
NSSD	Development
NWRS	National Water Resources Strategy
NPC	National Planning Commission
NSDF	National Spatial Development Framework
NSDP	National Spatial Development Perspective
	National Strategy for Sustainable Development
NSSD	Development

Abbreviation	Meaning
ONAs	Other Natural Areas
OTP	Office of the Premier
PCF	Premiers Coordinating Forum
PGDP	Provincial Growth and Development Plan
PGDS	Provincial Growth and Development Strategy
PHP	People's Housing Process
PMC	Provincial Management Committee
PSC	Project Steering Committee
PSDF	Provincial Spatial Development Framework
PSO	Provincial Strategic Objectives
PRASA	Passenger Rail Agency of South Africa
PSDF	Provincial Spatial Development Framework
RDP	Rural Development Plan
RH	Rural Housing
RIA	Rural Intervention Areas
	Regional Industrial Strategic Development Plan
RISDP	Plan
SADC	South African Development Community's
SALGA	South African Local Government Association
SANRAL	South African National Roads Agency
SASSA	South Africa Social Security Agency
SEZ	Special Economic Zone
SDF	Spatial Development Framework
SDGs	Sustainable Development Goals
SDI	Sustainable Development Initiatives
SMMEs	Small, Medium and Micro-sized Enterprises
SPLUM	Spatial Planning and Land Use Management
SPLUMA	Spatial Planning and Land Use Management Act
	Act
TFCAs	Transfrontier Conservation Areas
ToR	Terms of Reference
TRAC	Trans African Concessions

Abbreviation	Meaning
UN	United Nations
UNESCO	United Nations Educational, Scientific and Cultural Organization
WMA	Water Management Area
WWTW	Waste Water Treatment Works

The background features a dark grey upper section and a white wireframe grid floor. A prominent yellow wireframe mountain range spans the middle ground. A semi-transparent yellow rectangle is overlaid on the left side of the image, containing the text.

SECTION 1: INTRODUCTION

1 INTRODUCTION

1.1 PURPOSE OF THE MPUMALANGA PROVINCIAL SPATIAL DEVELOPMENT FRAMEWORK

The Spatial Planning and Land Use Management Act (SPLUMA), 2013, Act No 16 of 2013 is a national law that was passed by Parliament in August 2013. It seeks to address past spatial and regulatory imbalances within the Country which were based on racial inequality, segregation and unsustainable settlement patterns. The Act establishes a spatial planning system as a framework for transformation and integration.

The Terms of Reference (ToR) identifies the role of clear developmental, regulatory land and development management to give effect to the principles contained in SPLUMA.

The Provincial Spatial Development Framework (PSDF) shall serve the purpose of; spatial justice, spatial sustainability, efficiency, spatial resilience and good administration; integrating necessary functionalities and linkages within the spheres of government, delivering a multitude of services linked to an integrated development approach in the province. The PSDF should include the new planning paradigm implementation and must integrate and sufficiently provide an economically and socially balanced development between rural and urban areas in the province. The PSDF should also aim to reduce the spatial

fragmentation which poses major developmental challenges in spite of the existence of several initiatives and programmes.

The objectives of the PSDF are to cover the following aspects at provincial level: integration of development policies, strategies and objectives at various levels; prioritized land use development patterns; translate developmental needs; unpack spatial directives and objectives for implementation; provide investment guidance and the mechanisms for implementation; provide guidance on sectoral development needs, investments, integration and programme implementation.

SPLUMA further acknowledges the legal effect of the PSDF whereby it comes into operation by the approval by the Executive Council and the publication in the Provincial Gazette. The result is that all provincial development plans, projects and programmes must be consistent with the PSDF (Section 17 of the Act).

1.2 INTRODUCTION TO MPUMALANGA PROVINCE

Mpumalanga means "a place where the sun rises". It is the second-smallest province in South Africa and located in the north-eastern part of the country, bordering Swaziland and Mozambique.

Mpumalanga covers an area of 76 495km² and has a population of 4 335 964, making it one of the most populous provinces in the country.

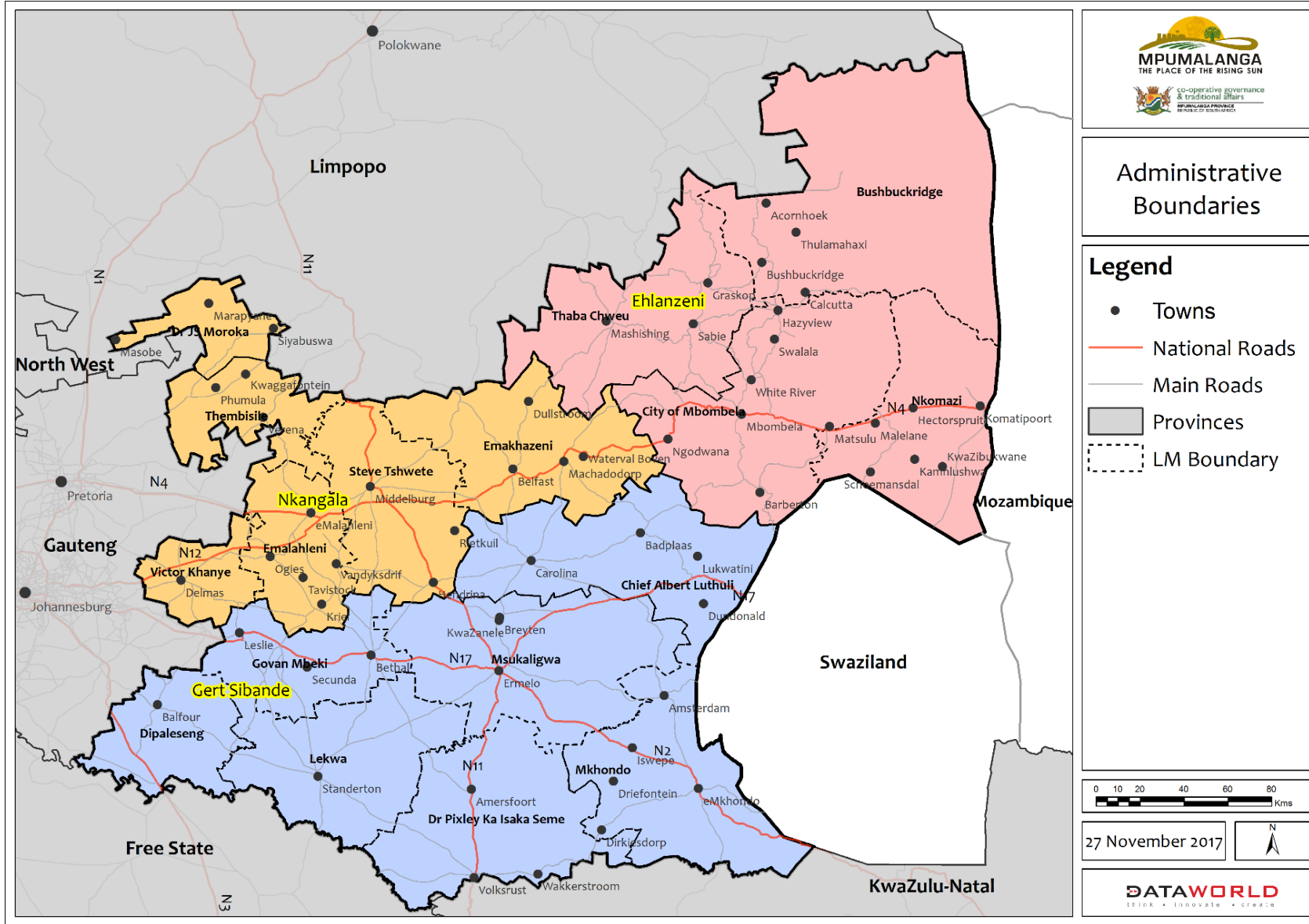
The province is rich in coal reserves and home to South Africa's major coal-fired power stations (eMalahleni is the biggest coal producer in Africa).

Mpumalanga is known for its mining, manufacturing, and forestry and service sectors. The tourism and agro-processing sectors have shown major growth potential over the years. Agriculture in Mpumalanga is characterised by a combination of commercial and subsistence farming practices.

It is situated on the high plateau grasslands of the Middleveld and characterised by large areas of mountain peaks and ridges in the lowveld which contributes to the scenic beauty and tourism destinations in the province.

Administratively Mpumalanga is divided into three district municipalities (See Map 1), which are further subdivided into 17 local municipalities. The City of Mbombela is the capital of the province and the administrative and business centre of the lowveld. Other major cities and towns in Mpumalanga include eMalahleni (previously Witbank), Middelburg Standerton, eMkhondo (previously Piet Retief), Malalane, Ermelo, Barberton and Sabie.

The Maputo Corridor, which links Mpumalanga with Gauteng and Maputo in Mozambique, harbours extensive potential in terms of economic development and growth for the region. The N17 also is an important transport corridor linking Gauteng with Kwa Zulu Natal through the southern part of Mpumalanga.



Map 1: Mpumalanga Province

The background features a stylized landscape. The upper portion is a solid yellow field. Below it, a series of jagged, interconnected white lines form a wireframe mountain range. The foreground consists of a white grid pattern that recedes into the distance, creating a sense of depth. The overall aesthetic is modern and technical.

SECTION 2: LEGAL AND POLICY FRAMEWORK

1 THE LEGISLATIVE CONTEXT IN SOUTH AFRICA

1.1 SOUTH AFRICAN CONSTITUTION

The Constitution of South Africa, contained in Act 108 of 1996, is the supreme law of South Africa. Amongst other things, it prescribes different functions to different tiers of government to ensure the equitable and functional distribution of roles, responsibilities and duties. In accordance, it has assigned specific functions to the national and provincial government.

Contained in Schedule 4 is the concurrent national and provincial legislative competence. Herein, both national and provincial government have a responsibility to undertake regional planning and development. Under Schedule 5, the Act defines exclusive provincial legislative competence, which expressly includes provincial planning.

Since there might be some overlap as to the responsibilities, the Constitutional Court has indicated that 'urban and rural development' is a matter that falls under the concurrent powers of the national and provincial government. A reason for treating land development as a national competence and as part of 'urban and rural development' could be to maintain essential national standards in terms of section 44(2)(c) of the Constitution, or that uniformity across the nation is required in terms of section 146(2) of the Constitution. It could also include the establishment of financing schemes for development, the creation of bodies

to undertake housing schemes or to build urban infrastructure, and the setting of development standards to be applied by municipalities.

Chapter 3 of the Constitution is dedicated towards 'Co-operative Government', which concerns the involvement, participation and sharing of information across the different tiers of government. It recognises that all levels of government are important and play a critical role in taking the country forward. Therefore, there should be a free-flow of information between all spheres of the government.

In summary, it is a requirement of the South African Constitution that the Mpumalanga Provincial government undertake provincial planning for its province, and to achieve co-operative governance, this plan should guide planning between different departments at the provincial level.

Similarly, it should inform plans at the municipal level, while in turn the plan itself must also be informed by the plans from the other tiers of government (e.g. Integrated Development Plans, Spatial Development Frameworks etc.).

1.2 SPATIAL PLANNING AND LAND USE MANAGEMENT ACT (SPLUMA)

The Spatial Planning and Land Use Management Act, Act 16 of 2013 (SPLUMA) is a framework act for all spatial planning and land use management legislation in South Africa. It

seeks to promote consistency and uniformity in procedures and decision-making in spatial planning across the country.

The other objectives include addressing historical spatial imbalances and the integration of the principles of sustainable development into land use and planning regulatory tools and legislative instruments.

This piece of national legislation is an important component for the future of spatial planning in South Africa. It places spatial planning and land use management in its rightful place, and it will necessitate this, not only at a local municipal level but equally at district, provincial and national level.

It should follow that SA will have a full set of spatial development plans covering the entire country with all plans adhering to a proper national standard. As for provincial planning, the Act stipulates that the process should consist of:

- The compilation, approval and review of a provincial spatial development framework;
- Monitoring compliance by municipalities with this Act and with provincial legislation in relation to the preparation, approval, review and implementation of municipal spatial development frameworks and a land use management system;
- The planning by a province for the efficient and sustainable execution of its legislative and executive powers insofar as they relate to the development of land and the change of land use; and

- The making and reviewing of policies and laws necessary to implement provincial planning.

The Act further provides a host of development principles, which should apply to spatial planning, land development and land use management for the Limpopo SDF. These are:

- The principle of **spatial justice**:
 - Deal with spatial imbalances and include areas that were previously excluded.
 - Redress access to land for the previously disadvantaged
 - Plan for incremental upgrading and secure tenure
- The principle of **spatial sustainability**, whereby spatial planning and land use management systems must:
 - Promote land development that is within the fiscal, institutional and administrative means of the country
 - Protect prime agricultural land and environmental resources
 - Promote and stimulate the effective and equitable functioning of land markets
 - Carefully consider social and infrastructural costs of land development
 - Promote development in sustainable locations
 - Establish viable communities
- The principle of **efficiency**:

- Optimise efficient use of resources and infrastructure
- Minimise negative financial, social, economic or environmental impacts
- Efficient and streamlined application procedures
- The principle of **spatial resilience**, whereby flexibility in spatial plans, policies and land use management systems are accommodated to ensure sustainable livelihoods in communities most likely to suffer the impacts of economic and environmental shocks.
- The principle of **good administration**:
 - An integrated approach to land use and land development
 - Free-flow of information plans and policies between and within tiers of government
 - Empowering citizens

The Act clearly states that a provincial spatial development framework should be in line with the policies of the national government and should be aligned with the plans, policies and development strategies of adjoining provinces.

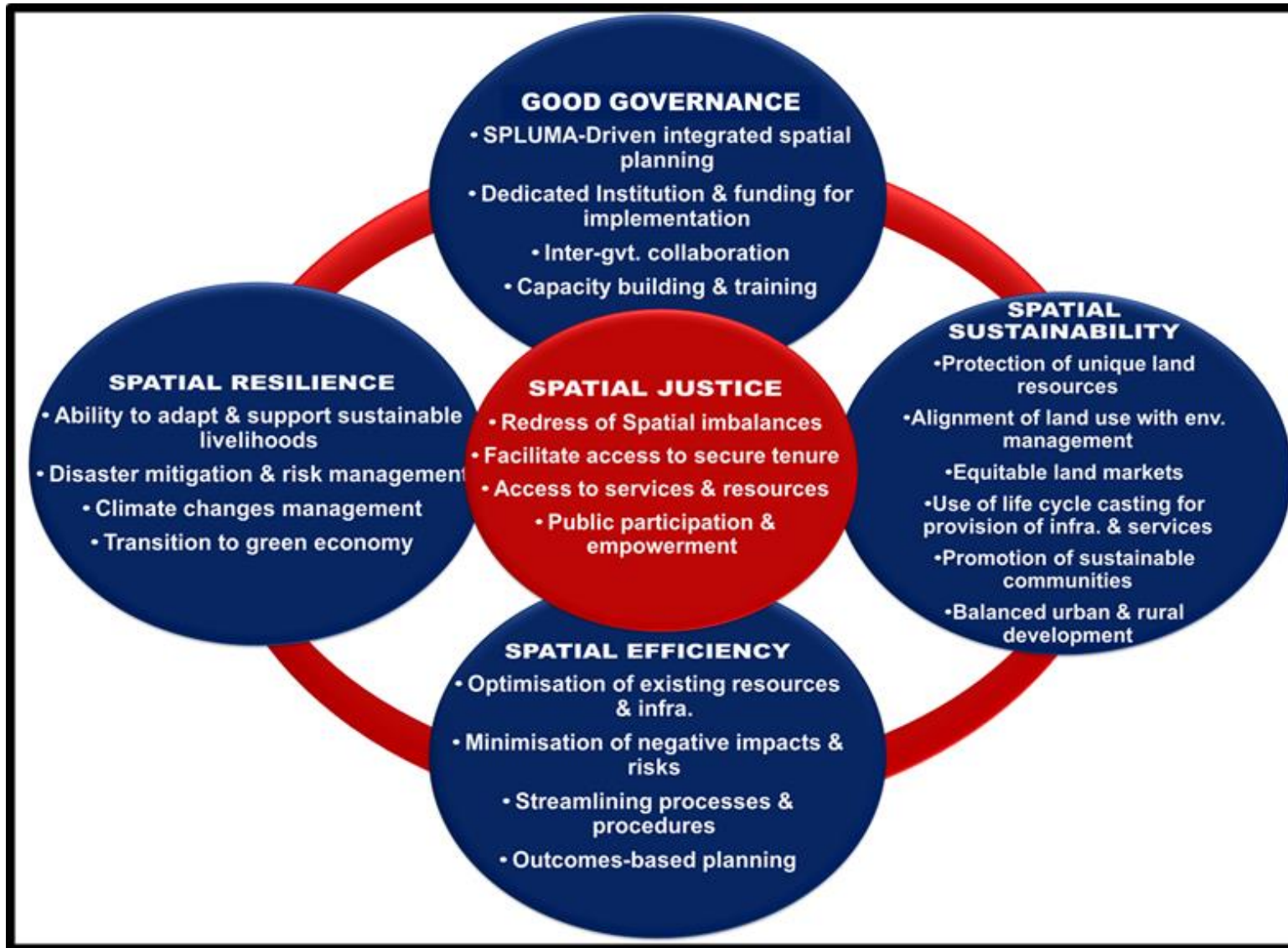


Figure 1: SPLUMA Development Principles

2 INTERNATIONAL POLICIES AND DIRECTIVES

South Africa is a signatory to a number of international treaties, agreements, and programmes. Some of the policies and directives, emanating from the country's treaties and programmes, impact the development of the Provincial Spatial Development Framework. The ensuing section analyses some of the relevant international policies and directives.

2.1 UNITED NATIONS' SUSTAINABLE DEVELOPMENT GOALS

From a spatial planning context, the most relevant goal is goal number 11: Sustainable Cities and Communities - Make cities and human settlements inclusive, safe, resilient and sustainable. This goal puts forward a number of targets for 2030. The key and relevant targets¹ for the current study are:

1. Ensure access for all with regards to adequate, safe and affordable housing, basic services and upgrading of slums.
2. Provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety - notably by expanding public transport, with special attention to the needs of those in vulnerable situations.

3. Enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries.
4. Strengthen efforts to protect and safeguard the world's cultural and natural heritage.
5. Reduce the adverse per capita environmental impact of cities, by paying special attention to air quality, municipal and other waste management challenges.
6. Provide universal access to safe, inclusive and accessible green and public spaces - in particular for women and children, older persons and persons with disabilities.
7. Support positive economic, social and environmental links between urban, peri-urban and rural areas by strengthening national and regional development planning.
8. Substantially increase the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters, and develop and

¹ "Goal 11: Sustainable Cities and Communities - Global Goals" retrieved from <http://www.globalgoals.org/global-goals/sustainable-cities-and-communities/>

implement holistic disaster risk management at all levels.

2.2 UN-HABITAT INTERNATIONAL GUIDELINES ON URBAN AND TERRITORIAL PLANNING

The United Nations Human Settlements Programme (UN-Habitat) recognizes that urban and territorial planning has the ability to restructure the forms and functions of cities and regions, assist in creating economic growth, prosperity, and employment while addressing the needs of the most vulnerable, marginalized or underserved groups. The UN-Habitat views urban and territorial planning as a *decision-making process aimed at realizing economic, social, cultural and environmental goals through the development of spatial visions, strategies and plans and the application of a set of policy principles, tools, institutional and participatory mechanisms and regulatory procedures*². Having realized the functions and potential and urban and territorial planning, UN-Habitat, in 2015, published International Guidelines on Urban and Territorial Planning. The guidelines put forward the following four basic planning principles that should be inherent to any spatial planning exercise:

- advocate physical compactness;
- promote social inclusiveness;

- enable integrated and connected cities and territories; and
- facilitate resilience to climate change.

2.3 MAN AND THE BIOSPHERE PROGRAMME (UNESCO)

UNESCO's Man and the Biosphere Programme (MaB), is an intergovernmental scientific programme aiming at establishing a scientific basis for the improvement of relationships between people and their environments.

The programme identified three strategic objectives for 2015-25; Conserve biodiversity, restore and enhance ecosystem services, and foster the sustainable use of natural resources.

- Contribute to building sustainable, healthy and equitable societies, economies and thriving human settlements in harmony with the biosphere.
- Facilitate biodiversity and sustainability science, education for sustainable development (ESD) and capacity building.
- Support mitigation and adaptation to climate change and other aspects of global environmental change.

At present, there are six recognised bio-sphere reserves in South Africa of which one is the Kruger to Canyons situated

² "International Guidelines on Urban and Territorial Planning" retrieved from <https://www.uclg.org/>, (accessed Nov 01,2017)

partly in Mpumalanga province. It encompasses the Kruger National Park, Blyde River Canyon Nature Reserve as well as other surrounding National and Provincial Nature Reserves.

2.4 SADC TRANSFRONTIER CONSERVATION AREAS

Southern African Development Community's (SADC) and Transfrontier Conservation Areas (TFCAs) are very much similar to MAB's biosphere reserves in many respects. With the aim of managing shared natural and cultural resources collaboratively and beyond international boundaries for improved biodiversity conservation and socio-economic development, TFCAs have been established. The critical strategic objectives³ behind establishing the TFCAs are;

- Promote conservation and sustainable use of biological and cultural resources beyond international boundaries.
- Promote synergy in regional initiatives for economic, social and conservation benefits.
- Facilitate and promote regional peace, co-operation and socio-economic development.
- Involve local communities in the programme to bestow the TFCAs with the legitimacy they deserve. At the same time, provide jobs and income opportunities for local people living within and around the TFCAs.

- Enable tourists to drive across international boundaries into adjoining conservation areas of participating countries with minimal hurdles or bother.

With the above-stated aims and objectives a total of 14 TFCAs have been identified and demarcated, out of which the following two fall partially in Mpumalanga.

- **Great Limpopo Transfrontier Park-** A vast conservation area, encompassing 37, 5000 sq.km in size, ranges the borders of South Africa, Mozambique, and Zimbabwe. This conservation area joins some of the most established wildlife areas, ecological corridors, communal natural resource management areas, private game reserves, and hunting concession areas.
- **Lubombo Transfrontier Conservation and Area-** It straddles an area of 10,029 sq.km and borders Swaziland, Mozambique, and South Africa. The Lubombo is a unique and complex TFCA by many aspects- it consists of five mini TFCAs and includes a range of habitats ranging from game reserves to Ramsar sites to even marine and coastal conservation areas.
- It is pertinent to mention that Mpumalanga partly falls within the Maputaland-Pondoland-Albany biodiversity region. The region is a refuge for the critically endangered black rhino. In addition, the

³"Transfrontier Conservation Areas" retrieved from

https://www.environment.gov.za/projectsprogrammes/transfrontier_conservation_areas (accessed Nov 01,2017)

province includes several globally recognized centres of endemism such as Wolkeberg, Sekhukhuneland, Barberton, and Maputaland-Pondoland.

2.5 NEPAD SPATIAL DEVELOPMENT PROGRAMMES

2.5.1 MAPUTO DEVELOPMENT CORRIDOR

The Maputo Development Corridor (MDC) as part of the Coast 2 Coast Corridor (Walvis Bay to Maputo) is supported by a transportation corridor connecting Gauteng to the port of Maputo on the east coast. The MDC was launched as a Spatial Development Initiative (SDI) in 1996. The MDC is based on the objectives⁴ to:

- Rehabilitate the primary infrastructure network - road, rail, port and dredging, and border posts.
- Maximise investment in both the inherent potential of the corridor area and in the added opportunities.
- Boost social development, employment opportunities of historically disadvantaged communities.

The MDC also aims to enhance competitiveness through the promotion of investment zones to accelerate and coordinate investment and social development.

⁴ Fredrik Söderbaum, Institutional Aspects of the Maputo Development Corridor, 2001

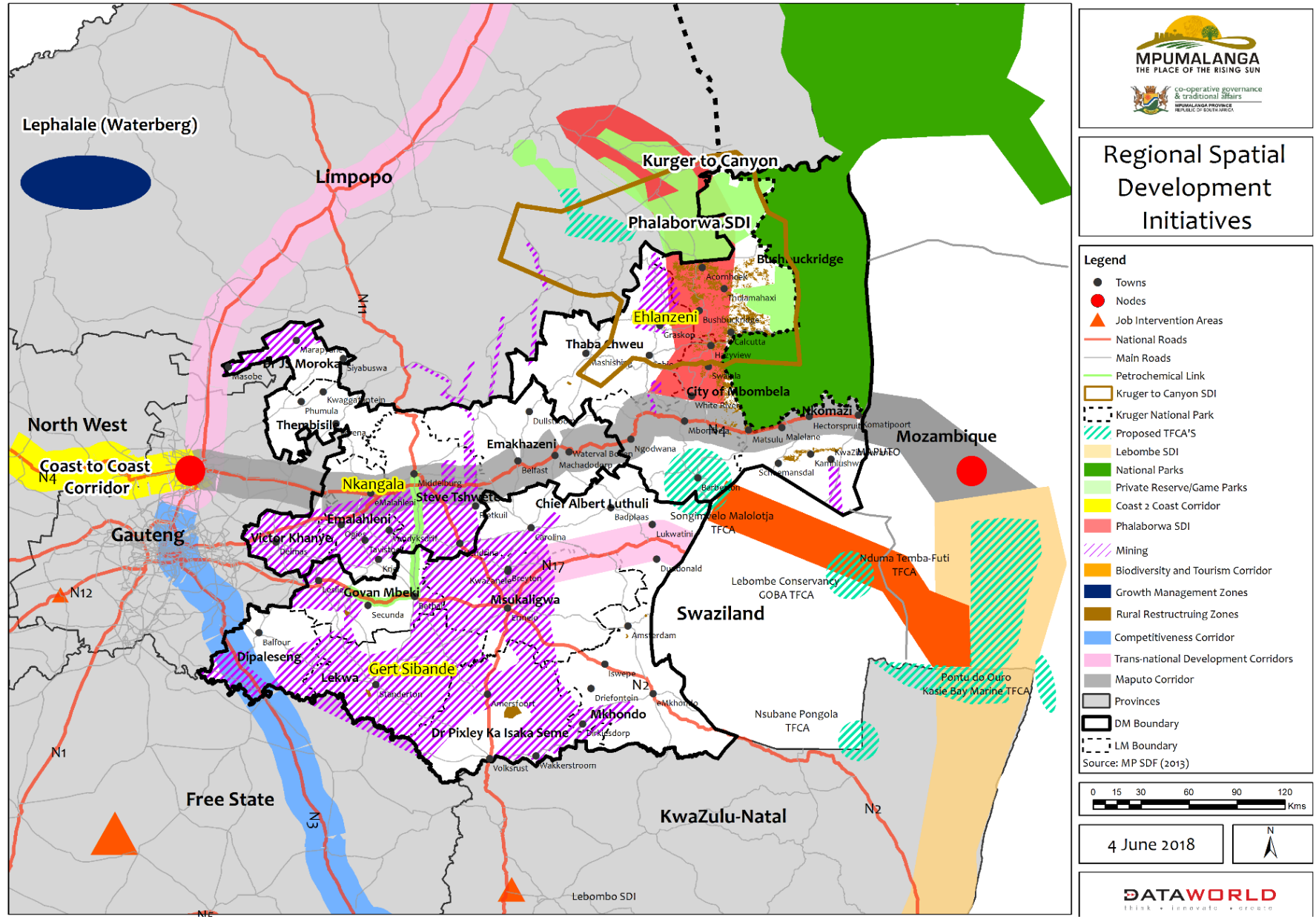
2.5.2 PHALABORWA SPATIAL DEVELOPMENT INITIATIVE

The Phalaborwa Spatial initiative establishes a sub-corridor between Ba-Phalaborwa and Nelspruit and is supported by the R40 (linking Ba-Phalaborwa with the MDC) and Phalaborwa rail link. The SDI traverses the municipalities of Ba-Phalaborwa, Maruleng, Bushbuckridge and the City of Mbombela and focuses on the stimulation of new eco-tourism through the Kruger 2 Canyon Biosphere.

2.6 TRANS NATIONAL SPATIAL DEVELOPMENT INITIATIVES

Transnational agreements that support sustainable, balanced and equitable regional development include, Trans Frontier Conservation Areas (TFCAs) and tourism-based Spatial Development Initiatives (SDIs) which includes the Great Limpopo Transfrontier Park and Biodiversity Corridor including Songimvelo-Malalotja Transfrontier Conservation Areas (TFCA).

Strategic catalytic economic, social and engineering infrastructure development supports these programmes.



Map 2: Regional Spatial Development Initiatives

3 NATIONAL SPATIAL PLANS, POLICIES AND DIRECTIVES

3.1 NATIONAL DEVELOPMENT PLAN 2030

The government committed itself to the development of a longer-term perspective on the future of South Africa with the overall intention of ensuring a sound basis to direct and coordinate planning across all spheres of government. The National Planning Commission was appointed to draft a national vision and development plan. The NDP focuses on the following key priority areas:

- An economy that will create more jobs;
- Improving infrastructure;
- Transition to low carbon economy;
- Reversing the spatial effects of apartheid in urban and rural areas;
- Improving the quality of education, training and innovation;
- Quality health for all;
- Social protection;
- Building safer communities;
- Reforming the public sector.

The NDP reports that in urban areas in-migration, especially by the young and poor, increases pressure on services and transport, complicated by apartheid fragmented geography. Economic growth has been slower than the demand for employment. In particular accommodation faces challenges, including financing for lower end housing and its incorporation into the

market, and slow progress on rental accommodation (CRU and Social Housing) and upgrading of informal settlements. In urban areas, key NDP recommendations include:

- Upgrading all informal settlements on suitable, well-located land by 2030;
- Increased urban densities to reduce sprawl and costs;
- Investments to shift jobs and investment to the urban townships on the peripheries;
- Substantial investments in safe, reliable and affordable public transport and better coordination among the various modes;
- A comprehensive review of the grant and subsidy regime for housing to ensure diversity in product and finance options and spatial mix;
- A focused strategy on the housing gap market, involving banks, subsidies and employer housing schemes;
- The development of spatial compacts.

In the rural areas, the National Development Plan reports that general productivity has been declining and outmigration to cities and towns has been accelerating. The rural landscape is characterised by rural densification without associated infrastructure and governance arrangements, ill-located land-reform initiatives from the perspective of viable farming, or access to markets, and

many of these initiatives conflict with other imperatives such as mining or preserving biodiversity. This situation is unsustainable and requires timeous intervention.

The NDP suggests that rural interventions will differentiate less dense marginal areas primarily needing appropriate service provision from more viable and denser areas with transport and market access, including:

- Innovative, targeted and better-co-ordinated provision of infrastructure (including ICTs) and services provision supported by the spatial consolidation of rural settlements to enhance densities and associated service delivery;
- Prioritising agricultural and rural development along mobility corridors, to build local economies and contribute to national food security;
- Identification of non-agricultural opportunities such as tourism and mining, especially with a “green” focus’;
- Promoting small-town development as nodes/core areas of rural development;
- Implementing mechanisms to make land markets work more effectively for the poor, especially women.

The NDP provides for spatial development proposals as part of the national spatial development interventions referenced schematically in Figure 2

- **Primary Transnational Development Corridors** and cross border infrastructure connections. These include:
 - The **Maputo Development Corridor** (MDC) which runs through the province as the N4 freeway;
 - The Ermelo-Richards Bay Freight Corridor;
 - A link between Ermelo and Swaziland;

- Gauteng as a national **Node of Competitiveness** which strongly associates with the nearby economic activity nodes in proximity to Gauteng, which relates to eMalahleni, Middelburg, Secunda and Nelspruit as part of the Maputo Development Corridor.
- The **National Competitiveness Corridor** building on the Durban-Gauteng Freight Corridor, providing for logistics hubs, road, rail and fuel transportation.
- **Rural Restructuring Zones:** These zones include the more densely occupied parts of the previous homelands where there are sufficient numbers of people to provide the basis for viable markets through the Comprehensive Rural Development Programme (CRDP). The rural restructuring zones within Mpumalanga as part of the provincial CRDP programme.
- **Resource critical zones:** These have valued mineral resources, and are areas of great importance to biodiversity and critical water production. The sustainability of these areas is crucial and needs specific policies to protect them.

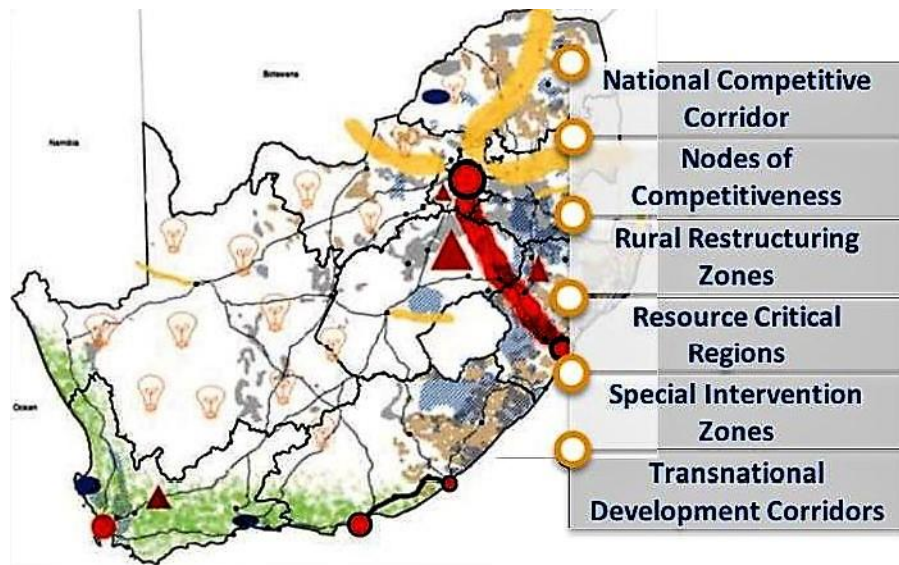


Figure 2: The NDPs Proposed National Schema for Spatial Targeting
 (Source: National Development Plan, 2030)

3.2 NATIONAL SPATIAL DEVELOPMENT FRAMEWORK

The appointment of the *National Planning Commission* in 2010, and the subsequent preparation and adoption of the 2030- *National Development Plan* in 2012. It was especially Chapter 8 of the NDP – *Transforming Human Settlement and the National Space Economy* – that made specific reference to the need for a “*national spatial development framework*”. Such a framework, it held, must optimise, integrate and coordinate the energies and economic

impacts of the strategic interventions in national space. This was recognised as important, given the core significance of space and access to land in bringing about transformation, and ensuring that people and places benefit from this intervention. The chapter also included a “*proposed national schema for spatial targeting*” and set out a series of directives for such a framework but stopped short from providing it.

The NSDF must accelerate the spatial transformation and ensure that equitable outcomes are achieved. It must do so in full recognition of (1) the need for urgency to act on redressing the apartheid spatial legacy, and (2) the scale of what the redress requires in terms of approach, resource use, and state capability. It needs to ensure that segregated development is reversed, and fundamentally improve the spatial quality, liveability vibrancy and productive capacity of places in which Black families live. The NSDF must provide guidance on the minimum amenities, functions and services that different types of settlements in the country must have or provide. This will be enhanced by the Norms and Standards that the DRDLR is preparing in accordance with SPLUMA in a separate process.

The NSDF must ensure that the ecological base on which all livelihoods and economic growth depend is protected and harnessed. As such, it must provide for (1) the development of sustainable human settlements in the national space with the long-term future in mind, and (2) the wise effective and inclusive use and enjoyment of the country’s land, water and energy resources.

The *Spatial Development Vision and Mission* that is proposed for our country, based on these drivers, builds on the overarching goal of *equity, unity and connectedness*, and reads as follows:

Vision Statement:

“All Our People Living in Shared and Transformed Places in an Integrated, Sustainable and Competitive National Space Economy”

Mission Statement:

“Making our Common Desired Spatial Future Together Through Better Planning, Investment, Delivery and Monitoring”

Guided by the normative principles contained in SPLUMA and the NDP directives as set out in the previous section, as well as the fourteen strategic outcomes of the Medium Term Strategic Framework, the vision will be realised by achieving the following set of mutually reinforcing high-level spatial frames as indicated in **Figure 3**

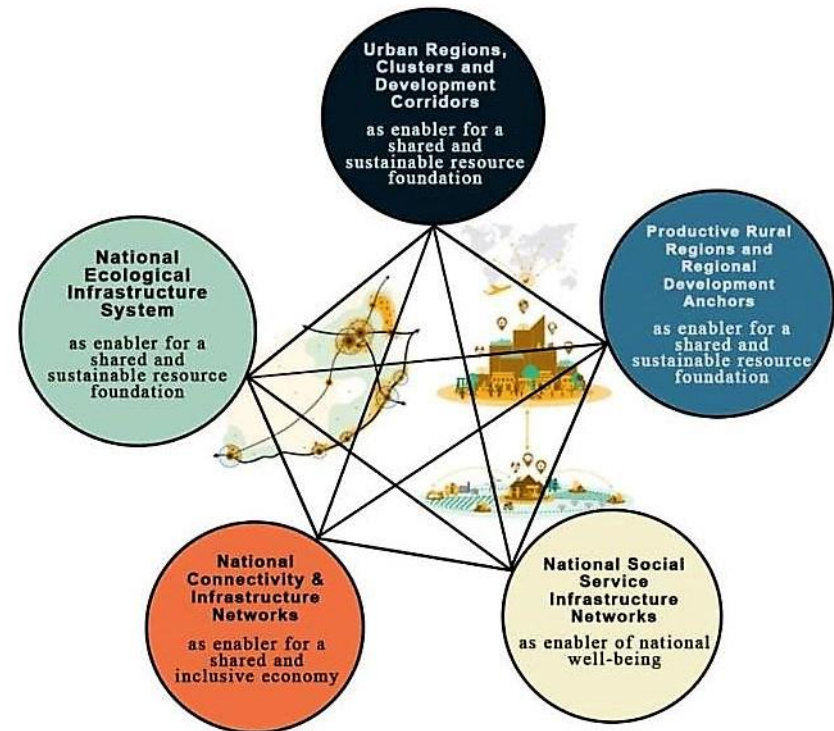


Figure 3 Five frames to achieve our desired future spatial pattern
(Source: National Spatial Development Framework, 2018)

The high-level frames of the NSDF will be incorporated into the Mpumalanga SDF thereby establishing the vertical linkage to the national spatial development plan.

3.3 MEDIUM TERM STRATEGIC FRAMEWORK

The Medium Term Strategic Framework (MTSF) is the Government's strategic plan for the 2014-2019 electoral term. It reflects the commitments made in the election manifesto of the governing party, including Government's support for a competitive economy, the creation of decent work opportunities and encouragement of investment.

This is the first MTSF to follow the adoption of the NDP in 2012. The introduction of a long-term plan is intended to bring greater coherence and continuity to the planning system; thus the MTSF is intended to become a five-year building block towards the achievement of the vision and goals of the country's long-term plan. It further allows new programmes, legislation and regulations to be assessed against long-term goals and priorities.

Within the NDP vision, key policy instruments developed in the previous term will, together with the MTSF, continue to drive the government's policy agenda. These include the *New Growth Path*, which sets the trajectory of economic development, the *National Infrastructure Plan*, which guides the rollout of infrastructure to improve people's lives and enable economic growth, and the *Industrial Policy Action Plan*, which focuses on promoting investment and competitiveness in leading sectors and industries.

In its focus on the 2014-2019 electoral mandate/ manifesto and its elaboration into fourteen key outcomes and associated activities and targets, the MTSF has two over-

arching strategic themes – radical economic transformation and improving service delivery.

Government's programme of *radical economic transformation* is about placing the economy on a qualitatively different path that ensures more rapid, sustainable growth, higher investment, increased employment, reduced inequality and de-racialisation of the economy. The MTSF lists the main pillars for achieving radical economic transformation through rapid and inclusive growth.

- Productive investment crowded in through the infrastructure build programme
- Competitiveness enhancement in productive sectors of the economy (notably agriculture and mining)
- Addressing spatial imbalances in economic opportunities
- Elimination of unnecessary regulatory burdens
- Workers' education and skills development to meet economic needs
- A macroeconomic and financial framework to support employment-creating growth
- Workplace conflict reduction and improved cooperation between government organised business and organised labour
- Expanded opportunities for historically excluded and vulnerable groups, small businesses and cooperatives
- Public employment schemes to provide relief for the unemployed and build community solidarity

With regards to *service delivery*, the MTSF notes that Government is committed to improving access to housing and basic services, including the provision of approximately 1.495 million housing opportunities, the upgrading of informal settlements, and the expansion of access to water, sanitation and electricity.

To give effect to the two key pillars of the MTSF, it is structured around fourteen (14) *Priority Outcomes* which includes:

- Quality basic education
- Long and healthy life for all South Africans
- All people in South Africa are and feel safe
- Decent employment through inclusive growth
- A skilled and capable workforce to support an inclusive growth path
- An efficient, competitive and responsive economic infrastructure network
- Vibrant, equitable, sustainable rural communities contributing towards food security for all
- Sustainable human settlements and improved quality of household life
- Responsive, accountable, effective and efficient local government
- Protect and enhance our environmental assets and natural resources
- Create a better South Africa and contribute to a better Africa and a better world

- An efficient, effective and development-oriented public service
- A comprehensive, responsive and sustainable social protection system
- A diverse, socially cohesive society with a common national identity

Fourteen appendices to the MTSF contain detailed plans for the next five years for each of the Outcome areas. They set out the core objectives, the major challenges that have been identified and programmes and actions to be implemented during the 2014-2019 period. Each outcome is broken down into sub-outcomes containing a set of actions together with indicators for measuring progress, targets and timeframes.

3.4 NATIONAL INFRASTRUCTURE PLAN

The New Growth Path set a goal of 5 million new jobs by 2020; identified structural problems in the economy to be overcome; and pointed to opportunities in specific sectors and markets or "jobs drivers". Notably, the first jobs driver was infrastructure. Yet, it was noted that weak capacity, poor coordination and weak integration currently limit the development impact of infrastructure in the country. In response, Cabinet established the Presidential Infrastructure Coordinating Commission (PICC) to:

- ☞ coordinate, integrate and accelerate implementation;

- ☞ develop a single common National Infrastructure Plan that will be monitored and centrally driven (summarised below);
- ☞ identify who is responsible and hold them to account; and
- ☞ develop a 20-year planning framework beyond one administration to avoid a stop-start pattern to the infrastructure roll-out.

The National Infrastructure Plan (NIP) seeks to promote:

- ❖ re- industrialisation through the manufacturing of inputs, components and machinery;
- ❖ skills development aimed at critical categories;
- ❖ greening the economy; and
- ❖ empowerment.

The NIP comprises 18 identified Strategic Integrated Projects (SIPs) which integrate more than 150 municipal infrastructure plans into a coherent package. The proposed SIPs entail both social and economic infrastructure across all nine provinces, but with an emphasis on lagging regions. They comprise catalytic projects that can fast-track development and growth.

Note that many of the components within the SIPs have a national footprint such as the infrastructure programmes for the school building, healthcare facilities and expanding

⁵ The CSIR in conjunction with the Department of Rural Development and Land Reform have prepared guidelines for the differentiated provision of social services in rural areas. In context, these guidelines provide “for the planning and budgeting of government provided social facilities and

access to broadband. However, the SIPs that impacts on the Mpumalanga Province are:

- SIP 1: Unlocking the northern mineral belt with Waterberg as the catalyst (with an emphasis on investment on heavy haul rail links to Richard’s Bay through Mpumalanga).
- SIP 9: Electricity generation to support socio-economic development (including Kusile power station).
- SIP 11: Increased investment in Agri-logistics and rural infrastructure (high impact catalytic and differentiated service⁵).
- SIP 18: Water and sanitation infrastructure in the form of addressing water backlogs and the provision of a sustainable supply of water and sanitation services to meet social needs and support economic growth.

Through the SIPS the national infrastructure master plan aims to unlock certain areas of Mpumalanga.

3.5 INDUSTRIAL POLICY ACTION PLAN

The major weakness identified in South Africa’s long-term industrialisation process is that the decline in the share of employment in the traditional tradable sectors, particularly mining and agriculture has not been offset by a sufficiently

services and for the provision of suitable land allocations for such services in all human settlements projects in terms of SPLUMA”

large increase in the share of relatively labour-intensive employment in non-traditional tradable goods and services, particularly manufacturing. Consequently, the objectives of the IPAP2 are:

- To facilitate a shift away from reliance on traditional commodities and non-tradable services and promote value-added goods and services that compete in export markets (against imports).
- To intensify the industrialisation process and move towards a knowledge rich economy.
- To promote a more labour-absorbing industrialisation path, with particular emphasis on tradable labour-absorbing goods and services and economic linkages that enhance employment creation.
- To promote a broader-based industrialisation path characterised by increased participation of historically disadvantaged people and marginalised regions in the mainstream of the industrial economy.

3.6 THE REGIONAL INDUSTRIAL DEVELOPMENT STRATEGY

The Department of Trade and Industry formulated a Regional Industrial Development Strategy (RIDS) in 2006. The aim was to promote regions based on their economic comparative advantages and to design support measures appropriate to each region to:

- Respond to persistent inequalities between the first and second economies;
- Encourage regions to seize current and potential opportunities presented by both the national and the international market economies; and
- Encourage the country's most successful economic regions to consolidate and improve on their current economic potential.

Notably, since the late-1990s, there has been a resurgence of interest internationally in the notion of regional industrial development as a spatial economic mechanism to assist regions to achieve their economic potential within the context of a market economy. Key features of 'new' regional support include:

- A focus on enhancing physical and social infrastructure;
- A multi-sectoral approach to development which moves beyond an exclusive manufacturing focus, to a focus on knowledge-based development, tourism and improvement of human capital;
- A reliance on partnership formation and the driving of development from the 'bottom-up' through regional agencies/ partnerships, able to galvanise local development and tap into private and state resources and capacities;
- A focus on unique programmes for each region based on local strengths and opportunities i.e. local comparative advantages;

- A focus on cluster development; and
- Support for business retention and expansion programmes.

In view of the fact that the South African Economy is a resource-based economy, the purpose of RIDS is to respond in broad terms to issues of spatial differentiation in economic welfare levels. A key challenge is both to simultaneously support lagging regions and to assist leading regions to capitalise on their inherent strengths and potential.

Usefully, in respect of potential economic regions and clusters, the RIDS provides a spatially referenced development perspective schematically indicated in **Figure 4**. A key feature of the national space economy is the economic dominance of the three primary economic cores of Gauteng, greater Cape Town and eThekweni-uMsunduzi. By classifying regions according to their level of development, it is possible to identify several additional prominent economic regions. Outside the three primary economic cores, there are at least 16 other prominent economic regions, based primarily on gross value added and key mineral, energy and manufacturing linkages.

These regions have clear comparative and competitive advantages which, to a large extent, are based on the strength of the dominant economic activities and industrial concentration nodes within them. Clustering of related economic activities is clearly a key regional competitive advantage in these areas. Appropriate

support to enhance the competitive edge of these regions would clearly be of national and regional significance.

Furthermore, as shown in Figure 5, Mpumalanga's critical advantage is its tourism, agricultural and mining and energy complexes. In a nutshell, it has a well-developed primary sector which is its national advantage over others and in particular the adjoining provinces. In addition, strategic and functional linkages with Gauteng and export opportunities associated with the Maputo-Walvis Bay Development Corridor towards Botswana are important directives

An additional spatial aspect to consider is that two of the four main mining nodes in South Africa are in Limpopo (Lephalale and Phalaborwa) which is linked to Mpumalanga via the R40 corridor.

RIDS – Core Regions & Spatial Economic Linkages

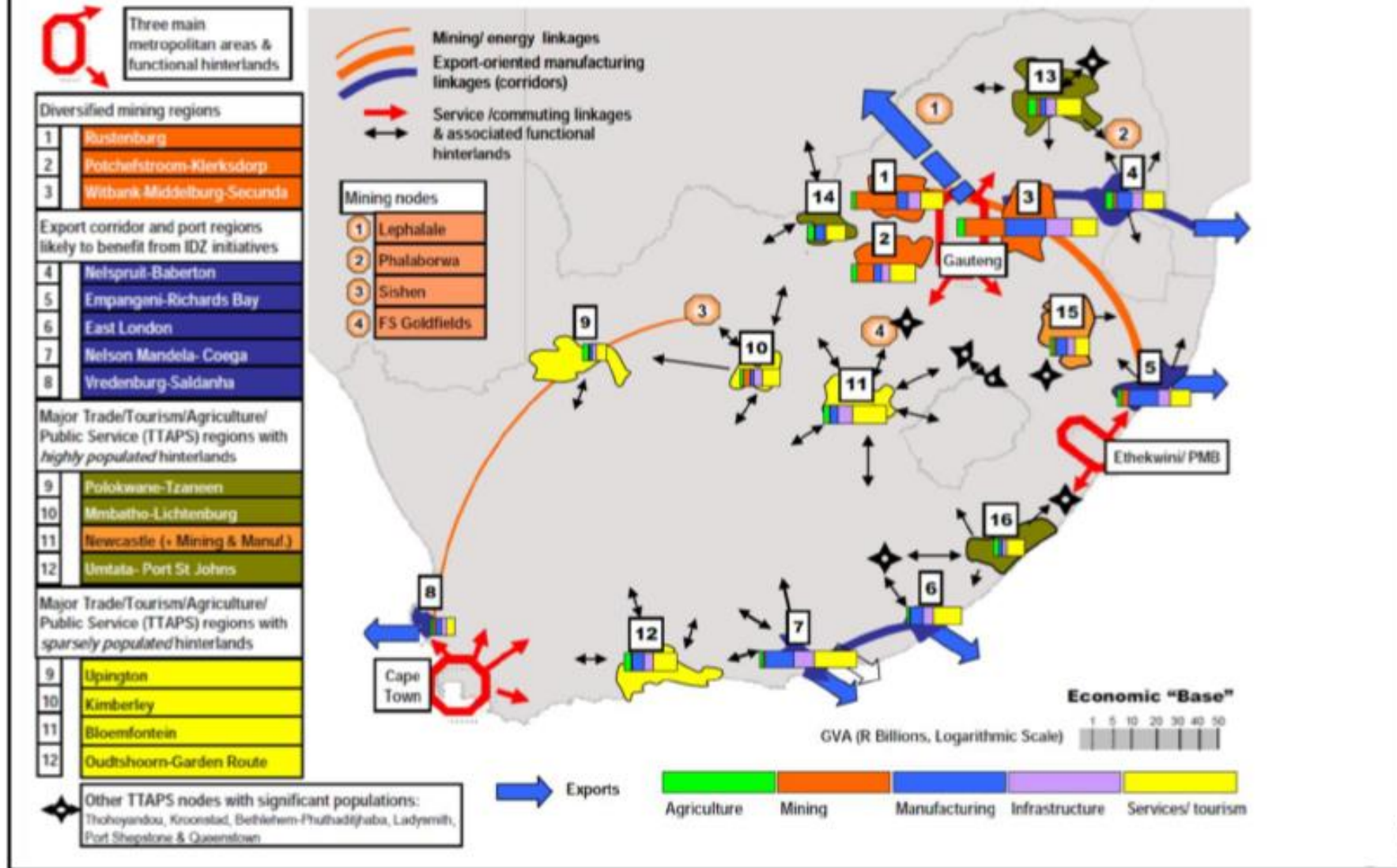


Figure 4: RIDS Core Regions and Spatial Economic Linkages

RIDS – Sector-Specific Districts with Significant Inherent Potential

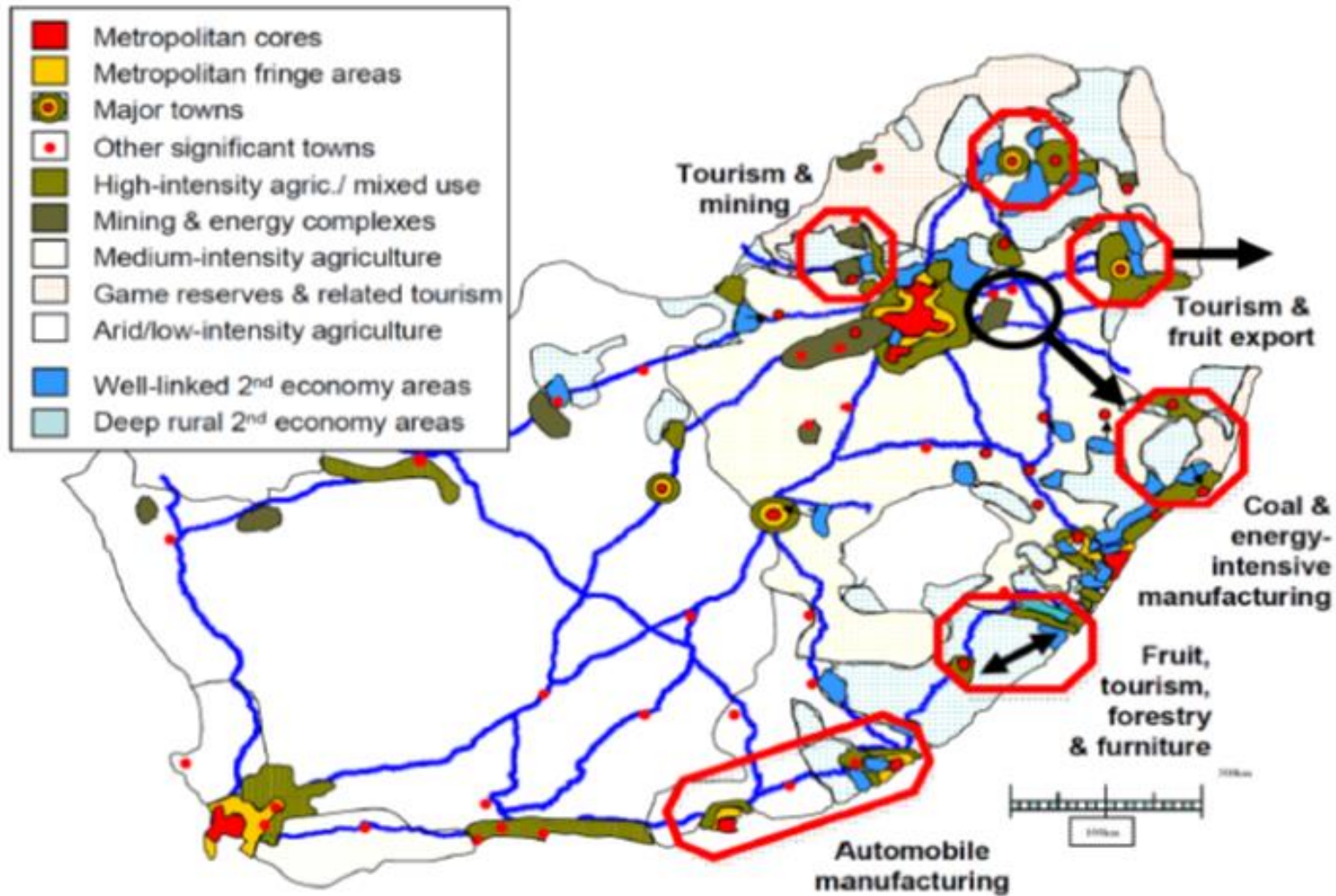


Figure 5: RIDS Specific Districts with Significant Inherent Economic Potential

3.7 AGRICULTURAL POLICY ACTION PLAN

The Agriculture Policy Action Plan (APAP) seeks to assist in the achievement of Outcome 4 (Decent Employment through Inclusive Growth), Outcome 7 (Comprehensive Rural Development and Food Security) and Outcome 10 (environmental assets and natural resources that are well protected and continually enhanced) of the MTSF (2014-2019) and aligns itself to the New Growth Path (NGP) and the National Development Plan (NDP).

APAP focuses on a discrete number of value chains identified as strategic in meeting the objectives of the NGP, NDP and IPAP and these are:

- Contribution to food security;
- Job creation;
- Value of production;
- Growth potential; and
- Potential contribution to trade balance (including via export expansion and import substitution).

APAP recognises agriculture as a sector with significant job creation potential and with strategic links to beneficiation opportunities. When exploring the different models of rural development, there seems to be coherent global evidence that agriculture presents the best opportunities for the advancement of rural development agenda. Agriculture plays a strategic role in respect of food security, agrarian transformation and rural development.

As a recommendation, the impact of APAP could also be intensified by exploring opportunities in the sectors outside of

rural development and land reform. For example, the Province could mobilise for the increase in the number of schools offering Agriculture as an assessed subject and support those schools. The Province could offer tertiary education bursaries for learners who wish to enrol in Agricultural Studies. In this way, the Province is in a position to make a social capital investment for the advancement of APAP.

3.8 NATIONAL TRANSPORT MASTER PLAN (NATMAP), 2050

The main purpose of the National Transportation Master Plan 2005-2050 is to motivate a prioritised programme for interventions to upgrade the transportation system in South Africa. Its goal is to develop a dynamic, long-term and sustainable land use / multi-modal transportation system for the development of networks, infrastructure facilities, interchange and termini facilities, and service delivery strategies for South Africa. The core directives or paradigm shifts emanating from the Master Plan are to:

- Place greater emphasis on developing rail as a transportation medium,
- Ensure greater integration between land use development and transportation planning; and
- Put more emphasis on enhancing the development of several priority national transport corridors.

Figure 6 conceptually depicts the major corridors identified in South Africa as part of the NATMAP. With respect to Mpumalanga Province, the following should be noted:

- The proposed expansion of the international freight rail line from Nelspruit via Bushbuckridge and Maruleng to Musina, and onto Zimbabwe in order to make an international rail freight connection;
- Freight rail infrastructure expansion from Mbombela (Nelspruit) via Polokwane to Lephhalale and to the untapped coal reserves;
- Freight rail infrastructure expansion from Lephhalale via Rustenburg to Pretoria and Johannesburg to transport the coal reserves to other areas of the country – also the power stations in Mpumalanga;
- Combined Road and Passenger rail infrastructure development from Mpumalanga to facilitate daily passenger mobility. (Moloto Corridor and Phalaborwa-Mbombela Corridor).

NATMAP 2050 ALIGNMENT WITH SIPS, EXISTING AND NEW / EMERGING NATIONAL CORRIDOR

- SIP 1: Unlocking the Northern Mineral Belt with Waterberg as the Catalyst
- SIP 2: Durban-Free State– Gauteng Logistics and Industrial Corridor
- SIP 3: South Eastern node & corridor development
- SIP 4: Unlocking the economic opportunities in North West Province

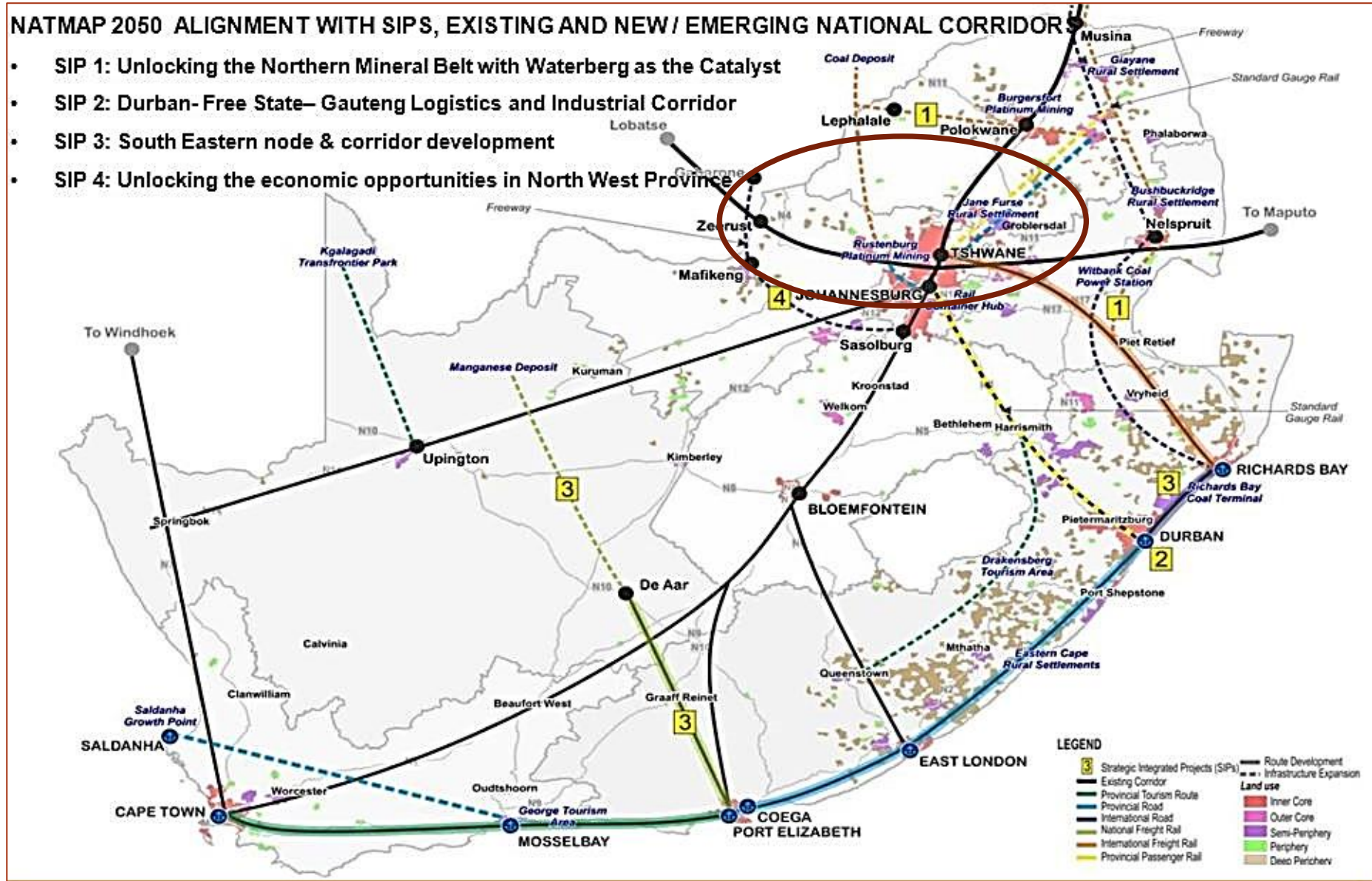


Figure 6: NATMAP 2050 Alignment with SIPS and National Corridors
(Source: National Transport Master Plan (NATMAP) 2050 Synopsis Report)

3.9 INTEGRATED URBAN DEVELOPMENT FRAMEWORK (IUDF)

The Integrated Urban Development Framework (IUDF) is a policy initiative of the Government of South Africa, coordinated by the Department of Cooperative Governance and Traditional Affairs (COGTA). The IUDF responds to the post-2015 Sustainable Development Goals (SDGs), in particular to Goal 11: Making cities and human settlements inclusive, safe, resilient and sustainable. It also builds on various chapters of the National Development Plan (NDP) and extends Chapter 8 Transforming human settlements and the national space economy underpinned by four strategic goals:

- Spatial integration: To forge new spatial forms in a settlement, transport, social and economic areas.
- Inclusion and access: To ensure people have access to social and economic services, opportunities and choices.
- Growth: To harness urban dynamism for inclusive, sustainable economic growth and development.
- Governance: To enhance the capacity of the state and its citizens to work together to achieve spatial and social integration.

The IUDF states that the overall outcome of spatial transformation marks a 'New Deal' for South African cities and towns and the strategic goals indicated above inform

the priority objectives of the nine policy levers, which are premised on:

- Integrated urban planning as the basis for achieving integrated urban development, which follows a specific sequence of urban policy actions
- Integrated transport
- Targeted investments into integrated human settlements
- Integrated infrastructure network systems
- Efficient land governance, which altogether can trigger
- Economic diversification and inclusion
- Empowered communities
- Effective governance and financial reform

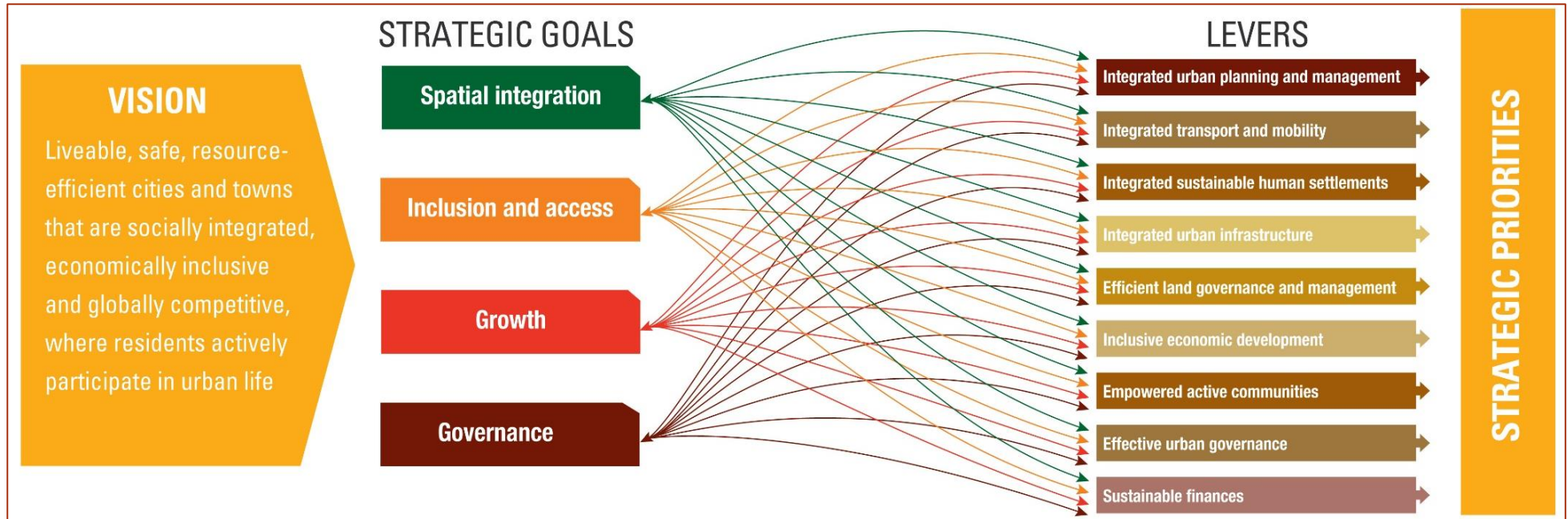


Figure 7: Core Elements of the IUDF
(Source: Integrated Urban Development Framework)

3.10 NATIONAL STRATEGY FOR SUSTAINABLE DEVELOPMENT

The National Strategy for Sustainable Development, alternatively referred to as Breaking New Ground (2004), is a comprehensive plan for the development of sustainable human settlements. Commissioned by the Department of Human Settlement, the plan promotes the creation of a non-racial, integrated society through the development of sustainable human settlements and quality housing. Within this, the Department is committed to meeting the following specific objectives:

- Accelerate housing delivery;
- Improve the quality of housing products and environments;
- Ensure asset creation;
- Ensure a single, efficient formal housing market; and
- Restructure and integrate human settlements.

The plan envisages a multi-dimensional approach to housing delivery. Instead of having a one-set formula for the production of the houses, the plan should encompass the flexibility required to carry out project specific solutions to the unique barriers faced in each separate undertaking. The dominant production of single houses on single plots in distant locations with initially weak socio-economic infrastructure is inflexible to local dynamics and changes in demand. The new human settlements plan moves away from the current focus of housing delivery towards more

responsive mechanisms which address the multidimensional needs of sustainable human settlements.

Unsustainable and dysfunctional settlements are a major issue in Mpumalanga Province. Changing the settlement pattern is and will continue to be a major challenge for government, but “breaking new ground” should provide much needed policy support to change the way housing has been delivered in the past. Most critical will be institutional and financial reform to achieve physical reform.

4 PROVINCIAL POLICIES AND DIRECTIVES

4.1 MPUMALANGA VISION, 2030 (2013-2030)

The Mpumalanga Vision 2030 Strategic Implementation Framework (2013-2030) was established as a direct implementation response to the National Development Plan Vision, 2030. The framework describes the Province's approach to realizing the objectives of the NDP in the provincial context and seeks to achieve the MPG's Provincial Strategic Objectives (PSO's). Mpumalanga Vision, 2030 provides a provincial expression of the key priorities, objectives and targets that enumerated in the NDP and expressed within the policy. It seeks to present and affirm the province's approach towards realising the national vision and development plan. The implementation framework builds on and informs past and existing sectorial and related planning interventions within the province. The Vision 2030 Implementation Framework provides a basis for prioritisation during medium-term and annual planning cycles. The focus of the Mpumalanga Vision 2030 is to provide a summary overview of the facilitation of decision-making and the prioritisation of rolling back poverty, and inequality by raising living standards to an acceptable minimum, which entails a combination of interventions directed at increasing employment, improving the quality of education, productive growth, a social wage and good quality public services.

The objective of the Implementation Framework is to overcome a disjointed approach to planning in the province by ensuring that all stakeholders approach the implementation of Vision 2030 through commonly agreed strategies and programmatic interventions. The objective is to also provide a strategic overview in order to set high level provincial targets; inform choices and trade-offs and to locate strategies, programmes and projects within a focused spatial representation of the content.

In addition to and prior to this framework, the Mpumalanga Government already had a number of plans and strategies in place which were used as a starting point for the Implementation Framework. Each of these plans has identified challenges and actions that have been incorporated within the broad framework of the National Development Plan which translates into the Mpumalanga Vision 2030. The key element in this approach was to ensure that the plan incorporates a focused spatial representation of the content and intention.

The implementation framework, therefore, informed the development of several existing sectorial plans and initiatives in Mpumalanga such as the:

- Mpumalanga Economic Growth and Development Path (MEGDP),
- Mpumalanga Infrastructure Development Master Plan (MIDP),
- Biodiversity Master Plan,
- Human Settlements Master Plans,
- Industrial Development Plan, and
- The current formulation of the Provincial Spatial Development Framework.



Figure 8: Plans informed by the Vision 2030

The Implementation Framework is structured on the basis of three interrelated impact areas. This approach is based on the NPC conclusion that the Government and other stakeholders should be willing to prioritise and focus most of their resources on a few strategic priorities. Figure 9 depicts the overall organising structure of the implementation

- Education and Training
- Health Care for all
- Social Protection

These priorities do not imply that the all other plans and policies in place should be deferred, but should however aim to focus the activities and decisions of the Province on few key areas, leveraging high impact for improved and sustainable long term socio-economic development in Mpumalanga. The achievement of these priorities is further dependent on the critical success factors described as “mechanisms” and “conditions”.



Figure 9: Organising structure of the MP Vision 2030

framework.

The approach that the plan takes is that, in order to achieve the desired socio-economic outcomes, key mechanisms must be put in place to facilitate the achievement of these goals. In turn, these mechanisms need to build on strong foundations and conditions. Unless the conditions are in place, it will not be possible to drive development and create jobs through infrastructure development.

In line with the principles of the NDP, the Vision 2030 highlights the following socio-economic outcomes as priorities:

- Employment & Economic Growth

Mpumalanga Vision 2030 includes key targets for the Province that are in line with those expressed in the NDP. These targets have been developed with due consideration given to the specific demographic, institutional, spatial and socio-economic advantages and challenges of the Province. These targets include:

- Economy and Unemployment Targets;
- Education, Training and Innovation Targets;
- Health Care Targets; and
- Social Protection Targets.

The Mpumalanga Vision 2030 document formulated a spatial rationale for the province which is based on the nine Key Drivers.

Key Drivers 1 to 6 is focused towards promoting economic development and job creation according to the space economy of Mpumalanga province from which priority nodes/areas for economic development have been identified.

Key Drivers 7 and 8 are focused on human settlement in and around these priority nodes/areas identified.

Key Driver 9 is focused on the conservation and sustainable management of the natural environment.



Figure 10: Vision 2030 key drivers

Key Driver 1: Nodal Development

- Corridors investment within the province is proposed to be channelled through the Maputo- N4, N17- N2 and the N11.
- The five primary nodes where developments are to be concentrated in the province are Witbank/ Emalahleni, Middleburg, Mbombela/ Nelspruit, Secunda and Ermelo.

Key Driver 2: Business, Commercial and Industrial Development

- This driver focuses on the development of business and commercial sectors on the primary, secondary and rural nodes in Mpumalanga as these activities can generate a significant number of job opportunities. In terms of industrial development, the bulk of industrial investment in Mpumalanga Province should be clustered around the existing industrial strongholds, in Witbank and Middelburg (Steel Industry), Secunda (Petrochemical Industry) and Nelspruit/Mbombela (Mixed Industries)⁶.
- The plan also emphasises on the opportunity to enhance industrial activity in Mashishing/Lydenburg which represents the southern end of the Dilokong Platinum Corridor located between Polokwane in Limpopo Province and Mashising in Mpumalanga Province. Along the Dilokong Corridor, Mashising is the

urban centre closest to the export harbours of Maputo and Richards Bay.

- Expansion of Commercial and Business areas in the five primary nodes

Key Driver 3: Tourism Development

- Tourism-related investment in Mpumalanga should be channelled into five main functional areas/precincts namely:
 - ✓ The well-established Sabie, Graskop, Mbombela, and Kruger National Park (Kruger 2 Canyon) area is generally referred to as the Mpumalanga Lowveld;
 - ✓ The Belfast-Machadodorp-Dullstroom “Trout-Triangle” area along the Mpumalanga Escarpment which also represents the tourism gateway from Gauteng Province to the Mpumalanga Lowveld;
 - ✓ The relatively undeveloped Loskopdam-Dinokeng tourism belt which extends from the Loskop Dam, through the Thembisile-Hani and JS Moroka Municipalities in the western extents of the Province, right up to the Dinokeng Nature Reserve in Gauteng Province;
 - ✓ The Somgimvelo-Malolotja Transfrontier Conservation Area around Barberton;

⁶ Mpumalanga Vision 2030, (2013-2030)

- ✓ The Mpumalanga Lake District, Heyshope Dam and Wakkerstroom Biosphere Reserve in the Gert Sibande District.

Key Driver 4: Forestry Development

- Investment aimed at enhancing the contribution of forestry to the economy of Mpumalanga should be directed to the two main forestry precincts in the province: the northern forestry precinct around Mashising, Graskop and Sabie, with Sabie being the main centre for forestry related industries; and the southern forestry precinct in the area between Barberton and eMkhondo, with eMkhondo being the main centre for forestry related industries.

Key Driver 5: Agricultural Development

- Agriculture related investment should focus on:
 - ✓ Supporting and maintaining existing commercial farming activities in the Province (referring to the Mpumalanga Highveld and a small strip of land from Komatipoort to Mbombela, White River and up to Hazyview in the Lowveld); and
 - ✓ Enhancing agrarian transformation in the deep rural areas in line with the objectives of the CRDP.
- The CRDP pilot areas are located in Bushbuckridge, Nkomazi, Albert Luthuli, and Mkhondo, Pixley ka Seme, Thembisile Hani and Dr JS Moroka Municipalities.

Key Driver 6: Mining and Energy Related Development

- Infrastructure investment aimed at enhancing the mining and electricity industry should be consolidated in the western Highveld of Mpumalanga where the vast majority of coal mines and power stations are located. In areas such as eMalahleni, Steve Tshwete, Standerton and Secunda.

Key Driver 7: Urban Development

- The main strategic priorities with regard to urban development and accommodating urbanisation in Mpumalanga include the following:
 - ✓ Integration of urban settlement structures.
 - ✓ Containment of urban sprawl.
 - ✓ The provision of high densities of mixed land uses within close proximity of economic activity nodes and transportation systems.
 - ✓ The provision of a system of activity corridors, nodes, spines and streets supporting sustainable transportation and road systems.
 - ✓ Efficient engineering infrastructure and roads.
 - ✓ The provision of sustainable housing.
 - ✓ Community facilities taking into consideration the regional, sub-regional, district and local needs of the communities

Key Driver 8: Rural Development

- Vision 2030 places particular emphasis on building the economy in rural areas, and more specifically through the following approach which is embedded into the

Comprehensive Rural Development Programme (CRDP)

- The proposed approach towards rural development in Mpumalanga Province centres around the following three principles
 - ✓ Establishment of Thusong Centres;
 - ✓ Rural Settlement Consolidation; and
 - ✓ Agrarian Transformation.

Key Driver 9: Environmental Management and Conservation

- The rural hinterland should also be utilised to promote conservation of environmentally sensitive areas in Mpumalanga.
- As far as mining is concerned, it is important to establish proper environmental management systems during the operational phase of the mines to prevent large scale water and air pollution.

4.2 MPUMALANGA ECONOMIC GROWTH AND DEVELOPMENT PATH, 2011

The Mpumalanga Economic Growth and Development Path (MEGDP) is informed by the National Economic Growth Path. The Mpumalanga Province is committed at increasing local economic development and job creation in the agricultural, industrial, manufacturing, green economy, tourism and mining sectors. The MEGDP provides a detailed framework for the realisation of these objectives. The focal point of the Economic Growth and Development Path is the creation of appropriate labour absorbing jobs which will have a positive

direct, indirect and induced effects on the Provincial economy and the living standards of its people.

The primary objective of the MEGDP is to grow the economy of the province; balance growth and development in order to create jobs, reduce poverty and inequality and improve the socio-economic conditions of the province. The growth plan is anchored on a few factors including sector development, Inclusive & shared growth, spatial distribution, regional integration, sustainable human development and environmental sustainability with clearly defined strategic targets over the medium to long term period.

The MEGDP key targets to achieve the desired growth within the province are as follows:

1. Reduce the unemployment rate to 15% by 2020, therefore, creating 720,000 new jobs
 - Move from 890 000 employed in 2010 to 1.6 million employed in 2020
2. Reduce inequality by enhancing the skill set of the labour force, fixed capital investment and improvements in education.
 - Reducing the Gini-coefficient from 0,65 to 0,55
3. Reduce the poverty rate from the 2009 level of 47.8% to 25% by 2020.
 - The focus will be on job creation through public works programmes, employment guarantee schemes, education and skills attainment

The Mpumalanga Economic Growth and Development Programme is centred on the following Pillars:

- Job creation
- Inclusive and shared growth of a diversified economy
- Spatial distribution
- Integration of regional economies
- Sustainable human development
- Environmental sustainability

The following job drivers will be utilised to realise the objectives of the MEGDP and to secure strong and sustainable growth for the next decade.

- Infrastructure for Employment & Development
- Job Creation in Economic Sectors such as:
 - ✓ Agriculture and forestry
 - ✓ Mining and energy
 - ✓ Manufacturing and beneficiation
 - ✓ Tourism and cultural industries
- Seizing the Potential for New Economies in:
 - ✓ Green Industries
 - ✓ Information and Communication Technology
- Investing in Social Capital & the Public Service
- Spatial Development
 - ✓ Rural Development
 - ✓ Regional and International Co-operation

The last section of the MEGDP focuses on specific strategic interventions which aim at unlocking and supporting the realisation of the initiatives noted in Mpumalanga's Economic Growth and Development Path. The following interventions provide guidance on mechanisms that will contribute to

unlocking the economic growth and employment potential inherent in key sectors as follows:

- Effective and efficient BBEEE which empowers previously disadvantaged to positively contribute to the economy;
- Skills development and capacity which is linked to the identified growth trajectories;
- Reducing the cost of doing business in MP and barriers to entry;
- Increasing MP's competitive advantages and creating appropriate investment incentives;
- Support for Cooperatives and SMMEs to ensure sustained development;
- Project financing; and
- Provision of conducive Infrastructure for economic growth and development (land claims, water licences, communications, etc.).

4.3 MPUMALANGA SPATIAL DEVELOPMENT FRAMEWORK - DRAFT (2013)

The Mpumalanga PSDF outlines nine interrelated strategic objectives which were identified as Strategic Focus Areas (areas of Intervention on Provincial, District and local level):

- Strategic Objective 1: Capitalize on regional spatial development initiatives.

- Strategic Objective 2: Focus development on development corridors and nodes.
- Strategic Objective 3: Protect biodiversity and agricultural resources.
- Strategic Objective 4: Economic development and job creation supporting and guiding the spatial development pattern of Mpumalanga.
- Strategic Objective 5: Accommodating urbanization within the province.
- Strategic Objective 6: The integration of the historically disadvantaged communities into a functional nodal and settlement pattern.
- Strategic Objective 7: Tenure Upgrading.
- Strategic Objective 8: Promote the development of rural areas that can support sustainable economic, social and engineering infrastructure.
- Strategic Objective 9: Infrastructure Investment.

Following the Strategic Objectives, a number of Strategic Focus Areas (Areas of Intervention) were identified as illustrated on the Mpumalanga Indicative Framework (Map 3). The following directives apply to the Strategic Focus Areas noted in the Mpumalanga SDF - Draft (2013):

- The concentration of development within development and activity nodes with a regional and sub-regional function viz. Mbombela (Nelspruit), Emalahleni (eMalahleni), Steve Tshwete (Middelburg), Govan Mbeki

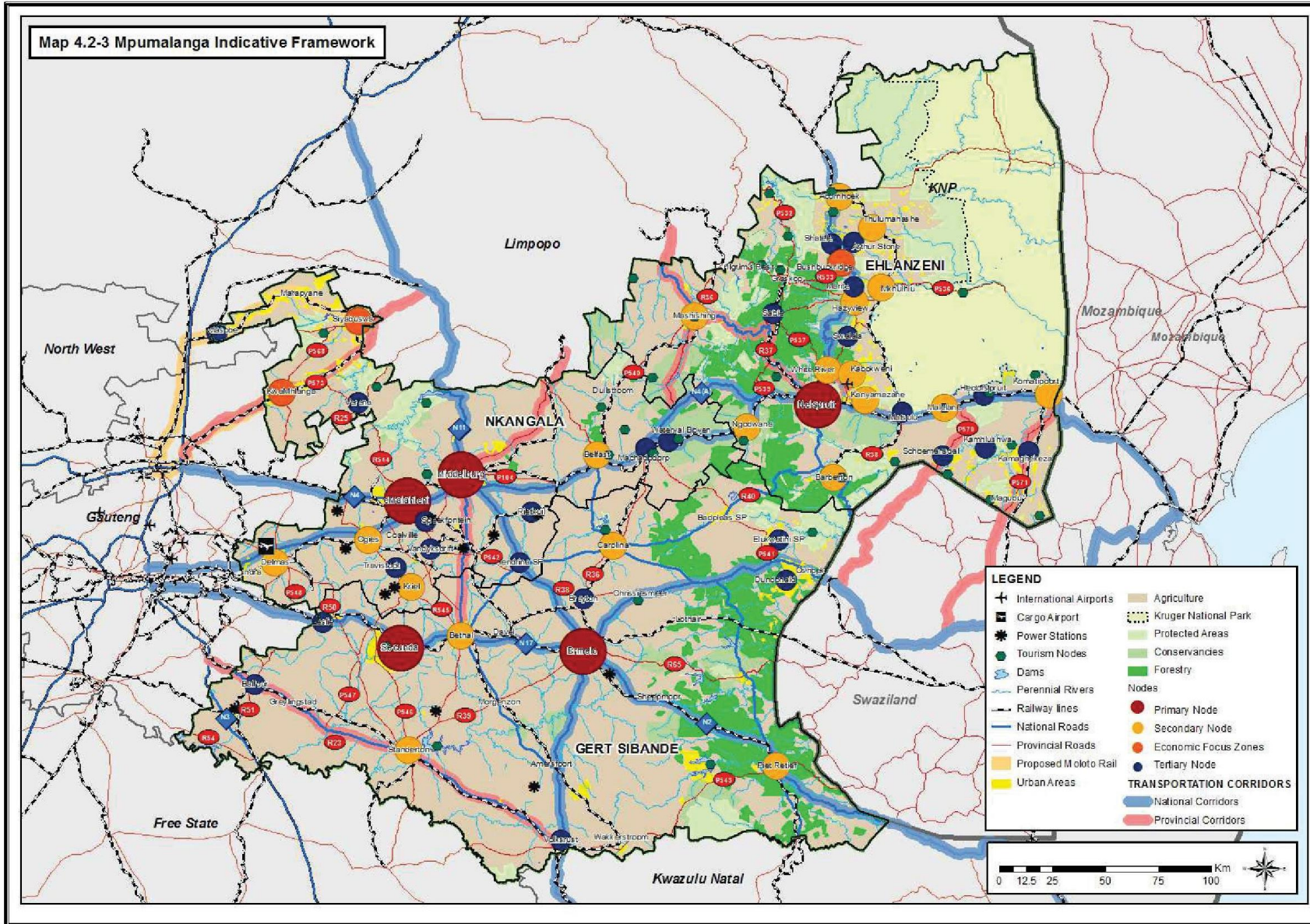
(Secunda) and Msukaligwa (Ermelo). Restructure these development and activity nodes to accommodate growth.

- The large population concentrations (supported by activity nodes) of Dr JS Moroka (Siyabuswa), Thembisile Hani (KwaMhlangwa), Bushbuck Ridge (Acornhoek, Bushbuckridge), Nkomazi, Nsikazi within Mbombela and Chief Albert Luthuli should:
 - Link with nearby nodes of economic potential by providing efficient transportation and roads infrastructure providing for high mobility of movement;
 - Integrate economic activities to provide local employment
- The Secondary activity nodes of Delmas, Standerton, Bethal, Belfast, Mashishing, Barberton, Komatipoort and Mkhondo should:
 - Balance the population with economic activities;
 - Provide social, economic and engineering infrastructure in support of the existing population.
- The small settlements of Pixley ka Isaka Seme (Volksrust), Dipaleseng (Balfour) and other smaller towns need to act as service centres for the surrounding population.
- Dispersed villages should not be discouraged. The clustering of villages to allow for the provision of sustainable social and economic infrastructure should be encouraged.

- The housing of mining and power station personnel should take place in existing nearby towns.

The Mpumalanga SDF furthermore stipulates that infrastructure investment needs to promote the role and function of rural communities and focus on the development of communities to manage and develop their local economies, become self-sufficient, create livelihoods, add to the economy and reduce their dependency on social grants.

Rural development thus needs to provide for rural population clusters that can support sustainable economic, social and engineering infrastructure, but also be accessible to higher order economic and social services within nearby urban nodes. Road and transportation linkages to urban areas need to be provided and maintained.



Map 3: Mpumalanga PSDF 2013 Indicative Framework

Source: Mpumalanga Provincial Spatial Development Framework, 2013 – Draft

4.4 MPUMALANGA INFRASTRUCTURE MASTER PLAN

The MIMP is based on a multi-disciplinary study dealing with the full spectrum of infrastructure including amongst others, basic infrastructure, social infrastructure and economic infrastructure intended to unlock economic development potential within the province. It cuts across a wide range of development sectors and represents a key element towards the future sustainable development of Mpumalanga Province. The MIMP proposes that the following development principles be paramount in terms of guiding and directing decisions regarding infrastructure investment in the Province:

Principle 1: Balance economic growth and social upliftment

Following a balanced investment approach which focuses on both infrastructure investment to promote economic growth, and investment to enhance social upliftment.

Principle 2: Respond to regional differences in development potential

Infrastructure Investment to respond to the locational factors and economic drivers of the province and take into consideration regional differences in terms of development potential.

Principle 3: Recognise the roles and responsibilities of stakeholders

Recognising the roles and responsibilities of all stakeholders and facilitating the functional integration and alignment of infrastructure investment between these.

Principle 4: Build on existing initiatives

Building on existing initiatives as a priority to support the successful implementation thereof.

Principle 5: Preserve existing assets

Sufficiently allocating funding towards maintenance and preservation of existing assets (infrastructure) as part of a broader infrastructure life-cycle approach.

Principle 6: Align investment with available resources

Aligning infrastructure investment in Mpumalanga Province with the availability of resources in the Province.

Principle 7: Build a heritage

Promoting investment in image building assets for the Province.

4.5 HUMAN SETTLEMENT MASTER PLAN (2013)

Note: The Master plan is in process of review

One of the fundamental principles of the Mpumalanga Sustainable Human Settlement Master Plan is that all public and private housing projects in cities, towns and villages in Mpumalanga should comply with the following spatial objectives:

- Promote the availability of residential and employment opportunities in close proximity to each other;
- Contribute towards the correction of historically distorted spatial patterns of settlement in towns by filling the strategically located vacant strips of land between

segregated communities, and providing for economic and social integration;

- Optimise the use of existing resources including bulk infrastructure, roads, transportation and social facilities; and
- Contain the phenomenon of urban sprawl in urban areas through the introduction of an Urban Development Boundary/ Urban Edge which will contribute towards the development of more compact towns through processes of infill development and densification – especially around economic activity nodes and along public transport corridors.

The Mpumalanga Human Settlement Master Plan comprises fifteen Strategic Objectives as listed below:

Strategic Objective 1: Ensure that all Human Settlement related planning and implementation activities are aligned with the objectives, guidelines and directives as defined in National and Provincial Policies and Legislation.

Strategic Objective 2: Promote Sustainable Human Settlements within Mpumalanga by Focusing on Mixed Land Use, -Typology, -Income and – Tenure Developments in the Province.

Strategic Objective 3: Encourage sustainable resource use by exploring alternative technologies, designs, layouts, topography, etc. in order to achieve the most energy- and cost-effective development.

Strategic Objective 4: Implement Annual IDP Housing Chapter Compilation/ Review Procedure.

Strategic Objective 5: Establish a comprehensive Mpumalanga Human Settlement Demand Monitoring Database and GIS System to Inform Decisions Pertaining to Location, Scale and Priority of Human Settlement Projects.

Strategic Objective 6: Local and Provincial Housing Needs Register (Demand Database) to Become Official Source of Information for Housing Demand and Waiting Lists.

Strategic Objective 7: Enhance alignment between Mpumalanga Human Settlement Projects and Provincial, District and Local Spatial Development Frameworks by only considering land located in Strategic Development Areas.

Strategic Objective 8: Facilitate Technically Informed Land and Building Acquisition Based on Results of Comprehensive Feasibility Assessment Processes.

Strategic Objective 9: Establish a Human Settlements Delivery Planning Unit to Manage and Maintain the Provincial Database and Monitoring System, and to Facilitate and Inform the Formulation of the Annual Departmental Business Plan in Conjunction with District and Local Municipalities, and other Provincial Departments.

Strategic Objective 10: Ensure that Town planning/ Township Establishment processes are Comprehensive and Technically Sound in order to grant beneficiaries sufficient Security of Tenure.

Strategic Objective 11: Initiate Processes Which Will Ensure the Installation of Appropriate Engineering Services as part of every Human Settlement Project in Mpumalanga.

Strategic Objective 12: Facilitate the Provision of a Sufficient Number of Community Facilities parallel to the Construction of Housing (top structures) in every Human Settlement Project in Mpumalanga.

Strategic Objective 13: Expanding Community Participation and Consumer Education Programmes through Community Outreach Initiatives.

Strategic Objective 14: To actively enhance Rural Development by aligning Human Settlement Projects and Programmes to the Comprehensive Rural Development Programme of the Province.

Strategic Objective 15: Align Provincial Tenure Upgrading Programme with Human Settlement Programmes.

Strategic Objectives 1, 2, 3, 7, 10, 11, 12 and 14 have spatial implications and need to be practically incorporated into the Provincial SDF.

In terms of Strategic Objective 7, future human settlement projects will rely on Spatial Development Frameworks to indicate the optimum location for different types of housing in municipal areas.

This could include (1) areas earmarked for large scale RDP projects in urban or rural areas; (2) social housing and CRU funded housing (rental stock) in business areas as part of mixed-use developments or in areas earmarked for urban renewal; (3) priority areas for development of rural housing and to accommodate upgrading of Informal Settlements; and priority areas to accommodate medium and (4) higher

density residential development (full ownership or rental stock).

The Master Plan supports the notion of mixed income, mixed use and mixed tenure developments; energy efficient township layouts and construction materials; sound and scientific based feasibility assessment of land for housing development; comprehensive township establishment processes leading to sufficient security of tenure; the synchronised provision of appropriate engineering services and community facilities to all new housing developments in the province; and a special focus on enhancing rural development through provision of housing in a sustainable manner in rural nodal areas.

Figure 11 indicates the focus areas (priority nodal areas) in the Province for future housing provision, while **Figure 12** illustrates conceptually the proposed spatial distribution of various housing programmes over the next 10 years.

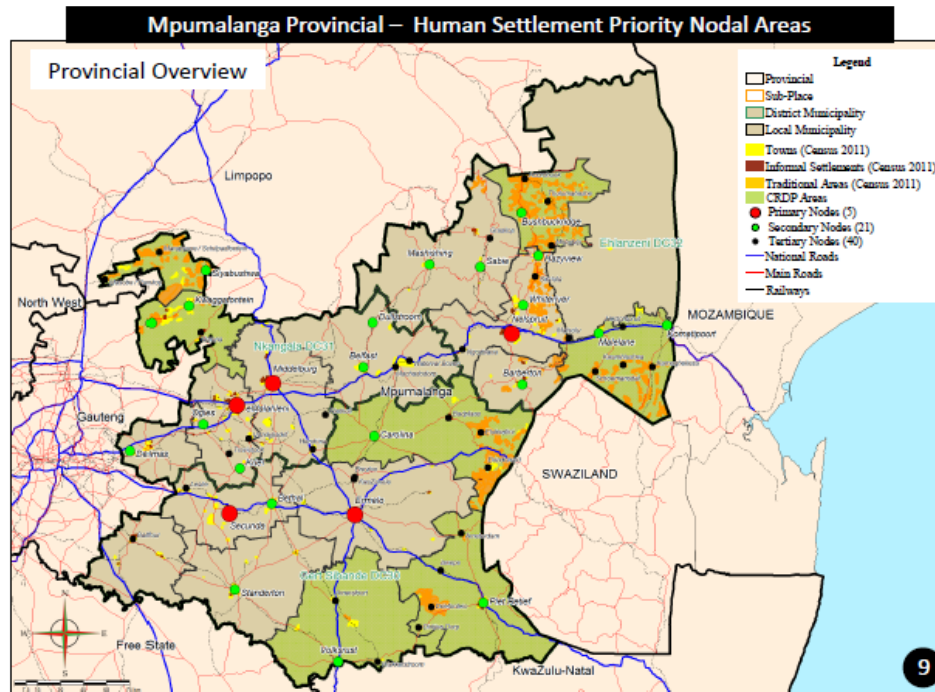


Figure 11: Human Settlement Priority Nodal Areas
 Source: Mpumalanga Human Settlement Master Plan, 2013

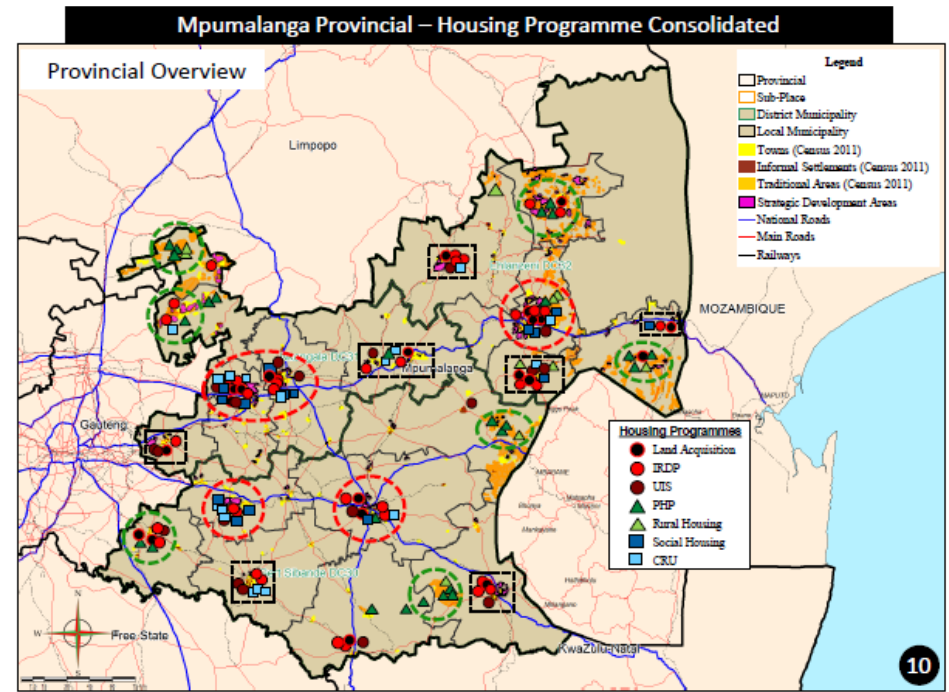


Figure 12: Consolidated Housing Programme
 Source: Mpumalanga Human Settlement Master Plan, 2013

4.6 MPUMALANGA TOURISM GROWTH STRATEGY (2018)

The Mpumalanga Provincial Government intends to improve the tourism sector with the aim to attract more visitors to the province. This is envisioned to be done through more dynamic and innovative marketing, expanding on product offerings and ensuring a safe and enjoyable experience to tourists. The strategy's objectives are in line with national tourism objectives as well as those indicated in other provincial and local tourism policies. These objectives are:

- Develop the tourism sector as a driver of economic activity
- Product expansion & diversification
- Implement responsible & sustainable tourism practices
- Enhance the general competitiveness of the province
- Structure of effective institutional relationship
- Grow domestic tourism for a sustainable economy

In achieving these objectives, there are key drivers that sustain the progress where the public and private sectors benefit. A continuously increasing tourism flow means economic growth, sustainable income and benefits to those who operate in the tourism sector. These drivers that influence the process are:

- Market expansion
- Product Development
- Destination Competitiveness
- Responsible & sustainable tourism
- Transformation economic growth

The vision statement is specific to the province and its tourism sector, describing a different approach that should be

implemented to position tourism as one of the key drivers of the economy. A vision statement describes the clear and inspirational long-term desired change and as well declare the tourism objectives intended to guide the decision making.

The tourism in Mpumalanga includes the natural/scenic beauty (wilderness & wildlife), the heritage and cultural offerings as well as the diverse adventure experiences. The objectives, that strongly support economic growth, best practice and transformation within the sector, are also reflected in the vision statement. In merging all these important aspects to represent and guide the tourism strategy, the vision statement for the Mpumalanga Tourism Strategy is:

- To encourage and support inclusive growth that will sustain and transform the tourism sector, enhance the livelihood of the people and strengthen the competitiveness of the province as a tourism destination.

To realise this vision and objectives the tourism strategy has formulated a few key strategies that need to be developed and prioritised in order for the tourism sector of Mpumalanga to improve i.e.

1. Marketing and Promotion

Destination management ought to adapt to the advancement of technology and the new ICT systems being implemented to coordinate tourism-related process. Marketing management should keep adopting new and

innovative ways in which the destinations can be presented and packaged for the rest of the world. Tourist attraction is dependent on the competence to market the destination broadly by the use of distribution channels that can produce the best results.

2. Destination Accessibility

There are many ways a destination can better handle the support needs of its visitors. Destination managers also have an important role to play in making visitors destinations accessible to all. Ease of access also relates to how easy is it to reach the destination (transport/roads) and, when at the destination- how easy is it to navigate your way to and from attractions and activities (gateways, infrastructure). In order for the tourism sector to address accessibility requirements, it needs a much more detailed understanding of consumer needs. Along with a wider accessibility strategy, good access to information can make a destination more competitive.

3. Visitor Experience

It's all about the exceptional experience which is affected by the destination attributes, the quality of the products and services, the variety and scope of attractions and activities and impacts the general repeat visitation rates. Giving visitors a better experience increases visits enhances the perception and value of the destination.

4. Product innovation

It is the products that ultimately lure tourists to a destination, and for this reason, they should be refreshed often, keep up with the times and be innovative in marketing and development approaches. Access to these products,

general infrastructure and continuous evaluation will keep it relevant and interesting.

5. Destination Management

This section outlines ways in which destinations can be managed to successfully increase visit and revenue to the places. This section looks at different themes such as marketing, accessibility, infrastructure development and maintenance, and providing training and skills development to the workforce all contribute to the success and sustainability of a tourism destination.

6. Transformation and Development of SMMEs

For the sector to be transformed, the youth, women and previously disadvantaged should be granted the opportunity to operate their own businesses and be equipped to further develop and manage their businesses successfully. People should be informed on and be aware of tourism development in the area so that they can also get involved and participate in tourism. However, one of the greatest obstacles to visible transformation and restructuring of the SMME is the unfamiliar and irritatingly long and complex series of procedures and actions confronting financial aid seekers.²⁰ there are various support structures in place to facilitate access to business opportunities and to assist these aspiring entrepreneurs in their business ventures. Assistance with marketing is a key component to these programmes to help SMMEs with finding suitable markets and to create competitive advantages that will ensure the long-term survival of SMMEs.

4.7 PROVINCIAL COMPREHENSIVE RURAL DEVELOPMENT PROGRAMME

The Comprehensive Rural Development Programme (CRDP) is the third planned priority for rural development within the government's current Medium Term Strategic Framework which was drafted for 2014-2019. The strategic design of the programme is established on experiences from pilot sites designated through socio-economic profiling, community participatory processes and intergovernmental co-operation. The CRDP is based on a positive participatory community-based planning approach rather than an interventionist approach to rural development.

The CRDP will be implemented on seven municipalities namely, Chief Albert Luthuli, Dr JS Moroka, Bushbuckridge, Nkomazi, Thembisile Hani, Pixley Ka Isaka Seme and Mkhondo Local Municipality.

The objective of the CRDP is to eradicate poverty and food insecurity through efficient use of natural resources to build vibrant, equitable and sustainable rural communities. It helps to improve the quality of life and welfare along with rectification of past inequalities through rights-based interferences and address tilted patterns of distribution and ownership of wealth and assets.

The strategic objective of the CRDP is, therefore, to facilitate integrated development and social cohesion through participatory approaches in partnership with all sectors of

society. The definitive vision of creating vibrant, equitable and sustainable rural communities will be accomplished through a three-pronged strategy based on:

- a coordinated and integrated broad-based agrarian transformation;
- strategically increasing rural development;
- an improved land reform programme.

Outcome 7

Vibrant, equitable and sustainable rural communities and food security for all will be achieved through the following outputs:

Following are the Projects and Provincial output of CRDP:

Output 1: Sustainable agrarian reform with a thriving small and large farming sector services to support livelihoods

Output 2: Improved access to affordable and diverse food

Output 3: Improved rural services to support livelihoods

Output 4: Improved employment opportunities and economic livelihoods

Output 5: Enabling the institutional environment for sustainable and inclusive growth

4.8 BIODIVERSITY SECTOR PLAN, 2014⁷

The Mpumalanga Biodiversity Sector Plan (MBSP) is a guideline which is part of a wider set of national biodiversity planning tools and initiatives that are designed for national legislation and policy. It also guides as a spatial tool to inform permissible land uses that support biodiversity and ecological processes which allow for species and ecosystems to adapt to climate change. The MBSP includes a set of maps of the terrestrial and freshwater biodiversity priority areas supplemented by relative information available for use in land use and development planning, environmental assessment and regulation, including natural resource management. The following are the features of Biodiversity Sector Plan:

- Land Use Decision Support tool;
- Inform priority areas for protected area expansion;
- Prioritise management interventions to wetland rehabilitation, alien plant control and monitoring.

The process of recognizing the spatial biodiversity priorities is called systematic biodiversity planning. The process is done to recognise the spatially effective method of protecting a typical sample of biodiversity that is able to persevere on the smallest amount of land possible whilst avoiding conflict between biodiversity objectives and other land uses. The

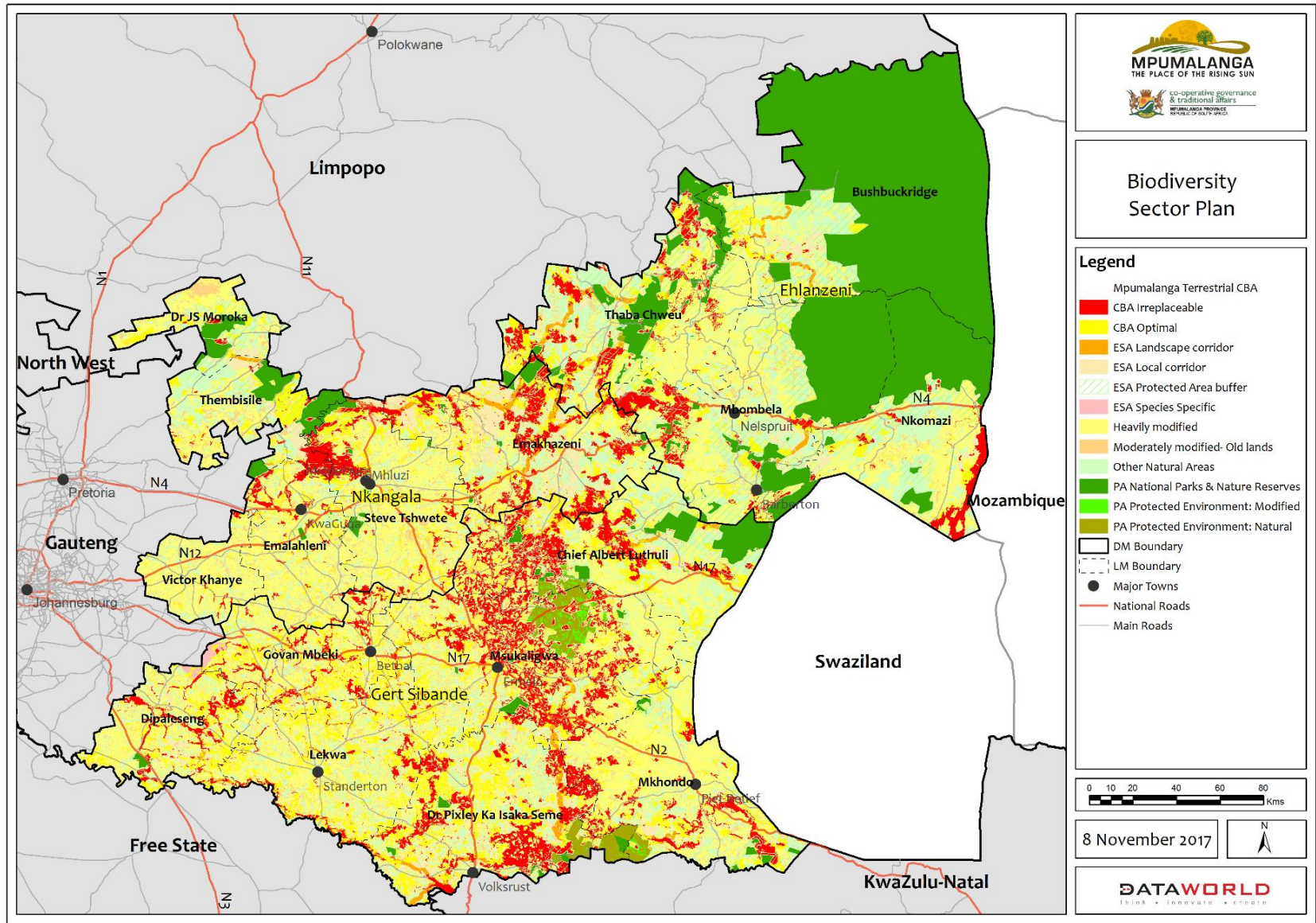
strategies that guide the province through MBSP are as follows:

- To implement National Environmental Management: Biodiversity Act 2004 (NEMBA) and comply with the requirements of the National Biodiversity Framework and International Conventions.
- Identification of highest priority biodiversity areas that should be incorporated in provincial planning initiatives.
- Mitigate and adapt to the threats of climate change. Furthermore, the MBSP, 2014, incorporates climate change improvement features in Mpumalanga province as follows:

- Climate Change landscape facets.
- Climate Change refugia.
- Climate Change Corridors.

The terrestrial Biodiversity Sector Plan is shown below.

⁷ MTPA. 2014. Mpumalanga Biodiversity Sector Plan Handbook. Compiled by Lötter M.C., Cadman, M.J. and Lechmere-Oertel R.G. Mpumalanga Tourism & Parks Agency, Mbombela (Nelspruit).



Map 4: Mpumalanga Biodiversity Sector Plan
Source: Mpumalanga Biodiversity Sector Plan, MPTA

4.9 MPUMALANGA INDUSTRIAL DEVELOPMENT PLAN

The Mpumalanga Industrial Development Plan (MIDP), adopted by the Department of Economic Development & Tourism, Mpumalanga in 2015, promotes industrialisation in the province by establishing Industrial Centres of Competence in targeted industrial sectors within well-defined regions. The MIDP has identified a number of key industrial sectors which could lay the foundation industrial development in the Province, in particular, their diversification into downstream value-adding sectors for labour absorption, at the same time supporting current upstream value addition activities. The plan acknowledges the concentration of industrial sectors in specific regions and proposes the Industrial Centres of Competence accordingly. Locations of these Industrial Centres of Competence are shown in Map 5.

The MIDP has identified the need for further unpacking Industrial Centres of Competence linking these with development interventions to establish the innovation platforms necessary for supporting sustainable industrial development in the targeted sectors, and to form a central hub or nerve centre from which the Industrial Centre of Competence can be effectively marketed, promoted, coordinated and managed. The MIDP proposes to develop the following central hubs;

- **Mining and Metals Technology Park-** A comprehensive facility for promoting industrial

development within the mining and metals manufacturing sectors. This should be logistically well-positioned, adjacent to the N4 between eMalahleni and Middleburg. The preferred size of this park is 600 hectares.

- **Forestry Technology Park-** It will provide a platform for inter-firm cooperation, and lead to specialisation and improvement in quality standards for exports out of the Province. The park will be based at Sabie.
- **International Fresh Produce Market-** A site has been identified on the Sabie/Mashishing Road close to Nelspruit and the Riverside Park mixed-use regional node.
- **Petrochemicals Technology Park-** One of the major industrialisation initiatives in the Province, aimed at stimulating economic growth and job creation, both through Small, Medium and Micro-sized Enterprise (SMME) incubation and large-scale production. This park is based at Secunda. Land for the development of the proposed Technology Park has already been allocated by the Local Municipality.
- **Agro-processing Technology Park-** The park has been proposed within the Nkomazi SEZ. The proposed Technology Park will serve as a hub for the development of other rural nodes, such as the proposed agro-processing hub in Bushbuckridge linked to the Dumphries C Irrigation Scheme and the Giba Community Property Association farming development new Hazyview

In addition to the intensification of industrial activities within the Industrial Centres of Competence, the MIDP advocates for the industrialisation of rural nodes to promote holistic socio-economic development in the province. To promote rural industrialisation, the plan proposes to develop activity links between the priority rural nodes (see Table 1) with the Industrial Centres of Competence to enable business flows, technology transfer and capacity development.

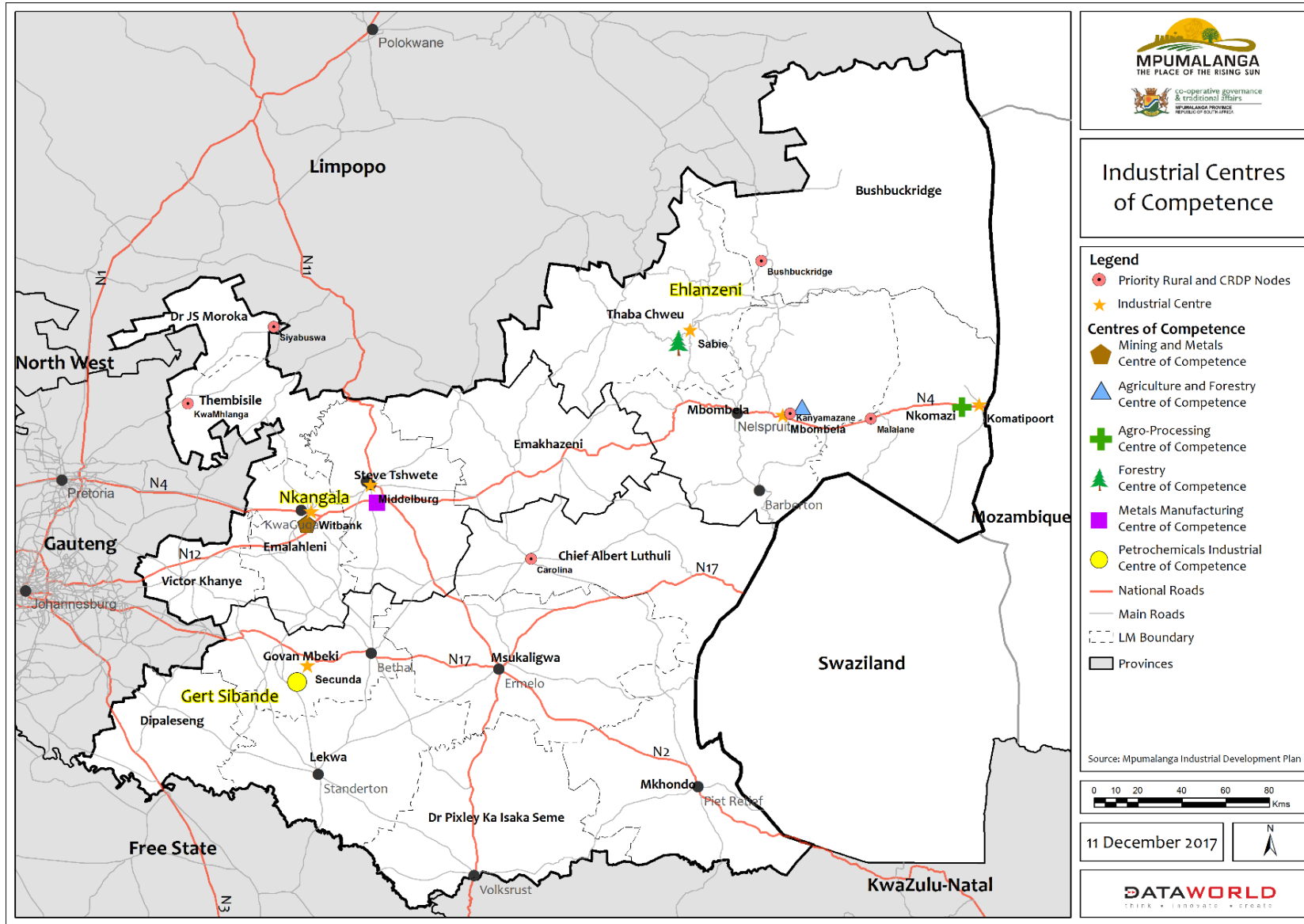
The MIDP puts the special impetus on spatial planning for achieving the proposed industrialisation. As per the plan,

allocation of land and investment in spatial infrastructure required for industrialisation must be guided by spatial planning. Thus, the PSDF has a critical role to play in guiding industrial development in the province. The central for PSDF in achieving industrialisation in the region are (a) allocation of land for industrial development and support infrastructure especially in and around the Industrial Centres of Competence, and (b) creating efficient linkages between the industrial centres and parks and priority rural nodes.

Table 1: The Industrial Centres of Competence and Links to Priority Rural and CRDP Nodes

Centre	Centre of Competence	Industrial Centre of Competence	Central hub/s	Links to Priority Rural and CRDP Nodes
eMalahleni	Mining and Metals Centre of Competence	Mining and Metals Industrial Centre of Competence	Mining and Metals Technology Park	Thembisile Hani (KwaMhlanga)
Middelburg	Metals Manufacturing Centre of Competence			Dr JS Moroka (Siyabuswa)
Secunda	Petrochemicals Centre of Competence	Petrochemicals Industrial Centre of Competence	Petrochemicals Industrial Supplier Park	
Mbombela	Agriculture Technology Centre of Competence	Agriculture and Forestry Industrial Centre of Competence	Forestry Technology Park	Bushbuckridge Chief Albert Luthuli (Elukwatini)
Sabie	Forestry Centre of Competence		International Fresh Produce Market	Nkomazi KaNyamazane
Komatipoort	Agro-Processing Centre of Competence	Nkomazi Special Economic Zone	Agro-Processing Technology Park	Nkomazi

Source: Mpumalanga Industrial Development Plan, 2015



Map 5: Industrial Centres of Competence

Source: DEDT

5 DISTRICT SPATIAL DEVELOPMENT FRAMEWORKS

5.1 DISTRICT SPATIAL DEVELOPMENT FRAMEWORKS

As part of the analysis done on the various District SDF's, relevant objectives and development priorities set out in each framework were extracted and grouped under the following themes. These themes are based on the developmental key drivers of the Mpumalanga Vision 2030.

- Corridor and Nodal Development
- Economic Development
- Tourism and Forestry Development
- Agricultural Development
- Mining and Energy Related Development
- Urban Development
- Rural Development
- Environmental Management and Conservation

The following is a brief overview of each District SDF within Mpumalanga province. This analysis was done in order to determine the frequency in which the various principles appeared in different policies and to see if there is some alignment between the various District SDF's and Province policies and directives

5.1.1 GERT SIBANDE DISTRICT MUNICIPALITY

Corridor and Nodal Development

With regard to corridor and nodal development, the Gert Sibande SDF key focus areas are to (i) develop comparative and competitive key localities through the clustering of key economic sectors developments in identified development corridors, activity strips or zones, (ii) improving accessibility of rural towns, and informal settlements to the social and economic opportunities in urban areas mainly through the development of public transport networks, activity nodes and corridors, (iii) prioritising agricultural and rural development along mobility corridors and at strategic intersections, (iv) concentration of development within and along development and activity nodes, (v) develop secondary business nodes and economic spines, (vi). Strengthen and upgrade on the existing freight corridors, (vii) developing logistic and industrial corridors, (viii) corridor development along the N2 and N17.

Economic Development

With regard to economic development, the following key focus areas can be identified: (i) integrate economic activities to provide local employment and job creation, (ii) facilitate economic growth and development in the manufacturing, mining, agriculture and tourism sectors

Tourism and Forestry Development

The Gert Sibande SDF prioritises the following key focus areas with regard to the tourism and forestry development: (i)

develop and promote forestry within and along with the identified tourism corridor (i.e. the forestry precincts in eMkhondo and Barberton), (ii) tourism and cultural tourism development, (iii) commercial forestry

Agricultural Development

In regard to agricultural development the focus areas identified are to (i) support intensive and extensive farming activities, (ii) commercialization of farming, (iii) develop agricultural service centres, (iv) protection against the loss of high potential agricultural land, (v) agrarian transformation of key agricultural land especially within Lekwa LM, (vi) promote residential and subsistence farming activities

Mining and Energy Related Development

As per the analysis is done, the following focus areas can be identified with regard to the mining and energy related development: (i) facilitate and accommodate the existing mining sector, (ii) develop industries that will serve coal mines in towns like Ermelo and Standerton, (iii) proper rehabilitation of mines after use, (iv) establish proper environmental management systems during the operational stage of mines, (v) strengthening of the Richards Bay coal line rail freight corridor.

Urban Development

The Gert Sibande SDF prioritises the following key focus areas with regard to urban development: (i) development of adequate, affordable and a variety of housing opportunities in activity nodes and corridors, (ii) upgrade of informal settlements with a focus on mixed-use development, (iii)

provision of adequate social infrastructure and services to both rural and informal settlements (iv) integrate housing with public transport systems and economic and social infrastructure, (v) procure sustainable land housing and social amenities, (vi) focusing development in strategically targeted nodes and corridors where high density, mixed-use developments are encouraged, (vii) focusing on densification and infill development in combination with an urban development boundary in order to limit urban sprawl, (viii) integration and linking of spatially segregated parts, (ix) urban regeneration and restructuring.

Rural Development

In regards to rural development the focus areas can be prioritised: (i) focusing on the development of new and the rehabilitation of existing infrastructure, Improving and developing infrastructure conducive to economic development – e.g. transportation infrastructure, agricultural infrastructure, water and electricity infrastructure, (ii) improving and developing infrastructure conducive to social development, (iii) rural nodal development, (iv) the development of small town business as catalyst for rural development, (v) sustainable economic development in order to curb the depopulation in rural areas, (vi) promote agro-processing/ industries, tourism and small enterprise and trade development in order to support rural communities and improve food security, and inequality, (vii) small-town development as nodes of rural development, (viii) support and renew secondary nodes or smaller towns which will in turn support rural communities and development.

Environmental Management and Conservation

In regards to environmental management and conservation the focus areas can be prioritised: (i) protection and enhancement of conservation areas and agricultural land with a focus on food security, (ii) limiting the effects of mining on high potential agricultural land, (iii) protect sensitive areas and agriculture land in surrounding region, (iv) conservation and sustainable use of natural environmental resources within the district.

5.1.2 EHLANZENI DISTRICT MUNICIPALITY

Corridor and Nodal Development

The Ehlanzeni SDF prioritises the following key focus areas with regards to corridor and nodal development (i) improve linkages of transport networks and roads, (ii) develop transportation corridor that will form a crucial role in the Maputo corridor, (iii) establishment of the R40 corridor from City of Mbombela towards Phalaborwa, (iv) develop and transportation infrastructure and upgrading of roads to ensure regional, sub-regional and local connectivity,

Economic Development

The Ehlanzeni SDF prioritises the following key focus areas with regards to economic development: (i) focus investment on localities with greatest economic potential, (ii) Development of manufacturing and industrial parks, (iii) enhance industrial activities around the three existing industrial core areas, i.e. Mbombela- White River industrial area, Mkhulu and Acornhoek and Bushbuckridge areas.

Tourism and Forestry Development

In regards to tourism and forestry development the following focus areas are prioritised: (i) enhance investment in the tourism, ecological and forestry related industries, (ii) focusing on tourism development and linkages with the Kruger 2 Canyon precinct, (iii) ecotourism development and attractions

Agricultural Development

In regards to agricultural development the following focus areas are prioritised: (i) development of the agricultural sector as input into the manufacturing and production ventures through agro-processing in the City of Mbombela are (ii) promote urban agriculture and small-scale farming, (iii) restrict extensive and intensive agriculture to rural areas and outside the urban edge. Establish environmental management strategies for commercial farming activities in areas such as Bushbuckridge and Thaba Chweu, (iv) foster agriculture and mining potential.

Urban Development

In regards to urban development the following focus areas are prioritised: (i) cultural and heritage preservation, (ii) restructuring, integration and densification of dysfunctional city patterns which are a result of previous apartheid policies (iii) establish sustainable human settlements and tenure upgrading, (iv) upgrading of services and facilities, (v) development of institutional facilities.

Rural Development

The Ehlanzeni SDF prioritises the following key focus areas with regards to the rural development: (i) focusing on rural economic development, (ii) development of sustainable settlements in rural areas, (iii) the development of engineering and social services infrastructure into areas with weak services levels.

Environmental Management and Conservation

The Ehlanzeni SDF prioritises the following key focus areas with regards to the environmental management and conservation: (i) protecting critical natural resources while promoting the mining sector, (ii) protection of natural resources from agricultural activities, (iii) responsible use and management of the natural environment focusing mainly on areas of high priority and high environmental sensitivity intersect, detailed management and planning needs to take place, (iv) protection and conservation of critical biodiversity from cultivation based agriculture.

5.1.3 NKANGALA DISTRICT MUNICIPALITY

Corridor and Nodal Development

The Nkangala SDF prioritises the following key focus areas with regards to corridor and nodal development (i) enhance nodal development, (ii) improving and developing of linkages and connectivity to service centres, (iii) establish mobility links between areas with low and high economic potential, (iv) establishment of nodal hierarchies in order to achieve physical, social and economic integration of communities, (v) proposed densification

along activity nodes and corridors, (vi) upgrading and maintenance of road infrastructure and network linkages.

Economic Development

The Nkangala SDF prioritises the following key focus areas with regards to economic development: (i) promote and establish local economies e.g. by developing special economic zones, (ii) integrate economic activities to provide local employment, (iii) establishment of an industrial and commercial hub/ corridor which will be mainly linked with the Nkangala international airport in Victor Khanye LM, (iv) establishment of industrial/ commercial nodes, (v) expansion of industrial areas such as the steel industries around Witbank and Middleburg, linking with Steelpoort via the Dilokong Corridor.

Tourism and Forestry Development

In regards to tourism and forestry development the following focus areas are prioritised: (i) development of the tourism potential of the surrounding small towns, (ii) linking of nature reserves in both the Dr JS Moroka LM and Thembisile Hani LM as part of the Loskopdam- Dinokeng tourism belt, in order to establish integrated ecotourism in the area, (ii) focus investment on business and cultural tourism,

Agricultural Development

In regards to agricultural development the following focus areas are prioritised (i) maximise on cattle and game farming opportunities, (ii) promote sustainable farming communities, (iii) promote urban agriculture.

Mining and Energy Related Development

In regards to mining and energy related development the following focus areas are prioritised (i) enhancement of mining activities and the revitalization of mining towns for socio-economic opportunities, (ii) development of the Eskom Kusile power station.

Urban Development

The Nkangala SDF prioritises the following key focus areas with regards to urban development: (i) focusing on urban renewal, restructuring and revitalisation of small towns, (ii) provision for upgrading of informal settlements and the development of sustainable human settlements, (iii) development of formal low-income housing. (iv) sustainable social and economic infrastructure, (v) development of social centres and community facilities, (vi) sustainable service delivery and infrastructure.

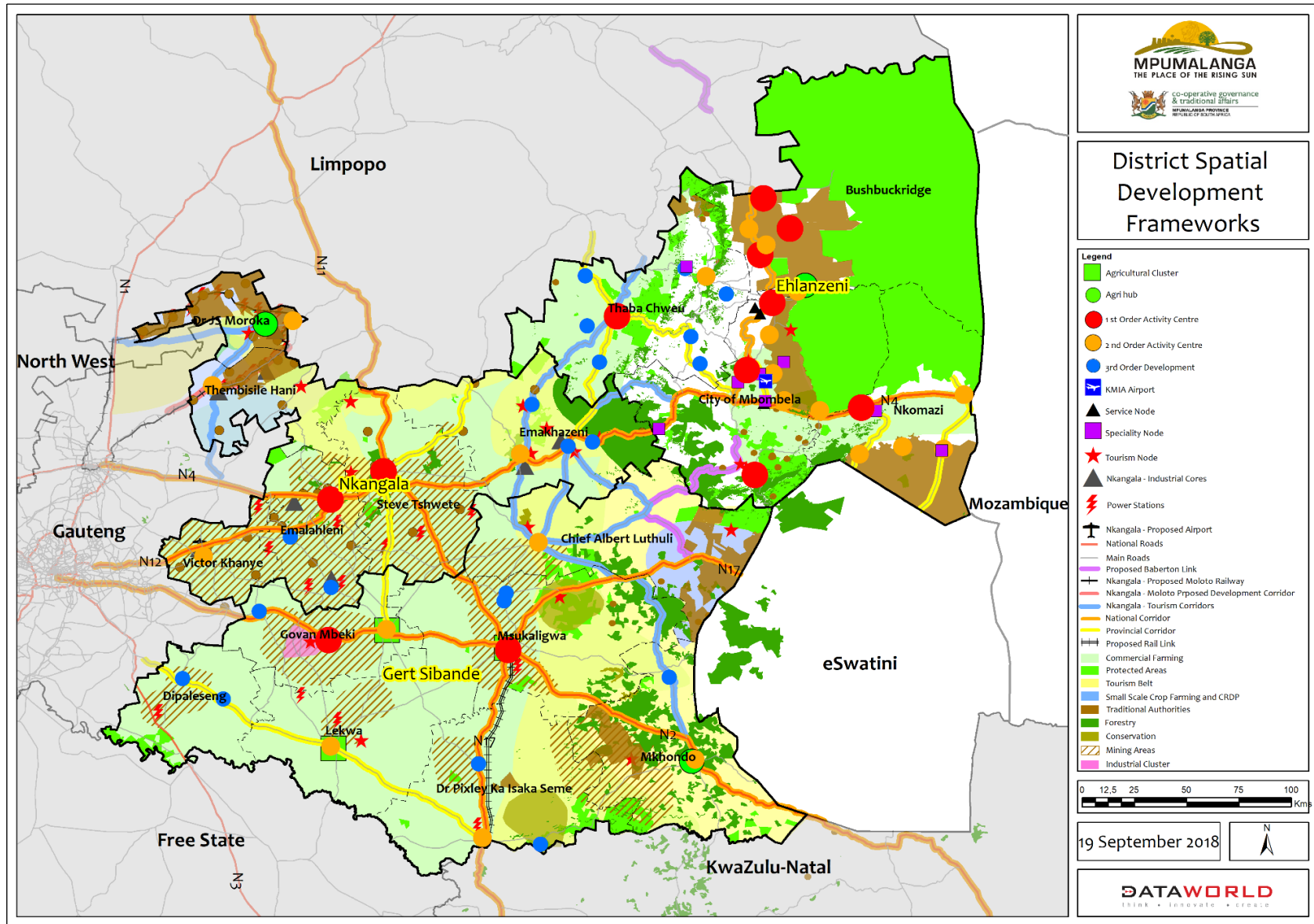
Rural Development

The Nkangala SDF prioritises the following key focus areas with regards to rural development: (i) facilitate and enhance subsistence farming in rural hinterlands around rural settlements, (ii) introduction of solar panels to enhance energy supply and cost efficiency to farmers, (iii) regeneration of agri-settlements, (iv) land redistribution for agricultural production.

Environmental Management and Conservation

The Nkangala SDF prioritise the following key focus areas with regards to environmental management and

conservation: (i) sustainable water harvesting techniques and initiatives to improve water supply in the district, (ii) conservation of critical biodiversity within the nature reserves, (iii) minimise biodiversity treats from opencast mining.



Map 6: District Spatial Development Framework
 Source: Ehlanzeni, Nkangala and Gert Sibande District Municipalities

6 DISTRICT RURAL DEVELOPMENT PLANS

Drawing on the lessons learnt from past unsuccessful programmes and strategies, the Department of Rural Development and Land Reform (DRDLR) developed the Comprehensive Rural Development Programme (CRDP) in 2009. This new emphasis on Rural Development as well as the implementation of the new Spatial Planning and Land Use Management Act (SPLUMA), led to the Department Rural Development and Land Reform initiating District Rural Development Plans for each district in Mpumalanga.

The plans addressed the rural context of Mpumalanga to ensure sustainable livelihoods for those households residing in rural areas. Broadly the plans addressed the following objectives:

- ❖ Improve food security and household income for rural families.
 - Implement measures to ensure households migrate from subsistence agriculture to that of a commercial kind.
 - Improvement in the ecological situation
 - Develop sustainable food quality
 - Improve Households income
- ❖ Develop rural business and community organizations

- Harness the power of BIG Business to incubate business acumen as part of the agri-park concept
- Develop a number of business in each local municipality every year
- Assist increasing self-sustaining small business up to 5 members per entity
- Attract youths and agricultural graduates to set up rural business
- Develop operational and self-sustaining cooperatives
- Expand business through incubating at least 20 new ventures per annum
- ❖ Provide flexible training and education
 - Public /Private partnerships to provide training in the agricultural and tourism sectors
 - Create entrepreneurial skills development by group practical exercises every month.
- ❖ Provide cost effective infrastructure without sacrificing the quality of services
 - Prioritise spending on capital projects that will enable some of the projects in this plan
 - Assist in providing rural infrastructure in every local municipality

- Create a cost-effective and excellent working environment
- Deliver quality construction at a local cost within budget limits
- ❖ Economic sector development to create jobs for especially youths, women and people with disabilities.
- ❖ Create temporal and permanent jobs for artisan workers
- ❖ To empower youths to appreciate and implement agricultural related projects.
- ❖ Integration of development and social cohesion focusing on integrating rural communities with economic nodes through various development corridors.
- ❖ Environmental protection and conservation recognise the principle that for rural development to thrive there is a need to protect the natural environment and agricultural potential land.

The image features a 3D wireframe landscape. The foreground is a flat grid of white lines on a dark grey background. In the middle ground, a range of jagged, mountain-like peaks is rendered with white wireframe lines. A large, semi-transparent yellow rectangular area covers the upper portion of the image, partially obscuring the sky and the top of the mountains. The text 'SECTION 3: MPUMALANGA 2017-18' is printed in a bold, black, sans-serif font across the lower part of the yellow area.

SECTION 3: MPUMALANGA 2017-18

1 BIOPHYSICAL THEME ANALYSIS

The Biophysical analysis aims to provide a comprehensive overview of Mpumalanga's natural resource base and identifies key challenges and opportunities that will inform the main themes of the PSDF.

1.1 TOPOGRAPHY AND LANDSCAPES

Mpumalanga, which means "Place where the Sun rises" lies in the north-eastern corner of South Africa and covers an area of 76 495 km². The Province is bordered by Limpopo in the north, Mozambique and eSwatini in the east, Gauteng and Free-State in the west, and KwaZulu-Natal in the south. Mpumalanga makes up 6.5% of South Africa's land area and is home to a population of 4 523 900.

The topography of Mpumalanga region is a varied one, comprising of the Highveld (high lying) and the Lowveld (low lying) regions. The province itself is mostly situated on the high plateau grassland known as the Highveld.

The Highveld stretches for hundreds of kilometres eastwards, until it rises towards mountain peaks and deep valleys of the Escarpment in the north-east. From the escarpment, it plunges hundreds of meters down to the low-lying area known as the Lowveld.

1.2 GEOLOGY AND MINERALS

1.2.1 GEOLOGY

The province of Mpumalanga contains within its boundaries evidence of the earliest phases of the history of the world.

The Province is characterised by the presence of most the geological formations in the country such as the Witwatersrand Supergroup (gold ore resources), Bushveld Complex (a platinum group of minerals), and the Basement Complex geological formations. The Basement Complex is found in the Lowveld as scattered patches in the Southern Highveld (McCarthy and Rubidge, 2005). The stratum consists of various rocks such as dolerite, granite gabbro, gneiss, norite, tuff, and shale. The Barberton Supergroup represents the greenstone belts in Mpumalanga. The greenstone is economically important and made up of valuable deposits such as many golds, antimony, copper-zinc, iron, asbestos, talc, mercury, magnesite, and gemstone. The Barberton mountain land is a major gold-producing greenstone belt in South Africa (Mac Rae, 1999).

The belt is one of the oldest and best exposed Archaean greenstone belts on Earth and is almost 3.5 billion years old

and in contrast to the rocks of similar age found in Canada and Greenland, the Barberton rocks are the most well preserved rocks on earth. The Lowveld region of the province is underlaid by African Cratonic Basement rocks which date more than 2 billion years, with the Highveld region made up of Karoo Sequence sedimentary rocks of a younger, Carboniferous to Permian age.

1.2.2 MINERALS

Extensive mining is done in Mpumalanga and the minerals discovered include gold, platinum aggregate metals, silica, chromite, vanadiferous magnetite, argentiferous zinc, antimony, cobalt, copper, iron, manganese, tin, coal, andalusite, chrysotile asbestos, kieselguhr, limestone, magnesite, powder and shale.

The southern half of the eastern limb of the platinum-rich Bushveld Igneous Complex runs south towards the towns of Lydenburg and Machadodorp. Deposits of chromite, magnetite and vanadium in this area are the basis of the ferroalloy complex in Witbank-Middelburg and Lydenburg. Nkomati Mine is South Africa's only pure nickel operation. Gold was found here more than 120 years ago, and these gold deposits are the oldest recognized gold ores on Earth.

Coal Mining

South Africa's coal reserves are ranked amongst the top 10 largest in the world. The Waterberg, Highveld, Witbank, Free State and Emerlo fields have the greatest proportion

of remaining reserves. 90% of South Africa's coal consumption is utilized for electricity generation and the fuel industry.

More than 80% of South Africa's coal is sourced in Mpumalanga, with the town of Witbank (Emalahleni) being the centre of the industry.

It is important to note that the areas of eMalahleni Local Municipality and Steve Tshwete Local Municipality (Witbank and Middelburg), both falling under the Nkangala District Municipality, is intensely mined for coal, with an exceptionally high concentration of coal mines, Eskom power plants and steel and chrome processing plants (Bench-Mark Report, 2014). EMalahleni is a coal mining area with 22 collieries in an area no more than 40 km in any direction (Ultra Quick Host). There are a number of power stations (such as the Duvha Power Station), as well as a steel mill, Highveld Steel and Vanadium Corporation, which all require coal. Evraz Highveld Steel and Vanadium Limited are currently in business rescue (production continues in terms of the contract manufacturing agreement (*Matusonassociates, June 2018 report*)).

The Mpumalanga coalfields are fast depleting. This was revealed by the resource and reserve coal study conducted by the national geo-scientific repository, the Council for Geo-Sciences, in collaboration with Eskom, which indicated that coal in Mpumalanga has declined from 28.1 Bt to 12.4Bt (*DMR Industry Overview, 2014*).

1.3 CLIMATE

1.3.1 TEMPERATURE

Mpumalanga has a sub-tropical climate characterised by hot summers and mild to cool winters shifting to cold and frosty conditions in the Highveld regions. The Highveld region experiences cold frosty winters and moderate summers while the Lowveld experiences mild winters and subtropical climate. Mpumalanga has an average temperature in the order of 20° C. Most of the province receives summer rainfall and thunderstorms, except the escarpment which receives fair levels of precipitation throughout the year (MCCVA, 2015). Middelburg, located at the centre of the Highveld, experiences summer rain and has a summer (October to February) to winter (April to August) range of around 19° C with average temperatures in the contrasting seasons, of 26° C and 8° C.

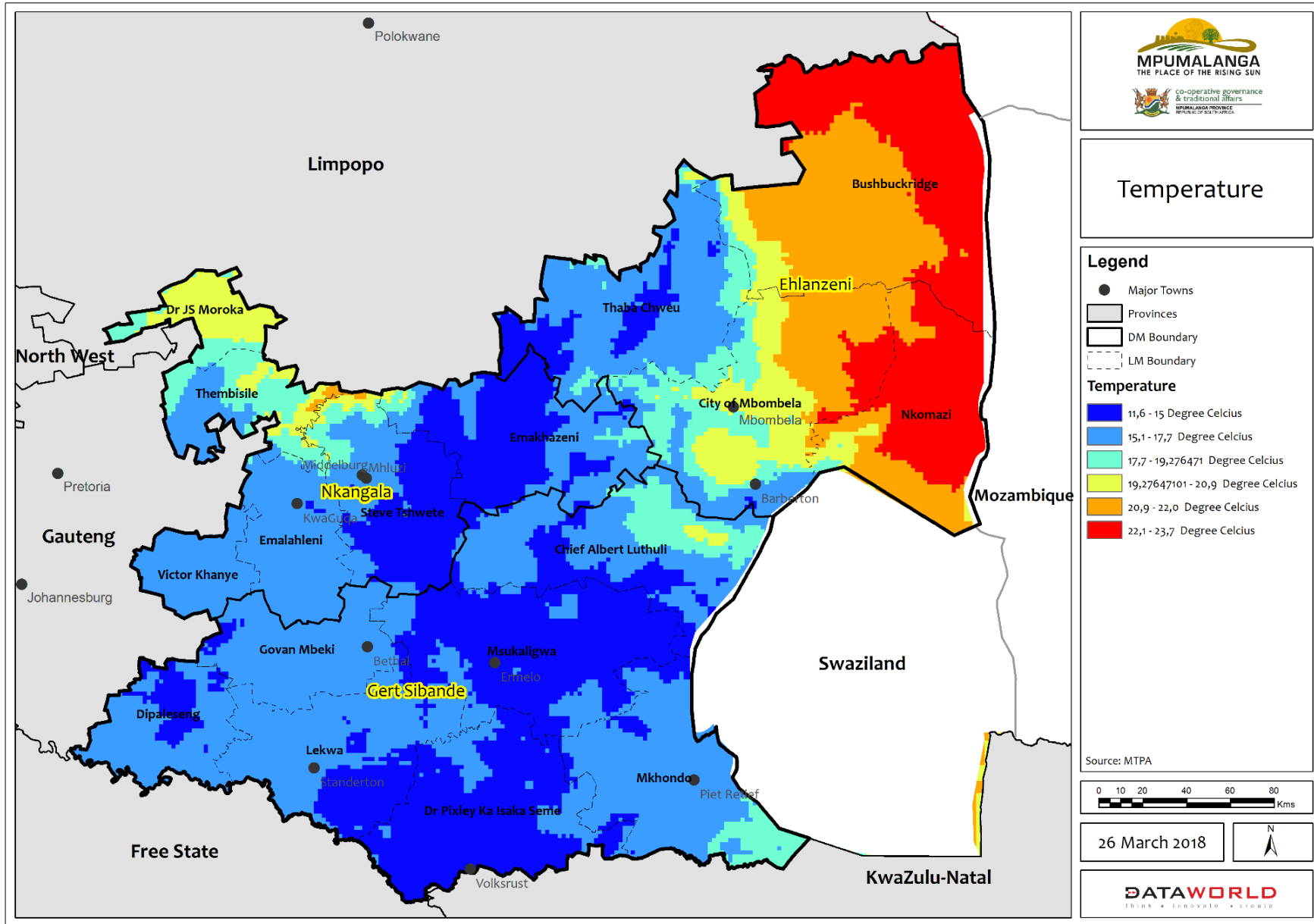
1.3.2 RAINFALL

The region experiences a summer-rainfall area separated by the escarpment into two, namely, (a) the Highveld, which is characterised by cold frosty winters and moderate summers, and the (b) Lowveld which is characterised by mild winters and subtropical climate.

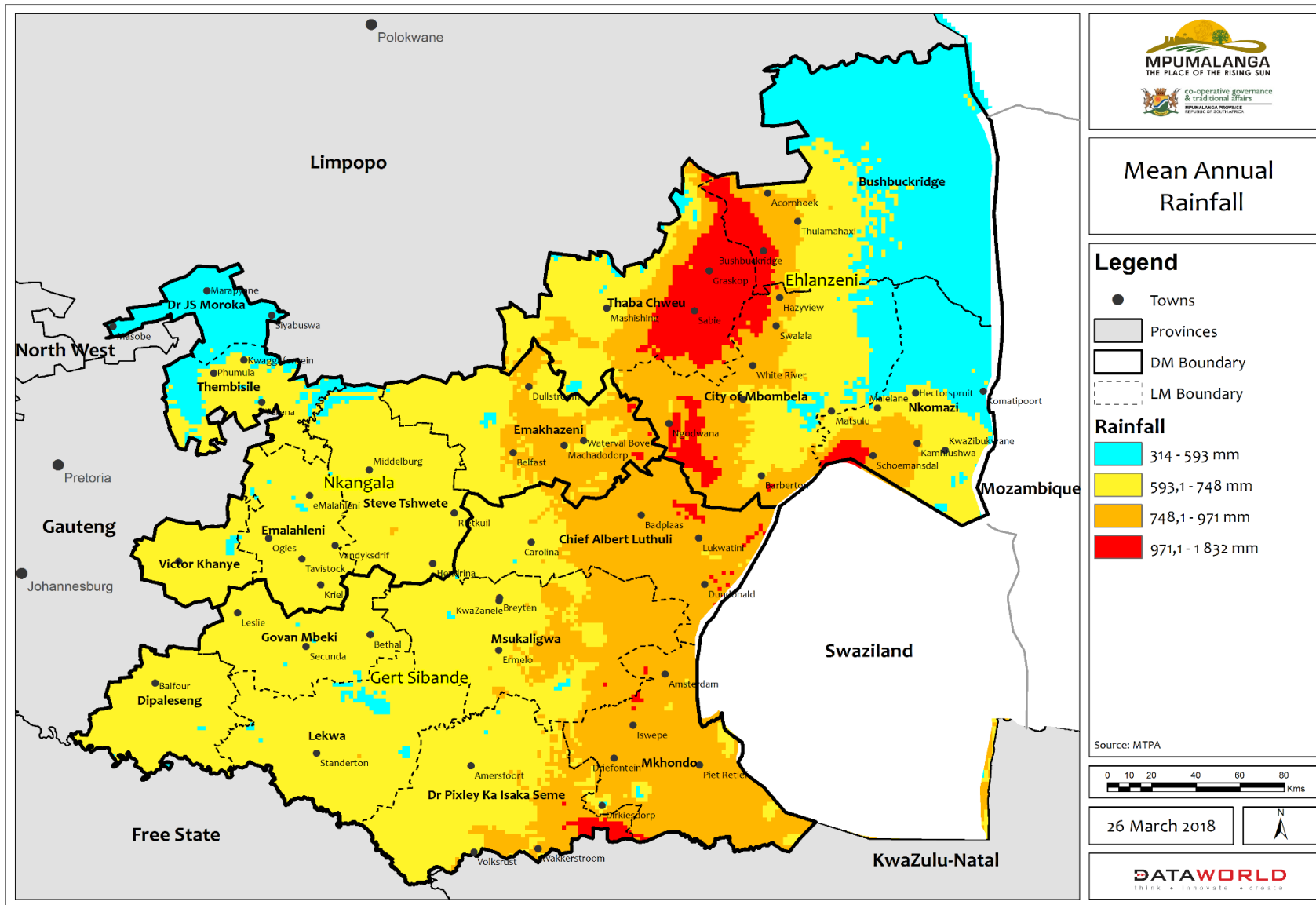
During winter the Highveld and Escarpment sometimes experience snow. The annual rainfall occurs mainly during summer in the form of heavy thunderstorms.

Given its location between the Drakensberg Escarpment and Vaal River traversing through Mpumalanga, the diverse climate in the region makes the production of a wide variety of crops possible. The Lowveld is subtropical and due to its latitude and proximity to the warm Indian Ocean, it is also renowned for citrus and subtropical fruits. The Highveld is comparatively much cooler, due to its altitude, produces much of the summer grains, such as maize and grain sorghum. Exotic trees, plantations such as gum and wattles cover most of the hills on the Escarpment as it receives the most precipitation, with all other areas being moderately hydrated by mostly thunderstorms.⁸

⁸ Mpumalanga Agricultural Education and Training Report, 2008



Map 7: Temperature in Mpumalanga
Source: Mpumalanga Tourism and Parks Agency



Map 8: Mean Annual Rainfall in Mpumalanga
Source: Mpumalanga Tourism and Parks Agency

1.4 NATURAL RESOURCES

1.4.1 AIR

Air is essential for the survival of all species, be it plant or animal. It also helps to maintain the earth's temperature. Air quality within the Mpumalanga Province, especially within the Highveld area, has been declining over the years and today it is among the poorest in South Africa. Secunda, Ermelo, Witbank, Delmas, Balfour, Standerton and Middleburg feature in the list of 15 most polluted towns of South Africa. Home to 12 of Eskom's 15 coal-fired power stations; petrochemical plants like Sasol's giant refinery in Secunda; metal smelters; hundreds of primarily coal mines; brick and stone works; fertiliser and chemical producers; explosives producers; charcoal producers; and other small additional industrial operations, the Highveld is one of South Africa's industrial heartlands (CER, 2017).

The Highveld area in Mpumalanga is associated with poor Air Quality and a high concentration of pollutants. The Highveld region accounts for approximately 90% of South Africa's scheduled emissions. It is probably the country's most significant contributor of pollutants associated with acid deposition.

1.4.2 WATER

Water resources available in the province consist of surface water representing 65%, transfers to the province

accounting for 19%, groundwater at 6% and return flows from mining, industrial irrigation and urban settlements which contribute 10%. Rivers along with the dams are the prime surface water sources.

Nearly half of Mpumalanga is drained by the Olifants River System, the Orange River system, Inkomati River System and the Pongola River System which form part of the Water Management Areas (WMAs) in the province. The Inkomati WMA is within the provincial boundary, and approximately 50% of Olifants WMA is in Mpumalanga. Approximately 15 % of the Upper Vaal WMA and 20% of Usutu WMA resides within the Mpumalanga. The water resources in all catchments within the Mpumalanga Province, except the Sabie River and upper Usutu, are over committed with current demands on the available water outstripping the water available in the system (MPSoER, 2008; MEGDP, 2011).

1.4.2.1 Olifants WMA

The Olifants WMA comprises the Olifants, Letaba and Shingwedzi River catchment areas. The WMA is highly stressed, fast growing in terms of population and development. There is limited opportunity for further water resource development and future development will need to rely on local sources of water.

The main mining activities in the Olifants catchment are related to coal, platinum, vanadium, chrome, copper and phosphate. The coal mining is located in the upper reaches of the catchment around eMalahleni,

Middelburg and Delmas, associated with large thermal power stations. The platinum, chrome and vanadium mines are located in the Steelpoort and Middle Olifants areas of the WMA while the copper and phosphate mining occurs in the lower Olifants around Phalaborwa.

All or part of the Witbank, Highveld, Eastern Transvaal, South Rand and KaNgwane coalfields are included in the Olifants catchment, as is the undeveloped Springbok Flats coalfield. A number of significant coal seams possessing diverse characteristics are present and have a variety of potential markets in the power generation, export, domestic, metallurgical, liquefaction and chemical sectors.

In terms of the salinity status of the WMA, the upper Olifants catchment is predominantly in an unacceptable state for the main stem Olifants River and many of the tributaries but improves to a tolerable status at Loskop Dam. The salinity in the middle Olifants River falls in a tolerable range and improves to an acceptable state in the Lower Olifants within the Kruger National Park. Many of the tributaries, including the Elands River, Wilge River, Steelpoort and the Ga-Selati, are in a good to acceptable status in the upper reaches of the catchments but deteriorate to unacceptable salinity ranges in the lower reaches before confluence with the Olifants River. The salinity related impacts are largely due to mining, irrigation return flows and wastewater discharges. The smaller tributaries, Grootspuit, Waterval, Treur, Blyde and Nwabitsi Rivers forming the headwaters

of tributary catchments are in an ideal range, with respect to salinity status.

Within the Olifants WMA, of the 80% of the quaternary catchments assessed (with data available), 41% (5 rating red) of the catchment area includes stressed surface water resources that are under threat, 3% (5 rating green) that require the precautionary approach to management to maintain good condition, and 56%,(rated 1 or 3) where the surface water resources do have capacity available to accept degrees of impact.

1.4.2.2 Inkomati-Usuthu WMA

The Inkomati-Usuthu WMA is situated in the north-eastern part of South Africa and borders on Mozambique and Swaziland. All rivers from this area flow through Mozambique to the Indian Ocean. The WMA includes the Sabie-Sand River system, the Crocodile River (East) system, the Komati and Lomati system and the Usuthu River system. The Kruger National Park occupies almost 35% of the WMA.

Economic activity in the WMA is mainly centred on irrigation and afforestation, with related industries and commerce, and a strong eco-tourism industry. There is an emergence of increased coal mining in upper parts of the catchment. The Kruger National Park is a key feature of the WMA. The Sabie River which flows through the park is ecologically one of the most important rivers in South Africa. Important urban centres are Mbombela, White River, Komatipoort, Carolina, Badplaas, Barberton, Sabie,

Bushbuckridge, Kanyamazan, Matsulu, Lothair, Piet Retief and Amsterdam.

Water quality salinity status of the Komati River and Upper Crocodile River are in good condition. The middle reaches of the Crocodile River are in a tolerable range for salinity with the lower reach being in an unacceptable state. The Lomati River is in a good to tolerable state but is in the unacceptable range within Komati sub-catchment. The water quality of the Sabie River indicates generally good salinity status, with only a small tributary in the upstream catchment in the vicinity of Sabie in an unacceptable state. The ecological condition of the rivers in the WMA is largely good to fair.

Within the Inkomati-Usuthu WMA, of the 61% of the quaternary catchments assessed (with data available), 24% (5 rating red) of the catchment area includes stressed surface water resources that are under threat, 3% (5 rating green) that require the precautionary approach to management to maintain good condition, and 73%, (rated 1 or 3) where the surface water resources do have capacity available to accept degrees of impact.

1.4.2.3 Vaal WMA

The Vaal WMA includes the Upper, Middle and Lower Vaal catchment areas. The water resources of the Vaal River System are an important asset to the country and its people, supporting major economic activities and a population of about 12 million people. The Vaal River System catchment area stretches from Ermelo in the

northeast to Vryburg in the northwest to Douglas in the southwest to Harrismith in the east.

The Upper Vaal is highly altered by catchment development, with the Middle Vaal having a few major development centres with agriculture and mining being the main activities. The continued importance of the mining sector can be attributed to the coalfields in the northern parts and gold mining in the north-west of the Upper Vaal catchment area.

The salinity status of the water resources within the Vaal WMA is predominantly in the tolerable to the unacceptable range, which highlights that the water resources are under stress. The water resources of the Upper Vaal catchment are largely in a moderately modified condition (C present ecological state), with the exception of the water resources in the Vaal Barrage catchment area which are in a degraded condition (largely to seriously modified) (D and E present ecological state). Some smaller tributaries in the headwater catchments of the Upper Klip and Upper Wilge Rivers are in a good ecological condition, in a largely natural present ecological state (B Category).

Within the Vaal WMA, of the 76% of the quaternary catchments assessed (with data available) 42% (5 rating red) of the catchment area includes stressed surface water resources that are under threat, 1% (5 rating green) that require the precautionary approach to management to maintain good condition, and 57%,

(rated 1 or 3) where the surface water resources do have capacity available to accept degrees of impact.

1.4.2.4 Orange WMA

The Orange Water Management Area comprises the Upper Orange and Lower Orange catchment. The Orange River is of critical importance to South Africa. The Vaal River System is augmented from the upper Orange (Senqu) by the Lesotho Highlands Water Project and supplies the economic heartland of South Africa. It also supplies thermal power stations on the Highveld, irrigation schemes covering large areas along the Vaal, middle and lower Orange Rivers. Some 15 million people are dependent on secure water supplies from this basin.

In the Upper Orange catchment, the main products of mining operations are diamonds and salt. The most significant mine is De Beers Koffiefontein. Mining operations in the Lower Orange include underground and surface mines as well as quarries. Products of the mining industry in the Lower Orange are predominantly alluvial diamonds, copper and salt. Base metals are also mined. There are a few quarries providing stone aggregate and gravel. O’Kiep Copper Mines, Black Mountain Mines (lead, zinc and copper), Allexkor Mine (alluvial diamonds), Kleinzee Diamond Mine and Hondeklipbaai Mine (alluvial diamonds) are the major mines in the catchment that contribute to the significantly on the economy.

Water quality monitoring in the WMA is limited to the main stem Orange River. The monitoring frequency is

intermittent. The salinity status of the Upper Orange River is good, particularly water which flows from the Highlands of Lesotho in the Senqu River. The middle to lower Orange River is in a tolerable state with respect to salinity, with the reaches in vicinity of Onseepkans and Pella Mission being in the unacceptable range.

The present ecological state of the Upper Orange River is moderate to largely modified (C and D ecological categories), with an improvement to moderately modified to a largely natural state (C and B category) from Augrabies to the Orange River Mouth. The present ecological condition of many of the smaller tributaries are in a moderately modified state (category C) and largely modified state (D category) with a small percentage of smaller tributaries in less developed areas in the catchment in largely natural state (B present ecological condition). Within the Orange WMA, of the 43% of the quaternary catchments assessed (with data available) 24% (5 rating red) of the catchment area includes stressed surface water resources that are under threat, 2% (5 rating green) that require the precautionary approach to management to maintain good condition, and 74% (rated 1 or 3) where the surface water resources do have capacity available to accept degrees of impact (WRC Mining Water Atlas, 2016).

1.4.2.5 Dam Infrastructure within the Province

The total capacity of all the 22 dams in Mpumalanga is 2627 million m³. The Bossiespruit, Ohrigstad and Rhenosterkop dams are stressed (exceeding capacity). The Gemsbokhoek, Rietfontein Weir, Acornhoek, Witklip, Jericho, Westoe, Nooitgedacht, Morgenstond, Kwena, Loskop and Heyshope dams are approaching design capacity. The Kabokweni Sewage Treatment Ponds are underutilised and the Geelhoutboom Pump Dam, Vlakkult, Kasteel, Buffelskloof, Trichardtsfontein, Blyderivierspoort, Vygeboom and Grootdraai dams are being moderately used. The Weltevreden Weir was found to be of strategic redundancy (DWS Provincial Water Services Perspective Phase 1 Draft 1, March 2017).

In June 2018, the Mpumalanga Province recorded a decline in water levels as reported by the Department of Water and Sanitation (DWS) weekly state of reservoirs report. The Province recorded an average of 0.3% decline in dam levels from 81.7% to 81.4%. The WMAs also recorded a slight decline in water volumes, with the Olifants catchment dropping from 73.7% to 73.4% and the Inkomati-Usuthu catchment also dropping from 82.1 % to 81.9%. The majority of dams recorded a decline in water levels except for Kwena, Driekoppies and Blyderivierpoort in Ehlanzeni District

1.4.2.6 Water Quality

There are various factors that affect water quality in Mpumalanga, the most significant water quality issues include:

- poor maintenance of sewerage systems,
- mining (water from old mines is not treated before it flows into catchment dams), and
- soil erosion from agricultural activities.

The utilisation of the Wastewater Treatment Works (WWTW) within the Province is of great concern as several of the plants are currently being utilised at maximum or more than the design capacities, while the effluent is reported to be either unknown or poor.

Water Supply projects are currently being executed in all Mpumalanga District Municipalities ranging from Internal Bulk (in all districts with more funds allocated in Ehlanzeni), planning (Gert Sibande), regional bulk (all districts) and Reticulation (Ehlanzeni and Nkangala).

1.4.3 LAND

The Mpumalanga Province covers an area of 76,495, km² or 8% of the country (MCCVA, 2015). 22% of the province's land is covered by farming related activities. Farming related land cover includes dryland cultivation, irrigated cultivation and subsistence cultivation. This land covers respectively contribute 18%, 2% and 2% to the provincial area. The dry land cultivation is the largest land cover class in the province, followed by forestry plantation (6%), wetlands (3%) and urban built-up (3%). Dryland cultivation occurs in the western part of the province in Nkangala and Gert Sibande districts (Map 9) whereas irrigated cultivation lands are located in Ehlanzeni District. In fact, 66% of the province's irrigated land is located in the Ehlanzeni, mostly in the Nkomazi municipality. The plantation lands are located mostly at the centre of the Province, forming a belt stretching north to south mainly along the escarpment.

Land degradation in all its forms (erosion, loss of vegetation cover, chemical imbalances and others) leads to a significant reduction in the productive capacity of land and is often a precursor to desertification. Human activities contributing to land degradation include unsuitable agricultural land use, poor soil and water management, deforestation, removal of natural vegetation, overgrazing, improper crop rotation and poor irrigation practices (UNEP, 2002).

Soil erosion is an important form of land degradation and is one of South Africa's most critical environmental issues. Serious soil compaction problems in high potential cropland in Mpumalanga are caused by open cast and strip coal mining, and soil compaction is also a problem in forestry areas.

Soil acidification, caused by chemicals is a major widespread soil degradation issue and is on an increase, the mining and coal burning industries (primarily electricity generation activities) in Mpumalanga cause acidification and pollution of soils. 100% of Mpumalanga is considered to be affected by dry land which is thus at high risk potential for Desertification.

Land capability is the intensive long-term use of land for purposes of rain-fed farming determined by the interaction of climate, soil and terrain. The Department of Agriculture, Forestry and Fisheries (DAFF) has classified land into 15 categories based on land capability. Mpumalanga has 13 of the 15 land classes. However, to get a better understanding and representation of the capability of land, Map 10 has aggregated the 13 land class into 3 land classes.

Most of the Province is classified as 'low-moderate to moderate' (61%) in terms of land capability, 9% as 'very-low to low' and 30% as 'high-very high to very high'. Areas with high capability are located in the western part of Nkangala District, the eastern part of the Gert Sibande

District and the central and eastern part of the Ehlanzeni District.

1.4.4 AGRICULTURE AND FORESTRY

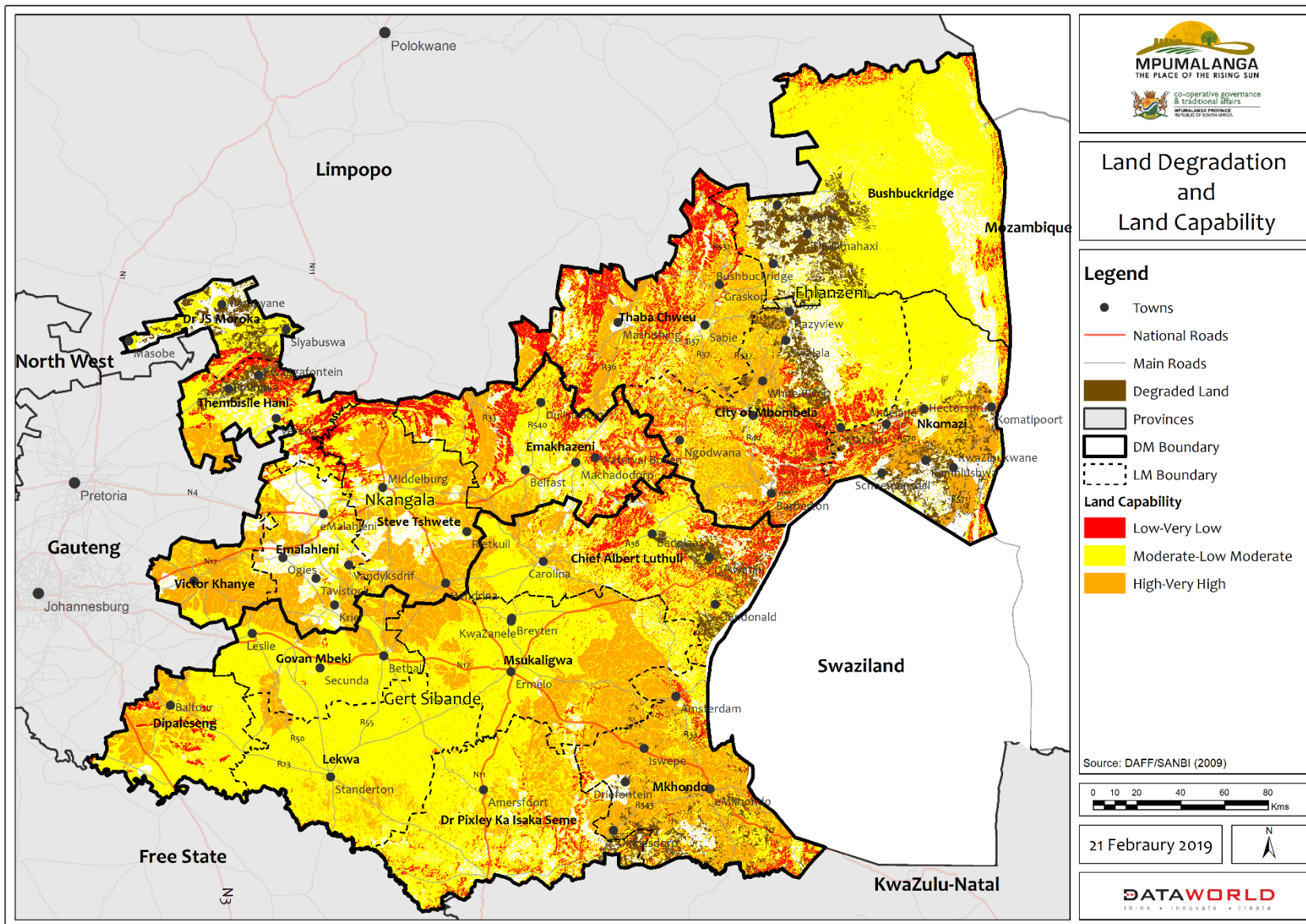
The agricultural sector plays an essential role in the fight against poverty and food security. The current land utilization by agriculture is determined by natural resources such as soils, water and climate, and land ownership. Land utilized for commercial farming is about 90% of the total farmland whilst for small scale/emerging farming is less than 10%.

In terms of agricultural production, summer cereals and legumes dominate the Highveld region, while sub-tropical and citrus fruit and sugar are grown extensively in the Lowveld. Mpumalanga is also well known for intensive and extensive beef production and the production of other animal produce

For the most part, dryland farming is utilized in agricultural production in the Highveld, with intensive irrigation activities taking place in the Loskop area near Groblersdal and in the Lowveld area adjacent to the Crocodile and Komati rivers. Considerable potential for increased agro-processing exists in the province, but this is constrained by access to water resources

The forestry industry in South Africa is a major contributor to the national economy. Commercial plantations cover an area of about 1.2 million hectares. The industry

produces approximately 18.5 million m³ (cubic meters) of commercial roundwood worth about R7.0 billion and a gross contribution to GDP of R21.4 billion. Commercial plantations are mainly concentrated in Mpumalanga constituting 518 689 ha of the 1.2 million hectares of South Africa. The bulk of South Africa's forestry plantations are located in Mpumalanga followed closely by KwaZulu-Natal. Forestry and logging, as a subcomponent of agriculture, added some 1.4% to Mpumalanga's total GVA in 2009. About 39 of the 148 primary processing plants in the country are located in the province.



Map 10: Land Capability and Degradation

Source: Mpumalanga Tourism and Parks Agency

1.5 BIODIVERSITY AND PROTECTED AREAS

The province is home to approximately 4 300 plant species, representing 21% of South Africa's flora. An estimated 189 plant species are endemic to Mpumalanga. Most of these plant species (64%) are soft herbs and bulbous plants and generally found in the grassland biome. In addition to plant species, approximately 173 mammals, 575 birds, 62 fish, 171 reptile and 51 amphibian species can be found in Mpumalanga. Many of the Mpumalanga's animal and plant species are classified as threatened on the International Union for Conservation of Nature's (IUCN) Red List.

The Province is experiencing losses in biodiversity. The drivers of biodiversity loss and ecosystem health are essentially macro-type activities involving people and are usually of a socio-economic nature and are therefore complex (WWF, 2012). They include loss of natural habitat, as a result of cultivation, mining, timber plantations, urban sprawl; invasive alien species; over-abstraction of water and alteration of flow in the freshwater environment; pollution; climate change and so forth.

Habitat loss, transformation and fragmentation have placed indigenous biodiversity under severe pressure. The extinction of local species is imminent unless conservation efforts are intensified. Three recognised centres of plant endemism (Barberton, Sekhukhuneland and Wolkberg) are found in the province and the formal protection of

these centres is very low. Conservation efforts must be focused on these areas.

1.5.1 ECOSYSTEMS

Ecosystems consist of animals, microorganisms, communities and their non-living environment. They all operate collectively as a unit at different scales; it ranges from a small area to a larger scale. Groups of ecosystems that have similar characteristics are called Biomes.

1.5.1.1 Terrestrial Ecosystems

Terrestrial ecosystems in Mpumalanga consist of three biomes: the savanna (escarpment foothills and Lowveld), grassland (Highveld and escarpment hills), and forest (south and east facing escarpment valleys). They indicate the topography layout of the land and provide an understanding of the biodiversity in Mpumalanga. Savanna is typically an African mixture of trees, shrubs, and grass. It varies from tall dense woodland through to open woodland and dense thicket. Savanna biomes are the ideal landscape for cattle breeding, and wildlife as the broadleaf plant species provide a valuable food source for animals. Grassland biomes are landscapes dominated by grass and cover the bulk of the Mpumalanga. Forest biomes are made up of a closed canopy of indigenous trees and shrubs and exclude commercial timber plantations.

Table 2: Biome per area size

Biomes	Total Size (sq. km)	% of Mpumalanga	% Natural	Number of Vegetation Types
Grassland	49 284	64%	50.7%	23
Savanna	26 649	35%	76.6%	29
Forest	400	0.50%	96%	14
Total	76 490	100%	60%	69

Source: Mpumalanga Biodiversity Sector Plan Handbook, 2014

1.5.2 FRESHWATER ECOSYSTEMS

1.5.2.1 Rivers and Wetlands

The aquatic ecosystem of the province consists of two major components viz. river ecosystem and wetland ecosystem. As the name suggests, a river ecosystem mainly consists of rivers and linear water bodies. A wetland ecosystem is made of wetlands. Wetlands include temporarily, seasonally or permanently wet areas and pans of open water. Wetlands support a diverse collection of plant and animal species. The wetlands occur in grasslands of the wetter Highveld and escarpment regions, with the greatest concentration of pans in the Chrissiesmeer area near Ermelo. These wetlands represent high value ecological infrastructure for securing water for human use

Mpumalanga contains over 4 000 wetlands and numerous river systems (including five major catchment areas) and a large proportion of South Africa's Strategic Water Source Areas (areas accounting for more than 50% of annual run-off in less than 10% of our surface area. A large

number of the aquatic ecosystems in the region are under threat due to mining, afforestation, historical and current socio-economic developments, as well as encroachment of invasive alien plants (IAPs).

1.5.2.2 River Ecosystem Status

Aquatic ecosystems provide numerous goods and services, including, among others, the ability of wetlands to purify water, buffer and attenuate flooding, regulate stream flow and control geomorphological processes (WRC, 2017).

The Mpumalanga Biodiversity Conservation Plan (MBCP) identifies healthy sub-catchments using a combination of Present Ecological State Category (PESC) (Kleynhans, 2000) and loss of natural habitat in each sub-catchment, as surrogate measures for healthy rivers, tributaries and wetlands. Heavily transformed sub-catchments are expected to have degraded wetlands and tributaries. If a river type has more than 80% of its length running through healthy sub-catchments, it is classified as least threatened. If 80-60% of its length flows through healthy sub-catchments, it is classified as Vulnerable; if less than 60% but more than its biodiversity target length occurred in healthy sub-catchments, it is classified as Endangered. And finally, if less than its target flowed through healthy sub-catchments, it is classified as Critically Endangered.

83% of Mpumalanga's 30 river types are threatened. 33% are Critically Endangered, 40% are endangered, and 10% are vulnerable (Map 11). A Critically Endangered river

type is one for which few remaining rivers are occurring in healthy sub-catchments and for which rehabilitation of catchments is required to meet biodiversity targets.

1.5.2.3 Strategic Water Source Areas (SWSA)

The availability of freshwater is one of the major limiting factors to South Africa's development. Twenty-two (22) strategic water source areas were identified in South Africa, Lesotho and Swaziland. Collectively, these areas contribute 50% of the regions water supply from eight per cent of the land surface area. The strategic water source areas support at least 51% of South Africa's population and almost 64% of the country's economy (Nel. *et.al*, 2017).

In Mpumalanga Province, the source areas snake around the escarpment and through Swaziland supplying the Pongola, Thukela and Olifants rivers (Map 12). Most of Enkangala is classed as a Strategic Water Source Area for South Africa and is part of the 8% of the surface area of South Africa that produces more than 50% of the country's surface water. These rivers are critical to the industrial heart of our economy and yet only 13% of all strategic water source areas are formally protected.

Over 60% of the province is under some sort of mining or prospecting application. Many of these are in areas that should be definitive no-go areas or mining control areas because of their water, food production and biodiversity value. Without this water, the South African economy cannot survive.

The SWSA is threatened by the massive expansion of coal mining in this province. Mabola is a strategic water source that feeds four of South Africa's major rivers, but the government still approved a license to mine coal on site. The Mabola river is a key component of the Mabola Protected Environment, an 8,772ha zone of protected wetlands, pans and endangered grassland ecosystem which together form the Enkangala Strategic Water Source Area. The protected area proclamation of January 2014 designated Enkangala as a national freshwater ecosystem priority area, and a critical aquatic biodiversity zone. Four other wetland areas in the Province were declared strategic water sources, critical for the generation of national water supplies for agricultural, industrial and human use (The Chrissiesmeer Protected Environment, The Kwamandlangampisi Protected Environment, The Mndawe Trust Protected Environment).

The Province must act urgently to protect water resources and ensure we use what we have in the most efficient and effective ways possible. This will need management and investment in the critical ecological and engineered parts of our water cycle.

Water source areas can be protected by:

- Strategic planning to prioritise water and prevent incompatible land-uses;
- Including them in nature reserves or conservancies;

- Implementing water stewardship, restoration and land-care initiatives in these areas.
- Implement legal protection for areas in which mining would be too harmful, giving legal certainty to licensing.

The rapidly growing cities place urban water resources under increasing pressure, therefore, protecting strategic water source areas offers an ecosystem-based approach to managing water resources beyond the usual built environment. The challenge is how to grow the provincial economy, sustain production and improve the lives of our people whilst safeguarding our natural ecosystems and maintaining the critical ecosystem services they provide. In terms of water resources, cities and towns that support the national economy and large population concentrations are already relying on water transfers from stressed catchment areas. The Strategic Water Source Areas (SWSAs) contribute significantly to the overall water supply of the country. Based on projections, the national water deficit, or difference between water requirements and water availability, could be between 2,7 and 3,8 billion m³/annum by 2030, a gap of about 17% of available surface and ground water, if the interventions proposed in the Draft National Water Plan are not implemented (DWS, 2017). From an ecological perspective, the protection of sensitive ecosystems is crucial for (1) the maintenance of biodiversity, and (2) ensuring resilience at both a national and global level. The Mpumalanga Province must manage and mitigate

the impact of high-intensity human development on sensitive ecosystems have to be prioritised. This includes the impact of agriculture, mining and human settlement on such systems.

1.5.3 ECOLOGICAL CORRIDORS

Ecological corridors provide pathways for long-term and large-scale movement. They are selected along the rivers and gradients to provide for the advance of animals and plants in response to environmental change. They are therefore used to indicate the links between biodiversity areas.

Habitat fragmentation, caused by a variety of impact activities, has been identified as one of the greatest threats to biodiversity. As amongst other things, it increases the vulnerability of ecosystems to climate change, maintaining or enhancing habitat connectivity, so that plant and animal communities can move in the most recommended response to climate change. Therefore improving connectivity across the landscape reduces the effects of fragmentation by making more habitat available through a network of corridors. Furthermore, the effectiveness of landscape connectivity is enhanced by linking up areas of high conservation value, identifying and securing habitat linkages - particularly bottle-necks or 'pinch-points' in corridor networks adds significantly to the overall functionality of the network.

The Mpumalanga Parks Board has identified key ecological corridors that are intrinsic to the maintenance

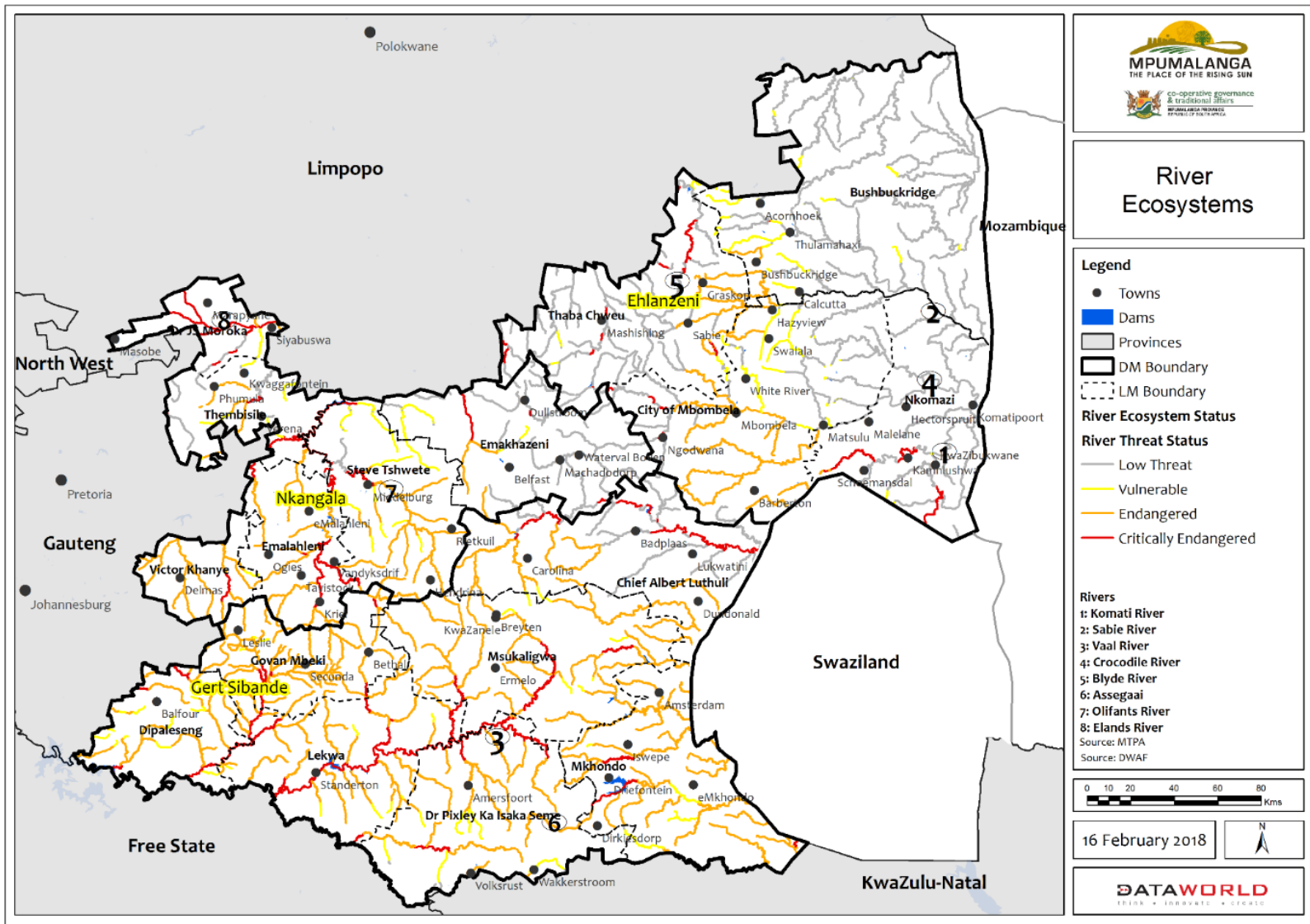
of the biodiversity within the Mpumalanga. The ecological corridors in the province (Map 12) are broadly classified into the following three categories

- Core Corridor
- Critical Link Corridor, and
- Supporting Corridor

Ecological corridors include river systems as they transport species over long distances from region to region. Simberloff et al. (2002) identified the following additional reasons for the importance of ecological corridors:

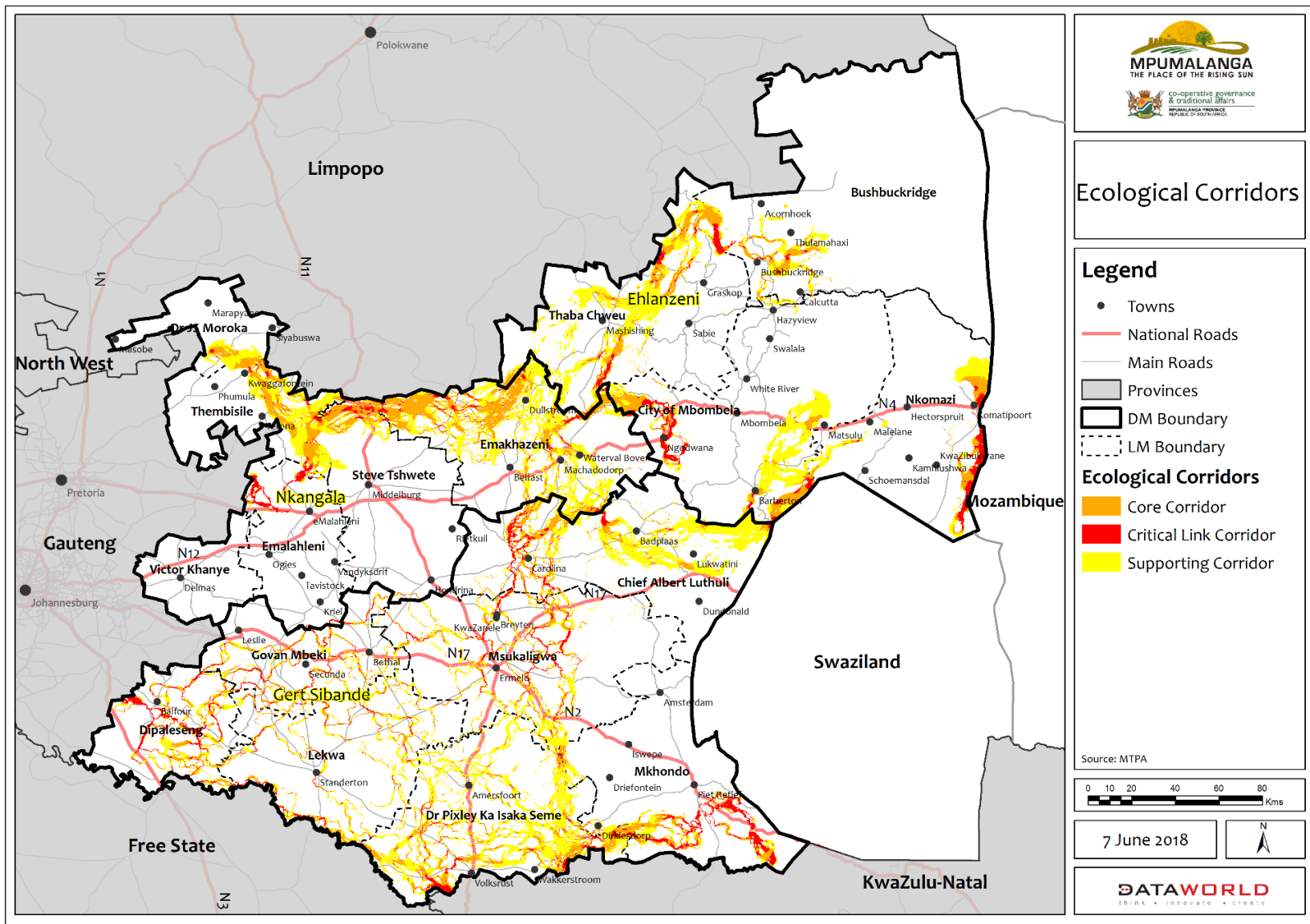
- To provide movement corridors to increase and maintain gene flow,
- between populations,
- To minimise demographic stochasticity,
- To stem inbreeding depression, and
- To fulfil an inherent need for movement.

There have been calls to actively incorporate climate change within MBSP. These include Climate change corridors that link up Climate Change refugia and PAs located across a range of altitude and latitude, corridors that follow areas of climate change resilience, corridors to enable the movement of species or ecosystems across a landscape. These corridors will allow species and ecosystems to move in a response to climate change.



Map 11: Health of River Ecosystems

Source: Mpumalanga Biodiversity Sector Plan Handbook, 2014



Map 12: Ecological Corridors
Source: Mpumalanga Tourism and Parks Agency

1.5.4 PROTECTED AREAS

There are over 117 protected areas in Mpumalanga that are under formal protection. In 2017, the Province declared a 14 305 hectares area of protected grasslands and wetlands near the well-known tourism hub of Dullstroom, to be known as the Greater Lakenvlei Protected Environment. Table 3 indicates the different types of protected areas found in Mpumalanga.

Historically, protected areas in Mpumalanga were created to conserve particular species of large mammals rather than to secure a representative sample of Mpumalanga’s biodiversity. Additionally, some protected areas were created on land that has low economic value. This practice has resulted in many ecosystems not being adequately protected. Nearly half of Mpumalanga’s ecosystems are poorly, hardly or not protected. Savannah and vegetation types are well protected, while only 5.3% of are currently protected. The table below indicates the protection level of the terrestrial ecosystems types in Mpumalanga.

Table 3: Percentage of Biodiversity in Protected Areas

% of Biodiversity target included in a protected area	Protection Level	Number of ecosystems (Vegetation Types)
0%	Zero Protected	10
0-5%	Hardly Protected	8

% of Biodiversity target included in a protected area	Protection Level	Number of ecosystems (Vegetation Types)
5-50%	Poorly Protected	13
50-100%	Moderately Protected	8
>100%	Well Protected	30

Source: Mpumalanga Biodiversity Sector Plan Handbook, 2014

1.5.5 CRITICAL BIODIVERSITY AREAS

Critical Biodiversity Areas (CBAs) can be defined as terrestrial and aquatic features in the landscape that are critical for conserving biodiversity and maintaining ecosystem functioning (Berliner et al. (2007). In general, CBAs represent areas that should be kept in a natural to a near natural state to ensure sustainable development. The Mpumalanga Biodiversity Sector Plan Handbook has identified the CBAs and classified them into two categories viz. Irreplaceable CBAs and Optimal CBAs.

The Irreplaceable CBAs are defined as the most crucial biodiversity areas outside the protected area network in the Province. Any loss of these of habitat or ecological functions of these CBAs will result in not meeting the biodiversity targets and a decline in the status of ecosystems and species. Conservation management activities should be the primary land use in the irreplaceable sites and any development that may have any negative impact must be avoided.

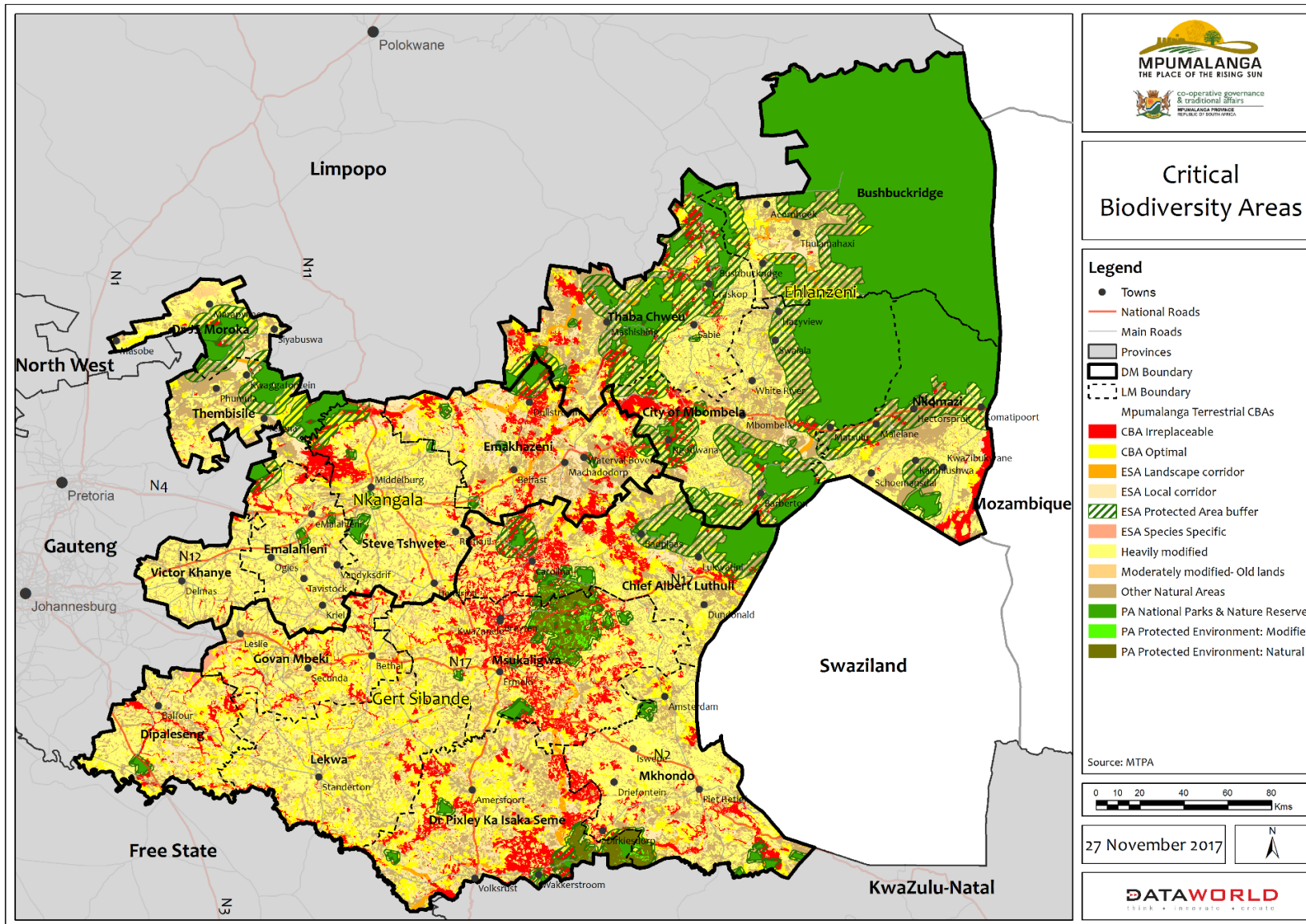
The Optimal CBAs are considered to be most optimally located sites to meet the biodiversity targets. These CBAs not only offer the most efficient solution to meet the targets but also other criteria such as avoiding high-cost areas with competing land uses. Though more lenient than the Irreplaceable CBAs, the Optimal CBAs are also subject to a number of regulations. Any development in the Optimal CBA sites should ensure that it has a minimal negative impact on biodiversity.

In addition to the CBAs, some sites have been identified as Ecological Support Areas (ESAs) and Other Natural Areas (ONAs). The ESAs, though not critical for meeting biodiversity targets, play a vital role in supporting the functioning of protected areas and CBAs. Examples of ESAs include riparian habitat surrounding rivers and wetlands and over-wintering sites for Blue Cranes. The ONAs are the sites that have retained most of their natural characteristics and perform various biodiversity and ecological infrastructure functions.

Map 13 depict spatial locations of the CBAs, ESAs, ONAs and protected areas. It can be observed that a belt running north to south is formed by the CBA sites with a concentration in the Msukaligwa and Chief Albert Luthuli municipalities of the Gert Sibande District.

Similar to the terrestrial CBAs, freshwater CBAs are also crucial for meeting bio-diversity patterns and targets. The freshwater CBAs should also be maintained in a natural or near-natural state. The Mpumalanga Biodiversity Sector Plan Handbook postulates maintaining a 100m buffer in a

good ecological condition along the River CBAs. The handbook has also identified freshwater ESAs. The ESAs are not essential for meeting biodiversity targets but they support CBAs to function and deliver essential ecosystem services.



Map 13: Critical Biodiversity Areas
Source: Mpumalanga Tourism and Parks Agency

1.6 RESOURCE CONSUMPTION AND DISPOSAL

1.6.1 ENERGY

Due to its large coal deposits, the generation of electricity through coal-fired power plants in South Africa takes place primarily in Mpumalanga. Of the 24 power generation facilities owned by Eskom in the country, 13 are coal-fired power stations. Eleven of the currently operating coal-fired power stations in the country are situated in Mpumalanga and contribute roughly 76% of the total electricity generated in South Africa.

The use of coal for energy production results in both the primary environmental impacts associated with the mining and removal of coal for use in coal-fired power stations in the province, as well as the secondary impacts resulting from the burning of this coal for energy production.

The generation of electricity through coal-fired power stations produces pollutants such as particulates, sulphur dioxide and nitrogen oxides. Emissions from coal-fired power stations are a serious concern for Mpumalanga as they cause impaired air quality in areas close to and away from the emission source and much of the demand for electricity in the country thus generates ambient air quality impacts that are felt largely in Mpumalanga.

Mpumalanga is also a beneficiary of the Eskom expansion programme with a new Eskom mega power station, named Kusile. The construction of Kusile presents the province with economic opportunities. The provision of the new power station will ensure that the power shortages experienced by the country in 2008 do not occur in future and that will ensure a conducive business environment for the country and Mpumalanga. However since the construction of Kusile in August 2008, (1) it has been discovered that if finished Kusile would burn approximately 17 million tonnes of coal per year. Kusile would single-handedly increase South Africa's contribution to climate change by 10%; (2) ESKOM has indicated that there are several structural, operational and financial problems.

1.6.2 WASTE

Mpumalanga generates 9.1% of South Africa's general waste. Among all provinces, the province stands at third place in per capita waste generation (DARDLEA Provincial Environmental Implementation Plan, 2016). DEA and MISA assisted all the local municipalities to license all the unlicensed waste management facilities (69 waste disposal sites) that were not in compliance with the waste license conditions and the Waste Act.

The province is also the largest generator of hazardous waste in South Africa. This is a result of the concentration

of mining activities and fertilizer production units in the Province. It is suspected that very little of the hazardous waste is disposed of appropriately. Recycling of waste occurs through private sector driven initiatives and a more integrated and co-ordinated approach to waste management is required.

1.6.3 CLIMATE CHANGE

Climate change poses significant threats to the basic provisions of life including water, the environment, health, and food production. Assuming moderate to high increases in greenhouse gas concentrations such as carbon dioxide, regional modelling scenarios indicate that the in north-eastern South Africa (which includes Mpumalanga) there have already been notable shifts in the climate with significant increases in average temperatures. For example, 11 of the 12 years in the period 1995-2018 rank among the twelve warmest years on record since 1850.

The Province is expected to experience higher minimum, average and maximum temperatures over the next few decades. These temperature changes would be accompanied by increasing incidence and intensity of drought, possibly even in regions where total rainfall increases (such as along the Mpumalanga escarpment). Total annual rainfall is expected to increase by between 85 and 303 mm per year, with distinct increases along the

escarpment. The pattern of rainfall is expected to shift, with autumn, winter and spring receiving more rainfall than currently happens. Therefore, the Province needs to respond to the climate change challenge from two perspectives, namely, taking on its share of effort in reducing its overall greenhouse gas emissions, whilst at the same time meeting development agendas, and ensuring early and appropriate adaptation to the changes in order to minimize the impacts on the country from inevitable changes to the climate.

1.7 BIOPHYSICAL CHALLENGES AND OPPORTUNITIES

Mpumalanga is considered one of the most beautiful and geographically diverse places in South Africa. The province is characterised by a wide range of panoramic landscapes, valleys, rivers, and other magnificent sceneries. The geographic features of the province present opportunities for the tourism industry. A wide range of tourism products such as leisure tourism, hiking, adventure sports, and scenic viewing can be developed to exploit the opportunities offered by the diverse geographic condition of the province. The geographical diversity also poses challenges to development. A large part of the province has a steep slope (greater than 20%), areas with such slope cannot be used for urban development. Besides, any infrastructure project connecting the eastern and western parts of the province

requires to cross the barrier created by the Drakensberg escarpment. Development of infrastructure in the escarpment region is proved to be costly.

Soil and geological formations are stable and do not pose significant geotechnical constraints to the province concerning infrastructure development. The development costs associated with geotechnical conditions, however, increase towards the eastern (border with eSwatini) and southern boundaries of the province. Mpumalanga's geological endowment makes the province a mineral-rich province. A wide range of mineral resources including gold, platinum aggregate metals, silica, chromite, and coal are found in the province. The key mining sector of the province is coal which represents 83% of South Africa's coal production. The abundance of coal and other mineral resources creates a positive environment for various sectors including manufacturing and power generation to grow in the province. However, mining is associated with many issues including water and soil contamination, topsoil loss, and environmental degradation.

The diverse geographic condition coupled with equally diverse climatic condition helps to grow different crops in the province. A diversified portfolio of crops helps farmers withstand losses even when the weather ruins a particular type of crop. Global warming poses a series of threat to the climatic condition of the province. The warming of

climatic may impact negatively on the province's climatic condition.

The province is drained by four large river systems viz. the Olifants River System, the Upper Vaal River System (part of the Orange River system), the Inkomati River System and the Usutu-Mhlatuze River System. The province has several dams and reservoirs to store water for urban and agriculture purposes. Though water is a scarce resource, so far there have been positive water balance in the province. However, it is expected that by 2025 the water balance will turn into negative. In addition, the current health of the province's rivers puts forward environmental challenges as 33% are Critically Endangered, 40% are endangered, and 10% are vulnerable. Poor health of the rivers can create a negative impact on water availability, environment and biodiversity.

Regarding land capability, the province exhibits extensive areas with low to moderate and high to very high potential. The presence of good quality soil creates opportunities for farming. Farming is viewed as a sector that can transform the rural economic landscape. However, the future of agriculture activity is threatened by mining activities. Mpumalanga's most coal-rich belt is located in the areas with high to very high potential land. As a result, good quality agricultural lands are being transformed into mines.

Scenic landscapes and rich biodiversity characterise the province. The diverse topographic and climatic condition has created and shaped a range of ecosystems suitable for different animal and plant species. The province is home to some of the famous game reserves where biodiversity thrives. The abundance of biodiversity and scenic landscapes creates opportunities for the tourism industry to flourish. However, Mpumalanga's biodiversity is negatively affected by several factors such as poor river health, global warming and subsequent change in the weather pattern, open cast mining activities and expansion of urban and agricultural and forestry areas.

The abundance of coal has led to the development of many coal-fired power stations in the province. A major share of power requirements of not only Mpumalanga but also South Africa is met by these power stations. As coal is depleting there is a need to look for renewable power sources. Power stations using renewable sources to generate energy (such as wind power, solar power) can be developed on the unused and fallow lands. Similarly, the power station can also be built to transform municipal, mining and agricultural waste to power (waste to energy power stations).

2 SOCIO-ECONOMIC THEME ANALYSIS

The section provides a broad overview of Mpumalanga's demographics, and space economy, and existing social facilities that will contribute to key themes in support of the formulation of the PSDF.

2.1 DEMOGRAPHY

2.1.1 POPULATION

According to the Mid-year population estimates, 2018 (Stats SA, 2018) Mpumalanga currently has an estimated population of 4 523 900 people, which accounts for 7.84% of South Africa's total population. As per the Community Survey, 2016 (Stats SA, 2016) the province's population and the number of households were 4 335 963 and 1 238 861, respectively. The population of Mpumalanga has grown at an annual rate of 1.63% p.a. between 2011 and 2018, which is higher than the national average of 1.57%. The estimated population urban-rural split of the province stands at 44.1% and 55.9% respectively as per Community Survey, 2016 (Stats SA, 2016). Map 14 illustrates the total share of the population distribution heat map per local municipality. From this map, it is evident that the majority of the population in the Province reside in rural areas.

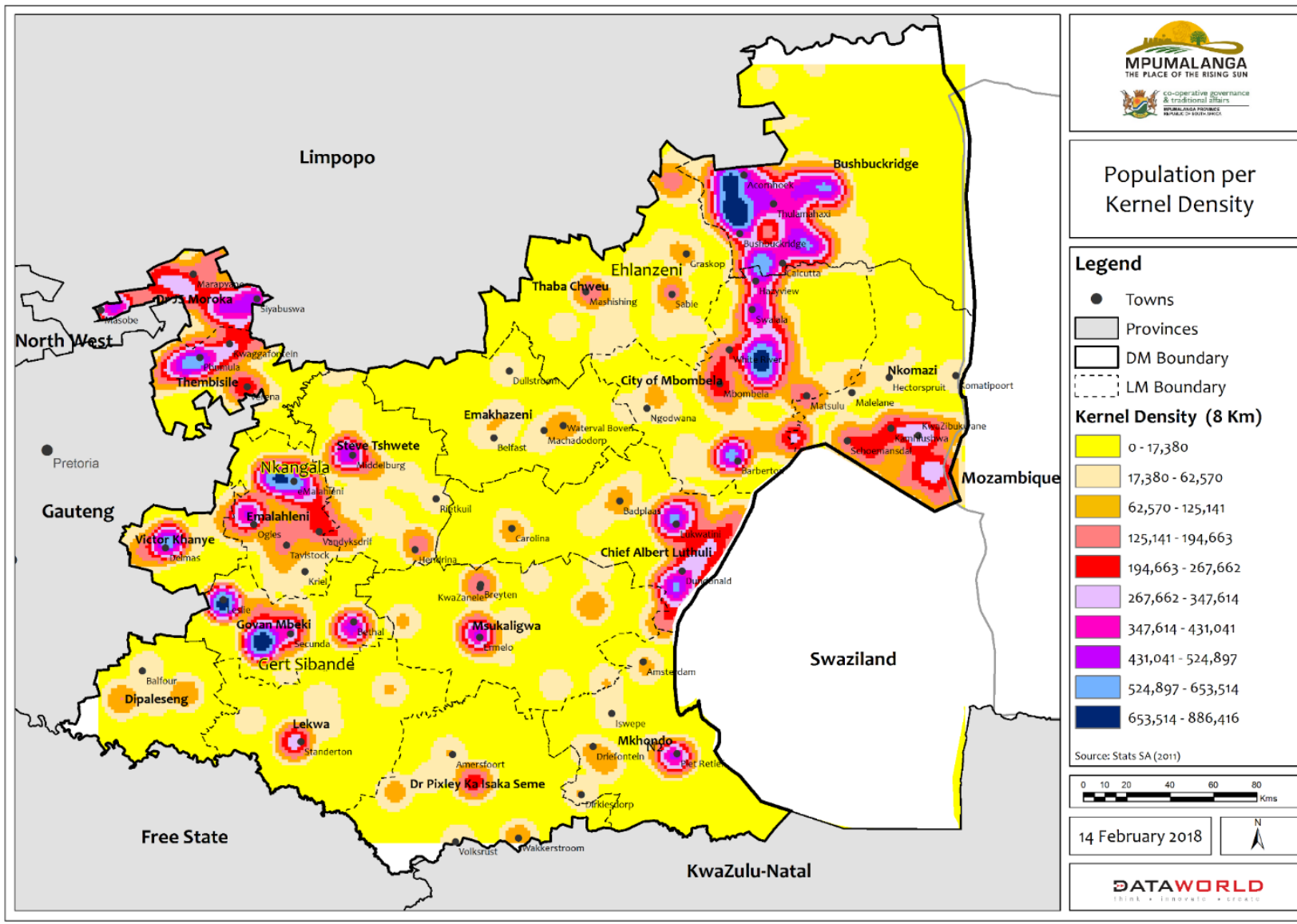
The Ehlanzeni District contributes 40.5% towards the provincial population, followed by the Nkangala District (33.3%), and the Gert Sibande District (26.2%). Regarding the growth rate of the population, all districts except for Gert Sibande have experienced lower growth rates between 2011 and 2016 when compared with the growth rates they registered during 2001-2011.

However, the province displays an uneven distribution of the population, as of the 17 municipalities, only three local municipalities account for the majority of Mpumalanga's population (40%). Those municipalities are Emalahleni LM (10.5%), City of Mbombela LM (16.0%), and Bushbuckridge LM (2.7%). Table 4 provides an indication of the population distribution of the Province's district and local municipalities.

Table 4: Population Distribution in Local and District Municipalities

Geography	Population 2001	Population 2011	Population 2016	% of Provincial Population (2016)	Annual Population Growth Rate (2001-11)	Annual Population Growth Rate (2011-16)
Gert Sibande DM	900 007	1 043 194	1 135 409	26.20%	1.49%	1.71%
Albert Luthuli LM	187 751	186 010	187 629	4.30%	-0.09%	0.17%
Msukaligwa LM	124 812	149 377	164 608	3.80%	1.81%	1.96%
Mkhondo LM	143 077	171 982	189 036	4.40%	1.86%	1.91%
Pixley Ka Seme LM	80 737	83 235	85 395	2.00%	0.31%	0.51%
Lekwa LM	103 265	115 662	123 419	2.80%	1.14%	1.31%
Dipaleseng LM	38 618	42 390	45 232	1.00%	0.94%	1.31%
Govan Mbeki LM	221 747	294 538	340 091	7.80%	2.88%	2.92%
Nkangala DM	1 018 423	1 308 128	1 445 624	33.30%	2.54%	2.02%
Victor Khanye LM	56 335	75 452	84 151	1.90%	2.96%	2.21%
Emalahleni LM	276 413	395 466	455 228	10.50%	3.65%	2.85%
Steve Tshwete LM	142 772	229 831	278 749	6.40%	4.88%	3.93%
Emakhazeni LM	43 007	47 216	48 149	1.10%	0.94%	0.39%
Thembisile Hani LM	256 583	310 458	333 331	7.70%	1.92%	1.43%
Dr JS Moroka LM	243 313	249 705	246 016	5.70%	0.26%	-0.30%
Ehlanzeni DM	1 447 124	1 688 615	1 754 931	40.50%	1.56%	0.77%
Thaba Chweu LM	81 681	98 387	101 8958	2.30%	1.88%	0.70%
City of Mbombela	530 647	655 950	693 369	16.0%	4.38%	2.29%
Nkomazi LM	334 668	393 030	410 907	9.50%	1.62%	0.89%
Bushbuckridge LM	500 128	541 248	548 760	12.70%	0.79%	0.28%
Mpumalanga	3 365 554	4 039 937	4 335 964	100%	1.84%	1.42%

Source: StatsSA (Census 2011, Community Survey 2016, and Mid-year Population Estimate 2018)



Map 14: Population Distribution per Kernel Density

Source: Stats SA Census 2011

2.2 EDUCATION

The functional literacy rate of Mpumalanga province stands at 91.7% in 2016⁹ which is an improvement from the 86.7% literacy rate that was recorded in 2011. According to the Community Survey 2016, 7.8% of the population 20 years and older have not received any formal school education. Only 92.2% of the population have some form of education; comprising of primary education (14.5%), some secondary education (36.8%), and grade twelve (28.2%). Only 12.2% of the Provincial population have tertiary education and 0.5% of the population is unspecified in term of their education level.

2.3 EMPLOYMENT STATUS

2.3.1 EMPLOYMENT

At the end of 2017, the provincial labour force comprised around 1.75 million individuals (expanded definition) of which 1.24 million were employed and 506 000 were unemployed. The strict/ official unemployment rate reduced to 28.9% by December 2017 from 31% at the end of 2016. During the same period, the unemployment rate in South Africa increased to 26.7% from 26.5%.

Approximately 71% of the employed individuals are of formal employment in the Province. The same statistics for the districts of the province are 73% in Gert Sibande, 71%

in Nkangala, and 70% in Ehlanzeni. The proportion of skilled individuals in the employment cohort in Mpumalanga is lower than the national figure.

2.3.2 POVERTY

The share of Mpumalanga's population below the lower bound poverty line (LBPL) declined from 51% in 1996 to 40% in 2015. Despite the huge reduction in poverty, Mpumalanga's share was higher than the national share, and the province was the fourth highest among the provinces. Among the districts, Nkangala recorded the lowest share (34%) of the population below the LBPL in 2015 followed by Gert Sibande (39%) and Ehlanzeni (47%) districts.

2.3.3 INCOME INEQUALITY

The inequality in the distribution of income is measured by the Gini coefficient. A Gini coefficient of zero expresses perfect equality i.e. all households earn equal income and the value 1 represents the situation where one household earns all the income and other households earn nothing. Statistics show South Africa's Gini coefficient is one of the highest in the world. Mpumalanga and its districts' Gini coefficients are lower than the national figures, implying the province's wealth is relatively better distributed among its people than the same at the national level.

⁹ Stats SA Household Survey, 2016

In addition to the Gini coefficient, the Palma ratio is also used to measure inequality. A region with a Palma ratio of more than 3 falls in the most unequal quartile whereas a region with a Palma ratio of less than 1.5 falls in the least unequal quartile. In 2015, the Palma ratios for Mpumalanga, Nkangala, and Ehlanzeni DM were 6.12, 6.33, 6.09 and 5.61 respectively.

Through the ratio values were still high for every region as mentioned above, a gradual reduction of the values could be observed. The reduction hints that income inequality is slowly reducing.

Table 5: Gini Coefficients and Palma Ratios for South Africa, Mpumalanga and its Districts

Region	Gini Coefficient		Palma Ratios	
	1996	2015	1996	2015
South Africa	0.61	0.63	6.12	7.36
Mpumalanga	0.59	0.61	5.23	6.12
Gert Sibande DM	0.59	0.61	5.31	6.33
Nkangala DM	0.58	0.6	5.19	6.09
Ehlanzeni DM	0.58	0.6	5	5.61

Source: IHS Markit & Socio-Economic Review and Outlook of Mpumalanga, 2017

2.4 PROVINCIAL SPACE ECONOMY

2.4.1 SIZE OF THE ECONOMY

In 2016, The GDP of Mpumalanga was 222.2 Billion (at 2010 constant prices, contributing approximately 7.20% to the national GDP. Regarding contribution to the national GDP, Mpumalanga ranks fifth, after Gauteng, Western Cape, KwaZulu-Natal, and Eastern Cape, among all provinces.

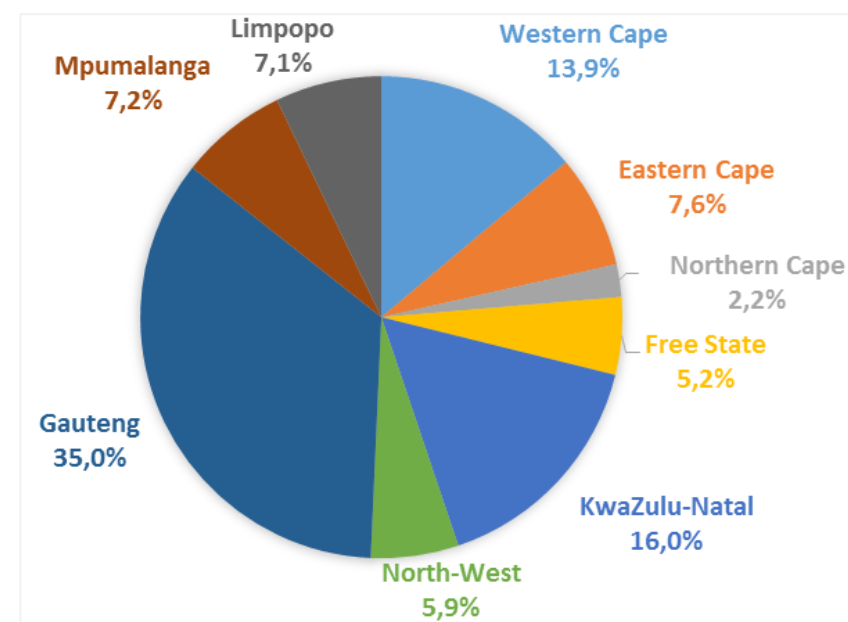


Figure 13: Contributions of the Provinces to the National GDP (at 2010 Constant Prices)

Source: StatsSA, 2018

2.4.2 SPATIAL DISTRIBUTION OF ECONOMIC ACTIVITIES

Among the districts of Mpumalanga, Nkangala contributes the most (approximately 37%) to the provincial GDP and Ehlanzeni and Gert Sibande, the other two districts, add about 35% and 28% respectively to the provincial GDP. In 2016, Nkangala's, Ehlanzeni's and Gert Sibande's GDP were 83.0 billion, 77.1 billion, and 62.1 billion respectively.

The local municipalities of the province vary to a great extent regarding GDP. To give an example, the City of

Table 6: Municipalities' GDP and Share in Provincial GDP and Population

	Municipality	GDP (R billion)	Share in Provincial GDP	Share in Provincial Population
Gert Sibande DM	Chief Albert Luthuli	5,11	2,3%	4,3%
	Msukaligwa	9,33	4,2%	3,8%
	Mkhondo	5,81	2,6%	4,4%
	Dr Pixley Ka Isaka Seme	2,03	0,9%	2,0%
	Lekwa	6,79	3,1%	2,8%
	Dipaleseng	1,61	0,7%	1,0%
	Govan Mbeki	31,37	14,2%	7,8%
Nkangala DM	Victor Khanye	4,82	2,2%	1,9%
	Emalahleni	36,65	16,6%	10,5%
	Steve Tshwete	29,70	13,4%	6,4%
	Emakhazeni	2,60	1,2%	1,1%
	Thembisile	4,65	2,1%	7,7%
	Dr JS Moroka	4,04	1,8%	5,7%
Ehlanzeni DM	Thaba Chweu	8,06	3,6%	2,3%
	Bushbuckridge	7,41	3,4%	12,6%
	Nkomazi	9,49	4,3%	9,5%
	City of Mbombela	51,52	23,3%	16,0%

Source: IHS Markit 2018 (Global Insight) and StatsSA

Mbombela's GDP is R51.52 billion, whereas the Dipaleseng Local Municipality's GDP is only R1.61 billion. Approximately 67.5% of the provincial GDP comes from just four local municipalities' viz. Govan Mbeki (Gert Sibande DM), Emalahleni and Steve Tshwete (Nkangala DM), and City of Mbombela (Ehlanzeni DM) while 41% of the provincial population reside in these four local municipalities. This reflects an unequal distribution of economic activities in the province.

2.4.3 ECONOMIC GROWTH RATE

In 2016, the provincial GDP grew by 0.20%, which was lower than the national growth rate (0.60%). In 2015, the growth rates for the province and country were -0.30% and 1.30% respectively. GDP growth rate of the province, except 2014, has been lower than the national growth rate for the last six years. The annual GDP growth rate for Mpumalanga was 4.1% in 2006; then it plunged to -1.4% in 2009, the period of a global recession. Then the economy recovered and reached an annual growth rate of 2.9% in

2014; however, after that, the growth rate declined again. In 2016, the GDP growth rates for Gert Sibande, Nkangala, and Ehlanzeni districts were 0.51%, -0.8% and 1.21% respectively. In terms of the annual growth of GDP in the last few years, all three district municipalities have mirrored the trend of the national and provincial economies (see Figure 15). This trend reflects that not only the national and provincial economies but also the district economies are vulnerable to external global circumstances such as the ones experienced during the global economic downturns in 2008-09.

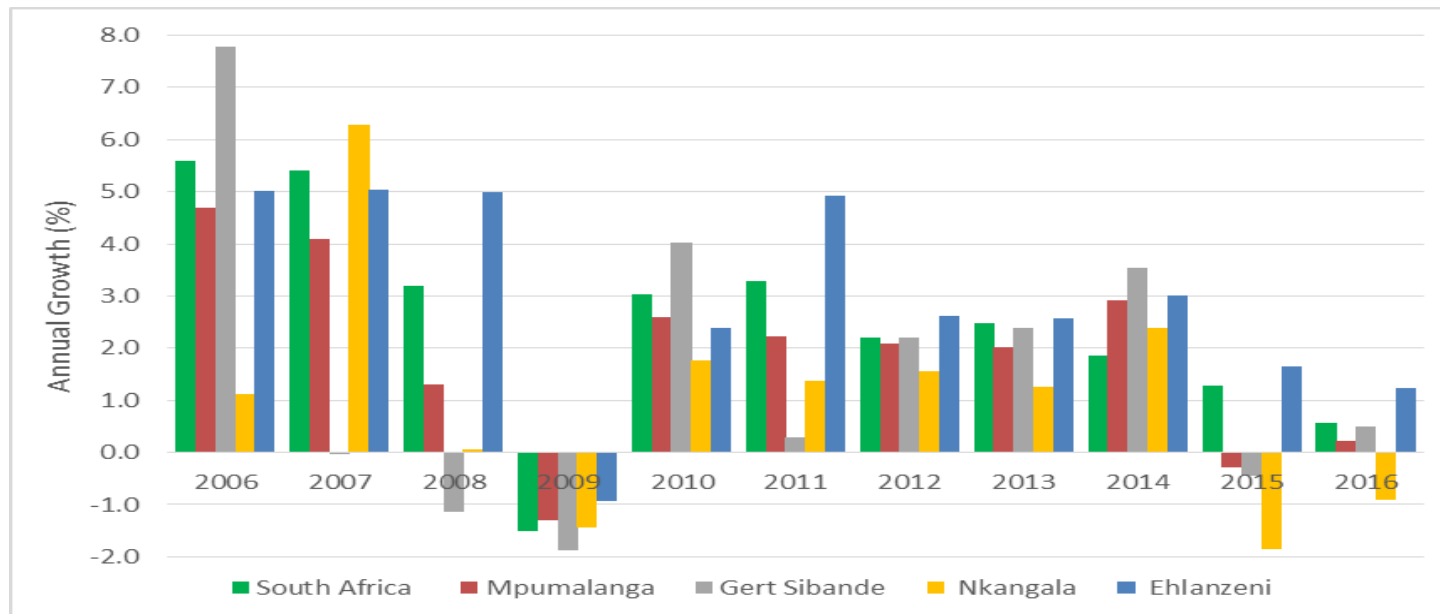


Figure 14: Annual GDP Growth Rates
Source: StatsSA 2018 and IHS Markit 2018 (Global Insight)

2.4.4 SECTORS OF THE ECONOMY

An economy can be broadly divided into three sectors of activity: primary, secondary and tertiary. The sectors mentioned above can further be divided as follows;

2.4.4.1 Primary Sector

- Agriculture, Forestry, and Fishing (or “Agriculture”)
- Mining and Quarrying (or “Mining”)

2.4.4.2 Secondary Sector

- Manufacturing
- Electricity, Gas, and Water (or “Utilities”)
- Construction

2.4.4.3 Tertiary Sector

- Wholesale and Retail Trade, Catering and Accommodation (or “Trade”)
- Transport, Storage, and Communication (or “Transport”)
- Finance, Insurance, Real Estate and Business Services (or “Finance”)
- Community Services including Government Services (or “Community Services”)

The table below illustrates the changes and contribution of the sectors mentioned above to the economies of Mpumalanga and its districts. As evident from the table,

mining sector, contributing R 49.6 billion or approximately 25% to the provincial economy, is the most dominant sector not only in Mpumalanga. The other important economic sectors of the province are Community Services (R 33.1 billion), Trade (R 30 billion), Manufacturing (R 27.7 billion), and Finance (R 25.1 billion). In 2016, the primary, secondary and tertiary sectors contributed about 28%, 22% and 50% respectively to the provincial GVA. In 2006, these sectors contributed 32%, 22% and 46% respectively. The decrease of the primary sector's contribution and the increase of the tertiary sector's contribution indicate a move towards a service-oriented economy.

Table 7: Contributions of Economic Sectors to GVA(R billion at 2010 constant prices)

Sectors	South Africa		Mpumalanga		Gert Sibande DM		Nkangala DM		Ehlanzeni DM	
	2006	2016	2006	2016	2006	2016	2006	2016	2006	2016
Primary Sector	299,8	291,1	54,7	55,8	19,0	16,8	30,4	32,9	5,4	6,0
Agriculture	54,5	65,8	4,8	6,2	1,8	2,2	1,0	1,4	2,1	2,6
Mining	245,2	225,3	49,9	49,6	17,2	14,7	29,4	31,6	3,3	3,4
Secondary Sector	488,0	556,9	37,8	44,3	12,2	15,0	15,7	15,0	9,9	14,3
Manufacturing	351,6	383,6	23,5	27,7	9,3	11,0	7,9	9,0	6,3	7,6
Utilities	67,7	64,2	10,0	9,8	1,9	2,4	6,5	3,9	1,6	3,5
Construction	68,8	109,1	4,3	6,7	1,0	1,5	1,3	2,0	1,9	3,2
Tertiary Sector	1470,9	1945,6	80,5	100,6	19,3	23,7	23,3	28,5	38,0	48,4
Trade	334,0	426,5	24,7	30,0	6,4	7,6	7,0	8,2	11,3	14,2
Transport	203,2	262,0	9,8	12,3	2,8	3,4	3,0	3,7	4,0	5,2
Finance	451,9	617,2	19,9	25,1	4,0	5,1	6,1	7,7	9,8	12,3
Community Services	481,8	640,0	26,1	33,1	6,1	7,6	7,1	8,9	12,9	16,6
Total	2258,8	2793,7	173,1	200,6	50,5	55,4	69,4	76,5	53,2	68,7

Source: IHS Markit 2018 (Global Insight)

2.5 RURAL DEVELOPMENT

Rural communities in the Province are still characterized by poverty, inequality, limited access to basic social infrastructure, underdevelopment, and lack of economic opportunities and incoherent spatial patterns. These rural communities mainly rely on subsistence farming for food and income. More than 50% of the Mpumalanga population still reside in areas formerly designated as homelands. The homeland policies of the past had left Mpumalanga with a large rural population with a weak socio-economic profile removed from economic activities and basic and social infrastructure.

The main purpose of DRDLR Rural Development Plans in Mpumalanga is to stimulate development in areas of poverty and reduce spatial inequalities, thus identifying strategically located land and facilitation access for sustainable livelihoods for rural communities to:

- Improve food security and household income,
- Develop rural business and community organizations,
- Provide flexible training and education,
- Provide cost effective infrastructure without sacrificing the quality of services, and
- Economic sector development to create jobs for especially youths, women and people with disabilities.

The former homeland areas in Mpumalanga are the core CRDP pilot areas (Focus Areas) for rural restructuring. These areas are located in Bushbuckridge, Nkomazi, Albert Luthuli, and Mkhondo, Pixley ka Seme, Thembisile Hani and Dr JS Moroka Municipalities. The investment types in these focus areas should be in the form of:

- Farming equipment, irrigation systems, agricultural training facilities (agri-colleges),
- The establishment of local fresh produce markets which could lead to the development of small scale agro-industries focusing on processing and/or packaging of local products before exporting it to larger centres,
- Social infrastructure in the form of centrally-located Thusong Centres serving each of the CRDP areas, and which provide a comprehensive range of community facilities at a one-stop destination within these rural communities, and
- Rural housing programmes which are to be clustered around these Thusong Centres. This will not only improve the utilisation of the community facilities located here but also create the “critical mass” required to enhance the potential for local economic development – including the establishment of fresh produce markets and associated agro-processing activities.

2.6 TOURISM

Mpumalanga is one of South Africa's top tourist destinations. People are drawn to the Province by the magnificent scenery, as well as the fauna and flora. It is home to the world's most famous game reserve, the world's third-highest canyon, and the world's oldest cave surrounded by the world's best private game lodges. The province is popular with tourists all year round. The scenic beauty of this region, with its endless Bushveld plains teeming with wildlife, with hundreds of spectacular waterfalls and vast stretches of emerald green forests, and its colourful history, and ancient legends never fails to capture the imagination. The establishment of Kruger National Park in 1898 for the purpose of protection of wildlife found in the Lowveld, has evolved to become a major tourist attraction.

The region abounds with all types of activities ranging from game viewing, nature reserves, hiking and paragliding including scenic drives across the valley and mountains of the vast Drakensberg escarpment that traverses through Mpumalanga. The province is innate to historical sites and pioneers, heritage and cultural villages that add much character and aesthetics to the nature of Mpumalanga.

According to the Annual Mpumalanga Tourism Statistics Report, 2017, Limpopo was the largest beneficiary of domestic tourism, followed by Gauteng and then KZN. Limpopo received a total of 4.6 million trips (26.7%), while

Gauteng received 3.1 million (18.0%) and KwaZulu-Natal received 2.5 million (14.6%). All provinces received fewer domestic trips with the exception of Mpumalanga which had an increase of 23.0% in domestic trips from 1.7 million in 2016 to 2.0 million in 2017. Despite Gauteng being the greatest source of domestic tourists, the number of tourists from this region has been declining since 2015.

According to the South African Tourism industry, Mpumalanga experienced the following:

- Foreign Tourist Arrivals increased by 15.3% from 1 427 795 in 2016 to 1 573 635 in 2017 with most arriving from neighbouring countries such as Mozambique and Swaziland with European countries playing a second important source market,
- Foreign Direct Spend in Mpumalanga increased by 1 million Rand (2.1%) from 4.6 billion Rand in 2015 to 4.7 billion Rand in 2016,
- Formal Bed nights Spent in Mpumalanga decreased from 1 282 000 in 2016 to 1 911 000 in 2017,
- The average length of stay (% of total bed nights) increased from 7% in 2016 to 13% in 2017,
- Mpumalanga's total revenue/spend increased by 2.5% (118 139 368 million Rand) from the 4 608 735 526 billion Rand of 2015 to 4 725 574 759 billion Rand in 2016, after Limpopo, Western Cape and Gauteng

ranking Mpumalanga 4th in 2016 from its 5th rank in 2015

There is a strong spatial linkage between the existing natural environment and the tourism sector in Mpumalanga, as it emphasises on scenic landscapes, nature reserves, and cultural heritage. It is regarded as one of the pivotal future economic drivers by the Mpumalanga Economic and Growth Development Plan (MEGDP). It supports and promotes the protection of natural assets and therefore needs to be a national and provincial priority. The development of the natural ecological assets for tourism and other development indicators needs to take place within the development parameters set by strategic and detailed environmental assessments.

Tourism is an important economic sector and has emerged as a robust driver of growth for emerging economies. Nature-based tourism (e.g. wildlife viewing, mountain camping) is a significant sub-sector of tourism for developing countries. Nature-based tourism can be a significant source of income for local communities who often live in marginal areas with few pathways out of poverty when projects are well designed. The Mpumalanga Province must carefully design interventions that strengthen linkages between nature-based tourism and poverty reduction and help communities who often have few other economic opportunities

2.7 SOCIO-ECONOMIC CHALLENGES AND OPPORTUNITIES

Mpumalanga's population pyramid indicates the presence of a large share of people below the population cohort. The presence of such a youthful population is a healthy sign as it indicates the availability of a young labour force. With proper training, skills and opportunity, young people become demographic dividend and contribute to a productive economy. However, the economy cannot provide satisfactory employment to a large cohort of young people, which may lead to social and political instability.

The province shares its western border with Gauteng- the largest economic region of Africa. Gauteng can act as a "regional pull factor" in that development of Gauteng can lead to a trickledown effect of development for its surrounding regions including Mpumalanga. The presence of such a strong economic hub in the vicinity provides the province with the opportunity to grow economically, especially in the areas adjoining Gauteng. The province exhibits an unequal distribution of economic activities and population. Only four municipalities (Emalahleni, Steve Tshwete, Govan Mbeki and City of Mbombela) contribute 67% to provincial GDP and 41% to the provincial population. The future development exists in places with high levels of population concentration but low levels of economic output.

Tourism is considered an important contributor to the province's economy. Mpumalanga's diverse landscape, geography and climatic condition have helped the province develop a wide range of tourism activities such as game viewing, nature reserves, hiking, paragliding and scenic drives across. Also, the presence of historical and heritage sites and cultural villages add much character Mpumalanga's tourism potential. The well-known tourism destinations within the province have contributed positively to the local and provincial economies.

However, the sector's contribution does not commensurate with its potential as many tourism potential sites remain either unexploited or less exploited. Examples of such tourism points include Loskopdam-Dinokeng tourism belt in Nkangala district, Somgimvelo-Malolotja Transfrontier Conservation Area around Barberton in Ehlanzeni district, Mpumalanga Lake District and historical monuments and cultural spots spread across the province. In addition to the above-mentioned tourism nodes, opportunities also lie in cultural and heritage tourism, rural tourism and township tourism.

A substantial portion of Mpumalanga's land area is classified as Moderate to High-Very High agricultural potential which can be utilised for agricultural production. Of late agriculture sector is receiving a lot of attention due to its potential to transform rural spaces. The ongoing Comprehensive Rural Development Programme (CRDP) is developing a number of projects aiming at the

improvement of the agricultural sector. These initiatives can transform a sizeable number of subsistence farms into commercial ones. All these factors create opportunities for the agriculture sector to grow. However, there are other factors affecting this sector such as the loss of agricultural land to other activities, availability of water, contamination of the water used for irrigation by other economic activities, and access to the market.

With a 25% contribution, Mining is the largest economic sector in the province. This sector has helped other sectors, mainly manufacturing and power generation, to grow in the province. Nonetheless, there are some challenges posed by this sector. Some key challenges are 1. Mining activities contaminate soil and water and pollute the environment; 2. Mines are being developed on good quality agricultural soil, a practice that threatens food security; 3. Opencast mines restrict the movement of animals, thereby negatively affecting the ecosystem; and 4. Mining is not a labour intensive sector hence its benefit is not always felt local. Moreover, mining will deplete one day; hence, the over-reliance on this sector may bring economic troubles in the future.

Mpumalanga's strong industrial base is dominated by petrochemical, steel and mineral beneficiation industries. The presence of minerals has helped the manufacturing sectors to grow in the province. As the mining sector, the manufacturing sector is also not a labour intensive sector. Mpumalanga's manufacturing plants and coal-fired

power plants are the key polluters of air. The manufacturing sector is responsible for water pollution-agricultural activities within the Standerton, Bethal, Ermelo and Carolina areas are adversely affected by water from petrochemical and manufacturing activities.

The lack of a growing and sustainable economy in townships and traditional landscapes that can provide local employment opportunities is affecting the livelihood of local people. The economic services offered by the townships are mostly consumed locally, and a small fraction of the services cross the township boundaries. As a result, township economies have minimal contributions to the overall economy of the town, municipality or province. The small contribution of the townships to the overall economy is further reducing for many reasons.

The supermarkets and large-scale retail store chains sell items cheaper than the small-scale retail/spaza shops, encouraging people not to buy from local retail/ spaza shops. A key contributor to the township economy is small-scale manufacturing activities such as carpentry and furniture making, apparel manufacturing, and door/window manufacturing, and charcoal manufacturing. However, with the deindustrialisation of South African economy and the shift towards a knowledge-based economy, these goods are increasingly being imported at a much lower price than the township enterprises can offer. This trend is hampering

township economies greatly. Besides, the local entrepreneurs are facing stiff competition from the foreign entrepreneurs who are more organised than the locals and have better access to capital. The emergence of foreign entrepreneurs in the townships is negatively affecting the livelihood of the local people who have traditionally been involved in the township economy.

3 BUILT ENVIRONMENT THEME ANALYSIS

The Built Environment theme analysis aims to provide a clear overview of Mpumalanga's built form and infrastructure which inherently presents challenges and opportunities that will contribute to key themes in support of the formulation of the PSDF.

3.1 SPATIAL STRUCTURE AND SETTLEMENT PATTERNS

3.1.1 SPATIAL STRUCTURE

Mpumalanga is predominantly a rural province as it comprises a vast rural and natural landscape dotted with mainly small and medium-size towns. The western part of the province has a relatively higher concentration of these towns. The concentration of towns reduces to a minimum at the central portion, where the escarpment runs and increases again towards the eastern border. The City of Mbombela, the provincial capital, and eMalahleni, a major industrial and mining centres, are the two largest urban centres in the province.

3.1.2 SETTLEMENT PATTERNS

The N4 (Maputo Corridor) is a strong structuring element in the Province, as many of the large, medium and small towns in the Province are situated along or near this

corridor. In stark contrast, large parts of the north-western, north-eastern and southern extents of the Province comprise extensive and predominantly small, scattered rural villages as part of traditional authority areas. The settlement pattern in the province varies from district to district. Below is an overview of the settlement pattern of each district.

- **Gert Sibande:** The settlement pattern has developed around the resources base and economic potential found within the provincial area. Hence, the mining, agriculture, tourism, power generation and industrial activities, to name a few, have largely led to the distribution of numerous, well-defined service centres, varying in size and function throughout the province.
- **Ehlanzeni District:** The District Municipality is dominated by agriculture, forestry, mining and tourism, which serve as the main economic activities within the municipal area. Whereby, the vast areas under natural vegetation provide an environment favourable for tourism development are as follows: The Kruger National Park, which represents 20% of these areas.

- **Nkangala District:** The District is classified primarily as a rural area consisting of commercial farming with farming communities distributed throughout the area. The vast farming region is dotted with mines. A number of towns have been developed along the Maputo Corridor, while several other towns and settlements have developed to function as service centres for the farming communities or other economic activities throughout the District.

3.2 SETTLEMENT TYPOLOGY

The CSIR/ StepSA settlements typology (2018) has also been reviewed as part of the spatial structure analysis of the Province. The document outlines the various functional and hierarchical typologies of South Africa's settlements and how they relate to each other with regards to issues of, inter alia, government and economic service provision as well as resource allocation. The typology is as follows:

- Cities and Very Large Regional Centres
- Regional Service Centres
- Service Towns
- Small Service Towns and Rural Service Settlements
- Small Towns
- Dense Rural Settlement
- Sparsely populated areas

Table 8: Settlement Typology for Mpumalanga Towns

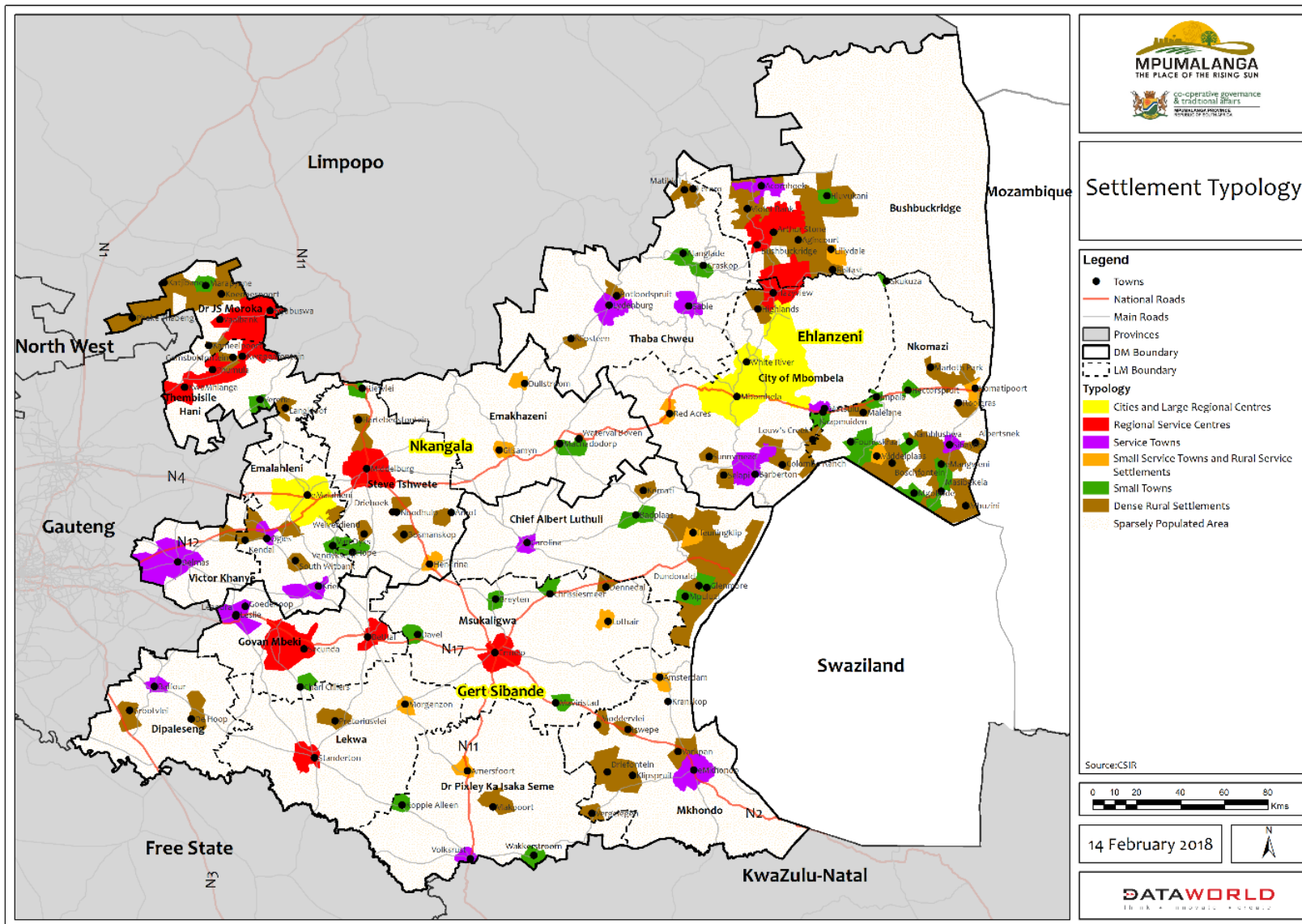
CSIR Typology (New Classification)		Existing Classification	
Settlement Type	Classification	Settlement Name	Classification
Cities and Large Regional Centres	City of Mbombela	Nelspruit	Primary
	eMalahleni	eMalahleni	Primary
Regional Service Centres	KwaMhlanga	Kwamhlanga	Primary
	Hazyview	Hazyview	Secondary
	Siyabuswa	Siyabuswa	Secondary
	Bushbuckridge	Bushbuckridge	Secondary
	Ermelo	Ermelo	Secondary
	Middelburg	Middelburg	Secondary
	Secunda	Secunda	Primary
	Bethal	Bethal	Primary
	Standerton	Standerton	Primary
	Phumula		
	Arthur Stone		
Service Towns	Kwaggafontein		
	Vaalbank		
	Acornhoek	Acornhoek	Secondary
	Barberton	Barberton	Secondary
	Delmas	Delmas	Secondary
	Kamaqhekeza	Kamaqhekeza	Secondary
	Lydenburg	Lydenburg	Secondary
	Matsulu	Matsulu	Secondary
Sabie	Sabie	Tertiary	

CSIR Typology (New Classification)		Existing Classification	
Settlement Type	Classification	Settlement Name	Classification
	Volksrust	Volksrust	Tertiary
	Balfour	Balfour	Tertiary
	Carolina	Carolina	Tertiary
	Leandra	Leandra	Secondary
	Ogies	Ogies	Tertiary
	eMkhondo	Piet Retief	Secondary
	Kriel	Kriel	Tertiary
	Leslie		
	Goedehoop		
	Sibayeni		
Small Service Towns and Rural Service Settlements	Amersfoort	Amersfoort	Secondary
	Amsterdam	Amsterdam	Tertiary
	Dullstroom	Dullstroom	Tertiary
	Glisamyn		
	Hendrina	Hendrina	Tertiary
	Heuningklip		
	Komatipoort	Komatipoort	Tertiary
	Lillydale	Lillydale	Tertiary
	Lothair	Lothair	Tertiary
	Middelplaas		
	Morgenzon		
	Red Acres		
Small Towns	Glenmore	Glenmore	Tertiary
	Graskop	Graskop	Tertiary
	Hectorspruit	Hectorspruit	Tertiary

CSIR Typology (New Classification)		Existing Classification	
Settlement Type	Classification	Settlement Name	Classification
	Breyton	Breyton	Secondary
	Hluvukani	Hluvukani	Tertiary
	Kaapmuiden	Kaapmuiden	Tertiary
	Kamhlushwa	Kamhlushwa	Tertiary
	Badplaas	Badplaas	Tertiary
	Davel	Davel	Tertiary
	Belfast	Belfast	Tertiary
	Charl Cilliers	Charl Cilliers	Tertiary
	Chrissiesmeer	Chrissiesmeer	Tertiary
	Kranskop	Kranskop	Tertiary
	eMangweni	eMangweni	Tertiary
	eMpuluzi	Empuluzi	Tertiary
	Machadodorp	Machadodorp	Tertiary
	Malelane	Malelane	Tertiary
	Marapyane	Marapyane	Tertiary
	Masibekela	Masibekela	Tertiary
	Dundonald	Dundonald	Tertiary
	Fourieskraal	Fourieskraal	Tertiary
	Alanglade	Alanglade	Tertiary
	Hope	Hope	Tertiary
	Impala	Impala	Tertiary
	Koppie Alleen	Koppie Alleen	Tertiary
	Maviristad	Maviristad	Tertiary
	Mgobode	Mgobode	Tertiary
	Rietvlei	Rietvlei	Tertiary

CSIR Typology (New Classification)		Existing Classification	
Settlement Type	Classification	Settlement Name	Classification
	Skukuza	Skukuza	Tertiary
	Van Dyks	Van Dyks	Tertiary
	Vandyksdrif	Vandyksdrif	Tertiary
	Verena	Verena	Tertiary
	Wakkerstroom	Wakkerstroom	Tertiary
	Waterval Boven	Waterval Boven	Tertiary

Source: CSIR, Step SA, 2018



Map 15: Mpumalanga Settlement Typology

Source: CSIR, Step SA, 2018

3.3 HUMAN SETTLEMENTS

All municipalities within Mpumalanga experience huge housing backlogs and issues. The large demand for housing in the province has resulted in the mass development of informal settlements on the periphery of existing towns and on vacant land, adding pressure on the already existing strained bulk engineering and social infrastructure of the Province. The timely provision of housing is fundamental to the future sustainability of urban areas and the quality of life of the communities.

3.3.1 INFORMAL SETTLEMENTS AND BASIC SERVICES

Mpumalanga has a total of 346 settlements identified within the three (3) district municipalities. The City of Mbombela, Emalahleni, Msukaligwa, Thembisile Hani and Dr JS Moroka Local Municipalities record the largest number of these informal settlements. However, areas such as Bushbuckridge and JS Moroka Local Municipalities, informal settlements (according to the NUSP definition) were labelled/recorded to be rural settlements/ villages although they are informal in nature. The following table indicates the number of informal settlements and informal households within the province.

Table 9: Mpumalanga Informal Settlements

District Municipality	No. of Informal Settlements	No. of Households
Ehlanzeni	72	74 968
Gert Sibande	73	27 713
Nkangala	201	81 416
TOTAL	346	184 097

Source: Department of Human Settlements, 2018

According to the informal settlement database, the level of access to services has been recorded as follows¹⁰:

- The majority of settlements use self-dug pits sanitation;
- Even though some of the settlements have access to communal taps, they are sometimes inadequate;
- Most of the informal settlements are characterized by dirt roads which are in a poor state, and some areas are clustered closely that only narrow gravel passages are possible.

The majority of informal settlements do not have access to electricity.

¹⁰ Mpumalanga Informal Settlement Database, 2018

3.3.2 HOUSING

3.3.2.1 Access to Dwelling Housing

According to the 2016 Community Survey Census Data, 79.1% of households in Mpumalanga have access to formal/ brick dwelling i.e. 69.9% in Gert Sibande, 75.8% in Nkangala and 87.7% in Ehlanzeni. Only 8.5% of households still live in informal dwellings in the province. Gert Sibande (11.8%) has the highest concentration of households living in informal dwellings, followed by Nkangala with 11.2% and Ehlanzeni with 4.2% of households.

3.3.2.2 Housing Backlogs and Demands

The provincial housing backlog stands at 225 023 households, whereas Bushbuckridge LM (25 394), Msukaligwa LM (19 661), City of Mbombela LM (30 326), EMalahleni LM (45 180) and Steve Tshwete LM (19 574) have the highest recorded housing backlogs within the province.

3.4 TRANSPORT MOVEMENT SERVICES

Transport Infrastructure is made up of transport network elements and facilities. The transport network includes road-based, rail-based and air-based infrastructure to enable the mobility of people and freight.

3.4.1 CORRIDORS AND TRANSPORT

3.4.1.1 National Corridors

- **N4/N12 or Maputo Development Corridor:** The Maputo Development Corridor is an economic transportation corridor linking Gauteng and the Maputo harbour. The Maputo Development Corridor passes through Nkangala and Ehlanzeni Districts supporting the Maputo railway line. The corridor provides access to eight local municipalities and their connected towns within direct range. The corridor serves 48% of the total Mpumalanga population, which is approximately 2.06 million people and accommodates 64% of the provincial economy.
- **N17/N2 Corridor:** The N17/N2 corridor serves as an access corridor between Gauteng and Richards Bay. The N17/N2 corridor serves around 20% of the Mpumalanga population. The corridor provides 23% of the provincial economy with 1.3 % growth per annum. As per the proposed Govan Mbeki Secunda IDZ, it is an economic activity node which is part of a petrochemical cluster providing an opportunity for the production of petrochemical, chemicals, speciality chemicals and any supporting cluster.
- **N11 Corridor:** The N11 intersects the N4 and N17/N2 at Middelburg and Ermelo, respectively, and links

Limpopo with KwaZulu Natal. The corridor serves 21% of the provincial economy and provides accessibility to 16% of the total Mpumalanga population.

3.4.1.2 Intra Provincial Connectivity

The following are the major provincial roads providing intra-provincial connectivity;

- **R23:** The R23 is a provincial route connecting Benoni with Volksrust. It intersects the R50 at Standerton and the N111 at Volksrust.
- **R29:** The R29 is a provincial road in Govan Mbeki Local Municipality, which consists of businesses situated in Eendracht. The R29 serves the township of Lebohang, which is separated from Leslie through this road. Also, a mixed-use development corridor is proposed along the R29 provincial road.
- **R33:** The R33 is a connecting road from Lephalale to Pietermaritzburg, and connects Limpopo and KwaZulu-Natal through various parts of Mpumalanga.
- **R35:** The R35 is a provincial route, connecting Amersfoort with Middelburg. It serves two major towns, namely, Middleburg and Bethal. It connects with the N17 at Bethal, as well as the N4 and N11 at Middleburg. It is one of the major routes and also connects two district municipalities in Mpumalanga (Nkalgala and Gert Sibande).
- **R36:** The R36 is a provincial route connecting Bandelierkop in Limpopo to the N17 in Ermelo. The R36 intersects the N4 at Patattanek and Machadodorp, the R33 in Carolina and finally to the N17 at Ermelo.
- **R37:** It is a major provincial route connecting Polokwane to Nelspruit. It connects two major cities and serves the Limpopo and Mpumalanga provinces.
- **R538:** The R538 is a regional route in Mpumalanga and intersects the R40 in Hazyview and the N4 between Nelspruit and Kaapmuiden.
- **R570:** The R570 intersects the N4 in the north at the Malelane gate of the Kruger National Park, and in the south, it connects eSwatini.
- **R571:** The R571 is parallel to the R570 connecting the Crocodile Bridge gate of the Kruger National Park and intersecting the N4 at Komatipoort and finally links up to eSwatini through the Mananga Border Post.
- **R573:** The R573- Moloto road is managed by SANRAL and serves as an important economic route, connecting Gauteng, Mpumalanga and Limpopo. In Mpumalanga, the Moloto corridor traverses two municipalities viz. Dr JS Moroka Local Municipality and Thembisile Hani Local Municipality in Nkangala District with a stretch of 54.9 km. Currently, the R573

is being upgraded and envisaged to benefit 50 000 daily commuters and 33 communities¹¹. The upgrade is part of the Strategic Infrastructure Projects (SIPs) which include investment in Moloto Rail Corridor (passenger rail service) connecting

Gauteng with Mpumalanga and Limpopo. The R573 will serve 51 schools along the 20km stretch of Mpumalanga. The upgraded road will create access for mining activities in the north of South Africa and ease the travel time in three provinces.

Table 10: Major National Corridors in Three Districts

Corridor Route	N4/N12	N17/N2	N11
District Municipality	Local Municipality	Local Municipality	Local Municipality
Gert Sibande District		Chief Albert Luthuli	
		Msukaligwa	Msukaligwa
		Mkhondo	Mkhondo
		Govan Mbeki	Pixley ka Isaka Seme
Nkangala District	Victor Khanye		
	Emalahleni		
	Steve Tswete		Steve Tshwete
	Emakhazeni		
Ehlanzeni District	City of Mbombela including Umjindi		
	Nkomazi		
	Thaba Chweu		

Source: <http://www.safiri.co.za/mpfdb/roads-infrastructure.html>

3.4.2 CONDITION OF ROADS

According to the Mpumalanga LCCA 2014 assessment data, 54% of the population says the road network is in a fair condition, while 46% rate it as poor to very poor

condition. The strategic plan 2015-2020 describes the then conditions in 2014/15 and the desired state of road conditions by 2019/2020. The then state (2014) of the roads was rated as good and very good at 23% and 9%, respectively. While 30% of the roads were in fair condition

¹¹ Moloto Road Update June 2017 and October 2017 SANRAL

and 26% of the roads are in poor condition (see Map 16). The strategic plan also highlights the desired state of the condition of the road with an increased percentage of the very good and good condition of roads to 12% and 27% respectively.

3.4.3 TRAVEL PATTERNS

Buses and minibus taxis are the main mode of public transportation in Mpumalanga. 29% of the rural population and 31% of the urban dweller use taxis to commute. There is no provision of local rail service in the province. However, long-distance inter-city passenger trains are available. Concerning the mode of transport, the National Household survey 2014 indicated that 75.7% of commuters use taxis for daily commute while 20.4% of the commuters use buses for transportation. The survey also reveals that municipalities such as Thembisile Hani and Dr JS Moroka are having the highest percentage of taxi and bus users with 89.1% and 59.7%, respectively. The overlapping percentage of users denoted for commuters using both the services. The least usages of buses are mainly in municipalities such as Dr Pixley ka Isaka Seme, Lekwa and Dipaleseng with 6.3% of commuters. Regarding regional distribution, taxi usage for the urban population is at 75.7%, 20.4% accounting for buses whereas, for the rural population, usage is at 81.7% and 38.5% for taxis and buses respectively. It is clear that the

rural population uses public transport more than the urban population¹². The study on non-use of public transportation reveals that households prefer private transportation more than public transportation. Various other reasons for not using public transportation are non-availability of proper transportation, people who prefer to walk, people not travelling much and other reasons such as security, safety, time etc.

About 5.8% of the work trips are undertaken between Mpumalanga (mainly Nkangala) and Gauteng whereas 88% of the work trip ends in the same district municipality.

¹² Mpumalanga Infrastructure Master Plan 2014

Table 11: Mode of Travel in Percentage

Geographic region	Taxis	Buses
Urban	75.7	20.4
Rural	81.7	38.5
Reasons for non-use of service by non-users	Taxis	Buses
Not available	14,2	27,2
Service-related reasons	23	30,3
Prefer Private Transport	36,8	11,3
Can Walk	10,1	4,2
Don't Travel Much	10,1	7,6
Other reasons (Security, Safety, Waiting time, Behaviour of the driver, Travel time etc.)	5,8	19,4

Source: National Household Travel Survey 2015

3.4.4 AVIATION FACILITIES

The Kruger Mpumalanga International Airport (KMIA) provides access to Durban, Johannesburg, Cape Town, Mozambique and other destinations. The airport is situated in proximity to both Nelspruit and White River and a reasonable distance to another scenic, heritage and conservation sites. Approximately 22000 people use KMIA every month.

3.4.5 LOGISTIC (FREIGHT)

In Mpumalanga, various products that are transported within and outside of the Province include coal, fuel and chemicals, timber, iron and chrome ore, fruit, maize, animal feed, wholesale and retail goods, steel, building supplies, fertiliser and consumer goods. Between Mpumalanga and Richards Bay, minerals, grain and fuel are transported.

SANRAL monitors the road vehicle movements on main national and provincial roads. The aim of all freight transport is to achieve economic efficiency in the movement of goods.

Freight projects impacting Mpumalanga are:

- Continuous upgrading of the Maputo Development Corridor (N4), N2/N17 and N11 primary corridors (SANRAL),
- The provision of the proposed cargo airport facility at Victor Khanye (private initiative),
- Komatipoort Dry Port (SEZ),
- Upgrading of Lebombo and Oshoek Ports of Entry (Department of Public Works), and
- Upgrading of the R40 route and Mbombela Western Bypass – P166-1 (SANRAL).

3.4.6 ROAD FREIGHT

Roads are currently the main mode of freight movement transport in South Africa. A great number of freight

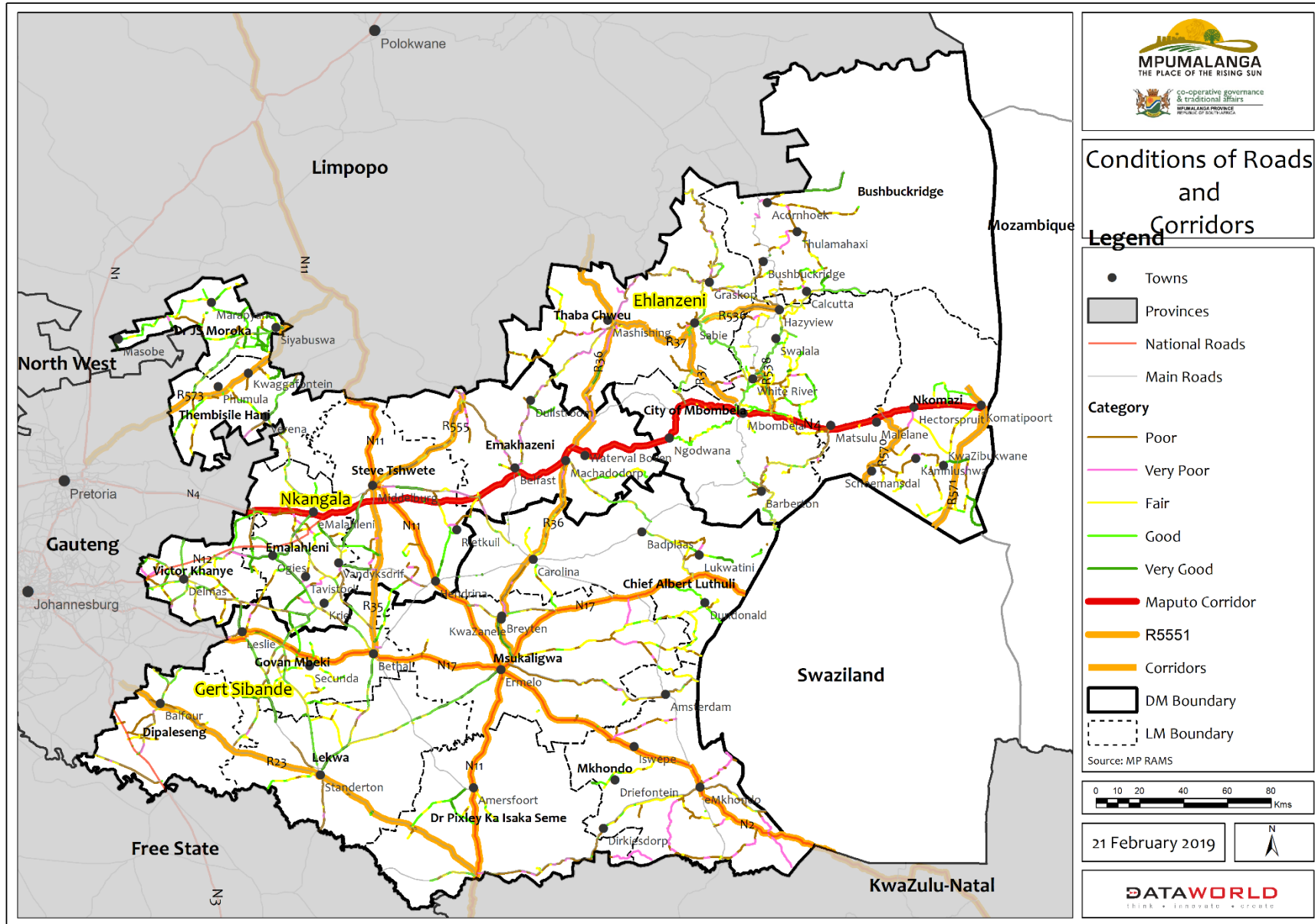
vehicles on the road contribute to the overloading and the subsequent significant deterioration of the road network and traffic congestions. The major road freight corridors in Mpumalanga such as N4, N2, R570 (Jeppes Reef – Malelane), and R571 (Komatipoort – Mananga), have seen a significant increase in road freight traffic volume. The N2 corridor via Piet Retief will be expected to increase in volumes that will include further mineral and timber traffic from Mpumalanga to Richards Bay.

3.4.7 RAIL NETWORK

The provincial rail network plays a vital strategic economic role contributing to the national economy. The most important rail networks serving the province are the Pretoria-Komatipoort (extended to Maputo) and Johannesburg-Durban (portioned) line. The Moloto rail development corridor project will expand the rail system in the province. The rail network carried over 100 million tons of general freight cargo on major arterial routes, one heavy haul line and seven branch lines. Coal constitutes a major share of the rail freight. In addition to the rail freight, the network is also used for passenger rail service. Shosholozha Meyl operates trains on the Pretoria-Komatipoort line.

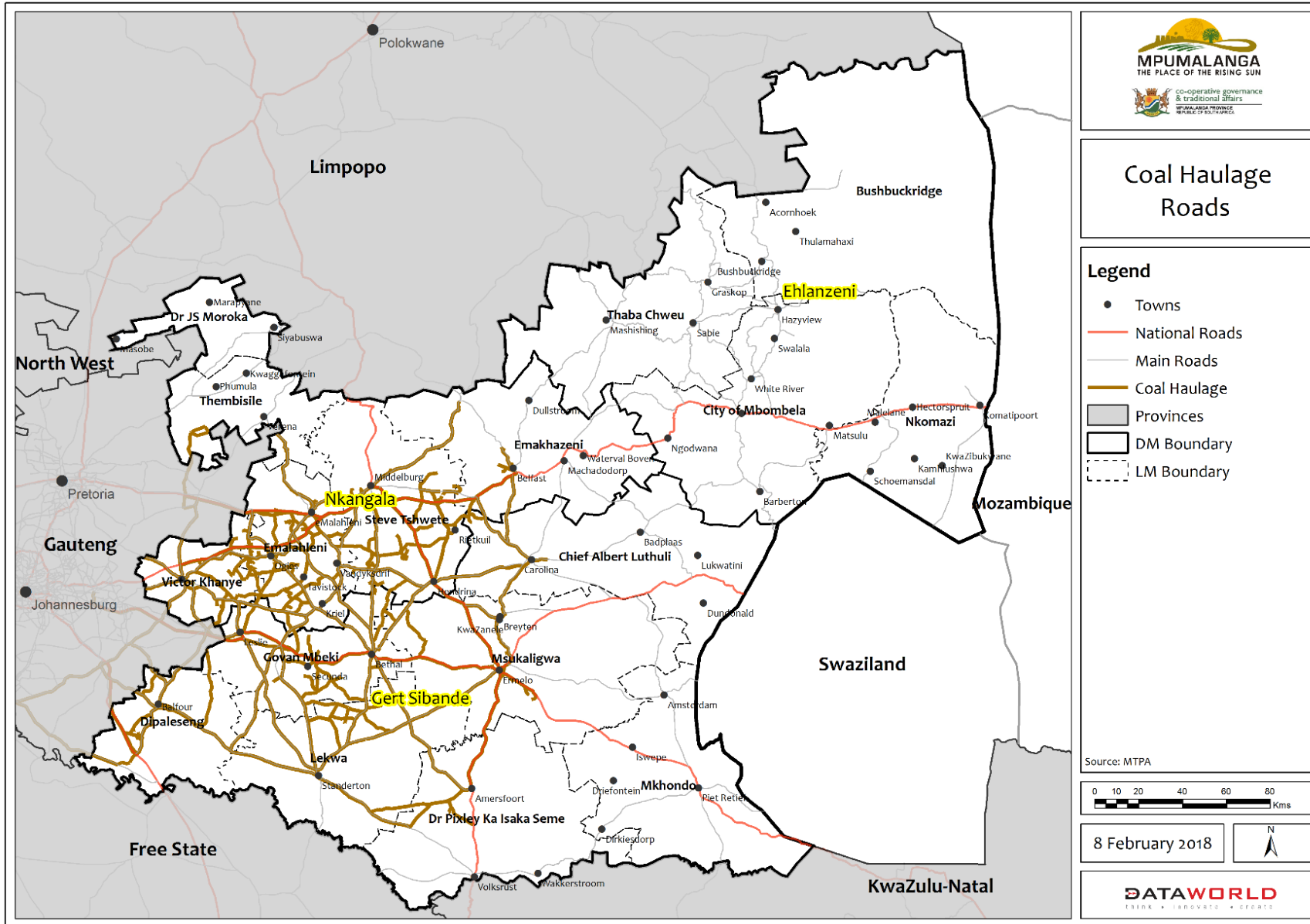
3.4.8 COAL HAUL ROADS

Mpumalanga coal haul roads generate extensive volumes of traffic. The heavy vehicle's traffic is high in coal haul roads which are mainly in the Gert Sibande and Nkangala Districts. The N4 connecting major roads are also facing heavy traffic. According to the Mpumalanga LCCA Need Analysis 2015, 14% of provincial coal haul roads carry 33% of the network's traffic and 43% of the network's heavy vehicle traffic. It is observed that heavy vehicles travelled annually more km on non-coal haul roads (57%) than coal haul roads (43%). According to the data for coal mines and coal haulage roads, the concentration of the coal haul roads is in Gert Sibande and Nkangala District (see Map 17).



Map 16: Conditions of Regional Roads

Source: <http://mp-rams.co.za/rams/rams.html>



Map 17: Coal Haulage Roads

Source: <http://mp-rams.co.za/rams/rams.html>

3.5 INFRASTRUCTURE

3.5.1 WATER

According to the projected scenarios in the Vision 2030 for Mpumalanga province, there is an indication of the vulnerability of water supply. Mpumalanga has had challenges in facilitating basic water infrastructure over the last 15 years. In 2010, there was an increased number of households without access to basic water infrastructure. However, only Gert Sibande District Municipality managed to reduce the water backlog.

According to the No drop assessment for Mpumalanga which was conducted in 2015, it indicates a score of 18.6% for overall performance. The No drop assessment score is based on infrastructure leakage, commercial losses, non-revenue water and water use efficiency. The table shown below indicates the overall performance of the province based on the No Drop KPI factors.

Table 12: No drop assessment for Mpumalanga

Mpumalanga No Drop Performance KPI	18.6% Critical
Infrastructure Leakage Index (ILI)	5.63 Average
Apparent/ Commercial Losses (%)	5.7%
Non-Revenue Water (%)	30.9% Poor
Water Use Efficiency (l/cap/day)	282.3 Poor

Source: MP First Order No Drop Assessment 2015

3.5.1.1 Water Access and Demand

i Level of services

According to the StatsSA 2016 Community Survey, there are 1 238 861 households in Mpumalanga, and 1 090 892 (88%) of the households have access to water. The number of households with access to water has been increased after the 2016/2017 financial year to 91%. Nkangala District has the highest access to water supply (97%), followed by Gert Sibande District with 92% and lastly Ehlanzeni District with 84%.

Most of the water supply source in the Province is from piped tap water inside the yard, with 49.2% in Gert Sibande, 45.4% in Ehlanzeni and 43.3% in Nkangala. In addition, piped water inside the house statistics are as follows; 33.6% in Gert Sibande, 39.6% in Nkangala and lowest in Ehlanzeni with 14.6%.

ii Water demand

Water demand in the Province has increased due to rapid industrialization, mining, urbanization and population growth. Water demand in household consumption will increase in medium order towns such as eMalahleni, Middelburg, Secunda, Mbombela, and Bushbuckridge areas.

The projected water demand in Mpumalanga is unlikely to meet the water availability due to climate change impacts on the province. The availability of raw water is limited which will increase the demand compared to supply. The annual runoff is not evenly distributed across Mpumalanga, where some part receives more water supply than other areas.

3.5.2 WASTEWATER AND SANITATION

According to the Department of Water and Sanitation Green Drop report in 2014, Mpumalanga has not been successful in reducing the overall risk position of its WWTW. The average CRR % has increased from 62.6% in 2009 to 72.6% in 2011 and to 84.2% in 2014, indicating an aggressive increase in the risk position for the Mpumalanga wastewater treatment plants.

Mpumalanga is serviced by 18 Water Services Authorities (WSAs), with wastewater treated by 76 WWTW. The risk profile of the 76 WWTW are:

- 14 WWTW improved were at risk, and 10 plants remained unchanged;
- 52 WWTW digressed by taking up higher risk positions
- Percentage of WWTW in critical risk position was 52%.

There has been a steep increase in critical risk plants in the province, from 18 to 40. The majority of plants in the province are categorised as critical risk (40 systems) which is very alarming. The majority of plants are in critical risk (40) and high risk (21), with 11 plants in medium risk and 4 plants in low-risk space. This is a direct indicator of the inadequacies pertaining to plant capacity, effluent quality and technical skills.

3.5.2.1 Access to Sanitation

From the 1 075 488 households in the Province, 485 791 (45%) had access to sanitation (Flush toilets) in 2011. In

2016, a total number of 1 200 684 households (97%) had access to sanitation services in the Province including ventilated pit latrines. Of the total number of households, 49% of households had access to flush toilets and 47% utilising VIP toilets.

The percentage of households without access to basic sanitation in the province has decreased from 7.10% in 2011 to 5.73% in 2016. However, the total backlogs have increased in line with the increase in the number of households. Nkangala District has the highest number of households with access to sanitation services, which is 95%, followed by Gert Sibande District (93%) and the least is Ehlanzeni District with 464 108 (92%). Municipalities that have the most households with access to sanitation are Govan Mbeki (99.3%), Thaba Chweu (99.1%), Steve Tshwete (98.8%), Dr JS Moroka (98.8%) and Victor Khanye (98.7%). Mkhondo has the lowest percentage of households that have access to sanitation, standing at 85%. However, while service provision has advanced, the reliability of these services still remains a challenge.

3.5.2.2 Wastewater Backlogs

Wastewater services delivery in Mpumalanga is managed by eighteen (18) WSAs through an infrastructure network consisting of 76 wastewater collectors and treatment systems. According to the Department of Water and Sanitation water service knowledge system, Mpumalanga is one of the provinces in the country that have the largest sanitation backlogs as per the WSA with a total of 1 283 056 households. The municipalities with the highest

concentration of backlogs in the province are Nkomazi 5% and Lekwa 13%, Emakhazeni and Bushbuckridge (5%)¹³

3.5.3 ENERGY AND ELECTRICITY

A substantial amount of the country's electricity comes from the coal-fired stations located in Mpumalanga. ESKOM, South Africa's electricity public utility, currently operates 13 coal-fired power stations, of which 12 are in Mpumalanga, with an installed capacity of 30 047MW out of the 37 745MW

Eskom's Transmission Development Plan (for Mpumalanga) provides a glimpse of the projected electricity load over the next ten years from 2017 to 2027. The projections indicate a steady increase in the demand for electricity in the province with key drivers being residential, commercial and industrial development, as well as mining and heavy industry.

Electricity is the main energy source across all the three district municipalities of the province. In terms of access to electricity, 49.45% of households in Gert Sibande use electricity for heating with relatively higher percentages observed for Nkangala and Ehlanzeni at 60.43 and 60.29, respectively. In regards to electricity for lighting, Gert Sibande has the highest percentages of such households

at 14.91% followed by Nkangala at 12.49%, and Ehlanzeni at 9.13%. Electricity is the main energy source for cooking in the province with wood and coal very common in the Gert Sibande District Municipality.

3.6 STATE LAND

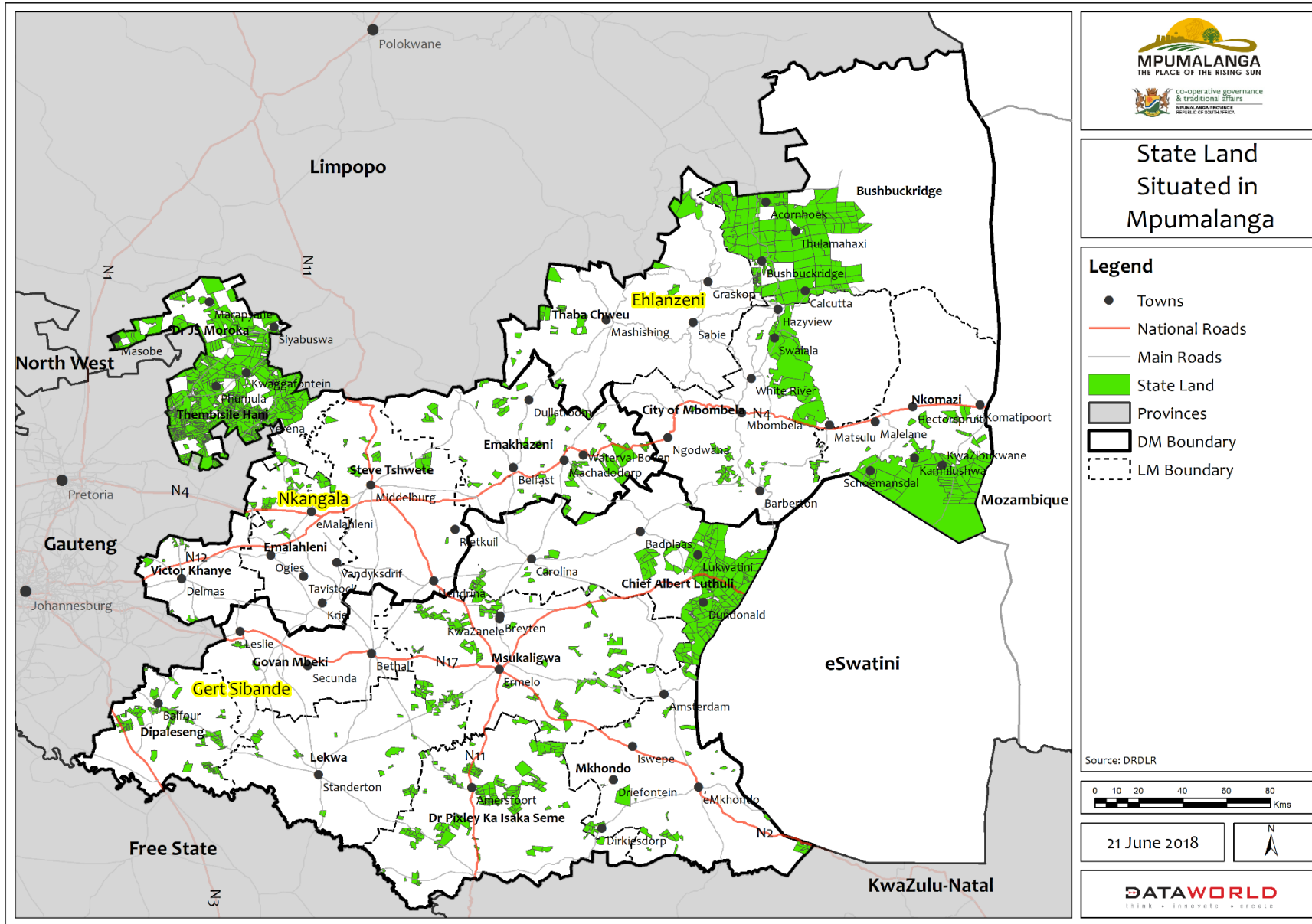
State land is land which is held by National and Mpumalanga Provincial Government. The majority of land in Mpumalanga is owned by private entities, the State (predominantly by the national government), or by traditional authorities. According to the data received very little land in the province is owned by the Local Municipalities. Land that is owned by National Government primarily refers to the land owned by the Department of Public Works and the Department of Rural Development and Land Reform, while land held by Provincial Government is mostly owned by the Department of Public Works, Roads and Transport. In Mpumalanga, there are 4 415 state owned land parcels, with the majority of them situated in Thembisile Hani LM, Chief Albert Luthuli LM and Bushbuckridge LM. Table 30 and **Map 18** depict to the number and location of state owned land parcels within each municipality of the province.

¹³ State of basic service delivery by municipalities, 2018

Table 13: State Owned Land

District	Local Municipality	No. of Land Parcels	Area (Ha)
Gert Sibande DM	Chief Albert Luthuli	228	207900,80
	Msukaligwa	179	134188,20
	eMkhondo	60	75581,82
	Dr Pixley Ka Isaka Seme	201	24119,56
	Lekwa	46	80821,34
	Dipaleseng	107	57760,22
	Govan Mbeki	11	38204,79
Nkangala DM	Victor Khanye	23	12922,87
	Emalahleni	52	1774,74
	Steve Tshwete	25	14190,47
	Emakhazeni	94	20554,55
	Thembisile Hani	2777	50434,18
	Dr JS Moroka	160	151580,46
Ehlanzeni DM	Thaba Chweu	40	11225,84
	Nkomazi	94	27364,39
	Bushbuckridge	227	152187,84
	City of Mbombela	91	3671,30
	Total	4415	1064483,35

Source: DRDLR



Map 18: Location of State Land

Source: DRDLR

3.7 BUILT ENVIRONMENT CHALLENGES AND OPPORTUNITIES

The province's strategic location, biodiversity, unique landscape, inherent agricultural potential, a solid mining and manufacturing base, well-developed transport network are extremely beneficial for restructuring and further expansion of the settlements. The development opportunities lie in undertaking urban renewal projects for the old towns, rehabilitation of the old mining towns, integrating BRT, rail and public transport network with the rural areas, densification of sparsely developed areas and integrating outlying rural areas and townships with the nearest town centre. Further opportunities lie in adopting an integrated urban settlement structure eradicating the existing dysfunctional urban settlement structure, where the poor people, living in neighbourhoods, severed from economic and employment centres must travel long distances to work, shop or utilise social facilities. Also, opportunities can be found in undertaking programmes to contain urban sprawl and to provide compact urban development, aligned with the global principles of Smart Growth.

The existing settlement pattern also encourages in development of Thusong Centres at strategic places. The establishment of social/community facilities in the form of Thusong Centres will not only ensure convenient, one-stop social services to communities in the urban parts of the province but also promote economic development as it adds to the diversity of facilities and services provided in

these areas. Rural housing programmes can be clustered around these Thusong Centres. Such clustering will not only improve the utilisation of the community facilities located here but also create the "critical mass" required to enhance the potential for local economic development – including the establishment of fresh produce markets and associated agro-processing activities.

The provincial spatial patterns display a high degree of fragmentation in terms of the dispersed nature of development and the poor linkages and integration between urban and rural areas. The continual migration of people from surrounding areas (mainly from outside South Africa) is increasing already existing backlogs in housing and infrastructure. This phenomenon can easily be experienced in the mining towns where informal settlements are mushrooming due to the demand for cheap housing. Especially in the key urban areas. Mining activities are also posing challenges to the settlement pattern as extensive mining prospecting rights, mining applications and widespread underground mining limit settlement expansion.

Proper implementation of the Rural Development Plans as part of the economic and spatial integration of the province is expected to create opportunities through focused agricultural development, based on effective land reform and the growth of efficient agriculture practices with support industries such as agro-processing, tourism, fisheries and small enterprises where the inherent potential exists. Rural areas can be benefited by focusing

on untouched tourism sectors such as arts and crafts, culture and traditional medicines. Tourism as a sector has the potential to bring about an economic turnaround for many local communities, with emphasis on eco and agri-tourism, inland cultural and heritage tourism opportunities. Other than agriculture and tourism, rural areas can also be benefitted from rural industrialisation. However, in rural areas, challenges associated with the provision of appropriate infrastructure rise from the fragmented and dispersed nature of the settlements. The rural settlements enjoy limited connectivity and accessibility to markets. Additionally, the rural areas are threatened by urban sprawls and expansion of mining activities onto agricultural land. The communities in traditional authority areas lack tenure security. As a result, the allocation of sites in tribal authority areas lacks infrastructure and spatial planning.

Several national road and rail corridors such as the N4/Maputo Corridor, N2/ N17, N11, Pretoria- Maputo rail pass through the province and provide excellent connectivity not only with several major urban centres of South Africa but also with many towns and ports outside the country. These corridors provide an excellent opportunity for the regional and international movement of people, goods and services. The facilitation of such movement is a boost for economic development. Though the province enjoys excellent regional connectivity, it lacks in intra-regional connectivity especially in the eastern part of the province. There is no direct main road connecting Mbombela and Mkhondo in a straight line.

The condition of regional roads is also a matter of concern as very 46% of the regional road length is in poor or very poor condition. Settlements situated within the former homeland areas and traditional areas are isolated from main corridors and concentrations of social and economic infrastructure with limited linkages and poor road conditions. Another problem associated with the network is the use of non-coal haul roads by heavy coal transporting vehicles. Due to congestion on the coal haul roads, heavy vehicles use the non-coal haul routes more than they use the demarcated coal haul routes, resulting into accidents on the non-coal routes and deterioration of road quality.

The province has shown good performance in providing electricity to its citizens; however, it lacks in providing other services such as safe drinking water, weekly refuse removal, and flush toilet. The sustainable provision of these services is hampered by the dispersed rural settlement structure of the traditional authority areas. Furthermore, the severe levels of poverty experienced by many communities also act as a barrier to the sustainable provision of infrastructure in these areas as these communities cannot afford to pay for the services.

Increasing population numbers can put pressure on available municipal recourses. The water demand will soon exceed the supply and availability in many areas. Even if water is available in other areas, the potential inter catchment water transfers may pose environmental constraints. At municipal level, the ageing water and sanitation infrastructure is ageing which is causing huge

backlogs and is unable to accommodate the growing demand and population. Examples of municipalities with old infrastructure include Nkomazi, Thembisile Hani, Dr J.S. Moroka, Chief Albert Luthuli, Mbombela and Bushbuckridge.

The image features a 3D wireframe landscape. The foreground is a flat grid of white lines on a dark grey background, receding into the distance. In the middle ground, a range of jagged, mountain-like peaks is rendered with white wireframe lines. A large, semi-transparent yellow rectangular area covers the upper portion of the image, partially obscuring the sky and the top of the mountains. The text 'SECTION 4: MPUMALANGA 2050' is printed in a bold, black, sans-serif font across the lower part of the yellow area.

SECTION 4: MPUMALANGA 2050

1 THE APPROACH TOWARDS PHASE 3

Phase 3 of the project contains spatial proposals for Mpumalanga. The spatial proposals are linked to the final Vision Statement, the proposed spatial concept and the articulation of how the spatial concept is to be achieved through spatial strategies.

The following diagram sets out the process that was followed to develop the spatial proposals.

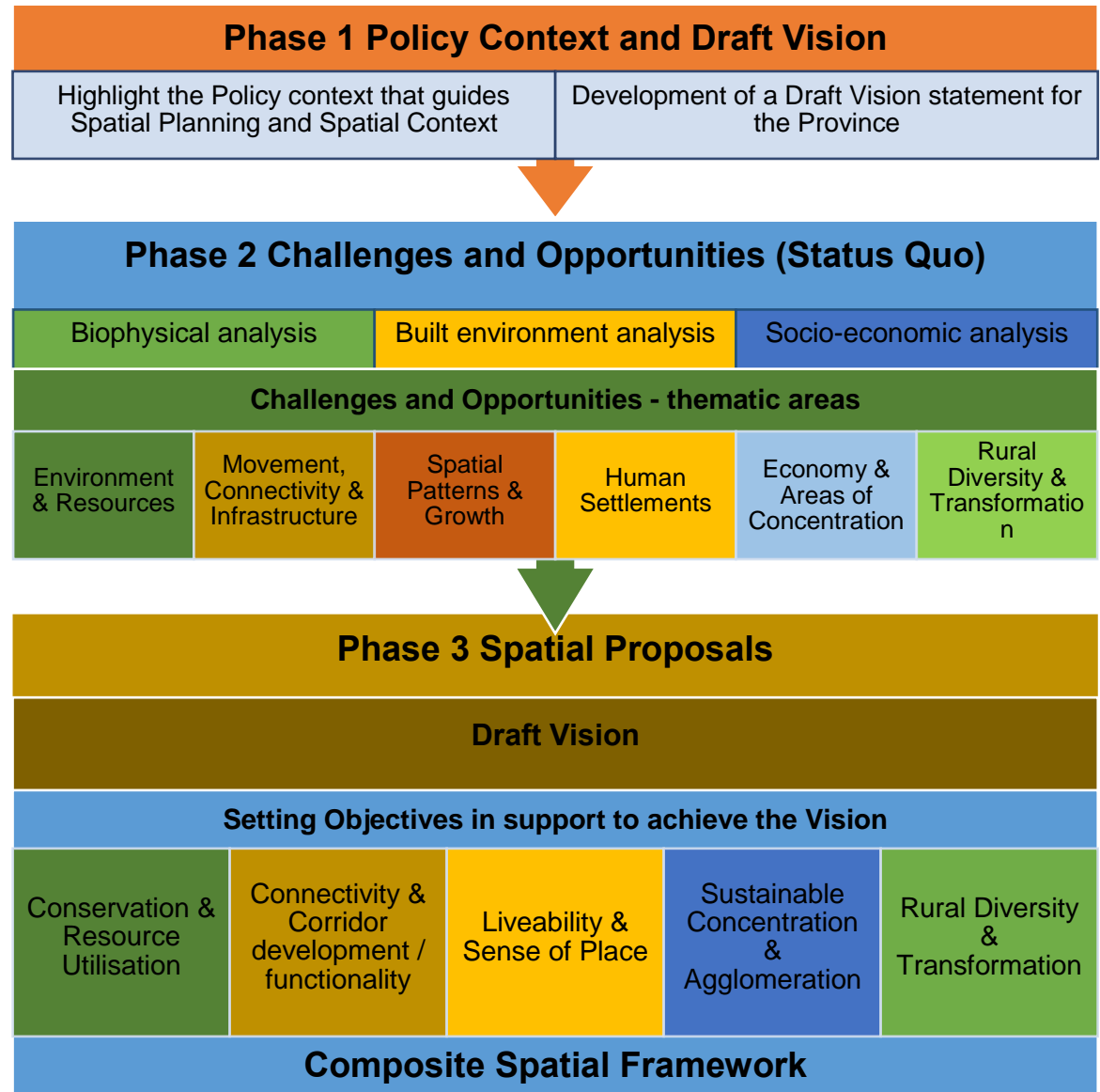


Figure 15: Outline to the Approach towards Phase 3

2 SPATIAL VISION AND OBJECTIVES

2.1 SPATIAL DEVELOPMENT OBJECTIVES

SPLUMA requires national, provincial, and municipal spheres of government to prepare SDFs that establish a clear vision which must be developed, through a thorough inventory and analysis based on national spatial planning principles and local long-term development goals and plans.

The PSDF gives spatial expression to the vision encapsulated in a Provincial Growth and Development Strategy (PGDS) – and other relevant provincial policies. As such both have a long term (i.e. greater than 20 years) planning horizons in terms of overall vision and strategies to achieve them. The PSDF provide the framework for a provincial spatial vision.

2.1.1 SPATIAL GOALS

To address the identified spatial challenges and give effect to the relevant policies, the PSDF should, therefore, focus development of Mpumalanga towards:

- more inclusivity, productivity, competitiveness and opportunities in urban and rural space-economies;
- protection of resources and strengthen resilience of natural and built environments; and

- Improved effectiveness of governance

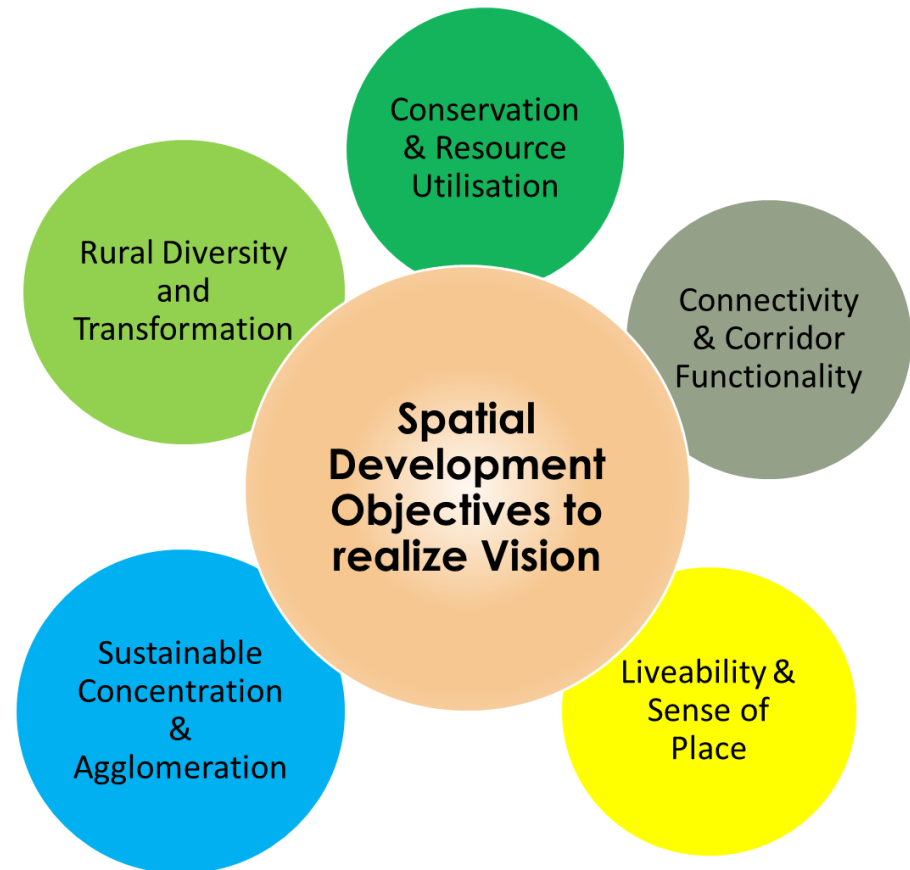


Figure 16: Draft Spatial Vision

2.2 SPATIAL VISION

The following Spatial Vision was formulated and adopted for Mpumalanga:

“A sustainable, vibrant and inclusive economy, Mpumalanga.”

2.3 SPATIAL OBJECTIVES

Working towards the development of the spatial proposals and the drafting of the SDF five spatial objectives were formulated to structure the proposals. The following objectives were identified:

- (i) Connectivity and corridor functionality,
- (ii) Sustainable Concentration and Agglomeration,
- (iii) Conservation and Resource utilisation,
- (iv) Liveability and Sense of place,
- (v) Rural Diversity and transformation

Each the objectives is briefly discussed below;

2.3.1 CONNECTIVITY AND CORRIDOR FUNCTIONALITY

This theme intends to:

- Ensure connectivity between nodes and connectivity from surrounding areas, for example, lower nodes, major industrial concentrations with areas of concentration, which implies a hierarchy of movement routes – linking to the functionality of the road network.

- Accommodate connectivity through provincial roads to connect marginalised areas with main corridors.
- Incorporate connectivity to a green open space system – ideally linked to tourism corridors.
- Recognise secondary towns as part of the overall settlement and economic network of the province, with functional linkages between the urban conurbation and the hinterland.
- Enhance the effectiveness of the N4 Maputo Corridor – linked to the approach of identifying and stimulating smaller “intermediate” nodes – corridor/node concept.

2.3.2 SUSTAINABLE CONCENTRATION AND AGGLOMERATION

This theme refers to the creation of an agglomeration economy that will encourage people and economic activities to locate near one another in urban centres and

industrial clusters. It assumes that for sustainable development it is vital to concentrate development at strategic places and preserve land for agriculture and essential services. The salient features of this theme are provided below;

- Focus on the creation of agglomeration economies and clustering linked to the settlement typology.
- Allow the concentration of opportunities in key nodes and along key corridors and of public investment in and around these nodes or connectors – N4, N17, and R40
- Allow for broadening the economic base in the concentration areas through infrastructure investment, land release and skills development.
- Optimise the utilisation of existing infrastructure and social amenities, particularly in areas where spare capacity exists – also linked to areas of potential opportunity in proximity to corridors and possible smaller nodes on the corridors.
- Bring more people closer to a greater number of opportunities in the areas of concentration through increased densities, implying a need for affordable and lower income housing as directed through social housing zones.
- Ensure that densification takes place according to the nature and scale of the node or corridor and in

relation to the location of these places in the broader urban environment. This would then guide the types of densities (medium or higher densities) that would be suitable in different locations – CSIR nodes

2.3.3 CONSERVATION AND RESOURCE UTILISATION

This theme intends to

- Allow for the maintenance of healthy natural environments, ecosystems and biophysical processes which support life, and which must be allowed to continue without significant change.
- Ensure that stresses that affect environmental integrity are avoided, or at the very least limited and mitigated through appropriate mitigations and offsets -
- Focus on maximising the use of scarce natural resources through recycling, the transformation of existing consumption patterns, the use of zero-emission transportation systems and the reduction of waste.
- Create a functional and aesthetically pleasing integrated open space system across the province that will not only add essential cultural services but also contribute to the enhancement of the other types of ecosystems as well.

- Protect high-potential agricultural land to ensure future food security. Development proposals for should therefore not impact on this valuable and irreplaceable resource – linked to the land capability assessment to protect category 8 – 15.
- Mining, especially coal mining remains one of the provinces key economic sectors, realising the contestation of resources through mining the negative impacts requires management and positive mitigation interventions – environment, water, air pollution and agricultural land.

2.3.4 LIVEABILITY AND SENSE OF PLACE

This theme intends to

- It should lead to the creation of settlements in which people live in a way that is worthy of human beings and healthy social interaction.
- Include those spatial, social and environmental characteristics and qualities that uniquely contribute to people's sense of personal and collective wellbeing and to their sense of satisfaction in being the residents of a settlement;
- Confirm functional integration between human settlement planning, economic opportunity and

public transport is the key driving factor for spatial transformation – elements of smart growth.

- Allowing people to reclaim public spaces through improved safety and security.
- Address the spatial marginalisation of townships and the overwhelming tendency to locate government-funded housing projects on the periphery through spatial integration and development of housing on well-located land parcels. Not lead to further spatial fragmentation.

2.3.5 RURAL DIVERSITY AND TRANSFORMATION

This theme intends to

- Introduce the development of various types of environments that are linked to the spatial characteristics of that geographic location – recognition of the rural concept and developmental initiatives through the RDPs
- Create choices for residents within the rural economy linked to access to markets, food security and security of land tenure.
- The creation of Urban-Rural anchors which will assist in the facilitation of well-established nodes in rural areas

3 SPATIAL DEVELOPMENT CONCEPT AND OBJECTIVES

3.1 SPATIAL DEVELOPMENT CONCEPT FOR MPUMALANGA

The NSDF calls for:

A strong and functioning polycentric system of well-connected nodes in more urban and metropolitan regions that offer a wide range of high-order medical, education, government, safety and security services and housing types;

In more rural regions, at least one single core service town or city to act as an anchor, and home to high-order medical, education, government, safety and security services and a choice of housing types, which is functionally integrated to the rest of the region; and

A combination of national, regional and local-focused economic activities that allow for the creation, strengthening and maintenance of wellbeing, inclusive economic growth and the regional economy.

The NSDF proposes to adopt a polycentric system encompassing nodes and corridors and their hinterlands for the development. Recognising the directives of the NSDF, the PSDF proposes to develop a polycentric network of nodes and their hinterlands connected by corridors. A Polycentric development model (on a provincial level) can be defined as a network of distinct (and historically often administratively and politically independent) towns and nodes with strong, complex and unique interrelationships linked to a resource base and that are well connected and supported through infrastructure.

A polycentric development model has two dimensions, namely (i) a morphological dimension which addresses the size and distribution of the urban areas across the province and (ii) a functional dimension which refers to the functional connections between the rural environments. The rural environment in Mpumalanga is characterised by traditional authority settlements and vast rural areas.

A key factor of a successful polycentric region is that of network density, meaning the degree to which different parts of the urban areas and rural areas are functionally linked. Thereby highlighting the principle of well-established corridors and nodes. A Polycentric urban

region can only be considered to be 'network' when relational characteristics have developed with a certain minimum extent of functional integration of the sub-region. This is supported by the growth areas approach.

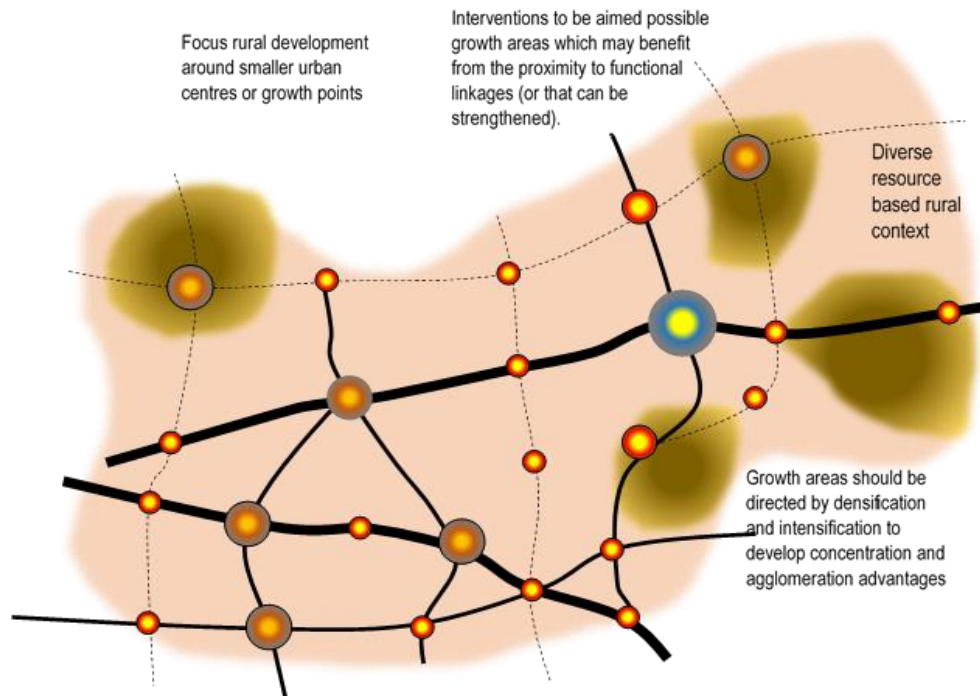


Figure 17: Polycentric System for Mpumalanga

As a potential model for spatial structuring of Mpumalanga, a Polycentric Growth Management Model is considered to be one where the spatial structure is based on a hierarchy of growth centres which incorporate (i) integrated business, (ii) employment and (iii) community nodes that are well connected by means

of movement infrastructure and systems. Such relate to any linkage and or movement systems. Growth will be directed in accordance with the proximity of a particular location to this network.

The Polycentric Growth Management Model delivers a more balanced approach to development and is about managed growth and intensification at strategic locations and focuses heavily on the principle of proximity. The higher the level of proximity of a location to major employment nodes or functional linkages, the greater the need for concentration and agglomeration which is linked to densification and intensification. Densification and intensification are therefore direct functions of proximity to and accessibility of employment and functional linkage opportunities.

Areas that are not close to major urban centres or functional linkage opportunities are then developed at lower intensities, not disregarding any local opportunity to the benefit of the local population. This allows for greater diversity in terms of development typologies across the province.

The Polycentric Growth Management Model is therefore characterised by a number of well-structured "compact" environments (growth centres), interspersed and surrounded by areas of lower density and intensity. Instead of a blanket compaction approach, compaction is therefore focused around a specific spatial structure.

3.2 SPATIAL DEVELOPMENT OBJECTIVES

3.2.1 CONNECTIVITY AND CORRIDOR FUNCTIONALITY

The spatial development strategies for transportation are drafted to ensure inclusive provincial, district, and local benefits and connectivity. Mpumalanga consists of a number of existing and future national and provincial development corridors which provide spatial structure by effectively connecting the nodes, with neighbouring regions and countries. The most important corridors are N4 (Maputo Corridor), N17/N2 and the N11. The other major provincial corridors include R37, R40, R573, R23 and R555. The development strategies provide spatial guidance and priority focus areas with regards to various objectives. According to the CSIR typology, Mbombela is classified as a “city”. Additionally, regional service centres identified, which includes Witbank, Kwamhlanga, Bushbuckidge, Dannilton, Hazyview, Middelburg, Secunda, Bethal, Ermelo, and Standerton. The major transportation corridors and interlinked city, regional service centres and small service town and rural service settlements are showcased in the below table.

The development strategic focus areas in terms of connectivity and corridors functionality were derived based on opportunities and challenges identified. Various focus areas were identified which require spatial development. The focus areas are further divided into a number of objectives, development strategies and plans.

Table 14: Major corridors along with key urban areas/ nodes

Transport/Development Corridors	City and Regional Service Centres	Service and Small Towns and Rural Settlements	Service and Small Rural Service	Corridor Linkages
Maputo N4 Corridor	Mbombela, Middelburg, Witbank,	Komatipoort,		Gauteng Region (Johannesburg/Pretoria) and Mozambique
N17-N2 Corridor	Secunda, Ermelo,	Bethal, Trichardt, Evander, Kinross		Gauteng Region (Springs) and KwaZulu Natal
N11 Limpopo-Mpumalanga-K24 Corridor	Middelburg, Ermelo,	Hendrina, Amersfoort, Volksrust		Limpopo Region (Mokopane/Groblersdal)
Dilokong Corridor Extension (R36)	Lydenburg			Limpopo Region (Polokwane/Burgersfort)
R40-Mbombela-Bushbuckridge-Phalaborwa Corridor	Mbombela,	White River, Hazyview, Bushbuckridge		Limpopo Region (Phalaborwa-Hoedspruit)
Moloto Corridor (R573)		Siyabuswa, Kwaggafontein, KwaMhlanga, Moloto		Gauteng Region (Tshwane)
Gauteng-eThekweni Freight Corridor (R23)		Balfour, Standerton, Volksrust		Gauteng Region (Heidelberg) and KwaZulu Natal
R555-Steelpoort-Middelburg	Middelburg	Steelpoort, Burgersfort, Stoffberg,		-

Strategic Objective 1: Leverage the N4 corridor to facilitate regional and provincial connectivity

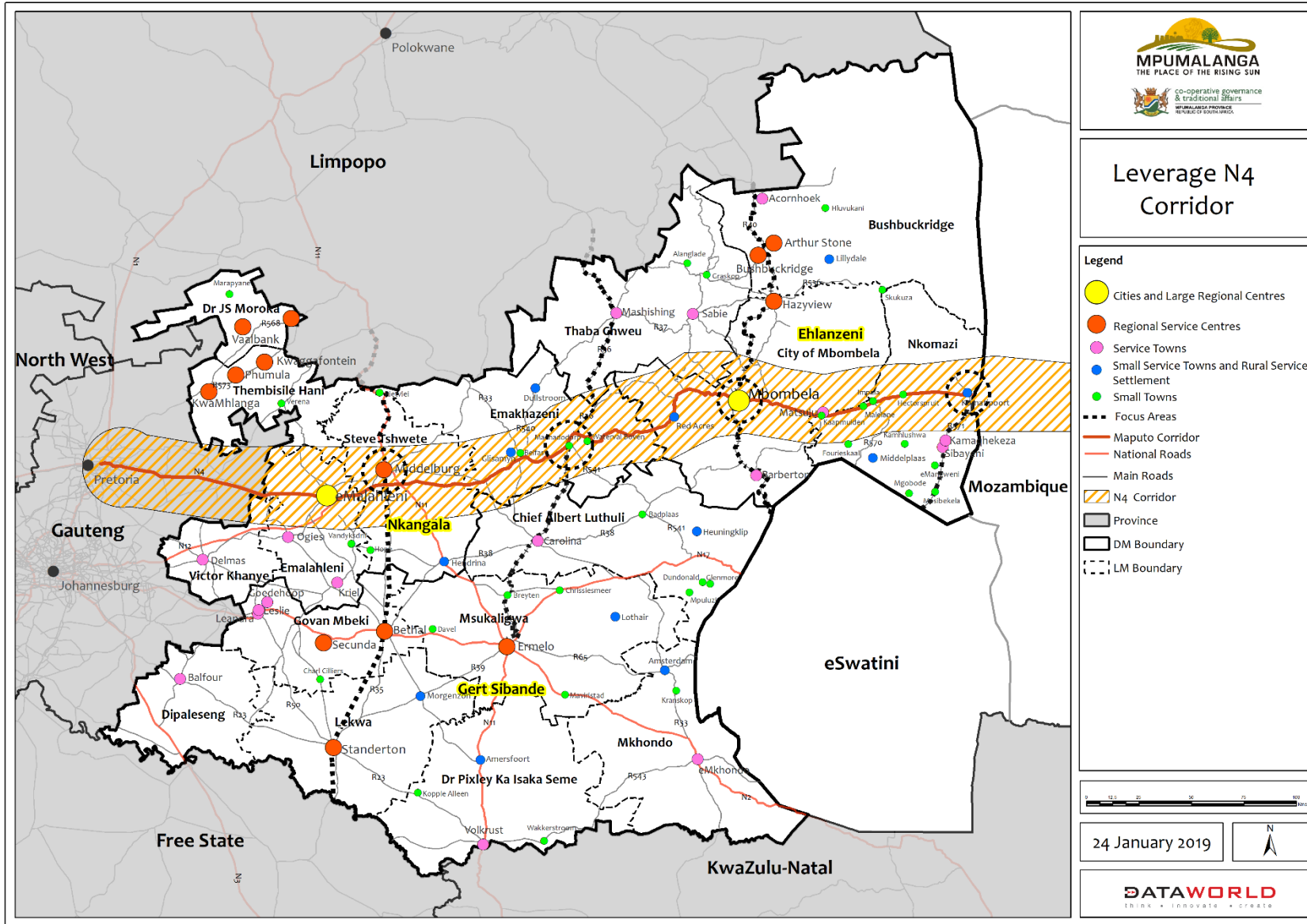
According to the NSDF (2018), the priority spatial focus areas indicate inter-regional corridors such as the Mozambique Gabarone Corridor (N4 or Maputo Corridor) and especially between Gauteng and Maputo.

“The spatial guidance mentioned in the NSDF for development corridors is to focus on consolidating growth and prioritising economic development and trade infrastructure and activities within well connected inter-regional and national development corridors”.

The leveraging of the N4 corridor will strengthen trade and flows of goods and services along the existing corridor and assist in the strengthening of the economic bases of the cities and towns on this corridor. The Maputo Development Corridor passes through Nkangala and Ehlanzeni Districts supporting the Maputo railway line. The corridor provides access to 8 local municipalities and connected towns within the direct range. The N4 Corridor, consisting of the N4 freeway and adjacent railway line, is the main link between the City of Tshwane and Maputo harbour. The N12 freeway links up with the N4 freeway just before Witbank and connects the City of Johannesburg and Ekurhuleni metropolitan areas with this corridor. The major N4 corridor connectivity provides a great opportunity for the provincial roads and regional service

centre to connect Gauteng, Mozambique and Botswana. The N4 not only provides transportation linkages but also caters a freight movement for South Africa.

Strategic Objective:	Spatial Development Strategy	Programme (Plan)	Strategic focus area
<p>Leveraging N4 corridor to facilitate regional and provincial connectivity</p>	<p>Enhancing the role and function of the Maputo Development Corridor (N4) by adding sub-regional connectivity access points which will link the Maputo Corridor (N4) to the surrounding regional service centres and service towns. The utilization of the surrounding regional service centres and service towns on the N4 corridor will, therefore, assist the towns to feed off and benefit economically from the energy of the N4 corridor, by providing better accessibility through improvement and rehabilitation of current road conditions.</p> <p>The establishment of these sub-regional connectivity access points with the N4 will therefore also strengthen Strategic Objective 2 of The Sustainable Concentration And Agglomeration Theme. Where the objective emphasises on the economic enabling of lower order growth centres. Improving connectivity to these areas will, therefore, enable the economic potential of the towns and therefore provide the province with a second economy.</p>	<p>Improvement and establishment of access points on the N4 to allow sub-regional connectivity.</p> <p>Rehabilitation of existing roads that will act as access points and upgrading of those roads to be established as corridors for sub-regional connectivity.</p>	<p>Proposed sub-regional access points linking the N4 to the following towns:</p> <ul style="list-style-type: none"> • Bethal, • Middleburg, • Carolina • Machadodrop • City of Mbombela • Bushbuckridge • Komatipoort, and • Nkomazi area.



Map 19: Leveraging the N4 Corridor

Strategic Objective 2: Development of the existing corridors and building new linkages to increase capacity and economic opportunities and ensure connectivity to the surrounding areas

The identified/ proposed corridor developments are mentioned in Vision 2030, District SDF's and National Spatial Development Framework (NSDF, 2018). The strategic corridors are derived based on importance in terms of provincial and inter-regional linkages. There are three major corridors in Mpumalanga: N4, N11, and N17/N2. The N4 corridor is one of the most important corridors for the Mpumalanga province connecting to Mozambique, Gauteng province and Botswana. The N2/ N17 corridor links Gauteng with Richards Bay and Swaziland, provides an alternative route to Maputo and links up with the tourism initiatives within northern Swaziland and the Lebombo Tourism SDI, providing excellent regional and district accessibility. The N2/N17 corridor is supported by the coal haulage line to Richards Bay which provides mainly for the minerals and metals industry.

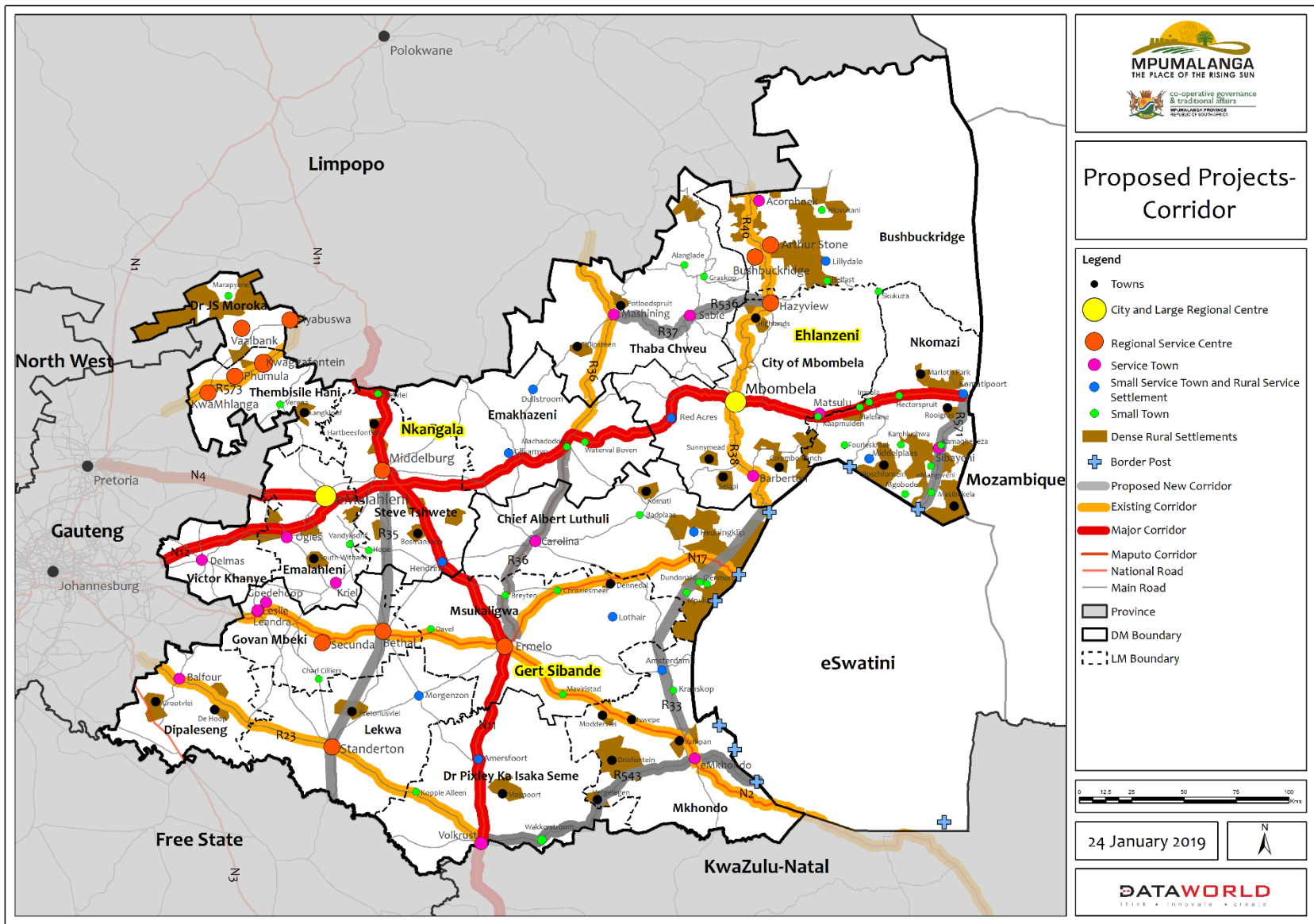
The N11 provides a regional corridor that will become more important with the development of the Waterberg coal reserves. The N11 provides interaction between the N1, N4 and N2/N17 corridors and will play a major part in the region as a transportation corridor to Richards Bay. The aim of developing the existing corridors is to strengthen existing transportation networks and streamline freight movement.

The supporting Corridors including the R40 (Phalaborwa SDI) providing accessibility from the Maputo Corridor to Bushbuckridge supported by the passenger rail. The R40 (Phalaborwa SDI) will also assist in providing better accessibility between large economic and population nodes. The R573 Moloto road is managed by SANRAL which serves as an important economic route, connecting Gauteng, Mpumalanga and Limpopo. In Mpumalanga, the Moloto corridor traverses two municipalities viz. Dr JS Moroka Local Municipality and Thembisile Hani Local Municipality in Nkangala District with a stretch of 54.9 km.

Following are the spatial linkages identified for development and upgrading:

1. Improvement of the Maputo corridor (N4)
2. Moloto Corridor or R573,
3. Dilokong Platinum Extension Corridor (R36) and New Linkage Possibility Extending the Corridor to join N11
4. Upgrade of N17, N17/N2 Corridor
5. Upgrade of N12 corridor
6. Upgrade of R40 (Phalaborwa SDI) Corridor
7. Proposed New Linkage Possibility of R38 south of R40 corridor, connecting the R40 (Phalaborwa SDI) Corridor with Swaziland

8. New Linkage Possibility of N4 at Middelburg to N17 at Bethal and R23 at Standerton.
9. Improvement of the N11 corridor with regional connectivity.
10. Improvement of R23 Gauteng Linkage Corridor
11. New Linkage Possibility in Thaba Chewu LM, which is the R37 and R536 linking Mashishing with Hazyview,
12. New Linkage Possibility (East Corridor) along the Swaziland border.
13. New Linkage Possibility and Extension of R23 to a new linkage east corridor.
14. New Linkage Corridor in Nkomazi with N4 for better accessibility with Swaziland and Komatipoort SEZ.



Map 20: Proposed Corridors

Strategic Objective:	Spatial Development Strategy	Programme (Plan)	Strategic focus area
<p>Upgrading the existing corridors and building new linkages to increase capacity, economic opportunities and ensure connectivity to surrounding towns</p>	<p>Developing new and upgrading existing provincial corridors will assist in the facilitation of the poly-centric development model that the province has adopted. The aim of the poly-centric development model is to create a well-functioning network base with improved linkages between urban and rural areas. Therefore highlighting the principle of well-established corridors and nodes in a region and will help in improving regional, national and provincial connectivity.</p> <p>The development strategy should (1) be focused on upgrading existing infrastructure to provide accessibility to nearby provinces and countries and (2) creating new corridors that will provide connectivity to previously disadvantaged areas which will, therefore, strengthen the NSDF principle of creating urban-rural anchors and in turn facilitate rural transformation.</p> <p>The following corridors are of national and provincial significance:</p> <ul style="list-style-type: none"> • Two inter-regional corridors such as N11 and N4 are the major connecting roads providing links to Botswana, Zimbabwe and Mozambique. • N12 is an important corridor in Nkangala District which serving the mining areas with huge development potential. • The improvement of the N12 and N11 corridors will support the freight movement of Gert Sibande 	<p>Development of plans for the upgrading of the existing corridor which will focus on the rehabilitating of major corridors in the province such as N11, N12, N4 and N17. Such as the:</p> <ul style="list-style-type: none"> • SANRAL proposed two projects to strengthen the N17 from Chrissiesmeer to Oshoek. • SANRAL proposed resurfacing of the N12 from Gauteng/ Mpumalanga border to eMalahleni • SANRAL proposed N11 improvement between the Hendrina power station and the N4 at Middelburg <p>Road improvements and rehabilitating projects of provincial corridors including R23, R573 R40 and Dilokong platinum corridor (R36).</p> <p>Developing new provincial connectivity corridor by rehabilitating the existing roads and upgrading them to serve as new corridors. Development</p>	<p>Possible corridor improvements and new linkages:</p> <ul style="list-style-type: none"> • Maputo corridor (N4) • Moloto Corridor or R573, • Dilokong Platinum Corridor extension • N17, N17/N2 Corridor. • N12 corridor. • Upgrade of R40 (Phalaborwa SDI) Corridor extension • New R35 Linkage from Middelburg to Standerton. • N11 corridor. • Improvement of R23 and proposed east extension corridor towards Swaziland • The proposed R33 corridor is parallel to Swaziland • Proposed linkage R37 and R536 from Mashishing to Hazyview

and Nkangala mining areas and serve a major population of Mpumalanga Province.

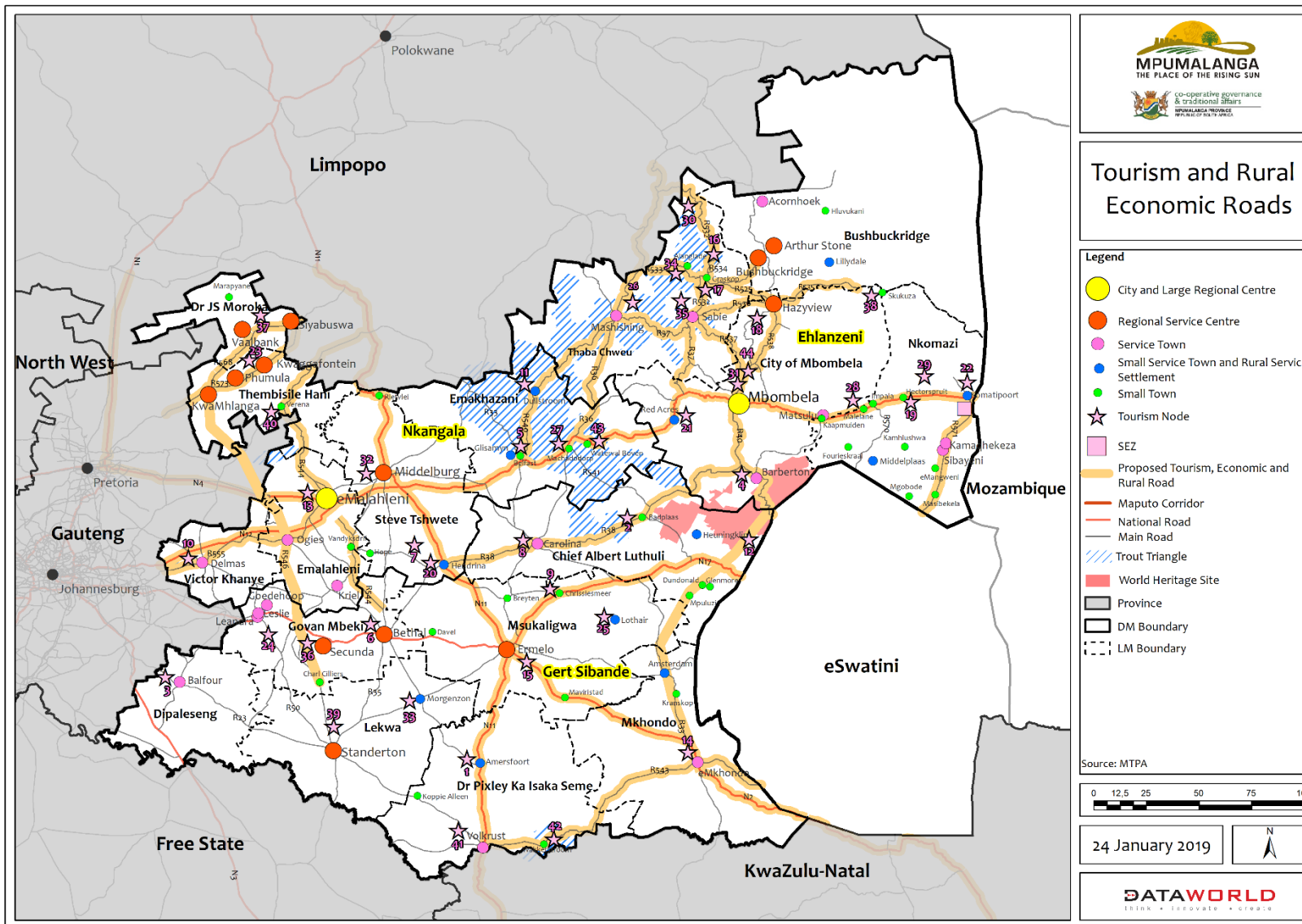
- Improvement and extension of the existing provincial corridors i.e. R23, R40, R573 and extension of Dilokong Platinum Corridor (R36) to serve the densely populated area and connecting to the key regional service centres and service towns.
- The proposed R38 corridor which extends of the (Phalaborwa SDI), connecting Limpopo and Mpumalanga to Swaziland can be explored for future trade exchange.
- Improvement of the N17 corridor to help accommodate the demanding freight and passenger network movements which connects Gauteng and Swaziland. The N17 also serves key nodes such as Ermelo and Secunda which are pertinently coal mining areas of Gert Sibande district.
- The development of the proposed R571 Linkage will provide better accessibility for former homelands in Nkomazi, connecting those areas with economic and tourism opportunities that can emerge from the Komatipoort SEZ and also with Swaziland.
- Improvements of R23 corridor and development of the proposed R543 corridor which will extend the R23 corridor to the east connecting with Swaziland. Proposed R33 corridor that runs parallel to Swaziland linking towns like Dundonald, Heuningklip, Amsterdam, eMkhondo etc. and former homelands in the areas, to Swaziland and creating better access to tourism opportunities.

and rehabilitation projects and plans for R571, R543, R35 and R38/R39 to Standerton, R36 from Machadodorp to Ermelo, R37 linking Mashishing with Hazyview and R33 roads.

Strategic Objective 3: Upgrade of tourism, and rural economy road networks with linkages to transportation corridors.

Mpumalanga has received backlash in tourism activities due to the poor road condition and lack of maintenance of its roads. Issues such as potholes and poorly conditioned gravel roads are impacting negatively on tourism and overall progression of rural development in the Province. The province is also required to connect the rural roads to the existing major corridors. Some of the rural areas including Bushbuckridge, Hazyview, Sabie and Mashishing serves as a great tourism destination, an economic hub and high population density. These areas require improved linkages and better transportation infrastructure. Some of the areas in Gert Sibande require alternative routes that can be used as tourism route, this is mainly because of the coal haulage and mining activities happening in that area.

Therefore, there is a need to strengthen and upgrade these roads and corridors, in order to help unpack the economic potential, it is required to create better accessibility and connectivity to these areas.



Map 21: Proposed Tourism, Economic and Rural Roads

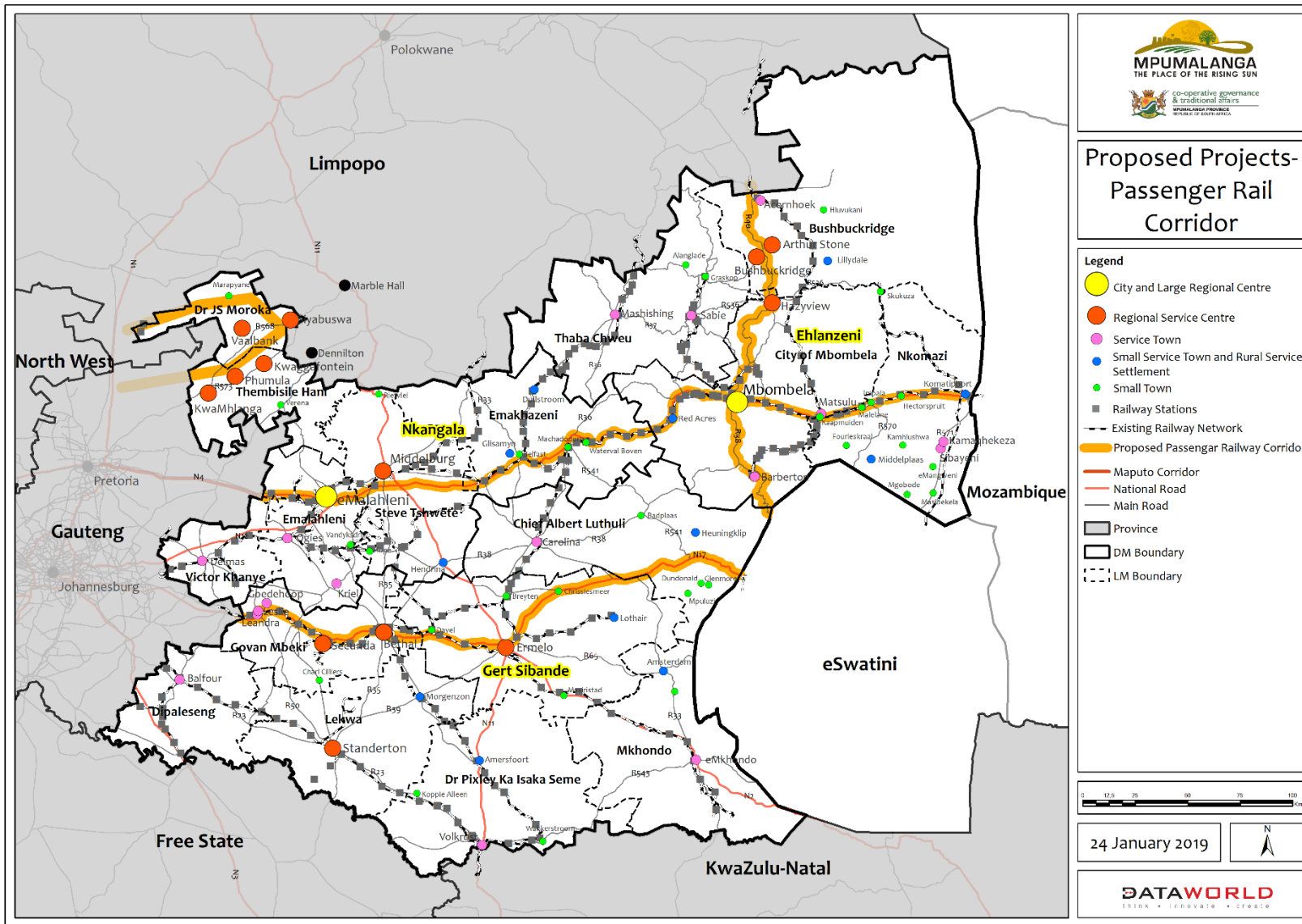
Strategic Objective:	Spatial Development Strategy	Programme (Plan)	Strategic focus area
<p>Upgrade of tourism, and rural economy road networks with linkages to transportation corridors.</p>	<p>1. Road linkages play an important role in tourism. Each proposed corridor links a tourist destination, for example, the Maputo Corridor links Gauteng to the Kruger National Park and Maputo. Most of the roads link tourism destinations with one another. It is therefore important that the roads be maintained and developed regularly. Maintenance of these routes will enable linkage and strengthen the current tourism sector of and it will also give rise to resource-based investment.</p> <p>2. Rural economic development is one of the crucial elements that is required in order to transform rural regions. Development and maintenance of rural roads that are linked to economic opportunities that can serve rural communities are required. Therefore there is a need to upgrade and maintain rural roads that is linked to the various Agri-hubs, FPSU's and even the SEZ in the province.</p>	<ul style="list-style-type: none"> • There is a need to develop plans and medium term programmes that focus in the upkeep, maintenance and upgrading of tourism routes, as these routes are directly linked to the success of the tourism industry in the province. • Develop upgrading plans for roads that will be able to serve the functioning Agri-hubs, FPSU's and the SEZ. These plans need to make provision of special requirements for trucks usage of the roads. This will help in ensuring the roads do not deteriorate quickly. • Development of District and Municipal transportation master plans in order to identify more potential tourism roads and transportation opportunities. 	<p>Following roads were identified for upgrades.</p> <ul style="list-style-type: none"> • Mkhondo LM (N2 road) • R555 road • Steve Tshwete LM (N11 road) • R540: Belfast-Dullstroom-Lydenburg (Mashishing) • R36: Bambi turnoff (N4) to Lydenburg (Mashishing) Lydenburg (Mashishing) to Ohrigstad • R536: Sabie to Hazyview • Hazyview to KNP Gate • R525: Hazyview to Graskop • R532: Sabie to Graskop • Graskop to Echo Caves. • R534: Road to God's Window. • R533: Ohrigstad-Pilgrims Rest-Graskop • R537: Sabie to White River • N11/N2 (Linking Mpumalanga with Kwa-Zulu Natal and Swaziland) • R571 linking homelands in Nkomazi with the SEZ and Swaziland • Extension of the N11 corrido • N2, R536, R568, R544 roads connecting to Agri-hubs

Strategic Objective 4: Development of the public transportation network and corridor by emphasizing on the passenger rail network

Mpumalanga is predominantly rural in nature, which requires necessary prioritization for public transport infrastructure. Buses and minibus taxis are the main mode of public transportation in Mpumalanga. Majority of the population in the province use taxis to commute. There is no provision of local passenger rail service in the province. However, long-distance inter-city passenger trains are available. The existing public transportation system in the province is as a result of the existing settlement pattern which is a result of pre-democracy planning. This has had an impact on the transport system of the province. Therefore there is a need for the development of a sustainable public transport network within the province. There is a need to emphasis on the development of regional affordable passenger rail network as an alternative source of public transportation apart from buses and taxis.

Following are the spatial linkages identified for development:

- 1. Maputo Passenger Rail**
- 2. Proposed N17 Passenger Rail**
- 3. Proposed R40 Passenger Rail Connecting Mbombela**
- 4. Moloto Passenger Rail**

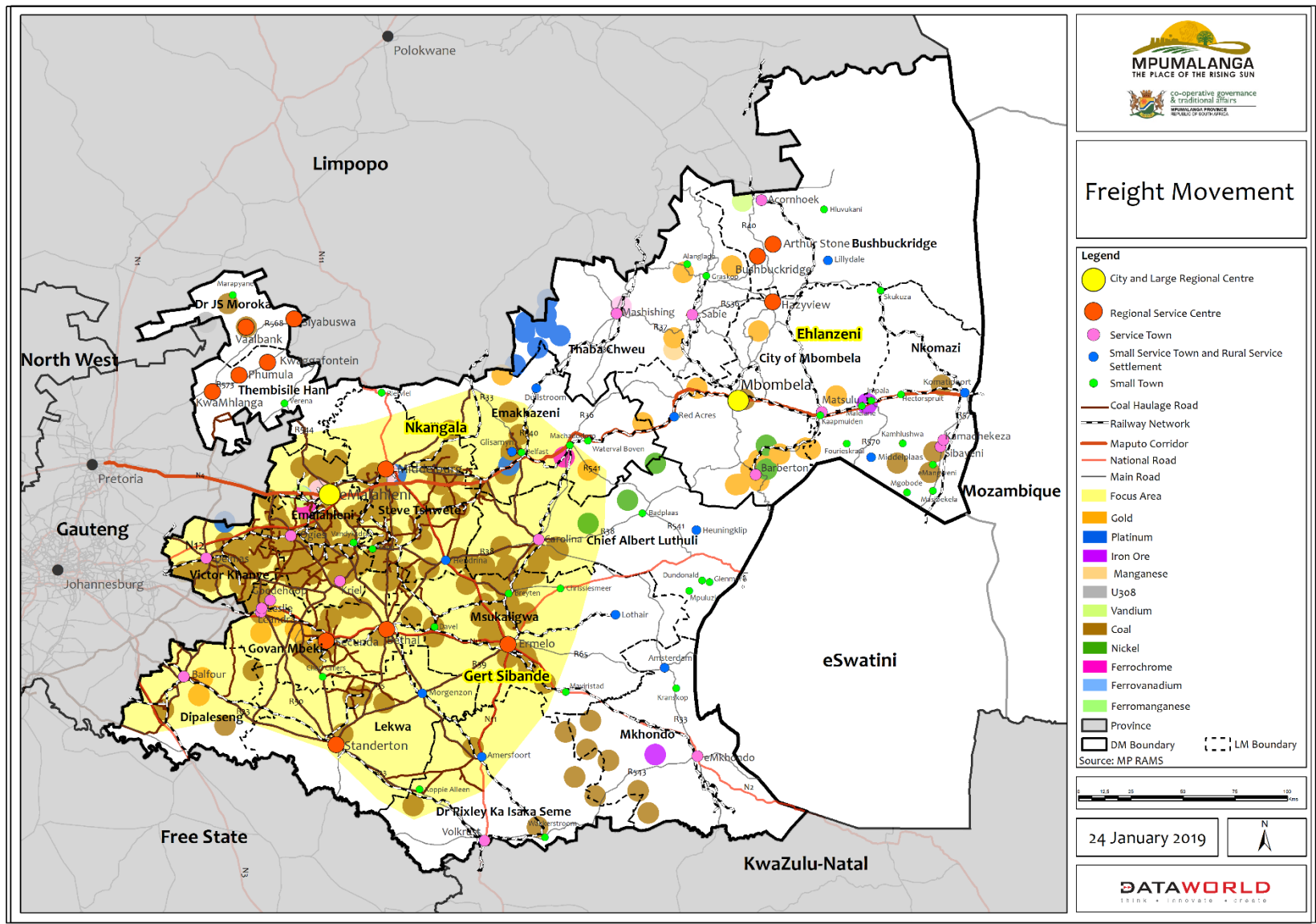


Map 22: Proposed Passenger Rail Corridors

Strategic Objective:	Spatial Development Strategy	Programme (Plan)	Strategic focus area
<p>Development of the public transportation network and corridor by emphasizing on the passenger rail network</p>	<p>Densely populated areas should be prioritised in terms of public transportation. Passenger railway is an alternative mode of transport and solution for public transportation that can be implemented in the province. The existing railway services mostly cater for freight movement. However, there is a need to also develop a railway system that serves the people.</p> <p>The aim of these corridors is to connect and create access between different nodes and growth points within the province.</p> <p>The proposed passenger railway along N17 will provide accessibility for former homelands such as KaNgwane to regional service centres and service towns such as Ermelo, Lothair and Amsterdam in the Chief Albert Luthuli Municipal area. The proposed R40 railway will provide connectivity for the former homelands of Gazankulu in the Bushbuckridge area to the N4, Mbombela and provide a linkage between Limpopo and Swaziland.</p>	<p>Feasibility studies for the establishment of the proposed passenger railways will be required before the development of these networks.</p> <p>Development of District and Municipal transportation master plans to address public transport issues and access in the Province more specifically focusing on passenger railway and its viability.</p> <p>Spatial development plans for the development of the proposed passenger rail in the province, such as the Moloto Passenger Rail, N4 Passenger Rail, N17 Passenger Rail and R40 Passenger Rail.</p>	<ul style="list-style-type: none"> • Maputo passenger railway: A passenger railway along the N4 corridor. • The N17 passenger rail: A passenger railway along the N17 connecting Gauteng and Swaziland. • The R40 (Phalaborwa SDI) passenger railway is connecting Bushbuckridge and City of Mbombela to both Limpopo and Swaziland • The Moloto passenger rail connecting Limpopo and Gauteng.

Strategic Objective 5: Decongestion of the coal haul roads and Improvement of Freight Network

Gert Sibande and Nkangala districts have concentrated mining areas with coal haul roads. There is a flow of heavy vehicles on these roads leading to congestion of these roads. There is a need to upgrade these roads and initiate an alternative transportation mode in order to aid with the decongestion of these routes. Reviving rail freight network for coal haulage is one crucial element that can help in the decongestion these coal haul roads.



Map 23: Freight Movement

Strategic Objective:	Spatial Development Strategy	Programme (Plan)	Strategic focus area
<p>Decongestion of the coal haul roads and Improvement of Freight Network</p>	<p>The heavy vehicle's traffic is high in coal haul roads which are mainly in the Gert Sibande and Nkangala Districts. N4 connecting major roads are also facing heavy traffic. The major road freight corridors in Mpumalanga such as N4, N2, R570 (Jeppes Reef – Malelane), and R571 (Komatipoort – Mananga), have seen a significant increase in road freight traffic volume. The N2 corridor via Piet Retief will be expected to increase in volumes that will include further mineral and timber traffic from Mpumalanga to Richards Bay.</p> <p>The Transnet rail network extension Waterberg – Mpumalanga-Richard Bay linking Lephalale in Limpopo with Ermelo in Mpumalanga will facilitate freight movement between Limpopo and Mpumalanga. The annual tonnage on the rail between Mpumalanga and Richard Bay is expected to grow approximately 95 million tonnes.</p> <p>Connectivity to the major corridors such as N4 and N11 will decrease the secondary traffic on district distributor roads or class 3 roads. In addition, the use of the railway network will also improve and decrease the demanding load on freight movement. Improvements of roads used for coal haul will assist in diverting freight movement back on to those roads and in turn, reduce the traffic issue that Gert Sibande District is currently facing.</p>	<p>Focus on alternate ways to decongest the coal haul roads in Gert Sibande and Nkalgala districts. In addition, providing improvement strategy of the freight network.</p> <p>Improvement and upgrading freight railway network with Transnet.</p> <p>Upgrade of the Gert Sibande and Nkangala districts roads.</p> <p>Increase the volume of rail freight network near coal mine areas.</p> <p>Mashishing area requires better freight management infrastructure.</p> <p>Logistic hub at eMalahleni to transfer loads from trucks to rail and vice versa.</p> <p>Reducing surface freight volume and transfer to the air freight with proposed Victor Khanye Airport.</p> <p>Upgrading and Maintenance of the Carolina – Volsrust and the Bethal – Standerton corridors</p>	<p>Proposed <u>Victor</u> Khanye Airport</p> <p>Waterberg –</p> <p>Mpumalanga –</p> <p>Richard Bay Rail freight extension</p> <p>Freight Management at Mashishing area</p> <p>Logistic Hub at eMalahleni</p> <p>Carolina-Volsrust and Bethal – Standerton Corridor Improvement</p> <p>Upgrade N11 and R35 corridors</p> <p>eMakhazeni/Belfast and eNtokozweni/Machadodorp corridor</p>

3.2.2 SUSTAINABLE CONCENTRATION AND AGGLOMERATION

This theme refers to the creation of an agglomeration economy that will enhance the provinces economic activities and thereby improving the livelihoods of the people. This theme assumes that for the economic development of the province it is essential to identify the strategic places where investment should be channelled to and the potential sectors that can help the provincial economy to grow. In the process determining the strategic investment areas, a hierarchical order of Mpumalanga's important towns based on their potential role in improving the provincial economy has been established. Besides, the theme also discusses the broadening of the province's economic base and identifies the infrastructure for skills development required to realise it.

Strategic Objective 1: Enhance economic competitiveness through economic growth and innovation centres

According to the World Economic Forum, urban centres are engines of the global economy and their competitiveness determines the economic prospects and competitiveness of regions and nations. Mpumalanga has five urban centres¹⁴ viz. Mbombela, Secunda, Emalahleni, Ermelo and Middleburg that can be considered as the regional economic engines. Almost 70% of the province's GVA is generated in or around these towns. These key economic growth centres can enhance the province's economic competitiveness as these towns can attract investment and create economic opportunities for investors, government and general citizen. The attractiveness of these towns for the location of industries and businesses stems from different locational factors including the presence of economic activity, availability of hard and soft infrastructure.

It is, therefore, proposed that these economic centres should act as the province's economic growth centres. To become growth centres, it is necessary for the towns to continuously and consistently enhance the productivity and competitiveness levels of their economic base by drawing on resources and making strategic investments

in sectors, industries, and value chains where there is a competitive advantage and where there are market opportunities and growth potential. The Mpumalanga Industrial Development Plan, 2015 (MIDP) proposes to take advantage of the concentration of a particular industrial sector in specific regions and accordingly promote industrial sectors to boost economic development in the region. The Mpumalanga Vision 2030 proposes a similar approach for industrial development and advises to channelise industrial investment around the industrial strongholds. While it is recognised that the growth centres will leverage upon their existing economic bases, it is also important to note that these towns will have to be competitive enough to withstand the pressure of global trade arising from the countries and regions producing similar goods and services at a lower cost. To counter the pressure, innovation in economic activities is necessary. Thus the urban centres should also focus on innovation, engage in global supply chains and develop highly skilled workforces to support the rapid changes in industrial activities emanating from innovation. Therefore, these towns will not only act as growth centres but also as

¹⁴ The CSIR settlement typology classifies the towns and settlements different categories such as City, Regional Centre 1, Regional Centre 2, Regional Centre 3, and Service Town etc. In this section we are more interested in economic opportunities of these towns and settlements, therefore, not all towns within the same or higher

category is considered as key economic centres. To give an example both Emalahleni (Witbank) and Kwamhlanga are classified as Regional Centre 1 but only Emalahleni is considered a key economic centre.

innovation centres. Together these centres will enhance the province's economic competitiveness, unlock commercial prospects and foster innovation.

Strategic Objective:	Spatial Strategy	Development Programme (Plan)	Strategic focus area
<p>Enhance Economic Competitiveness through Economic Growth and Innovation Centres</p>	<p>Leverage upon the key urban centres' existing economic base</p> <p>This strategy recognises the overwhelming concentration of economic activities in key urban areas of the province the key urban centres (Mbombela, Emalahleni, Ermelo, Secunda and Middleburg) and their role as the provincial economic growth engines. Recognising the roles these urban centres play, the strategy intends to capitalise these towns' economic bases for provincial economic development.</p>	<p>Strengthen Economic Bases of the Key Urban Centres by Spatial Targeting</p> <p>Mpumalanga is bestowed with minerals, water resources and good connectivity. The availability of such facilities creates excellent opportunities for manufacturing, mining, power generation and commercial development. Economic activities in the province have placed themselves in areas where suitable resources are available. This has led to concentrations of certain type of economic activities in certain places. The PSDF proposes to take advantage of these economic concentrations and provide the necessary infrastructure to help grow these areas.</p> <p>The PSDF proposes to strengthen the economic base of these towns by transforming them into growth and innovation centres. These centres will focus on leveraging existing and latent economic sectors and promote research and innovation thereof.</p> <p>A part of the programme has been addressed by the MIDP. The MIDP has identified some Industrial Centres of Competence for these towns. The MIDP has also proposed to develop innovation platforms necessary for supporting sustainable</p>	<p>Mbombela Economic Focus Areas: Mixed Industries, Trade and Retail, Financial Services, Business and Commercial Activities, Construction, Tourism, Transport, Agriculture and related activities MIDP Proposal: Agriculture Technology Centre of Competence, International Fresh Produce Market</p> <p>Emalahleni Economic Focus Areas: Steel Industry, Mineral Beneficiation, Trade and Retail, Business and Commercial Activities, Power Generation MIDP Proposal: Mining and Metals Centre of Competence, Mining and Metals Technology Park (between Emalahleni & Middleburg)</p>

Strategic Objective:	Spatial Strategy	Development Programme (Plan)	Strategic focus area
		<p>industrial development in the targeted sectors, and to form a central hub or nerve centre from which the Industrial Centre of Competencies can be effectively marketed, promoted, coordinated and managed. It is expected that these projects provide key opportunities for development, investment management to ultimately achieve the goal of economic growth.</p> <p>The growth centres will also require adequate physical and socio-economic infrastructure to foster economic growth. The required physical infrastructure includes connectivity, logistics hub, bulk infrastructure and socio-economic infrastructure includes schools, training institutes, and innovation centre etc.</p>	<p>Middleburg</p> <p>Economic Focus Areas: Steel Industry, Trade and Retail, Business and Commercial Activities Agriculture and related activities</p> <p>MIDP Proposal: Metals Manufacturing Centre of Competence, Mining and Metals Technology Park (between Emalahleni & Middleburg)</p>
	<p>Develop business and industrial centres and incubation</p>	<p>Incubation centres are envisaged to help companies, especially start-up companies, with office and manufacturing space, training, and other support facilities. The PSDF proposes to develop such industrial and business incubation centres at Mbombela, Middleburg, Emalahleni, Ermelo and Secunda.</p>	<p>Secunda</p> <p>Economic Focus Areas: Petrochemical Industry, Mineral Beneficiation, Trade and Retail, Business and Commercial Activities, Power Generation</p> <p>MIDP Proposal: Petrochemicals Centre of Competence, Petrochemicals Technology Park</p> <p>Ermelo</p> <p>Agriculture and related activities, Mining, Utilities and Power Generation, Transport, Business and Commercial Activities</p>

Strategic Objective 2: Economic Enabling of Lower Order Growth Centres in the Province and Economic Decentralization

The spatial development concept for Mpumalanga is based on the development of a polycentric network of cities, towns and settlements. The concept advocates for achieving balanced economic growth through maintaining a hierarchic system of towns and settlements at all levels as a tool for disseminating development from higher order towns and settlements to lower towns and rural areas and eventually diminishing economic disparities between the higher order towns and rural settlements. The two critical aspects of the polycentric development concept are strengthening the economic base of the key urban centres and simultaneously improving economic conditions of the lower order urban centres, service towns and rural hinterland. The concept supports the idea of economic decentralisation through a trickle-down approach which can be simply described as the development of large towns will facilitate the development of smaller towns.

Some smaller towns have been identified for economic development. These towns would act as alternative growth centres and provide the province with a second economy. Among the lower order growth points, priorities should be given to Standerton, Kwamhlanga, Siyabusa, Bushbuckridge, Komatipoort, and Hazyview for development. The priority alternative growth centres can be termed as “Primary Alternative Growth Centres”. Apart

from Komatipoort, all other Primary Alternative Growth Centres are classified as Regional Centre (1-3) by CSIR. Komatipoort, currently ranked as Small Service Towns and Rural Service Settlements by CSIR, is expected to grow very fast as it enjoys excellent connectivity and the presence of an SEZ within it. These growth centres have fairly developed an economic base, though not as developed as of the five key economic centres, and they are well connected with both the key economic centres and surrounding rural areas. These towns are expected to play the following critical roles for rural economic development. (i) They act as urban-rural anchor towns and provide urban-rural connectivity. (ii) These towns offer gateways for exporting of rural produces to urban areas. (iii) They facilitate rural innovations and entrepreneurship.

The next class of alternative growth points are termed as “Secondary Alternative Growth Centres”. These growth centres are mainly rural service towns with the agricultural and mining background. These towns act as rural anchors and serve as a small-scale market for agriculture products. The Secondary Alternative Growth Centres include Bethal, eMknondo, Volksrust, Balfour, Leandra, Carolina, Delmas, Ogies, Kriel, Mashishing, Sabie, Barberton, Kamaqhekeza and Acornhoek. Except for Bethal, these towns have been classified as Service Towns by CSIR.

The development of the identified alternative growth centres requires investment and institutional intervention. A thorough analysis of the towns' economic potential is required to determine the sectors that can generate both economic output and employment. The study will also help determine the magnitude of needed institutional intervention. Such intervention may come in many forms such as infrastructure development, human capacity building, provision of financial support to local business, and create linkages between the local producers of goods and services and consumer.

Strategic Objective:	Spatial Development Strategy	Programme (Plan)	Strategic focus area
Economic enabling of Growth Centres /typology in relation to higher order growth areas in the Province and Economic Decentralization	Develop Alternative Growth Centres	Promote Economic Development of the Alternative Growth Centres The success of the lower order centres depends upon their ability to generate economic activities so that they can provide adequate economic and employment opportunities to the local population. To promote economic development in these towns, the PSDF proposes the following: <ul style="list-style-type: none"> • Spatial Targeting- Identify the economic potential of the growth centres and promote economic activities accordingly • Invest in strategic sectors to generate economic value and employment • Create strong economic and functional linkages between the towns and the 	Primary Alternative Growth Centres Standerton, Kwamhlanga, Siyabusa, Bushbuckridge, Komatipoort, Hazyview Secondary Alternative Growth Centres Bethal, eMknondo, Volksrust, Balfour, Leandra, Carolina, Delmas, Ogies, Kriel, Mashishing, Sabie,

Strategic Objective:	Spatial Development Strategy	Programme (Plan)	Strategic focus area
		<p>higher order growth centres (Mbombela, Emalaheni, Middleburg, Secunda and Ermelo)</p> <ul style="list-style-type: none"> • Integrate agri-hubs with the towns and improve urban-rural connections • Prioritise the development of the towns serving traditional and CRDP areas 	<p>Barberton, Kamaqhekeza and Acornhoek, Middelplaas, Waterval Boven, Dullstroom, Elukwatini (Heuningklip)</p> <p><u>Spatial Targeting</u></p> <p>Manufacturing Focus Area Komatipoort, Mashishing</p> <p>Mining Focus Area (without compromising agriculture and environment) Msukaligwa, and Thaba Chweu municipalities, mineral beneficiation at Mashishing</p> <p>Subregional /Local Trade Acornhoek, Barberton, Mashishing, Kwamhlanga, Siyabusa, Carolina, eMkhondo,</p>

Strategic Objective:	Spatial Development Strategy	Programme (Plan)	Strategic focus area
			<p>Komatipoort, White River, Standerton, Elukwatini, Middelplaas</p> <p>Agriculture, Agro-processing Focus Areas</p> <p>Standerton, Kwamhlanga, Siyabuswa, Bushbuckridge, Komatipoort, Hazyview, Bethal, Emokhondo, Volkrust, Balfour, Leandra, Carolina, Delmas, Mashishing, Sabie, Barberton, Middelplaas, Elukwatini (Heuningklip), Dullstroom, Waterval Boven and the focus areas identified for Agri-hubs in the DRDLR's Rural Development Plans</p>
		<p>Strengthen Regional Linkages and Economic Infrastructure</p> <p>To develop the growth centres, it is necessary to have strong linkages between the growth centres their hinterland and higher order growth centres. The linkages will be in many forms such as economic, engineering and logistics</p>	<p>Strengthen road and corridors connecting the manufacturing and mining focus areas with rest of the province and ports - N11, N3, N4</p>

Strategic Objective:	Spatial Development Strategy	Programme (Plan)	Strategic focus area
		<p>infrastructure. The growth centres also need to be supported by a sound economic infrastructure comprising processing and packaging facilities, logistics hub, electricity and water supply network, ICT infrastructure, and financial institutions.</p> <p>Only economic infrastructure and economic activities are not sufficient to sustain the economic growth of a region. The area needs to have the adequate physical and social infrastructure of hierarchic order. The physical and social infrastructure include housing, municipal engineering services, education and health facilities, institutional amenities, socio-cultural facilities, commercial and trade centres, Thusong centres and training centres.</p> <p>The strategy needs to be supported by the following plans</p> <ul style="list-style-type: none"> • Facilitate efficient movement of people, goods and services between the towns. This requires the development of road and rail network • Create sound transport linkages connecting the towns the rural areas with the identified growth centres. Creating connections between the CRDP areas with the growth centres should be on priority (R40, R538, R 544, R573, N4) 	<p>N17/N2, R 37, rail networks connecting the province with Maputo and Richards Bay ports</p> <p>Strengthen functions of corridors connecting the rural nodes with the growth centre(R40, R538, R 544, R573, N4)</p> <p>Multimodal logistics hub at Emalahleni</p> <p>(detailed proposals regarding corridor development for improving mining and manufacturing facilities are provided in the Connectivity and Corridor Functionality Section)</p>

Strategic Objective:	Spatial Development Strategy	Programme (Plan)	Strategic focus area
		<ul style="list-style-type: none"> • Development of a multimodal logistics hub in the intensive mining and manufacturing area (Emalahleni, Steve Tshwete and Govan Mbeki). • Decongest coal haulage routes within the mining area • Transfer coal traffic from road to rail wherever possible and upgrade rail network or develop rail network accordingly • Create linkages with other mining areas of the country. As such linkages can be used to import minerals from the mining areas outside the province and use those minerals locally (for beneficiation, value addition or industrial consumption) • Provide the required amount of water to the power plants, mines and manufacturing units. The focus should be on maximising the use of recycled wastewater for these activities. • Provide adequate social infrastructure in the economic growth centres (Details of the required facilities are provided in the Liveability and Sense of Place Section) 	

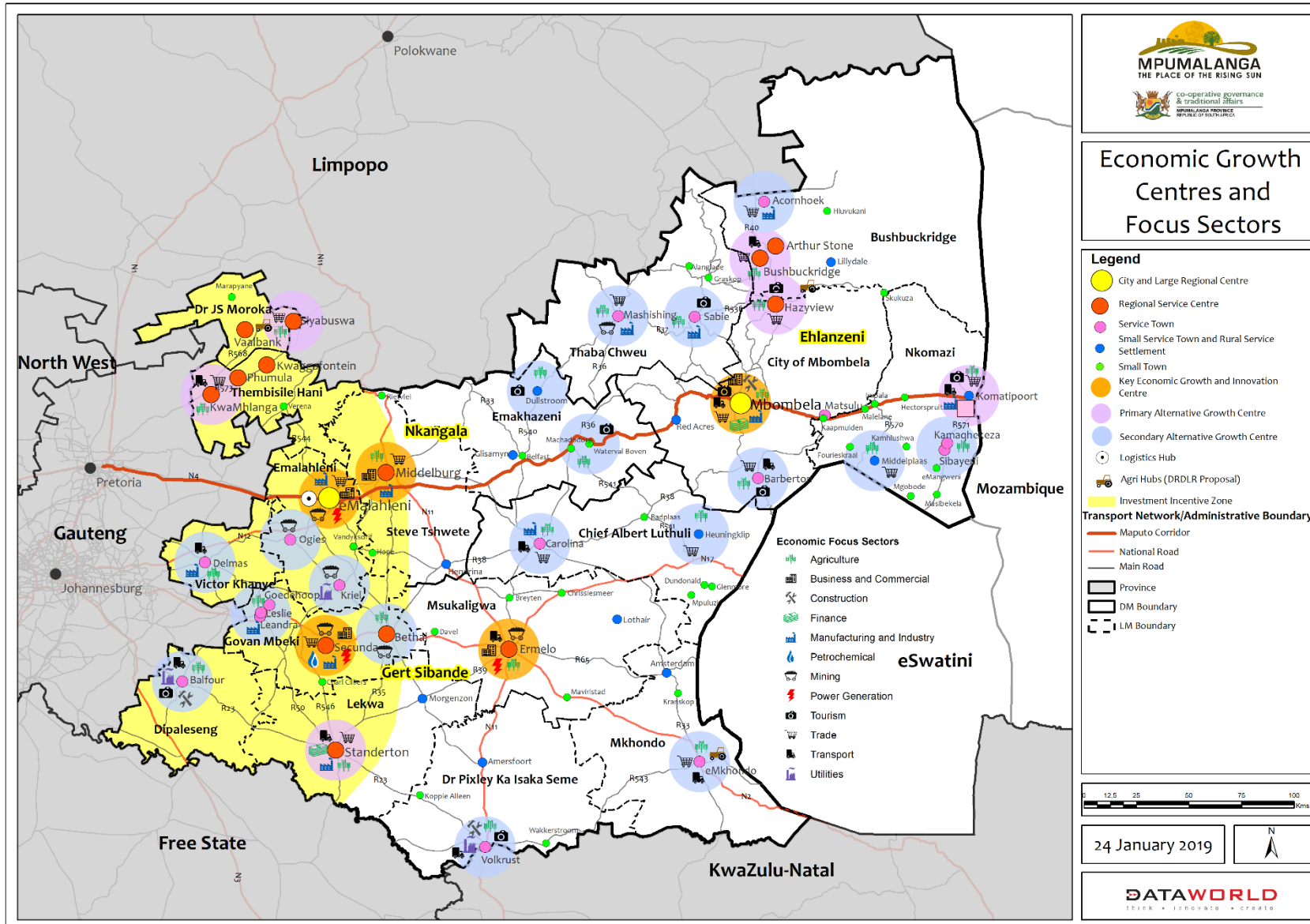
Strategic Objective 3: Promote Economic Growth through Incentives

Investment creates new business activities and generates employment. Empirical evidence suggests the expansion of an economy can be achieved by putting in place measures that enhance the ability of the economy to attract new investments. The investment can come from domestic private and public sectors as well as from overseas organization as foreign direct investment. To enhance Mpumalanga's ability to attract new investments, this objective advocate for providing investors with an array of benefits. These benefits include tax incentives offered by the different spheres of the government and non-tax incentives such as subsidised land and municipal services and reduced development restrictions (higher FAR and lower building restrictions etc.).

To maximise the level of attractiveness, benefits can be provided in areas where there is latent economic potential. The province's western part is such an area. This area shares a border with the Gauteng City Region- a key economic concentration area of the continent. The towns in this part of the province have strong economic linkages with Gauteng. The proximity of this region to Gauteng and OR Tambo International Airport creates a competitive advantage for foreign investment and export-oriented manufacturing and knowledge-based industries. Besides, some of these towns have the adequate economic infrastructure; therefore, they can

act as magnets for economic activities that are usually destined for the Gauteng region.

Strategic Objective:	Spatial Development Strategy	Programme (Plan)	Strategic focus area
Strategic Objective 3: Promote Economic Growth through Incentives	Create an Investment Incentive zone	<p>The essence of this strategy is becoming more competitive by providing incentives to investors willing to invest in strategic locations. The incentives can come in many forms such as tax benefits, increased FAR, and reduced land use restriction depending on the nature of the investment. In addition to providing incentives, sound road and rail network creating efficient linkages between the province's western peripheral towns with Gauteng (R23, R573, R50, R 555, N4, N17 & N12) and sound economic infrastructure are also essential to attract investment. Therefore resources should be directed to create such infrastructure and environment for development.</p>	<p>The western peripheral area consisting of Kwamhlanga, Siyabusa, Emalahleni, Middleburg, Delmas, Secunda, and Balfour, Standerton, Bethal, Leandra, Ogies, Kriel</p>



Map 24: Economic Growth Centres

The table below describes the identified growth centres' economic focus areas. The economic focus areas have been identified based on the centres' existing as well as latent economic potential.

Table 15: Key Economic Growth Centres and Alternative Growth Centres in Mpumalanga

Economic Growth Potential Classification	Town	CSIR Classification	Municipality and District	Economic Focus Sectors
Key Economic Growth and Innovation Centre	Mbombela (Nelspruit)	Cities and Large Regional Centres	City of Mbombela, Ehlanzeni	<p>Mixed Industries, Trade and Retail, Financial Services, Business and Commercial, Construction, Tourism, Transport, Agriculture and related activities</p> <p><u>MIDP Proposals:</u> Agriculture Technology Centre of Competence, International Fresh Produce Market</p> <p><u>Relevant Vision 2030 Proposals:</u> High Order Business, Commercial and Industrial Infrastructure Investment, Expansion of Business and Commercial Areas, Establishment of Industrial Parks, International Convention Centre, Lowveld Food Technology Centre, Regional Fresh Produce Market, Mpumalanga University, SA Universities Satellite Campuses</p>
Key Economic Growth and Innovation Centre	Emalahleni (Witbank)	Cities and Large Regional Centres	Emalahleni, Nkangala	<p>Steel Industry, Mining and Mineral Beneficiation, Trade and Retail, Business and Commercial, Power Generation</p> <p><u>MIDP Proposals:</u> Mining and Metals Centre of Competence</p> <p><u>Relevant Vision 2030 Proposals:</u> High Order Business, Commercial and Industrial Infrastructure Investment, Expansion of Business and Commercial Areas, Establishment of Industrial Parks, Ferrochrome</p>

Economic Growth Potential Classification	Town	CSIR Classification	Municipality and District	Economic Focus Sectors
				Smelter, Entrepreneur Development Centre, Mining and Energy Tertiary Training Facilities, Mining Supplier Park, SA Universities Satellite Campuses, Maths & Science Academy
Key Economic Growth and Innovation Centre	Middleburg	Regional Service Centres	Steve Tshwete, Nkangala	<p>Steel Industry, Trade and Retail, Business and Commercial, Agriculture and related activities</p> <p><u>MIDP Proposals:</u> Metals Manufacturing Centre of Competence, Mining and Metals Technology Park</p> <p><u>Relevant Vision 2030 Proposals:</u> High Order Business, Commercial and Industrial Infrastructure Investment, Expansion of Business and Commercial Areas, Establishment of Industrial Parks</p>
Key Economic Growth and Innovation Centre	Secunda	Regional Service Centres	Govan Mbeki, Gert Sibande	<p>Petrochemical Industry, Mining, Mineral Beneficiation, Trade and Retail, Business and Commercial</p> <p><u>MIDP Proposals:</u> Petrochemicals Centre of Competence, Petrochemicals Industrial Supplier Park</p> <p><u>Relevant Vision 2030 Proposals:</u> High Order Business, Commercial and Industrial Infrastructure Investment, Expansion of Business and Commercial Areas, Establishment of Industrial Parks, Establishment of Biofuels Plant, Mining and Energy Tertiary Training Facilities</p>

Economic Growth Potential Classification	Town	CSIR Classification	Municipality and District	Economic Focus Sectors
Key Economic Growth and Innovation Centre	Ermelo	Regional Service Centres	Msukaligwa, Gert Sibande	Agriculture and related activities, Mining, Transport, Business and Commercial <u>Relevant Vision 2030 Proposals:</u> High Order Business, Commercial and Industrial Infrastructure Investment, Expansion of Business and Commercial Areas, Establishment of Industrial Parks
Primary Alternative Growth Centre	Standerton	Regional Service Centres	Lekwa, Gert Sibande	Agriculture and related activities, Trade, Manufacturing, Transport, Finance <u>Relevant Vision 2030 Proposal:</u> Lower Order Business, Commercial and Industrial Infrastructure Investment
Primary Alternative Growth Centre	Kwamhlanga	Regional Service Centres	Thembisile, Nkangala	Agriculture and related activities, Trade, Transport <u>Relevant Vision 2030 Proposal:</u> Lower Order Business, Commercial and Industrial Infrastructure Investment
Primary Alternative Growth Centre	Siyabuswa	Regional Service Centres	JS Moroka, Nkangala	Agriculture and related activities, Trade <u>Relevant Vision 2030 Proposal:</u> Lower Order Business, Commercial and Industrial Infrastructure Investment
Primary Alternative Growth Centre	Bushbuckridge	Regional Service Centres	Bushbuckridge, Ehlanzeni	Agriculture and related activities, Trade, Transport <u>Relevant Vision 2030 Proposals:</u> Lower Order Business, Commercial and Industrial Infrastructure Investment, International Convention Centre
Primary Alternative Growth Centre	Komatipoort	Small Service Towns and	Nkomazi, Ehlanzeni	Agriculture and related activities, Trade, Transport, Manufacturing, Tourism

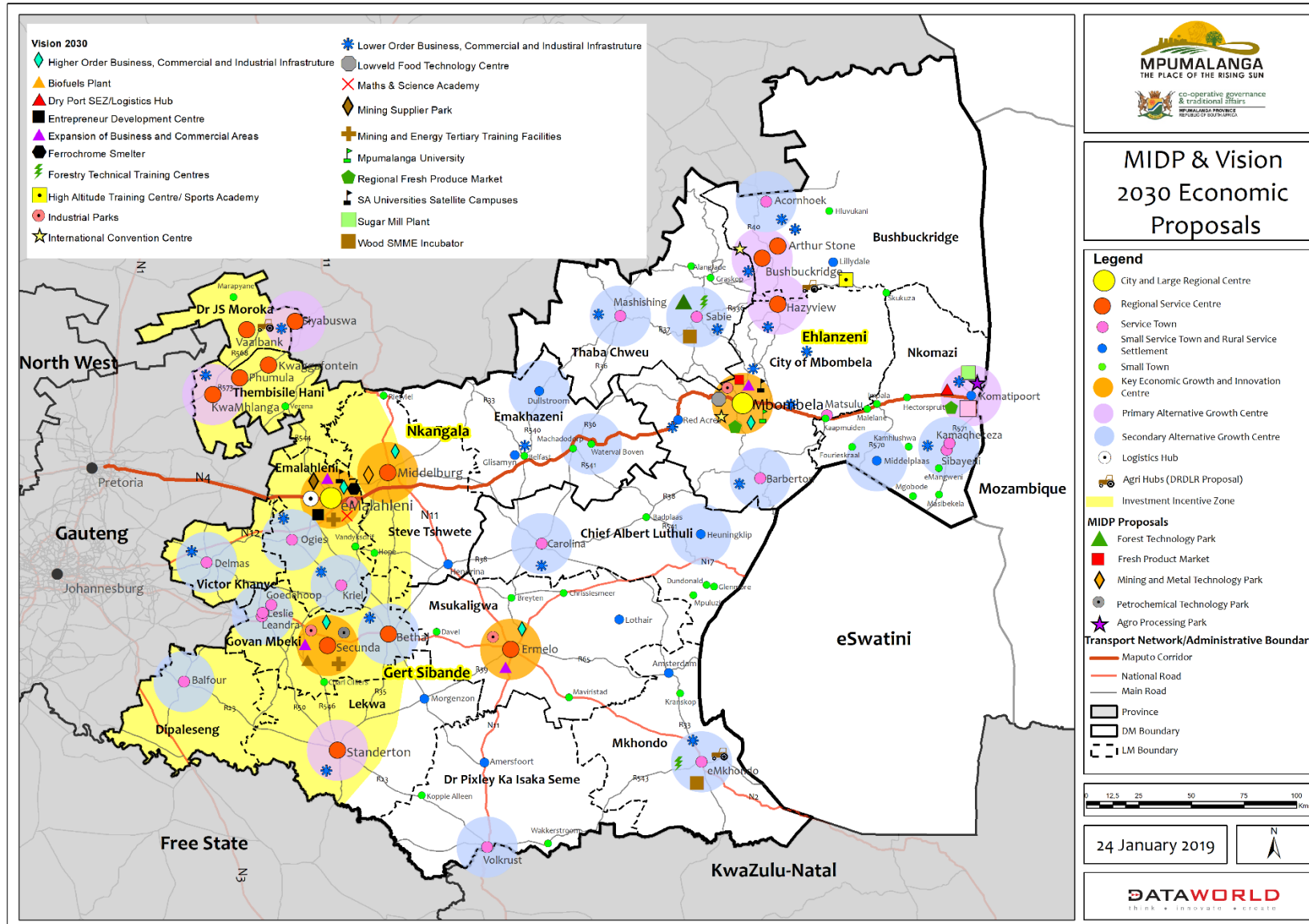
Economic Growth Potential Classification	Town	CSIR Classification	Municipality and District	Economic Focus Sectors
		Rural Service Settlements		<u>MIDP Proposal:</u> Agro-Processing Centre of Competence, Agro-Processing Technology Park <u>Relevant Vision 2030 Proposals:</u> Sugar Mill Plant, Dry Port SEZ/Logistics Hub, Regional Fresh Produce Market
Primary Alternative Growth Centre	Hazyview	Regional Service Centres	City of Mbombela, Ehlanzeni	Agriculture and related activities, Trade, Tourism <u>Relevant Vision 2030 Proposal:</u> Lower Order Business, Commercial and Industrial Infrastructure Investment
Secondary Alternative Growth Centre	Bethal	Regional Service Centres	Govan Mbeki, Gert Sibande	Agriculture and related activities, Mining <u>Relevant Vision 2030 Proposal:</u> Lower Order Business, Commercial and Industrial Infrastructure Investment
Secondary Alternative Growth Centre	eMkhondo	Service Town	Mkhondo, Gert Sibande	Agriculture and related activities (forestry), Trade, Transport <u>Relevant Vision 2030 Proposals:</u> Lower Order Business, Commercial and Industrial Infrastructure Investment, Forestry Technical Training Centres, Wood SMME Incubator
Secondary Alternative Growth Centre	Volkstrust	Service Town	Dr Pixle Ka Isaka Seme, Gert Sibande	Agriculture and related activities, Utilities, Construction, Tourism, Transport
Secondary Alternative Growth Centre	Balfour	Service Town	Dipaleseng, Gert Sibande	Agriculture and related activities, Utilities, Construction, Tourism, Transport

Economic Growth Potential Classification		Town	CSIR Classification	Municipality and District	Economic Focus Sectors
Secondary Alternative Centre	Growth	Leandra	Service Town	Govan Mbeki, Gert Sibande	Agriculture and related activities, Manufacturing
Secondary Alternative Centre	Growth	Carolina	Service Town	Chief Albert Luthuli, Gert Sibande	Agriculture and related activities, Manufacturing, Trade, Transport <u>Relevant Vision 2030 Proposal:</u> Lower Order Business, Commercial and Industrial Infrastructure Investment
Secondary Alternative Centre	Growth	Delmas	Service Town	Victor Khanye, Nkangala	Agriculture and related activities, Manufacturing, Construction, Transport, Finance <u>Relevant Vision 2030 Proposal:</u> Lower Order Business, Commercial and Industrial Infrastructure Investment
Secondary Alternative Centre	Growth	Ogies	Service Town	Emalahleni, Nkangala	Mining, Utilities <u>Relevant Vision 2030 Proposal:</u> Lower Order Business, Commercial and Industrial Infrastructure Investment
Secondary Alternative Centre	Growth	Kriel	Service Town	Emalahleni, Nkangala	Mining, Utilities <u>Relevant Vision 2030 Proposal:</u> Lower Order Business, Commercial and Industrial Infrastructure Investment
Secondary Alternative Centre	Growth	Mashishing	Service Town	Thaba Chweu, Ehlanzeni	Agriculture and related activities, Mining and mineral beneficiation, Manufacturing, Trade <u>Relevant Vision 2030 Proposal:</u> Lower Order Business, Commercial and Industrial Infrastructure Investment
Secondary Alternative Centre	Growth	Sabie	Service Town	Thaba Chweu, Ehlanzeni	Agriculture and related activities (forestry), Tourism, Manufacturing <u>MIDP Proposal:</u> Forestry Technology Park,

Economic Growth Potential Classification	Town	CSIR Classification	Municipality and District	Economic Focus Sectors
				Forestry Centre of Competence <u>Relevant Vision 2030 Proposals:</u> Lower Order Business, Commercial and Industrial Infrastructure Investment, Forestry Technical Training Centres, Wood SMME Incubator
Secondary Alternative Centre	Barberton	Service Town	City of Mbombela, Ehlanzeni	Agriculture and related activities, Tourism, Trade, Transport <u>Relevant Vision 2030 Proposal:</u> Lower Order Business, Commercial and Industrial Infrastructure Investment
Secondary Alternative Centre	Acornhoek	Service Town	Thaba Chweu, Ehlanzeni	Trade, Manufacturing <u>Relevant Vision 2030 Proposal:</u> Lower Order Business, Commercial and Industrial Infrastructure Investment
Secondary Alternative Centre	Kamaqhekeza	Service Town	Nkomazi, Ehlanzeni	Agriculture and related activities
Secondary Alternative Centre	Middelplaas	Small Service Towns and Rural Service Settlements	Nkomazi, Ehlanzeni	Agriculture and related activities, trade
Secondary Alternative Centre	Elukwatini (Heuningklip)	Small Service Towns and Rural Service Settlements	Chief Albert Luthuli, Gert Sibande	Agriculture and related activities, trade

Economic Growth Potential Classification	Town	CSIR Classification	Municipality and District	Economic Focus Sectors
Secondary Alternative Growth Centre	Dullstroom	Small Service Towns and Rural Service Settlements	Emakhazeni, Nkangala	Agriculture and related activities, tourism
Secondary Alternative Growth Centre	Waterval Boven	Small Town	Emakhazeni, Nkangala	Agriculture and related activities, tourism

In addition to the above-mentioned economic proposals, development of lower order business, commercial and industrial infrastructure in Belfast, Thulamashashe, White River, Kabokweni, Kanyamazane and Ngodwane is proposed by the Vision 2030. Also, there is a proposal for the development of a High Altitude Training Centre/ Sports Academy in Belfast.



Map 25: MIDP and Vision 2030 Economic Proposals

Strategic Objective 4: Diversify Economy

The mining sector contributes 25% to Mpumalanga's GVA; there are other sectors which are directly or indirectly dependent on mining such as manufacturing (specifically metal processing) and utilities (specifically power generation). The combined GVA of these three sectors is more than 40% of the provincial GVA. It is widely accepted that mining is not a sustainable source and it is depleting fast. The negative growth of both the mining and manufacturing sectors during the global recession indicates these sectors' sensitivity towards external circumstances. Abouchakra et al. have identified a clear link between economic diversification and sustainable growth and showed how diversification could reduce a nation's economic volatility and increase its real activity performance. Hence, there is a need for a gradual shift from mining oriented sectors to the sustainable economic sectors to maintain sustained growth of the provincial economy.

It is pertinent to mention that the NSDF recognises that Mpumalanga's Coal Mining and Coal Fired Power Plant region (mainly the Highveld area) will be under immense pressure for environmental considerations and as a result, the region will witness a possible decline in demand of coal and large-scale employment. The NSDF proposes to diversify the regional economy and facilitate the gradual transition of economic activities in the region.

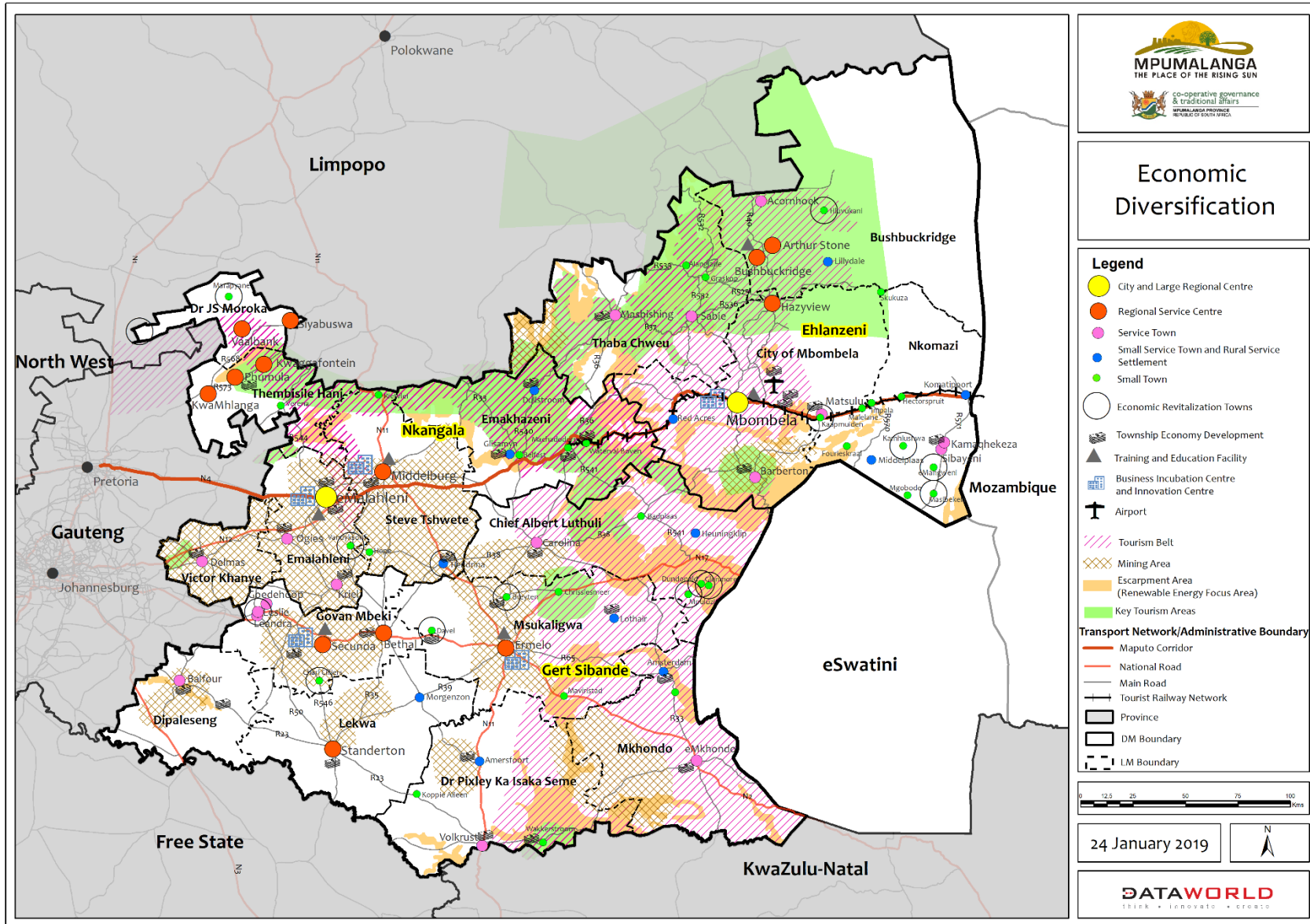
Mpumalanga Province ecological infrastructure plays a critical role in the economy, including job creation and the contribution to provincial GDP, agriculture, forestry and mining. However, the ecological infrastructure is at risk from these sectors' growing demands. The challenge is how to grow the provincial economy, sustain production and improve the lives of our people whilst safeguarding our natural ecosystems and maintaining the critical ecosystem services they provide.

Investing in ecological infrastructure supports built infrastructure. It can lengthen the life of existing built infrastructure and reduce the need for additional built infrastructure. Examples include river or filter strips that absorb pollutants and provide habitat for our biodiversity or healthy rivers that can fix themselves by absorbing pollutants. The Olifants River catchment is a prime example of a system where considerable investment is needed to improve water quality and service delivery. It also serves as an example of where investment in a combination of ecological and built infrastructure could support the various improvements that are needed (Kotze, 2013, Cumming 2014).

Ecosystem restoration activities are increasingly being implemented and supported by global policy commitments within the UN Rio Conventions. Restoring degraded ecosystems has been an important tool for

economic recovery and improving the quality of life. Ecosystem restoration activities can significantly increase job opportunities and improve livelihoods in rural areas and play an essential role in mitigating and adapting to the impacts of anthropogenic climate change. Effective natural resource management and restoration can also contribute to reduced vulnerabilities because healthy and resilient ecosystems are better able to mitigate the impact of natural hazards and they represent important assets for people and communities after a disaster or an extreme event has occurred.

Investments in ecosystem restoration can provide multiple co-benefits to society ranging from improved livelihoods and human health, increased food and water security to enhanced carbon stocks and socio-ecological resilience. Mainstreaming ecosystem restoration requires the assimilation of biodiversity and ecosystem services values into decision-making processes governing all economic activities that manage and use natural capital.



Map 26: Economic Diversification

Strategic Objective:	Spatial Development Strategy	Programme (Plan)	Strategic focus area
<p>Diversify Economy</p>	<p>Exploit “Fourth Industrial Revolution”</p> <p>This strategy aims to explore new and futuristic economic avenues for sustained economic growth. The fourth industrial revolution captures the idea of the confluence of new digital technologies and their cumulative impact on our lives. The fourth industrial development is based on the third industrial revolution or the digital revolution. The revolution will shape the future through its effects on human lives, business and government. The revolution will offer significant business and economic opportunities for the companies and people working on disruptive technologies such as the internet of things, artificial intelligence. In addition to that, the existing economic sectors can be benefited from the revolution as the new technology can enhance the sustainability and productivity of the economic sectors. It is pertinent to mention that the fourth industrial revolution will automate some business processes in the existing economic sectors. As a result, it will lead to job losses. Therefore the government should see the industrial revolution through an economic sustainability lens before promoting it.</p>	<p>To harness the benefits of the fourth industrial revolution a multi-stakeholder approach involving government agencies, business investors and citizens is required.</p> <ul style="list-style-type: none"> • Policy and regulations: The responsible government agencies are required to create enabling and encouraging policies, standards and regulations. • Capacity building: To exploit the fourth industrial revolution it is necessary to build the capacity of local people so that they can contribute to and get benefitted from the ongoing revolution. It is therefore essential to set up educational institutes and training centres at strategic locations to create a workforce to work on digital technologies. • Infrastructure: The government should create the necessary infrastructure to promote the revolution. The list of essential infrastructures required for this purpose includes ICT infrastructure, research and innovation centre, and business incubation centres. 	<p>Develop business incubation centres and innovation centres at Mbombela, Emalahleni, Secunda, Middleburg and Ermelo</p> <p>Develop training and educational institutes at Mbombela, Emalahleni, Middelburg Secunda, Kwamhlanga, Bushbuckridge and Ermelo</p>

Strategic Objective:	Spatial Development Strategy	Programme (Plan)	Strategic focus area
		<p>From a spatial development point of view, the proposed growth and innovation centres should take the lead in this venture as they are better placed than other areas to provide adequate infrastructure and research facilities required to promote the fourth industrial revolution.</p>	
	<p>Develop Tourism Sector</p> <p>Mpumalanga has a wide variety of tourism attraction points located across the province. Despite having such variety of tourism attraction points at present Mpumalanga's tourism industry is heavily dependent on the Kruger National Park and the tourism points and routes located around the park. The other potential tourism areas are often neglected. As a result, the tourism sector's economic output does not commensurate with its potential.</p> <p>The strategy intends to sustainably exploit Mpumalanga's tourism potential by identifying the underlying tourism potential and creating the necessary infrastructure and plans to attract tourists and generate employment and revenue for the province.</p>	<ul style="list-style-type: none"> • Develop a diverse range of special interest tourism products and routes such as natural landscapes and vistas, wildlife, birding, art, struggle history, jock, adventure, water sports, cultural, and rural tourism. • Update tourism facilities of the five main tourism nodes/ routes (Mpumalanga Lowveld; Trout Triangle; Loskopdam-Dinokeng tourism belt; Somgimvelo-Malolotja transfrontier conservation area; and Mpumalanga Lake District, Heyshope Dam, Wakkerstroom Biosphere Reserve) • Upgrade the corridors (N4, N11, R33, R40 and R573) connecting the main tourist points • Encourage the participation of rural communities within the tourism sector as well as create opportunities for attracting tourists into the province, especially into rural settlements located within the former homeland areas. 	<p>Strengthening of well-established tourism nodes and routes by improving facilities</p> <p>All tourism routes and nodes covering Mpumalanga Lowveld (Kruger National Park, Panorama Route, Echo Caves) Trout Triangle including Mbombela, Sabie, Graskop, Bushbuckridge, Kruger National Park, Komatipoort, Belfast, Machadodorp, Dullstroom</p> <p>Promotion of underdeveloped and undeveloped tourism areas and development of necessary tourist facilities</p> <p>Loskopdam-Dinokeng tourism belt, Somgimvelo-Malolotja transfrontier conservation area</p>

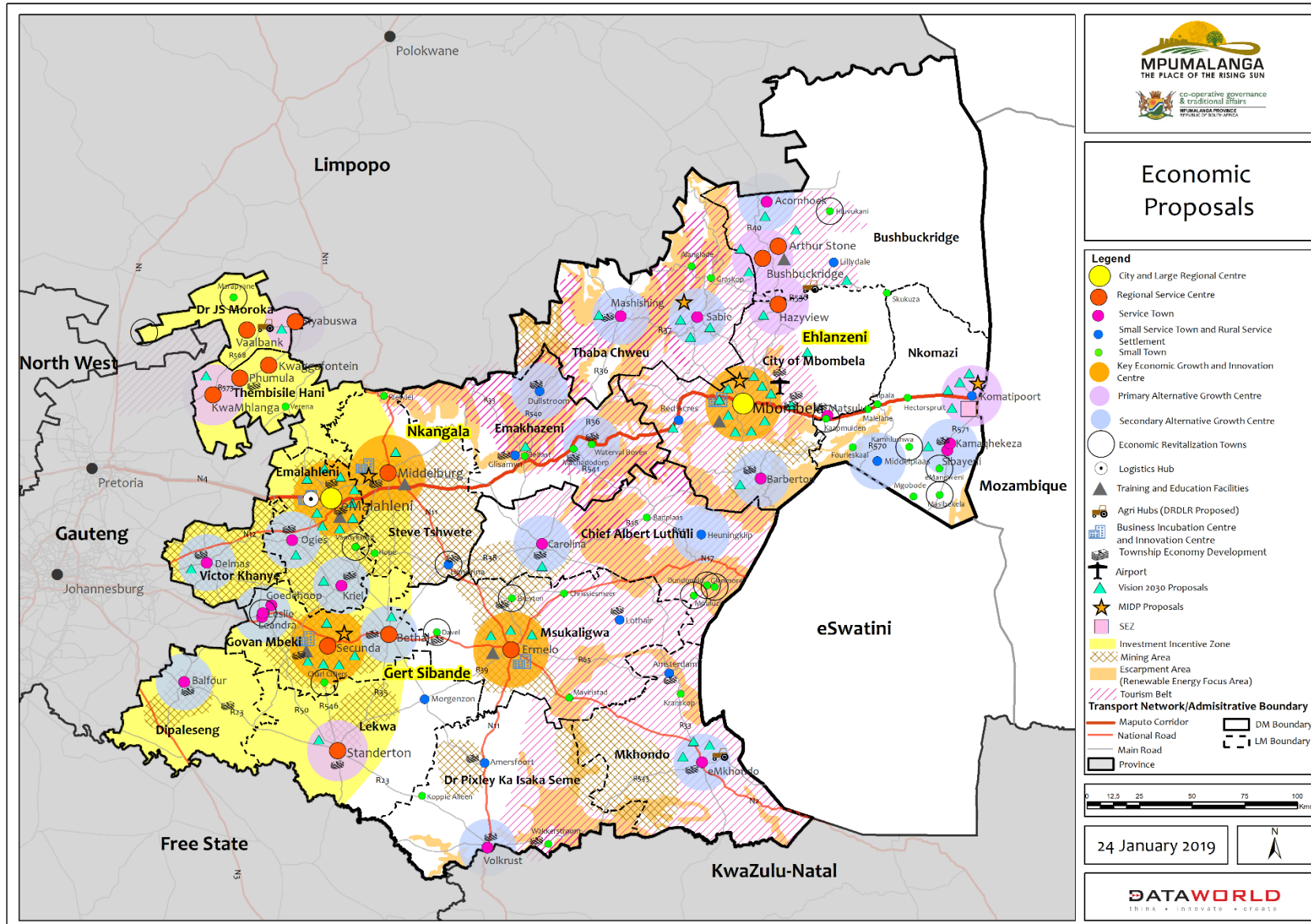
Strategic Objective:	Spatial Development Strategy	Programme (Plan)	Strategic focus area
		<ul style="list-style-type: none"> • Market and package township, cultural and rural tourism • Create functional and efficient linkages between the tourism nodes and the nearby urban centres • Railway resuscitation connecting tourism nodes in Kruger Lowveld area with a straight line from OR Tambo Airport to Mbombela • Augment the role of Kruger Mpumalanga International Airport to draw more domestic and international tourist to Mpumalanga Lowveld Area • Development of a luxury tourist rail network starting from Sabie/ Machadodorp/ Barberton to Maputo passing through Nelspruit • Explore the possibility of developing a cross-provincial tourism belt starting at St Lucia in KwaZulu Natal, ending at Musina in Limpopo and passing through the Panorama route, Sabie, Nelspruit, Barberton, Mpumalanga Lake District, Heyshope Dam, Wakkerstroom Biosphere Reserve and eMkhondo • Development of the relatively undeveloped Loskop Dam to Dinokeng tourism belt which extends through the Thembisile Hani and JS Moroka local municipalities. 	<p>near Barberton, The Mpumalanga Lake District, Heyshope Dam, Wakkerstroom Biosphere, Sudwala Caves, Mapoch's Caves and World Heritage Site, Lion Cavern and Dumaneni in the Ngwenya Mountains, Ruins of 19th century capital of the Ndzundza Ndebele Kingdom, Stone Ruins and the Historic towns, Anglo-Boer War sites, Ndebele museums and Shona Cultural Village</p> <p>Upgrade corridors connecting the five main tourism nodes of the province</p> <p>Road: N4, N11, R33, R40, R573</p> <p>Rail: Corridor connecting Gauteng (OR Tambo Airport) with Mpumalanga Lowveld,</p> <p>A luxury tourist rail network starting from Sabie/ Machadodorp/ Barberton to Maputo passing through Nelspruit</p>

Strategic Objective:	Spatial Development Strategy	Programme (Plan)	Strategic focus area
		<ul style="list-style-type: none"> • Implement a Cultural Tourism Arch linking tourism potentials from Gauteng-Limpopo traversing through the Long Tom Pass and neighbouring countries (Swaziland and Mozambique). • Further tourism interventions can be initiated and development through the following potentials as per region: <ul style="list-style-type: none"> ○ Cosmos Country: Entertainment, Industrial and Township Tourism ○ Cultural Heartlands: Cultural Heritage and Residential Tourism ○ Highlands Meander: Sports, Activity, and Agri-Tourism ○ Kruger Lowveld: Adventure, Wildlife and Nature Tourism ○ Grasslands and Wetlands: Leisure and Resort Tourism ○ Panorama Route: Sports and Recreation, Eco-Tourism 	Moloto corridor
	<p>Energy Generation from Renewable Sources</p> <p>Both South Africa and Mpumalanga are dependent on coal fired power stations to</p>	<ul style="list-style-type: none"> • Explore the possibility of generating energy from renewable sources • Demarcate areas for renewable energy stations 	Unused lands and lands with low agriculture potential for solar and wind power (mostly located in the Escarpment region)

Strategic Objective:	Spatial Development Strategy	Programme (Plan)	Strategic focus area
	<p>meet their energy needs. Unfortunately, coal fired power stations are a major contributor to air pollution, and the country's coal reserve is depleting at a brisk pace. There are thrusts from the international communities, national and provincial governments to generate energy in a sustainable way from renewable and alternative sources such as solar and wind. In addition, the province has the potential to generate energy from biomass and municipal waste. As per the Department of Energy (State of Renewable Energy in South Africa, 2015), biomass from agricultural and forestry waste is considered the largest renewable energy resource for the province. The Department of Energy also considers that Mpumalanga has areas with an acceptable level of micro hydropower potential.</p>	<ul style="list-style-type: none"> • Incentivise renewable power generation projects 	<p>Escarpment region for micro hydropower station and biomass energy generation</p>
	<p>Township Economic Development:</p> <p>Townships are often characterised by high levels of unemployment and poverty, lack of basic services, and the presence of informal dwelling units. Almost every township is predominately occupied by the previously disadvantaged communities. In Mpumalanga, townships</p>	<ul style="list-style-type: none"> • Improve access to capital and market to the local township entrepreneurs • Link the townships with the proposed key and alternative growth centres and agri-parks. • Create a township entrepreneurship development programme and build the capacity of local people. 	<p>All townships including the following: Botleng, Bothibelong (Victor Khanye), Block C Maqhekeza (Nkomazi), Siyathemba, Nthorwane (Dipaleseng), Sakhile (Lekwa), Silobela (Albert Luthuli) Embalenhle, EMzinoni (Govan</p>

Strategic Objective:	Spatial Development Strategy	Programme (Plan)	Strategic focus area
	<p>house a significant portion of the urban population. Therefore, it is essential to uplift the economic bases of the townships to achieve a balance and inclusive development.</p>	<ul style="list-style-type: none"> • Increase government spending on township economies and encourage government departments to procure from townships • Encourage local municipalities to develop flexible by-laws and land use regulations for the townships and provide incentives to the township business owners and investors • Develop necessary infrastructure and linkages for movement of people and goods to and from the townships • Encourage the development of small scale retail spaces and discourage the development of large malls and supermarkets in and around the townships Explore and market tourism potentials of the townships 	<p>Mbeki), Emgwenya, Emthonjeni, Sakhelwe, Siyathuthuka</p> <p>(Emakhazeni), Daantjie, Emjindini, Kabokweni, Kanyamazane, Matsulu (City of Mbombela), Esizameleni, Ezamokuhle, Vukuzakhe (Pixley ka Seme), Ethandakukhanya, KwaThandeka</p> <p>(Mkhondo), Hlalanikahle, KwaGuqa, Phola, Thubelihle</p> <p>(eMalahleni), Kwachibikhulu, Kwadela, Kwazenele, Phumula, Silindile(Msukaligwa), KwaZamokuhle, Mhluzi</p> <p>(Steve Tshwete), Mashishing (Thaba Chweu)</p>
	<p>Improve Small Towns Economies and Revitalize Mining Towns</p> <p>The province has a strong mining base and a number of the small towns and settlements that were developed to house mine workers and their families. These towns often have sound socio-economic amenities and physical infrastructure. As these towns developed in repose to the demand of the mining sector, these towns</p>	<ul style="list-style-type: none"> • Integrate the small towns and deteriorating mining towns with the economic growth centres and tourism nodes by means of physical and economic infrastructure. • Develop town specific urban regeneration strategies. The strategies may include proposals linked to the diversification of town economies, mining heritage tourism, SMME 	<p>Hendrina, Kaapmuiden, Kamhlushwa, Marapyane, Masibeleda, Dundonald, eMangweni, Leslie, Masobe, Breyten, Vandyksdrif, Charl Cilliers, Davel, Empuluzi, Glenmore, Hluvukani</p>

Strategic Objective:	Spatial Development Strategy	Programme (Plan)	Strategic focus area
	<p>rely so much on mining that if mines in the surrounding area close the towns' economies deteriorate. The decreased level of economic activities not only create socio-economic problems but also put pressure on the financial resources essential to maintaining the infrastructure. In addition to the mining towns, many small towns dot the province's landscape. These towns are mainly agriculture towns serving the nearby rural communities. Similar to the mining towns, these towns don't have a diverse economic base. The key economic activities of these towns are agriculture and retail. This strategy aims to revitalize economies of the province's small towns.</p>	<p>development and human capacity building.</p> <ul style="list-style-type: none"> • Promote diversification of economic activities by identifying latent economic potentials and providing incentives for investment. • Rehabilitate natural environment and mining landscape • 	



Map 27: Overview of the Economic Proposals

3.2.3 CONSERVATION AND RESOURCE UTILISATION

Strategic Objective 1: Protection of Biodiversity and Resource Utilisation.

Mpumalanga is a unique province as it has a wide range of biodiversity, mineral resources and good quality soils for agriculture. Mining, Agriculture and tourism are important sectors for the provincial economy. Interestingly, the areas with good quality soils and areas with extensive mineral resources often overlap and as a result, the mining and agriculture sectors compete with each other for land and water resources. At times these two sectors encroach areas demarcated for the conservation of biodiversity and the natural ecosystem.

Conservation plays a crucial role in the economy through job creation and eco-tourism. For example, protected areas are an important drawcard for nature-based tourism, supporting a tourism sector that contributes a growing 2.9% to the country's economy. Protected areas are also a basis for jobs within both the tourism and wildlife sectors. Nature-based tourism in the Province holds great potential to provide many more economic opportunities going into the future. The recent statistics place Mpumalanga in fourth position with regards to international tourist arrivals in 2015.

Spatial planning should encourage sustainable, balanced growth and development within the carrying capacity of the area. This can be achieved by controlling all kind of

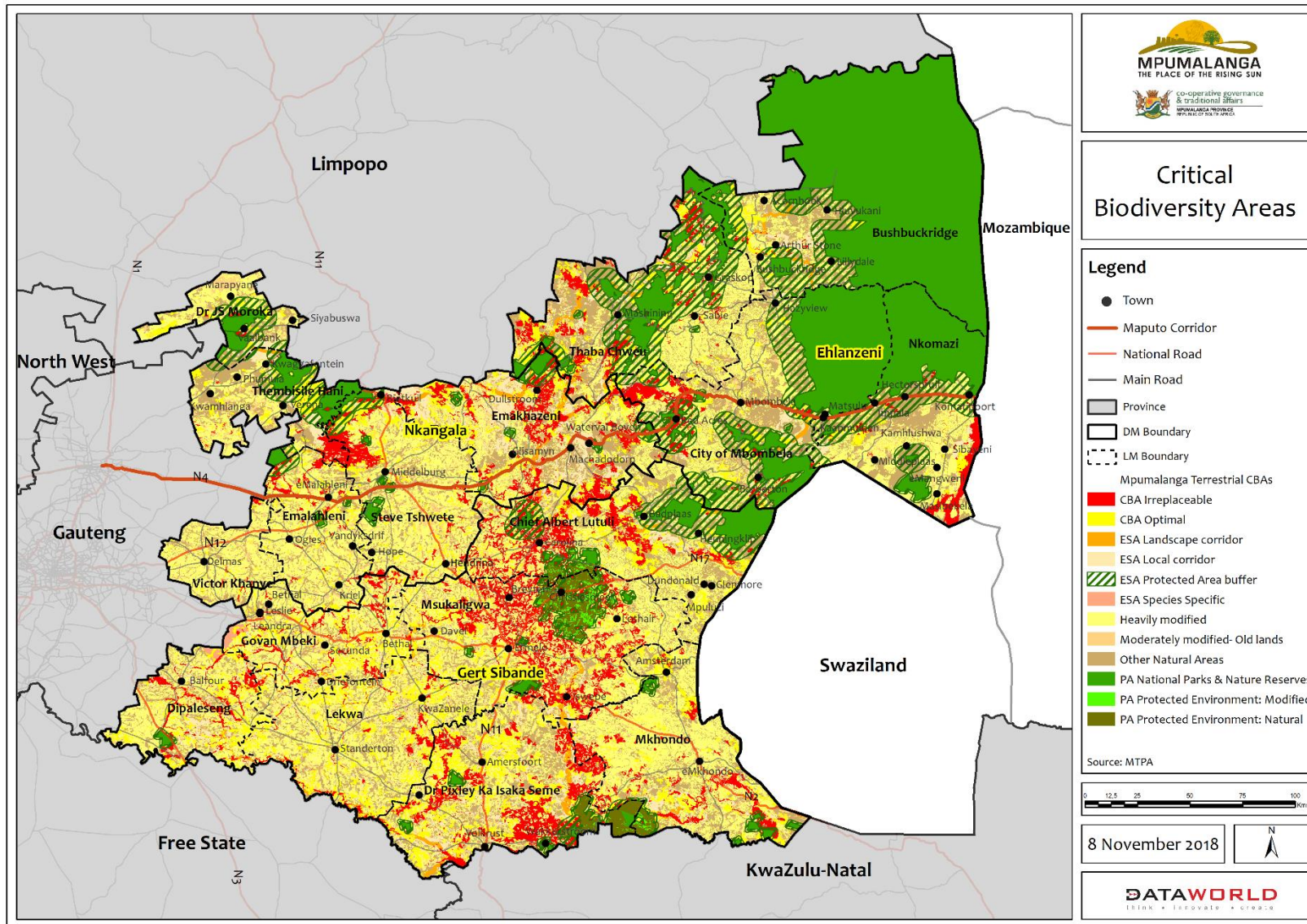
man made development and conservation of agricultural and environmentally important land. Such conservation includes the preservation and efficient management of natural resources. To give effect to sustainable and balanced growth, efficient land use management as it could create a degree of sustainability in the province.

Strategic Objective:	Spatial Strategy	Development Programme (Plan)	Strategic focus area
Protect Biodiversity & Ecosystem Services	Integration of ecological infrastructure considerations into land-use planning and decision making to ensure that ecosystem services are delivered to society in perpetuity.	<ul style="list-style-type: none"> • Map important ecological infrastructure for use in spatial planning and for restoration/rehabilitation • Local spatial development framework and land use schemes should be acknowledging the special requirements for development anything within the vicinity ecological infrastructure. • Identify high potential soils and implement the Mpumalanga Biodiversity Sector Plan or bioregional plans 	Map ecological infrastructure in municipalities, districts and the province as a whole
	Conserve and protect high priority biodiversity areas from further habitat loss.	<ul style="list-style-type: none"> • Implementation and Compliance with the Mpumalanga Biodiversity Sector Plans and Environmental Management Frameworks. • The Province must Gazette District Municipality bioregional plans to inform land-use decision making. • Infrastructure improvements and upgrades on the nature reserves and the completion of management plans for various reserves. 	<ul style="list-style-type: none"> • Development of three district bioregional plans • Regularisation of old order nature reserve proclamations. • Monitor management effectiveness. • Management and eradication of alien species. • Ensure that protected areas are properly gazetted in terms of the Protected Areas Act.

Strategic Objective:	Spatial Strategy	Development Programme (Plan)	Strategic focus area
	Prevent further intrusion of agricultural activity or urban expansion into key Critical Biodiversity Areas and ecological support areas.	<ul style="list-style-type: none"> Identify and protect Critically Biodiversity Areas and Ecological Support Areas from habitat loss. Municipal zoning schemes should incorporate measures to secure the priority biodiversity network (e.g. delineation of CBA overlay zones, development bonuses). The environmental heritage and conservation areas, biodiversity hotspots and ecological corridors should be treated as a special Biodiversity Management Zone to be actively protected, managed and enhanced so as to ensure that these are not degraded by mining, forestry, agricultural and human settlement activities. 	<ul style="list-style-type: none"> The sensitive upper catchments and wetlands of the Wakkerstroom-Luneburg area. The Chrissiesmeer Lakes District. 3. Belfast-Dullstroom Plateau. Pilgrim's Rest and Graskop areas; The irreplaceable and highly significant areas of biodiversity that run in a north-south alignment from Dullstroom to Wakkerstroom. Centres of Plant Endemism
	Identify and develop management interventions for reducing species loss.	Develop and implement legislative tools to ensure the protection of species and ecosystems.	<ul style="list-style-type: none"> DEA, province, SANBI
	Ensuring climate resilient ecosystems	<ul style="list-style-type: none"> Incorporate climate change adaptation into how natural land and ecosystems are managed. 	<ul style="list-style-type: none"> Incorporate climate change adaptation priorities within protected area expansion plans.

Strategic Objective:	Spatial Strategy	Development Programme (Plan)	Strategic focus area
		<ul style="list-style-type: none"> • Improving upon the science and best practice for including climate change impacts with systematic biodiversity plans. • Assess the possible impacts of other land uses that may exacerbate the impacts of climate change on tourism or the economic development within the region. • Improve the identification of climate change refugia in Mpumalanga. • Improve the use of connectivity metrics in identifying climate change corridors. 	
	<p>Manage and propagate threatened wildlife, compliance monitoring, wildlife management, enforcement and permits.</p>	<ul style="list-style-type: none"> • Proactively visit private conservation practitioners to inspect compliance. • Strengthen the ability of compliance units to deal with enforcement issues, such as rhino poaching. 	<p>Maintain adequate enforcement capacity in the Province</p>
	<p>Increased community involvement in wildlife economy.</p>	<ul style="list-style-type: none"> • Finalise land claims in protected areas • Provide support to claimant communities to create mutually beneficial partnerships. • Establish biodiversity corridors that balance conservation with sustainable use. • Support community – public – private partnerships around conservation. • Implement diversified wildlife management strategies including responsible hunting. 	<p>Barberton Makhonjwa World Heritage Site; Mbombela and Bushbuckridge</p>

Strategic Objective:	Spatial Strategy	Development Programme (Plan)	Strategic focus area
	Promote wildlife economy and green jobs	<ul style="list-style-type: none"> Explore implementation of international and national opportunities to from wildlife economy and climate change funding directed opportunities. 	Province
	Improved biodiversity protection. Protection of ecosystems outside of protected areas is crucial for sustaining the services that ecosystems provide.	<ul style="list-style-type: none"> Encourage biodiversity stewardship amongst landowners. Enforce NEMBA and provincial biodiversity regulations. 	Protected Area Expansion priorities
	Unlock business opportunities for privately owned protected areas, particularly for new land claimants.	Enterprise tourism development to support protected areas.	Privately owned protected areas; successful land claimants
	Avoid the irreversible loss and degradation of biodiversity	<ol style="list-style-type: none"> Establish programmes for the rehabilitation of land affected by degradation. Implement the MBSP to avoid the loss of biodiversity 	<ul style="list-style-type: none"> Actively police the development of nonconforming land uses.
	Strengthen land care, woodlands conservation, habitat rehabilitation, ecosystem rehabilitation, and other conservation farming programmes.		



Map 28: Terrestrial CBAs

Strategic Objective 2: Ensure Conservation of all Water Resources and Catchment Areas

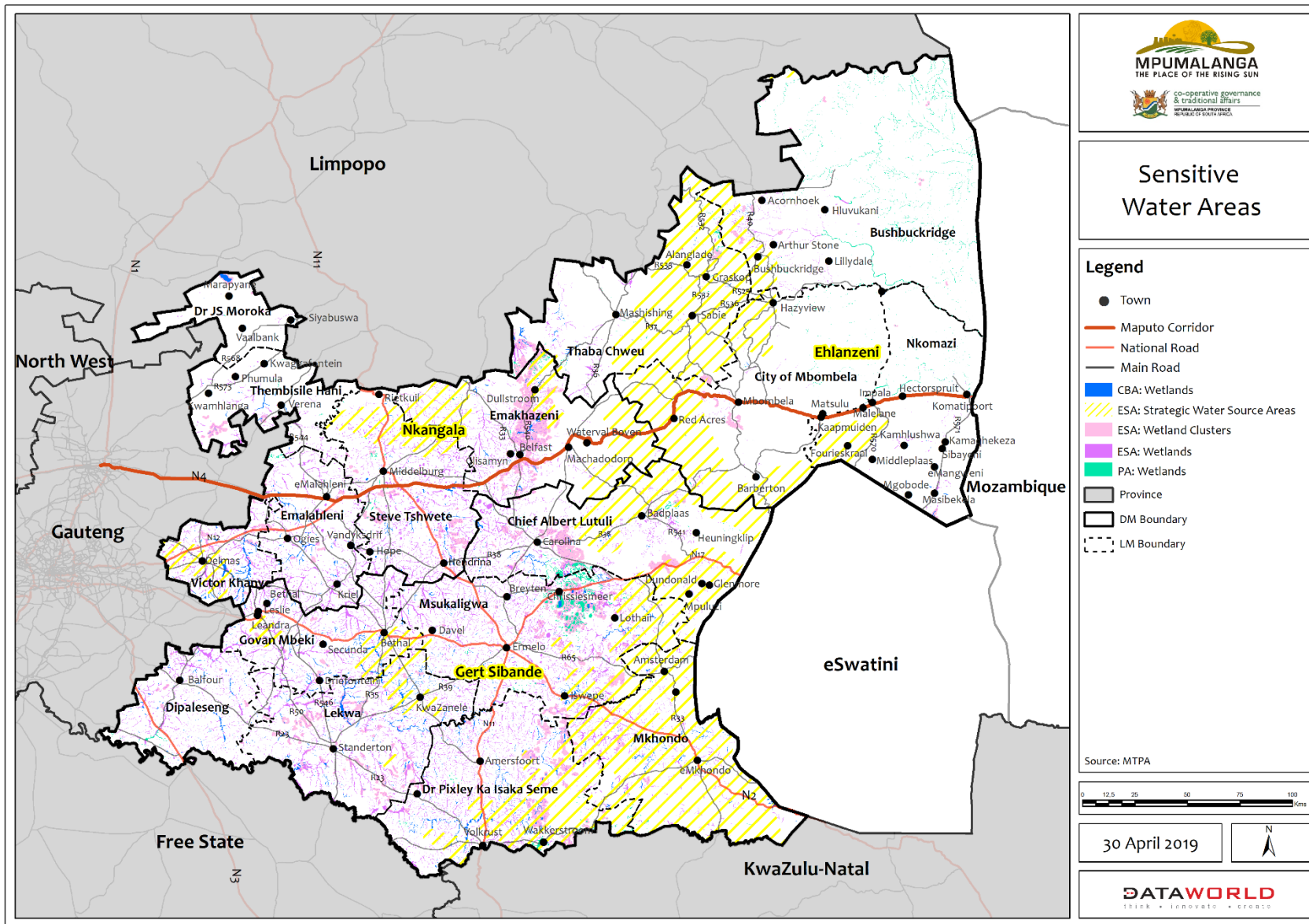
The water resources in Mpumalanga are under pressure as the demand for water exceeds water availability. The sectors requiring a large quantity of water are commercial agriculture, forestry plantations, Eskom's power stations, mining and industrial uses, domestic water consumption and ecological water needs. Water shortage will impact the above-mentioned sectors, which will have a direct impact on the economy of the province.

In Mpumalanga, the situation is completely out of control with over 60% of the province under some sort of mining or prospecting application. Many of these are in areas that should be definitive no-go areas or mining control areas because of their water, food production and biodiversity value.

The concept of ecological infrastructure represents a new way of looking at biodiversity, attaching value to it and relating it to the national development agenda. Potential benefits of rehabilitating and maintaining our ecological include the following:

- Ecological Infrastructure enhances the built environment.
- Strategic investment in ecological infrastructure lengthens the life of the existing built environment and reduce or delay the need for additional built infrastructure often with significant cost savings. Degraded ecological infrastructure increases the vulnerability of built infrastructure to damage during

extreme events like floods and increases maintenance costs.



Map 29: Sensitive Water Areas

Strategic Objective:	Spatial Development Strategy	Programme (Plan)	Strategic focus area
Ensure Conservation of all Water Resources and Catchment Areas	Regulate future development in accordance with the availability of water.	Determine the total carrying capacity of the water resource.	Urban, rural, agricultural, industrial and ecological requirements.
	Conserve water through effective water management	<ol style="list-style-type: none"> 1. Monitor all water use within the municipalities and provincial boundaries. 2. Develop and institute the following: <ul style="list-style-type: none"> - Implement water loss control measures such as pressure management and leakage control programmes. - Recycle wastewater - Harvest rainwater 	Province wide
	Water quality management (Mine water treatment)	<ol style="list-style-type: none"> 1. Identify various acid mine drainage treatment options and technologies, including active, passive and in situ treatment technologies. 	Province wide but especially in the Highveld region
	Ensure Conservation of all catchments with the Province	<ul style="list-style-type: none"> • Control all forms of pollution in catchment areas. • Control all alien plants infestations in river courses. • Regulate modification of river beds and natural flow patterns. • Wetland Rehabilitation 	<ul style="list-style-type: none"> • Draft and apply integrated pollution management plans. • Draft and apply integrated management plans for control of alien plant infestations. • Any Modification of river beds must be subject to EIA.
Ensure equitable access to all rightful users (Water Allocation and Provision)	<ul style="list-style-type: none"> • Ensure the improvement and upgrading of existing water reticulation systems. • Undertake a survey regarding water source capacity across municipal boundaries 	Province Wide	

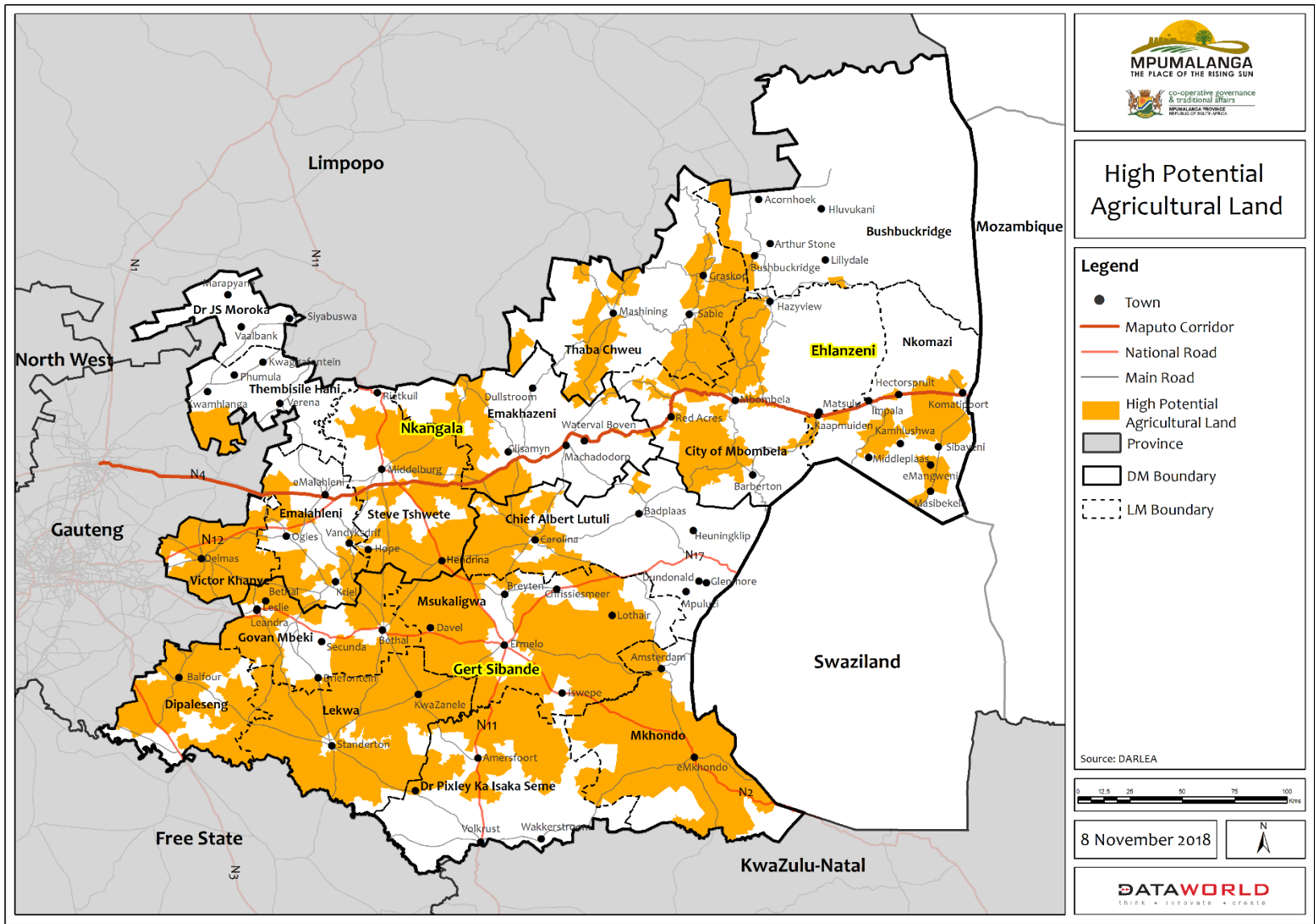
Strategic Objective:	Spatial Development Strategy	Programme (Plan)	Strategic focus area
		<ul style="list-style-type: none"> • Investigate the viability of providing additional water storage dams/tanks for sustainable water provision throughout the year. • Conduct regular preventative maintenance programmes of the raw water distribution and conveyance systems to detect and fix leaks (DWA, CMA's, District and local Municipalities). • Implement appropriate preventative maintenance programmes on irrigation equipment (farmers). 	
	<p>Ensure that the concepts of environmental awareness and protection are promoted and accepted by all stakeholders (Agricultural Sector).</p>	<ul style="list-style-type: none"> • Institute integrated water quality studies and compulsory scheduled monitoring. • Minimise return flows from irrigated fields. Minimize the pollution and degradation of surface and groundwater by the optimal application of pesticides, herbicides and fertilizers (farmers). • Monitor and measure water quality upstream and downstream of the irrigation areas to protect the aquatic ecosystem and the downstream users. • Initiate awareness campaigns through workshops, discussion forums, and newsletters (DWS, CMA, District and Local Municipalities). 	Province Wide
STRATEGIC WATER SOURCE AREAS			
	<p>Ensure the protection of strategic water source areas.</p> <p>Note: The Province must ensure that National Water resources are protected, used, developed,</p>	<ul style="list-style-type: none"> • Protect Strategic Water Source Areas (SWSA) through the management of land use changes: <ul style="list-style-type: none"> ➤ Incorporating Strategic Water Source Areas (SWSA) into provincial and municipal spatial planning tools 	Province wide

Strategic Objective:	Spatial Development Strategy	Programme (Plan)	Strategic focus area
	<p>conserved, managed and controlled in an efficient and sustainable manner and comply with the Second Edition of the National Water Resource Strategy (NWRS2).</p>	<ul style="list-style-type: none"> ➤ Ensure that only compatible land uses may occur near rivers and wetlands within SWSAs • Establish programmes and plans for the restoring and eradication of invasive alien plants in Strategic Water Source Areas and climate change refugia. • Map SWSAs and identify land use pressures that may impact on water quality and quantity in these priority areas. • Ensure no development occurs near wetlands or rivers in the SWSAs. Incorporate into SDFs, LUSs, EMFs and Bioregional Plans. 	

Strategic Objective 3: Promote a Sustainable Agriculture

Agriculture plays a significant role in fighting against poverty, supplying employment to unskilled workers, ensuring food security to rural people as well as stimulating other sectors in the value chain which makes it an important sector towards the attainment of growth and development. The agricultural sector is threatened by various internal and external constraints such as poor conditions of rural road infrastructure, ownership of land, land reform failures, mining activities, urbanization, climate change, water availability, lack of agro-processing and markets, human capacity and marginal soils.

The protection of high potential and productive agricultural land is a necessity. Agriculture has been competing with other land uses, most notably are the mining industry and urban development. The gradual expansion of the mining sector may have serious implications on land reform and food security. The level of mining, which is already high, and prospecting applications combine to cover the greater majority of the land area thus putting agriculture and the environment to high risk. Therefore, there is a need to put mechanisms in place that will help with the protection and management of these vital resources.



Map 30: Agricultural Potential Land

Strategic Objective:	Spatial Development Strategy	Programme (Plan)	Strategic focus area
Promote a Sustainable Agriculture	Entrench the status of the natural environment and its resources as the determining factor in sustainable agriculture. Reforming agricultural legislation to support sustainable farming practices.	<ul style="list-style-type: none"> • Strategically locate underutilised land for development • Increase the utilisation of idle farming land • Regulate agricultural development and resource use in accordance with applicable legislation. 	All farms that fall under sensitive/unique areas
	Conserve all natural areas on farms	<ul style="list-style-type: none"> • Draft and apply integrated management systems for natural areas within agricultural zones. 	All farms that fall under sensitive/unique areas
	Regulate the clearing of land for agricultural development in accordance with applicable legislation.	<ul style="list-style-type: none"> • Institute compulsory EIA prior to any clearing of land. 	All farms that fall under sensitive/unique areas
	Conduct a diagnostic assessment on where green initiative can be applied within Mpumalanga commercial farms	<ul style="list-style-type: none"> • Establish effective windbreaks prior to clearing of land in erosion-prone areas. • Institute effective law enforcement and impose appropriate penalties for transgressions. • Promote effective resource utilization through energy and water efficiency technologies. Pilot the inclusion of green initiatives in a farming co-operative e.g. rainwater harvesting, solar lighting etc.	All farms that fall under sensitive/unique areas
	Re-use and recovery	<ul style="list-style-type: none"> • Addition of alternative forms of energy, energy efficiency and recycling in Agri-Parks and Agri-hubs. 	All farms that fall under sensitive/unique areas

	Protect river and wetland systems from surrounding negative land use	Avoid ploughing within legislated 32m buffer from all watercourses	All farms that fall under sensitive/unique areas
	Protect agricultural resources Protect and manage productive use of high value agricultural land. Mpumalanga currently does not have any agricultural management or protection system.	<ul style="list-style-type: none"> • Development of an agricultural protection and management framework that all municipalities can use. • Identify and map all protected agricultural land. • The approving of applications to convert intensive agricultural land to other uses should be a provincial responsibility • All land put under plough should be reserved for intensive agriculture. • Capitalise on the access to markets at a local and regional level. • Extensive cattle and game farming should be promoted in the northern regions where the terrain becomes more mountainous. • All land that has previously been used for intensive agriculture that has been destroyed must be rehabilitated. 	Intensive agriculture should be promoted along the N4 and N12 Corridors, Province wide but specifically in the mining areas (Highveld region)
	Identify, protect and manage the development of land with high agricultural production potential, and small scale agriculture and resource enterprise development potential.	<ul style="list-style-type: none"> • Encourage the protection of high value agricultural land through the development of rural development edges. 	Province wide but specifically in the mining areas (Highveld region)

	<ul style="list-style-type: none"> Regulate agricultural development and resource use in accordance with applicable legislation. 	
<p>Promote small-scale and extensive commercial farming activities. (Focused approach by the provincial and national departments of Agriculture to promote and enhance commercial farming in their identified focus areas, and to ensure that the local communities within the CRDP areas are sufficiently capacitated by way of skills and equipment to maximise the benefits to be derived from this initiative).</p>	<ul style="list-style-type: none"> Facilitate Agrarian Transformation within the CRDP priority areas. Successful land claims within the Municipalities should be supplemented with support and training programmes in order to ensure that the land is productively utilised in a financially sustainable manner. Establishment of fresh produce markets at the urban and rural growth points. 	CRDP priority areas
<p>Avoid the irreversible loss and degradation of biodiversity. Strengthening land care, woodlands conservation, habitat rehabilitation, ecosystem rehabilitation, and other conservation farming programmes.</p>	<ul style="list-style-type: none"> Rehabilitation of land affected by degradation. 	Province wide but specifically at JS Mororka, Thembisilie, Chief Albert Luthuli, Nkomazi, City of Mbombela, and Bushbuckridge municipalities
<p>Plan for the impacts of climate change on the agricultural sector. Support rural communities in their ability to respond to climate change</p>	<p>Agriculture sector needs to develop and implement climate change strategies aimed at identifying areas or communities vulnerable to the impacts of climate change and plan accordingly</p>	Province and Municipality level
<p>Promote the skills of, and support to, smallholder farmers through the provision of capacity building, mentorship, farm infrastructure, extension services,</p>	<p>The Farmer Production Support Unit (FPSUs) must be established in each municipality as required to support vegetable farmers (e.g. Input supplies (such as seed, fertilizer,</p>	All smallholder farmers involved in vegetable

	<p>production inputs, and mechanisation inputs. Create an enabling environment for smallholder farmers to produce vegetables.</p>	<p>pesticides, herbicides, etc.), training and extension support, mechanisation support, local logistics support, some storage, and processing for local markets, through-put of excess products to Agri-hubs. The Rural Urban Market Centre Unit (RUMC) must be established to assist farmers and processors in managing a nexus of contracts and large warehousing.</p>	<p>production (Province-wide).</p>
	<p>Create an enabling environment for smallholder farmers to farm with chickens for the egg and meat markets.</p>	<p>FPSUs must be established in each municipality as required to provide Input supplies such as feed and medicines as well as training and extension support, mechanisation support and local logistics support. The RUMC must provide the IT expert/personnel, Administrative manager, Training personnel, Marketing agents (to Facilitate market linkages, facilitate contracts with wholesalers and major retail outlets and also to gather information on prices that would be communicated to the Agri-Hub Unit (AH) and FPSU).</p>	<p>All smallholder farmers within the District Municipalities</p>
	<p>Create an enabling environment for smallholder farmers to use existing forests and plantations for the production of honey, mushrooms and medicinal plants.</p>	<p>The Farmer Production Support Unit (FPSUs) must be established in each municipality as required to support farmers (e.g. Input supplies (such as seed, fertilizer, pesticides, herbicides, etc.), training and extension support, mechanisation support, local logistics support, some storage, and processing for local markets, through-put of excess products to Agri-hubs</p>	<p>All smallholder farmers within the District Municipalities</p>

		<p>The Rural Urban Market Centre Unit (RUMC) must be established to assist farmers and processors in managing a nexus of contracts and large warehousing.</p>	
	<p>The establishment of tree nurseries for indigenous trees and plantations samplings.</p>	<p>The Farmer Production Support Unit (FPSUs) must be established in each municipality as required to support farmers (e.g. Input supplies (such as seed, fertilizer, pesticides, herbicides, etc.), training and extension support, mechanisation support, local logistics support, some storage, and processing for local markets, through-put of excess products to Agri-hubs.</p> <p>The Rural Urban Market Centre Unit (RUMC) must be established to assist farmers and processors in managing a nexus of contracts and large warehousing</p>	<p>All smallholder farmers within the District Municipalities</p>

Strategic Objective 4: Promote a Low Carbon and Climate Resilient Economy

Air quality within the Mpumalanga Province, especially within the Highveld area, has been depleting over the years and today it counts among the poorest in South Africa. Home to 12 of Eskom's 15 coal-fired power stations; petrochemical plants like Sasol's giant refinery in Secunda; metal smelters; hundreds of primarily coal mines; brick and stone works; fertiliser and chemical producers; explosives producers; charcoal producers; and other small additional industrial operations, the Highveld is one of South Africa's industrial heartlands (CER, 2017).

The Highveld area in Mpumalanga is associated with poor Air Quality and high concentration of pollutants. The Highveld region accounts for approximately 90 percent of South Africa's scheduled emissions of industrial dust, sulphur dioxide and nitrogen oxides (Wells et al. 1996, as cited in Josipovic et al. 2009). It is probably the country's most significant contributor of pollutants associated with acid deposition. Acid deposition is a primary contributor to acid rain which changes the standard soil composition and eventually affects biodiversity.

Strategic Objective:	Spatial Development Strategy	Programme (Plan)	Strategic focus area
Promote a Low Carbon and Climate Resilient Economy	Promote a just transition to an environmentally sustainable economy: <ol style="list-style-type: none"> 1. Prioritise the transformation of the provincial economy towards a low carbon economy through effective regulatory measures within policies. 2. Make efficient use of non-renewable resources 3. Increase in renewable energy consumption. 	<ul style="list-style-type: none"> • Biomass Electricity generation industry plans and programmes in Ehlanzeni and Gert Sibande District Municipalities. • Hydroelectricity development opportunities in Ehlanzeni District Municipality. • Prepare Resource Efficient Development Policy. • Explore possibilities of developing solar plants and wind energy plants in the province. 	<ol style="list-style-type: none"> 1. Ehlanzeni and Gert Sibande District Municipalities. 2. All municipalities need to develop climate change adaptation and mitigation strategies
	Eco-conscious towns with improved resource utilisation: <ol style="list-style-type: none"> 1. Expansion of recycling activities and waste beneficiation. 2. Regulate waste disposal in accordance with the integrated management plans. 3. Curbing carbon emissions through developing a more sustainable electricity supply, making industrial, commercial and mining operations and buildings more energy efficient. 4. Monitor the emission of the companies and industries. 5. Carbon emissions targets must inform environmental assessment procedures for infrastructure investment decisions at all levels of government. Studies and data on 	<ul style="list-style-type: none"> • Establish waste to energy project within provincial urban centres. • Investigate the viability and sustainability of recycling activities within large municipalities. • Set up community engagement structures: to promote environmental awareness, • Creation of conducive economic conditions to enable implementation of IWMP's and allow private investment on waste management facilities. • Establish functional units for Waste Management with a clear allocation of responsibilities with respect to environmental legislation and enforcement of appropriate by-laws. 	<ol style="list-style-type: none"> 1. All municipalities need to develop climate change adaptation and mitigation strategies

Strategic Objective:	Spatial Development Strategy	Programme (Plan)	Strategic focus area
	<p>carbon emissions should be made available to all relevant departments and municipalities.</p>	<ul style="list-style-type: none"> • Registration and reporting to waste information system (WIS), research and development initiatives, training and awareness programmes. • Promote the use of solar PV and energy efficiency devices in businesses and buildings. • Encourage deployment of solar PV technology on government and private buildings. • Partner with business associations in driving energy efficiency. • Establish Air Quality Management Plans for each Municipality. 	
	<p>Respond effectively to climate change (Energy- Efficiency and demand side management):</p> <ol style="list-style-type: none"> 1. Manage and conserve areas important for climate change resilience through a range of mechanisms including land-use planning, environmental impact assessments, protected area expansion, and working with industry sectors to minimise their spatial footprint and other impacts. 2. National climate change mitigation measures and interventions should be supported, integrated and promoted on a provincial level. 	<ul style="list-style-type: none"> • Develop climate adaptation strategies unique to the Mpumalanga province environmental, social and economic character. • Development and Implementation of sector adaptation strategies/plans for the Province's District Municipalities. • Develop Scoping report to support policy alignment for climate change adaptation. • Facilitate public and catalyse private sector investment in renewable energy. 	<ol style="list-style-type: none"> 1. Province 2. Water and Sanitation, Agriculture, Forestry, and Fisheries, Human Settlements, Provincial Departments and Local Authorities.

Strategic Objective:	Spatial Development Strategy	Programme (Plan)	Strategic focus area
	3. Conduct further research to inform climate resilient planning and implementation. Build capacity in the Mpumalanga Province for implementation of Climate Change mitigation and adaptation. 4. Increase the usage of renewable energy.	<ul style="list-style-type: none"> • Develop a framework for reporting on greenhouse gas emissions. • Develop Strategy Policy/Regulatory frameworks to promote a low carbon economy. 	

Strategic Objective 5: Climate Change Adaptation

Climate change is intricately linked to almost all facets of our society, particularly socio-economic progression as resources such as water, feedstock in form on food, fibre, biodiversity, amongst others determine the production potential of many sectors of the economy, which in turn affect human development aspirations of the country.

Water underpins economic activity in all sectors. It is also the primary medium through which the effects of climate change will be felt in South Africa. Climate change will alter water runoff and recharge rates, and change the availability, seasonality, timing, volume and quality of water available. New risk and vulnerability studies conducted by the Department of Water and Sanitation show that all the six hydro-climatic zones -the Limpopo, Olifants and Inkomati basins; the Pongola-Umzimkulu region; the Vaal River system; the Orange River system; the MzimvubuTsitsikamma region; and the Breede-Gouritz and Berg-Olifants basins- will be affected by climate change, including surface and groundwater. While climate models display a level of uncertainty, an increase in erosion and sedimentation, water pollutants, flooding and drought, among other impacts, is expected (National Climate change adaptation strategy, 2017)

Agriculture

Climate change also poses a major challenge for the agricultural industry, and many farmers now understand the contribution of agriculture or forestry to climate change or the consequences and impact that it will have on their business. The OECD (2012) estimates that by 2050, the world population will reach 9 billion (approximately 7 billion currently), 70% of whom will live in urban areas. This population level will increase the demand for food and productivity per hectare and also place further pressures on the environment. The OECD estimates that by 2050; energy usage will be 80% higher than 2010; global water demand will have increased by 55%, and there will be increased pressure on agricultural and forest land.

Climate already plays a role in limiting agricultural activities, and a changing climate will significantly affect the country's agricultural sector. Expected effects include temperature increases, enhanced evapotranspiration and cold spells, changes in water quality and quantity, and increased flooding. Optimal growing areas are likely to shift by 2050 for field crops (such as barley, maize, sorghum, soybean, sugarcane and wheat), pasture/rangeland grasses, horticultural and viticulture crops, and major commercial forestry tree species. The distribution of insect, plant and disease vectors are also likely to shift, which could adversely affect crop and livestock production and animal health. The effects on rangeland systems include inadequate water provision,

potential increases in wooded plants and trees, changes in invasive species, increases in wildfire occurrences, heat stress, increases in livestock diseases, and lowered grazing potential for livestock. Increased flooding occurrences will exacerbate the effects of overgrazing, resulting in increased soil erosion, which will affect ecosystems and livelihoods that rely on livestock production, and increase siltation levels of irrigation dams and canals. Labour is also likely to be negatively affected due to the projected increase in the number of days that people will experience thermal discomfort.¹ This has serious implications for the productivity of agricultural labour, particularly those working with summer and multi-year crops. Climate change will add to the agricultural sector's current pressures, namely land degradation, population increases, growing demand for agricultural resources, and the loss of agricultural land to development. There are, however, opportunities for new irrigation technologies and tilling and manure applications, among other techniques, to overcome some of the expected effects.

Forestry

Climate change will affect the distribution of the natural forest biome, which only covers 428 000 hectares of South Africa's land surface. Drier conditions and future development could reduce this further. The woodlands, which cover about 40 million hectares, are likely to further

expand into savannah and grassland biomes, which could negatively affect the ecology of these systems. Although it is possible that the total area suitable for commercial forestry plantations in Mpumalanga could increase in future under certain climate scenarios, the sector remains vulnerable to climate change effects, including changes in growing conditions, increased occurrences of fires and lightning storms, increased survival and spread of insects and pathogens that directly affect forest ecosystems, and increased spread of invasive species that affect biodiversity.

Biodiversity and Ecosystems

Biodiversity is crucial to ecosystem health, and healthy ecosystems are central to human wellbeing. Healthy ecosystems provide the foundation for clean air and water, fertile soil and food. But cultivation, overgrazing, coastal development, invasive alien species in terrestrial and freshwater ecosystems, mining, and certain fishing activities (such as trawling) are damaging natural habitats. Terrestrial, freshwater and marine environments are being lost in many parts of South Africa, which means species are being lost. Fragmentation of habitats also prevents landscape-scale ecological processes, such as fire, from functioning effectively and it affects livelihoods in that resources may become inaccessible or scarce. Climate change will exacerbate these effects

Strategic Objective:	Spatial Development Strategy	Programme (Plan)	Strategic focus area
Climate Change Adaptation	To achieve an effective adaptation planning regime that adequately responds to climate change threats. Develop and update Provincial Adaptation Strategies	<ul style="list-style-type: none"> • Establish a provincial climate change coordination structure/committee to lead and provide strong coordination for all the climate change adaptation activities across the province • Coordinate an annual provincial climate change summit to facilitate knowledge management, information sharing and networking amongst key stakeholders • Coordinate provincial stakeholders in the implementation of the strategies Report on implementation of the Provincial Strategies • Define adaptation practice that integrates biophysical and socio-economic aspects of vulnerability and resilience • Integrate adaptation considerations in the Integrated Development Plans 	All Municipalities
	<p>Enhancing ecosystems, diversifying crop and livestock production, and building farmers' knowledge base to confront changes in climate.</p> <ul style="list-style-type: none"> • Design a climate change Adaptation and Agriculture programme Capacity Building Programme • Establish an effective Task Team to deal with all agricultural commodities with inclusion of 	<ul style="list-style-type: none"> • Develop the Climate Change Adaptation and Agriculture Capacity Building Programme • Conduct a research program that promotes the development or adoption of specific varieties of climate-resilient seeds or plants taking into account different soil types, different staple food and dietary patterns, and other local constraints and preferences. 	All Municipalities

Strategic Objective:	Spatial Development Strategy	Programme (Plan)	Strategic focus area
	another sector on Climate Change Adaptation	<ul style="list-style-type: none"> • Establish Organic Farming Scheme • Fund and implement comprehensive climate change awareness and skills building programme within the farming communities. • Implement a series of practices that optimise nutrient and energy flows and minimise risk through: <ul style="list-style-type: none"> ○ Crop rotations as a prerequisite for efficient use of on-site resources; ○ Crop diversity: Taking advantage of on-site resources, such as livestock manure for fertiliser or feed produced on the farm. ○ Organic fertilisers are known to have positive effects on soil carbon; ○ Choosing plant and animal species that are resistant to disease and adapted to local conditions; ○ Raising livestock in free-range, open-air Systems and providing them with organic feed; ○ Using animal husbandry practices appropriate to different livestock species; ○ Symbiotic nitrogen fixation with legumes and Biological pest control 	All Municipalities

Strategic Objective:	Spatial Development Strategy	Programme (Plan)	Strategic focus area
		<ul style="list-style-type: none"> • Prepare Drought Preparedness and Response Framework • Develop effective early warning systems for farmers to help prevent disasters • Increase the supply of forestry based biomass 	
	<p>Enhance climate change adaptation through vulnerability reduction, building socio-economic resilience, disaster risk reduction and adaptation planning in the Forestry Sector</p> <p>Implement climate change adaptation planning in the Forestry Sector</p>	<ul style="list-style-type: none"> • Conduct Provincial Forest Resource Assessment study (natural and commercial forests) • Development and implementation of Provincial Agroforestry strategy 	All Municipalities
	<p>Enhance climate change adaptation through vulnerability reduction, building socio-economic resilience, disaster risk reduction and adaptation planning in the Water Supply and Availability Sector</p> <ul style="list-style-type: none"> • Strengthen and expand integrated water resources management to better integrate climate change considerations, at different spatial scales. 	<ul style="list-style-type: none"> • Develop guidelines for assessing the impacts of climate change on water supplies • Integrate climate change considerations into infrastructure projects development processes, including the design, planning, pre-feasibility and feasibility stages. • Surface water management and Mine water balance Management • Business and schools water Efficiency Programmes • Encourage re-use of grey water • Sustainable Irrigation Projects • Enhance Catchment Management activities within the province with special focus on reducing deforestation in catchment areas, degradation and 	All Municipalities

Strategic Objective:	Spatial Development Strategy	Programme (Plan)	Strategic focus area
		<p>removal of alien invasive species and others in catchments.</p> <ul style="list-style-type: none"> • Clearing of alien plants species and introduce indigenous plants along the catchment 	
	<p>Integrate climate change adaptation within existing development planning and implementation processes</p> <ul style="list-style-type: none"> • Enhance climate change adaptation through vulnerability reduction, building socio-economic resilience, disaster risk reduction and adaptation planning in the Biodiversity Sector 	<ul style="list-style-type: none"> • Develop area-based biodiversity response plan, monitoring and evaluation framework • Integrate new climate change projections into spatial decisions support tools • Establish a partnership with other provinces that share grassland and savannah ecosystems, and SANBI to fund a dedicated programme that strengthens the understanding of climatic changes to the two ecosystems, and simultaneously increases the knowledge-based regarding the socio-economic implications of such changes. • Conduct robust studies on biodiversity, natural capital, and human livelihoods impacts and identify measures to reduce or better manage the change • Establish gene banks that contribute towards the conservation of species that are vulnerable to climate change • Increasing the level of forest cover and use of wood products and fuels • Implement the MBSP and bioregional plans that would allow for the protection of climate change related priorities 	All Municipalities

Strategic Objective:	Spatial Development Strategy	Programme (Plan)	Strategic focus area
	<ul style="list-style-type: none"> • Improve the resilience of our built environment 	<ul style="list-style-type: none"> • Establish a forum on climate change and liability for a land-use planning decision • Review of stormwater management policies in building and planning 	
	<ul style="list-style-type: none"> • Building resilience of our transport system 	Appointment of active climate change risk assessment and improvement strategies	All Municipalities
	<ul style="list-style-type: none"> • Improved climate modelling and communication of climate change projections to better understand the risks that might affect mine sites- Conduct a sector climate change risk and vulnerability assessment. 	Development of pro-adaptation policies and actions within the mining sector	All Municipalities
	<ul style="list-style-type: none"> • Investments in ecosystem services to improve local resilience within the mining sector • Increase Low carbon energy • Enhance climate change adaptation through vulnerability reduction, building socio-economic resilience, disaster risk reduction and adaptation planning in the Tourism 	<ul style="list-style-type: none"> • Investment in integrated watershed management programmes and the enhancement of local water supplies. • Future research on the impacts of climate change in mine rehabilitation projects is needed • Surface water management and Mine water balance Management systems • Pollution control, dam water recycling for re-use in production projects. • Investment in renewable energy technologies and alternative fuels projects • Develop response strategies to incorporate socio-economic impacts and development plans for the tourism sector. 	All Municipalities

Strategic Objective 5: To optimally utilise the mining potential without compromising the long term sustainability of the natural environment

Mining contributes R 49.6 billion which is approximately 25% to the provincial economy. The key mining sector of the province is coal, which represents 83% of South Africa's coal production. The abundance of coal and other mineral resources creates a positive environment for various sectors including manufacturing and power generation to grow and it also contributes significantly to job creation in the province. However, mining is associated with many issues including water and soil contamination, air pollution and environmental degradation. Mines are being developed on good quality agricultural soil, a practice that threatens the future of all agriculture activity which can ultimately threaten food security. Mpumalanga's most coal-rich belt is located in the areas with high to very high potential land. As a result, good quality agricultural lands are being transformed into mines. Other issues which are as a result of mining are open cast mines. Opencast mining restricts the movement of animals, thereby negatively affecting the ecosystem and they also spread dust and pollutants which threatens the biodiversity of the province.

Therefore, it is important for the province to establish proper environmental management systems which will assist in the management and regulation of mines and

mine activity, during and after the operational, to prevent against large scale water and air pollution; ensure that the rehabilitation process is done and carefully monitored to ensure that the agricultural potential of the land is successfully restored and the protection of the environment, once mining activity has been terminated

Strategic Objective:	Spatial Development Strategy	Programme (Plan)	Strategic focus area
<p>To optimally utilise the mining potential without compromising the long term sustainability of the natural environment. (License and Rehabilitation Monitoring)</p>	<p>Monitor spatial trends and the extent of mining/prospecting license applications in the Municipalities and to provide written comment/inputs to these to the Department of Mineral Resource – especially where it encroaches onto high potential agricultural land and/or areas of high biodiversity; and</p> <p>Monitor and oversee the implementation of mining rehabilitation processes/programmes prescribed for mines in the Province.</p>	<p>Establish District-Provincial Task Team to:</p> <ul style="list-style-type: none"> • monitor and comment on mining/prospecting license applications in the Province; • monitor implementation of mining rehabilitation programmes <p>Evaluation of all land use applications in terms of the District/Local Environmental Management Frameworks. Coordination/alignment with Mpumalanga Tourism and Parks Agency to ensure demarcation, protection and proclamation of conservation areas. Proactively manage current and future development areas to ensure that sand mining resources are, where appropriate, exploited prior to development commencing; and Assist the Department of Mineral Resources (DMR) to close down all illegal mining.</p>	<p>Province wide</p>
	<p>Encourage and support focused research to enable improved extraction methods, better energy and water efficiency, and better use of metals/minerals in new energy systems and machinery Improved rehabilitation and environmental compliance to EMPR</p>	<p>Put in place environmental management systems to protect other natural resources (water, ecosystems, agricultural land) from adverse effects of mining. Strict compliance monitoring to ensure mining companies adhere to EMPRs. Currently spread of alien and invasive plants observed on mining areas. Poor adherence to EMPRs and inadequate staff to deal with monitoring and compliance.</p>	<p>Mining environmental management systems. Province wide</p>
	<p>Develop “Special Control Zones” to regulate mining activities.</p>	<p>1. Development of a plan/ policy that will give direction on the determination of Special Control Zones.</p>	<p>Province wide 1. Mpumalanga Lakes District;</p>

Strategic Objective:	Spatial Development Strategy	Programme (Plan)	Strategic focus area
	<p>The mining sector contributes about 25% to Mpumalanga GVA. With more than 80% of South Africa's coal is mined in Province, Mpumalanga is the biggest source and contributor of coal in the Country. The use of coal for energy production results in both the primary environmental impacts associated with the mining and removal of coal and the secondary impacts resulting from the burning of coal for energy production. There is a need to come up with mechanisms for the optimal utilisation of mining to provide a long term advantage to the creation of sustainable economies and jobs in the province, without compromising biodiversity, water availability and agriculture.</p> <p>The purpose of the development of Special Control Zones is to assist the Mpumalanga Government to regulate and determine areas where mining can be permitted, sustainably managed or limited in future. The aim of the Special Control Zones is to effectively regulate the mining activity and its effects on the natural environment, water areas and agricultural land in order to provide appropriate restrictions, alternative mining practises and set mitigation strategies in existing mining areas in order to help preserve and protect the natural environment, water and high potential agricultural land.</p>	<ol style="list-style-type: none"> 2. Proclamation of environmental, water bodies/ wetlands, strategic water source areas and agricultural land parcels for protection in order to assist in the determination of "Special Control Zones" for the Province, taking into consideration existing environmental strategies and policies, which will help in outlining policies for: <ol style="list-style-type: none"> a. Aggressive rehabilitation of brownfield/ abandoned mining land b. Define No- go areas c. Protection of high potential agricultural land and the natural environment, and d. Protection of environmentally sensitive areas etc. 3. Proper zoning delineation in all planning policies, which is in line with the "Special Control Zones" in order to assist municipal planning practices 4. Development of sustainable mining policies that will assist in outlining the type of mining practises (environmentally "green" friendly) that can be permitted in order to minimise its negative impacts onto the environment and help rehabilitate the land and minimise further degradation of the land and climate change mitigation strategies 	<ol style="list-style-type: none"> 2. Strategic Water Source Areas 3. Steenkampsb erg Wet Grasslands; 4. Wakkerstroo m Wet Grasslands 5. Protected Areas and their Expansion areas 6. Areas of high agricultural potential 7. World Heritage Sites 8. Ramsar Site 9. Freshwater and Terrestrial CBA's 10. High Water Yield Areas 11. Existing Mining Areas (Rehabilitatio n of land needs to be enforced here)

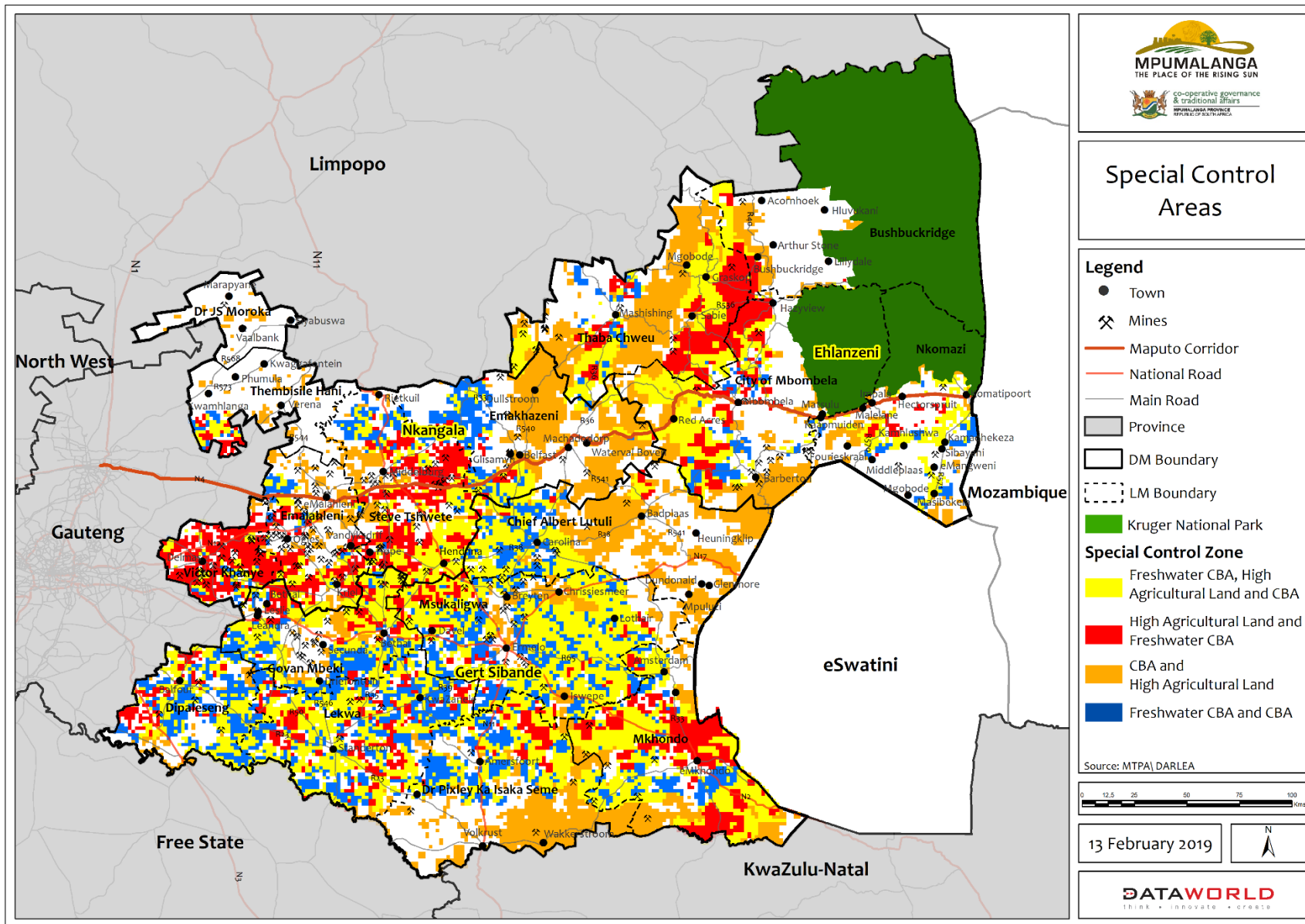
Strategic Objective:	Spatial Development Strategy	Programme (Plan)	Strategic focus area
	<p>The PSDF recognises that in the past there have been issues between municipalities and provincial government with DMR regarding the utilisation of land and the issuing of mining rights on environmentally sensitive land. In order to resolve these issues and assist both sides in operating harmoniously in one space as stipulated in the Constitution, the PSDF proposes to control mining development in certain sensitive areas through the determination of Special Control Zones. These Zones can be determined by the collective efforts of DARDLEA, DAFF, DEA, DWS and MPT etc. These departments can proclaim various parcels land for environmental/ agricultural protection as the DMR Act stipulates that no mining rights or activity can happen on protected land.</p> <p>Map 29 illustrates the Special Control Zones for the Province. The control zones have been determined through an analysis considering the location of protected areas (Protected Areas, 2018 dataset used), World heritage sites, critical biodiversity areas (CBA) (freshwater and Terrestrial CBA's and Ecological Support Areas, declared provincial, Strategic Water Source areas, Nature-based Tourism development areas and high potential agricultural land datasets, and where they intersect a zone has been determined based on the sensitivity of the area.</p>		

Strategic Objective:	Spatial Development Strategy	Programme (Plan)	Strategic focus area
	<p>The Zones are listed below:</p> <ul style="list-style-type: none"> • Control Zone 1: Protected Areas (Strict Nature Reserves/Wilderness Area/National Parks), High Potential Agricultural Land, Freshwater CBA and ESA (critically endangered ecosystems and Strategic Water Source Areas), Terrestrial CBA (Irreplaceable Areas), World Heritage Site and Ramsar Sites. <p>Category: Legally Protected</p> <p>The risk for Mining: Mining Prohibited Sensitive areas within this zone must be conserved and be considered as “no-go areas” for mining development. Mining projects cannot commence as mining is legally prohibited.</p> <ul style="list-style-type: none"> • Control Zone 2: Moderate Potential Agricultural Land, Freshwater and Terrestrial CBA from regional spatial plans, critically endangered ecosystems and Provincial tourism development areas. <p>Category: Highest Biodiversity Importance</p> <p>The risk for mining: Highest Risk for Mining Where mining development cannot be avoided in these areas, a proper assessment (environmental screening, Environmental Impact Assessment (EIA) and implementation of alternatives must be undertaken. Specialist's studies must provide site specific mitigation measures. The likelihood of a fatal flaw for new mining projects is very high because of the</p>		

Strategic Objective:	Spatial Development Strategy	Programme (Plan)	Strategic focus area
	<p>significance of biodiversity features in these areas and the associated ecosystem services. These areas are viewed as necessary to ensure the protection of biodiversity, environmental sustainability and human-wellbeing.</p> <p>An EIA should include Strategic Assessments of optimum, sustainable land use, for a particular area and will determine the significance of the impact on biodiversity. This assessment should take into account the environmental sensitivity of the area, the overall environmental and socio-economic costs and benefits of mining, as well as the potential strategic importance of the minerals to the country.</p> <p>Authorisations may well not be granted. If granted, the authorisation may set limits on allowed activities and impacts, and may specify biodiversity offsets that will be written into license agreements and/or authorisations.</p> <ul style="list-style-type: none"> • Control Zone 3: Terrestrial CBA (Habitat/Species Management Area), ecological Support Areas (ESA), Moderate Potential Agricultural Land, high water yield areas, protected area buffers and Provincial tourism development areas. <p>Category: High Biodiversity Importance</p>		

Strategic Objective:	Spatial Development Strategy	Programme (Plan)	Strategic focus area
	<p>The risk for Mining: High Risk for Mining</p> <p>Where mining development cannot be avoided in these areas, proper environmental assessment studies must be undertaken. These areas are important for conserving biodiversity and for supporting biodiversity priority areas, for maintaining important ecosystem services for particular communities or the country. An EIA should include an assessment of optimum, sustainable land use for a particular area and determine the significance of the impact on biodiversity. Mining options may be limited in these areas, and limitations for mining projects are possible. Authorisations may set limits that will be written into license agreements and in authorisations.</p> <ul style="list-style-type: none"> • Control Zone 4: Freshwater CBA and Terrestrial CBA CBA (Vulnerable Ecosystems) and Ecological Support Areas, Focus Areas for protected area expansion <p>Category: Moderate Biodiversity Importance The risk for Mining: Moderate Risk for Mining</p> <p>These areas are of moderate biodiversity value. EIA's and their associated specialist studies should focus on confirming the presence and significance of these biodiversity features, identifying features (e.g. threatened species) not included in the</p>		

Strategic Objective:	Spatial Development Strategy	Programme (Plan)	Strategic focus area
	<p>existing data sets and on providing site-specific information to guide the application of the mitigation hierarchy. Authorisations may set limits that will be written into license agreements and in authorisations.</p> <p>Note: The Province must ensure that National Water resources are protected, used, developed, conserved, managed and controlled in an efficient and sustainable manner and comply with the Second Edition of the National Water Resource Strategy (NWRS2).</p>		



Map 31: Special Control Mining Areas

3.2.4 LIVEABILITY AND SENSE OF PLACE

Liveability has a great influence on the character and identity of places. Strategies for liveability, therefore, need to promote distinctiveness, robustness, and a sense of place in communities while also striving to empower and enable the people that live in those places. The NDP equally reiterates reversing the spatial effects of apartheid in the form of development that should meet the needs and preferences of citizens, taking into account the broader social, environmental and economic interests. Densification and infill development strategies, which are linked particularly to nodes, are one of the key levers that can be implemented to achieve these spatial transformation imperatives. Development of this nature tends to lead to compact environments that improve access to socio-economic opportunities as well as the efficient use of infrastructure. The NSDF also acknowledges the spatial development challenges experienced in both urban and rural areas and advocates for urgent Intervention strategies aimed at addressing these challenges.

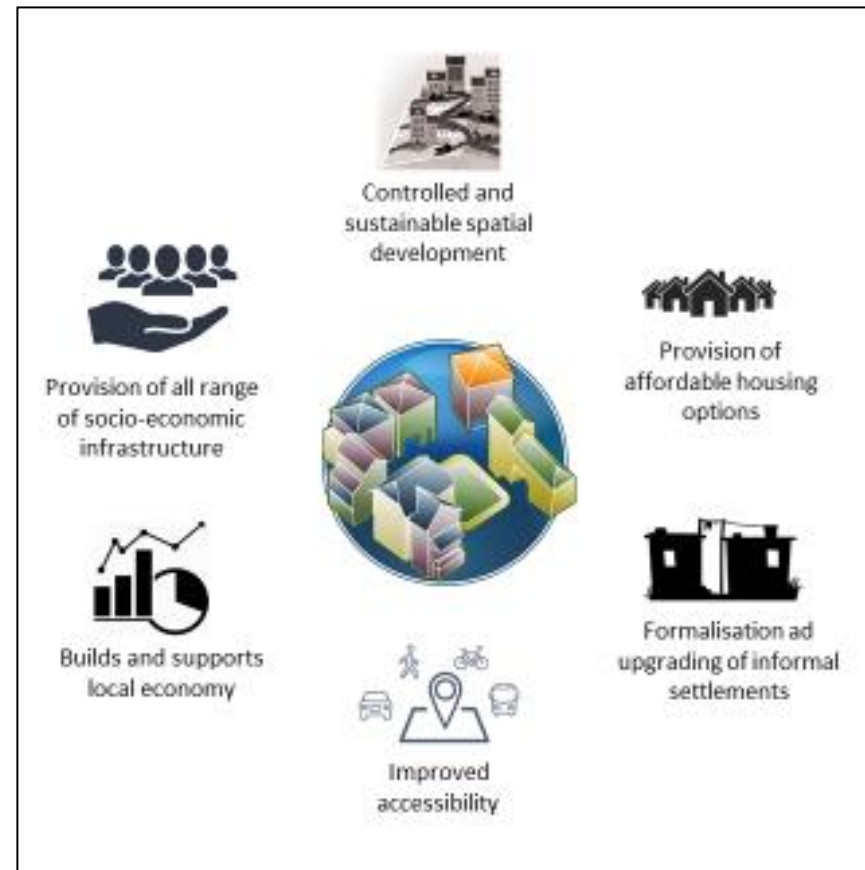


Figure 18: Liveability Concept

Strategic objective 1: Promote compaction and densification in urban areas through the application of designated nodes, sustainable development and infill areas

The lack of integration, compaction and densification in urban areas in Mpumalanga has serious negative consequences for household livelihoods, the environment, and the economy.

The PSDF liveability and sense of place strategies aim to provide principles to guide municipalities towards a more efficient, compact and sustainable spatial growth patterns.

In order to ensure a more sustainable and viable future for the Province, it is important that settlement planning and infrastructure investment achieves:

- higher densities and infill development
- a shift from suburban planning to a polycentric urban development model
- more compact settlements to minimise environmental impacts, reduce the costs and time of travelling and enhance provincial and municipal financial sustainability in order to provide and maintain infrastructure, facilities and services.
- address apartheid spatial legacies by targeting investment in areas of high population concentration and socio-economic exclusion (former homeland areas).

By prioritising a more compact urban form through investment and development, settlements in the Mpumalanga can become more inclusionary, therefore widening the range of opportunities for all.

Strategic Objective:	Spatial Development Strategy	Programme (Plan)	Strategic focus area
<p>Promote compaction and densification in urban areas through the application of designated nodes, sustainable development and infill areas</p>	<p>Compaction and densification to facilitate controlled urban growth and integrated development</p> <p>Compact development directed towards suitable areas that are located away from hazardous areas and important resources.</p>	<ol style="list-style-type: none"> 1. Delineation of appropriate urban development edges in line with the changing local socio-spatial dynamics and needs. 2. Strategic infilling and densification in appropriate locations linked to economic concentration, public transport, and other amenities 3. Urban regeneration and well-located human settlements projects and plans to accelerate the spatial transformation 	<p>In and around key urban centres experiencing a high influx of people due to migration</p>
	<p>Targeted spatial interventions that seek to promote socio-economic and spatial transformation</p> <p>Emphasis should be on exploiting existing development potential in existing nodes and towns through developing Special Economic Zones or Economic Clusters</p>	<ol style="list-style-type: none"> 1. Higher density residential development in and around selected nodes as well as along public transport routes. 2. Conduct feasibility studies in areas earmarked for human settlements development. 	<p>Areas identified for nodal development and municipal identified strategic development areas</p>
	<p>Optimising the spatial patterns of rural settlements</p> <p>Settlement patterns must balance the social, cultural and agricultural needs of families with the need to provide cost-effective services to households¹⁵.</p> <p>Therefore there is a need to ensure that rural areas are incorporated into formal</p>	<ol style="list-style-type: none"> 1. Incorporation of former homelands into official land use schemes for appropriate land use management and sustainable development: 2. Prioritise rural development investment through the creation of rural economic nodes (See Rural Diversity Objective) which acknowledges that agriculture, mining and tourism remain important economic reinforcements. 	<p>Former Homelands in Bushbuckridge, Thembisile Hani, J.S Moroka, Nkomazi, Chief Albert Luthuli</p>

¹⁵ NDP 2030

Strategic Objective:	Spatial Development Strategy	Programme (Plan)	Strategic focus area
	<p>planning systems, as this can assist in promoting functional integration and mixed-use development in order to achieve improved levels of settlement liveability, sustainability and redress the apartheid spatial patterns and decentralization through densification and infill development.</p>	<p>3. Incorporation of growth management tools in Municipal SDFs in order to achieve SPLUMA's spatial principles in rural areas.</p>	
	<p>Building Sustainable communities</p> <p>Ensure that provincial, district and local Spatial Development Frameworks (SDF) promote the creation of integrated and sustainable human settlements which limit the impact on the natural resource base.</p>	<ol style="list-style-type: none"> 1. Incorporate environmental indicators in the criteria for evaluating an investment in bulk infrastructure. 2. All new buildings to meet the energy efficiency criteria set out in South African National Standard (SANS) 204 through ensuring compliance with strengthened monitoring of implementation, particularly with respect to energy efficiency standards. 3. Implement urban greening programmes to promote the quality of life in urban areas. 4. Incorporate waste hierarchy strategy of reducing, re-use and recycle into provincial waste management planning. 5. Investment in consumer awareness, green product design, recycling infrastructure and waste-to energy projects. 6. Development of community facilities taking into consideration the regional, district and local needs of the communities 	<p>All new development applications within the province need to adapt and meet requirement of this strategy.</p>

Strategic Objective 2: Sustainable development of Human Settlements

In terms of the National Development Plan: Vision 2030, human settlement patterns within urban and rural areas should meet the needs and preferences of the citizens, taking into account broader social, environmental and economic interests. Travel distances need to be shorter which implies ensuring that a larger proportion of workers live closer to their places of work and that public transport is safe, reliable, affordable and energy efficient.

It is, therefore, important for the Province to also focus on redressing development patterns, in order to ensure urban restructuring in the various towns and settlements.

Most towns still carry the spatial legacy of the previous political dispensation, with various communities being segregated from one another and denied efficient access to economic opportunities and social services. Therefore there is a need to ensure that the spatial imbalances of the past are corrected and that people are located closer to places of work and economic opportunities.

It is thus essential that each of the towns and settlements is developed in a manner aimed at compacting and consolidating the urban form.

Housing, and more specifically subsidised housing is a very powerful instrument at the disposal of government that has the means to influence development patterns in and around towns and can give effect to the proposed spatial restructuring objectives. Investment in housing needs to ensure optimal returns on investment, while at the same time promoting settlement restructuring and integration.

In order to create integrated and sustainable communities with access to social and economic opportunities throughout the Province, the housing focus needs to also be shifted towards diversifying the typologies delivered, increasing densities, aligning housing projects with economic opportunities, increasing the supply and management of affordable rental accommodation, and also addressing the formal and informal sectors in one market.

The PSDF should place less emphasis on delivering completed houses, and more emphasis on incrementally developing sustainable human settlements in partnership with other government departments, communities and the private sector. The focus should also be on improving the quality of the existing settlements.

Strategic Objective:	Spatial Development Strategy	Programme (Plan)	Strategic focus area
<p>Sustainable development of Human Settlements.</p>	<p>Consolidated settlement development and growth by way of infill development and densification of human settlements in the designated Strategic Development Areas.</p> <p>Most towns still carry the spatial legacy of the previous political dispensation, with various communities being segregated from one another and denied efficient access to economic opportunities and social services. It is therefore crucial that the province provides a way to mitigate against the current spatial fragmentation and develop more compact cities. The following strategies emphasise on how the province can achieve the desired objective of sustainable developments.</p> <ol style="list-style-type: none"> 1. By consolidating and focusing housing development/ programmes in Strategic Development Areas (SDA, restructuring zones and housing priority areas located in both urban and rural areas. 2. Through the urban and rural restructuring of dysfunctional segregated settlements. 3. Allow and increase densities of settlements and dwelling units in new housing projects 	<ol style="list-style-type: none"> 1. Types of programmes that can be utilised in Strategic Development Areas and <ul style="list-style-type: none"> • Land Acquisition • Inclusionary Housing • IRDP • Upgrading of informal settlements • Provision of basic infrastructure to communities • Rural Housing programmes 2. Emphasis should be on the principles of compact growth and densification of existing settlements 	<ol style="list-style-type: none"> 1. Identified Restructuring zones in: <ul style="list-style-type: none"> • Govan Mbeki Local Municipality • eMalahleni Local Municipality • Steve Tshwete Local Municipality • City of Mbombela Municipality • Nkomazi Local Municipality • Thaba Chweu Local Municipality • Msukaligwa Local Municipality • Lekwa Local Municipality • Victor Khanye Local Municipality 2. Identified SDA's in all Local Municipalities in the Province 3. Human Settlement Master Plan Housing Priority areas

Strategic Objective:	Spatial Development Strategy	Programme (Plan)	Strategic focus area
	<p>Formalising and upgrading of small towns and settlements to ensure the security of tenure and enable sustainable livelihoods.</p> <p>The province has a number of small towns and settlements that emerged as a result of a specific economic activity i.e. mining or agriculture. As these towns developed in repose to the demand, they rely heavily on those economics that once the activity ceases or declines it creates vast socio-economic problems and also puts pressure on the financial resources essential to maintaining the existing infrastructure. Thus resulting in abandonment of towns and infrastructure in turn creating informal settlements.</p> <p>Therefore province needs to come up with strategies that will assist in the revitalisation and formalising of these settlements, in order to ensure the security of tenure for these communities and also economic stability. The Sustainable Concentration and Agglomeration Objective addresses the economic stability part of this strategy. As a liveability priority, the majority of these settlements need to be formalised or upgraded to ensure that communities</p>	<ol style="list-style-type: none"> 1. Mining towns revitalisation strategies focused on Brownfield developments projects, which include: <ul style="list-style-type: none"> • Provision of affordable housings, tenure and transport services. • Upgrading and maintenance of basic service infrastructure and social services • Sustainable redevelopment practices which will encourage economic competitiveness but also protecting the natural environment • Development of an urban edge which will assist in containing and shaping future development in the areas and prevents sprawl 2. Clustering and formalisation of farm dweller settlements: <ul style="list-style-type: none"> • Enables and carries the opportunity to prevent against spatial fragmentation of rural areas. • Provides opportunities to create more dense and concentrated settlements which give provisions to tenure upgrading • Establishment of townships ensure that there are infrastructure and service upgrading • Leads to the establishment of Agri-villages. 	<p>Hendrina, Kaapmuiden, Kamhlushwa, Marapyane, Masibeleka, Dundonald, eMangweni, Leslie, Masobe, Breyten, Vandyksdrif , Charl Cilliers, Davel, Empuluzi, Glenmore, Hluvukani, Begvliet, Msauli, Rietspruit, Pilgrims Rest</p> <p>Former Homelands in Bushbuckridge, Thembisile Hani, J.S Moroka, Nkomazi, Chief Albert Luthuli local municipalities</p>

Strategic Objective:	Spatial Development Strategy	Programme (Plan)	Strategic focus area
	<p>have the security of tenure and access to basic services. This is in line with the Mpumalanga Vision 2030. In order to achieve this objective this strategy aims to:</p> <ol style="list-style-type: none"> 1. Rehabilitate mining towns as there is an opportunity for human settlement provision 2. Cluster and formalise farm dweller settlements as a means of the township establishment 3. Upgrade and refurbishment of former homeland areas 	<p>3. Need development strategies for former homelands that assist in addressing the past spatial imbalances such as :</p> <ul style="list-style-type: none"> • Creating accessibility and connectivity, as most homelands have issues of poor road conditions, lack of effective public transport and are isolated from local markets and economic activities. Therefore there is a need for greater integrated land uses and transportation planning in these areas • Spatial restructuring and consolidation. Emphasis should be on the principles of compact growth and densification of existing settlements. Due to the dispersed nature of the homelands, provision of basic services is an issue in these areas. Hence the consolidation of these settlements to smaller rural points/ nodes will, therefore, assist in addressing these issues and improve the living standards of these communities. 	
	<p>Provide alternative housing opportunities to meet diverse community needs.</p> <p>The Human Settlement Master Plan should consider strategies on the need for the provision of alternative affordable housing for people who do to qualify for</p>	<ol style="list-style-type: none"> 1. Incorporation and availability of finance linked housing (FLISP) and social housing programmes in all communities in the province and not just in restructuring zones 2. Support and increase the provision of affordable housing through community 	<p>Strategic Development Areas identified in each Local Municipality</p>

Strategic Objective:	Spatial Development Strategy	Programme (Plan)	Strategic focus area
	<p>an RDP but also, on the other hand, do not meet the requirements to receive financing from any financial institution (GAP Market). As this is also a contributing factor to the persisting prevalence of the housing issue within the Province. There is a need to look into and also develop</p> <ol style="list-style-type: none"> 1. Development of Mixed income Townships through the provision of alternative housing 2. Encourage major new developments and redevelopments to incorporate affordable housing, including appropriate housing for the entry buyer and low-income housing markets. 3. Development of inclusionary housing policies and strategies that promote more mixed-income, mixed-use, inclusionary forms of development through incorporating various scales of economic opportunities within housing projects. 4. Provision of appropriate social infrastructure which is needed for the wellbeing of communities¹⁶ 	<p>-based and housing cooperatives. Consider measures for providing and retaining affordable housing in Local Growth Management Strategies.</p> <ol style="list-style-type: none"> 3. Acquire land for social housing projects by district and local municipalities 4. Development and inclusion of inclusionary housing policies in planning documents 5. Inclusion of Old Age Homes (with emphasis on frail care and respite care), Homes for persons with disabilities and Children's homes (Social Development outreach programmes) in human settlement developments 	

¹⁶ While there is a general consensus that the current infrastructure is mostly in poor condition and sometimes inaccessible, there are currently gaps in research and data availability as a basis to inform sound spatial planning in relation to the provision of such infrastructure at adequate levels and appropriate scale.

Strategic Objective:	Spatial Development Strategy	Programme (Plan)	Strategic focus area
	<p>Formalisation of informal settlements</p> <ol style="list-style-type: none"> 1. The focus should be on proper planning and surveying of these settlements to provide for appropriate land use management and tenure upgrade. 2. Management of urban informality proactively through the Upgrading Informal Settlements Programme (UISP) 	<ol style="list-style-type: none"> 1. Human settlements project pipelining and township establishment processes. 2. Appropriate feasibility studies (town planning and bulk services) as well as prioritization of all identified informal settlements. 3. Implementation of Informal Settlement Upgrading Programmes 4. Plan, align and coordinate the strategic use and disposal of state land to ensure the opportunities for its use for housing purposes. 5. Procurement and prioritisation of state owned land in optimal locations for human settlements development. 	<p>Informal settlements in the Province</p>

3.2.4.2 Service wheel

Spatially targeting can be used to effectively serve the surrounding hinterland and to redress the burdens of apartheid such as poverty and inequality that have remained prevalent in many rural areas. The provision of quality social services such as health and education accessible to all is required.

The conceptual relationship of the provision of the type of social services between town typologies and the social facility standards is illustrated in the form of a service wheel. The 'Service Wheel' (Figure 20) shows an illustration of what the 'ideal' relationship between the size and role of towns can or should be with respect to the provision and strategic location of different social services that would typically be associated with (and expected to be delivered by) such town, and serve both the immediate communities and those living within its service region. This will, therefore, better inform the specific allocation, provision and distribution of services to any town and surrounding its catchment area.

The wheel illustrates in different colours (see Figure 20) from the outside to inward, a declining hierarchy of town typology and for each typology level, examples for what the appropriate service types are required. The wheel is broken into seven segments. The segment labelled "Service Reach" indicates the typical reach of service; from the level at which it is provided to the furthest point,

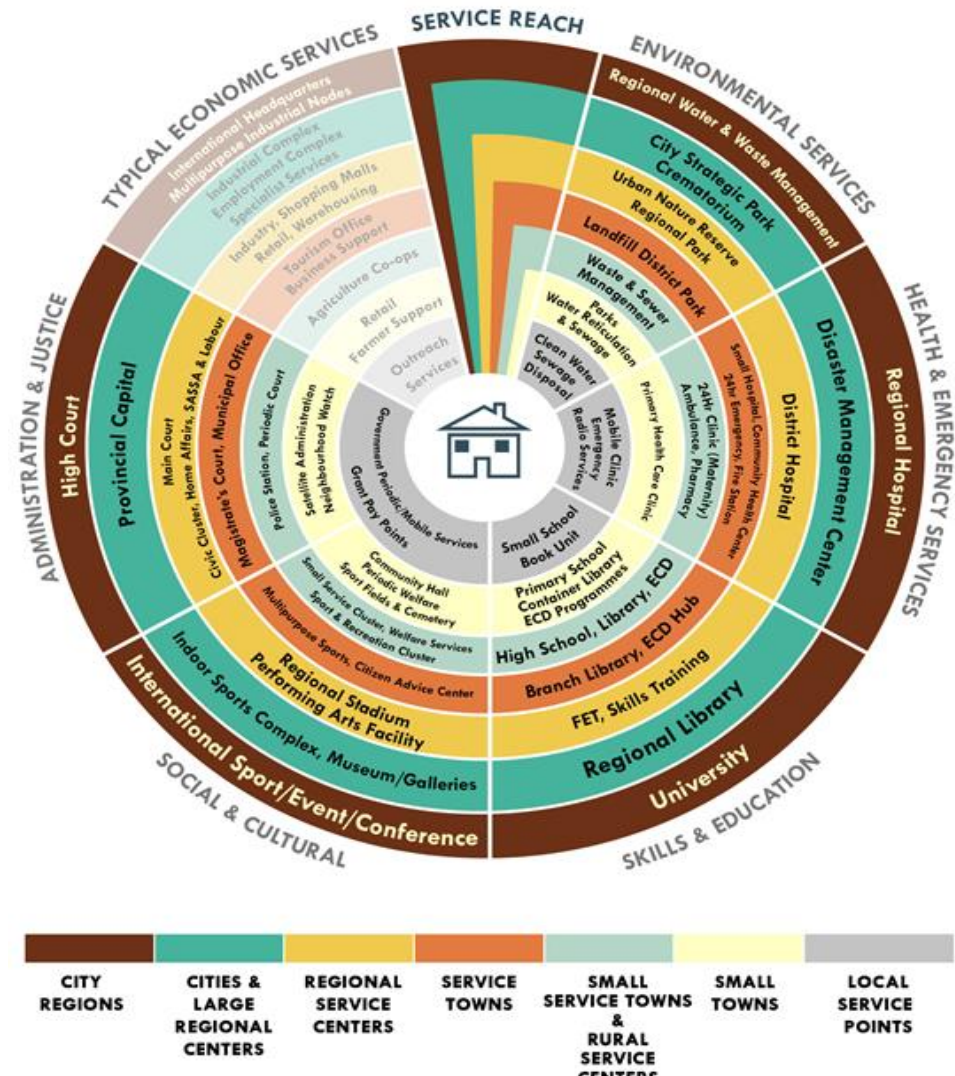


Figure 19: CSIR Service Wheel

Source: NSDF, 2018

it is likely to serve. The service types are broadly grouped into functional grouping in the other segments. It also shows (greyed out) the typical economic services likely to occur in a settlement of a specific level. With respect to lower order basic services, all places should be provided with a proportional share of basic services (water, sanitation, education and basic health care) as close to home represented in the centre of the wheel. The lowest order of places shown on the 'Service Wheel' is the Local Service Points. The latter has not yet been separately defined by the CSIR Town Typology but will be provided as part of their next update.

The CSIR has developed a Toolkit that uses a location-specific analysis and application of relevant standards which indicate the specific service requirement for each catchment area in every local municipality in the Country. This toolkit and service wheel will, therefore, guide municipalities on the type of services that will be required in order to achieve spatial transformation in their areas.

Strategic Objective 3: Infrastructure Investment

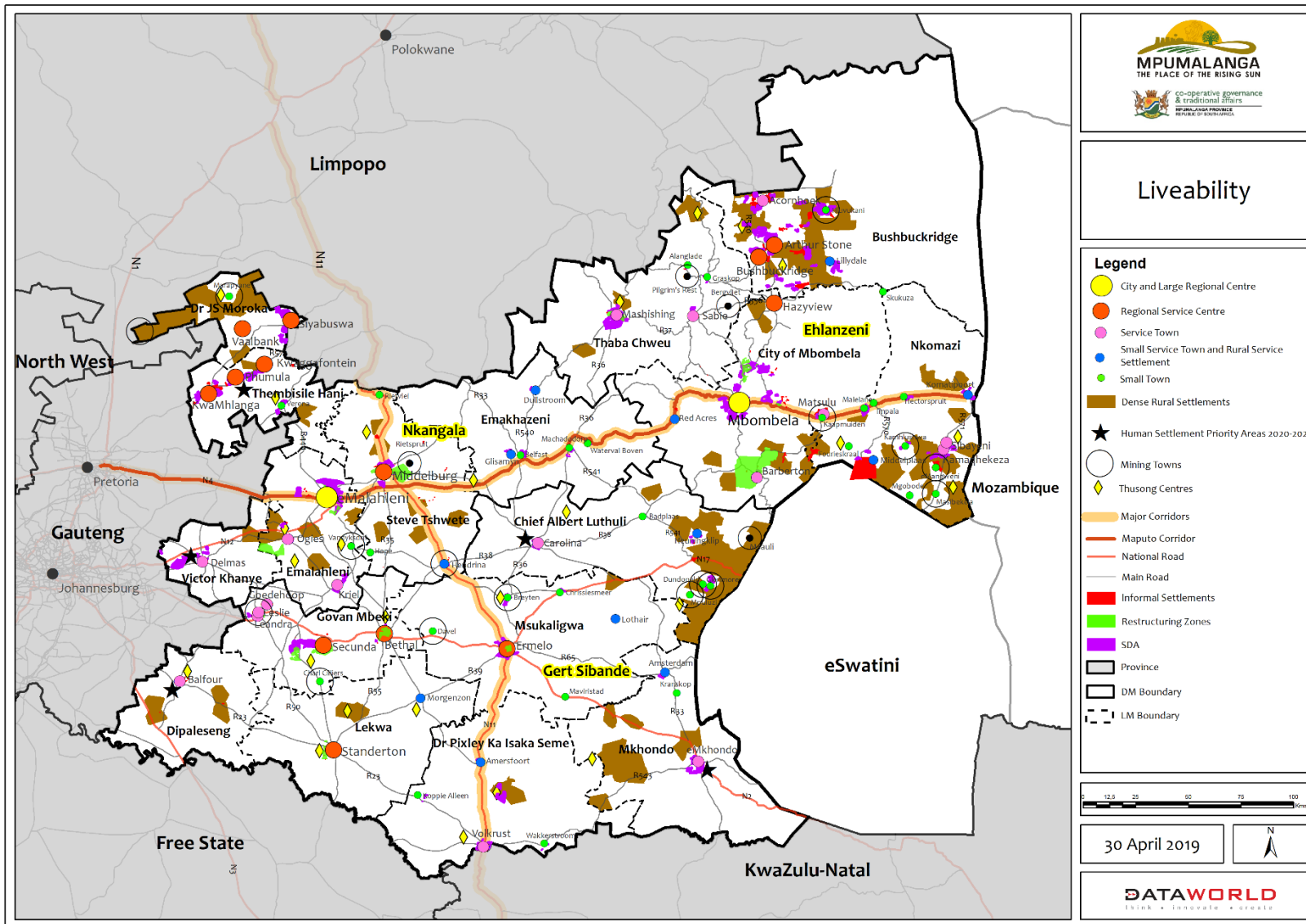
This objective emphasizes that all communities within the province have the right to access to basic services like water, sanitation, refuse removal and electricity whether residing in urban or rural areas. The fragmented settlement structure of the Mpumalanga (especially in the traditional areas) has resulted in both a lack of and vast backlogs of vital social services and engineering infrastructure. The key challenge is to create a balance in terms of improving service provision in the deep rural areas and with maintaining and upgrading the existing infrastructure in urban areas simultaneously.

Hence the aim of this objective is to emphasize on the need to make sufficient provision for infrastructure investment in the Province and to provide a full range of social services and engineering infrastructure within a reasonable distance of all communities, urban and rural. In order to support the notion of compact development and redress spatial fragmentation in the province, these services need to be consolidated for maximum efficiency as there is some benefit to be derived from such a consolidation such as increased economic potential around such centres etc. The Thusong centre concept as per the Vision 2030 can also be utilised as a means of consolidation of these services, this will, therefore, aid in the creation of **Rural Economic Nodes** as envisioned in the **Rural Diversity and Transformation Objective** below.

Strategic Objective:	Spatial Development Strategy	Programme (Plan)	Strategic focus area
Infrastructure Investment	<p>Bridging the water and sanitation backlog gaps to improve the quality of life</p> <p>The water backlog is identified in all t districts of Mpumalanga. However, it is required to focus on Ehlanzeni District to mitigate the necessary water backlog.</p>	<p>Identifying and mitigating the water and sanitation backlog areas.</p> <p>Sanitation Acceleration Strategies for areas with high sanitation backlogs</p> <p>Development of reticulation projects to aid with the backlog issue</p>	Incremental Service Upgrading Priority Areas
I	<p>Upgrading and maintenance of existing infrastructure</p> <p>The development strategy is to build new infrastructure and upgrade ageing existing water and sanitation infrastructure.</p> <ul style="list-style-type: none"> • The upgrading of this infrastructure would aid in reducing non-revenue water and wastewater treatment spillages in communities • Ensure an efficient supply of water, and waste management services to sustain additional settlement and industrial growth • Improvement of water and wastewater reticulation. 	<ul style="list-style-type: none"> • Development of the Mpumalanga Water and Sanitation Mater plan to address issues of ageing infrastructure and backlogs • Development of Regional Water management schemes • Maintenance and upgrade of an aging infrastructure project of all treatment plants in the province 	Incremental Service Upgrading Priority Areas
	<p>Improving the water reliability and water quality in priority areas and densely populated areas</p>	<ul style="list-style-type: none"> • Investments projects linked to Dam upgrades and maintaining of water levels. • Investments programmes acquiring human capital that can effectively 	Incremental Service Upgrading Priority Areas

Strategic Objective:	Spatial Development Strategy	Programme (Plan)	Strategic focus area
	<ol style="list-style-type: none"> 1. The water reliability and safe drinking water can be improved by focusing on the water scheme areas and upgrading the existing infrastructure in these areas. 2. Encourage rainwater harvesting to improve the reliability of water supply in rural areas and municipalities where services are unreliable 	<p>operate and maintain the treatment plants.</p> <ul style="list-style-type: none"> • Projects centred around rainwater harvesting • Development of action plans for water conservation in the province. • Development of green infrastructure strategy which will help in reliability <ul style="list-style-type: none"> ○ Water Reclamation ○ Sustainable waste management ○ Water tanks and storage 	
	<p>Electricity and Renewable energy</p> <p>Deployment of renewable energy combined with improved energy efficiency (and maintenance) for existing fossil fuel based plants.</p> <ol style="list-style-type: none"> 1. Market structure and institutional reforms are necessary to accommodate and fast-track renewables and private sector involvement in the deployment of renewable energy. 2. Improved planning also needed to better integrate renewable energy into the grid. 	<ul style="list-style-type: none"> • Power generation diversification programs (diversified energy ecosystem): <ul style="list-style-type: none"> ○ Feasibility studies for technological innovations (clean energy) such as higher solar photovoltaic (PV) module efficiencies and wind turbines. 	<ol style="list-style-type: none"> 1. Subject to relevant feasibility studies.

Strategic Objective:	Spatial Development Strategy	Programme (Plan)	Strategic focus area
	<p>Social Infrastructure Investment</p> <p>The provision and access to quality basic social services which is linked to minimum requirements to the provision of social amenities based on the applicable standard. The provision of services in all towns in the province should be guided and aligned with the service wheel (see Figure 20.). The service wheel provides guidance on the type of services that will be required at each town level.</p>	<p>Development of plans for the provision of social infrastructure based on the service wheel guidelines and the number of services required based on population requirements as per the CSIR red book.</p>	<p>All towns and settlements in the Province (target Thusong centres for rural areas.)</p>



Map 32: Liveability Proposals

3.2.5 RURAL DIVERSITY AND TRANSFORMATION

Efforts geared towards rural transformation and creating sustainable rural livelihoods have been increasing especially through the Comprehensive Rural Development Programme (CRDP). The CRDP forms part of the government’s key strategic priorities and has been developed to facilitate the creation of “vibrant, equitable, sustainable rural communities and food security for all”¹⁷. The achievement of this vision is envisaged through a three-pronged strategy that is based on the coordination and integration of broad-based agrarian transformation, rural development infrastructure, and an improved land reform programme.

Frame 5 of the NSDF together with chapter 6 of the NDP puts emphasis on the development of segregated rural areas, in terms of which agriculture development plays a key role in addressing poverty, unemployment and inequality.

These plans also promote the establishment of rural regions as a key strategy for spatial transformation in rural areas. This objective, therefore, emphasises on the creation of

productive rural regions which are supported by Urban-Rural Anchors and Small Service Centres as a key strategy to provide support and increase access to economic markets, government and social services in the rural and areas.

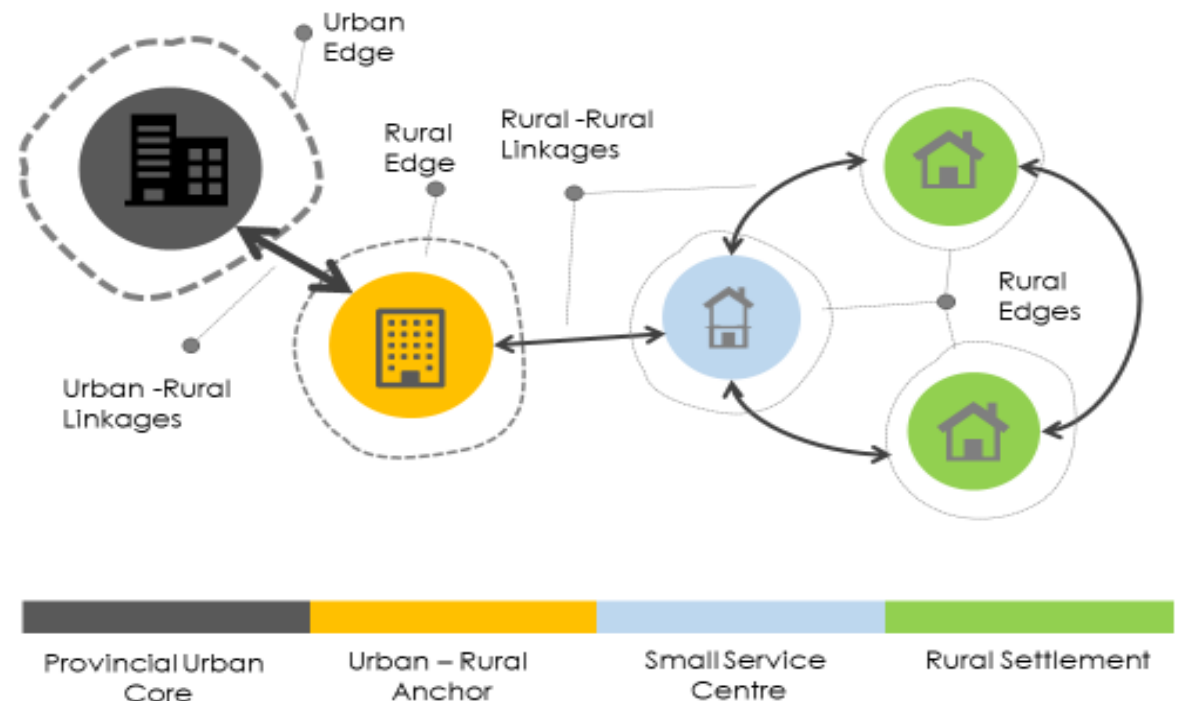


Figure 20: Urban-Rural Anchors

Source: NSDF, 2018

¹⁷ CRDP Vision

The large scale of agricultural activity in the province, together with the numerous opportunities it presents i.e. supporting livelihoods, small scale farming, food production and security and the potential development of agri-industries. Presents prospects of developing well-functioning rural settlements.

Therefore, the NSDF makes emphasis that the logic behind achieving the desired rural transformation lies in the development of strong rural regions supported by the establishment of Urban-Rural Anchors and Small service Centres. This will not only assist in the rural restructuring and consolidation of the settlements but also assist the government in the provision of social service and engineering infrastructure to these communities.

Strategic Objective 1: Create an Integrated Rural Economic Base by Rural Restructuring and Linkage of Rural Economies.

Rural communities in South Africa are still characterized by poverty, inequality, limited access to basic and social infrastructure, underdevelopment, and lack of economic opportunities, fragmented spatial patterns and environmental degradation. Historically, rural communities relied on agriculture and subsistence farming for food and income, but the pressure is mounting for these communities to diversify their local economies beyond agriculture to other service industries like tourism, mining, retail, manufacturing etc., which require skills development.

Rural Development is identified as an intervention process aimed at improving the quality of life and the socio-economic well-being of people living in these regions, through

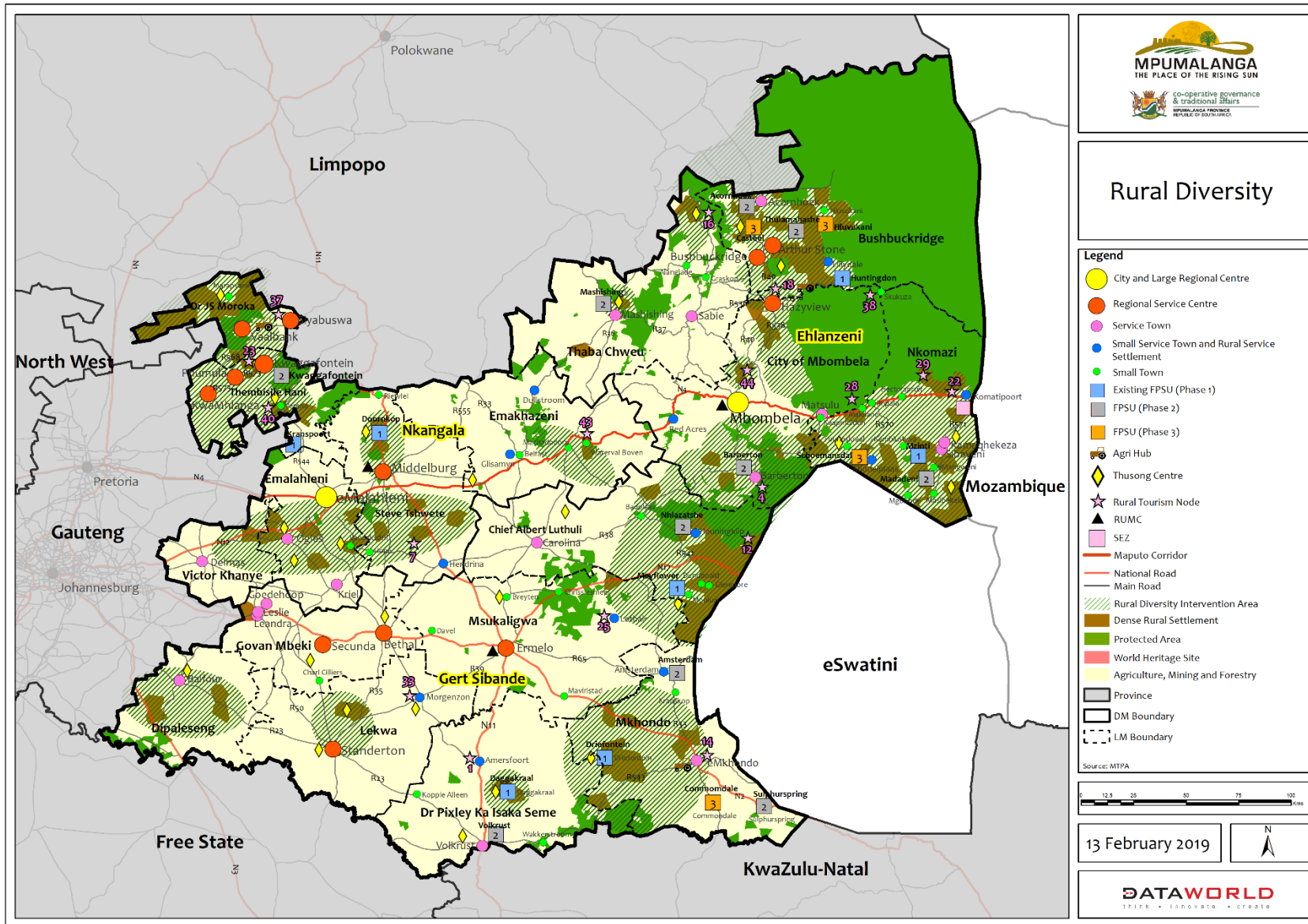
1. the consolidation of settlements and the optimal provision of basic and social services, and
2. the agglomeration of industries and increase in trade.

The PSDF proposes that the main focus of achieving rural transformation in the Province should be through the development of **Rural Economic Nodes** concept which is centred on the proposed urban-rural-anchors and small service centres approach of the NSDF.

Rural Economic Nodes concept is an initiative that focuses on the creation of nodes by consolidating and clustering rural settlements around a rural economic activity or social (Thusong centres) nuclei, linked by established transportation networks which aid in providing opportunities and access to markets and provision of high quality services. The development of these nodes will therefore ultimately lead to a more compact, thriving, self-sustaining rural regions which will assist in the overall rural transformation of the province.

Rural development should also focus on the diversification and agglomeration of the rural space economy, not only through agricultural development, but also on agrarian transformation, tourism, and government promotion of rural development and land reform projects and the current **MIDP projects** happening in the province.

The strategic objective and strategies in this section propose development that will assist in the development of the “Rural Economic Node” concept” in the Province, which aims at achieving the objectives of the NSDF, Mpumalanga Vision 2030 and RDP’s



Map 33: Rural Diversity and Transformation Proposals

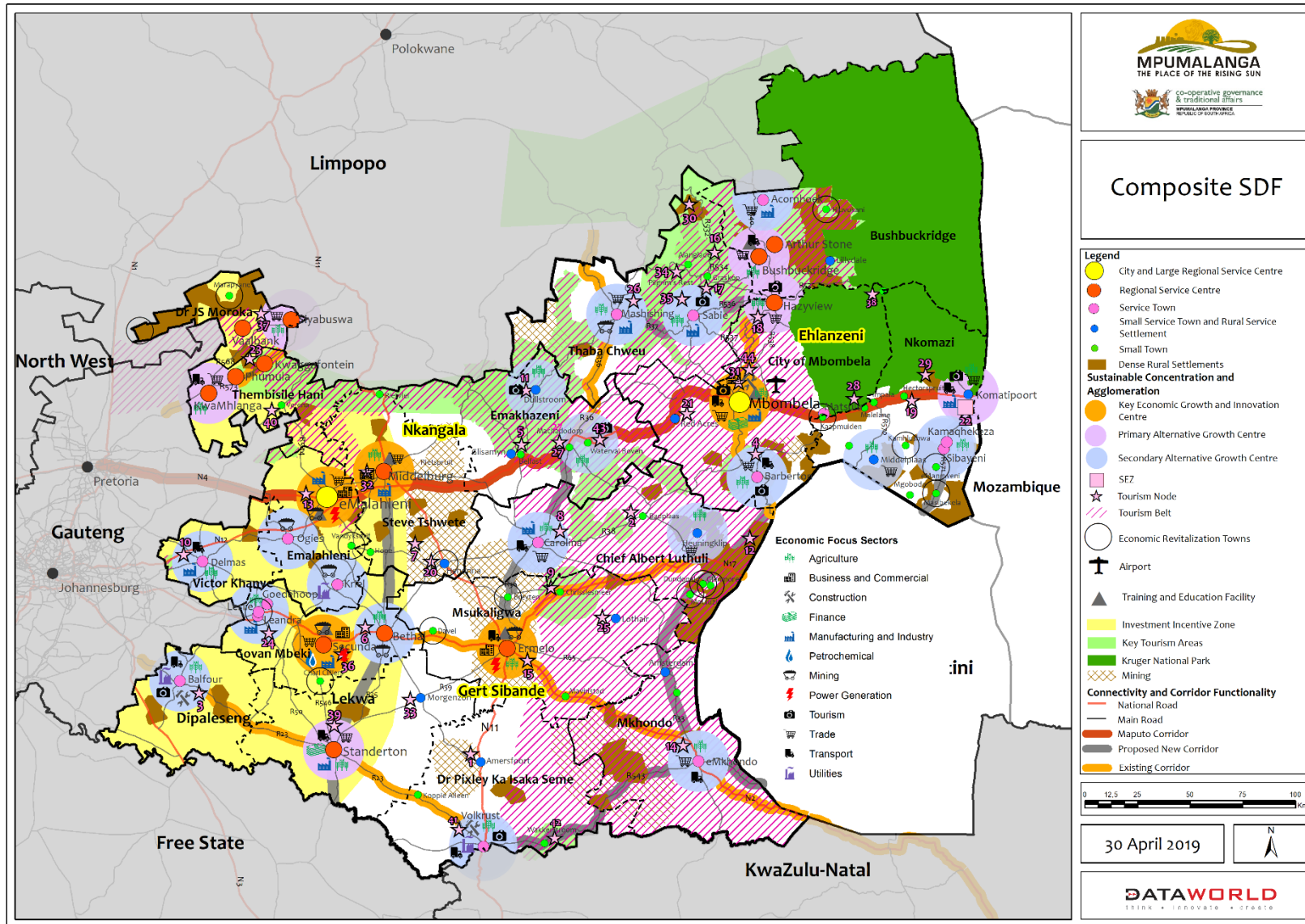
STRATEGIC OBJECTIVE	SPATIAL DEVELOPMENT STRATEGY	PROGRAMME (PLAN)	STRATEGIC AREA FOCUS
<p>Create a Functional Rural Economic Nodes by Rural Restructuring and Linkage of Rural Economies</p>	<p>Development of Rural Economic Nodes through rural Restructuring and transformation.</p> <p>Rural Economic Nodes concept is an initiative that focuses on the creation of nodes by consolidating and clustering rural settlements around a rural economic activity or social (Thusong centres) nuclei, linked by established transportation networks which aid in providing opportunities and access to markets and provision of high quality services. Therefore achieving the desired compact rural settlement. The starting points for achieving this desired objective is through:</p> <ul style="list-style-type: none"> • The consolidation of rural settlements, in order to prevent further sprawl/ fragmentation and sustainable provision of basic and social services • Rural infrastructure development and upgrading: <ul style="list-style-type: none"> ○ Upgrade and maintenance of roads. Majority of the roads in the rural landscape are gravel and poorly maintained roads. In order for most of the projects centred in these areas to work there will be a need to upgrade these roads. Upgrade and maintenance of 	<ul style="list-style-type: none"> • Development of spatial plans that focus on: <ul style="list-style-type: none"> ○ the spatial consolidation of rural settlements to increase densities and enhance sustainability ○ The consolidation of rural settlements within possibly a 50 km radius around an economic or social nucleus in order to create a more compact rural node. • Rural nodal development through the revitalisation of service towns and small service towns & rural settlement areas which serve rural settlements- therefore aid in the creation of urban-rural anchors • Development of road and transport plans that are the focus on upgrading and maintaining rural roads. The development of these plans is crucial to the success of the majority of projects that happen in rural areas. • Efficient provision of basic and social services to rural communities. Provisions of such services should be linked to the 'service wheel' guidelines • Establishment of Agri-villages near FPSU in farm areas, in order to function as a 	<ul style="list-style-type: none"> • The rural restructuring zones within Mpumalanga include the following municipalities <ul style="list-style-type: none"> ○ Thembisile Hani, Dr JS Moroka, and Bushbuckridge as a whole, ○ As well as large parts of Mbombela, Nkomazi, Chief Albert Luthuli and Mkhondo. • Gravel roads connecting from the N2, N11, R536, R568, R544, R555 etc. to the Agri-hubs and FPSU. • Strengthen functions of corridors connecting the rural nodes with the growth centre(R40, R538, R 544, R573, N4 • CRDP Priority Areas • Farm dweller settlements

STRATEGIC OBJECTIVE	SPATIAL DEVELOPMENT STRATEGY	PROGRAMME (PLAN)	STRATEGIC AREA	FOCUS
	<p>these roads will also help in unlocking other economic opportunities that lie in the rural space e.g. tourism</p> <ul style="list-style-type: none"> ○ Provision of adequate basic and social services to rural communities. ● Prioritising agrarian transformation and rural enterprise development to improve the quality of life in rural areas ● Focusing on the development of strong urban-rural anchors in functional regions linking-rural economies with urban markets whereby unlocking disadvantaged rural areas- ● Utilise Thusong centres as an economic and social services concentration point to assist in the consolidation of rural settlement to create nodes and aid in rural restructuring 	<p>second economic base for communities.</p> <ul style="list-style-type: none"> ● Identify and support small scale farmers through Agri park programmes – therefore traversing from subsistence farming to commercial farming ● Development of plans and projects that utilise of Thusong centres concentration point for settlement consolidation to ultimately develop Rural Economic Node's <ul style="list-style-type: none"> ○ Establish access to markets, and ○ Enable easy access to quality social services through these zones 	<ul style="list-style-type: none"> ● Thusong centres in the province ● Rural Intervention Areas 	
	<p>Rural Economic Sector Development.</p> <p>The main economic activity in rural areas is agriculture. There is a need to diversify the rural space economy by enhancing sector development of various sectors such as the tourism, mining, forestry, green economy, retail, manufacturing, etc. and not only focusing on agricultural development. There are numerous plans</p>	<p>Economic development plans focusing on the following sectors:</p> <ul style="list-style-type: none"> ● Tourism: Focusing labour and investment on cultural tourism and heritage with a focus on e.g. the horticulture development along the N4 in Emakhazeni and focus on the World Heritage Site ● Green Economy: Enhance and promote incentive linked benefits for new and 	<p>Rural Intervention Areas</p>	

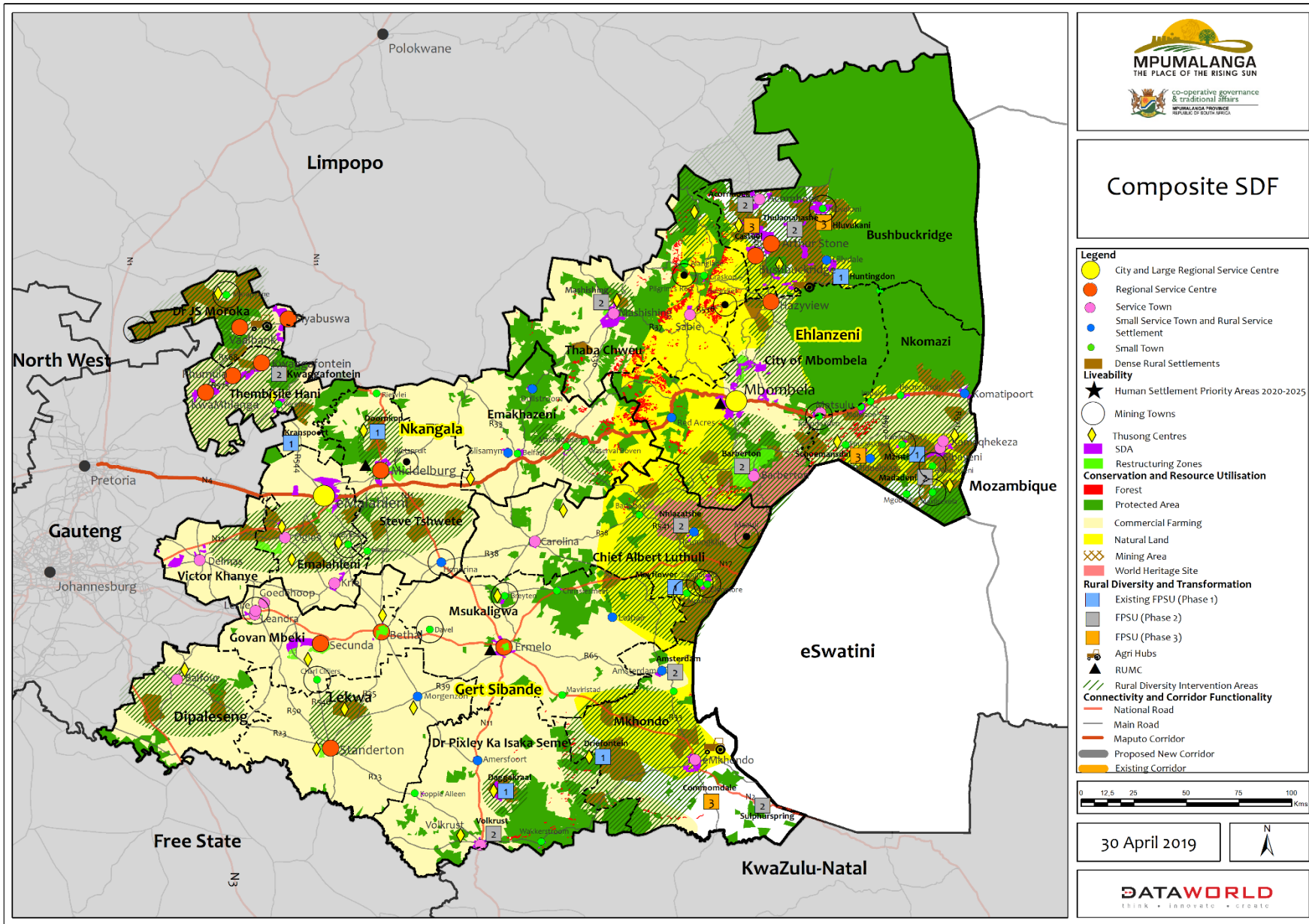
STRATEGIC OBJECTIVE	SPATIAL DEVELOPMENT STRATEGY	PROGRAMME (PLAN)	STRATEGIC AREA	FOCUS
	<p>and projects taking place in the rural space that can assist in the permanent development of these sectors. Hence this strategy aims to support the existing plans and projects and make emphasis on opportunities that will enhance as various sectors to be developed in these communities.</p>	<p>existing industries to encourage such industries to go green and combat the threat faced by climate change. There is also some potential for biomass renewable energy opportunities in the province, in the form of municipal waste conversion or agricultural waste conversion which can be used to produce both heat and electricity. Biomass power plants make an important contribution to a more diversified, cleaner energy composition.</p> <ul style="list-style-type: none"> • Forestry: Explore commercial forestry opportunities within the rural space. Thus comprising of programmes aimed at promoting beneficiation of forestry resources through existing and new enterprises. • Manufacturing: Development of agri-industries and factories to be located near rural settlements and farms. • Mining: Prioritise and develop the value chain in mining and metals manufacturing. The development of the industrial centre of competence manufacturing of metals along N4 (eMalahleni and Middleburg) will assist in job creation in rural areas. (See MIDP) • Agro-processing Technology Park: Develop and promote the proposed 		

STRATEGIC OBJECTIVE	SPATIAL DEVELOPMENT STRATEGY	PROGRAMME (PLAN)	STRATEGIC AREA	FOCUS
		Technology Park which will serve as a hub for the development of other rural nodes, such as the proposed agro-processing hub in Bushbuckridge linked to the Dumphries C Irrigation Scheme and the Giba Community Property Association farming development new Hazyview		
	<p>Rural Economy Linked Infrastructure Development</p> <p>The focus should be on the provision and upgrading of infrastructure required to unlock the economic opportunities offered by the Agri-park programmes. This strategy realises to address the challenge that, the reason why of the plans and projects identified in the RDP's are implemented is because of the lack of infrastructure needed to support such projects. The for this strategy aims to make provisions for the upgrade and development of such infrastructure in order to get the Agri-parks and associated FPSU functional in order to create employment for rural communities.</p>	<p>Infrastructure development projects that focus on the provision and upgrades of:</p> <ul style="list-style-type: none"> • Adequate water infrastructure such as:- <ul style="list-style-type: none"> ○ Irrigation systems, ○ Water channels, ○ Water reticulation • Sanitation and Waste management projects to minimise the effects on the environment. • The electrical infrastructure required to get the projects operational 	Mpumalanga Agri-Parks and Rural Intervention Areas	

3.3 COMPOSITE MPUMALANGA PROVINCIAL SPATIAL DEVELOPMENT FRAMEWORK



Map 34: Mpumalanga Provincial Spatial Development Framework 1



Map 35: Mpumalanga Provincial Spatial Development Framework 2

4 LAND USE BUDGET

To get an overview of the urban forms in the municipalities, an analysis is carried out to assess additional land requirements in the municipalities. The analysis considers two scenarios- medium growth and high growth. The study covers only the urban/built-up land requirements such as residential, socio-economic amenities, economic land uses (industrial, trade, office etc.) and road network. The land use requirements are assessed based on the anticipated population. In other words, the analysis predicts the amount of additional land required to provide housing and socio-economic facilities to future population. CSIR's guidelines for social facility provision, NSDF's and PSDF's direction to provide facilities according to town typology (service wheel), and Demacon's Market study 2012 (as provided in the old PSDF) have been followed to determine land required for socio-economic activities. The analysis considers that the current gaps such as the number of schools will be filled in the short term (until 2025) and the MIDP proposals will be partially implemented by that time. The analysis does not

cater for land required for primary economic sectors, i.e. agriculture and mining activities.

4.1 MEDIUM GROWTH SCENARIO

As per this scenario, the population of the province will be approximately 4.7 million in 2025, 5.35 million in 2035 and 5.91 million in 2050. The following table shows the additional land requirements for short (2025), medium (2025-35) and long term (2035-50) additional land requirements for the medium (baseline) growth scenario. It is expected that the province will require an additional 12 706, 3 ha urban land by 2025; 18 997, 8 ha by 2035; and 16 031, 8 ha by 2050. It can be observed that there is a decrease in the land requirement in 2035-50 (long term) from 2025-35 (medium term). The primary reasons for this decrease are: (a) slowing down of population growth rate and (b) implementing the current proposals that have spatial implication such as the MIDP proposals by 2035.

Table 16: Additional land required to accommodate anticipated population and non-primary economic sector activities (Medium/Baseline Growth Scenario)

Municipality/ Area	Residential	Education	Health	Community & Recreation	Government	Industrial	Office	Trade	Open Space	Roads	Total
2025 (Short Term)											
Chief Albert Luthuli	60,2	247,1	0,2	1,1	1,1	1,5	0,8	4,1	21,4	89,7	427,1
Msukaligwa	268,5	126,7	0,5	3,4	1,3	22,1	3,2	16,6	29,9	125,5	597,5
Mkhondo	257,9	101,1	0,5	3,2	0,2	1,8	0,4	1,1	24,7	103,9	494,8
Dr Pixley Ka Isaka Seme	44,6	88,9	0,1	0,4	1,1	3,9	2,6	4,6	9,9	41,5	197,6
Lekwa	40,9	83,3	0,1	0,4	-	8,8	1,3	2,3	9,3	38,9	185,4
Dipaleseng	20,2	27,5	9,4	114,5	7,9	1,6	0,4	0,5	12,3	51,6	245,9
Govan Mbeki	413,8	71,0	0,8	5,6	0,3	682,1	1,1	12,3	80,2	336,9	1 604,1
Gert Sibande DM	1 106,2	745,6	11,6	128,6	11,9	721,7	9,8	41,4	187,6	788,0	3 752,4
Victor Khanye	58,8	10,7	0,2	1,1	-	24,2	0,5	0,9	6,5	27,4	130,4
Emalahleni	712,8	119,3	5,8	69,5	3,0	374,5	2,9	33,7	89,3	375,0	1 785,8
Steve Tshwete	470,3	74,0	0,9	6,2	1,5	695,4	1,7	3,0	84,7	355,6	1 693,3
Emakhazeni	41,7	41,3	0,1	100,4	3,4	10,8	0,5	1,9	13,5	56,8	270,6
Thembisile	276,2	49,9	0,5	3,4	0,2	3,7	4,0	4,1	23,1	97,0	462,1

Municipality/ Area	Residential	Education	Health	Community & Recreation	Government	Industrial	Office	Trade	Open Space	Roads	Total
Dr JS Moroka	37,5	225,3	0,1	0,4	-	25,3	1,8	3,1	19,8	83,3	396,6
Nkangala DM	1 597,4	520,4	7,6	181,0	8,1	1 134,0	11,4	46,8	236,9	995,1	4 738,8
Thaba Chweu	17,2	30,1	4,6	60,5	3,5	185,7	0,7	5,4	20,8	87,3	415,8
Bushbuckridge	203,3	276,9	0,4	102,8	4,7	91,5	3,4	32,5	48,3	203,0	966,9
Nkomazi	201,1	31,7	0,4	2,8	0,2	303,8	0,2	2,1	36,6	153,9	732,8
City of Mbombela	1 023,9	264,3	6,3	73,8	3,2	87,6	16,6	77,9	105,0	440,9	2 099,6
Ehlanzeni DM	1 445,4	603,1	11,7	239,9	11,6	668,5	20,9	118,0	210,8	885,2	4 215,1
Mpumalanga	4 149,0	1 869,1	30,9	549,5	31,6	2 524,2	42,1	206,2	635,3	2 668,3	12 706,3
2035 (Medium Term)											
Chief Albert Luthuli	194,5	31,7	4,9	62,9	3,6	4,4	2,3	12,4	21,4	89,8	427,8
Msukaligwa	385,2	69,5	5,5	158,7	9,2	29,4	4,3	22,1	46,2	194,1	924,2
Mkhondo	348,3	52,8	5,1	164,6	5,0	2,3	0,5	1,3	39,2	164,6	783,7
Dr Pixley Ka Isaka Seme	52,9	10,5	4,6	60,7	2,4	4,3	2,9	5,0	9,7	40,7	193,7
Lekwa	150,2	28,8	0,3	101,7	2,4	30,1	4,5	7,9	22,0	92,4	440,2
Dipaleseng	80,0	18,3	4,7	61,4	3,6	5,7	1,5	1,7	12,0	50,2	239,1

Municipality/ Area	Residential	Education	Health	Community & Recreation	Government	Industrial	Office	Trade	Open Space	Roads	Total
Govan Mbeki	769,2	113,3	5,8	69,5	3,0	628,5	1,9	21,2	108,9	457,6	2 178,8
Gert Sibande DM	1 980,3	324,9	30,9	679,5	29,2	704,6	17,8	71,6	259,4	1 089,4	5 187,6
Victor Khanye	152,6	28,8	4,8	62,0	2,5	58,4	1,3	2,2	21,1	88,7	422,4
Emalahleni	1 209,8	282,6	2,0	115,8	112,4	590,3	4,6	53,1	160,2	672,7	3 203,5
Steve Tshwete	1 003,1	150,8	6,5	166,2	10,2	189,0	3,4	6,0	103,7	435,7	2 074,6
Emakhazeni	54,2	10,5	0,1	0,4	-	13,1	0,6	2,3	5,5	23,0	109,7
Thembisile	471,4	71,0	0,8	5,8	1,4	5,8	6,3	6,5	38,5	161,5	769,0
Dr JS Moroka	158,8	34,8	0,3	1,7	1,2	99,2	7,1	12,0	21,3	89,4	425,8
Nkangala DM	3 049,8	578,6	14,5	351,9	127,7	955,7	23,2	82,2	350,2	1 471,0	7 005,0
Thaba Chweu	77,5	18,3	0,2	1,1	0,1	65,5	3,0	22,7	12,7	53,5	254,6
Bushbuckridge	321,2	56,0	5,1	164,4	7,1	134,2	5,0	47,7	50,1	210,2	1 001,1
Nkomazi	718,8	108,6	10,5	223,1	10,7	312,5	0,6	7,1	94,0	395,0	1 880,9
City of Mbombela	1 864,6	280,6	7,9	177,7	117,3	148,2	28,1	90,3	183,4	770,4	3 668,6
Ehlanzeni DM	2 982,2	463,4	23,7	566,3	135,2	660,5	36,8	167,8	340,3	1 429,1	6 805,2
Mpumalanga	8 012,3	1 366,9	69,1	1 597,7	292,1	2 320,8	77,8	321,7	949,9	3 989,5	18 997,8

Municipality/ Area	Residential	Education	Health	Community & Recreation	Government	Industrial	Office	Trade	Open Space	Roads	Total
2050 (Long Term)											
Chief Albert Luthuli	212,0	31,7	0,4	102,6	4,6	4,4	2,3	12,5	25,0	105,1	500,6
Msukaligwa	305,3	48,3	0,5	3,2	2,4	21,5	3,1	16,2	27,1	113,7	541,2
Mkhondo	348,0	50,0	0,6	4,1	0,2	2,1	0,5	1,2	27,5	115,4	549,6
Dr Pixley Ka Isaka Seme	52,0	10,5	0,1	100,4	3,4	3,9	2,6	4,6	12,0	50,4	239,8
Lekwa	34,7	10,7	4,9	54,2	5,5	6,4	1,0	1,7	8,0	33,8	160,9
Dipaleseng	9,3	10,7	9,4	114,3	18,7	0,6	0,2	0,2	11,0	46,4	220,9
Govan Mbeki	848,0	116,1	1,3	9,4	0,6	639,5	1,9	21,5	110,7	464,9	2 214,0
Gert Sibande DM	1 809,3	278,0	17,2	388,2	35,4	678,5	11,5	57,8	221,3	929,7	4 427,0
Victor Khanye	62,7	10,5	0,1	0,4	-	22,1	0,5	0,9	6,6	27,6	131,3
Emalahleni	1 244,0	174,9	6,4	74,2	14,0	560,2	4,3	50,4	143,8	604,0	2 876,2
Steve Tshwete	952,0	126,8	1,5	10,7	1,7	165,6	3,0	5,2	85,6	359,4	1 711,5
Emakhazeni	38,7	7,7	0,1	100,2	2,3	8,6	0,4	1,5	10,8	45,3	215,6
Thembisile	396,0	55,8	9,9	118,8	19,0	4,5	4,9	5,1	41,5	174,2	829,7
Dr JS Moroka	208,0	37,7	0,4	2,6	0,1	120,0	8,6	14,5	26,5	111,2	529,6

Municipality/ Area	Residential	Education	Health	Community & Recreation	Government	Industrial	Office	Trade	Open Space	Roads	Total
Nkangala DM	2 901,3	413,4	18,4	306,9	37,1	881,0	21,7	77,6	314,7	1 321,7	6 293,8
Thaba Chweu	73,3	10,7	4,7	61,4	14,4	57,2	2,6	19,8	16,5	69,3	329,9
Bushbuckridge	405,3	66,5	0,7	4,5	3,6	156,3	5,9	55,6	47,2	198,2	943,8
Nkomazi	600,0	81,6	0,9	7,1	1,5	9,6	0,5	5,4	47,7	200,5	954,9
City of Mbombela	1 677,3	227,8	7,1	179,4	17,7	123,1	23,3	25,2	154,1	647,3	3 082,3
Ehlanzeni DM	2 756,0	386,5	13,4	252,4	37,2	346,2	32,3	106,0	265,5	1 115,3	5 310,9
Mpumalanga	7 466,7	1 077,9	49,0	947,5	109,7	1 905,8	65,5	241,5	801,6	3 366,7	16 031,8

4.2 HIGH GROWTH SCENARIO

As per this scenario, the population of the province will be approximately 4.72 million in 2025, 5.56 million in 2035 and 6.26 million in 2050. As the NSDF directs to channelise resources for urban development to the eastern part of the country, it is expected that Mpumalanga's population will grow faster than the historical growth trend. The higher rate of population growth will be mainly due to the anticipated migration of people to the province. With the

growth of the population, there will be demand for additional urban land to accommodate residential, socio-economic facilities, economic activities, and road network. The following table shows short, medium and long term additional land requirements for the high growth scenario. It is expected that the province will require an additional 13 229,0 ha urban land by 2025, 23 633,7 ha by 2035 and 19 689,9 ha by 2050.

Table 17: Additional land required to accommodate anticipated population and non-primary economic sector activities (2020-30) – High Growth Scenario

Municipality/ Area	Residential	Educ ion	Healt h	Community & Recreation	Government	Industrial	Office	Trade	Open Space	Roads	Total
2025 (Short Term)											
Chief Albert Luthuli	68,2	247,1	0,2	1,1	1,2	1,6	0,9	4,7	22,0	92,2	439,2
Msukaligwa	276,5	134,3	0,5	3,4	1,3	22,7	3,3	17,1	31,0	130,3	620,3
Mkhondo	267,0	101,1	0,5	3,4	0,2	1,9	0,4	1,1	25,4	106,6	507,6
Dr Pixley Ka Isaka Seme	48,1	88,9	0,1	0,4	1,1	4,2	2,8	4,9	10,2	42,7	203,4
Lekwa	46,6	83,3	0,1	0,4	-	10,1	1,5	2,6	9,8	41,1	195,5
Dipaleseng	22,5	27,5	9,4	114,5	7,9	1,7	0,5	0,5	12,5	52,4	249,4
Govan Mbeki	429,8	71,0	0,8	5,8	0,3	696,2	1,1	12,7	82,3	345,6	1 645,7
Gert Sibande DM	1 158,7	753,2	11,6	129,0	12,0	738,4	10,5	43,7	193,0	810,8	3 861,0
Victor Khanye	62,3	10,7	0,2	1,1	-	25,6	0,6	1,0	6,9	28,8	137,1
Emalahleni	732,3	122,1	5,8	69,7	3,0	384,7	3,0	34,6	91,6	384,6	1 831,3
Steve Tshwete	482,9	81,6	0,9	6,2	1,5	698,0	1,8	3,1	86,2	362,1	1 724,2
Emakhazeni	44,0	41,3	0,1	100,4	3,4	11,4	0,5	2,1	13,7	57,7	274,6
Thembisile	292,2	50,0	0,6	4,1	0,2	3,9	4,2	4,4	24,3	102,0	485,9

Municipality/ Area	Residential	Educ ion	Healt h	Community & Recreation	Government	Industrial	Office	Trade	Open Space	Roads	Total
Dr JS Moroka	49,0	225,3	0,1	0,4	-	32,9	2,4	4,0	21,2	89,1	424,4
Nkangala DM	1 662,6	531,0	7,7	181,9	8,1	156,6	12,4	49,1	243,9	1 024,3	4 877,5
Thaba Chweu	21,8	30,1	4,6	60,5	3,5	189,8	0,9	6,9	21,5	90,3	429,8
Bushbuckridge	274,1	287,5	0,5	103,4	4,7	123,4	4,6	43,9	56,9	238,9	1 137,8
Nkomazi	213,6	39,3	0,4	2,8	0,2	304,0	0,2	2,3	38,0	159,7	760,6
City of Mbombela	1 058,1	272,1	6,4	74,0	3,2	90,6	17,2	78,5	108,1	454,1	2 162,3
Ehlanzeni DM	1 567,7	629,0	11,9	240,7	11,6	707,7	22,9	131,5	224,5	943,0	4 490,5
Mpumalanga	4 389,0	1 913,1	31,2	551,6	31,7	2 602,8	45,7	224,3	661,4	2 778,1	13 229,0
2035 (Medium Term)											
Chief Albert Luthuli	279,4	42,3	5,0	63,5	3,7	6,3	3,2	17,8	28,5	119,5	569,1
Msukaligwa	482,5	82,8	5,6	160,0	9,3	36,8	5,3	27,7	54,7	229,9	1 094,7
Mkhondo	466,5	71,0	5,3	166,1	5,0	3,1	0,7	1,8	48,6	204,2	972,2
Dr Pixley Ka Isaka Seme	98,5	18,3	4,7	61,6	2,5	8,0	5,3	9,3	14,1	59,1	281,3
Lekwa	205,5	31,7	0,4	102,6	2,5	41,2	6,1	10,8	27,1	113,8	541,7
Dipaleseng	97,2	18,3	4,7	61,6	3,6	7,0	1,8	2,1	13,3	55,7	265,3

Municipality/ Area	Residential	Educ ation	Healt h	Community & Recreation	Government	Industrial	Office	Trade	Open Space	Roads	Total
Govan Mbeki	963,7	144,9	6,1	72,1	3,1	787,3	2,4	26,5	135,5	569,3	2 710,9
Gert Sibande DM	2 593,2	409,3	31,8	687,5	29,7	889,7	24,9	96,0	321,8	1 351,4	6 435,2
Victor Khanye	203,1	31,7	4,9	62,9	2,6	77,7	1,7	3,0	26,2	110,0	523,7
Emalahleni	1 490,5	324,9	2,5	119,2	112,6	727,2	5,6	65,4	192,4	808,2	3 848,4
Steve Tshwete	1 179,1	172,0	6,8	168,6	10,4	222,2	4,0	7,0	119,6	502,3	2 392,0
Emakhazeni	77,5	18,3	0,2	1,1	0,1	18,7	0,8	3,4	8,1	34,1	162,3
Thembisile	647,4	95,0	1,1	7,7	1,6	8,0	8,7	9,0	52,6	220,9	1 051,9
Dr JS Moroka	274,5	48,3	0,5	3,2	1,3	171,5	12,3	20,8	36,0	151,0	719,3
Nkangala DM	3 872,0	690,1	16,0	362,7	128,6	1 225,2	33,1	108,5	434,9	1 826,5	8 697,6
Thaba Chweu	119,4	21,1	0,2	1,5	0,1	100,9	4,7	34,9	19,1	80,2	382,0
Bushbuckridge	539,1	87,6	5,4	166,7	7,3	225,3	8,4	80,1	75,7	317,8	1 513,3
Nkomazi	925,5	140,3	10,9	225,9	10,9	316,1	0,8	9,1	110,8	465,3	2 215,6
City of Mbombela	2 289,2	336,3	8,6	183,1	117,6	182,0	34,5	97,2	219,5	921,9	4 389,9
Ehlanzeni DM	3 873,2	585,3	25,1	577,2	135,9	824,2	48,4	221,3	425,0	1 785,2	8 500,9
Mpumalanga	10 338,5	1 684,6	72,9	1 627,4	294,2	2 939,1	106,4	425,9	1 181,7	4 963,1	23 633,7

Municipality/ Area	Residential	Educ ion	Healt h	Community & Recreation	Government	Industrial	Office	Trade	Open Space	Roads	Total
2050 (Long Term)											
Chief Albert Luthuli	288,0	42,3	0,5	103,2	4,7	6,0	3,1	17,0	31,4	131,9	627,9
Msukaligwa	382,7	58,8	0,6	4,3	2,5	27,0	3,9	20,3	33,8	141,9	675,6
Mkhondo	418,7	60,5	0,7	4,7	0,3	2,5	0,6	1,5	33,1	138,9	661,5
Dr Pixley Ka Isaka Seme	76,0	10,7	0,2	101,1	3,5	5,7	3,8	6,7	14,0	58,9	280,6
Lekwa	80,0	13,7	5,0	55,1	5,6	14,8	2,2	3,9	12,2	51,1	243,5
Dipaleseng	29,3	10,7	9,4	114,5	18,7	1,9	0,5	0,6	12,5	52,7	251,0
Govan Mbeki	1 014,7	137,3	1,6	11,6	0,7	765,2	2,3	25,8	132,4	556,0	2 647,5
Gert Sibande DM	2 289,3	333,9	18,0	394,5	36,0	823,1	16,4	75,6	269,4	1 131,4	5 387,5
Victor Khanye	88,0	18,3	0,2	1,1	0,1	31,1	0,7	1,2	9,5	39,9	190,0
Emalahleni	1 477,3	203,8	6,8	76,8	14,2	665,3	5,1	59,8	169,5	712,1	3 390,8
Steve Tshwete	1 120,0	147,8	1,7	12,4	1,9	194,8	3,5	6,2	100,6	422,4	2 011,2
Emakhazeni	57,3	10,5	0,1	100,4	2,3	12,8	0,6	2,3	12,6	52,9	251,7
Thembisile	522,7	76,8	10,1	120,3	19,1	5,9	6,4	6,7	51,9	218,0	1 038,0
Dr JS Moroka	288,0	48,3	0,5	3,2	0,2	166,1	11,9	20,1	36,4	152,8	727,4

Municipality/ Area	Residential	Educ ion	Healt h	Community & Recreation	Government	Industrial	Office	Trade	Open Space	Roads	Total
Nkangala DM	3 553,3	505,5	19,4	314,2	37,8	1 076,0	28,2	96,3	380,5	1 597,9	7 609,2
Thaba Chweu	114,7	18,3	4,7	61,6	14,4	89,4	4,1	31,0	22,8	96,0	457,0
Bushbuckridge	577,3	87,6	0,9	6,4	3,7	222,7	8,4	79,2	66,6	279,8	1 332,6
Nkomazi	781,3	105,6	1,2	8,8	1,6	12,6	0,6	7,1	62,1	260,7	1 241,6
City of Mbombela	2 017,3	277,6	7,6	183,0	18,0	148,0	28,0	30,3	183,1	769,0	3 662,0
Ehlanzeni DM	3 490,7	489,0	14,4	259,8	37,7	472,7	41,2	147,5	334,7	1 405,6	6 693,2
Mpumalanga	9 333,3	1 328,4	51,8	968,5	111,5	2 371,8	85,8	319,4	984,5	4 134,9	19 689,9

The background features a dark grey gradient at the top, transitioning into a bright yellow horizontal bar. Below the bar, a white wireframe grid is visible, which is distorted to create a 3D effect of a landscape with hills and a receding horizon. The text is centered within the yellow bar.

SECTION 5: IMPELEMANANTATION FRAMEWORK

1 SPATIAL GUIDANCE

The South African Constitution clearly outlines the competency between national, provincial and local government spheres, assigning areas of constitutional obligation and legislative competency on each sphere. Schedule 5, the Act defines exclusive provincial legislative competence, which expressly includes provincial planning. It also indicates that all three spheres are interdependent and interrelated and must co-operate, support and guide one another, and coordinate their actions in order to achieve co-operative governance.

As per SPLUMA, the Provincial SDF has to ensure that there are alignment and coordination between the national and municipalities in the following way:

- By aligning and coordinating provincial plans and development strategies with the policies of National Government – The draft NSDF provides guidance in this respect;
- By ensuring the alignment and coordination of the plans, policies and development strategies of Provincial Departments – close linkage to Sector departments' approach; and
- Ensuring alignment and coordination of the plans, policies and development strategies of municipalities – District SDF's provide guidance but also require re-alignment to the PSDF.

Therefore, the Mpumalanga PSDF must create an enabling environment and provide mechanisms to ensure that such coordination, integration and alignment as prescribed by SPLUMA is achieved.

1.1 INSTITUTIONAL FRAMEWORK

The successful implementation of this PSDF will depend on the enabling environment of the institutional framework. The institutional framework must provide solid structures for decision making on the proposed and on-going implementation of the Mpumalanga PSDF strategies.

Clear roles and responsibilities of sector departments and key stakeholders need to be properly defined across all spheres of government and in the private sector. To achieve the required buy-in of the PSDF, there is a need to establish co-operative spatial governance and put mechanisms in place which can be implemented.

Within the planning sphere of the province, the PSDF aims to give guidance to future development in the province and remedy previous spatial patterns of the apartheid government which alienated certain population groups from areas that were economically viable and socially progressive.

1.2 CO-ORDINATING CUSTODIANSHIP

STRUCTURE/

The Mpumalanga PSDF is closely linked to the Mpumalanga Vision 2030, the Mpumalanga Industrial Development Plan and District Rural Development Plans, giving spatial reference to these plans in many aspects.

The key operational role of the PSDF is that it provides a strategic framework for coordinating efforts by government departments (national and provincial), particularly those which have a direct spatial implication. Therefore, there is a need to ensure that there are:

- appropriate institutional arrangements to facilitate planning, budgeting and implementation within provincial government and other spheres of government, and
- monitoring and evaluating provincial and municipal progress in making the required spatial implementation

It is therefore proposed and critical that the Office of the Premier supported by COGTA, Premiers Coordinating Forum and Provincial Management Committee (PMC) act as custodians of PSDF and oversee the implementation, monitoring, evaluation and review of the PSDF. The tandem approach serves a dual purpose by (i) the coordination will prevent and eliminate duplicate structures and procedures within the same and or other departments, and (ii) ensuring operational integration

and alignment between the Mpumalanga PSDF and Mpumalanga Vision 2030.

Although sector departments across all tiers of government, and state-owned enterprises, all have their own planning targets, the PSDF needs to guide the coordination, integration and alignment of all these plans and programmes within the province.

Sector departments, therefore, need to ensure that all their spatial planning and projects are aligned with the PSDF and its strategies. This is in line with Section 17(2) of SPLUMA which stipulates that “*All provincial development plans, projects and programmes must be consistent with the provincial spatial development framework*”

The intent is that the Mpumalanga PSDF's thematic rationale and development objectives filter into municipal spatial planning frameworks where together with the SDF, IDP and LUS of a municipality and ultimately implement the vision of the PSDF. This will provide elements of spatial intelligence and consistency across Mpumalanga to be consistent with Section 12(4) of SPLUMA where “A provincial spatial development framework must contribute to and express provincial development policy as well as integrate and spatially express policies and plans emanating from the various sectors of the provincial and national spheres of government as they apply at the geographic scale of the province”

1.3 SPATIAL FRAMEWORKS VERSUS PLANS

The relationships between a spatial framework versus an implantation plan are diagrammatically illustrated in Figure 22 below. In principle, a framework covers a longer time horizon (i.e. greater than 5 years) and sets out strategies for achieving specific objectives over the medium to longer term. Spatial plans, in contrast, cover a shorter time horizon (i.e. less than 5 years), and its proposals are more specific as they are linked to the allocation of budgets for 'on the ground' delivery¹⁸.

Therefore at each level of government, there is the need to have long-term frameworks, five-year plans, and annual implementation plans to achieve national vision as set forth by the constitution. Figure 22 below illustrates where each level of government spatial development frameworks fit into this organization. Figure 22 also highlights what plans or legislation informs the SDF, which is a long-term framework set forth to identify spatial issues, opportunities and visions. The SDF in turn influence five-year plans that start to implement the elements identified in the SDF. These are then budgeted for on an annual basis. In conclusion, all plans and programmes in the province and local government should be informed and aligned with SDF's.

1.4 MONITORING AND EVALUATION

Monitoring and evaluation of the PSDF are required to manage implementation. The Office of the Premier, supported by the Department of Co-operative Governance and Traditional Affairs (in the municipal space), will be responsible for Monitoring and Evaluation of the implementation of the PSDF. The implementation will be based on a coordinating function integrating provincial sector departments, municipalities, state-owned enterprises, the private sector and communities.

1.5 REPORTING, AMENDMENT AND REVIEW

After the adoption of the Mpumalanga PSDF, progress with regards to the implementation of the PSDF will be reported to the Provincial Management Committee (PMC).

As per Section 15(5) of SPLUMA, 2013 the Executive Council may amend the provincial spatial development framework when necessary and must review it at least once every five years (by 2025). Therefore, the Mpumalanga PSDF will be reviewed every 5 years. However, the implementation framework of the PSDF will be amended on an annual basis to measure implementation.

¹⁸ DRDLR SDF Guidelines, 2017

1.6 PARTNERS IN THE SPATIAL DEVELOPMENT CONTEXT

Success in the implementation of the Mpumalanga PSDF is anchored on collaboration and alignment of interventions of various agencies. The three spheres of government perform distinct but interrelated functions. It is this interdependency rather than a hierarchy that shapes the developmental roles of each of the three spheres. Recognising local government's role in the implementation and provincial government's role in coordination and integration. The national government is responsible for:

- setting broad macro social, environmental and economic policy direction;
- providing framework legislation for spatial development and planning; and
- monitoring and evaluation of provincial and local government performance on national outcomes and strategic objectives.

National government policy has a significant impact on the provincial and local level Implementation of programmes. Provincial government's role is to:

- develop framework legislation on development planning;
- provide a clear indication of provincial long- and medium-term growth and development priorities;

- implement in certain instances (i.e. linked to the constitutional allocation of powers and functions) national legislation, policy and strategy; and
- monitor and evaluate provincial and local government performance on set outcomes and strategic objectives

The provincial government has a key role in ensuring integration across the three spheres of government. PSDF must facilitate this integration and coordination as prescribed by SPLUMA. Office of the Premier, supported by CoGTA, must ensure that Municipal SDFs and IDPs give effect to the Mpumalanga PSDF and that provincial spatial investments are aligned to municipal spatial plans.

The Office of the Premier must, through CoGTA, provide support and/or build the capacity of local government to plan and implement service delivery where necessary.

Local government is primarily responsible for coordinating the use and development of land by both government and private individuals. Municipalities are also primary providers of major services required by communities for healthy, sustainable and economically productive rural and urban living. Municipalities are mandated by SPLUMA to determine structuring and restructuring elements of space, including development corridors and economic nodes where public and private investment will be prioritised and facilitated. Municipalities are however required to align their plans, programmes and budgets to the broad goals and objectives set in terms of national and provincial policies and strategies.

The private sector's role as a primary agent of spatial change in the province cannot be ignored. In general, the modus operandi of the private sector is driven by economic return with an emphasis on the short term. Frequently this results in externalities which must be absorbed by government, society and the economy at large. Going forward, public-private partnerships will become increasingly important in land and infrastructure development, especially in relation to spatial targeting. The cooperation of the private sector with the government on this is critical. More effort is required to promote good development, direct the right kind of growth to the right areas, and streamline development applications for these areas. Private sector developments must align with municipal plans.

Engagement with the private sector over the spatial objectives of the Mpumalanga PSDF must be strengthened. These objectives and strategies must be mainstreamed within the private sector, large corporates, financial houses, property developers as well as energy, transport and logistics companies.

Citizens are required to actively participate in planning. Nevertheless, the state should engage with people in their

own forums rather than expect citizens to engage in state-created forums. These provisions are also stressed in the NDP. Although the willingness may exist in local government to pursue people-centred development, capacity and resources remain a key challenge. To achieve this, we will require building and mainstreaming capacity throughout municipalities, and forming partnerships among government, relevant NGOs, and communities.

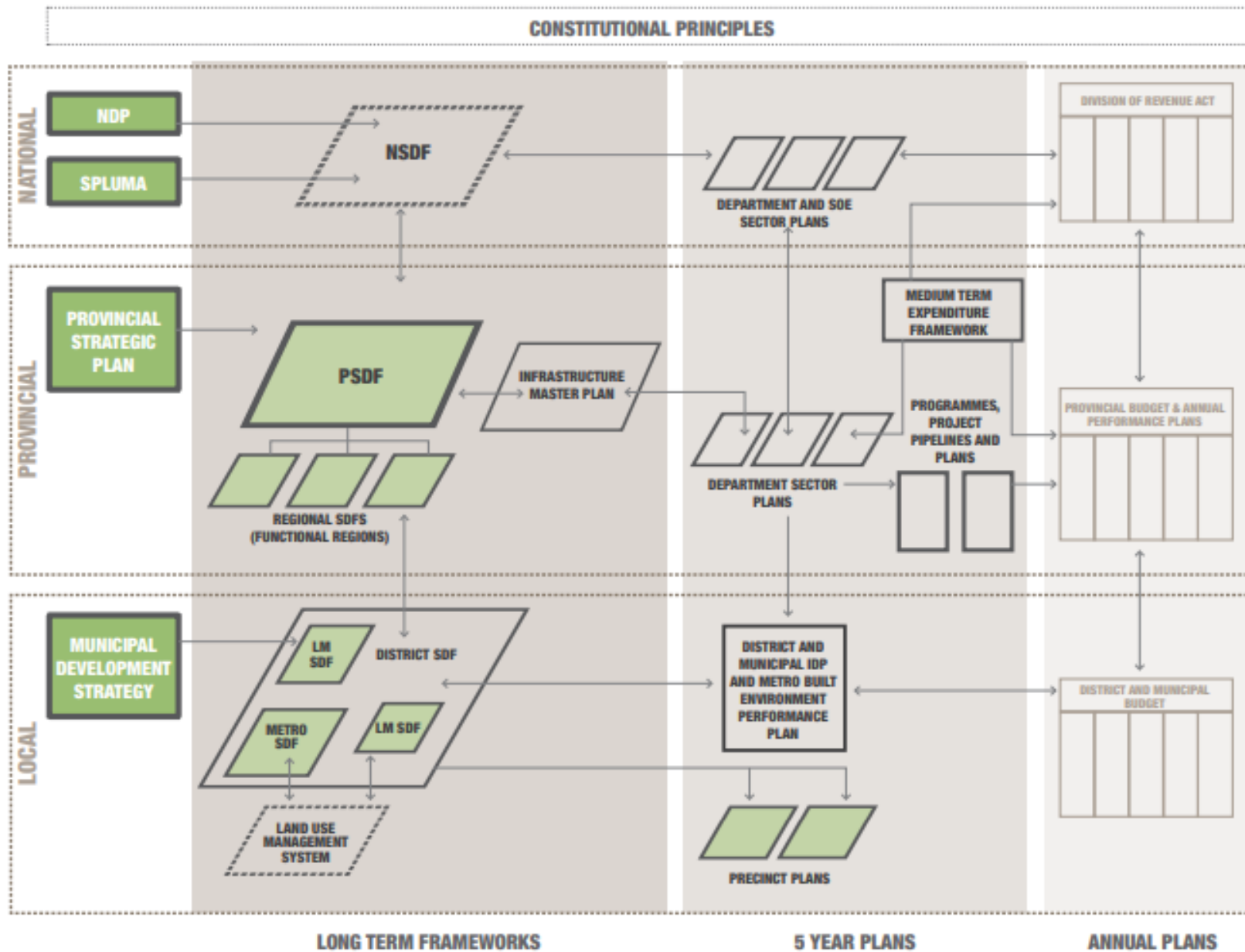


Figure 21: Relationship between SDF's and Implementation plans

Source: DRDLR SDF Guidelines

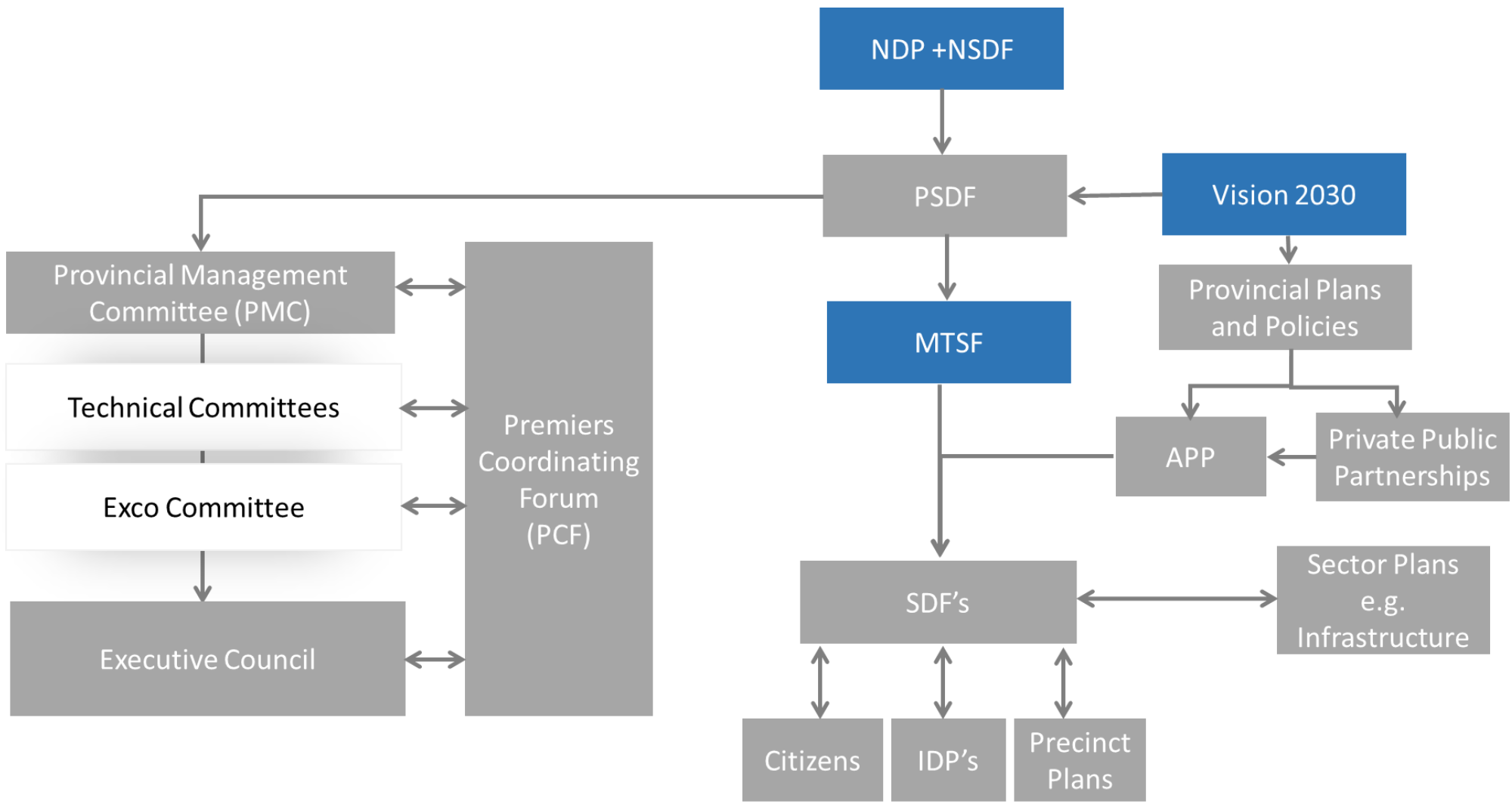


Figure 22: Institutional framework for PSDF implementation

2 IMPLEMENTATION FRAMEWORK

The ensuing section identifies a set of programmes and projects essential for realising the spatial development strategies and plans. This section also identifies the parties responsible for implementing the projects and programmes. The projects and programmes have been categorised into three broad timeframes to indicate their time of implementation. These timeframes are short term (till 2020), medium term (2020-25) and long term (2025-30). However, the implementation framework of the PSDF will be amended on an annual basis to measure implementation.

Table 18: Implementation Framework

Strategic objective	Policy Reference	Programmes/Projects	Responsible Party	Timelines		
				Short Term 2025	Medium Term 2035	Long Term 2050
Spatial Development Strategy: Connectivity and Corridor Functionality						
Leverage N4 corridor to facilitate regional and provincial connectivity	<ul style="list-style-type: none"> • Maputo Development Corridor • NSDF 	Improvement and establishment of access points on the N4 to allow sub-regional connectivity.	• SANRAL	X	X	X
		Rehabilitation of existing roads that will act as access points and upgrading of those roads to be established as corridors for sub-regional connectivity.				
Development of the existing corridors and building new linkage corridor to increase capacity and economic opportunities and ensure connectivity to the surrounding areas	<ul style="list-style-type: none"> • NATMAP 2050 • Vision 2030 • Maputo Development Corridor • Phalaborwa SDI 	Improvement and upgrading of existing corridors i.e. N4, N17, N11, N12. <ul style="list-style-type: none"> • Strengthening of N17 from Chrissiesmeer to Oshoek; • Resurfacing of the N12 from Gauteng/ Mpumalanga border to eMalahleni • N11 improvement between the Hendrina power station and the N4 at Middelburg. 	• SANRAL Supported by: • Dept. of Public Works, Roads and Transport,		X	X
		Improving and rehabilitating of provincial corridors including R23, R573 R40, R37 and Dilokong platinum corridor extension (R36).				

Strategic objective	Policy Reference	Programmes/Projects	Responsible Party	Timelines		
				Short Term 2025	Medium Term 2035	Long Term 2050
		Development and rehabilitation plans of R571, east linkage of R23, R35 to Standerton, R36 from Machadodorp to Ermelo, R37 linking Mashishing with Hazyview and R33 roads and upgrading them to serve as new corridors in the province.				
Upgrade of tourism, and rural economy road networks with linkages to transportation corridors.	<ul style="list-style-type: none"> •Tourism Policy •Vision 2030 •RDP Business Plans 	Plans and medium term programmes that focus on the upkeep, maintenance and upgrading of tourism routes.	<ul style="list-style-type: none"> •Dept. of Public Works, Roads and Transport 		X	X
		Develop upgrading plans for roads that will be able to serve the functioning Agri-hubs, FPSU's and the SEZ.				
		Development of District and Municipal transportation master plans in order to identify more potential tourism roads and transportation opportunities.				
Development of the public transportation network and corridor by emphasizing on the passenger rail network	<ul style="list-style-type: none"> •NATMAP 2050 •Vision 2030 	Feasibility studies for the establishment of the proposed passenger railways	<ul style="list-style-type: none"> •PRASA 		X	X
		Development of District and Municipal transportation master plans to address public transport issues and access in the Province more specifically focusing on passenger railway and its viability.				
		Spatial development plans for the development of the proposed passenger rail in the province, such as the Moloto Passenger Rail, N4 Passenger Rail, N17 Passenger Rail and R40 Passenger Rail.				

Strategic objective	Policy Reference	Programmes/Projects	Responsible Party	Timelines		
				Short Term 2025	Medium Term 2035	Long Term 2050
Decongestion of the coal haul roads and Improvement of Freight Network	• Vision 2030	Upgrades and rehabilitation of coal haulage routes in the province	• SANRAL Supported by: • PRASA	X	X	
		Improvement strategies for freight network in the province i.e. <ul style="list-style-type: none"> - Alternative roads to use in order to keep the main district roads in good condition. - Alternative modes of freight movements - Mashishing area requires better freight management infrastructure. - Logistic hub at eMalahleni to transfer loads from trucks to rail and vice versa. - Reducing surface freight volume and transfer to the air freight with proposed Victor Khanye Airport. - Upgrading and Maintenance of the Carolina – Volsrust and the Bethal – Standerton corridors - Upgrading and Maintenance of the N11 and R35 corridors - Improvement and upgrading freight railway network with the Waterberg – Mpumalanga – Richard Bay Rail freight extension. 				
Spatial Development Strategy: Sustainable Concentration and Agglomeration						
Enhance Economic Competitiveness through Economic Growth and Innovation Centres by Spatial Targeting	• Vision 2030 • District SDFs, • MIDP	Strengthen Economic Bases of the Key Urban Centres <ul style="list-style-type: none"> • Undertake detailed studies to identify the latent economic potential of the key urban centres • Invest for industrialisation and commercial development in the key urban centres 	• DEDT Supported by: • MEGA • Municipalities	X	X	X

Strategic objective	Policy Reference	Programmes/Projects	Responsible Party	Timelines		
				Short Term 2025	Medium Term 2035	Long Term 2050
		<ul style="list-style-type: none"> • Develop necessary social and physical infrastructure to foster economic development • Implement relevant economic development projects of Vision 2030 and MIDP proposals • Develop necessary road and rail linkages and logistics facilities (covered in the Spatial Development Strategy: Connectivity and Corridor Functionality) 	<ul style="list-style-type: none"> • SANRAL • PRASA • DSD • DoH 			
		Develop Business and Industrial Incubation Centres				
Economic enabling of Growth Centres /typology in relation to higher order growth areas in the Province and Economic Decentralization	Vision 2030	Promote Economic Development of the Alternative Growth Centres <ul style="list-style-type: none"> • Spatial Targeting <ul style="list-style-type: none"> ◦ Identify the economic potential of the growth centres and promote economic activities accordingly (Develop and implement detail economic development plans) ◦ Invest in strategic sectors to generate economic value and employment • Integrate agri-hubs with the towns and improve urban-rural connections • Prioritise the development of the towns serving traditional and CRDP areas • Implement relevant economic development projects of Vision 2030 and MIDP proposals • Develop necessary social and physical infrastructure to foster economic development 	<ul style="list-style-type: none"> • DEDT Supported by: <ul style="list-style-type: none"> • MEGA • Municipalities • SANRAL • PRASA • DSD • DoH 	X	X	X

Strategic objective	Policy Reference	Programmes/Projects	Responsible Party	Timelines		
				Short Term 2025	Medium Term 2035	Long Term 2050
		<p>Strengthen Regional Linkages and Economic Infrastructure</p> <ul style="list-style-type: none"> • Create strong economic and functional linkages between the towns and the higher order growth centres • Develop necessary road and rail linkages and logistics facilities (covered in the Spatial Development Strategy: Connectivity and Corridor Functionality) • Provide the required amount of water to the power plants, mines and manufacturing units. The focus should be on maximising the use of recycled wastewater for these activities. • Provide adequate social infrastructure in the economic growth centres 				
Promote Economic Growth through Incentives		<p>Create an Investment Incentive Zone</p> <ul style="list-style-type: none"> • Demarcate incentive zones • Develop strategies and marketing plan for invest zones • Develop necessary infrastructure in the incentive zones 	<ul style="list-style-type: none"> • Municipalities <p>Supported by:</p> <ul style="list-style-type: none"> • MEGA • DEDT 	X	X	
Diversify Economy	<ul style="list-style-type: none"> • Vision 2030, • District SDFs, • Mpumalanga Tourism Promotion Investment Strategy 	<p>Exploit "Fourth Industrial Revolution"</p> <ul style="list-style-type: none"> • Compile plans and strategies that will assist in the development of the "Fourth Industrial Revolution" • Develop training and educational facilities to build human capacity • Develop necessary physical infrastructure <p>Undertake a township economic development study and implement its proposals</p>	<ul style="list-style-type: none"> • DEDT • MTPA • Municipalities <p>Supported by:</p> <ul style="list-style-type: none"> • MEGA • DTI • DARDLEA 	X	X	X

Strategic objective	Policy Reference	Programmes/Projects	Responsible Party	Timelines		
				Short Term 2025	Medium Term 2035	Long Term 2050
		<p>Analyse feasibility of generating energy from non-conventional sources such as biomass, municipal waste, small scale hydro, wind and solar power</p> <p>Develop Tourism Sector</p> <ul style="list-style-type: none"> • Develop a diverse range of special interest tourism products and routes and package them. • Strengthen well-established tourism nodes and routes by improving facilities, roads and corridors • Market underdeveloped tourism nodes • Improve road connectivity and facilities at the underdeveloped tourism nodes • Implement Mpumalanga Tourism Strategy proposals <p>Improve Small Town Economies and Revitalize Mining Towns</p> <ul style="list-style-type: none"> • Integrate the small towns and deteriorating mining towns with the economic growth centres and tourism nodes • Develop town specific urban regeneration strategies and implement them. T • Promote diversification of economic activities in small and mining towns • Rehabilitate natural environment and mining landscape 	<ul style="list-style-type: none"> • MRTT • Department of Energy 			

Strategic objective	Policy Reference	Programmes/Projects	Responsible Party	Timelines		
				Short Term 2025	Medium Term 2035	Long Term 2050
Spatial Development Strategy: Conservation and Resource Utilisation						
Protect Biodiversity & Ecosystem Services	<ul style="list-style-type: none"> Mpumalanga Biodiversity Sector Plan NEMA 	<ul style="list-style-type: none"> Map important ecological infrastructure for use in spatial planning and for restoration/rehabilitation Local spatial development framework and land use schemes should acknowledge the special requirements for development anything within the vicinity ecological infrastructure. Identify high potential soils and implement the Mpumalanga Biodiversity Sector Plan or bioregional plans 	<ul style="list-style-type: none"> DARDLEA Supported by: <ul style="list-style-type: none"> MPTA DAFF 		X	X
		<ul style="list-style-type: none"> Implementation of the Mpumalanga Biodiversity Sector Plans and Environmental Management Frameworks The Province must Gazette District Municipality bioregional plans to inform land-use decision making. Infrastructure improvements and upgrades on the nature reserves and the completion of management plans for various reserves. 	<ul style="list-style-type: none"> DARDLEA Supported by: <ul style="list-style-type: none"> MPTA DAFF 	X	X	X
		<ul style="list-style-type: none"> Identify and protect Critically Biodiversity Areas and Ecological Support Areas from habitat loss. Municipal zoning schemes should incorporate measures to secure the priority biodiversity network (e.g. delineation of CBA overlay zones, development bonuses). The environmental heritage and conservation areas, biodiversity hotspots 	<ul style="list-style-type: none"> DARDLEA Supported by: <ul style="list-style-type: none"> MPTA DAFF 	X	X	X

Strategic objective	Policy Reference	Programmes/Projects	Responsible Party	Timelines		
				Short Term 2025	Medium Term 2035	Long Term 2050
		and ecological corridors should be treated as a special Biodiversity Management Zone to be actively protected, managed and enhanced so as to ensure that these are not degraded by mining, forestry, agricultural and human settlement activities.				
		Develop and implement legislative tools to ensure the protection of species and ecosystems	<ul style="list-style-type: none"> • DARDLEA Supported by: <ul style="list-style-type: none"> • MPTA • DAFF 	X	X	X
		<ul style="list-style-type: none"> • Incorporate climate change adaptation into how natural land and ecosystems are managed. • Improving upon the science and best practice for including climate change impacts with systematic biodiversity plans. • Assess the possible impacts of other land uses that may exacerbate the impacts of climate change on tourism or the economic development within the region. • Improve the identification of climate change refugia in Mpumalanga. • 	<ul style="list-style-type: none"> • DARDLEA Supported by: <ul style="list-style-type: none"> • MPTA • DAFF 	X	X	X
		<ul style="list-style-type: none"> • Proactively visit private conservation practitioners to inspect compliance. • Strengthen the ability of compliance units to deal with enforcement issues, such as rhino poaching. 	<ul style="list-style-type: none"> • DARDLEA Supported by: <ul style="list-style-type: none"> • MPTA • DAFF 	X	X	X
		• Finalise land claims in protected areas	<ul style="list-style-type: none"> • DARDLEA 	X	X	X

Strategic objective	Policy Reference	Programmes/Projects	Responsible Party	Timelines		
				Short Term 2025	Medium Term 2035	Long Term 2050
		<ul style="list-style-type: none"> • Provide support to claimant communities to create mutually beneficial partnerships. • Establish biodiversity corridors that balance conservation with sustainable use. • Support community – public – private partnerships around conservation. Implement diversified wildlife management strategies including responsible hunting	Supported by: <ul style="list-style-type: none"> • MPTA • DAFF 			
		Explore implementation of international and national opportunities to from wildlife economy and climate change funding directed opportunities	<ul style="list-style-type: none"> • DARDLEA Supported by: <ul style="list-style-type: none"> • MPTA • DAFF 	X	X	X
	<ul style="list-style-type: none"> • Mpumalanga Biodiversity Sector Plan • NEMA 	<ul style="list-style-type: none"> • Encourage biodiversity stewardship amongst landowners. • Enforce NEMBA and provincial biodiversity regulations. 	<ul style="list-style-type: none"> • DARDLEA Supported by: <ul style="list-style-type: none"> • MPTA • DAFF 	X	X	X
	<ul style="list-style-type: none"> • Mpumalanga Biodiversity Sector Plan • NEMA 	Enterprise tourism development to support protected areas. <ul style="list-style-type: none"> • Establish programmes for the rehabilitation of land affected by degradation. • Implement the MBSP to avoid the loss of biodiversity 	<ul style="list-style-type: none"> • DARDLEA Supported by: <ul style="list-style-type: none"> • MPTA • DAFF 	X	X	X

Strategic objective	Policy Reference	Programmes/Projects	Responsible Party	Timelines		
				Short Term 2025	Medium Term 2035	Long Term 2050
Ensure Conservation of all Water Resources and Catchment Areas	<ul style="list-style-type: none"> • Mpumalanga Biodiversity Sector Plan • NEMA • 	Monitor all water use within the municipalities and provincial boundaries. Develop and institute the following: <ul style="list-style-type: none"> • Implement water loss control measures such as pressure management and leakage control programmes. • Recycle wastewater • Harvest rainwater 	<ul style="list-style-type: none"> • DARDLEA Supported by: <ul style="list-style-type: none"> • MPTA • DWA 	X	X	X
		Identify various acid mine drainage treatment options and technologies, including active, passive and in situ treatment technologies				
		<ul style="list-style-type: none"> • Control all forms of pollution in catchment areas. • Control all alien plants infestations in river courses. • Regulate modification of river beds and natural flow patterns. • Wetland Rehabilitation 	<ul style="list-style-type: none"> • DARDLEA Supported by: <ul style="list-style-type: none"> • MPTA • DWA 			

Strategic objective	Policy Reference	Programmes/Projects	Responsible Party	Timelines		
				Short Term 2025	Medium Term 2035	Long Term 2050
	<ul style="list-style-type: none"> • Mpumalanga Biodiversity Sector Plan • NEMA 	<ul style="list-style-type: none"> • Ensure the improvement and upgrading of existing water reticulation systems • Investigate the viability of providing additional water storage dams/tanks for sustainable water provision throughout the year • Conduct regular preventative maintenance programmes of the raw water distribution and conveyance systems to detect and fix leaks (DWA, CMA's, District and local Municipalities). • Implement appropriate preventative maintenance programmes on irrigation equipment (farmers) 	<ul style="list-style-type: none"> • DARDLEA <p>Supported by:</p> <ul style="list-style-type: none"> • MPTA • DWA • DRDLR 		X	X
	<ul style="list-style-type: none"> • Mpumalanga Biodiversity Sector Plan • NEMA 	<ul style="list-style-type: none"> • Institute integrated water quality studies and compulsory scheduled monitoring • Minimise return flows from irrigated fields. Minimize the pollution and degradation of surface and groundwater by the optimal application of pesticides, herbicides and fertilizers (farmers). • Monitor and measure water quality upstream and downstream of the irrigation areas to protect the aquatic ecosystem and the downstream users. • Initiate awareness campaigns through workshops, discussion forums, and newsletters (DWS, CMA, District and Local Municipalities). 	<ul style="list-style-type: none"> • DARDLEA <p>Supported by:</p> <ul style="list-style-type: none"> • MPTA • DAFF • DWA 	X	X	X

Strategic objective	Policy Reference	Programmes/Projects	Responsible Party	Timelines		
				Short Term 2025	Medium Term 2035	Long Term 2050
	<ul style="list-style-type: none"> Mpumalanga Biodiversity Sector Plan NEMA 	<ul style="list-style-type: none"> Protect Strategic Water Source Areas (SWSA) through the management of land use changes: Incorporating Strategic Water Source Areas (SWSA) into provincial and municipal spatial planning tools Ensure that only compatible land uses may occur near rivers and wetlands within SWSAs Establish programmes and plans for the restoring and eradication of invasive alien plants in Strategic Water Source Areas and climate change refugia. Map SWSAs and identify land use pressures that may impact on water quality and quantity in these priority areas. Ensure no development occurs near wetlands or rivers in the SWSAs. Incorporate into SDF, LUSs, EMFs and Bioregional Plans. 	<ul style="list-style-type: none"> DARDLEA <p>Supported by:</p> <ul style="list-style-type: none"> MPTA DAFF DWA 	X	X	X
Promote a Sustainable Agriculture	<ul style="list-style-type: none"> Mpumalanga Biodiversity Sector Plan NEMA RDP 	<ul style="list-style-type: none"> Strategically locate underutilised land for development Increase the utilisation of idle farming land Regulate agricultural development and resource use in accordance with applicable legislation 	<ul style="list-style-type: none"> DARDLEA <p>Supported by:</p> <ul style="list-style-type: none"> DAFF DRDLR 	X	X	X
		Draft and apply integrated management systems for natural areas within agricultural zones				
		Institute compulsory EIA prior to any clearing of land				

Strategic objective	Policy Reference	Programmes/Projects	Responsible Party	Timelines		
				Short Term 2025	Medium Term 2035	Long Term 2050
		<ul style="list-style-type: none"> Establish effective windbreaks prior to clearing of land in erosion-prone areas. Institute effective law enforcement and impose appropriate penalties for transgressions. Promote effective resource utilization through energy and water efficiency technologies. Pilot the inclusion of green initiatives in a farming co-operative e.g. rainwater harvesting, solar lighting etc. 				
	<ul style="list-style-type: none"> Mpumalanga Biodiversity Sector Plan NEMA NSDF NDP 	Addition of alternative forms of energy, energy efficiency and recycling in Agri-Parks and Agri-hubs.	<ul style="list-style-type: none"> DARDLEA Supported by: <ul style="list-style-type: none"> DAFF DRDLR 	X	X	X
	<ul style="list-style-type: none"> Mpumalanga Biodiversity Sector Plan NEMA NSDF 	Avoid ploughing within legislated 32m buffer from all watercourses	<ul style="list-style-type: none"> DARDLEA Supported by: <ul style="list-style-type: none"> DAFF DRDLR 	X	X	X
	<ul style="list-style-type: none"> Mpumalanga Biodiversity Sector Plan NEMA RDP 	<ul style="list-style-type: none"> Development of an agricultural protection and management framework that all municipalities can use. Identify and map all protected agricultural land. The approving of applications to convert intensive agricultural land to other uses should be a provincial responsibility 	<ul style="list-style-type: none"> DARDLEA Supported by: <ul style="list-style-type: none"> DAFF DRDLR 	X	X	X

Strategic objective	Policy Reference	Programmes/Projects	Responsible Party	Timelines		
				Short Term 2025	Medium Term 2035	Long Term 2050
		<ul style="list-style-type: none"> • All land put under plough should be reserved for intensive agriculture. • Capitalise on the access to markets at the local and regional level. • Extensive cattle and game farming should be promoted in the northern regions where the terrain becomes more mountainous. • All land that has previously been used for intensive agriculture that has been destroyed must be rehabilitated. 				
	<ul style="list-style-type: none"> • Mpumalanga Biodiversity Sector Plan • NEMA • 	<ul style="list-style-type: none"> • Encourage the protection of high value agricultural land through the development of rural development edges. • Regulate agricultural development and resource use in accordance with applicable legislation 	<ul style="list-style-type: none"> • DARDLEA Supported by: <ul style="list-style-type: none"> • DAFF • DDRDLR 	X	X	X
	<ul style="list-style-type: none"> • Mpumalanga Biodiversity Sector Plan • NEMA • 	<ul style="list-style-type: none"> • Facilitate Agrarian Transformation within the CRDP priority areas. • Successful land claims within the Municipalities should be supplemented with support and training programmes in order to ensure that the land is productively utilised in a financially sustainable manner. • Establishment of fresh produce markets at the urban and rural growth points. 	<ul style="list-style-type: none"> • DARDLEA Supported by: <ul style="list-style-type: none"> • DAFF • DDRDLR 	X	X	X
	<ul style="list-style-type: none"> • Mpumalanga Biodiversity Sector Plan • NEMA 	Rehabilitation of land affected by degradation.	<ul style="list-style-type: none"> • DARDLEA Supported by: <ul style="list-style-type: none"> • DAFF • DDRDLR 	X	X	X

Strategic objective	Policy Reference	Programmes/Projects	Responsible Party	Timelines		
				Short Term 2025	Medium Term 2035	Long Term 2050
	<ul style="list-style-type: none"> • Mpumalanga Biodiversity Sector Plan • NEMA • 	Agriculture sector needs to develop and implement climate change strategies aimed at identifying areas or communities vulnerable to the impacts of climate change and plan accordingly	<ul style="list-style-type: none"> • DARDLEA Supported by: <ul style="list-style-type: none"> • DAFF • DDRDLR 	X	X	X
	<ul style="list-style-type: none"> • Mpumalanga Biodiversity Sector Plan • NEMA • 	The Farmer Production Support Unit (FPSUs) must be established in each municipality as required to support vegetable farmers (e.g. Input supplies (such as seed, fertilizer, pesticides, herbicides, etc.), training and extension support, mechanisation support, local logistics support, some storage, and processing for local markets, through-put of excess products to Agri-hubs The Rural Urban Market Centre Unit (RUMC) must be established to assist farmers and processors in managing a nexus of contracts and large warehousing.	<ul style="list-style-type: none"> • DARDLEA Supported by: <ul style="list-style-type: none"> • DAFF • DDRDLR 	X	X	X
	<ul style="list-style-type: none"> • Mpumalanga Biodiversity Sector Plan • NEMA • National Climate Change Response Strategy 	FPSUs must be established in each municipality as required to provide Input supplies such as feed and medicines as well as training and extension support, mechanisation support and local logistics support. The RUMC must provide the IT expert/personnel, Administrative manager, Training personnel, Marketing agents (to Facilitate market linkages, facilitate contracts with wholesalers and major retail outlets and also to gather information on prices that	<ul style="list-style-type: none"> • DARDLEA Supported by: <ul style="list-style-type: none"> • DAFF • DDRDLR 	X	X	X

Strategic objective	Policy Reference	Programmes/Projects	Responsible Party	Timelines		
				Short Term 2025	Medium Term 2035	Long Term 2050
		would be communicated to the Agri-Hub Unit (AH) and FPSU).				
Promote a Low Carbon and Climate Resilient Economy	<ul style="list-style-type: none"> • NEMA • National Climate Change Response Strategy 	<ul style="list-style-type: none"> • Biomass Electricity generation industry plans and programmes in Ehlanzeni and Gert Sibande District Municipalities. • Hydroelectricity development opportunities in Ehlanzeni District Municipality. • Prepare Resource Efficient Development Policy. Explore possibilities of developing solar plants and wind energy plants in the province 	<ul style="list-style-type: none"> • DARDLEA <p>Supported by:</p> <ul style="list-style-type: none"> • MPTA 		X	X
		<ul style="list-style-type: none"> • Establish waste to energy project within provincial urban centres. • Investigate the viability and sustainability of recycling activities within large municipalities. • Set up community engagement structures: to promote environmental awareness, • Creation of conducive economic conditions to enable implementation of IWMP's and allow private investment on waste management facilities. • Establish functional units for Waste Management with a clear allocation of responsibilities with respect to environmental legislation and enforcement of appropriate by-laws. • Registration and reporting to waste information system (WIS), research and development initiatives, training and awareness programmes. 				

Strategic objective	Policy Reference	Programmes/Projects	Responsible Party	Timelines		
				Short Term 2025	Medium Term 2035	Long Term 2050
		<ul style="list-style-type: none"> • Develop climate adaptation strategies unique to the Mpumalanga province environmental, social and economic character. • Development and Implementation of sector adaptation strategies/plans for the Province's District Municipalities. • Develop Scoping report to support policy alignment for climate change adaptation. • Facilitate public and catalyse private sector investment in renewable energy. • Develop a framework for reporting on greenhouse gas emissions. • Develop Strategy Policy/Regulatory frameworks to promote a low carbon economy. 	<ul style="list-style-type: none"> • DARDLEA <p>Supported by:</p> <ul style="list-style-type: none"> • MPTA 		X	X
Climate Change Adaptation	<ul style="list-style-type: none"> • NEMA • National Climate Change Response Strategy 	<ul style="list-style-type: none"> • Establish a provincial climate change coordination structure/committee to lead and provide strong coordination for all the climate change adaptation activities across the province • Coordinate provincial stakeholders in the implementation of the strategies <ul style="list-style-type: none"> ◦ Report on the implementation of the Provincial Strategies • Define adaptation practice that integrates biophysical and socio-economic aspects of vulnerability and resilience • Integrate adaptation considerations in the Integrated Development Plans 	<ul style="list-style-type: none"> • DARDLEA <p>Supported by:</p> <ul style="list-style-type: none"> • MPTA 		X	X

	<ul style="list-style-type: none"> • NEMA • National Climate Change Response Strategy 	<ul style="list-style-type: none"> • Develop the Climate Change Adaptation and Agriculture Capacity Building Programme • Conduct a research program that promotes the development or adoption of specific varieties of climate-resilient seeds or plants • Establish Organic Farming Scheme • Fund and implement comprehensive climate change awareness and skills building programme within the farming communities. • Implement a series of practices that optimise nutrient and energy flows and minimise risk through <ul style="list-style-type: none"> ○ Crop rotations as a prerequisite for efficient use of on-site resources; ○ Crop diversity: Taking advantage of on-site resources, such as livestock manure for fertiliser or feed produced on the farm. ○ Organic fertilisers are known to have positive effects on soil carbon; ○ Choosing plant and animal species that are resistant to disease and adapted to local conditions; ○ Raising livestock in free-range, open-air Systems and providing them with organic feed; ○ Using animal husbandry practices appropriate to different livestock species; ○ Symbiotic nitrogen fixation with legumes and Biological pest control • Prepare Drought Preparedness and Response Framework • Develop effective early warning systems for farmers to help prevent disasters. increase the supply of forestry based biomass 	<ul style="list-style-type: none"> • DARDLEA <p>Supported by:</p> <ul style="list-style-type: none"> • MPTA 	X	X
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Strategic objective	Policy Reference	Programmes/Projects	Responsible Party	Timelines		
				Short Term 2025	Medium Term 2035	Long Term 2050
	<ul style="list-style-type: none"> • NEMA • National Climate Change Response Strategy 	<ul style="list-style-type: none"> • Conduct Provincial Forest Resource Assessment study (natural and commercial forests) • Development and implementation of Provincial Agroforestry strategy 	<ul style="list-style-type: none"> • DARDLEA Supported by: <ul style="list-style-type: none"> • MPTA 		X	X
	<ul style="list-style-type: none"> • NEMA • National Climate Change Response Strategy 	<ul style="list-style-type: none"> • Develop guidelines for assessing the impacts of climate change on water supplies • Integrate climate change considerations into infrastructure projects development processes, including the design, planning, pre-feasibility and feasibility stages • Encourage re-use of grey water • Sustainable Irrigation Projects • Enhance Catchment Management activities within the province with special focus on reducing deforestation in catchment areas, • Clearing of alien plants species and introduce indigenous plants along the catchment 	<ul style="list-style-type: none"> • DARDLEA Supported by: <ul style="list-style-type: none"> • MPTA 		X	X

Strategic objective	Policy Reference	Programmes/Projects	Responsible Party	Timelines		
				Short Term 2025	Medium Term 2035	Long Term 2050
	<ul style="list-style-type: none"> • NEMA • National Climate Change Response Strategy 	<ul style="list-style-type: none"> • Develop area-based biodiversity response plan, monitoring and evaluation framework • Integrate new climate change projections into spatial decisions support tools • Establish a partnership with other provinces that share grassland and savannah ecosystems, and SANBI to fund a dedicated programme that strengthens the understanding of climatic changes to the two ecosystems, and simultaneously increases the knowledge-based regarding the socio-economic implications of such changes. • Conduct robust studies on biodiversity, natural capital, and human livelihoods impacts and identify measures to reduce or better manage the change • Establish gene banks that contribute towards the conservation of species that are vulnerable to climate change • Increasing the level of forest cover and use of wood products and fuels • Implement the MBSP and bioregional plans that would allow for the protection of climate change related priorities 	<ul style="list-style-type: none"> • DARDLEA Supported by: <ul style="list-style-type: none"> • MPTA 		X	X

Strategic objective	Policy Reference	Programmes/Projects	Responsible Party	Timelines		
				Short Term 2025	Medium Term 2035	Long Term 2050
	<ul style="list-style-type: none"> • NEMA 	<ul style="list-style-type: none"> • Establish District-Provincial Task Team • Evaluation of all land use applications in terms of the District/Local Environmental Management Frameworks • Coordination/alignment with Mpumalanga Tourism and Parks Agency to ensure demarcation, protection and proclamation of conservation areas • Strict compliance monitoring to ensure mining companies adhere to EMPRs 	<ul style="list-style-type: none"> • DARDLEA <p>Supported by:</p> <ul style="list-style-type: none"> • DAFF • MPTA • DMR 		X	X
To optimally utilise the mining potential without compromising the long term sustainability of the natural environment.	<ul style="list-style-type: none"> • NEMA • DPALFA Bill 	<ul style="list-style-type: none"> • Establish District-Provincial Task Team to: <ul style="list-style-type: none"> ○ monitor and comment on mining/prospecting license applications in the Province; ○ monitor implementation of mining rehabilitation programmes • Evaluation of all land use applications in terms of the District/Local Environmental Management Frameworks. • Coordination/alignment with Mpumalanga Tourism and Parks Agency to ensure demarcation, protection and proclamation of conservation areas. • Proactively manage current and future development areas to ensure that sand mining resources are, where appropriate, exploited prior to development commencing; and Assist the Department of Mineral Resources (DMR) to close down all illegal mining. 	<ul style="list-style-type: none"> • DARDLEA <p>Supported by:</p> <ul style="list-style-type: none"> • DAFF • MPTA • DWS • DMR 		X	X

Strategic objective	Policy Reference	Programmes/Projects	Responsible Party	Timelines		
				Short Term 2025	Medium Term 2035	Long Term 2050
		<ul style="list-style-type: none"> • Put in place environmental management systems to protect other natural resources (water, ecosystems, agricultural land) from adverse effects of mining. <ul style="list-style-type: none"> ○ Strict compliance monitoring to ensure mining companies adhere to EMPRs. Currently spread of alien and invasive plants observed on mining areas. Poor adherence to EMPRs and inadequate staff to deal with monitoring and compliance. 				
		<ul style="list-style-type: none"> • Development of a plan/ policy that will give direction on the determination of Special Control Zones. • • Proclamation of environmental, water bodies/ wetlands, strategic water source areas and agricultural land parcels for protection in order to assist in the determination of "Special Control Zones" for the Province, taking into consideration existing environmental strategies and policies, which will help in outlining policies for: <ul style="list-style-type: none"> ○ Aggressive rehabilitation of brownfield/ abandoned mining land ○ Define No- go areas ○ Protection of high potential agricultural land and the natural environment, and 				

Strategic objective	Policy Reference	Programmes/Projects	Responsible Party	Timelines		
				Short Term 2025	Medium Term 2035	Long Term 2050
		<ul style="list-style-type: none"> ○ Protection of environmentally sensitive areas etc. • Proper zoning delineation in all planning policies, which is in line with the “Special Control Zones” in order to assist municipal planning practices • Development of sustainable mining policies that will assist in outlining the type of mining practises (environmentally “green” friendly) that can be permitted in order to minimise its negative impacts onto the environment and help rehabilitate the land and minimise further degradation of the land and climate change mitigation strategies 				
Spatial Development Strategy: Liveability and Sense of Place						
Promote compaction and densification in urban areas through the application of designated nodes, sustainable development and infill areas	<ul style="list-style-type: none"> • Vision 2030 • NSDF • NDP • Integrated Urban Development Framework 	Delineation of appropriate urban development edges in line with the changing local socio-spatial dynamics and needs.	<ul style="list-style-type: none"> • COGTA Supported by: • All Municipalities • DHS 	X	X	X
		Strategic infilling and densification in appropriate locations linked to economic concentration, public transport, Thusong centres and other amenities				
		Urban regeneration and well-located human settlements projects and plans to accelerate the spatial transformation				
Targeted spatial interventions that seek to promote socio-economic and spatial transformation	<ul style="list-style-type: none"> • Vision 2030 • NSDF • Mpumalanga Human Settlements Master Plan 	Higher density residential development in and around selected nodes as well as along public transport routes.	<ul style="list-style-type: none"> • COGTA Supported by: • All Municipalities • DHS 	X	X	X
		Create safe and secure environments through dedicated areas for pedestrians, bicycle routes and street furniture				

Strategic objective	Policy Reference	Programmes/Projects	Responsible Party	Timelines		
				Short Term 2025	Medium Term 2035	Long Term 2050
Optimising the spatial patterns of rural settlements	<ul style="list-style-type: none"> • Vision 2030 • NSDF 	Incorporation of former homelands into official land use schemes for appropriate land use management and sustainable development	<ul style="list-style-type: none"> • COGTA Supported by: <ul style="list-style-type: none"> • All Municipalities • DHS • DRDLR 		X	X
		Prioritise rural development investment through the creation of rural economic zones which acknowledges that agriculture, mining and tourism remain important economic reinforcements (see rural diversity objective)				
		Incorporation of growth management tools in Municipal SDFs in order to achieve SPLUMA's spatial principles in rural areas				
Building Sustainable communities	<ul style="list-style-type: none"> • Vision 2030 • NSDF • Mpumalanga Human Settlements Master Plan 	Incorporate environmental indicators in the criteria for evaluating an investment in bulk infrastructure	<ul style="list-style-type: none"> • COGTA Supported by: <ul style="list-style-type: none"> • All Municipalities • DHS 	X	X	X
		Implement urban greening programmes to promote quality of life in urban areas				
		Incorporate waste hierarchy strategy of reduce, re-use and recycle into provincial waste management planning.				
		Investment in consumer awareness, green product design, recycling infrastructure and waste-to energy projects				
		Development of community facilities taking into consideration the regional, district and local needs of the communities				
Consolidated settlement development and growth by way of infill development and densification of human	<ul style="list-style-type: none"> • Vision 2030 • Human Settlements Master Plan • NSDF 	Incorporation of the following programmes that can be used in Strategic Development Areas <ul style="list-style-type: none"> • Land Acquisition • Inclusionary Housing 	<ul style="list-style-type: none"> • DHS Supported by:	X	X	X

Strategic objective	Policy Reference	Programmes/Projects	Responsible Party	Timelines		
				Short Term 2025	Medium Term 2035	Long Term 2050
settlements in the designated Strategic Development Areas.		<ul style="list-style-type: none"> IRDP Upgrading of informal settlements Provision of basic infrastructure to communities Rural Housing programmes 	<ul style="list-style-type: none"> All Municipalities 			
		Emphasis should be on the principles of compact growth and densification of existing settlements				
Formalising and upgrading of small towns and settlements to ensure the security of tenure and enable sustainable livelihoods.	<ul style="list-style-type: none"> Vision 2030 Human Settlements Master Plan NSDF 	Mining towns revitalisation strategies focused on Brownfield developments projects	<ul style="list-style-type: none"> DHS Supported by: <ul style="list-style-type: none"> DRDLR All Municipalities 	X	X	X
		Clustering and formalisation farm dweller settlements enable and carries the opportunity to prevent against spatial fragmentation of rural areas				
		Need development strategies for former homelands that assist in addressing the past spatial imbalances such as <ul style="list-style-type: none"> Creating accessibility and connectivity Spatial restructuring and consolidation 				
Provide a variety of housing options to meet diverse community needs.	<ul style="list-style-type: none"> Human Settlements Master Plan Integrated Urban Development Framework 	Incorporation and availability of finance linked housing (FLISP) and social housing programmes in all communities in the province and not just in restructuring zones	<ul style="list-style-type: none"> DHS Supported by: <ul style="list-style-type: none"> All Municipalities DSD 		X	X
		Support and increase the provision of affordable housing through community – based and housing cooperatives. Consider measures for providing and retaining affordable housing in Local Growth Management Strategies				
		Acquire land for social housing projects by district and local municipalities				

Strategic objective	Policy Reference	Programmes/Projects	Responsible Party	Timelines		
				Short Term 2025	Medium Term 2035	Long Term 2050
		Development of inclusionary housing policies in planning documents Inclusion Old Age Homes (with emphasis on frail care and respite care), Homes for persons with disabilities and Children's homes (Social Development outreach programmes) in human settlement developments				
Formalisation of informal settlements	<ul style="list-style-type: none"> • Human Settlements Master Plan • NSDF 	Human settlements project pipelining and township establishment processes.	<ul style="list-style-type: none"> • DHS Supported by: <ul style="list-style-type: none"> • All Municipalities • DWS • DSD 	X	X	X
		Appropriate feasibility studies (town planning and bulk services) as well as prioritization of all identified informal settlements.				
		Implementation of Informal Settlement Upgrading Programmes				
		Plan, align and coordinate the strategic use and disposal of state land to ensure the opportunities for its use for housing purposes				
Bridging the water and sanitation backlog gaps to improve the quality of life	<ul style="list-style-type: none"> • Vision 2030 • Regional Bulk Water and Sanitation Infrastructure • Master Plan 	Identifying and mitigating the water and sanitation backlog areas	• DWS	X	X	X
		Sanitation Acceleration Strategies for areas with high sanitation backlogs				
		Development of reticulation projects to aid with the backlog issue				
Upgrading and maintenance of existing infrastructure	<ul style="list-style-type: none"> • Vision 2030 • Regional Bulk Water and Sanitation Infrastructure • Master Plan 	• Development of the Mpumalanga Water and Sanitation Mater plan to address issues of ageing infrastructure and backlogs	• DWS	X	X	X
		Development of Regional Water management schemes				
		Maintenance and upgrade of an aging infrastructure project of all treatment plants in the province				

Strategic objective	Policy Reference	Programmes/Projects	Responsible Party	Timelines		
				Short Term 2025	Medium Term 2035	Long Term 2050
Improving the water reliability and water quality in priority areas and densely populated areas	<ul style="list-style-type: none"> • Vision 2030 • Regional Bulk Water and Sanitation Infrastructure • Master Plan 	Investments projects linked to Dam upgrades and maintaining of water levels.	<ul style="list-style-type: none"> • DWS 		X	X
		Investments programmes acquiring human capital that can effectively operate and maintain the treatment plants				
		Projects centred around rainwater harvesting				
		Development of action plans for water conservation in the province				
		Development of green infrastructure strategy which will help in reliability				
Electricity and Renewable energy	<ul style="list-style-type: none"> • NDP • Vision 2030 • NSDF 	Power generation diversification programs (diversified energy ecosystem): <ul style="list-style-type: none"> • Feasibility studies for technological innovations (clean energy) such as higher solar photovoltaic (PV) module efficiencies and wind turbines. 	<ul style="list-style-type: none"> • ESKOM Supported by: <ul style="list-style-type: none"> • All municipalities • DOE 	X	X	X
Social Infrastructure Investment	<ul style="list-style-type: none"> • NSDF • Vision 2030 • NDP 	Development of plans for the provision of social infrastructure based on the service wheel guidelines and a number of services required based on population requirements as per the CSIR red book.	<ul style="list-style-type: none"> • DSD Supported by: <ul style="list-style-type: none"> • DOE • DWS • DOH • SASSA 	X	X	X

Strategic objective	Policy Reference	Programmes/Projects	Responsible Party	Timelines		
				Short Term 2025	Medium Term 2035	Long Term 2050
Development of Rural Economic Nodes through rural Restructuring and transformation	<ul style="list-style-type: none"> • NSDF • Vision 2030 • RDP • 	<p>Development of spatial plans that focus on:</p> <ul style="list-style-type: none"> o the spatial consolidation of rural settlements to increase densities and enhance sustainability o the consolidation of rural settlements within possibly a 50 km radius around an economic or social nucleus in order to create a more compact rural node. 	<ul style="list-style-type: none"> • DRDLR <p>Supported by:</p> <ul style="list-style-type: none"> • DSD • COGTA • 	X	X	X
		Rural nodal development through the revitalisation of service towns and small service towns & rural settlement areas which serve rural settlements- therefore aid in the creation of urban-rural anchors.				
		Development of road and transport plans that are focused on upgrading and maintaining rural roads.				
		Establishment of Agri-villages near FPSU in farm areas, in order to function as a second economic base for communities.				
		Effective provision of basic and social services to rural communities. Provisions of such services should be linked to the 'service wheel' guidelines				
		Identify and support small scale farmers through Agri park programmes – therefore traversing from subsistence farming to commercial farming				

Strategic objective	Policy Reference	Programmes/Projects	Responsible Party	Timelines		
				Short Term 2025	Medium Term 2035	Long Term 2050
		<p>Development of plans and projects that will aid in the utilisation of Thusong centres and Agri-park projects as nuclei for settlement consolidation to ultimately develop Rural Economic Nodes</p> <ul style="list-style-type: none"> o Establish access to markets, and o Enable easy access to quality social services through these zones 				
Rural economic sector development	•RDP	<p>Economic development plans focusing on the following sectors:</p> <ul style="list-style-type: none"> •Tourism: Focusing labour and investment on cultural tourism and heritage with a focus on e.g. the horticulture development along the N4 in Emakhazeni and focus on the World Heritage Site •Green Economy: Enhance and promote incentive linked benefits for new and existing industries to encourage such industries to go green and combat the threat faced by climate change. •Forestry: Explore commercial forestry opportunities within the rural space •Manufacturing: Development of agri-industries and factories to be located near rural settlements and farms. •Targeted agri-enterprises in rural nodes with associated reform and development strategies that successfully contribute to provincial economic growth, equity and employment. 	<ul style="list-style-type: none"> •DRDLR <p>Supported by:</p> <ul style="list-style-type: none"> •DEDT 		X	X

Strategic objective	Policy Reference	Programmes/Projects	Responsible Party	Timelines		
				Short Term 2025	Medium Term 2035	Long Term 2050
Rural economy linked infrastructure development	<ul style="list-style-type: none"> •CRDP/RDP •RDP Business Plans 	<p>Infrastructure development projects that focus on the provision and upgrades of:</p> <ul style="list-style-type: none"> • Adequate water infrastructure such as:- <ul style="list-style-type: none"> ○ Irrigation systems, ○ Water cannels, ○ Water reticulation • Sanitation and Waste management projects to minimise the effects on the environment. • The electrical infrastructure required to get the projects operational 	•DRDLR	X	X	

The background features a stylized, abstract landscape. The upper portion is a solid yellow rectangle. Below it, a white wireframe mountain range stretches across the width of the page. The foreground is a white grid pattern that recedes into the distance, creating a sense of depth. The overall aesthetic is modern and geometric.

SECTION 6: ANNEXURES

1 ANNEXURES

ANNEXURE 1: POPULATION PROJECTION (2025, 2035 & 2050)

Table 19: Population Projection (2025, 2035 & 2050)

Municipality	2025		2035		2050	
	Medium growth	High growth	Medium growth	High growth	Medium growth	High growth
Chief Albert Luthuli	192 900	193 600	208 700	216 300	224 600	237 900
Msukaligwa	188 100	188 800	219 400	228 000	242 300	256 700
Mkhondo	211 600	212 400	239 900	250 300	266 000	281 700
Dr Pixley Ka Isaka Seme	89 300	89 600	93 600	97 600	97 500	103 300
Lekwa	127 000	127 500	139 200	144 200	141 800	150 200
Dipaleseng	47 000	47 200	53 500	55 100	54 200	57 300
Govan Mbeki	376 300	377 700	438 800	456 000	502 400	532 100
Victor Khanye	89 300	89 600	101 700	106 100	106 400	112 700
Emalahleni	517 600	519 300	615 900	640 400	709 200	751 200
Steve Tshwete	319 900	321 000	401 400	416 800	472 800	500 800
Emakhazeni	51 800	52 000	56 200	58 300	59 100	62 600
Thembisile	357 500	358 900	395 800	411 500	425 500	450 700
Dr JS Moroka	249 300	250 300	262 200	272 600	277 800	294 200
Thaba Chweu	103 400	103 800	109 700	113 500	115 200	122 100
Bushbuckridge	564 000	570 200	590 100	614 000	620 500	657 300
Nkomazi	428 500	429 600	486 900	504 800	531 900	563 400
City of Mbombela	785 500	788 500	937 000	974 500	1 062 800	1 125 800
Mpumalanga	4 699 000	4 720 000	5 350 000	5 560 000	5 910 000	6 260 000

Assumptions

1. The population growth rate will decrease in future
2. Population in the urbanised municipalities will grow faster than in the predominantly rural municipalities as the urbanised municipalities will provide more employment opportunities and attract people from rural areas.

ANNEXURE 2: RESTRUCTURING ZONES

Urban restructuring contributes to the national priority of restructuring South African society in order to address structural, economic, social and spatial dysfunctionalities and thereby contribute to Government's vision of an economically empowered, non-racial, and integrated society living in sustainable human settlements. Restructuring Zones are geographic areas that are:

- Identified by the Local Authority and a Council resolution to that effect must be in place.
- Supported by the province for targeted, focused investment and subsidy commitment.

- Agreed with the National Department of Human Settlements, and
- Accommodative to the medium density, multi-unit complexes requiring institutional management by a Social Housing Institution (SHI).

Mpumalanga has a total of 28 restructuring zones recommended for approval in 10 local municipalities as follows

Table 20: Urban Restructuring

Municipality	Name of Town	Name of RZ area
Govan Mbeki Local Municipality		Secunda CBD
		Embalenhle
	Bethal	Bethal/Mzinoni
		Lebogang Precinct
eMalahleni Local Municipality	eMalahleni/Witbank	Duvha Park Ext 1
		eMalahleni CBD
		Corridor Hill
		Spring Valley
		Klarinet
		Siyanoqoba

		Schoongezicht
Steve Tshwete Local Municipality	Middelburg	Steve Tshwete CBD
		Mhluzi Built Areas
		Rondebosch
Mbombela Local Municipality	White River	White River CBD
	Mbombela/Nelspruit	Mbombela CBD
		Maggiesdal Built-up Area
		Tekwane South
		Hazyview CBD
		Sonheuwel
Umjindi Local Municipality	Barberton	Umjindi CBD
Nkomazi Local Municipality	Malelane	Malelane CBD
Thaba Chweu Local Municipality	Lydenburg	Mashishing
		Lydenburg CBD
Msukaligwa Local Municipality	Ermelo	Ermelo CBD
Lekwa Local Municipality	Standerton	Standerton CBD
		Sakhile
Victor Khanye Local Municipality	Delmas	Delmas CBD

ANNEXURE 3: MPUMALANGA TOURISM NODES

Local Municipality	Tourism Towns	List
Dr Pixley ka Isaka Seme LM	Amersfoort	1
Chief Albert Luthuli LM	Badplaas	2
Dipaleseng LM	Balfour	3
City of Mbombela	Barberton	4
Emakhazeni LM	Belfast	5
Govern Mbeki LM	Bethal	6
Steve Tshwete LM	Blinkpan	7
Chief Albert Luthuli LM	Carolina	8
Msukaligwa LM	Chrissiesmeer	9
Victor Khanye LM	Delmas	10
Emakhazeni LM	Dullstroom	11
Chief Albert Luthuli LM	Ekulundeni	12
Emalahleni LM	eMalahleni	13
Mkhondo LM	eMkhondo	14
Msukaligwa LM	Ermelo	15
Thaba Chweu LM	Gods Window	16
Thaba Chweu LM	Graskop	17
City of Mbombela	Hazyview	18
Nkomazi LM	Hectorspruit	19
Steve Tshwete LM	Hendrina	20
City of Mbombela	Kaapse Hoop	21
Nkomazi LM	Komatipoort	22
Thembisile Hani LM	Kwaggafontein	23
Govern Mbeki LM	Leandra	24
Msukaligwa LM	Lothair	25
Thaba Chweu LM	Lydenburg	26
Emakhazeni LM	Machadodorp	27
City of Mbombela	Malelane	28

Nkomazi LM	Marloth Park	29
Thaba Chweu LM	Matibidi	30
City of Mbombela	Mbombela	31
Steve Tshwete LM	Middelburg	32
Lekwa LM	Morgenzon	33
Thaba Chweu LM	Pilgrims Rest	34
Thaba Chweu LM	Sabie	35
Govern Mbeki LM	Secunda	36
Dr JS Moroka LM	Siyabuswa	37
City of Mbombela	Skukuza	38
Lekwa LM	Standerton	39
Thembisile Hani LM	Verena	40
Dr Pixley ka Isaka Seme LM	Volksrust	41
Dr Pixley ka Isaka Seme LM	Wakkerstroom	42
Emakhazeni LM	Waterval Boven	43
City of Mbombela	White River	44

ANNEXURE 4: DEFINITIONS

Biodiversity - The diversity of genes, species and ecosystems on Earth, and the ecological and evolutionary processes that maintain this diversity.

Biodiversity Management Plan (BMP) - A plan developed and published in terms of the Biodiversity Act, aimed at ensuring the long-term survival in nature of an indigenous species, a migratory species or an ecosystem. A BMP may be developed by any person, organisation or organ of state desiring to contribute to biodiversity management.

Biodiversity planning - The process of developing a spatial plan that identifies one or more categories of biodiversity priority area, using the principles and methods of systematic biodiversity planning.

Biodiversity priority areas - Natural or semi-natural areas in the landscape or seascape that are important for conserving a representative sample of ecosystems and species, for maintaining ecological processes, or for the provision of ecosystem services.

Biodiversity sector plan - A map of Critical Biodiversity Areas and Ecological Support Areas accompanied by contextual information, land- and resource use guidelines and supporting GIS data. The map must be produced using the principles and methods of systematic biodiversity planning.

Biodiversity stewardship - An approach to securing land in biodiversity priority areas through entering into agreements with private or communal landowners, led by conservation authorities. Different types of biodiversity stewardship agreement confer different benefits on landowners and require different levels of restriction on land use. In all cases, the landowner retains title to the land, and the primary responsibility for management remains with the landowner, with technical advice and assistance provided by the conservation authority.

There are five different types of biodiversity stewardship agreement: • Nature Reserve, • Protected Environment, Biodiversity Management Agreement, • Biodiversity Agreement, Biodiversity Partnership Area

Bioregional plan - A map of Critical Biodiversity Areas and Ecological Support Areas accompanied by contextual information, land- and resource use guidelines and supporting GIS data, which has been published by the Minister or MEC in terms of the Biodiversity Act. The map must be produced using the principles and methods of systematic biodiversity planning.

Critical Biodiversity Area - An area that must be maintained in a good ecological condition (natural or near-natural state) in order to ensure ecologically sustainable landscapes.

Critically Endangered (CR) - An ecosystem type that has very little of its historical extent (measured as area, length or volume) left in good ecological condition. Most of the historical extent of the ecosystem type is in fair or poor ecological condition. The ecosystem type is likely to have lost much of its natural structure and functioning, and species associated with the ecosystem type may have been lost.

Ecological Support Area – An area that must be maintained in at least fair ecological condition (semi-natural/moderately modified state) in order to ensure ecologically sustainable landscapes.**Ecological Infrastructure** - Naturally functioning ecosystems that generate or deliver valuable services to people. It is the nature-based equivalent of built infrastructure and is just as important for providing services and underpinning economic development.

Ecosystem- An assemblage of living organisms, the interactions between them and their physical environment.

Endangered (EN) - An ecosystem type that is close to becoming Critically Endangered. Within 15 percentage points of the biodiversity target.

Forest - In the context of biodiversity planning, forest refers to indigenous forests mapped in the Vegetation Map of South Africa or in more detail by the Department of Agriculture, Forestry & Fisheries. The Forest biome makes up less than 1% of South Africa's land area.

Freshwater ecosystem - All inland water bodies whether fresh or saline, including rivers, lakes, wetlands, sub-surface waters and estuaries.

Habitat loss – Conversion of natural habitat in an ecosystem to land use or land cover class that results in an irreversible change in the composition, structure and functional characteristics of the ecosystem concerned.

Least Threatened (LT) - An ecosystem type that has experienced little or no loss of natural habitat or deterioration in condition. Less than 40% of the historical extent of that ecosystem type.

Natural Land - Natural veld that has not been damaged. This usually refers to land that has not been ploughed for the cultivation of crops.

Nature Reserve - One of the four main categories of the protected area defined in the Protected Areas Act. Also one of five types of biodiversity stewardship agreement. A Nature Reserve forms part of the protected area estate.

Protected Area - An area of land or sea that is formally protected in terms of the Protected Areas Act and managed mainly for biodiversity conservation. Includes state-owned protected areas and contract protected areas.

Strategic Water Source Area - An area that supplies a disproportionate amount of mean annual runoff to a geographical region of interest. In South Africa, Strategic Water Source Areas makeup only 10% of the country's land area but deliver 50% of mean annual run-off.

Vulnerable (VU) - An ecosystem type that still has the majority of its historical extent (measured as area, length or volume) left in good or fair ecological condition, but has experienced some loss of habitat or deterioration in condition. The ecosystem type is likely to have lost some of its structure and function and will be further compromised if it continues to lose natural habitat or deteriorates in condition. More than 60%