

SPATIAL DEVELOPMENT FRAMEWORK (SDF) (2019/20)



DRAFT FINAL REPORT

2020



CONTENTS

LIST OF ABBREVIATIONS	4
LIST OF MAPS	5
LIST OF TABLES	6
LIST OF FIGURES	7
SECTION ONE: PURPOSE & RATIONALE.....	8
1.1 Makhado Local Municipality in Context	8
1.2 Purpose of the Makhado Spatial Development Framework.....	11
1.3 Compliance & Enforcement of the Makhado SDF	7
1.4 Makhado SDF & the Constitutional Developmental Mandate	7
1.5 Process.....	9
SECTION TWO: POLICY & LEGISLATIVE CONTEXT	9
2.1 National Legislation	9
2.1.1 Spatial Planning and Land-Use Management Act (SPLUMA).....	9
2.1.2 National Development Plan	12
2.1.3 National Spatial Development Framework	13
2.1.4 Comprehensive Rural Development Plan (CRDP)	14
2.1.5 National Environmental Management Act, (1998)	15
2.1.6 Municipal Systems Act.....	15
2.1.7 Municipal Finance Management Act.....	17
2.1.8 Municipal Planning and Performance Management Regulations	18
2.1.9 Municipal Performance Regulations	19
2.2 Provincial Legislation	20
2.2.1 Limpopo Spatial Development Framework	20
2.2.2 Limpopo Development Plan	21
2.3 District and Municipal Legislation	22
2.3.1 Vhembe District Rural Development Plan	22
2.3.2 Vhembe District Integrated Development Plan.....	23
2.3.3 Makhado Local Integrated Development Plan.....	24
SECTION THREE: SPATIAL CHALLENGES AND OPPORTUNITIES.....	24
3.1 Socio Economic Theme Analysis	24
3.1.1 Population Growth	25
3.1.2 Population Distribution	25

3.1.3	Age and Gender Distribution	25
3.1.4	Employment Status.....	27
3.1.5	Educational Attainment	27
3.1.6	Social Facilities.....	28
3.1.7	Economy	29
3.2	Built Environment and Settlement Patterns	41
3.2.1	Broad Land Use Analysis.....	41
3.2.2	Growth Pressure Points	49
3.2.3	Transport Movement Services.....	53
3.2.4	Human Settlements	57
3.2.5	Infrastructure	58
3.3	Biophysical Theme Analysis	64
3.3.1	Topography and Landscapes.....	64
3.3.2	Geology and Hydrology.....	67
3.3.3	Climate and Rainfall.....	73
3.4	Spatial Challenges and Opportunities.....	77
3.4.1	Spatial Challenges.....	77
3.4.2	Spatial Opportunities.....	77
SECTION FOUR: SPATIAL DEVELOPMENT OBJECTIVES AND VISION		78
4.1	Spatial Vision	78
4.2	Spatial Objectives	78
4.3	Spatial Development Concept and Strategies.....	79
4.3.1	Spatial Development Concept for Makhado Local Municipality.....	79
4.4	Spatial Development Objectives and Principles	86
4.4.1	Enhance economic potential and coordinated planning and implementation	86
4.4.2	Infrastructure Investment	94
4.4.3	Rural Development and Transformation	99
4.4.4	Development of road and rail networks (Corridors)	104
4.4.5	Environmental conservation and prime agricultural land protection	109
4.5	Composite Makhado Spatial Development Framework	111
SECTION FIVE: LOCAL SPATIAL DEVELOPMENT FRAMEWORKS (LSDFS)		112
5.1	Louis Trichardt.....	112
5.2	Small Rural Towns	116
5.2.1	Dzanani.....	117

5.2.2	Vleifontein	118
5.2.3	Waterval	119
5.3	Alignment with the Land Use Management Scheme	121
SECTION SIX: POPULATION PROJECTIONS.....		121
SECTION SEVEN: IMPLEMENTATION FRAMEWORK.....		123
7.1	Institutional Arrangements and Elements for Implementation	123
7.1.1	Public Private Partnerships (PPP)	123
7.1.2	Key Stakeholders.....	124
7.2	Capital Investment Framework	125
7.3	Monitoring and Review	127

LIST OF ABBREVIATIONS

Abbreviation	Description
CBOs	Community Based Organization
COVID	Coronavirus Disease
CRDP	Comprehensive Rural Development Program
CSIR	Council for Scientific and Industrial Research
DALRRD	Department of Agriculture, Land Reform and Rural Development
DGP	District Growth Points
DRDP	District Rural Development Plan
EAP	Economically Active Population
EMP	Environmental Management Programme
GVA	Gross Value Add
ICT	Information and Information Technology
IDP	Integrated Development Plan
INEP	Integrated National Electrification Programme
ISRDS	Sustainable Rural Development Programme
KPAs	Key Performance Areas
LDP	Limpopo Development Plan
LED	Local Economic Development
LSDF	Local Spatial Development Framework
M&E	Monitoring and Evaluation
MDA	Municipal Demarcation Act
MGP	Municipal Growth Points
MSA	Municipal Structures Act
MSA	Municipal Systems Act
MTREF	Medium Term Revenue and Expenditure Framework
MTSF	Medium Term Strategic Framework
NDP	National Development Plan
NEMA	National Environmental Management Act
NGO's	Non-Governmental Organization
NSDF	National Spatial Development Framework
PGP	Provincial Growth Points
PMS	Performance Management System
PPP	Public Private Partnership
RUMC	Rural Market Urban Market Centre
SAAF	South African Air Force
SADC	Southern Africa Development Community
SDBIP	Service Delivery and Budget Implementation Plan
SDF	Spatial Development Framework
SEZ	Special Economic Zone
SPLUMA	Spatial Planning and Land Use Management Act
UNESCO	United Nations Educational, Scientific and Cultural Organization

LIST OF MAPS

Map 1: Locality of Makhado	10
Map 2: State Owned Land	43
Map 3: Settlement Patterns.....	47
Map 4: Nodes and Growth Points	51
Map 5: Transportation Network.....	56
Map 6: Electricity Infrastructure.....	63
Map 7: Topography.....	65
Map 8: Soil Potential.....	66
Map 9: Land Cover.....	70
Map 10: Water Features	71
Map 11: Temperatures	75
Map 12: Rainfall.....	76
Map 13: Spatial Development Concept.....	84
Map 14: Economic Potential	92
Map 15: Infrastructure	97
Map 16: Rural Development and Transformation	102
Map 17: Roads and Corridors	108
Map 18: Environmental Features.....	110
Map 19: Composite SDF	111
Map 20: Louis Trichardt LSDF.....	115
Map 21: Dzanani LSDF.....	117
Map 22: Vleifontein LSDF	118
Map 23: Waterval LSDF	119

LIST OF TABLES

Table 1: Overview of difficulties facing the municipality	8
Table 2: Implications of SPLUMA Development Principles.....	11
Table 3: Quick facts.....	24
Table 4: Population Distribution.....	25
Table 5: Age and Gender Distribution	26
Table 6: Educational Attainment	27
Table 7: Land Tenure Status	45
Table 8: Land Claims within Makhado Municipality.....	49
Table 9: Housing Structures	58
Table 10: Access to Water.....	59
Table 11: Access to Sanitation	60
Table 12: Refuse Removal	60
Table 13: Access to Electricity	61
Table 14: Soil Potential.....	64
Table 15: Makhado Growth / Nodal Points.....	80
Table 16: Option 1: Louis Trichardt Town (South of Tunnel).....	87
Table 17: Option 2: Mudimelli or Manyi or Tshikuwi (north of tunnels)	88
Table 18: Option 4: 50% in Louis Trichardt and/or Mudimelli and 50% in Musina	88
Table 19: Option 6: Third in Mudimelli, Third in Musina, Third at SEZ	88
Table 20: Population projections.....	122
Table 21: Road Infrastructure Projects	125
Table 22: Community Facilities Projects	126
Table 23: Water Provision Projects	126
Table 24: Electrification Projects.....	126

LIST OF FIGURES

Figure 1: Municipal Spatial Development Framework Process	9
Figure 2: The NDPs Proposed National Schema for Spatial Targeting	13
Figure 3: Five frames to achieve desired future spatial pattern	14
Figure 4: Population Pyramid.....	26
Figure 5: Institutional Elements.....	124

SECTION ONE: PURPOSE & RATIONALE

1.1 Makhado Local Municipality in Context

The Municipality of Makhado is located in the northern part of the Limpopo Province. Its territory covers an area of 8567.38 km². It shares borders with the following local municipalities, namely, Blouberg, Musina, Molemole, Greater Letaba, Greater Giyani, and Thulamela. At least 2.6% of the municipality is urban whereas 97.4% is rural. The major towns include Louis Trichardt, Dzanani, Waterval, and Vleifontein.

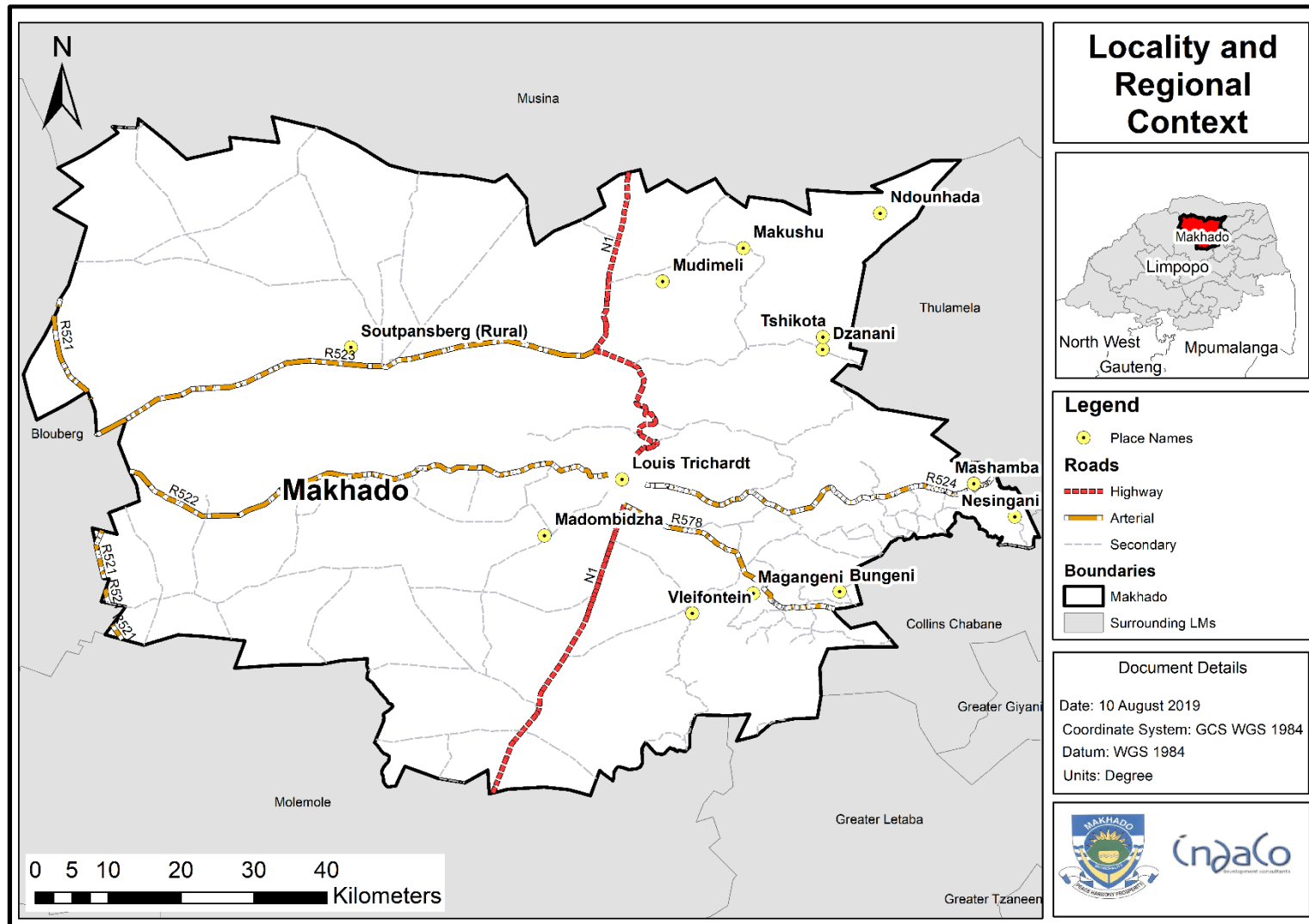
The proximity to the N1 highway and districts roads such as R521, R523, R578 and R522 which connects the municipality to African and national markets, productive fresh produce farms, good climatic conditions, availability of a rail network, gives the area a competitive advantage. Map 1 provides an overview of its locality.

Table 1: Overview of difficulties facing the municipality

	Urban	%Share	Traditional	%Share	Farms	%Share
Lack of safe and reliable water supply	22346	5,4%	241788	58,0%	1886	0,5%
Cost of water	1116	0,3%	22409	5,4%	459	0,1%
Lack of reliable electricity supply	615	0,1%	6434	1,5%	1163	0,3%
Cost of electricity	2305	0,6%	13202	3,2%	1125	0,3%
Inadequate sanitation/sewerage/toilet services	831	0,2%	2765	0,7%	327	0,1%
Inadequate refuse/waste removal	328	0,1%	1668	0,4%	65	0,0%
Inadequate housing	287	0,1%	7749	1,9%	104	0,0%
Inadequate roads	843	0,2%	31657	7,6%	910	0,2%
Lack of/inadequate employment opportunities	2317	0,6%	23111	5,5%	408	0,1%
Lack of/inadequate educational facilities	-	-	1251	0,3%	191	0,0%
Violence and crime	1545	0,4%	3268	0,8%	569	0,1%
Drug abuse	191	0,0%	113	0,0%	-	-
Alcohol abuse	397	0,1%	773	0,2%	88	0,0%
Gangsterism	-	-	14	0,0%	-	-
Lack of/inadequate parks and recreational area	219	0,1%	813	0,2%	9	0,0%
Lack of/inadequate healthcare services	91	0,0%	2409	0,6%	479	0,1%
Lack of/inadequate public transport	-	-	1044	0,3%	133	0,0%

Corruption	1110	0,3%	1446	0,3%	203	0,0%
-------------------	------	------	------	------	-----	------

Source: Stats SA Community Census, 2016



Map 1: Locality of Makhado

1.2 Purpose of the Makhado Spatial Development Framework

Spatial Development Frameworks (SDFs) form an integral part of South Africa's strategic spatial planning arsenal. As well-outlined in the Spatial Planning and Land-Use Management Act (SPLUMA), the local SDF is a planning policy instrument that is aimed at guiding and informing all spatial planning and land development processes, actions and intentions in any given municipality. Being a product of a statute, the dictates of the SDF are not only instructive – they are binding as they are set to radically transform the apartheid space economy while creating a new society based on spatial justice.

The Makhado SDF therefore becomes an integral spatial planning, land development and management instrument that can play a critical role in providing a nuanced blue-print for the municipality, private developers well as all stakeholder in development. A credible SDF is expected to eliminate the uncertainties and barriers in land development processes, and mitigate systemic risks associated with performing municipal planning and service delivery. The Makhado SDF therefore seeks to;

- Provides a shared vision for the future of the municipality, taking into account Makhado's local distinctiveness, its pressing socio-spatial, environmental and economic needs;
- Guide the implementation of all land-use, land development and land management objectives, processes and objectives as set out in all development planning-related policies and legislation;
- Guide all municipal planning activities with the aim of realising Makhado's developmental role as set out in the Constitution and other legislation;
- Create a clear framework for private investment and regeneration that prioritises socio-spatial, economic, environmental, and institutional transformation;
- Provide credible proposals that guide immediate, mid-term as well as long-term spatial planning.

The MSDF is ultimately aimed at aligning the municipality's development vision and projects with all its planning instruments notably the Integrated Development Plan (IDP), the Local Economic Development Plan (LED), the Service Delivery and Budget Implementation Plan (SDBIP), the Land Use Scheme and other related sector plans. The MSDF is also informed by other spatial and rural development plans at provincial and national levels. To this end, the MSDF proposes a number of spatial development proposals, programmes and projects that are all geared towards transforming this rural municipality's socio-spatial, economic and environmental milieu.

To this end, the Makhado Spatial Development Framework (MSDF) therefore seeks to leverage on the unique geospatial positioning of this municipality as it strives to be one of the most lucrative gateways into the African continent at large. Moreover, its pristine natural environment as well as its related resource endowments provides unique opportunities for the development of agriculture, tourism, mining and other related economic opportunities. The SDF therefore provides a situational analysis of the MLM as well as a sound spatial analysis and modelling for future developments that can unlock the full socio-spatial and economic potential of this municipality and its surrounds.

1.3 Compliance & Enforcement of the Makhado SDF

As a planning policy informed by law, the formulation, implementation, monitoring and evaluation of the MSDF is guided by specific legal precepts that are guided by set compliance frameworks. The term 'compliance' refers to adherence to the law as well as legal rules. Compliance is therefore intrinsically related to 'enforcement' which refers to actions taken to achieve compliance with the law. In South Africa, there exist a plethora of legislation and policies that play a critical role in establishing clearly-defined developmental mandates and principles for municipal spatial planning. These include:

- Spatial Planning & Land-Use Management Act 16 of 2013
- Municipal Systems Act (MSA) 32 of 2000
- Municipal Finance Management Act (MFMA) 56 of 2003
- Municipal Structures Act (MSA) 117 of 1998
- Municipal Demarcation Act (MDA) 27 of 1998

As such, these planning legislation and policies bind the Makhado municipality, as well as private entities and citizens as they engage in matters related to spatial planning and development planning at large. Thus, SPLUMA sets a comprehensive municipal planning compliance legal framework whose primary role is to ensure that all of Makhado's departments as well as all stakeholders in development comply with the legal precepts that define spatial planning processes and practices.

1.4 Makhado SDF & the Constitutional Developmental Mandate

Part B of Schedule 4 of the 1996 Constitution also lists municipal planning as a local government function. Section 156(2) of the Constitution permits municipalities to make and administer by-laws to exercise the functions related to local government matters stipulated in Section 156(1) of the Constitution. The Constitution also outlines the functions of municipalities as comprising of:

- Electricity delivery
- Water for household use

- Sewage and sanitation
- Storm water systems
- Refuse removal
- Fire-fighting services
- Municipal health services
- Decisions around land use
- Municipal roads
- Municipal public transport
- Street trading
- Abattoirs and fresh food markets
- Parks and recreational areas
- Libraries and other facilities
- Local tourism

It is imperative therefore for the MSDF and its related implementation and monitoring & evaluation system to ensure that all developmental stakeholders comply with the realisation of the abovementioned constitutional functions. As a predominantly rural municipality, Makhado also finds itself having to also deliver services that promote transformative rural development. This SDF therefore takes into account issues of land reform and restitution as well as the currently pressing demands for equitable redistribution of land. Land redistribution is considered within a context where various land tenure systems are appreciated. Moreover, what lies at the centre of rural development in Makhado, is the promotion of access to the rural economy for all residents of the municipality irrespective of their race, gender, and class.

With the agricultural sector still playing a key role in Makhado's rural economy, this SDF also acknowledges the potential of this sector as well as the impending environmental threats caused by climate change and global warming. The SDF therefore attempts to suggest some of the spatial proposals and policy interventions that can assist the municipality as it strives to plan for the future.

1.5 Process

The review of the SDF is compiled according to the Guidelines for the Development of Provincial, Regional and Municipal Spatial Development Frameworks and Precinct Plans (Final Draft September 2014) issued by the Department of Agriculture, Land Reform and Rural Development. The process and approach are depicted in Figure 1. The project is implemented in 6 Phases.

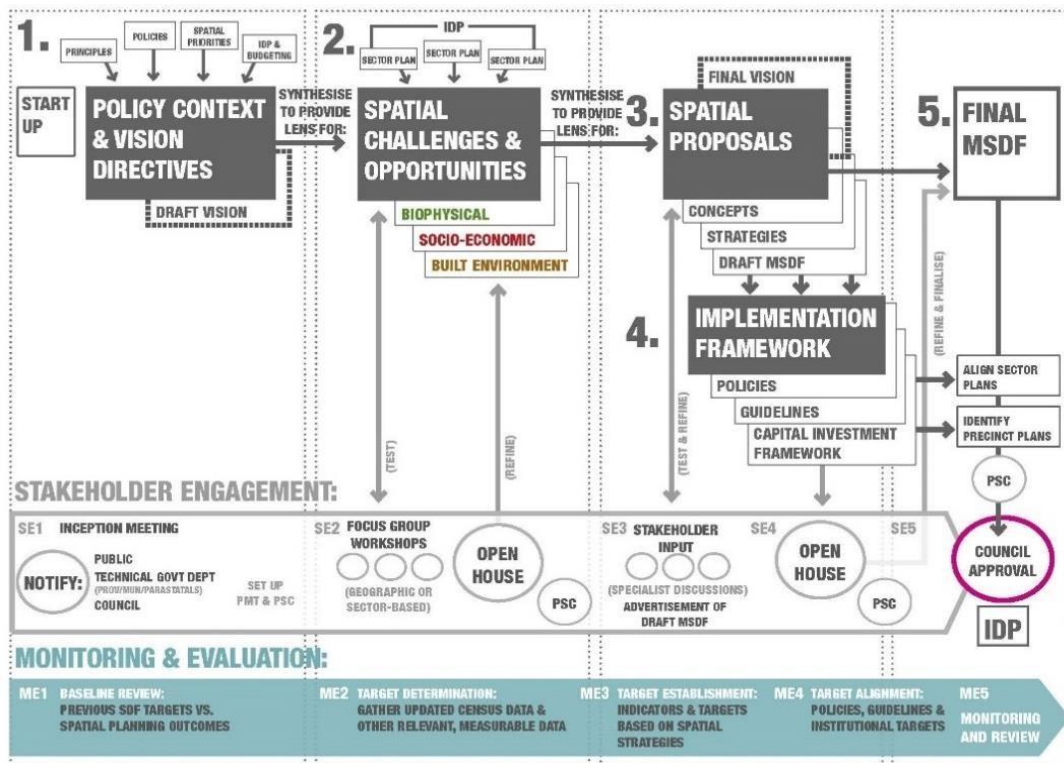


Figure 1: Municipal Spatial Development Framework Process

Source: DALRRD, Guidelines for the Development of Provincial, Regional and Municipal Spatial Development Frameworks and Precinct Plans

SECTION TWO: POLICY & LEGISLATIVE CONTEXT

This section provides a synopsis of some of the key legislation and policies that guide the Makhado SDF. These legal instruments are key as they provide the needed implementation, monitoring and evaluation as well as a compliance framework that land-use planning, land development and management and other related processes and activities in the municipality. These legal instruments are primarily guided by the spirit of the Constitution of 1996 that sets to foster the transformation of South African cities and rural spaces into more just and liveable communities that promote human dignity. At the centre of this constitutional mandate therefore, is the developmental role played by local municipalities such as Makhado in providing all basic services as per the dictates of the Bill of Rights and its emphasis on justiciable socio-economic rights.

2.1

2.1 National Legislation

2.1.1 SPATIAL PLANNING AND LAND-USE MANAGEMENT ACT (SPLUMA)

The Spatial Planning and Land-Use Management Act is the primary legal instrument that dictates spatial planning and the formulation of SDFs across all three spheres of government. The promulgation of the Spatial Planning and Land-Use Management Act of 2013 (SPLUMA) undoubtedly infused the South African spatial planning law arsenal with the needed impetus critical for the fast-tracking of spatial transformation.

SPLUMA clearly outlines the developmental principles as well as the norms and standards guiding spatial planning across all three spheres of government. The Act also clearly outlines the processes to be undertaken by these spheres of government as they formulate SDFs as well as Land Use Schemes. The Act also spells the role to be played by municipal planning Tribunals, with officials that have the mandate to enforce specific bylaws related to land-use management.

Chapter 2 of SPLUMA is pivotal as it clearly outlines the four key spatial planning principles notably; spatial justice, spatial efficiency, spatial sustainability, spatial resilience and good governance. The Act also outlines the importance of SDFs designated for all three spheres of government to be credible, i.e. implementable and context-specific, target-oriented and transformative in their approach.

In relation to the adoption and enforcement of land-use schemes that are central in land-use development and management, section 26 (1) (a-c) of SPLUMA outlines that:

“An adopted and approved land use scheme has the force of law, and all land owners and users of land, including a municipality, a state-owned enterprise and organs of state within the municipal area are bound by the provisions of such a land use scheme; replaces all existing schemes within the municipal area to which the land use scheme applies; and provides for land use and development rights”

The Act also emphasises that the municipality has a duty to comply with and enforce the provisions of its SDF and land-use scheme. Moreover, as stipulated in section 32 of SPLUMA, a municipality may pass by-laws that enforce the dictates of its land-use scheme. Contravening the set by-laws has dire administrative, civil and criminal consequences. Thus, SPLUMA becomes the central municipal planning legal instrument that calls for the compliance and enforcement of its founding spatial planning principles – i.e. spatial justice, resilience, sustainability, efficiency and good governance. The spatial planning principles are defined and contextualised in detail in the table below

Table 2: Implications of SPLUMA Development Principles

Spatial Planning Principles	Meaning for Makhado Spatial Development Framework
Spatial Justice	<ul style="list-style-type: none"> - This principle entails undoing the spatial injustices imposed by colonial/apartheid planning regimes. At the centre of the spatial justice principle therefore, is spatial equality and the redistribution of land and other related resources. The natural resources of Makhado therefore must be shared and enjoyed by all of its inhabitants irrespective of colour, gender, class and sexual orientation. - The Makhado SDF therefore must provide current and future spatial proposals, programmes and projects that foster meaningful spatial transformation that will benefit all its inhabitants. - In this rural municipality, spatial justice must be informed by the redistribution, development and management of land, with the intention of fostering redistributive justice.
Spatial Efficiency	<ul style="list-style-type: none"> - Land development and management in Makhado must optimise the use of existing natural and social infrastructures. - Land and other natural endowments must be used in an efficient manner to benefit all living in this municipality.
Spatial Sustainability	<ul style="list-style-type: none"> - All developments in Makhado must be balanced and not detrimental to the environment. - The need for economic development must not endanger the need for the preservation of natural capital. - Planning instruments such as the SDF and Land-Use Schemes must foster sustainable livelihoods in rural municipalities and its growing cities and towns.
Spatial Resilience	<ul style="list-style-type: none"> - Spatial resilience refers to the ability of communities and neighbourhoods to devise plans and initiatives that allow for the absorption of socio-spatial, economic and environmental 'shock-effects'. The SDF must have systematic and meaningful approaches and mechanisms to disaster mitigation and management.
Good Governance	<ul style="list-style-type: none"> - This refers to the strengthening of the municipality's institutional thickness, allowing for good governance of all resources. - It also refers to the harnessing of meaningful multi-stakeholder participation in the formulation and implementation of spatial plans. - Good governance in Makhado must be defined by its constitutional mandate as well as the spirit of ubuntu.

2.1.2 NATIONAL DEVELOPMENT PLAN

The NDP is a multi-sectoral policy that seeks to provide a medium to long-term development path for all spheres of government. Without reiterating what is well-articulated in the NDP, suffice to state that from a rural development perspective, Chapter 6 of this policy sets out ambitious and yet transformative objectives for rural development. Its stance on improving and transforming rural economies resonates with the Makhado SDF as well as other municipal and district plans and policies. The NDP is aimed at:

- Creating more jobs through agricultural development, based on effective land reform and the growth of irrigated agriculture and land production;
- Providing basic services that enable people to develop capabilities to take advantage of opportunities around the country, enabling them to contribute to their communities through remittances and skills transfer and;
- Developing industries such as agro-processing, tourism, fisheries and small enterprises where potential exists.

Apart from providing policy directives on rural development across all three spheres of government, the NDP also sets out a road map for the development of sustainable human settlements in cities and rural spaces. As stipulated in Chapter 8 of the NDP; the provision of adequate social and economic amenities forms an integral part of creating sustainable communities.

The NDP also dictates that SDFs form part of development planning across all three spheres of government. Moreover, as stipulated in Chapter 13 of the NDP, local municipalities such as Makhado have to be institutionally capacitated as they form an integral part of a capable developmental state. The NDP therefore is central in the formation, implementation and review of the Makhado SDF, as its developmental objectives set the tone not only for municipal spatial planning, but also for provincial planning as well.

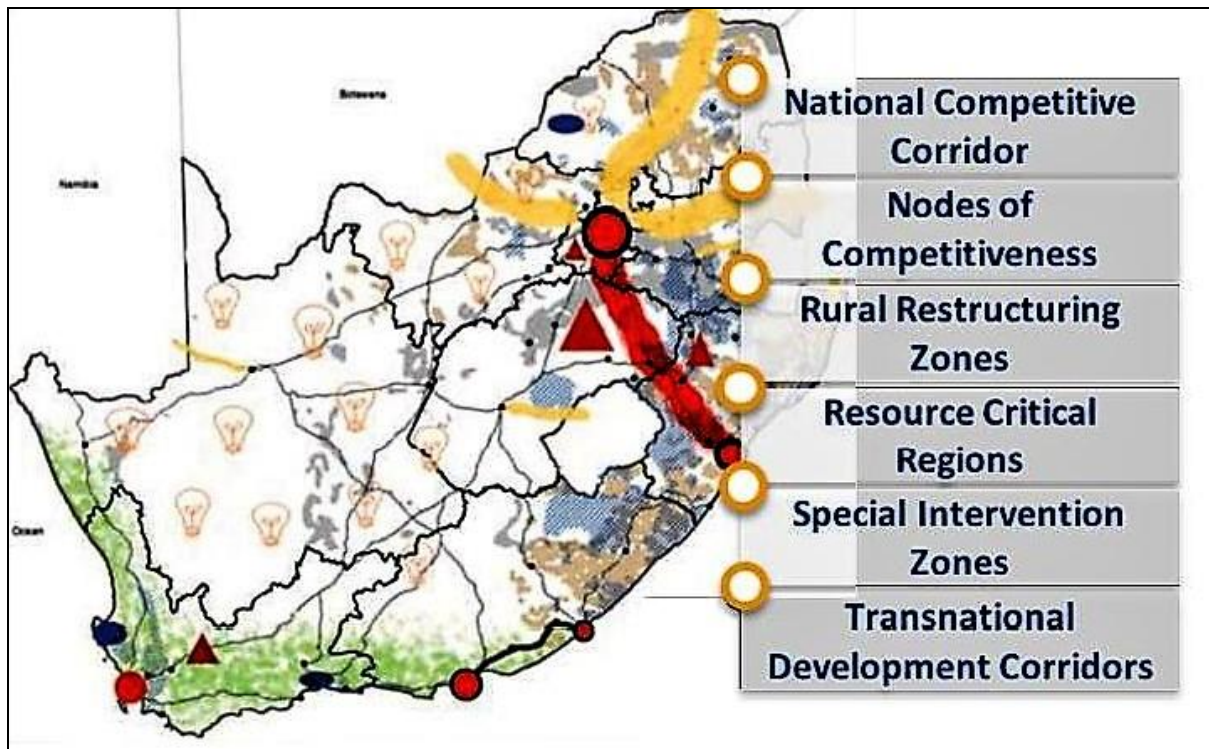


Figure 2: The NDPs Proposed National Schema for Spatial Targeting
 Source: National Development Plan, 2030

2.1.3 NATIONAL SPATIAL DEVELOPMENT FRAMEWORK

The NSDF's Vision Statement is as follows:

“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”

The NSDF seeks to accelerate spatial transformation and makes a bold statement about charting in a peaceful, prosperous and a truly transformed South Africa in full recognition of:

- the need for urgency to act on redressing the apartheid spatial legacy, and
- the scale of what the redress requires in terms of approach, resource use, and state capability.

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 (MTSF) the vision will be realised by achieving

the following set of mutually reinforcing high-level spatial frames as indicated in Figure 3.

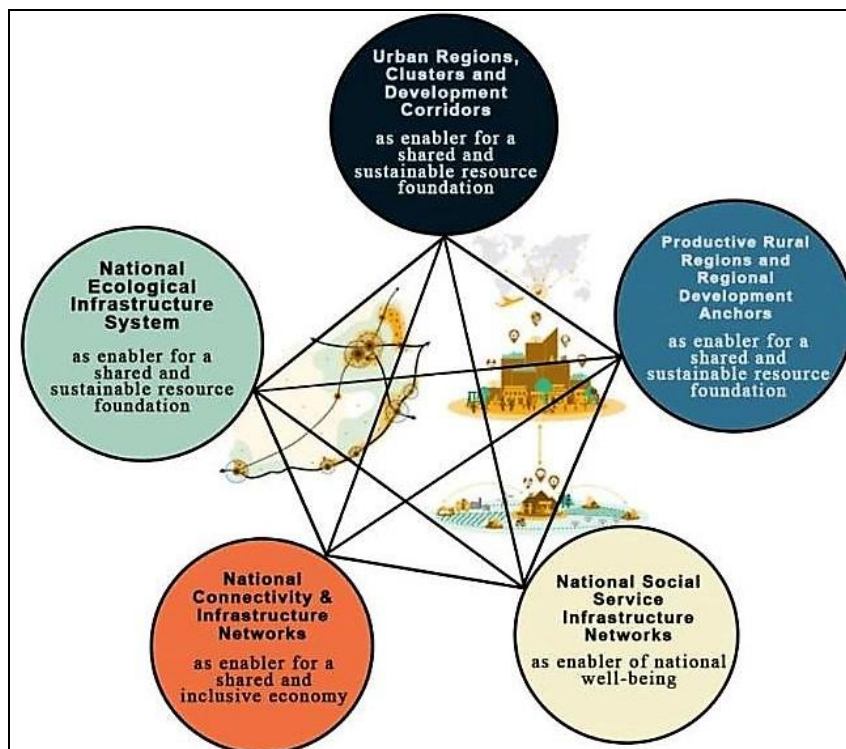


Figure 3: Five frames to achieve desired future spatial pattern
 Source: National Spatial Development Framework, 2018

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

2.1.4 COMPREHENSIVE RURAL DEVELOPMENT PLAN (CRDP)

The CRDP advocates for creating vibrant, equitable and sustainable rural communities through: contributing to the redistribution of 30% of the country's agricultural land; improving food security of the rural poor; creation of business opportunities, de-congesting and rehabilitation of over-crowded former homeland areas; and expanding opportunities for women, youth, people with disabilities and older persons who stay in rural areas. This vision of creating vibrant, equitable and sustainable rural communities will be attained through a three-pronged strategy based on:

- A coordinated and integrated broad-based agrarian transformation;

- Strategically increasing rural development; and
- An improved land reform programme

Central to the three-pronged CRDP is a job creation model. The job creation model will create para-development specialists at ward level that will be equipped to train and mentor selected community members so that they become gainfully employed. The refinement of the CRDP will continue through selected pilot sites nationally. The pilot phase is expected to run for a minimum of two years until a responsible agency (local government, proposed Rural Development Agency or other identified bodies) can assume management of the initial projects and other initiatives that arise from the CRDP.

The CRDP will then be scaled up from the initial pilot sites into other sites nationally but linked to the overall planning frameworks within a province. It is envisaged to be a participatory process through which rural people learn over time, through their own experiences and initiatives, how to adapt their indigenous knowledge to their changing world.

2.1.5 NATIONAL ENVIRONMENTAL MANAGEMENT ACT, (1998)

The SDF is focused on sustainable development and the protection of the natural environment. NEMA is a progressive environmental management legislation in South Africa. Its principles are aimed at promoting co-operative governance and ensuring balanced human development activity that considers environmental management imperatives. The predecessor to the NEMA, the Environmental Conservation Act, was largely unsuccessful or inadequate to deal with enforcement, administration, governance and so forth. The NEMA was developed to succeed in these aspects and more.

2.1.6 MUNICIPAL SYSTEMS ACT

The Municipal Systems Act (Systems Act) has a bearing on municipal planning as it mandates local authorities such as Makhado to develop credible SDFs and IDPs. The Systems Act also encourages integrated development planning:

23. (1) A municipality must undertake developmentally-oriented planning so as to ensure that it –

- a) strives to achieve the objects of local government set out in section 152 of the Constitution;
- b) give effect to its developmental duties as required by section 153 of the Constitution; and
- c) together with other organs of the state contribute to the progressive realisation of the fundamental rights contained in sections 24, 25, 26, 27, and 29 of the Constitution.

The Systems Act also mandates all local, district and metropolitan municipalities to prepare Integrated Development Plans (IDPs). As stipulated in section 25(1) (a-c) of the Systems Act:

Each municipal council must, within a prescribed period after the start of its elected term, adopt a single, inclusive and strategic plan for the development of the municipality which

- a) links, integrates and co-ordinates plans and takes into account proposals for the development of the municipality:*
- b) aligns the resources and capacity of the municipality with the implementation of the plan:*
- c) forms the policy framework and general basis on which annual budgets must be based.*

The Systems Act also provides a detailed outline as well processes guiding the formulation of IDPs and the salience of SDFs in realising the former's developmental; aspirations.¹ This Act therefore forms the bedrock of municipal

¹ Systems Act, sections 26-30.

planning law, as it allow for the constitutional aspirations of a developmental local government, as stipulated in section 152 of the Constitution, to percolate through and inform all municipal planning processes.

The municipalities' compliance to the Systems Act has been guaranteed not only by the fact that the Municipal Manager's office is responsible for the formulation and implementation and review of IDPs. In fact, the IDP formulation and implementation process also ties all municipal personnel to specific Key Performance Areas (KPA) that have a bearing on individual performance.

2.1.7 MUNICIPAL FINANCE MANAGEMENT ACT

Moreover, the link between the Systems Act and the Municipal Finance Management Act (MFMA) provides stringent monitoring and evaluation mechanisms that guide financial management in all municipalities. The MFMA also contains various provisions relating to municipal performance management. It mandates municipalities to annually adopt a SDBIP with service delivery targets and performance indicators. When adopting the annual budget, the Municipality must also set measurable performance targets for each revenue source.

The MFMA becomes forms an integral part of the SDF implementation as well as monitoring and evaluation for at least two reasons. First, the projects identified for spatial transformation as well as rural development in Makhado for instance, would have to be backed by a sound financial and funding system. The MFMA provides that needed financial system. Second, the apart from guaranteeing financial accountability in municipal planning, the MFMA provides a framework for the development of a sound Performance Management System (PMS) as well as a Monitoring & Evaluation (M&E) system critical for the implementation and realisation of the SDF identified programmes and projects. This

The embedding and institutionalisation of sound financial management, PMS and M&E systems in Makhado therefore, is likely to do the following:

- Promotes accountability;

- Facilitates decision-making and resource allocation;
- Guides development of municipal capacity-building programmes;
- Creates a culture of best practice and shared learning among municipalities;
- Provides early warning signals and facilitates the development of intervention mechanisms;
- Creates pressure for change at various levels and;
- Contributes to the overall development of an integrated local government system.

2.1.8 MUNICIPAL PLANNING AND PERFORMANCE MANAGEMENT REGULATIONS

The Municipal Planning and Performance Management Regulations of 2001 provide the framework that describes and represents the municipality's cycle and processes for the PMS and other criteria and stipulations. The regulations also guide the setting of KPIs, which municipalities have to report on. Some of these key KPIs include:

- Households with access to basic services
- Low income households with access to free basic services
- Capital budget spent in terms of the IDP
- Job creation in terms of the LED programme
- Employment equity with target groups in the three highest levels of management
- The implementation of work skills plan
- The financial viability of the municipality.²

The Municipal Planning & Performance Management Regulations also guide the setting of performance targets as well as the monitoring measurements and review of performance. Moreover, the Regulations set a clear direction for internal auditing of performance measures, while taking into account the role of community

² Section 10.

participation in performance management issues. In this way, departments and individuals are also subject to performance monitoring and evaluation.

2.1.9 MUNICIPAL PERFORMANCE REGULATIONS

Similarly, the Municipal Performance Regulations of 2006 also set out how the performance of municipal managers and executive managers will be monitored and reviewed. The Regulations therefore stipulate the requirements and provisions of employment contracts as well as the performance agreements that are linked to individual KPIs and core competency requirements.

Apart from these aforementioned legislation and regulations, there exist various structures within the municipality that ensure continuous monitoring and evaluation of both organisational as well as individual performance. The MFMA for instance stipulates the key role that the municipality's Audit Committee has to play insofar as the following are concerned:

- Internal financial control and internal audits;
- risk management;
- accounting policies;
- the adequacy, reliability and accuracy of financial reporting and information;
- performance management;
- effective governance;
- compliance with the MFMA, the annual Division of Revenue Act and any other applicable legislation and;
- performance evaluation.³

These aforementioned municipal planning, financial management as well as monitoring and evaluation legislation form the backbone of spatial planning at local level. In the case of Makhado local municipality therefore, the successful implementation of this SDF will be determined by the concurrent bolstering and

³ MFMA Section 166.

adherence to an equally sound M&E system that can quantitatively measure and manage policy effects. This can be done through the development of a Key Performance Indicator (KPI) system that takes into account both organisational as well as staff performance. Such a KPI system allows for the monitoring of the overall planning process with respect to inputs, activities, outputs as well as outcomes of specific planning policies as outlined in the SDF and the IDP.⁴

The management of policy effects of the Makhado SDF therefore, can be made possible by the monitoring of outputs and outcomes of such a policy, and these can be measured by output KPIs and outcome KPIs. As Quyen *at al.* aver, the ‘output-KPIs identify the direct results of policies, and outcome-KPIs identify the benefits of policies for users and the community.’⁵ Briefly then, an effective and efficient SDF for Makhado must be structured in such a manner that policy effects are quantitatively measured to allow for maximum utilisation of financial, institutional and human capital.

2.2 Provincial Legislation

2.2.1 LIMPOPO SPATIAL DEVELOPMENT FRAMEWORK

The Limpopo Spatial Development Framework (LSDF) provides a provincial-wide spatial development trajectory for the region. The LSDF acknowledges the socio-spatial legacy of apartheid planning as well as emerging challenges emanating from maladministration, and climate change. In the same vein, there is recognition of Limpopo’s developmental potential particularly in the areas of agricultural development, mining, manufacturing and tourism. The unlocking of the potential of these sectors, according to the LSDF, is dependent on the political will of all leaders and administration, as well as the harnessing of innovative energies from the private sector and the community at large. To this end, the LSDF seeks to:

⁴ Quyen et al. (2018) ‘Developing a Monitoring and Evaluation System for Urban Planning – The Case of the Hanoi Master Plan’. *Urban and Regional Planning Review*, at 90.

⁵ Ibid.

- Foster a provincial spatial pattern that will guide and encourage equitable distribution of investment in terms of a functional settlement hierarchy;
- Achieve spatially balanced development across the Limpopo province and support investment in sustainable human settlements;
- Establish an optimal and functional spatial pattern for districts and the Limpopo province over time;
- Rationalise and promote the optimal use of land and protection of natural resources;
- Provide guidelines for the development of transportation and utility networks and;
- Ensure the successful integration of planning across national, provincial and local levels.

The strength of the LSDF is that it provides a regional socio-spatial analysis of the municipalities in Limpopo. Such an analysis allows for a cross-cutting and integrated approach to spatial planning. As the provincial spatial development proposals percolate to district and local municipalities, they become more locally relevant, thus being able to address the everyday needs of communities and neighbourhoods in Makhado.

2.2.2 LIMPOPO DEVELOPMENT PLAN

The Limpopo Development Plan (LDP) also attempts to provincial analysis of the province's socio-economic, and spatial opportunities and challenges. Unlike the PSDF that has a strong spatial resonance, the LDP provides a more qualitative appreciation of the high levels of poverty, unemployment and socio-spatial inequalities faced by millions of people residing in Limpopo. What is also apparent from the LDP, is that these triple challenges defining the cumulative cycles of disadvantages, are compounded by rapid urbanisation as well as migration. While urbanisation and migration are a common phenomenon, their uniqueness in a rural province such as Limpopo, is that they are in the main, not accompanied by inclusive economic growth. If anything, there exist a prevailing sentiment that migration, particularly of people from the rest of the continent exerts more pressure on the

province, as it finds itself having to provide basic services and amenities to both locals and migrant communities.

Notwithstanding these aforementioned challenges, the LDP is aspirational, as it also points to the province's potential in unlocking the agricultural, manufacturing and mining sectors. In fact, there is hope that the expansion of these sectors will result in beneficiation, thus creating sustainable jobs for millions of people residing in the province. While these hopes are founded, these economic sectors' susceptibility to both local and global pressures creates an air of uncertainty. With regard to agriculture for instance, the looming drought, floods and other climate-induced factors, all affect the overall performance of this sector. This can be said for mining and its susceptibility to the whims of the global market and manufacturing whose related industries have to play at a fiercely competitive global market.

From an infrastructure investment perspective, the LDP relies (or at least in principle) on the spatial resonance of the Provincial SDF. Moreover, the implementation of these broad provincial strategic planning instruments is dependent on the implementation of their developmental objectives and programmes at district and provincial level.

2.3 District and Municipal Legislation

2.3.1 VHEMBE DISTRICT RURAL DEVELOPMENT PLAN

At a district level, the Vhembe District Rural Development Plan (DRDP) also forms part of a range of spatial planning instruments designed to transform this district's space economy. The DRDP acknowledges the salience of functional regional analysis in spatial planning. In other words, it appreciates the flow and mobility of people, capital, goods and ideas beyond the administrative boundaries. As such, the Vhembe DRDP represents an emergent planning approach that seeks to break the 'silo' approach to development planning at large, and spatial planning in particular.

While recognising the potential role that agricultural development can play in Vhembe district, the DRDP also takes into account contributions made by various sectors. These include mining; manufacturing; tourism (including cultural and eco-tourism) and; the emergent Information and Communication Technology (ICT) related sectors. As outlined in the DRDP, the future of rural planning and development rests on the diversification of the district's economy. It is therefore imperative for Vhembe and its municipalities to strive for achieving economic complexity, i.e. an economy that consists of primary, secondary and tertiary industries that are predicated on harnessing the opportunities brought forth by the 4th Industrial Revolution and its related technologies. The primary objectives of the DRDP therefore are to:

- Improve growth, performance and competitiveness across all existing economic sectors;
- Target, invest and market non-agricultural economic activities;
- Promote the revitalisation of rural towns and villages and;
- Harness new technologies to create new industries that can sophisticate the economy, while creating jobs of the now and the future.

2.3.2 VHEMBE DISTRICT INTEGRATED DEVELOPMENT PLAN

The Vhembe IDP provides a district-wide developmental vision for Makhado and all local municipalities under its jurisdiction. The district IDP is the blue-print of planning that sets the developmental vision, objectives as well as programmes and projects that are geared to develop the region. Like all IDPs the Vhembe district IDP is flows from the Municipal Systems Act. This means that its formulation, implementation, monitoring and evaluation and review is dictated by law. At the heart of the IDP is the realisation of the district-socio-economic development aspirations, as wet out in the Constitution and other related legislation.

The Vhembe IDP therefore seeks to align all development projects with the municipal planning finance systems and monitoring and evaluation frameworks. In realising its developmental objectives, the IDP seeks promote social and

economic development as well as investment in physical infrastructure. The district IDP also seeks to harness the following sectors – tourism, agriculture, mining and the promotion of green energy. Like the district Local Economic Development strategy, the district IDP emphasises the promotion of small and medium-scale businesses that are geared towards economic development, thus alleviating unemployment, poverty and other related social challenges.

2.3.3 MAKHADO LOCAL INTEGRATED DEVELOPMENT PLAN

As the primary product of the Municipal Systems Act of 2000, the Makhado IDP seeks to address local-specific socio-spatial and economic challenges. Like the district plan, the local IDP is aimed at alleviating poverty and unemployment while creating conditions for investment and economic growth. As the local IDP embodies the developmental vision of Makhado, it also identifies some specific catalytic projects that are aimed at boosting the local economy. Moreover, the local IDP is aimed at providing basic services such as water, electricity and waste removal.

SECTION THREE: SPATIAL CHALLENGES AND OPPORTUNITIES

Table 3: Quick facts

Population	416 728
Number of Households	116 371
Water Provision Backlog	35 623
Electricity Provision Backlog	8880
Sanitation Backlog	35 210
Number of Households without refuse removal	99104
Housing Backlog	16 207

3.1 Socio Economic Theme Analysis

Makhado local municipality is the second largest municipality in the Vhembe District in terms of surface area coverage. Settlement densities in the Municipality are relatively low with formal residential land uses concentrated mainly in Louis Trichardt. As indicated in Table 1, some of the most pressing challenges in the municipality include poor road infrastructure, limited access to social services, and low levels of economic output. A detailed analysis of the socio-economic profile of the municipality is discussed below.

3.1.1 POPULATION GROWTH

The municipality experienced significant population growth between 1996 and 2001 at 1.6%. In 2001 and 2011, the population grew from 494 264 to 516 031, respectively⁶, indicating a relatively slow growth rate of 0.4%. Between 2011 and 2016, the municipality experienced a reduction in its population due to the newly demarcated municipal boundaries. As a result, the population in 2016 was recorded to be 416 728 as per Stats SA Community Census of 2016.

3.1.2 POPULATION DISTRIBUTION

Black Africans constitute almost 98% of the municipal population. The shares of other population groups are Coloured (0.3%), White (1.7%), and Indian/Asian (0.4%).

Table 4: Population Distribution

	Makhado	%Share	Vhembe	%Share	Limpopo	%Share
Black African	406970	97,7	1375123	98,65	5630163	97,09
Coloured	1104	0,3	2499	0,18	16839	0,29
Indian/Asian	1723	0,4	5036	0,36	17085	0,29
White	6931	1,7	11291	0,81	135003	2,33
Total	416728	100,0	1393949	100,00	5799090	100,00

Source: Stats SA Community Census, 2016

3.1.3 AGE AND GENDER DISTRIBUTION

⁶ Stats SA Census

A review of the population by age of the Municipality reveals some important considerations. The population size by age is reported in Table 5 below, and the data shows that those between 0-14 years comprise 33.92% of the population, while the functional age group (15-34) comprises 36.77% of the population. The proportion of the people from the age of 35 years and older collectively contribute 29.3%.

Table 5: Age and Gender Distribution

	Males		Females		Total	
	Number	%Share	Number	%Share	Number	%Share
0–14 (Children)	72126	51,02	69247	48,98	141373	33,92
15–34 (Youth)	75066	48,99	78173	51,01	153239	36,77
35–64 (Adults)	38241	42,89	50917	57,11	89158	21,39
65+ (Elderly)	9579	29,07	23378	70,93	32957	7,91

Source: Stats SA Community Census, 2016

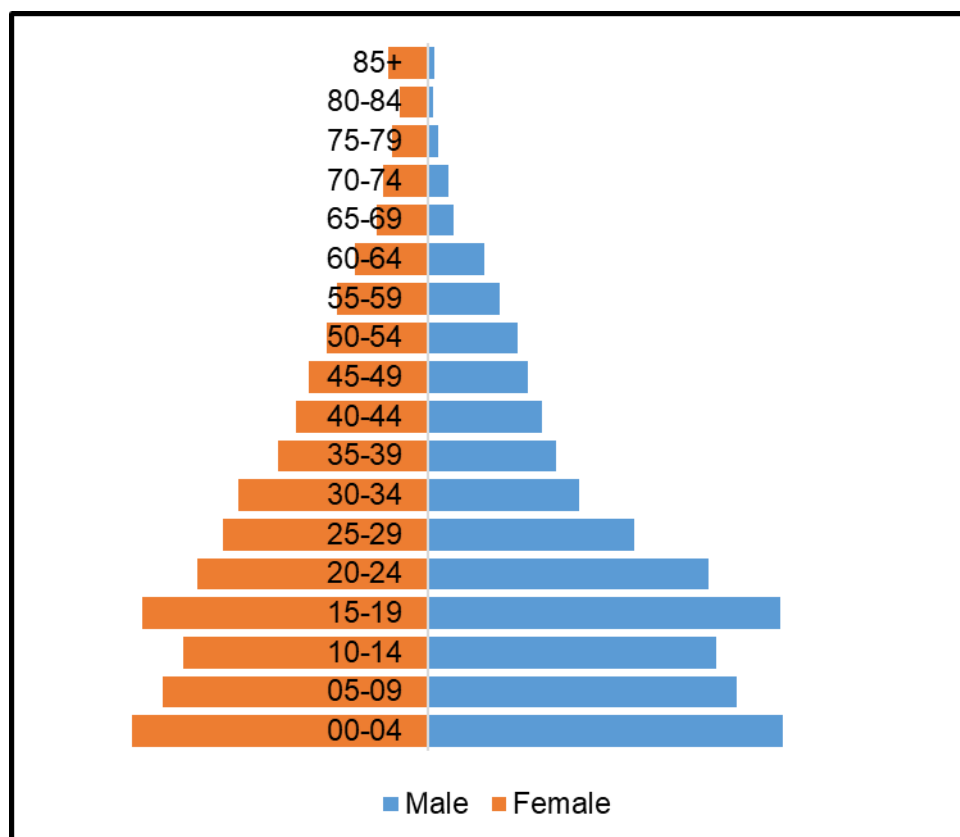


Figure 4: Population Pyramid

The pyramid above indicates the dominance of the district's young population which falls in the age group of 00-34. There also seems to be a fair distribution of males and females in the same group particularly for children under 14 years of age. The huge presence thereof needs to inform the provision of adequate educational training facilities and services across the full spectrum of facilities.

3.1.4 EMPLOYMENT STATUS

According to the results of Census 2011, the Municipality had an Economically Active Population (EAP) of 124,473 which represent about 24.12% of the entire population of Makhado. In recent years, in common with the provincial and district economies, the Municipality has experienced an increase in overall employment levels. The total number of employed people is 78,768 (63%) of the EAP and the total number of unemployed persons is 45,705 (36.7%) of the EAP. The unemployment rate in Makhado has decreased by 8.2% in recent years (from 44.9% in 1996 to 36.70% in 2011). The unemployment rate for Limpopo as a whole has also decreased by 6.1% in the same period (from 45.1% to 39%).

3.1.5 EDUCATIONAL ATTAINMENT

Table 6: Educational Attainment

	LIM344 : Makhado	% Share	DC34: Vhembe	% Share	Limpopo	% Share
No schooling	90800	21,8%	279401	20,0%	1118709	19,3%
Grade 0	16326	3,9%	55647	4,0%	244828	4,2%
Grade 1/Sub A/Class 1 - Grade 7/Standard 5/ABET 3	97135	23,3%	336781	24,2%	1374650	23,7%
Grade 8/Standard 6/Form 1 - Grade 11/Standard 9/Form 4/NCV Level 3/ Occupational certificate NQF Level 3	129460	31,1%	437104	31,4%	1796628	31,0%
Grade 12/Standard 10/Form 5/Matric/NCV Level 4/ Occupational certificate NQF Level 3	56930	13,7%	192662	13,8%	863808	14,9%
NTC I/N1 - N6/NTC 6/Occupational certificate NQF Level 5	3104	0,7%	13943	1,0%	75251	1,3%
Certificate with less than Grade 12/Std 10	122	0,0%	906	0,1%	2962	0,1%
Diploma with less than Grade 12/Std 10	365	0,1%	1713	0,1%	6923	0,1%

Higher/National/Advanced Certificate with Grade 12/Occupational certificate NQF	1946	0,5%	6385	0,5%	29741	0,5%
Diploma with Grade 12/Std 10/Occupational certificate NQF Level 6	4901	1,2%	17794	1,3%	65717	1,1%
Higher Diploma/Occupational certificate NQF Level 7	1812	0,4%	6866	0,5%	29596	0,5%
Post-Higher Diploma (Master's - PHD (Doctoral degree/Professional doctoral degree at NQF Level 10)	9851	2,4%	32296	2,3%	117214	2,0%
Other	1217	0,3%	4076	0,3%	22722	0,4%
Do not know	2481	0,6%	7615	0,5%	45394	0,8%
Unspecified	277	0,1%	760	0,1%	4947	0,1%
Total	416727	100,0%	1393949	100,0%	5799090	100,0%

Source: Stats SA Community Census, 2016

3.1.6 SOCIAL FACILITIES

3.1.6.1 EDUCATION

There is a developed network of pre-school, primary and secondary schools. In 2011, there were about are 244 primary schools, 114 high schools, 2 special schools, 5 combined schools, and 2 satellite campuses of Vhembe Further Education and Training College (one in Mashamba village and the other in Mavhoi village respectively).

3.1.6.2 HEALTH CARE FACILITIES

Healthcare in the Municipality is organized into two levels, primary healthcare through the clinics and secondary healthcare through hospitals. In total there are 44 clinics and 4 health centres which are spread across the villages and they provide services such as general practice and vaccination service. There are also seven mobile clinics which periodically visit areas were communities do not have access to health care services.

In and around the area there are three hospitals (Elim, Louis Trichardt Memorial and Siloam). These three provide healthcare in the following areas: surgery, gynaecology, paediatrics, general practice and dentistry. In addition to these public institutions, a number of private institutions are involved in provision of health care services.

3.1.6.3 LIBRARIES

The town of Makhado has a library catering for all age groups of the population and there are 14 satellite libraries located throughout the municipality. The rural area of Kutama and Sinthumule is provided with a number of community halls that are used for community meetings and other social and cultural events.

3.1.7 ECONOMY

Makhado has the second biggest economy in Vhembe District. The sector, which contributed the most to the GVA in Makhado Municipality, is the Community Services (33%) followed by the Finance Sector (26%) and Trade Sector (15%). This shows the same trend as in the Limpopo Province where Mining is by far the largest contributor to the GVA. The contribution of Agriculture to the GVA has grown more on Provincial and District level than on National level. The mining sector has grown on National level as well as on District level while the manufacturing sector has grown slightly less on regional level.

Community service and trade sectors are the predominant employers within the study area, responsible for just over 27% and 19% of the active work force respectively. Agriculture is the third largest employer absorbing around 17% followed by the construction sector (8%), finance (5%), transport (5%), manufacturing (5%), and mining (1%).

Agriculture is one of the most important economic sectors in Makhado, and it has a location quotient of 1.75. The area is one of the major producers of Macadamia Nuts in Limpopo Province, with a planted area of 5661.07 hectares. The nut is either exported out of the Municipality in its raw state or sold for further processing into oils. Makhado is also a major producer of avocados with a total planted area of 3005.65 hectares. Other subtropical fruit including mangoes, avocados and bananas are

also grown in the area. In fact, 12% of the total land area in Levubu is under the production of bananas. These sub-tropical fruits are also either sold to outside markets or used for further processing such as juices, achaar, dried fruit and pulp.

Mining sector in the area is currently dominated by medium and small-scale mining companies such as WG Wearne and Crystal Salt. These companies currently produce sand and salt respectively. There exist plenty opportunities for small-scale and large-scale mining of minerals that can be found in the Schiel Complex and the Bandelier Complex. These minerals include Phosphate, Vermiculite, Gold, Magnetite, Mica, Limestone, Marble, Manganese, Graphite, Coal, Corundum, Copper, etc. Furthermore, there are planned coal projects in the Mudimeli area (Makhado Colliery), Chapudi Coal Project. There is also a gas project to be constructed at the envisaged Makhado Colliery. All these projects are being developed by Coal of Africa.

The Tourism Sector has become increasingly important in the Municipality. The rich cultural heritage of the area, natural beauty, proximity to the N1, large dams (such as Albasini), waterfalls, breathing stone and the climate gives it competitive advantage in tourism. Various tourism routes exist in the area, such as the Ivory route, Ribolla Open Africa Route, Greater Mapubungwe Route, and the Soutpansberg Birding Route. Major tourism products in the area include Dzata Ruins and Schoemansdal Museum.

The manufacturing sector is mostly focussed on the processing of products from the agricultural sector. Agro-processing creates opportunities for skills developments and also supplies a market for small-scale farmers who currently do not have access to the market. There processing of timber is also being undertaken in the Municipality although there are more opportunities in this subsector.

3.1.7.1 AGRICULTURE

In the national key accounts Agriculture encompasses forestry and fisheries. Agriculture is one of the main fields that will lead the future development of the Municipality. This is because favourable conditions for agricultural development are in place such as fertile land, a suitable climate and a tradition of agriculture, resulting in satisfactory yields. It has certain advantages which can be attributed to its location

which are its strong commercial agricultural sector, and access to local and African markets via the N1, and access to international markets through the Gateway International Airport in Polokwane.

This sector is notably a major contributor to employment with a contribution of 17.0% to total employment in the area. The contribution of agriculture to the local GVA in 2011 was approximately 4.2%. The average GVA growth rate between 2001 and 2011 was 6.8%.

Agriculture within the area is diverse in the sense that it is made up of commercial, emerging or small scale and subsistence farming. Farming activities includes crop-production, livestock production, agro-processing, forestry, and aquaculture. The commercial agriculture sector is well structured, and it is more predominant in areas such as the Levubu valley, the Soutpansberg (Witvlag road), Waterpoort, and Makhado town. This corresponds with areas that are recognised as areas where soils are highly suitable to arable agriculture. The potential of commercial agriculture is undermined by lack of infrastructure as well as training and financial support for local aspirant farmers.

The areas to the south-east are mainly used for small-scale farming and subsistence farming and greatly correspond with traditional authority areas. Some small-scale farming activities are found in the various irrigation schemes such as Nesengani, Mphaila, Mandiwana, Mphephu, Madzhatsha, Rabali, Mauluma, Mavhunga, Cape Thorn and Raliphaswa. These schemes total 16 in number and they cover an area of 861 hectares. Some of these schemes are currently dormant and requires revitalisation.

The majority of emerging farmers are still lagging behind in agricultural production because they lack capacities for fruit and vegetable processing, cold storages for the fruits bought off and packing machines to pack it up properly. Without installing some of these facilities one could hardly expect its due marketing, which is essentially the most important prerequisite for agricultural development.

Poor physical access to local, regional and international markets is one of the significant barriers to greater agricultural productivity especially for emerging farmers. Cost effective, reliable, timely and fit for purpose transport is often not

available. A lack of timely transport is one of the reasons that devastating proportions of the harvest are wasted and why accessing markets is so challenging. High transport costs are also exacerbated by the high prices of diesel which is also used for tractors and water pumping generators.

As part of linking emerging farmers with the markets, Vhembe District Municipality has since established the Vhembe Fresh Produce Market which is located in the village of Tshakhuma. It specialises in fresh produce sourcing, grading, packaging, distributing and market linkages, and it is open and accessible to all local farmers.

An agreement is in place to supply both the Joburg and Tshwane Fresh Produce Markets. But it has since proven to be a costly exercise due to the high transportation costs, as the fresh produce is ferried by private freight companies. As a result, the market has been opened for walk-in bulk buyers and already there are interested buyers from Polokwane, Gauteng and Botswana.

Another area of concern is the unwillingness revealed by the national chain stores operating within Makhado to procure fresh produce locally. In this regard programmes and initiatives are required to remedy this situation. Support and intervention from the highest level such as the Office of the Executive Mayor should be sought.

Subsistence agriculture forms an integral part of community life and it is one of the main community based economic activities and survival strategies. This includes a range of activities which can broadly be categorized as follows:

- Homestead and community gardens dominated by the production of fresh vegetables
- Crop production systems which includes the production of maize, and other crops mainly for household consumption
- Livestock farming of cattle and goats for own consumption or to sell off for income during difficult times

The trade in agricultural inputs such as feeds, machinery, equipment, seedlings, and vaccines is still dominated by large enterprises. In the case of animal health products, these enterprises also serve as manufacturers making it difficult for small enterprises to enter this market.

With regard to agricultural infrastructure, there are hundred and eighty-eight (188) crush pens without dip tanks and ninety-eight (98) crush pens with dip tanks in the area

3.1.7.2 MINING

This sector is not a major source of employment in Makhado. It ranks last out of the nine sectors in terms of employment. While Mining has never been a major sector in the Makhado local economy, this could change in the foreseeable future due to the interest that the Soutpansberg Coalfield is receiving with its attractive metallurgical properties. Areas where there are mineral deposits are the southern portion of Makhado, Schiel alkaline complex (near Louis Trichardt on the Kaapvaal Craton north of the Kudus River Lineament), and the western portion.

According to MC Mining, Makhado hard coking and thermal coal project in the Soutpansberg coalfield in the Limpopo province is situated 36km north of the town of Louis Trichardt and 80km southeast of the Vele Colliery. The phased development of the Makhado Project will ensure continued scalability. Phase 1 will see the mining of the west pit with the coal processed at the existing Vele Colliery processing plant, which will be modified accordingly. The construction of Phase 2 (previously known as the Makhado 'Lite' Project), east and central pits and Makhado processing plant, is expected to start in circa CY2022⁷.

Several of the existing mines source their inputs such as spares locally depending on the availability thereof, but machinery is sourced out of the Municipality. This in itself indicates that there is a gap within the Municipality in terms of the supply of mining equipment. It is also an indication that there are severe economic leakages from the mining sector. There is also a shortage of mining related skills in the area as the available skills are not sufficient.

In the villages there are various quarries which are being mined for sand illegally or without valid mining permits. Even though these quarries are sources of income for a number of households in those areas, they are contributing to land degradation and also detrimental to the environment as they are operating without any Environmental Management Programme or Plans (EMP). These activities should be discouraged

⁷ MC Mining, Makhado Project. Available: <http://www.mcmining.co.za/our-business/projects/makhado>

through various initiatives such as awareness campaigns, and such campaigns should be conducted jointly with the Department of Mineral Resources.

The major constraints to the exploration of mineral resources, is that potential mining areas unfortunately overlap greatly with those areas as area where soils are highly suitable to arable agriculture. Again, further exploration of mining potential such a coal in the vicinity of Makhado will only be realised if water can be leveraged from local sources, either through groundwater or by shifting agricultural water use into the mining sector

3.1.7.3 INDUSTRIAL DEVELOPMENT

Manufacturing sector includes food, beverages and tobacco products, textiles, clothing and leather goods, wood and wood products, fuel, petroleum, chemical and rubber products, furniture and other items and recycling, other non-metallic mineral products, metal products, machinery and household appliances, electrical machinery and apparatus, electronic, sound or vision, medical and other appliances, transport equipment.

This sector accounted for 5% of the total employment in 2011. In 2011 the manufacturing sector contributed at least 3.9% into the GVA of Makhado Municipality. Between 2001 and 2011, this sector grew at an average of 4.4%. Makhado Municipality is abundant with natural resources that can be utilised as raw materials in the manufacturing sector and these are mineral resources and agricultural produce. This sector comprises of both the large-scale manufacturers and small-scale manufacturers. Currently the area's concentration of manufacturing activities comprises of a broad range of formal businesses and informal businesses involved in food product manufacturing, beneficiation of forestry products, beneficiation of minerals, and clothing.

The majority of the large manufacturing firms are located in the town of Makhado. The location of Makhado Municipality provides a number of advantages in the manufacturing sector. According to the Town Planning Section, various sites have been identified and earmarked for industrial development within the Municipality. There is little or no formal industrial activity in the rural areas where small scale

manufacturers dominate. The closure of some of the light manufacturing centres owned by LIEDA in villages such as Maebane and Madombidzha has contributed to this and it also had an adverse impact on employment and job-creation in these communities.

Most of the small-scale manufactured goods are sold locally due to a lack of access to markets outside of the area. Lack of access to external markets is a major constraining factor in the development of the small-scale manufacturing sector. Manufacturing of indigenous arts and crafts is one of the key economic activities in the rural areas. The most commonly used raw materials include different types of clay and wood. The majority of crafters are involved in this industry as part of the household survival strategies. Many of these people work from home either as individuals or groups, and they do not have access to suitable premises to work from and markets.⁴⁵

There is an untapped market in the area in the large-scale production of food products using indigenous knowledge systems. Communities in the area have long been using various techniques for the drying of wild vegetables mainly as part of food security and the preservation of seasonal crops. When people migrate to urban areas, they become reliant on those living in the villages for supply. This in itself provides a market for dried wild vegetables especially in the supply of markets in areas such as Gauteng, Polokwane, etc.

3.1.7.4 COMMERCIAL ACTIVITIES

This sector covers retailers in specialised food, beverages, tobacco, pharmaceutical and medical goods, cosmetics and toiletries, general dealers, textiles, clothing, footwear, leather goods, household furniture, appliances and equipment, hardware, paint and glass, as well as various other dealers in miscellaneous goods. Retail whether formal or informal, is a major component of any economy and large employer of skilled and semi-skilled workers and it flourishes in diverse settlements with large populations.

It is an important sector in terms of job creation and has low entry requirements for entrepreneurs. Trade is usually indicative of a more developed economy. Factors

that influence trading activities include the availability of household incomes and the presence of other well-established trade centres.

Makhado Municipality has a variety of retail and wholesale businesses. This sector depends both on local customers as well as neighbouring countries such as Zimbabwe and other local municipalities and shopping visits coincide with and peak at or about paydays, festive season, etc. The more established towns in the Municipality, notably Makhado, followed by Elim and Dzanani are the major retail centres and this is also where the major retail shopping complexes/malls are located.

The attraction of trade operations supports existing business operations including hospitals, manufacturing, construction, transportation and warehousing activity. It is also important to note that unlike transportation and warehousing operations, trade operations can be accommodated on smaller parcels of land and often do not have the same requirement for access to major highways. Makhado may have an advantage in this regard, given the inventory of vacant parcels. Continued population growth in the region will also fuel growth in the local trade sector.

There is also a very strong informal trade in consumer and durable goods and it is dominated by traders selling food and beverages, clothing, fruits, etc. A significant number of informal traders operate from containers and open areas. They require support and assistance in terms of access to proper and suitable facilities which is lacking in the Municipality.

A new shopping mall has just been opened in the town of Elim. Three more new malls are on the pipeline, the Manaledzi Mall to be situated on the Tshikuwi crossroad, the Mphephu Mall to be developed in Siloam. Both these projects are being developed by private investors.

3.1.7.5 GENERAL GOVERNMENT SERVICES

Community services sector includes public administration and defence activities, activities of government, government departments and agencies, education (public and private), health and social work, sewage and refuse disposal, sanitation, activities of membership organisations, recreational, cultural and sporting, hairdressing and funeral and related activities.

Community services are provided mostly by government and although there is a large private sector involvement in health and education, government funding is provided in many cases. In the case of welfare, government services dominate but there are numerous non-government organisations which provide these services. Makhado Municipality is still deriving a significant income from government related services (public services). In fact, more people in formal employment are employed in this sector than in any other.

In health, there is a large public hospital system but most specialist medical services are rendered by private doctors. In education the private school system is growing as more parents seek the best education for their children. In the justice area, police, court systems and prisons come within government jurisdiction although there is an established privately operated prison in the area (Kutama/Sinthumule Prison).

The major government departments and institutions or organisations which forms part of the activities in the community services sector in Makhado include:

- Regional government departments (such as Home Affairs, Roads and Transport, Agriculture, Basic Education, Labour, Water Affairs and Environment, Forestry, amongst others)
- Security Cluster (such as the Makhado Air force base, SAPS)
- Agencies such as LEDA
- Justice Cluster (including Correctional Services, Magistrate Courts) Public schools (primary and high schools)
- Makhado Municipality
- Public Health facilities such as hospitals, clinics

Other services which are growing rapidly are the security and funeral services. The funeral industry in Makhado is primarily comprised of small businesses, which operate in localized markets. However, there exist a few companies in the industry which operate at the national level mainly through a franchise system or network of funeral parlours. Private security companies in Makhado are on the increase as a result of the growth in the trade sector, outsourcing of security requirements by government departments and institutions, as well as security or safety needs of residents.

This sector accounts for the employment of 24,677 people which represents about 27% of the total employment. This sector is an important contributor to the local economy as it contributed 33.2% to the local GVA in 2011. This could be attributed to the fact that government is the major employer within the area. Between 2001 and 2011 the average growth rate of this sector was 1.2%.

3.1.7.6 TOURISM

The high performing trade and services sectors in Makhado Municipality is reflective of the area's tourism ability. The tourism industry can be defined as a mixture of public and private organisations that are actively involved in the development, production and marketing of both products and services that provide for the needs of tourists. Thus, it is useful to categorise the tourism industry into various categories.

Named after the legendary King Makhado, the Municipality comprises of a variety of natural resources in tourism. The geographical characteristics, mountainous terrain, excellent climate, flora and fauna are precious assets for Makhado, assets that can lead to economic development, especially of tourism.

The cultural heritage of Makhado spans the divide between earliest and modern times. This rich heritage is reflected in the numerous historical, archaeological, cultural and natural heritage sites in the study area. Superb examples of iron-age history, pre and post-colonial history, as well as current cultural heritage occur throughout the area. Cultures unique to this region include the Venda, Shangaan, Pedi cultures & Buysdorp and cultural activities include traditional dancing such as Domba, Tshigombela, Xigubu, Tshikona, Dende and Malende. There are a number of important museums in the area such as the Dzata and Schoemansdal museums.

There are tourist attractions in the area that have been afforded the status of Local Monuments and these are, Buysdorp, Stonehenge, Lemana College, Schoemansdal Museum, Valdezia Station Mission, Elim Hospital and Fort Hendrina. The meeting place between Louis Trichardt and Portuguese Askaris and Happy Rest has been declared Local Historical Sites. Dzata Ruins has been declared a Provincial Monument.

The majority of visitors are domestic tourists coming from areas such as Gauteng and Limpopo. Foreign tourists coming to the area are mostly from European countries such as Germany, Netherlands and United Kingdom. Visitors from Africa are mainly from Zimbabwe.

At least 50% of visitors visit the area for leisure, 44% for business reasons and 5% visit friends and relatives. The average length of stay is 2.5 nights, with leisure visits at 3 nights and business visits at 1.9 nights. School holidays and the month of December are the busiest period for tourism in Makhado. The town of Makhado is one of the three most visited towns in Limpopo Province.⁴⁶ The most visited tourist attraction in 2011 was Mphephu Resort, which was visited by about 64 976 tourist, representing a growth of 43 339 when compared to the 21 637 people who visited the area in 2010.⁴⁷ Other most visited attractions are the Manavhela Ben Lavin Nature Reserve, Hanglip Hiking Trail and Mashovhela Lodge.

To gain further insight into the sector, a workshop was conducted with key tourism stakeholders in the Municipality. Stakeholders pointed out that there are very few tour operators and tourist guides in the area. This in itself provides an opportunity that Makhado can make use of by concentrating on training more tourist guides and assisting them in being operational. Other sector related challenges are the following:

- Lack of cooperation amongst tourism operators in the area; □ Lack of signage facilities;
- Lack of maintenance of municipality owned tourism facilities;
- Ungraded status of some accommodation establishments;
- A lack of integrated, sufficient & efficient initiatives for tourism products; and
- Few restaurants and entertainment establishments.

The contribution of tourism to a local economy is difficult to measure, as tourism is not an industry in the traditional sense because industries are classified according to the goods and services they produce, while tourism is a consumption-based concept that depends on the status of the consumer. Tourism growth is dependent on a sustainable environment as it is largely the natural environment together with its heritage legacy which makes Makhado such an attractive tourist destination. To tap

into this opportunity fully, Makhado needs to aggressively drive the packaging of its product offering, understanding its target markets and trends.

It is evident from this overview that tourism in the area derives its advantage from:

- The N1 highway linking it to the SADC community and Gauteng;
- Natural endowments such as mountains, rivers, scenic landscapes, wildlife, the nature reserves and the presence of a variety of bird species; and
- Historic, religious and cultural assets, particularly the history of the local people.

3.2 Built Environment and Settlement Patterns

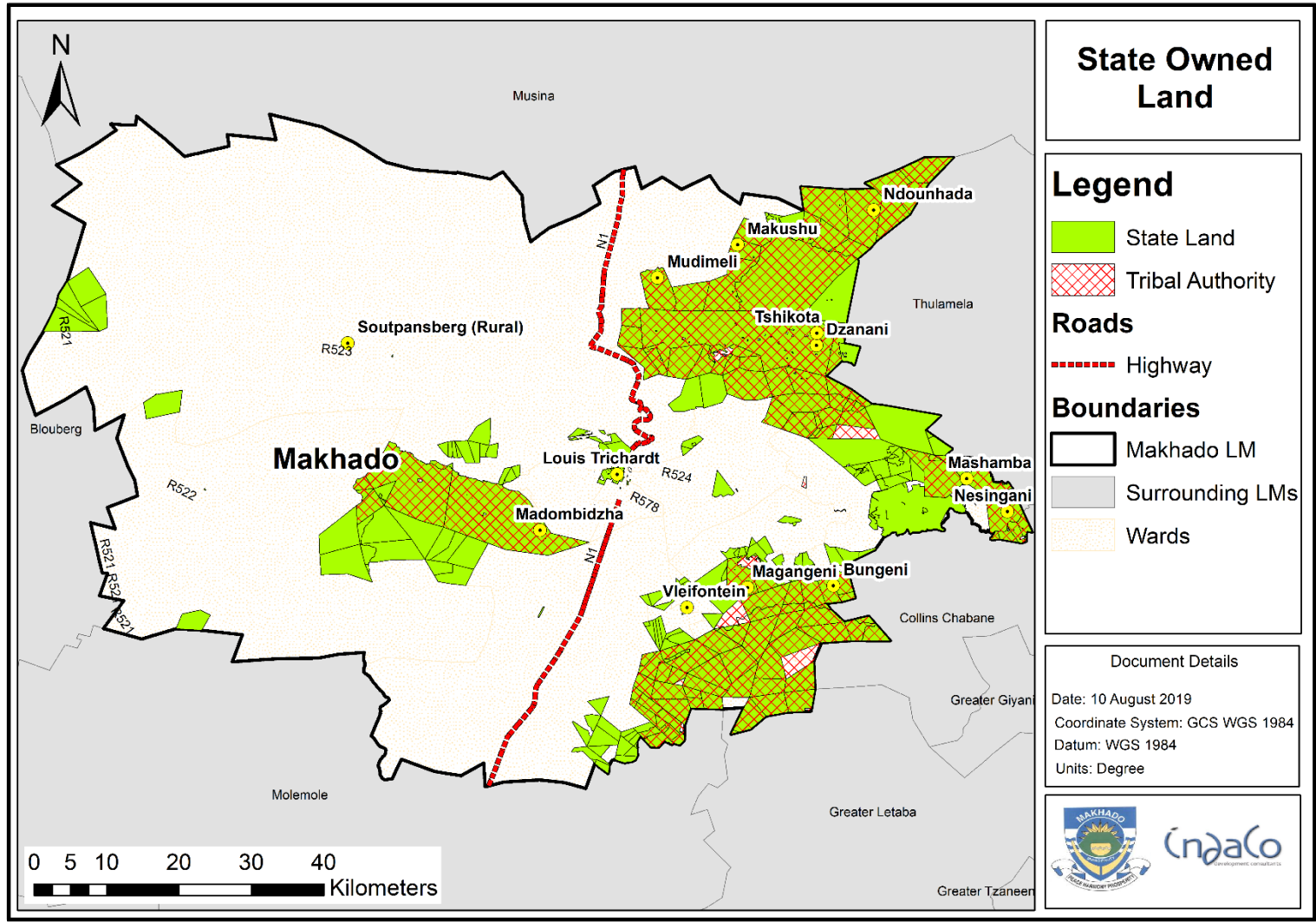
3.2.1 BROAD LAND USE ANALYSIS

3.2.1.1 LAND TENURE

Land tenure describes the way in which people own or occupy land. Ownership of land in the area is characterised by private ownership in proclaimed townships, state ownership (departments, Makhado Municipality, etc), and tribal land which is held by traditional leaders. Over 49.31% of land is under private ownership. At least 30% of inhabited is owned by government in various forms. This category includes tribal land, land held by government departments but excluding parastatals who owns 3% of the land within the municipality.

Government owned land is distributed in large pockets in the north-eastern portion of the Makhado town within the former Venda homeland area, eastern and south-eastern portion of the Municipality within the former Venda and Gazankulu homelands areas; and south-west of the Makhado town within the former Venda area. Private land is located primarily through the central and western portions of the Municipality with the exception of the Levubu area along the R524.

In 2011, at least 898 land claims had been settled (13 partly settled) from a total of 1024 which were initially lodged in the area. The number of urban claims equals 129 and rural claims are about 748 of which the outstanding claims are 124. Normally land under land claim or restitution cannot be considered for development immediately, or at least without further consultation with affected communities.



Map 2: State Owned Land

The breakdown of the land tenure status is provided in Table 7.

Table 7: Land Tenure Status

	Urban	%Share	Traditional	%Share	Farms	%Share
Rented from private individual	7378	1,8%	1738	0,4%	2845	0,7%
Rented from other (incl. municipality and social housing ins)	218	0,1%	525	0,1%	167	0,0%
Owned; but not yet paid off	2809	0,7%	19233	4,6%	266	0,1%
Owned and fully paid off	22505	5,4%	289347	69,4%	4422	1,1%
Occupied rent-free	2299	0,6%	39174	9,4%	1569	0,4%
Other	195	0,0%	16826	4,0%	422	0,1%
Do not know	44	0,0%	4433	1,1%	38	0,0%
Unspecified	113	0,0%	146	0,0%	16	0,0%
Total	35561		371422		9745	

3.2.1.2 LAND USE PATTERN

Land within Makhado is comprised of residential land, forests, agricultural land, industrial land, etc. In other words, there are a variety of land uses within the area. The rural areas are the most underdeveloped with large open spaces. Large sections of the open spaces are used for farming purposes with approximately 10 478 farms in the area. Land use in the area could be classified as follows, commercial/industrial in Makhado town; cultivated land in areas such as Levubu, Waterpoort, Makhado, Sending; forestry in Makhado, Elim, Ratombo; subsistence farming in rural areas.

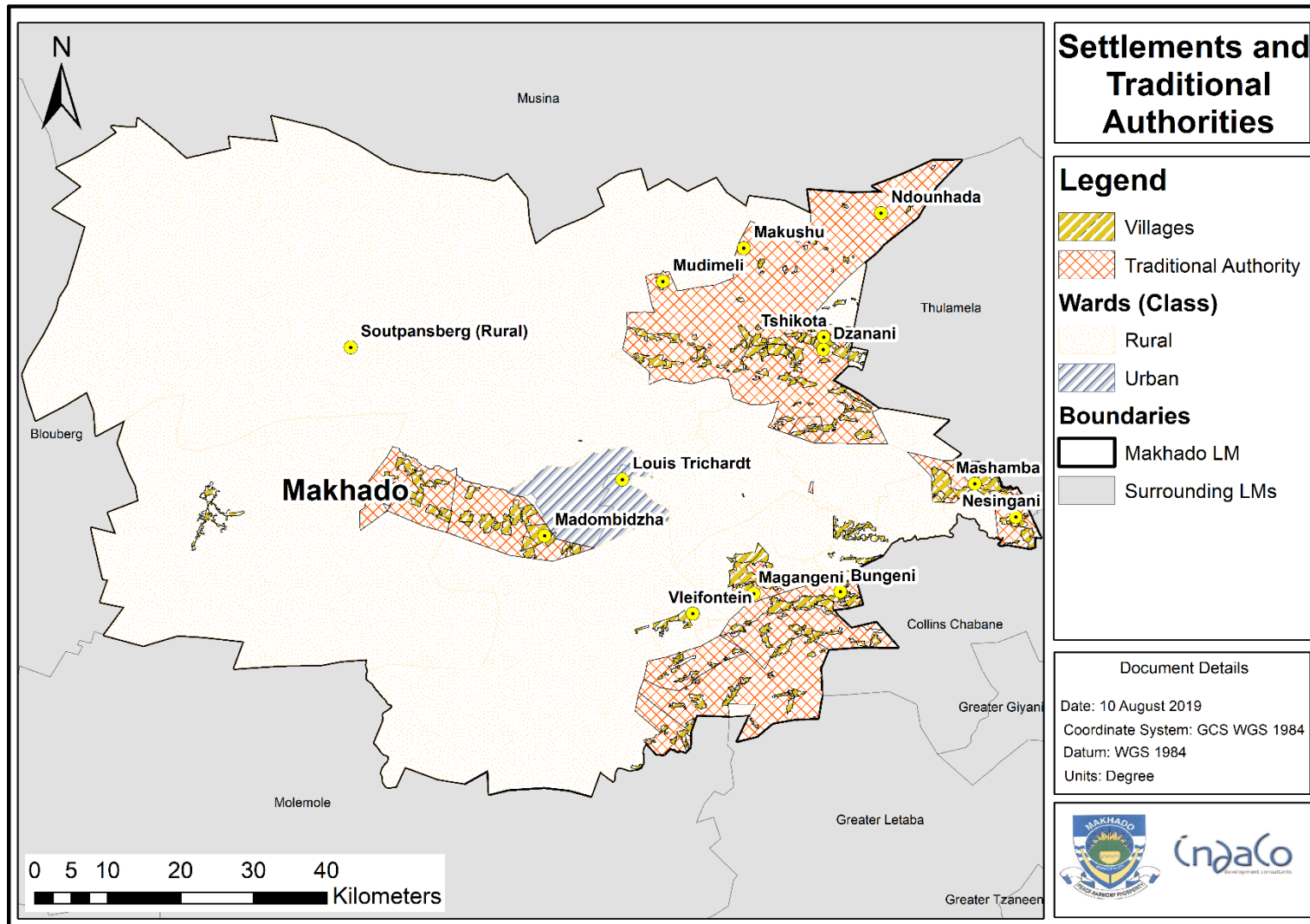
3.2.1.3 LAND REFORM PROGRAMME AND RURAL DEVELOPMENT

Land reform and land claim issues on the other hand, are rather concerned with land ownership as pointed out already. Although concerned with ownership, owners of land have the prerogative to decide whether their land can/will be developed or not. On a macro policy level it has definite impact on “re-shaping” our society and “draughting the new landscape” of South Africa.

Thus, ownership has an indirect impact on the potential development of land over the short and medium term and thus important to address in the SDF. The IDP mentions that 1042 claims have been lodged in the District area of which 898 claims have been settled and another 13 partly settled, in other words 911 claims (87%) in total have been resolved. The largest percentage of these claims is located in the

rural areas, namely 748 claims (72%). Apparently only 124 claims (12%) are still outstanding.

For purposes of this study it would therefore be important to highlight the land under land claims and land reform and evaluate the possible impact thereof. Normally land under land claim or restitution cannot be considered for development immediately, or at least without further consultation with affected communities. With respect to public owned land in general, the IDP points out that large areas of the land in rural areas is held in trust by government for the tribal authorities. The IDP also states that it is further complicated because firstly, legislation makes it difficult for private individuals to own land. Secondly, the IDP mentions that in general tribal authorities are hesitant to part with their land. This may prejudice development initiatives.



Map 3: Settlement Patterns

3.2.1.4 LAND CLAIMS WITHIN THE MAKHADO MUNICIPALITY

Table 9 below indicates the total number of land claims lodged within the Makhado local municipality, as well as the number of those settled.

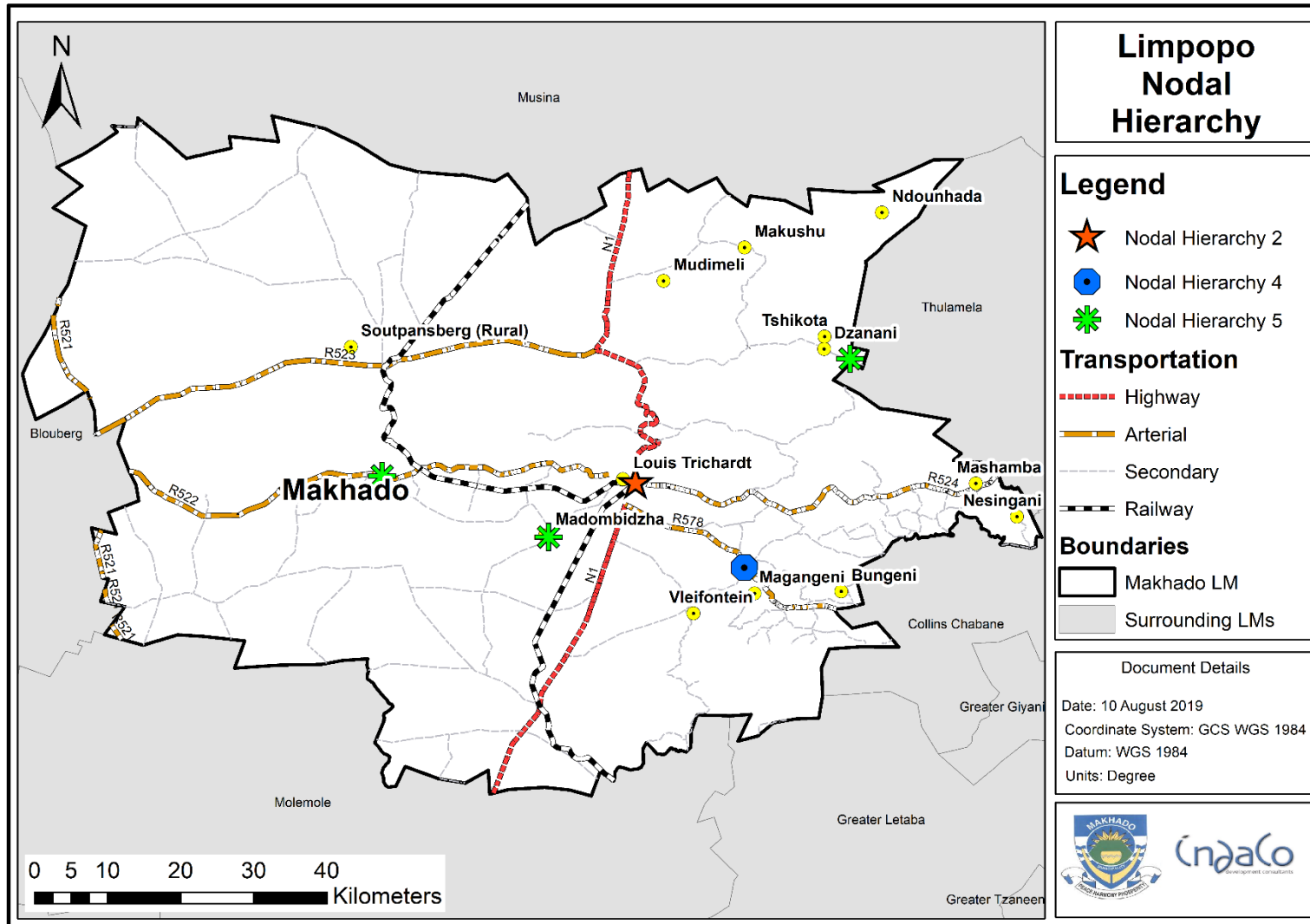
Table 8: Land Claims within Makhado Municipality

Sr. No.	Category	Statistics
1	Total number lodged	168
2	Total number of households	2653
3	Total number of beneficiaries	8496
4	Extent in hectares	44174.6947
5	Total number settled	52

Source: Makhado Local Municipality IDP, 2019/20 Review

3.2.2 GROWTH PRESSURE POINTS

The various growth points (provincial, district and municipal) in the area are depicted in Map 4. Provincial growth points (PGP) and District growth points (DGP) can be described as that having a meaningful economic sector with some job creation, various higher order social facilities and a large number of people grouped together. Whereas Municipal growth point (MGP) can be described as that having relatively small economic sector compared to the district and provincial growth points and having a sizable business sector providing a meaningful number of job opportunities. They usually exhibit a natural growth potential if positively stimulated



Map 4: Nodes and Growth Points

3.2.3 TRANSPORT MOVEMENT SERVICES

Transport is an important component of the economy impacting on development and the welfare of populations. When transport systems are efficient, they provide economic and social opportunities and benefits that result in positive multipliers effects such as better accessibility to markets, employment and additional investments.

3.2.3.1 ROAD

The study area is characterised by national, provincial and a local road system. There is a national road (N1) which cuts across the Municipality and it is under the responsibility of South African National Road Agency. Provincial roads within the area are the, R521, R522, R523, R524 and R578 and they under the responsibility of the Limpopo Provincial Department of Transport and Roads.

Makhado Municipality is responsible for all local roads which include streets and accesses. Internal street system of roads in rural areas, are in poor condition and roads linking villages (settlements) are not maintained properly. The area is faced with high backlog in road and storm water management. Poor roads and storm water infrastructure is impacting negatively in the economic growth especially access to tourism attraction spots. The current road and storm water management is 4400km.¹³

Road transport is the most used mode of transport in Makhado. The major freight transport roads in the Makhado Municipality are the following:

- N1 National Road from Polokwane to Beitbridge;
- R522 from Vivo to Makhado;
- R523 from Vivo via Waterpoort to Musekwa;
- R521 from Vivo to Pont drift Border; and
- R524 from the Makhado central business district to Punda Maria.

3.2.3.2 RAIL

Within the Municipality the railway stations exists in the following areas, namely, Bandelierkop, Makhado town, Mara and Waterpoort. Only two private sidings serving

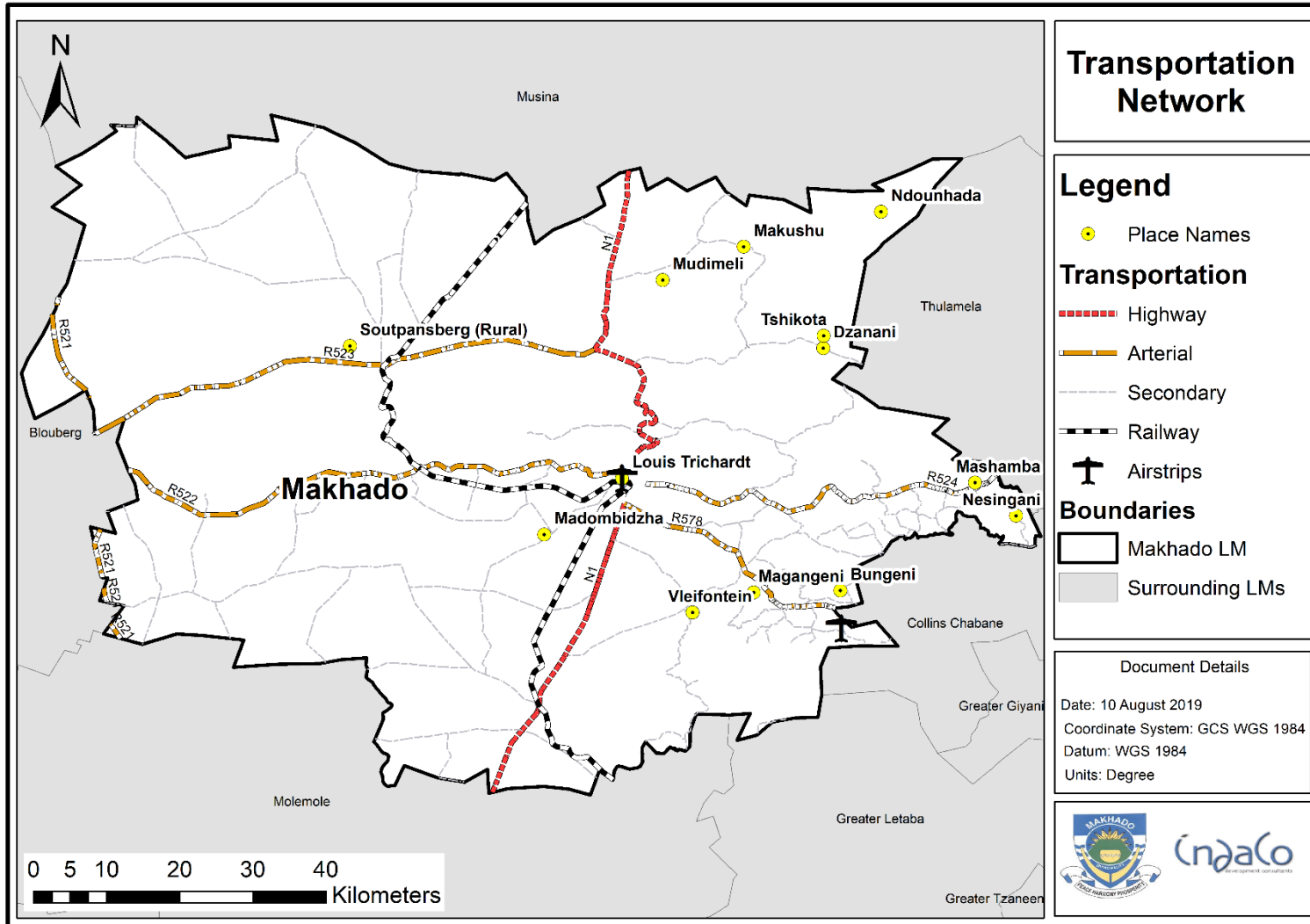
grain mills at the Makhado station are currently in use, while those in the southern industrial area, including liquid fuel depots, are all out of use but still intact.

The railway network from Pretoria-Piensaarsrivier-Polokwane-Musina-Beitridge which is 579km long passes through the Municipality and it transport lime, liquid petroleum products, cement, coal and various grains.

A new rail line from Johannesburg-Musina (High Speed Standard Gauge Line) has been proposed. This new line will provide a high speed passenger service between Johannesburg, Polokwane and Musina with services to major nodes along the route. A service for time sensitive freight would also be provided and this will impact positively in movement of agriculture produce from the area.

3.2.3.3 AIR

Makhado municipality has an air force base which caters for the needs of the military. There is also another airstrip in Louis Trichardt which cater for small civilian aircrafts, Makhado Airport which is located near the township of Tshikota and it has 1 runway which is 1200 metres long.



Map 5: Transportation Network

3.2.3.4 PUBLIC TRANSPORTATION

Public transport within the Municipality is characterised by mini-bus taxis and buses which ferries passengers to work, schools, etc. There are a number of formal and informal bus and ranks and at least 11 formal taxi ranks.

- Makhado to Nzhelele
 - Along the N1 North from the town of Makhado and turning right along Road R523
- Nzhelele.Makhado to Elim
 - Along the N1 South from Makhado town and turning left along Road R578 to Elim.
- Makhado to Midoroni
 - Along Road R522 south west from Makhado to Midoroni/Maebane

3.2.3.5 DEVELOPMENT CORRIDORS

Corridors or Development Corridors are links or transport routes between nodes with an increased intensity of development (mixed land use) in a linear form along the entire length of the route/corridor or at strategic intersections with lower order routes along such corridor

3.2.3.6 TRANS-LIMPOPO CORRIDOR

- Starts in the most southern border and end at its most nothern border
- Makhado PGP is the most important node
- It is suitable for commercial activities such as shopping centres, industrial uses, tourism

3.2.4 HUMAN SETTLEMENTS

3.2.4.1 INFORMAL SETTLEMENTS AND BASIC SERVICES

The IDP states that the majority of the population resides in the rural areas or in informal settlements. The community members are generally informed about the

housing schemes and policy through their traditional authorities, ward committees and ward councillors. Both the RDP standard housing and the Peoples Housing Process (PHP) policies are being used⁸.

The following table reflects the main dwelling types found in Makhado Municipality. Formal dwelling structures account for the largest percentage share in the municipality, i.e. 76.1%. This percentage is however slightly lower than the average for the District municipality and Limpopo Province, which are at 80% and 83 %, respectively. As can be noted, the percentage of traditional dwellings within the municipality is higher than the average for the District and Province, indicating the rural nature of this municipality.

Table 9: Housing Structures

	LIM344 : Makhado	% Share	DC34: Vhembe	% Share	Limpopo	% Share
Formal dwelling/house or brick/concrete block structure on a	317251	76,1%	1114885	80,0%	4812397	83,0%
Traditional dwelling/hut/structure made of traditional mater	43989	10,6%	138529	9,9%	298713	5,2%
Flat or apartment in a block of flats	198	0,0%	1767	0,1%	17449	0,3%
Cluster house in complex	488	0,1%	1137	0,1%	8902	0,2%
Townhouse (semi-detached house in a complex)	582	0,1%	4938	0,4%	12623	0,2%
Semi-detached house	2456	0,6%	3962	0,3%	20396	0,4%
Formal dwelling/house/flat/room in backyard	42811	10,3%	80921	5,8%	313317	5,4%
Informal dwelling/shack in backyard	4397	1,1%	21288	1,5%	120271	2,1%
Informal dwelling/shack not in backyard (e.g. in an informal	2379	0,6%	12419	0,9%	97817	1,7%
Room/flatlet on a property or larger dwelling/servants quart	481	0,1%	5701	0,4%	37353	0,6%
Caravan/tent	102	0,0%	136	0,0%	1502	0,0%
Other	1529	0,4%	8200	0,6%	57840	1,0%
Unspecified	66	0,0%	66	0,0%	511	0,0%
Total	416729	100,0%	1393949	100,0%	5799091	100,0%

Source: Stats SA Community Census, 2016

3.2.5 INFRASTRUCTURE

⁸ Makhado Local Municipality IDP, 2020/21 Review.

Basic services are provided by local municipalities and these are services such as water, sanitation, refuse removal and electricity. A municipality is also required to provide poor households with free basic services of 6000 litres of water and 50kwh of electricity monthly. The provision of houses is the responsibility of Provincial Department of Co-operative Governance, Human Settlements and Traditional Affairs whereas local municipalities have an obligation to provide serviced sites or plots.

3.2.5.1 WATER

Makhado Municipality has inadequate and fragmented water service provision and this inadequacy in water provision implies that less water will be available for agriculture, which is one of the pillars of the economy. The main water users in the area are agriculture, domestic, industrial and afforestation.

Currently the main sources of water are Albasini dam; Makhado town groundwater well-field; Ledig boreholes; Sinthumule/Kutama boreholes; Air Force Base boreholes; Vleifontein boreholes; Tshakhuma dam; Nzhelele dam; Mutshedzi dam; and various other groundwater sources which include springs and fountains. A major concern for underground water is the poor quality (salty) and the drying of underground water in areas such as Sinthumule/Kutama.

In the not so distant future, water will also be drawn from the Nandoni Dam which is located in the Thulamela Municipality as the current water sources are unable to meet the needs of the various users. To mitigate the shortage of water in the town of Makhado, sewage is currently recycled for urban irrigation and this is anticipated to increase as a resource and will also have to be considered for industrial and even domestic use in the future for purposes of meeting demand.

3.2.5.2 ACCESS TO WATER

Table 10: Access to Water

	LIM344 : Makhado	%Share	DC34: Vhembe	%Share	Limpopo	%Share
Piped (tap) water inside the dwelling/house	25199	6,0%	93471	6,7%	665855	11,5%
Piped (tap) water inside yard	92441	22,2%	464014	33,3%	2089675	36,0%
Piped water on community stand	74868	18,0%	320993	23,0%	950339	16,4%

Borehole in the yard	41919	10,1%	71607	5,1%	356855	6,2%
Rain-water tank in yard	669	0,2%	2161	0,2%	57534	1,0%
Neighbours tap	53756	12,9%	84246	6,0%	363392	6,3%
Public/communal tap	74112	17,8%	202751	14,5%	552673	9,5%
Water-carrier/tanker	13855	3,3%	18279	1,3%	118918	2,1%
Borehole outside the yard	19305	4,6%	45207	3,2%	229180	4,0%
Flowing water/stream/river	6833	1,6%	42387	3,0%	240562	4,1%
Well	2089	0,5%	6683	0,5%	33802	0,6%
Spring	5561	1,3%	25139	1,8%	38817	0,7%
Other	6121	1,5%	17012	1,2%	101487	1,8%
Total	416728	100,0%	1393950	100,0%	5799089	100,0%

Source: Stats SA Community Census, 2016

3.2.5.3 ACCESS TO SANITATION

Table 11: Access to Sanitation

	LIM344 : Makhado	% Share	DC34: Vhembe	% Share	Limpopo	% Share
Flush toilet connected to a public sewerage system	43371	10,4%	184935	13,3%	995709	17,2%
Flush toilet connected to a septic tank or conservancy tank	9905	2,4%	34167	2,5%	133562	2,3%
Chemical toilet	5064	1,2%	16617	1,2%	90837	1,6%
Pit latrine/toilet with ventilation pipe	150082	36,0%	491696	35,3%	1754523	30,3%
Pit latrine/toilet without ventilation pipe	191674	46,0%	564956	40,5%	2461463	42,4%
Ecological toilet (e.g. urine diversion; enviroloo; etc.)	183	0,0%	2502	0,2%	8472	0,1%
Bucket toilet (collected by municipality)	140	0,0%	286	0,0%	6317	0,1%
Bucket toilet (emptied by household)	454	0,1%	1027	0,1%	34172	0,6%
Other	3270	0,8%	25527	1,8%	113084	2,0%
None	12585	3,0%	72237	5,2%	200951	3,5%
Total	416728	100,0%	1393950	100,0%	5799090	100,0%

Source: Stats SA Community Census, 2016

Table 12: Refuse Removal

	LIM344 : Makhado	%Share	DC34: Vhembe	%Share	Limpopo	%Share
--	---------------------	--------	-----------------	--------	---------	--------

Removed by local authority/private company/community members at least once a week	33156	8,0%	200016	14,3%	1113517	19,2%
Removed by local authority/private company/community members less often than once a week	1254	0,3%	6089	0,4%	68190	1,2%
Communal refuse dump	16290	3,9%	36328	2,6%	177696	3,1%
Communal container/central collection point	4240	1,0%	5581	0,4%	28144	0,5%
Own refuse dump	343278	82,4%	1069669	76,7%	4013481	69,2%
Dump or leave rubbish anywhere (no rubbish disposal)	15332	3,7%	66219	4,8%	335778	5,8%
Other	3179	0,8%	10046	0,7%	62284	1,1%
Total	416729	100,0%	1393948	100,0%	5799090	100,0%

Source: Stats SA Community Census, 2016

3.2.5.4 ENERGY AND ELECTRICITY

Electricity and economic growth are inextricably linked. Makhado Municipality supplies electricity to customers which include large industrial, commercial, and residential. Currently the Municipality is supplied by Eskom at seven different points and the supply is not meeting the demand as basically all in-feed points are either full load or over loaded. The total demand in the municipality for 2011/12 was 52132 kVA.

The existing electricity infrastructure is not sufficient to support the envisaged growth in the manufacturing and mining sector. As such upgrading is required and needs to be done by Eskom and the Municipality.

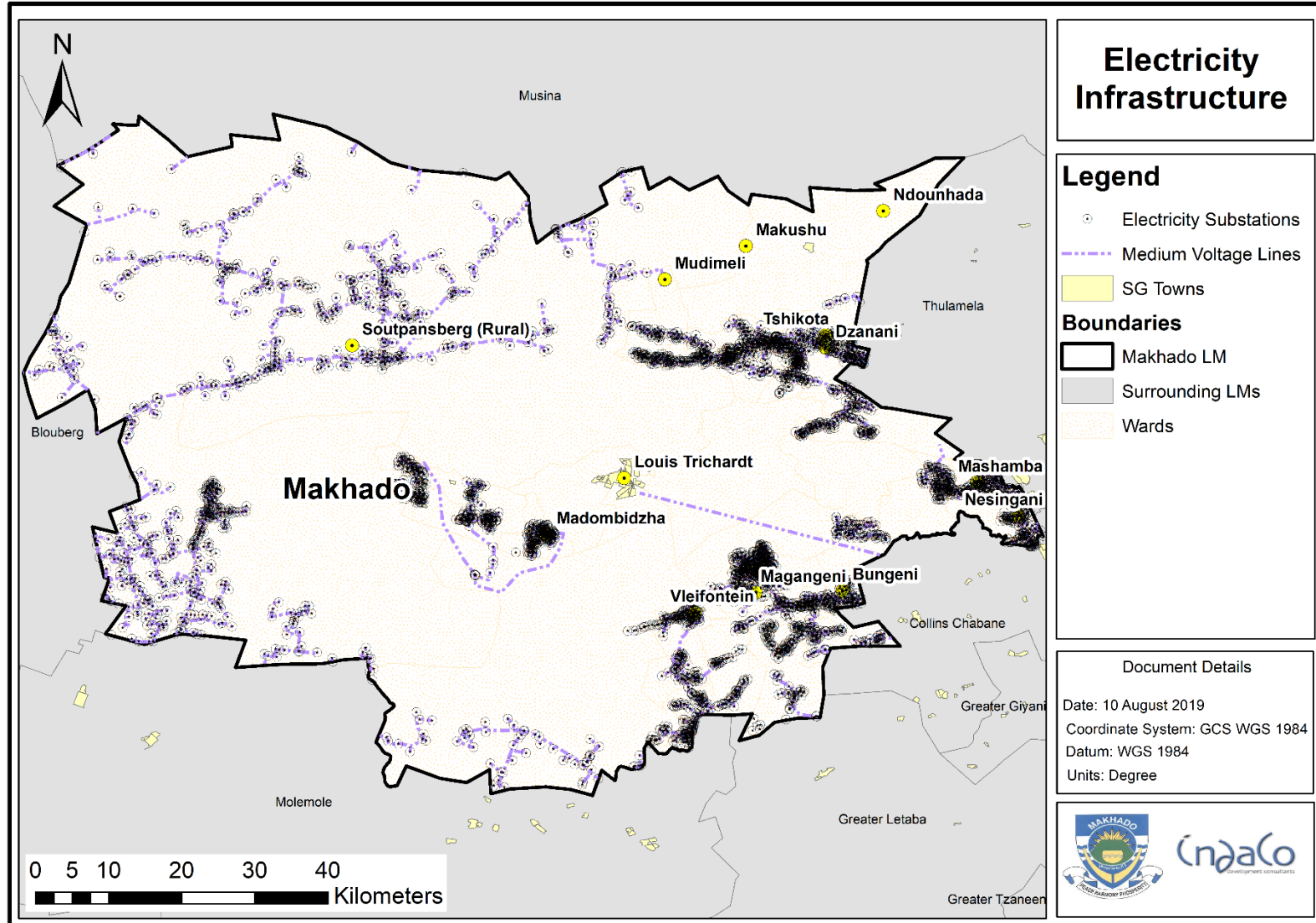
Table 13: Access to Electricity

	LIM344 : Makhado	DC34: Vhembe	Limpopo
In-house conventional meter	25368	62324	361406
In-house prepaid meter	377099	1269183	5075589
Connected to other source which household pays for (e.g. con	1404	6279	47942
Connected to other source which household is not paying for	266	7122	41873
Generator	196	322	1184
Solar home system	1259	2171	6050

Battery	-	16	367
Other	2257	4206	18875
No access to electricity	8880	42326	245804

Source: Stats SA Community Census, 2016

A number of projects have been planned for the electrification of various settlements in Makhado. Please refer to the capital investment framework in Section Seven for a list of these projects and their respective budgets.



Map 6: Electricity Infrastructure

3.3 Biophysical Theme Analysis

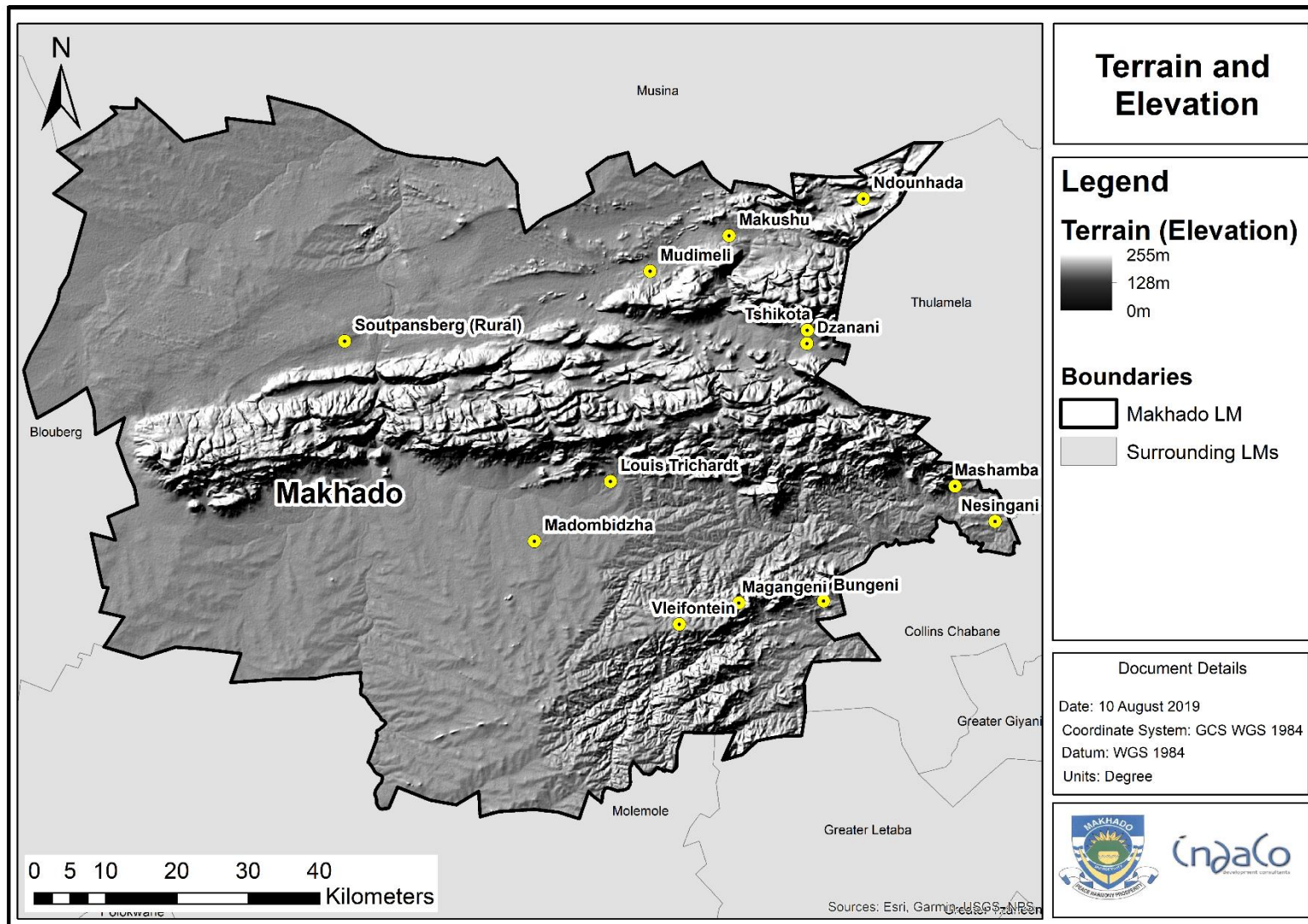
3.3.1 TOPOGRAPHY AND LANDSCAPES

The general topography of the land in the Municipal area is shown in Map 8 below. In respect of the geomorphology landscape, 13.61% of the total areas is known as Lowveld, 8.4% as the Great Escarpment, 17.24% as Soutpansberg, 34% as the Limpopo Flats, and 26.02% as the Polokwane Plains. Table 13 and Map 9 below highlights the soil potential within the municipality.

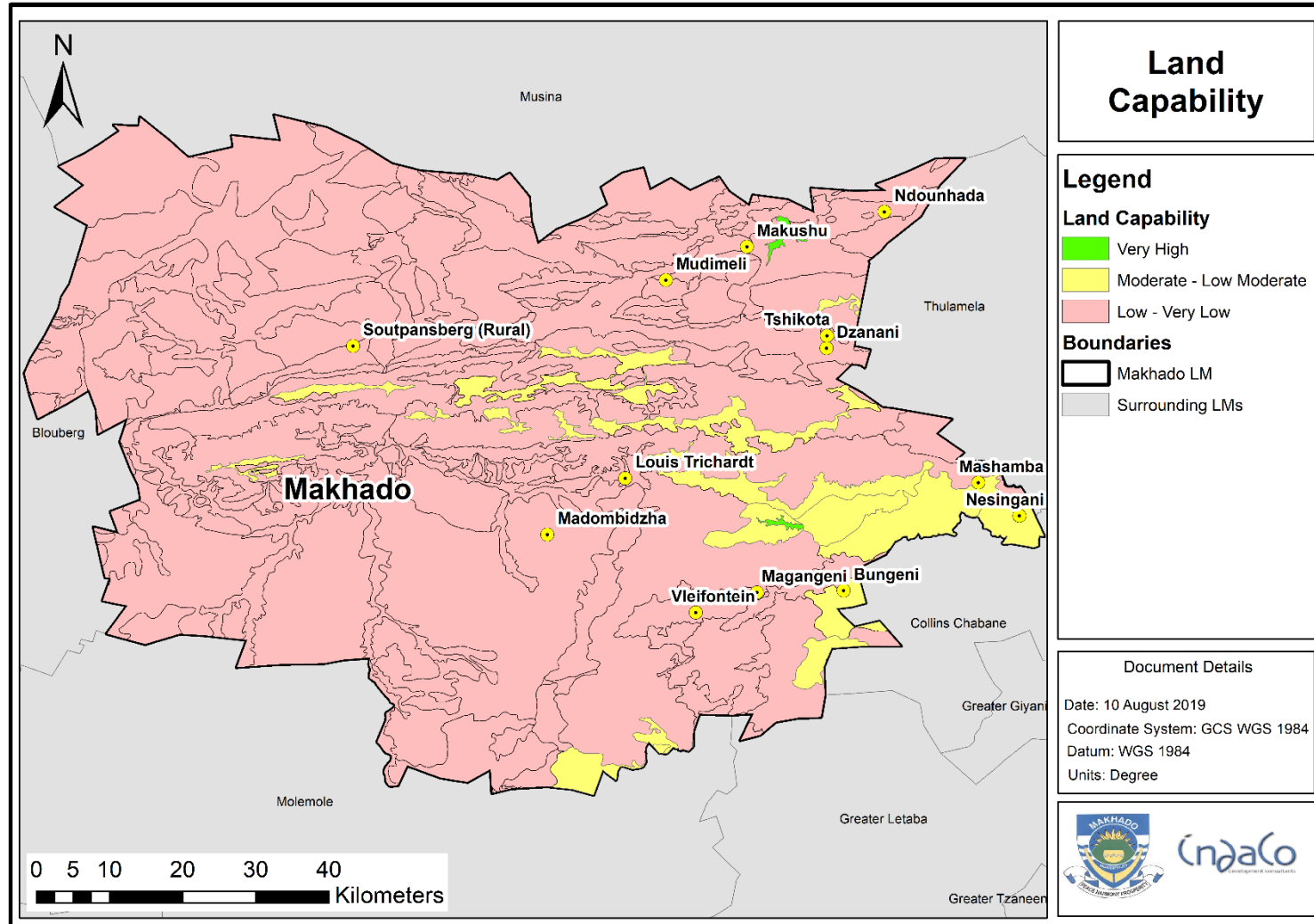
Table 14: Soil Potential

Soil Potential	%Share
No dominant class	13,10%
Not suitable for agriculture or commercial forestry; suitable for conservation, recreation or water catchments.	7,85%
Soils not suitable for arable agriculture; suitable for forestry or grazing where climate permits.	16,05%
Soils of poor suitability for arable agriculture where climate permits.	23.12%
Soils of intermediate suitability for arable agriculture where climate permits.	31.22%
Soils highly suited to arable agriculture where climate permits	8.54%
Water bodies	0.13%

Source: Makhado Local Municipality IDP Review 2019/20



Map 7: Topography



Map 8: Soil Potential

3.3.2 GEOLOGY AND HYDROLOGY

3.3.2.1 GEOLOGY

Nearly 24% of the municipal area is utilised for cultivation, forestry, mines, urban / built-up or degraded. Large areas (76%) are thus utilised as grazing areas for domestic stock, wildlife, tourism or natural areas (Map 9). The status of the last mentioned areas is however uncertain.

3.3.2.2 HYDROLOGY

The major river systems include the Sand and Hout river system, the Luvuvhu river system, the Little Letaba and Nzhelele river systems. Rivers which are regarded as either endangered or critical endangered and even vulnerable are as follows, namely: Dorinspruit, Sand (upper parts), Hout, Little Letaba, Soeketse, Middle Letaba, Luvuvhu (lower parts), Lutanandwa, Mutshedzi, Tshiluvhadi, Dzindi, Mutshindudi, Mutamba, Nzhelele and Nwanedzi Rivers. These are those rivers where many settlements in the rural areas to the south-east occur. Their status may be explained due to the presence of human activity and facts associated with urbanisation, such as pollution and soil erosion.

The most important catchments in Makhado are the Nzhelele Water Catchment and the Luvuvhu River Catchment and they are described in the paragraphs below.

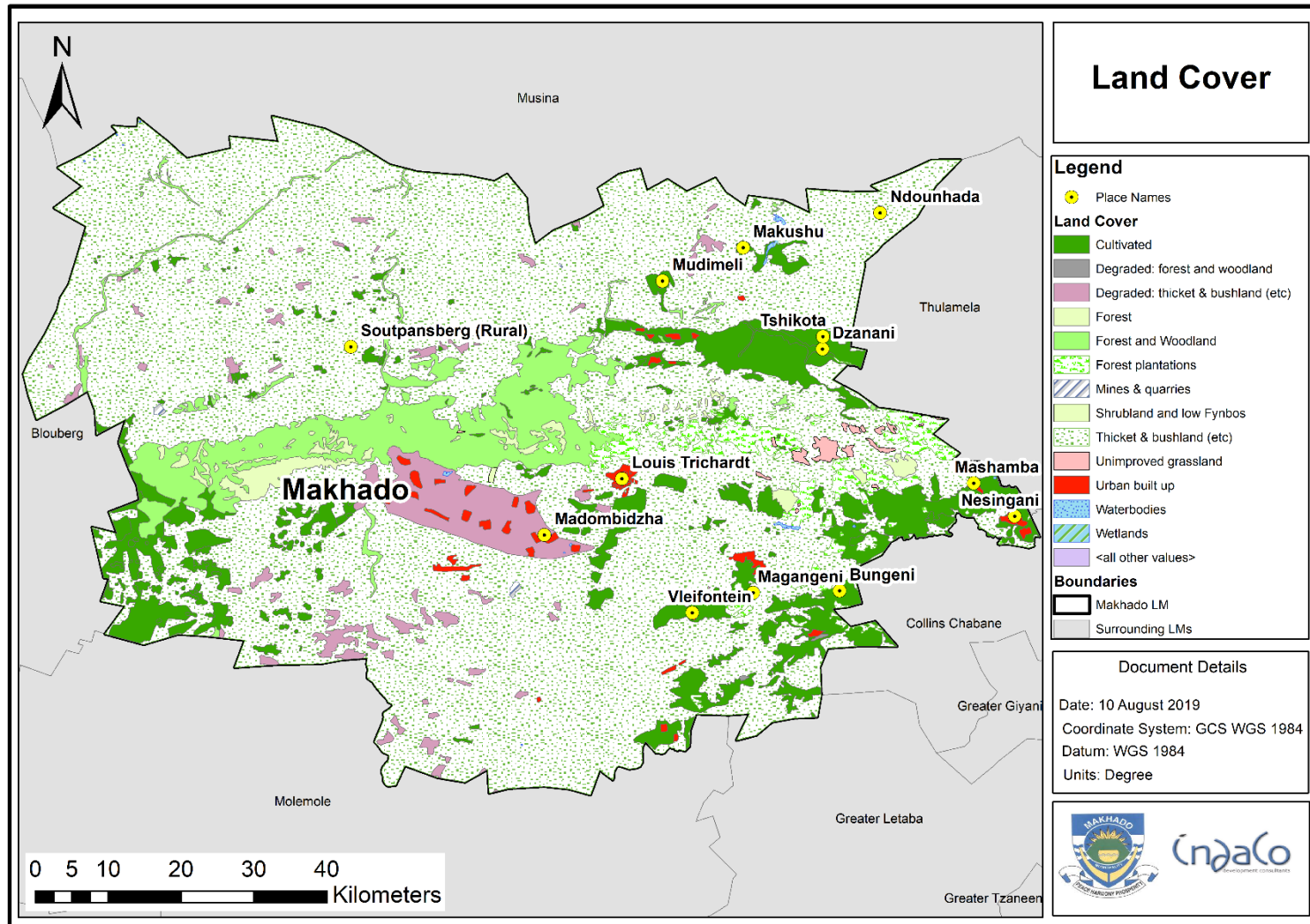
Nzhelele Water Catchment

It is a rural catchment draining northwards into the Limpopo which is dominated by irrigation, with some forestry on the slopes of the Soutpansberg Mountains. There are two major dams within the catchment, the Nzhelele Dam and the much smaller Mutshedzi Dam, used for irrigation and domestic supply. This catchment is severely stressed.

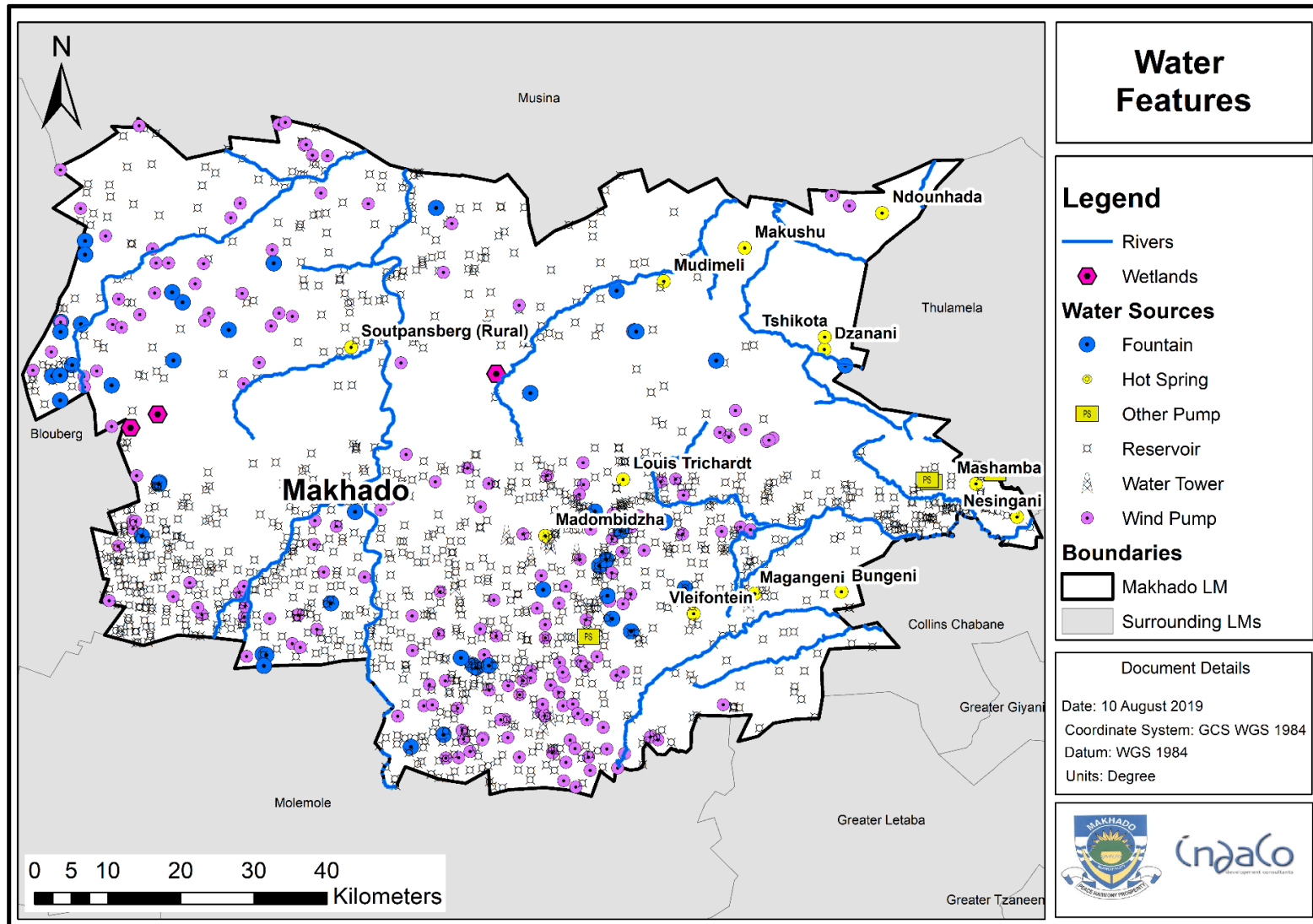
Luvuvhu River Catchment

It rises off the south-eastern flanks of the Soutpansberg, and it is one of the only well-watered catchments within the Limpopo Water Management Area. The catchment is now very densely populated. A number of dams have been built in the

Luvuvhu catchment and there is no scope for further storage. The Albasini Dam is over-allocated and, along with reductions in canal losses, some curtailment of irrigation may be necessary in order to balance requirements with availability. The most recent dam is Nandoni Dam, completed in 2005 and it is going to supply regional bulk water to areas such as Thohoyandou, Malamulele, and Makhado.



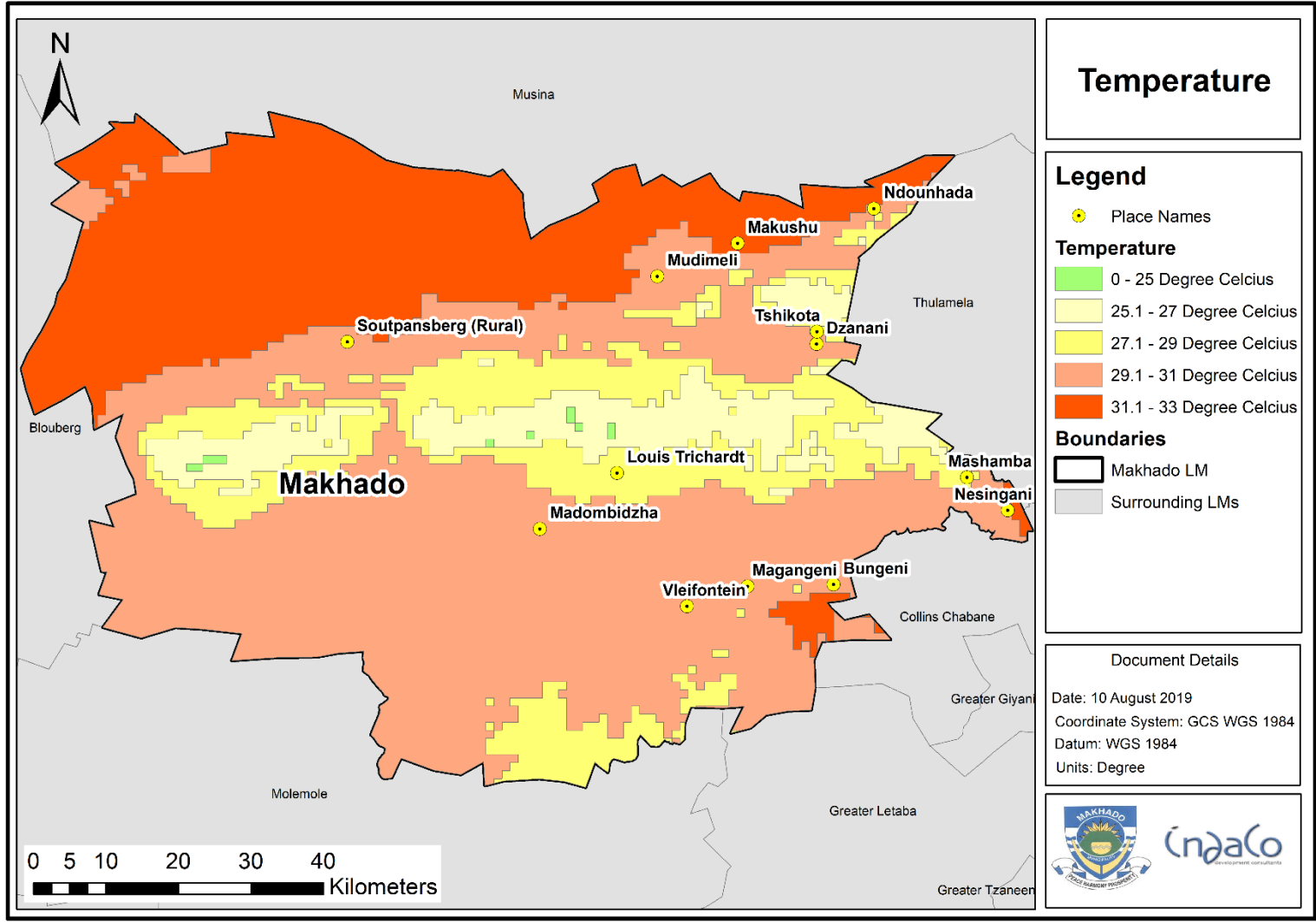
Map 9: Land Cover



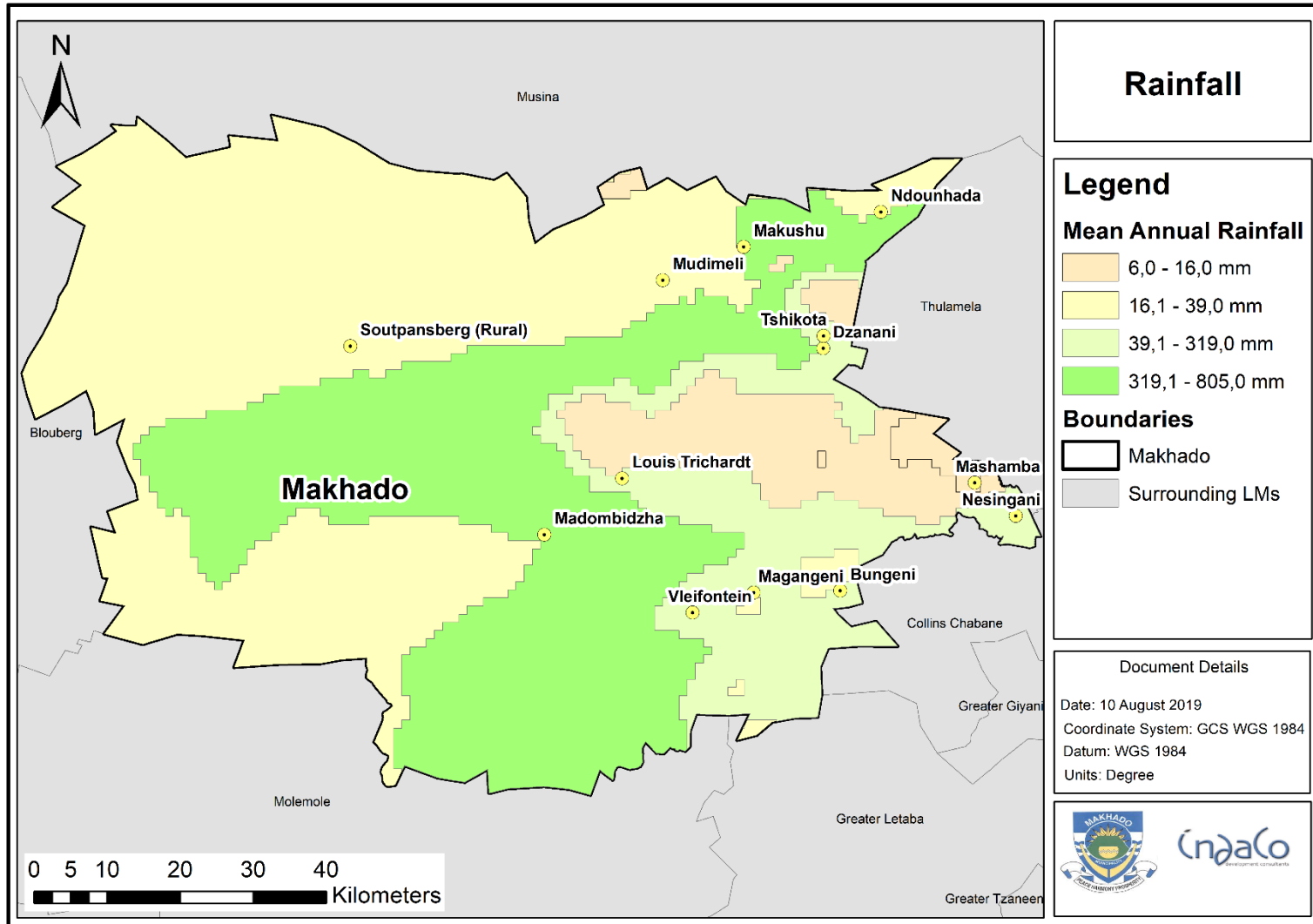
Map 10: Water Features

3.3.3 CLIMATE AND RAINFALL

The municipal climate and rainfall is depicted in Map 12 and Map 13, respectively. Temperatures range between 18 degrees Celsius in the mountainous areas to 28 degrees Celsius in the rest of the area, with an average of 25, 5 degrees Celsius. The IDP states that maximum temperatures occur during the month of January while the minimum temperatures occur in July. The main period for rainfall is January to February with an annual rainfall of 450mm in the low-lying plains to 2300mm in the Soutpansberg. The general average rainfall for the Municipal area ranges between 450mm to 800mm and the areas north of the Soutpansberg have less rainfall than the lower western foothills and central and eastern high lying areas of the mountain itself.



Map 11: Temperatures



Map 12: Rainfall

3.4 Spatial Challenges and Opportunities

3.4.1 SPATIAL CHALLENGES

- Fragmented spatial configuration between rural and urban areas which is characterised mostly by dispersed settlements, resulting in unbalanced services and infrastructure development between these areas
- Lack of integrated human settlements development in town.
- Tribal land has a significant impact on development. There is no agreement/arrangement between municipality and tribal authority on how to manage tribal land by the municipality. The agreement is required to be enforced by SPLUMA.
- The development and growth of the urban core is limited because of ongoing land claims.
- The land restitution process restricts investment and the development of land.

3.4.2 SPATIAL OPPORTUNITIES

- Use of strategically located vacant land parcels as a catalyst for densification, integration and mixed land use orientated development;
- The municipal area has a well-developed road and rail network. The road network includes links to the N1 running north-south through the area and the Trans-Limpopo corridor
- The municipality owns substantial amount of land for residential development.
- There is also a land use management scheme in operation within the town including a densification policy.
- Biodiversity protection areas such as the Soutpansberg biosphere.
- Farming areas, namely, Commercial farming areas; and small scale or subsistence farming areas.

SECTION FOUR: SPATIAL DEVELOPMENT OBJECTIVES AND VISION

4.1 Spatial Vision

The preparation of the Makhado municipal SDF is based on the detailed Status Quo Analysis that was conducted in the preceding phase and is guided by the relevant development informants thereof, which have a spatial implication. The SDF must also give spatial expression to the vision encapsulated in the Municipal IDP as well as the SPLUMA development principles. In view, the following draft Spatial Vision has been formulated for the Makhado Local Municipality:

“By 2050 Makhado Local Municipality will be a hub for socio-economic development, and an environmentally sustainably and functionally efficient Municipality”

4.2 Spatial Objectives

The draft Spatial Vision alluded above in turn lays the foundation for the spatial objectives and proposals that give direction to a range of spatial outcomes relating to growth and development of the Makhado Municipality. The following objectives have been formulated:

Strategic Objective 1: Enhance economic potential and coordinated planning and implementation

Strategic Objective 2: Infrastructure Investment

Strategic Objective 3: Rural Development and Transformation

Strategic Objective 4: Development of road and rail networks

Strategic Objective 5: Environmental conservation and prime agricultural land protection

4.3 Spatial Development Concept and Strategies

4.3.1 SPATIAL DEVELOPMENT CONCEPT FOR MAKHADO LOCAL MUNICIPALITY

The Spatial development concept provides the basis upon which the intended spatial form of the municipality should manifest on the ground. In other words, it contributes to the development policy that recognizes the unique needs, competitive advantages, and internal territorial assets of various areas within the municipality. The concept for the future development of the municipality is therefore to strengthen the existing socioeconomic nodes, both urban and rural areas and define the edges of these areas, to protect the areas of agricultural potential as well as those of environmental sensitivity. The spatial development concept is thus structured around the following key structuring elements:

- Nodes and activity areas;
- Movement and connectivity; and
- Settlement Edges

The aim of the concept is to restructure and integrate the urban and rural landscape of the municipality into a more rational, compact and manageable structure.

Nodes and Activity Areas

Transforming Makhado's spatial landscape requires attention to specific parts of the municipality that have the most potential for change. Nodes and activity areas represent various opportunities in this regard and have traditionally been important locations where movements originate, end, and are transferred within the municipality. They have a hierarchy related to their importance and contribution to urban functions. Various nodes have therefore been identified within Makhado and are earmarked for focused economic, infrastructural and social development.

These redevelopment efforts also act as a key structuring mechanism in support of a viable public transport system. Concentrating existing or new land use activities in

and around nodal areas within the municipality will ultimately minimise the spread of generic sprawl and unify development, making it easier to achieve spatial efficiency and sustainability.

The SDF identifies orders of settlements which are listed below:

- 1st Order Settlements – Settlements which include the provincial growth points, district growth points and the municipal growth points
- 2nd Order Settlements – Settlements which comprise of the Population concentration points
- 3rd Order settlements – Settlements which are local service points

Table 15: Makhado Growth / Nodal Points

Hierarchic Order of Settlement	Type	Cluster name	Settlement within cluster
1 st Order Settlement (Growth Points)	PGP	Makhado Provincial Growth Point	Louis Trichardt Town including Tshikota
	DGP	Elim/Waterval District Growth Point	Elim/Waterval rural
	MGP	Madombidzha Growth Point	Mpheni; & Waterval urban. Depot Village Dzumbathoho Madombidza Zone 1; Madombidza Madombidza Zone 2 Madombidza Zone 3 &Rathidili
2 nd Order Settlement (Population Concentration Points)	PCP	Ravele Tshino Tshakhuma Maebane	
3 rd Order Settlements (Local Service Points)	LSP	Buysdorp; Thalane; Amancisini; Valdezia; Vleifontein; Waterpoort	

The provision of proper planning for the identified nodes, coupled with the provision of massive infrastructure and social facilities investments will act as a stimulus to

attract commercial and business activities at nodal points and strategic rural development areas identified in this spatial development framework.

Movement and Connectivity

In order for people to gain access to services and amenities, as well as for businesses to interact, excellent access and connectivity are a non-negotiable within the municipality. Movement and connectivity as a structuring element seeks to identify existing transport networks within the movement and how they influence connectivity and movement patterns within the municipality. Ultimately, areas with good connections and those without will in turn be easily identified and the necessary interventions proffered.

Makhado has a well-established regional road network traversing through the municipality. There is also a major railway line passing from the south through the Makhado municipal area up towards Louis Trichardt town. In terms of air transport, the municipality has the Mphempu airport (the only airport in the Vhembe District Municipality), west of Louis Trichardt town for use by smaller aircraft and use for private air travel and small commercial air dispatch. Makhado Municipality also houses the Makhado Air Force Base of the South African Air Force (SAAF), which serves as a strategic military installation for the South African Defense Force Nationally⁹.

Settlement Edges

A 'settlement edge' is the dividing line or boundary between areas of urban development (a settlement) and non-urban or rural development. It also defines the logical boundary between areas with different features and purposes, such as the boundary between areas considered environmentally sensitive and those suitable for development. Settlement edges are used to manage investment and characteristics of infrastructure levels according to the needs of communities and economic activities located within settlement edges or outside settlement edges.

According to the Development Edges: A Settlement Typology Updated Approach and Data Report (2015) prepared by the Department of Rural Development and

⁹ Makhado Local Municipality 2019/20 IDP

Land Reform, throughout the world and in South Africa, there has been a new focus on approaches to managing urban growth and physical development. The acceptance and use of a number of planning concepts has received widespread support. Many of these concepts and practices are not necessarily new, but they have become part of an integrated toolbox of concepts addressing common approaches. These approaches are responses to a number of concerns and the need to address a growing awareness of the interrelatedness of issues. The undesirable features that were identified are:

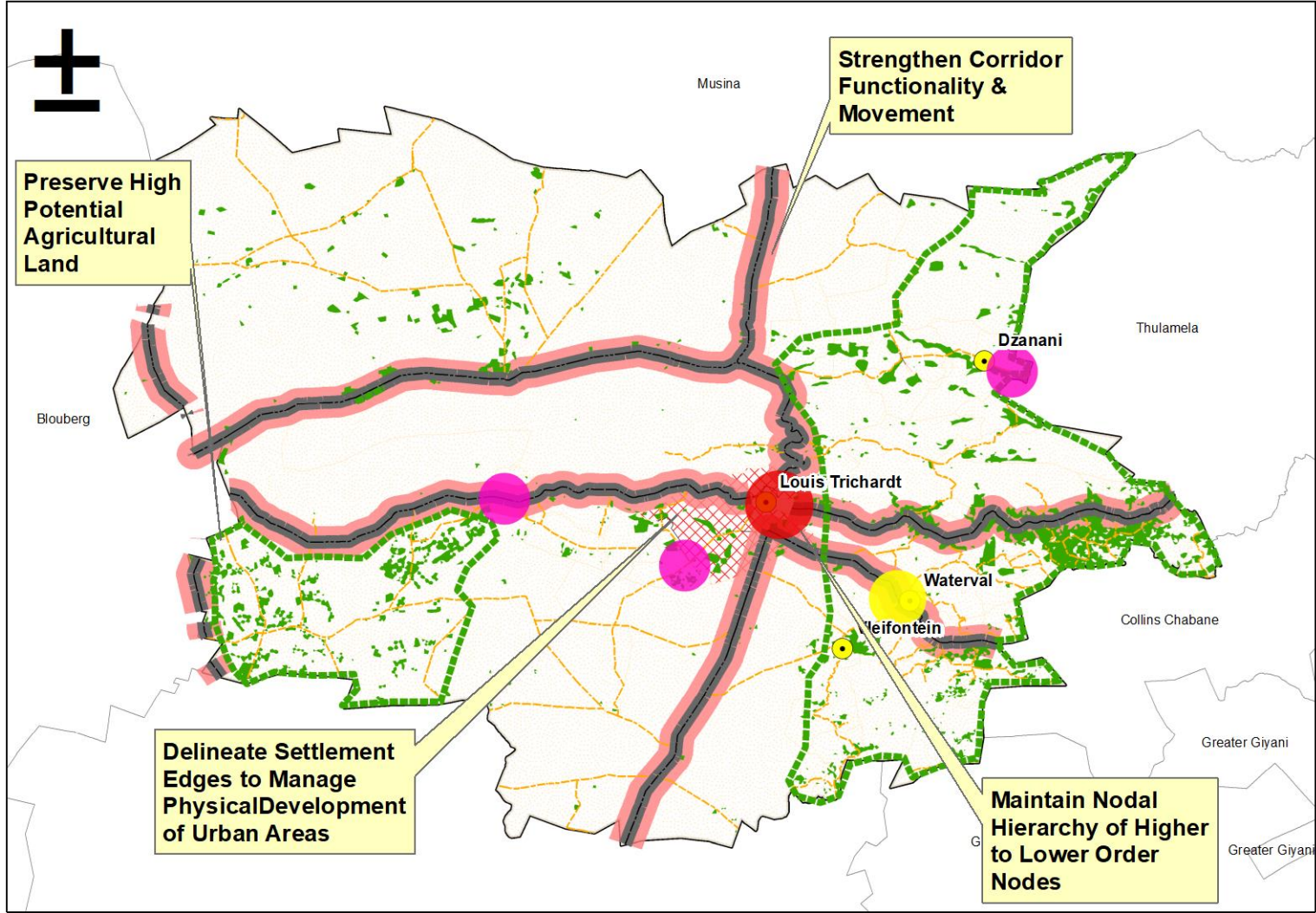
- Urban sprawl, which has several dimensions, unlimited outward and "leapfrog" expansion, as well as being extremely low density;
- Large scale conversion of open space and environmentally sensitive land to urban uses;
- Worsening traffic congestion;
- Costly requirements to expand roads and other infrastructure; and
- Conversion of valuable agricultural land to urban uses.

The responses to some of the concerns included:

- Limiting the outward extension of new developments;
- Raising densities in both new and existing areas;
- Emphasising public transport; and
- Creating what is called "sustainable" development (development that limits consumption of resources and is maintainable into the future).

The approaches to achieving these directives included concepts such as:

- The need to create compact cities and towns that facilitate the provision of efficient infrastructure and transportation;
- The need to be ecologically sensitive; and
- The need to manage, direct or limit urban expansion through demarcating an "urban edge".



Map 13: Spatial Development Concept

4.4 Spatial Development Objectives and Principles

4.4.1 ENHANCE ECONOMIC POTENTIAL AND COORDINATED PLANNING AND IMPLEMENTATION

The formal economy of the Makhado Municipality can be considered as a dual economy, as it comprises two distinct elements namely the sophisticated economy of the Louis Trichardt town and surrounding farms and the informal economies of surrounding townships and rural areas. Louis Trichardt town provides a regional function to the surrounding areas (e.g., trade services, banking, manufacturing, storage, transport, etc), because of its size and level of sophistication. The economy is also able to generate a significant number of direct employment opportunities for the local communities. The new Makhado Mall and Elias Resort also present the municipality with economic and tourism opportunities. The economies of surrounding townships and rural areas comprise mostly of informal activities and largely serve the immediate consumption needs of local people. The following strategies are being proposed to realise the objective of sustainable economic development in the municipality.

4.4.1.1 [Spatial Development Principle 1: Create an Enabling Economic Environment and Strengthen the Bases of The Existing Economic Centres](#)

The 2019 municipal LED Strategy indicates that the economy of the municipality had seen steady growth in GVA over the 2011 to 2018 period. However, the overall trend of the year-on-year growth for the municipality suggests declining growth prospects since 2011. General government activities had the highest GVA among the industries in 2018, while the wholesale and retail trade industry employed the most people. It is therefore important for the municipality to take advantage of the available resources and economic opportunities and target sectors with high growth potential. It is proposed that growth points targeting specific sectors for growth and development should be as follows:

- Louis Trichardt: situated along the N1 North at approximately 110 km from the Beit Bridge border of South Africa and Zimbabwe. Trade, agriculture (Beneficiation), Transport, and Manufacturing.

- Elim / Watervaal: Also one of Makhado municipal growth points and is situated in the southern side of Louis Trichardt town. Agriculture, Retail, and wholesale buying and selling.
- Dzanani: municipal growth point situated in the northern side of Louis Trichardt town. Agriculture, Retail, and wholesale buying and selling.
- Madombidzha/Kutama and Sinthumule: Proposed Minor Growth Points, one of the local service points for Louis Trichardt.

A joint venture between the municipality and Musina local municipality has also been undertaken to create a Special Economic Zone (SEZ) specifically for industrialization between the two areas, where the SEZ is an investment in industrial infrastructure and a service provider to attract and facilitate foreign investment, integrate local firms into global value chains, promote export-driven growth and generate employment (Department of Trade and Industry, 2014). These clusters entail the light industrial and agro-processing clusters in Musina, and the metallurgical/mineral beneficiation complex in Makhado (Department of Trade and Industry, 2019).

A detailed study of the bulk engineering services, projected population increases as well as the associated social services land requirements has already been completed by Delta Built Environment Consultants. The study proposes six optional sites for human settlement. The ones within Makhado municipality are indicated below with a SWOT analysis as per Delta Built Environment Consultants:

Table 16: Option 1: Louis Trichardt Town (South of Tunnel)

SWOT Analysis	
Strengths	Strengthening the Louis Trichardt regional anchor. Transit-oriented design around existing rail station. Triggers provision of larger social services and urban amenities. Integration of new and old urban fabric. Climate more temperate than north of Southpansberg. Makhado settlements north of mountain not integrated into new development
Weaknesses	Mass commute through bottle-neck tunnel likely reach LOS saturation point in long term. Settlement entirely benefits Makhado LM.
Opportunities	Catalyst to develop the town of 25360 into fully-fledged city with population of 196692. Rail transit improvement from the city to SEZ via Waterpoort neck
Threats	Sprawl and informal settlements likely to continue north of mountain, closer to SEZ. Traffic conditions through tunnel will hamper transit efficiency. Unplanned market driven development at R525 and N1 interchange.

Table 17: Option 2: Mudimelli or Manyi or Tshikuwi (north of tunnels)

SWOT Analysis	
Strengths	Development and integration of Makhado settlements in the valleys north of Louis Trichardt. Mudimelli is N1 adjacent with short 16-25min by rapid bus transfers. Compact urban form ideal to curb sprawl and modernise area.
Weaknesses	Duplication of social services rather than consolidation into larger and more valuable centralised services. Settlement entirely benefits Makhado LM.
Opportunities	Mudimelli located in ESA of Soutpansberg, but not as environmentally sensitive as Manyi and Tshikuwi valleys higher up the mountain range
Threats	Manyi and Tshikuwi both located in CBA2 where development is not supported by conservative interpretation of NEMA regulations. Unplanned market-driven development at R525 and N1 interchange.

Table 18: Option 4: 50% in Louis Trichardt and/or Mudimelli and 50% in Musina

SWOT Analysis	
Strengths	An equitable solution that divides settlement, investment and increased population benefits evenly between Musina and Makhado LM.
Weaknesses	Duplication of social services rather than consolidation into larger, more valuable services
Opportunities	Opportunity to re-settle Mopane residents in either Musina and Makhado, closest to home hamlet
Threats	Unplanned market-driven development at R525 and N1 interchange

Table 19: Option 6: Third in Mudimelli, Third in Musina, Third at SEZ

SWOT Analysis	
Strengths	Evenly distributed settlements with third in Musina town, third at the N1/R525 interchange and third at Makhado valley
Weaknesses	Triplicate and minor order social services instead of consolidation that will see larger, higher value social services and urban amenities investment that will benefit Vhembe District. NSDF Regional-Rural Development model not achieved at N1/R525 interchange locality, as Dolidoli is located 30kmm away.
Opportunities	Closets locality to resettle Mopane residents from nearby hamlet
Threats	Unplanned market-driven ad-hoc development encouraged at N1/R525 interchange. Air quality and human health concerns at N1/R525 settlement.

4.4.1.2 Spatial Development Principle 2: Optimise Agricultural production and processing in all parts of the municipality

The IDP states that Makhado has areas with pivot irrigation and high agricultural activity to the west of the town (cultivated land), while areas to the south-east are mainly used for small-scale farming and subsistence farming and greatly correspond with Traditional Authority areas. Cultivated crops include mangoes, avocados, litchis, tomatoes and bananas. The municipality also recognises other the opportunities in crop farming such as organic farming and nut processing and packaging plants.

According to the municipal LED strategy, the year-on-year growth rate for agriculture in Makhado has however been experiencing a downward trend overall for growth between 2011 and 2018 period. The growth rate in agriculture experienced a sharp decline between 2017 and 2018, which resulted in the municipality experiencing a decline in output. Literature suggests that the impact of climate change has undermined the efforts of households to produce crops for subsistence purposes (Madzivhandila, 2016).

Another challenge is that although earmarked for agriculture, most of the restitution land in Makhado and surrounding areas is currently being used for spontaneous settlements, planned settlements, communal grazing, group projects, individual farming, and leasing, while some remains unused.

It is therefore proposed that in order to optimise agricultural production and processing, the following actions should be undertaken:

- Provision of intensive irrigation facilities and necessary training and support to emerging farmers across the municipality. The IDP indicates that the availability of water sources and service infrastructure through the Nandoni Dam is one of the opportunities that the municipality can leverage;
- Provision of linkages to markets (provincially, nationally and internationally). This can be achieved by firstly undertaking studies to understand (i) market demand, (ii) local production conditions, (iii) the business environment, (iv)

interests of farmers and traders, and (v) ability to access business support services.

- Develop mechanisms to establish agro-processing facilities in the municipality for key crop farming products.

4.4.1.3 Spatial Development Principle 3: Tourism development

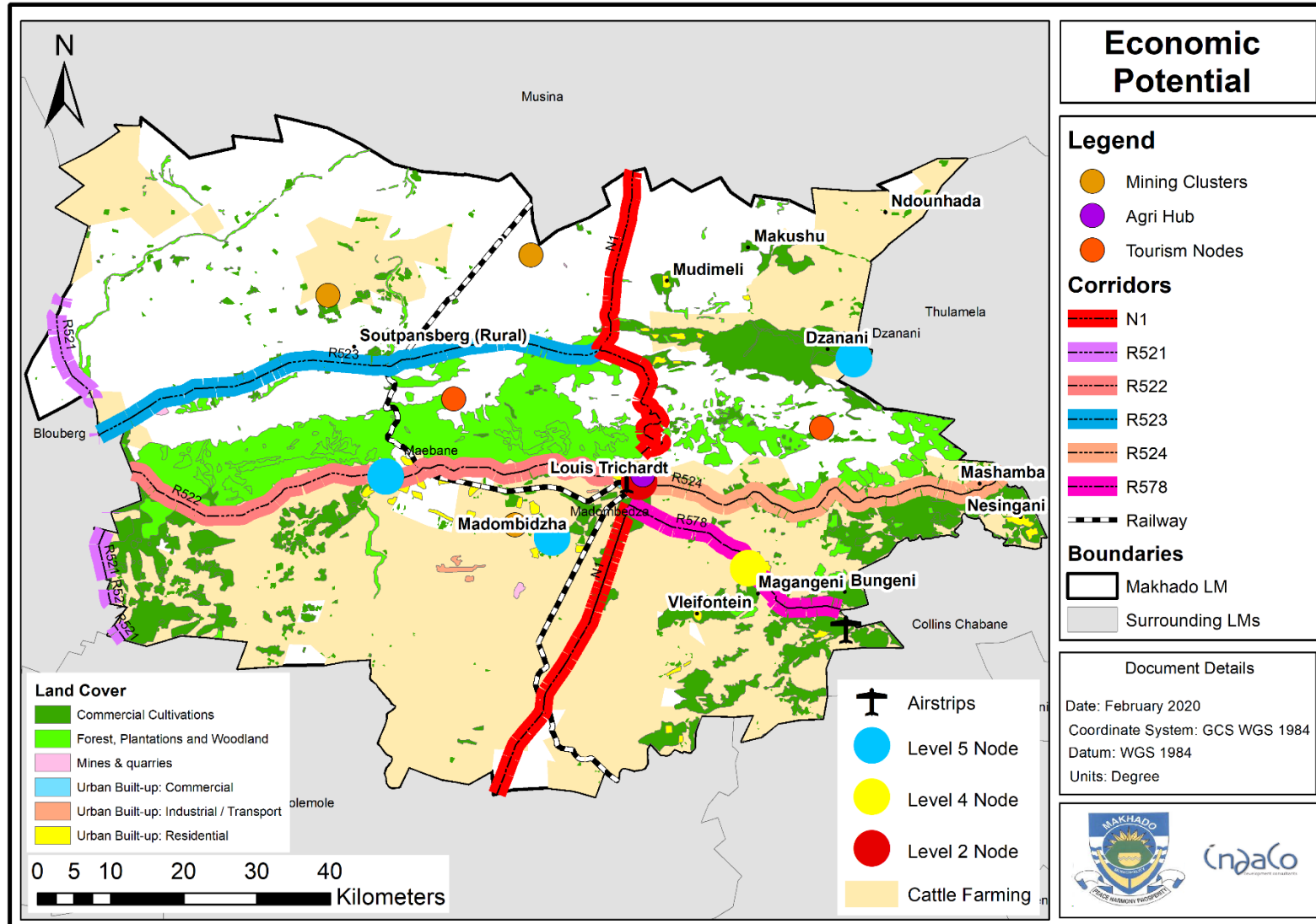
The tourism industry forms a small part of the municipal economy in comparison to other sectors. It is still largely untapped and game farming in the area contributes to a large percentage of tourism attraction. The municipality has great tourism potential which, through tourism and marketing programmes, it is still working to improve as a means of developing the economy of the area. However, factors such as poor infrastructure are hindering these endeavours.

The following actions are proposed in order to exploit the municipality's tourism potential:

- Preserve, promote, and develop the following tourism attraction sites:
 - Soutpansberg Biosphere Reserve
 - Breathing stone on Tswime Mountain
 - Mandadzi waterfall
- Develop tourist infrastructure such as lodging facilities and tourist information centres in the main tourism areas, as well as road infrastructure connecting these places with the surrounding regions.

4.4.1.4 Spatial Development Principle 4: Promote mining activity and associated job creation potential in an environmentally sustainable manner

Mining has been identified as one the key sectors of the municipality that have great economic potential and should be exploited further. The Mopane coal field and Tshipise magnisite field occur within the Municipal area. However, mining and quarrying in the municipality experienced a downward trend between over the 2011 to 2018. It should be noted that the municipality has mining potential towards the north of the Soutpansberg area that should be utilised.



Map 14: Economic Potential

4.4.2 INFRASTRUCTURE INVESTMENT

Changes in population dynamics within settlements drive the need for new infrastructure investment as well as sustained efforts in the maintenance of the existing inventory. Some of the challenges faced in the Makhado Local Municipality relate to the lack of infrastructure maintenance initiatives, including expansion plans that are well funded. There are also huge backlogs of infrastructure and services in the areas of water and sanitation, energy provision, housing, social security and others. The following table illustrates the extent of the infrastructure backlog within the municipality as at 2019:

Description		%
Population	416 728	
Number of Households	116 371	
Water Provision Backlog	35 623	30.6%
Electricity Provision Backlog	8880	7.6%
Sanitation Backlog	35 210	30.2%
Number of Households without refuse removal	99104	85.1%

It is therefore important for the municipality to address the challenges associated with lack of infrastructure and the provision of social services in order to bring its settlements to the desired state.

4.4.2.1 Spatial Development Principle 1: Upgrading and maintenance of the existing infrastructure

Infrastructure provision must be approached in a holistic and integrated manner so that the challenge of various business units of entities planning and implementing their programmes in isolation is avoided. Furthermore, the provision of new infrastructure within the municipality should also be done while also making provision for operations, management and maintenance of existing infrastructure. The following proposals have been formulated:

Water and Sanitation

- Address the current water provision and sanitation services backlogs.
 - Construction of new water reservoirs and pipe lines extensions to extend the internal reticulation to newly developed settlements.
 - Rainwater harvesting
- Monitoring of water services backlogs and development of an integrated infrastructure plan is imperative.
- Conduct research on alternative reliable water sources across the municipality.

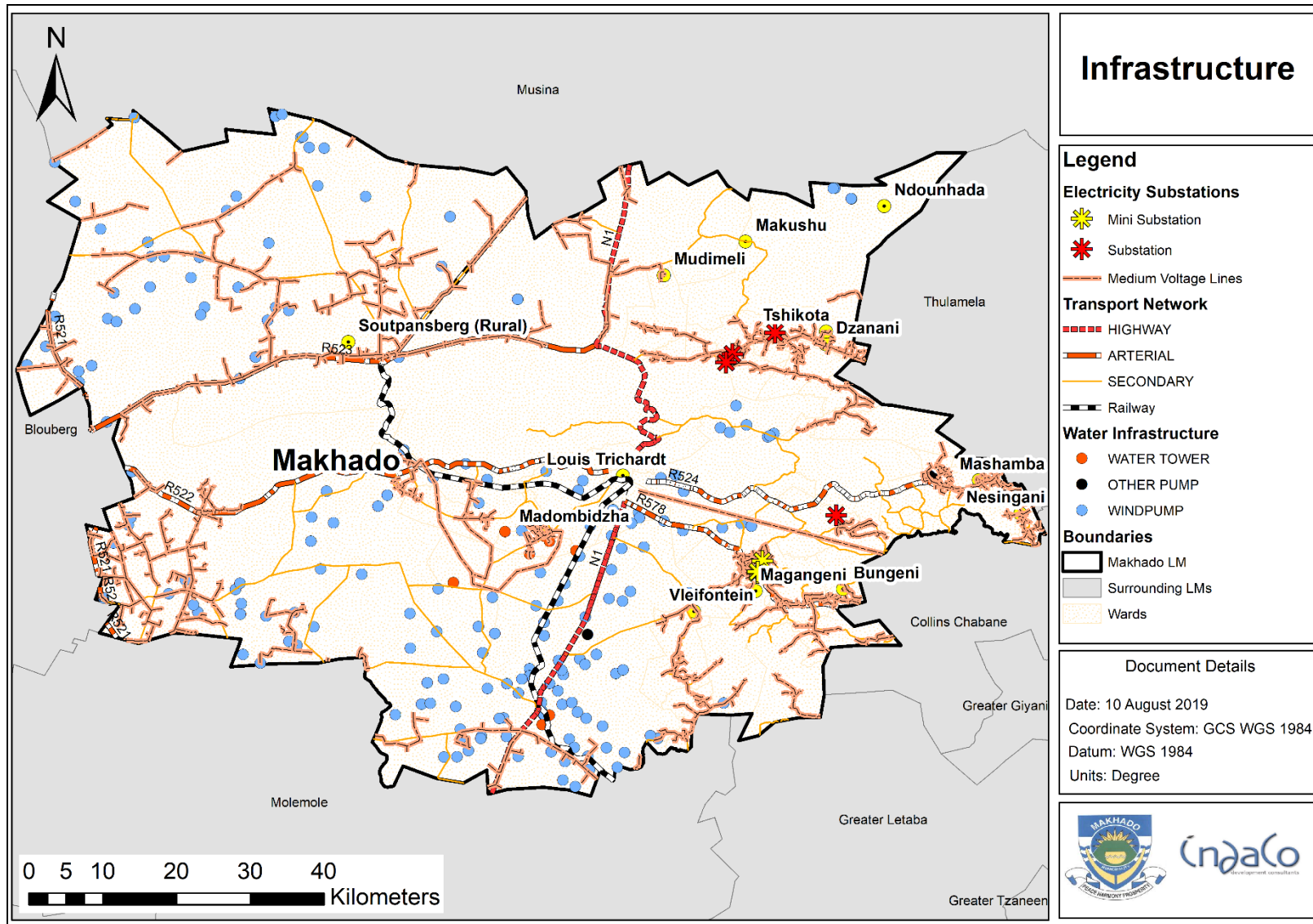
Electricity

- Explore the possibility of generating energy from renewable sources in the municipality, e.g., Biomass plant from agricultural waste.
- Installation and use of solar energy in planned housing developments.
- Upgrading and refurbishment of existing substations and expansion of electrification to rural areas

Waste Management

- Procurement of new trucks to address waste and refuse collection backlogs
- Priority to clear all illegal dumping sites
- Waste management collection points must be established

In order to achieve the aforesaid proposals, it is important for budgets to be set aside and the appropriate funding models and mechanisms put in place. Key amongst planning methods that will help accelerate infrastructure provision include planning for high density compact settlements that are not located far from one another.



Map 15: Infrastructure

4.4.3 RURAL DEVELOPMENT AND TRANSFORMATION

The majority of the municipal population lives in rural areas that form part of the former homelands of Gazankulu and Venda that are the least developed sections of the Limpopo province. Natural resource-based activities such as agriculture are key to the livelihoods of the communities in the province with over a million people engaging in small scale agriculture small to secure food. Rural Development is a deliberate process that is intended to change and transform the rural landscape through targeted social and economic strategies.

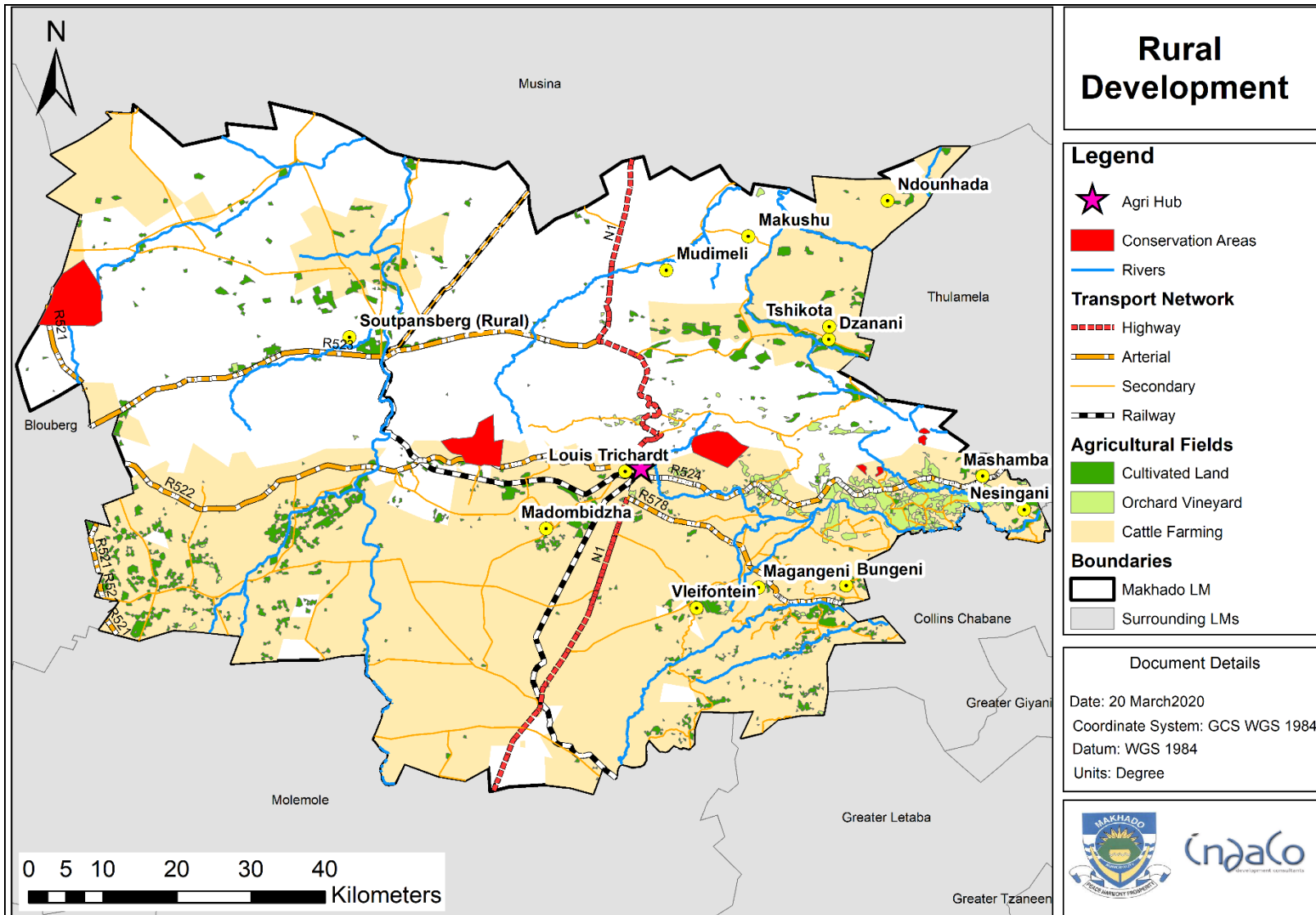
From a policy standpoint, The National Development Plan, the Comprehensive Rural Development Plans National Spatial Development Framework, the Limpopo Development Plan are all in sync about deliberately targeting strategic rural development areas with massive infrastructure spending in order to stimulate the economy and create employment for a large section of the country's population. The Integrated Sustainable Rural Development Programme (ISRDS) is also another national policy aimed at attaining socially cohesive and stable rural communities with viable institutions, sustainable economies and universal access to social amenities, able to attract and retain skilled and knowledgeable people.

4.4.3.1 Spatial Development Principle 1: Rural nodes and agrarian transformation and strategic investment in economic and social infrastructure

Transforming the municipality's agriculture sector will lead to increased job creation, raise incomes, and sustained growth of the municipal economy. The drivers for this transformation are however multidimensional and change over time. Institutional frameworks, the quality of the agricultural plan or strategy, as well as the translation of the agricultural plan into on-the-ground impact, are key drivers that will determine the success of agrarian transformation within the municipality.

- Development of spatial plans focusing on the consolidation and renewal of rural settlements and sustainable provision of basic and social services to rural communities.
- The establishment of business initiatives, agro industries, cooperatives, cultural initiatives and vibrant local markets in rural settings;

- Development of formal sport and recreational facilities in the rural areas.
- A Rural Market Urban Market Centre (RUMC) has already been proposed in the Vhembe District Rural Development Plan. The proposal is that the RUMC should be located in Makhado since the town is strategically located and has existing infrastructure and can also be easily accessed (Vhember RDP, 2016).
- Upgrade internal street networks in the rural areas to improve access to amenities and services (most of these roads are predominantly gravel and untarred and are therefore generally problematic, particularly during rain seasons).
- Establish new landfill sites and develop waste drop off terminals in villages.



Map 16: Rural Development and Transformation

4.4.4 DEVELOPMENT OF ROAD AND RAIL NETWORKS (CORRIDORS)

Makhado Local Municipality is relatively well connected in terms of the road network within the Municipality as shown in the Table below, which shows that there is one national road in the Municipality (N1 road), a few main roads as well as several secondary roads branching off from the national and main roads. A key node in Makhado is the town of Louis Trichardt (formally referred to as Makhado) where several roads are connected to the town and branch out to other strategic growth points such as Elim. The economy in Louis Trichardt is mainly supported by several agricultural activities from the surrounding areas.

Province Route No	Description	Significance
R522	Vivo - Makhado	Linking from R521 from Vivo in the west into an eastern direction south of the Soutpansberg into Makhado town (Louis Trichardt) and the N1
R523	Alldays – N1 - Thohoyandou	Linking from R 521 from Vivo/Alldays (Blouberg municipality) in the west and into an eastern direction to the N1 north of the Soutpansberg and proceeds east towards Sibasa and Thohoyandou (Thulamela Municipality) and finally towards the Kruger National Park.
R524	Makhado - Thohoyandou	From Makhado town (Louis Trichardt) and the N1, it proceeds south of the Soutpansberg into an eastward's direction to Thohoyandou (Thulamela Municipality) and the Kruger National Park.
R578	Makhado - Giyani	From Makhado town (Louis Trichardt) it proceeds into a south-eastern direction towards Giyani (Greater Giyani Municipality)

4.4.4.1 Spatial Development Principle 1: Ensure connectivity between settlements, as well as nodes and connectivity within settlements

Makhado falls under the Trans Limpopo along the N1 which is considered as a growth point and the passage or gateway to Africa. This corridor plays a Primary passenger Transportation Corridor and Freight Corridor which serves to connect South Africa from Cape Town to the rest of Africa exiting through the Beit Bridge border post in Musina. At a regional level the N1 connects Molemole's Botlokwa/Machaka/Mphakane node with the logistics hub and provincial growth point of Polokwane and the newly declared Special Economic Zone of Musina-Makhado. With the massive investment earmarked for the new SEZ it is envisaged that more passenger transportation and freight will increase in volumes thereby serving as a stimulus for the economy of the Botlokwa/Machaka node and surrounding settlements that fall within the sphere of influence of the node.

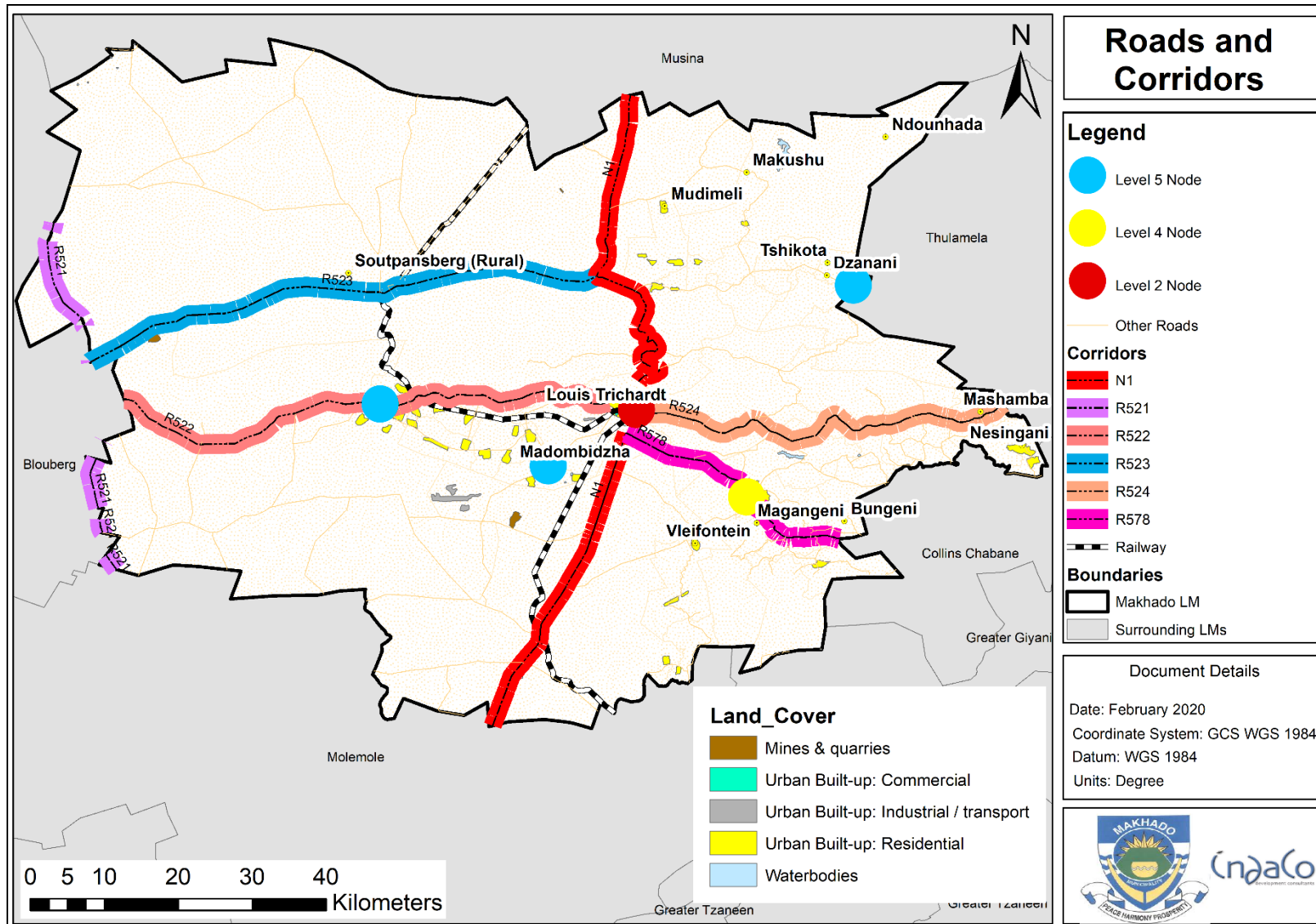
Selected rural settlements (e.g. growth points and population concentrations) are likely to grow in terms of population size and local economic development. The population sizes together with local economic development potential will result in the natural growth of these settlements, which in turn could form the basis for longer term sustainable growth and development.

- The municipality is served by a well-connected network of regional and national roads (N1, R521, R522, R523, R524, R578 and a railway network. Strengthening the existing transport networks and modes to facilitate the optimal and efficient movement of goods, services, and passengers from origin to destination points in the shortest time possible would be crucial. It follows then that the municipality should focus on upgrading and maintenance of its road infrastructure as most of these key routes are in a state of deterioration.
- Facilitate and promote public transport links between various disadvantaged areas, such as rural communities (where roads are mostly unpaved) and other small townships, and the main economic nodes of the municipality.

4.4.4.2 Spatial Development Principle 2: Supporting an Efficient Movement System by ensuring a high standard in terms of accessibility to the wider regional context.

The N1 route runs through the municipality and proceeds in a north-south direction (almost in the middle) via the Hendrik Verwoerd tunnel through the Soutpansberg conservancy. There are also provincial roads that run in an east-west direction, all linking with the N1 in one way or the other. Some proceed parallel north and others parallel south of the Soutpansberg, linking the region and adjacent municipalities to Makhado and the N1, resulting in a good network of major secondary access routes (IDP, 2019/20).

- Thorough maintenance and upgrading, protect the mobility function of major roads.



Map 17: Roads and Corridors

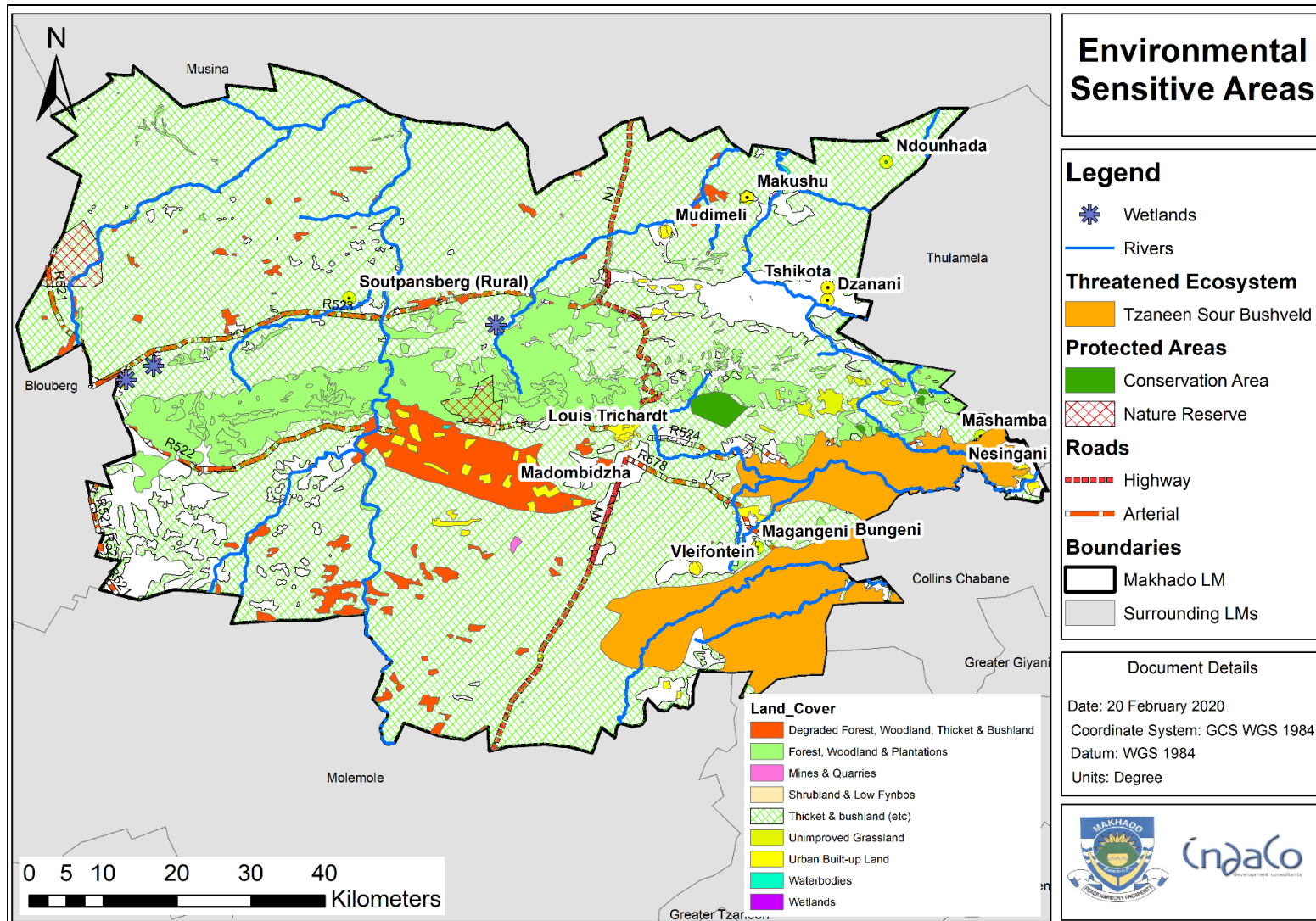
4.4.5 ENVIRONMENTAL CONSERVATION AND PRIME AGRICULTURAL LAND PROTECTION

Elements which make up the environmental value chain include high potential agricultural land, river systems (and catchments areas), biodiversity and ecological zones. Within the Makhado local municipality, most of the areas in-between settlements are utilised for farming purposes resulting in these areas being under constant threat of environmental degradation.

4.4.5.1 Spatial Development Principle 1: Protection of the Municipal Biodiversity and Ecosystem Services

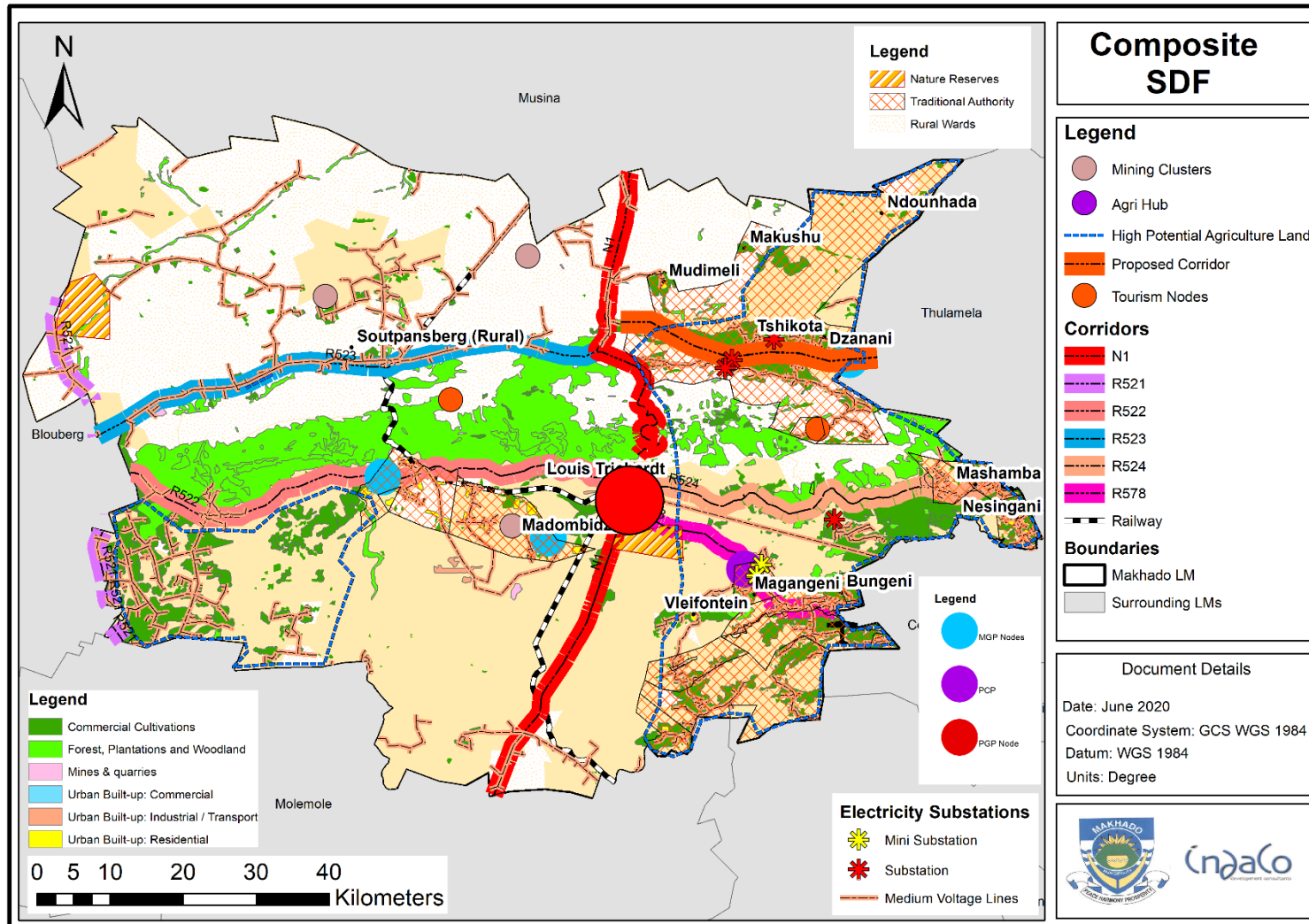
The Limpopo government, through the provincial conservation plan, developed a Critical Biodiversity Map in 2013, which identified critical biodiversity areas and ecological support areas to guide where best to locate development. This also helps inform land-use planning, environmental assessment and authorizations, and natural resource management, by a range of sectors whose policies and decisions impact on biodiversity. UNESCO also declared the Vhembe Biosphere Reserve in Makhado municipality a conservation area. The Biosphere Reserve provides a habitat to a diverse number of species including those that are on the brink of extinction.

- Actively protect, manage, and enhance environmental heritage and conservation areas, biodiversity hotspots, and ecological corridors as a special Biodiversity Management Zone.
- All land development applications with a bearing on critical biodiversity environment should go through the municipality's environmental division before being submitted to the Municipal Planning Tribunal for consideration.
- Ensure new development and redevelopment is in line with the municipality's current environmental policy and trajectory.
- Support sustainable catchment management and stormwater practices.
- Climate change adaption and protection of high agricultural land.



Map 18: Environmental Features

4.5 Composite Makhado Spatial Development Framework



Map 19: Composite SDF

SECTION FIVE: LOCAL SPATIAL DEVELOPMENT FRAMEWORKS (LSDFS)

The Local Spatial Development Frameworks are formulated for the four main towns of the Makhado Local Municipality namely:

- Louis Trichardt
- Vleifontein
- Waterval
- Dzanani

The key objectives of the micro strategic development concept is to achieve objectives such as integration of different neighbourhoods (communities), improved access to social amenities and economic development, optimising existing infrastructure and integrating development with public transport.

5.1 Louis Trichardt

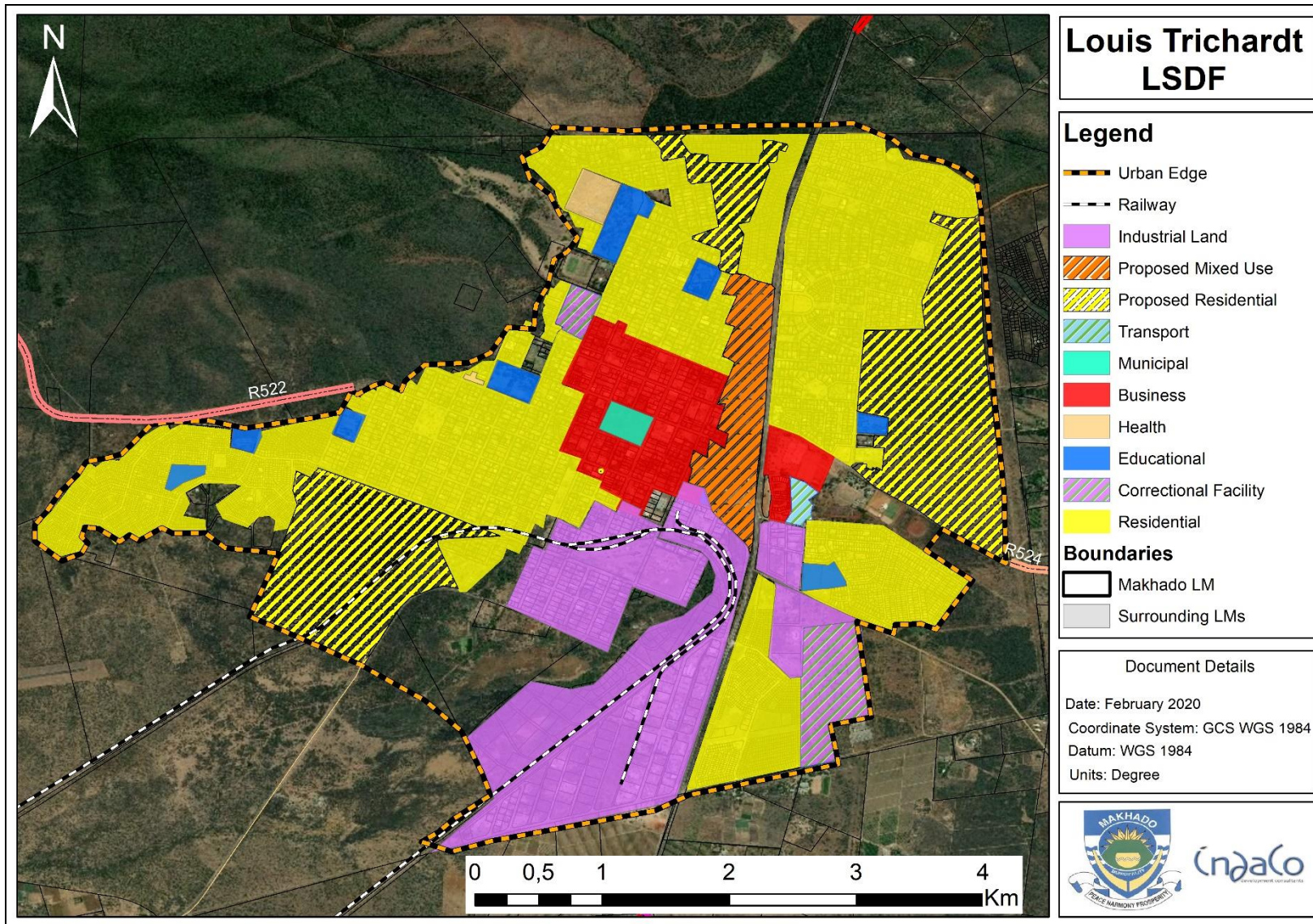
Louis Trichardt is a provincial growth point located at the foot of the densely forested Soutpansberg Range in a highly fertile and rapidly growing agricultural area. Louis Trichardt is essentially a regional service centre for those who commute from the surrounding townships, rural and agricultural lands. The services provided include basic business and commercial activities (banking facilities, manufacturing), with the bulk of employment indicators attributed to trade and manufacturing. The economies of surrounding townships and rural areas comprise mostly of informal activities and largely serve the immediate consumption needs of local people.

Focus Area	Strategic Direction
Function	<ul style="list-style-type: none">• Provide higher order services to the growing urban population, as well as the rural catchment area surrounding the node.• Provide space for economic diversification and higher intensity economic development, with a focus on agriculture and related activities, utilities and power generation, as well as transport and logistics. Support should also be provided to industrial and commercial uses, as well as business incubation centres and

	<p>innovation centres, training facilities and educational institutes</p> <ul style="list-style-type: none"> • Provide medium to higher density residential accommodation for the growing urban population
Service Area	<ul style="list-style-type: none"> • An area with a radius of approximately 50km around the node, including extensive rural land uses (agriculture, forestry, conservation and tourism, mining and energy generation)
Range of Services	<ul style="list-style-type: none"> • As a regional service centre, a range of basic and higher order social services should be provided for the resident population as well as the larger region. Basic social services include medical facilities, schools, libraries, internet labs, community sports facilities, community halls, and Thusong centres including pension pay points. Higher order services include branch offices of national departments, municipal offices, magistrate's court, hospital/s, tertiary education (colleges, ABET centres, etc), regional sports facility / stadium, business support centres, etc.
Mixed use central core area	<ul style="list-style-type: none"> • It is proposed that adequate space be provided for residential densification and the establishment of high intensity non-residential uses. • This would involve the possible redevelopment of some parts of the mid-town areas, as well as established low density residential areas surrounding the current town centre. • It is also proposed that the mixed-use core be extended towards Tshikota to ensure a more integrated, connected urban form
Residential areas and local nodes	<ul style="list-style-type: none"> • Medium density infill should be promoted in residential areas, to prevent sprawl and more efficient service delivery. • Identification of strategically located land in the CBD for low income and affordable housing with increased densities and various housing typologies. • Social services such as schools, community facilities and open space should be maintained. • Promote urban renewal/ revitalization strategies.
Industrial Areas	<ul style="list-style-type: none"> • The current industrial area should be revamped and intensified. • Provision is made for extension of industrial uses in the form of light industries and commercial uses.
Urban Edge	<ul style="list-style-type: none"> • As indicated on the LSDF

Movement

- Internal connectors should be strengthened and maintained

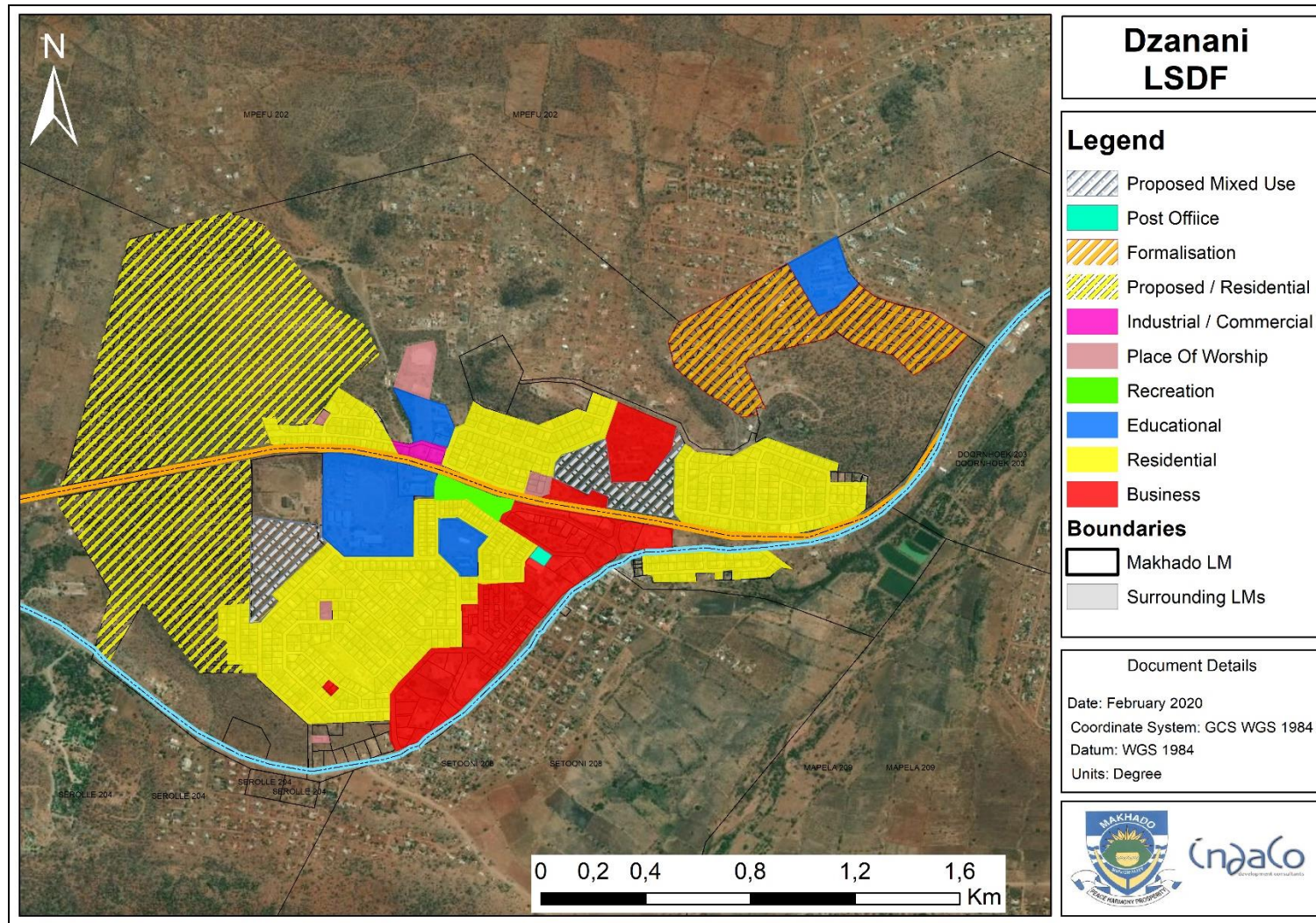


Map 20: Louis Trichardt LSDF

5.2 Small Rural Towns

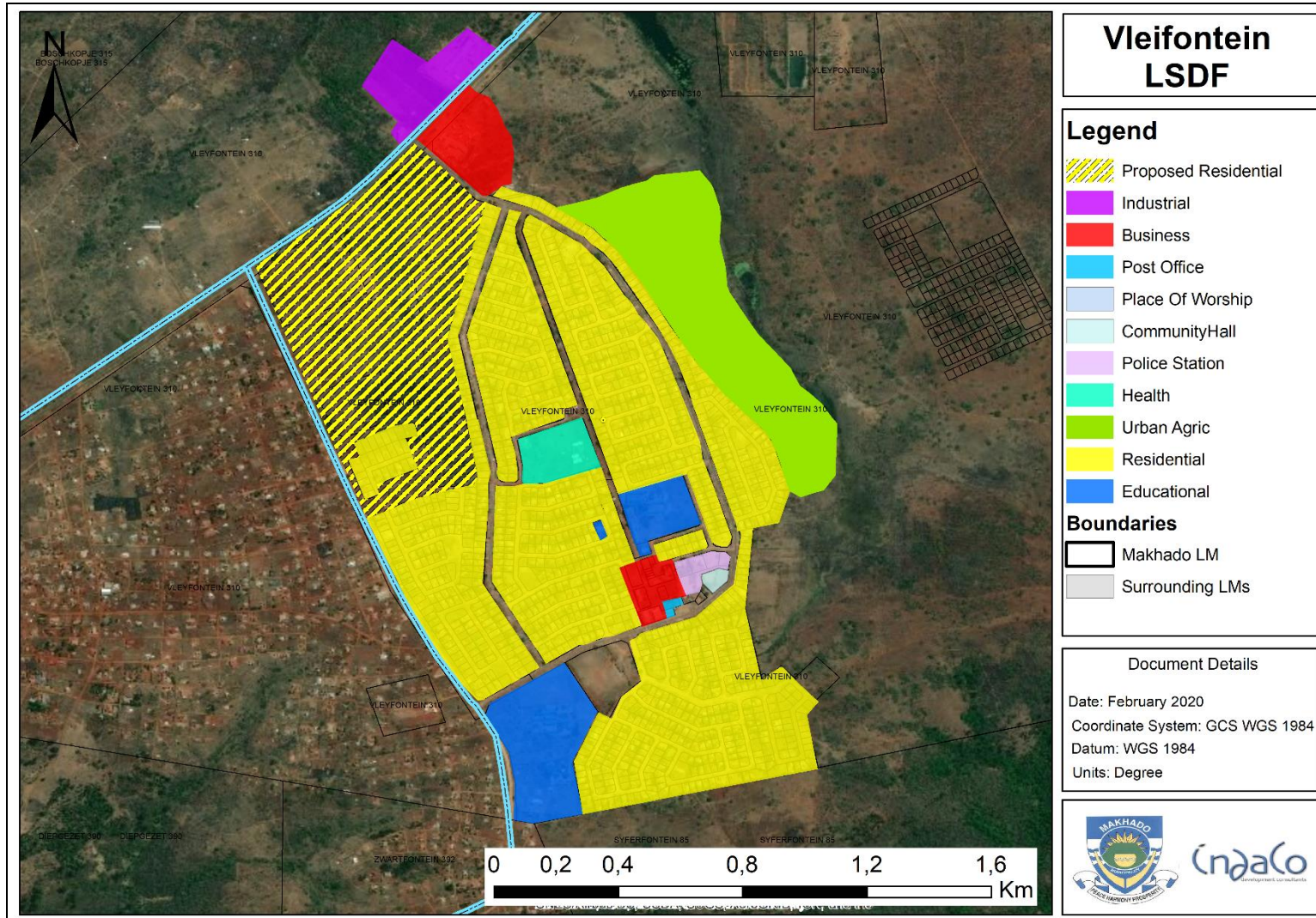
Vleifontein, Waterval, and Dzanani	
Focus Area	Strategic Direction
Function	<ul style="list-style-type: none"> • These towns act as small service centres for the resident community and surrounding rural communities. • The upgrade and maintenance of road infrastructure should be prioritised to ensure access to higher order services and connectivity of these nodes with the main Louis Trichardt node.
Service Area	<ul style="list-style-type: none"> • An area with a radius of approximately 40 km around the towns.
Range of Services	<ul style="list-style-type: none"> • Basic social services, including clinic/s, schools, multi-purpose centre or Thusong centre including a variety of the other services mentioned, pension pay points, library with internet facilities, community hall/s, sport facilities, police station or satellite station, and post office.
Spatial Development Frameworks	
Mixed use local nodes	<ul style="list-style-type: none"> • It is recommended that social services, retail facilities and other economic activities be concentrated in small local nodes within each of these settlements. This will ensure higher levels of access and economies of scale in terms of service provision.
Residential areas	<ul style="list-style-type: none"> • While these settlements are rural in nature, very low density extensive residential settlement is not recommended. The focus should be on medium density layouts with a regular grid pattern to facilitate service delivery
Proposed new residential areas	<ul style="list-style-type: none"> • Although the in-migration and population growth is not as high as in the main urban node, provision has been made for the extension of residential areas in each of these rural nodes
Development Edge	<ul style="list-style-type: none"> • Due to the low intensity development and lack of development pressure, a development edge is not proposed for these settlements.
Movement	<ul style="list-style-type: none"> • Due to the small size of the settlements, local movement is not a challenge. More important is ensuring physical connections and possibly monthly transport services to the main node.

5.2.1 DZANANI



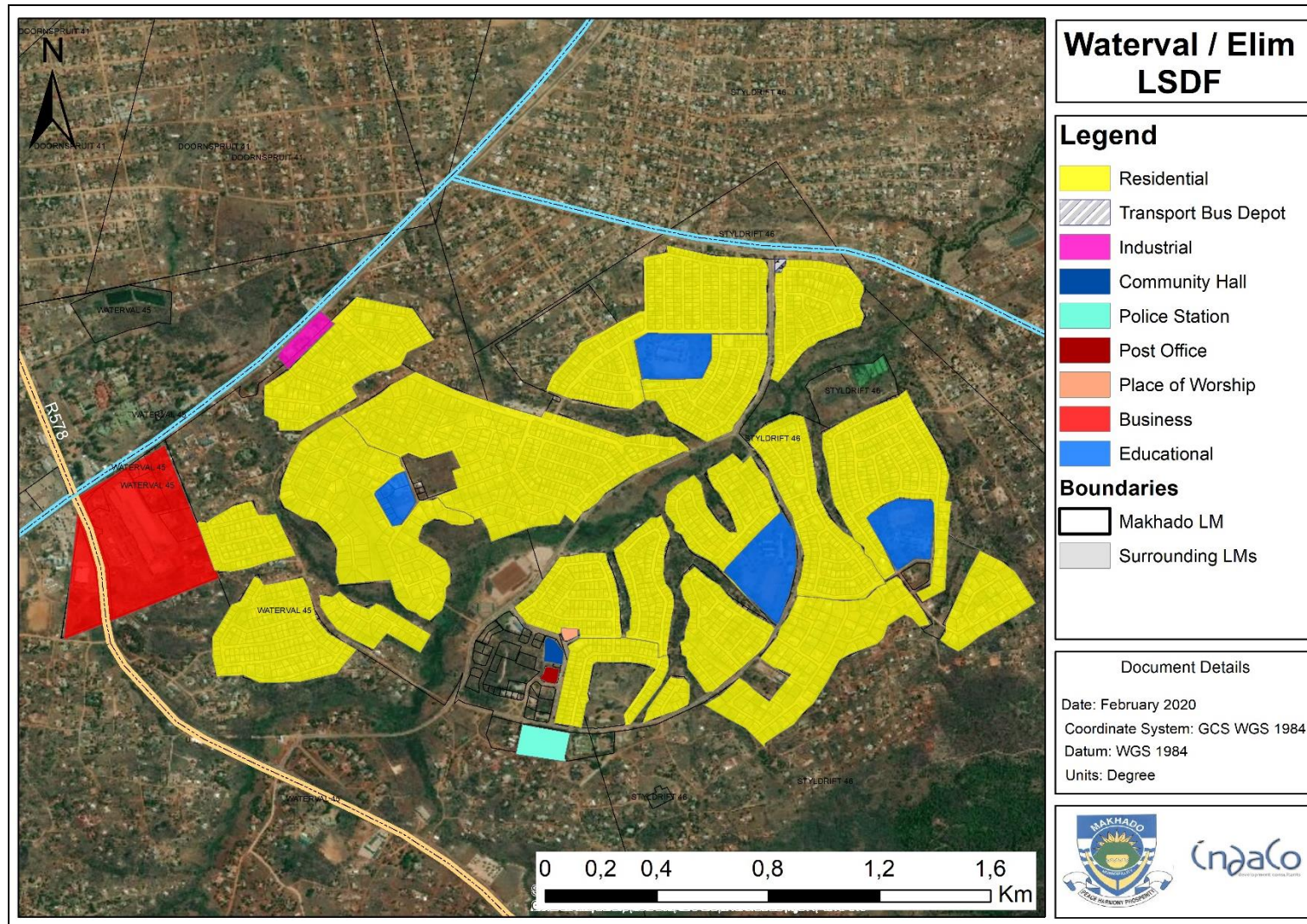
Map 21: Dzanani LSDF

5.2.2 VLEIFONTEIN



Map 22: Vleifontein LSDF

5.2.3 WATERVAL



Map 23: Waterval LSDF

5.3 Alignment with the Land Use Management Scheme

Section 24(1) of SPLUMA stipulates that a municipality must approve and adopt a single land use management scheme for its entire area. The Act also states that such a land use scheme must give effect to the municipality's spatial development framework in order to promote economic growth, social inclusion, efficient land development and minimal impact on the environment and natural resources.

The current land use scheme of the Makhado municipality was adopted in 2009 and will need to be reviewed to give effect to this SDF as well as the normative approach and principles of SPLUMA. The Act also emphasises the democratic and moral obligation of municipalities to involve all interested and affected stakeholders in the decision-making process. As a predominantly rural municipality, the importance of engaging traditional leaders in the land use scheme development process cannot be underestimated.

Recognised traditional leaders must be identified as internal and public sector stakeholders and serve in the council as such in line with Section 81 of the Municipal Structures Act of 1998 as amended. There should also be adequate engagement with traditional leaders particularly for land development applications that fall under traditional authorities.

SECTION SIX: POPULATION PROJECTIONS

The population projections in this SDF adopt an analytical methodology which puts emphasis on why population numbers and characteristics of the municipality have changed over time. In principle, the population of a geographic area grows or declines through the interaction of three factors: fertility, mortality, and migration¹⁰. The projections consider the current baseline population, the rate of decrease or increase of numbers of persons over the previous Census periods, the age and sex composition of the population, the fertility, mortality and migration patterns etc., as well as the factors that have produced these trends and others that may appear.

¹⁰ Population Reference Bureau, 2001

A medium growth scenario is presented for Makhado LM. The scenario is based on the CSIR Green Book's population projections, which indicate that Makhado will experience a medium (20% or less population change between 2011 and 2050) growth. Provincially, the projections indicate that the population of Limpopo is projected to increase by 1.7 million by 2050. The Vhembe District Municipality is projected to grow the most in the Province, with an additional 496 000 people by 2050 (a 39% increase from 2011). Most of this population growth is envisaged to take place in the major Regional Centres and Service Towns of the District.

The projection calculations were therefore based on the following assumptions:

- Projected change between 2011 and 2030 will be 464 388 additional people as per the CSIR Green Book. However, this is unlikely to be the case due to new municipal demarcated boundaries.
- Makhado is projected to have a 20% or less population change within the same timeframe. Percentage variations were extrapolated for 5-year periods taking into account anticipated municipal characteristics.
- An anticipated population increase due to the proposed Makhado-Musina SEZ.
- Possible change in migration dynamics as people reconsider staying in / or returning to rural areas and undertaking agriculture due to the economic effects of the COVID-19 pandemic.

Table 20: Population projections

Area	2011 (Stats SA)	2020	2025	2030
Medium Growth Scenario				
Louis Trichardt	25 360	27 896	33 196	58 797
Dzanani	5 673	6 240	7 426	13 159
Vleifontein	4 982	5 480	6 521	11 821
Waterval	16 538	18 192	21 648	35 106
Other Settlements	468 447	398 523	438 375	486 596
Makhado LM	516 031	456 331	507 166	605 479

Source: Indalo extrapolations based on the CSIR Green book and Stats SA Census (2011 and 2016 as base figures).

SECTION SEVEN: IMPLEMENTATION FRAMEWORK

A number of development objectives and spatial proposals were made in the preceding sections of this SDF as to how the municipality can work towards achieving its development vision. The implementation framework identifies the fundamental elements that are required for the implementation of these proposals and development objectives in an effective and holistic manner. The framework also includes an elaboration of the capital investment framework that identifies priority projects as well as the corresponding budgets for the short to medium term.

7.1 Institutional Arrangements and Elements for Implementation

Meeting the development objectives as set out in the SDF will require the municipality to have strategic and well-defined partnerships. Partnerships foster an inclusive and sustainable transformation to urban and rural spaces. Government institutions, development partners, the private sector, and communities become involved in designing and implementing solutions to local problems and bringing benefits in both partners.

Section 2 of the Municipal Systems Act (Act 32 Of 2000) defines a municipality as: "... consisting of the political structures and administration of the municipality; and; the community of the municipality." For municipalities to operate effectively, it is therefore important to engage with communities on an on-going basis with the aim of building sustainable, mutually beneficial relationships and shared value.

7.1.1 PUBLIC PRIVATE PARTNERSHIPS (PPP)

National Treasury refers to PPPs as long-term contracts between the public and private sector; they ensure the delivery of well maintained, cost effective public infrastructure or service, by leveraging private sector expertise and transferring risk to the private sector.¹¹ In the municipal context, the Municipal Finance Management Act and its regulations (Act 56 of 2003) enables municipalities to use private and

¹¹ National Treasury, 2007

other public entities to either perform municipal functions for or on behalf of municipality or acquire the management or use of a municipal property.

The MFMA prescribes a process to be followed when such decisions are made and this is an option for the Makhado Local municipality in implementing this spatial development framework. In order to implement the objectives as outlined, the municipality will need to also consider the exploration of either public/public or public/private partnerships as indicated. Figure 5 illustrates the institutional elements for implementing the SDF:



Figure 5: Institutional Elements

7.1.2 KEY STAKEHOLDERS

- Government – National, Provincial, and Vhembe District.
- Traditional Leaders - Traditional authorities allocate land in Trust land areas. They also have a following which cannot be ignored. In fact, as stated in Section 5.3, Makhado municipality cannot afford to leave them out in its own structures and methods of communication. They are a vital cog in the implementation process

- Business – They are investors in the SDF. They have the funding to make the plan realizable. Their omission could be courting disaster;
- Non-Governmental Organization (NGO's). They have the expertise and experience on an array of sectoral development. They have the muscle to organize funding from donors who may not fund governments.
- Development Agencies – Also crucial in the SDF. They have skills, the funding and capacity building and experience in implementing poverty reduction orientated projects. They have skills in planning, community participation, funding, monitoring and evaluation to mention but a few.
- Community Based Organization (CBOs)– There are broadly two types of them: those created by law such as ward committees and non-statutory ones like civic association, clubs, “stokvels” farmers association, and others. They are foot soldiers whose participation can have an effect on the success or failure of the SDF;
- Communities themselves – They are the beneficiaries of the plan. They will be the main focus when it comes to implementation.

7.2 Capital Investment Framework

The Tables below reflect the capital expenditure framework for the Makhado local municipality.

Table 21: Road Infrastructure Projects

Projects	MTREF Allocations		
	2020/21	2021/22	2022/23
	(Rands)	(Rands)	(Rands)
Mingard Bridge & Access road to Mhokota Entrance			900 000
Luvhalani to Dzananwa Access Road		900 000	900 000
Makatu to Tshikota Access Road		900 000	8 000 000
Rivoni to Xihobyeni Access road	15 119 909.37	11 337 980	10 000 000
Four ways stop paving of road at Baobab street 250m x 8m	1 000 000		

Rehabilitation of Vlei street 700m x 7m by 80mm interlocking paving bricks		1 500 000	
Rehabilitation of Kruger street 300m x 7m	1 000 000		
Rehabilitation of Djunane street at Waterval Township for proper design	800 000	1 000 000	1 200 000
Rehabilitation of Joe Slovo street at Vliefontein proper design		1 500 000	
Waterval Clinic road to Waterval ring road for proper design	800 000		
Waterval crèche Ring Road		10 000 000	
Stormwater Infrastructure and resurfacing of roads within Makhado Municipality	6 000 000	7 000 000	8 000 000
Rehabilitation of Dzanani Streets (Biaba)	10 000 000		

Table 22: Community Facilities Projects

Projects	MTREF Allocations		
	2020/21	2021/22	2022/23
	(Rands)	(Rands)	(Rands)
Development of Dzanani Park	500 000	1 000 000	
Development of Waterval Park			500,000
Waterval Sports Facility Phase 3	21 993 982		
Kutama / Sinthumule Sports Facility	18 000 000	8 000 000	22 700 000
Tshivhuyuni Sports Facility	1 000 000		
Refurbishment of Vleifontein Stadium ablutions and fencing	2 500 000		

Table 23: Water Provision Projects

Projects	MTREF Allocations		
	2020/21	2021/22	2022/23
	(Rands)	(Rands)	(Rands)
Borehole Mutsha community and Tank	150 000		
Drilling of borehole at Muduluni Community Hall		500 000	

Table 24: Electrification Projects

Projects	INEP Allocations		
	2020/21	2021/22	2022/23
	(Rands)	(Rands)	(Rands)
Muananzhele Phase3 (Kanana)	8 428 000		
Muananzhele Phase-3 15km MV line	4 500 000		
Buysdorp	3 712 000		
Mulenga & Tshirolwe		774 000	

Dzananwa		360 000	
Tsianda		360 000	
Dzivhalanombe Themba		1 800 000	
Grace Park		1 440 000	
Mawoni		1 980 000	
Tshutuni tsha Hamanyadza/Makongoza/Mapakophele		1 890 000	
Woyoza		900 000	
Mabobo		612 000	
Magulule		450 000	
Vari		306 000	
Mpheni		522 000	
Mulima		1 350 000	
Shilobweni		288 000	
Riverplaas		450 000	
Magangeni Shisalela		810 000	
Mpofu		3 204 000	
Shilumani			12 762 000
Matanda			720 000
Rabali			450 000
Tshituni tsha Mulelu			540 000
Mashau Bodwe			2 340 000

7.3 Monitoring and Review

The SDF is not a static document. It is crucial to collect and maintain accurate development related information on spatial development changes with time and necessitate the relevant review process. The monitoring of the SDF is proposed to be guided by the following:

- Implementation schedule. Adherence to the implementation schedule in respect of time frames, financial requirements for each time segment (period), attainment of objectives, etc.;
- Consistency with national, provincial and sectorial development goals. Adherence to the national and provincial as stipulated either in the constitution or relevant pieces of legislation;
- Cohesiveness. Attention to the linkages between the priority areas in the SDF, and specific actions within each area to ensure that there is consistency;

- Stakeholder performance. Performance of the various actors in relation to fulfilling their mandate, executing their roles and responsibilities and effectiveness of their plans and activities, i.e., delivering services and attaining the stated goals and objectives.