UMGUNGUNDLOVU DISTRICT ONE PLAN 2022 – 2052

DISTRICT DEVELOPMENT MODEL

[Step 1 – 5 Diagnostic Study, Trend & Scenario Analysis, Desired Future, Strategy Formulation, Output and Implementation]

uMGUNGUNDLOVU
UMASIPALA WESIFUNDA
DISTRICT MUNICIPALITY
DISTRIK MUNISIPALITEIT

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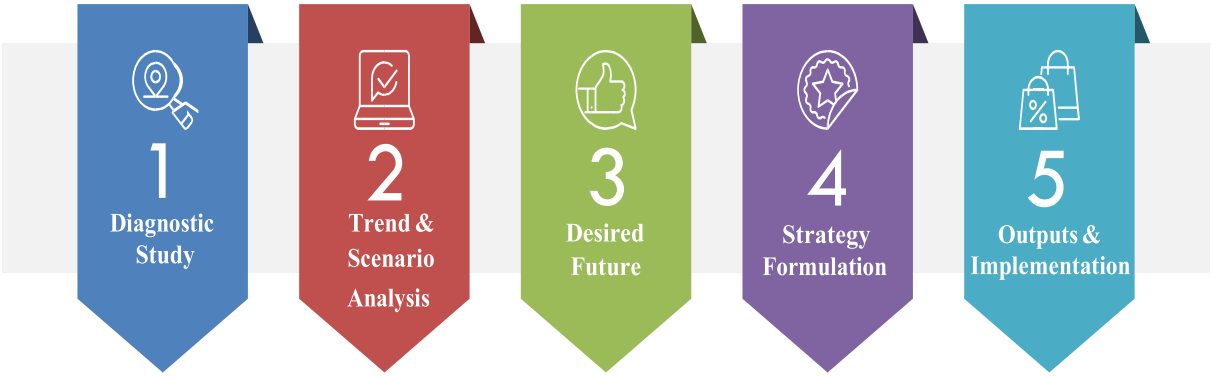
ACRONYMS

AU63	:	African Union Agenda 2063
BWSS	:	Bulk Water Scheme System
CBA	:	Critical Biodiversity Areas
COGTA	:	Department of Co-operative Government and Traditional Affairs
DALRRD	:	Department of Agriculture, Land Reform and Rural Development
DDM	:	District Development Model
ESTA	:	Extension of Security of Tenure Act No. 62 of 1997
GDP	:	Gross Domestic Product
HOD	:	Head of Department
HH	:	Household
ICT	:	Information, Communication and Technology
IDP	:	Integrated Development Plan
IGR	:	Intergovernmental Relations
IUCN	:	International Union for Conservation of Nature
IUDF	:	Integrated Urban Development Framework
KZN	:	KwaZulu-Natal
LGMSA	:	Local Government Municipal Systems Act
LM	:	Local Municipality
LUMF	:	Land Use Management Framework
LUMS	:	Land Use Management System
LRAD	:	Land Redistribution and Agriculture Development
LUS	:	Land Use Scheme
MDG	:	Millennium Development Goals
MEC	:	Member of Executive Council
N3	:	National Route 3
NADP	:	National Airport Development Plan
NDP	:	National Development Plan
NEMBA	:	National Environmental Management Biodiversity Act No. 10 of 1998
NBR	:	National Building Regulations
OSS	:	Operation Sukuma Sakhe
RSA	:	Republic of South Africa
SANRAL	:	South African National Road Agency
SDF	:	Spatial Development Framework
SDG	:	Sustainable Development Goals
SEDAC	:	Socio Economic Data Application Centre
SLAG	:	Settlement Land Acquisition Grant
SPLAG	:	Settlement and Production Land Acquisition Grant
SPLUMA	:	Spatial Planning and Land Use Management Act
STATTSA	:	Statistics South Africa
UDP WHS	:	Ukhahlamba Drakensberg Park World Heritage Site
UMDM	:	UMgungundlovu District Municipality
WTP	:	Water Treatment Plant
WWTP	:	Wastewater Treatment Plant

1. INTRODUCTION

UMgungundlovu District Municipality (UMDM) has initiated a process to undertake a development of a District Development Model (DDM) or a "One Plan" within its municipal area of jurisdiction. This document presents a situational analysis report. Steps 1 – 5 are to be covered in this document, as outlined, and illustrated in the figure below:

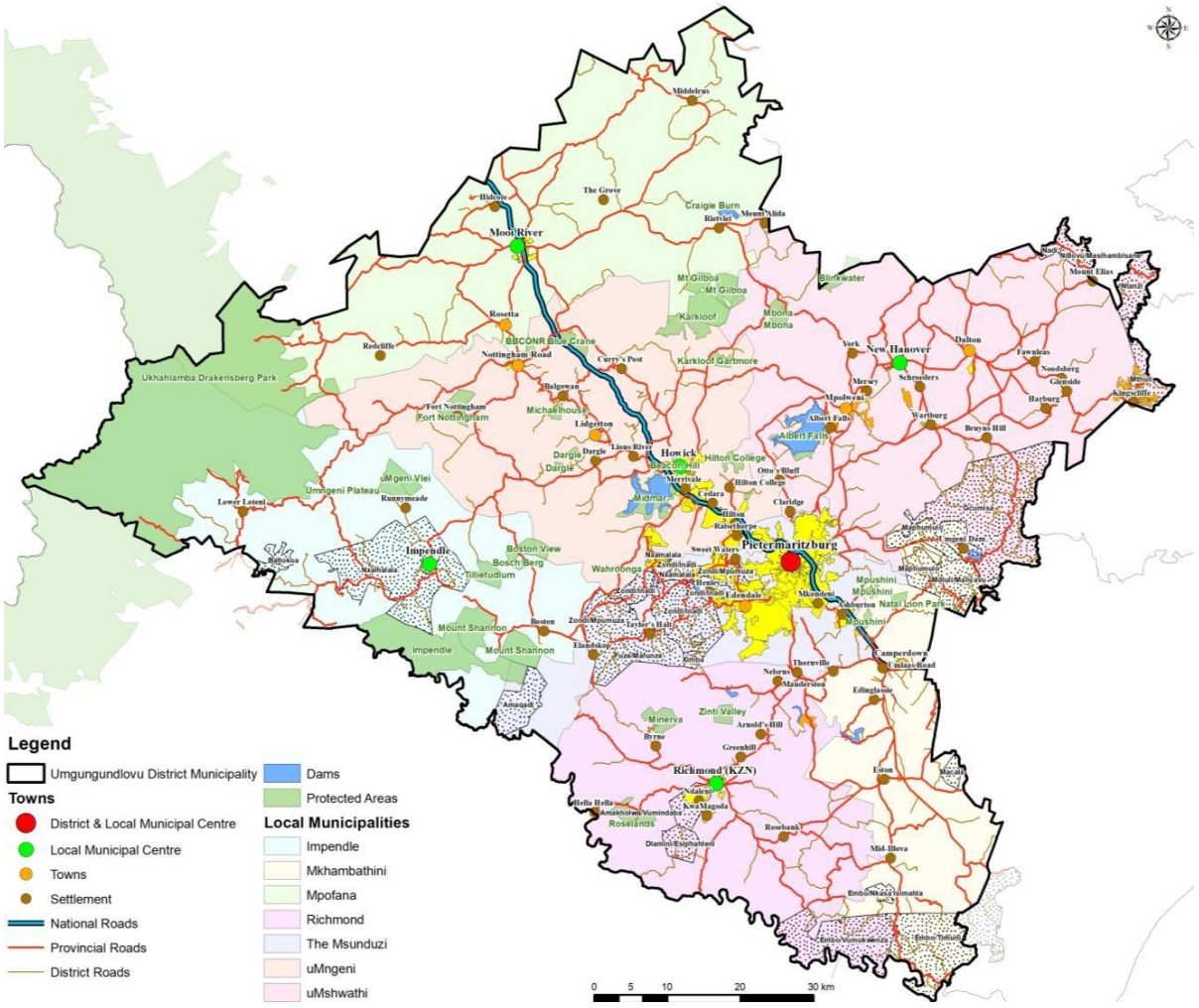


Map 1: UMDM within KZN

UMDM (DC22) is one of the 10 Districts that are located in KwaZulu-Natal (KZN), approximately 80 kilometres west of the City of Durban and central to the KZN Midlands. The district area is bisected by the N3 which is a major transport/ mobility route and serves as a link between KZN and Gauteng. The area is bordered by iLembe District Municipality to the north-east; the eThekwini Metropolitan to the south-east; Harry Gwala District Municipality to the south-west; and the uThukela District to the north. UMDM consist of seven local municipalities, namely: Msunduzi, Impendle, uMshwathi, Mkhambathini, Mpofana, uMngeni, and Richmond Local Municipality as shown below. The district is very rich in terms of tourism and has some of the best schools in the province.

The notion of a DDM was initiated by President Cyril Ramaphosa in his Budget Speech in 2019. The DDM is an operational model for improving Cooperative Governance aimed at building a capable, ethical Developmental State. It embodies an approach by which the three spheres of government and state entities work in unison in an impact-oriented way, and where there is higher performance and accountability for coherent service delivery and development outcomes. The DDM One Plan is a 25-to-30-year strategic plan that transcends the planning period of at least five IDP planning cycles and is anchored on the development of a 'One Plan' for the region spatially depicted below.

Map 2: Local Municipalities within UMDM



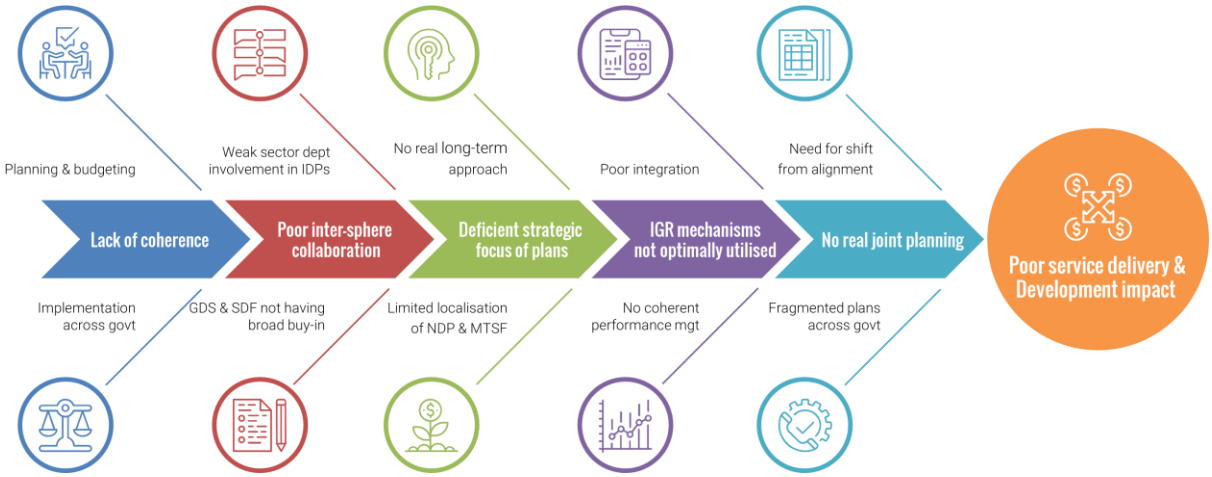
The objectives of the District Development Model are to:

- Coordinate a government response to challenges of poverty, unemployment and inequality particularly amongst women, youth and people living with disabilities.
- Ensure inclusivity by gender budgeting based on the needs and aspirations of our people and communities at a local level.
- Narrow the distance between people and government by strengthening the coordination role and capacities at the District and City levels.
- Foster a practical intergovernmental relations mechanism to plan, budget and implement jointly in order to provide a coherent government for the people in the Republic; (solve silo's, duplication and fragmentation) maximise impact and align plans and resources at our disposal through the development of "One District, One Plan and One Budget".
- Build government capacity to support to municipalities.
- Strengthen monitoring and evaluation at district and local levels.
- Implement a balanced approach towards development between urban and rural areas.
- Exercise oversight over budgets and projects in an accountable and transparent manner.

In addition, the formulation of the DDM One Plan does not only presents an opportunity to align the districts' plans with the PGDS, but also to align the shorter municipal 5year IDPs with a long-term vision for the development of the district as one integrated plan. As adequately depicted in figure below, the reasoning behind the introduction of the DDM One Plan was the evidence of misalignment, poor long-

term planning, and poor communication. Misalignment between the different spheres of government and their intentions; planning for the same space but with different mandates in mind and therefore striving for different outcomes. And this has ultimately led to having achieved extremely less than expected, or basically going in circles.

Figure 1: Problems the DDM is trying to solve

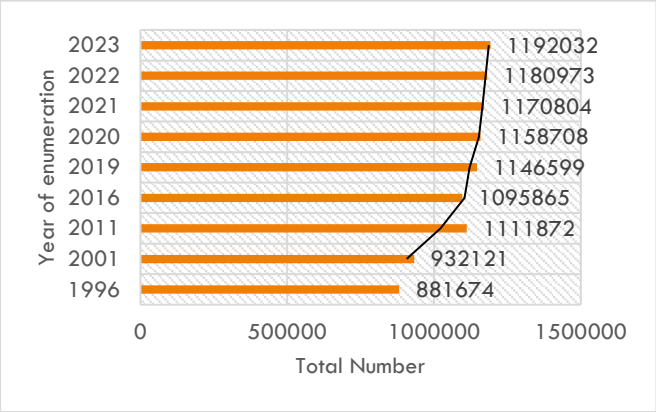


The primary role of UDM DDM One Plan is the incorporated process by which joint and collaborative planning is undertaken at local and within the regional space by all spheres of governance resulting in a single strategically focussed One Plan for all geographic spaces in the uMgungundlovu region, as the district will be seen as the vehicle for implementation. Moreover, another important role of this DDM One Plan is that it will be used to identify key areas and priority issues within the District Family of uMgungundlovu that require interventions over the next 30-years. This will further guide how funding should be allocated or granted by National and Provincial spheres of government as well as the form of future investments. Furthermore, the DDM One Plan is noted as a visionary and transformative plan and is set to address the following interrelated DDM key transformation focus areas:

2. DEMOGRAPHIC ANALYSIS

2.1 POPULATION DYNAMICS

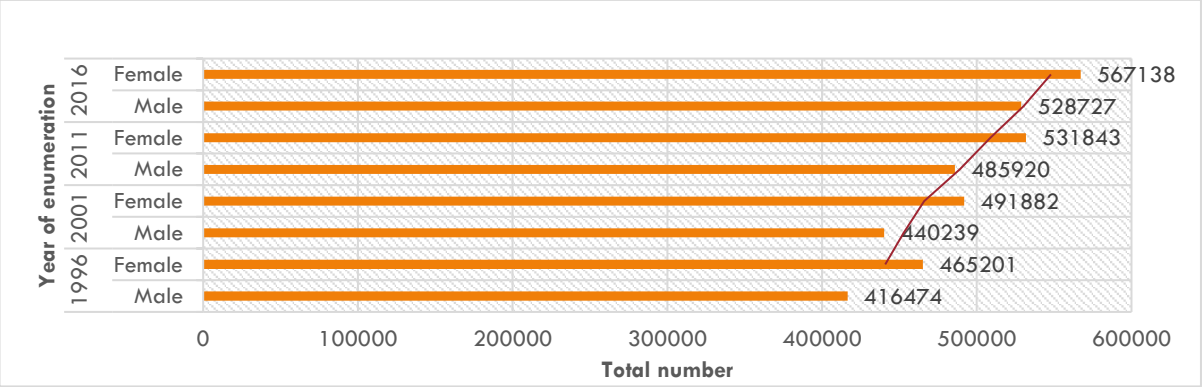
Figure 2: Population size



In terms of demographics, data is expressed in the figures below. In addition, IsiZulu is the most spoken language at home in uMgungundlovu. Over 98% of the population is born in SA. According to CS2016, there are 114.4 people per square kilometre and there are 298 463 households therein the study area. 7.5% households are still informal dwellings (shacks). 46.5% households with women as their head and 1 620 Households with heads under 18 years old. R29 400 is the average annual household income. 70.1% (209 195) households are fully owned or being paid off. 49.5% (312 926) completed Matric or higher. 36.5% (244 906) is employed.

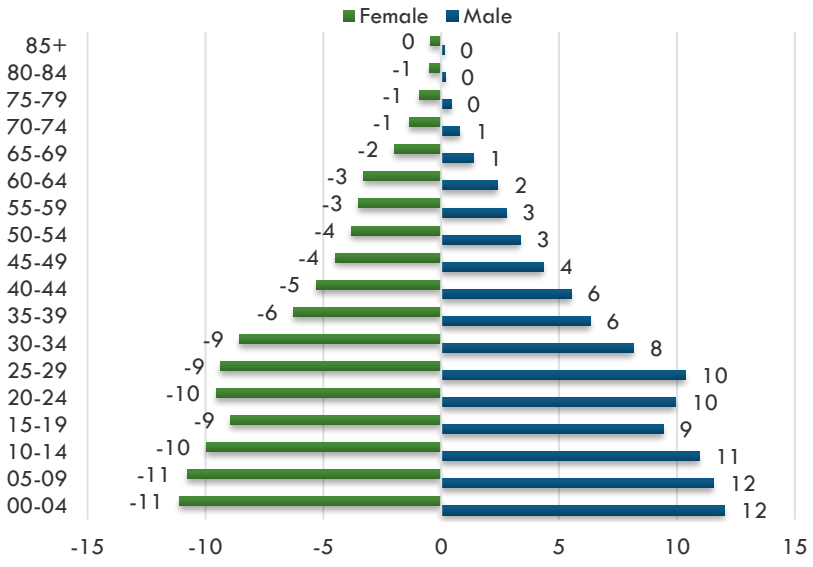
Source: Statistics SA Projections (2018)

Figure 3: Sex Ratio



Source: Statistics SA – Census 2011 and Community Survey 2016

Figure 4: Population pyramid



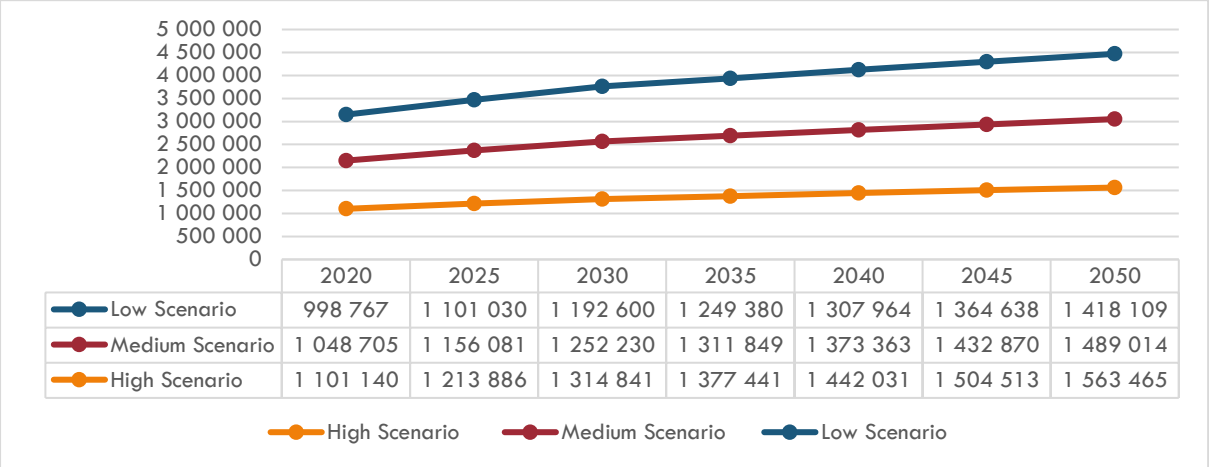
Source: Statistics SA – Community Survey 2016

From the 1996 enumeration to the recent projected 2023 population, uMgungundlovu has displayed a positive population growth. This will affect UMDM by an increase in demand for access to basic services deliverables, such as water, electricity etc. More people also mean an increased demand for food, water, housing, energy, healthcare, transportation, and more. Additionally, it is evident that sex ration indicates that life expectancy for women is greater. Gender inequality is one important root cause of children's poor development in the early years, hence consideration at all levels in the decision-making process for children and women is crucial.

2.2 POPULATION DISTRIBUTION AND PROJECTED GROWTH

UMDM SDF (2022) adopted the methodology developed by Coetzee (2021) to generate population estimates at a granular level using various world population grids and the United Nations population projections. This made it is possible to generate population projections for the district up to 2050. Considering the current population, the most likely growth scenario is the medium growth estimates, which predicts that the population will reach just over 1.25 million in 2030 and 1.48 million in 2050.

Figure 5: Population growth scenarios



	2020	2025	2030	2035	2040	2045	2050
Low Scenario	998 767	1 101 030	1 192 600	1 249 380	1 307 964	1 364 638	1 418 109
Medium Scenario	1 048 705	1 156 081	1 252 230	1 311 849	1 373 363	1 432 870	1 489 014
High Scenario	1 101 140	1 213 886	1 314 841	1 377 441	1 442 031	1 504 513	1 563 465

Source: uMgungundlovu SDF (2022)

UMgungundlovu SDF (2022) further indicates that, the application of the growth scenarios per local municipality indicated in the table below illustrate that not all the local municipalities therein will experience population growth, and a negative impact of such includes a rise in the dependency ratio which would increase the economic pressure on the workforce.

Table 1: Population Growth Scenarios per Local Municipality

Year	Impendle	Mkhambathini	Mpofana	Richmond	Msunduzi	uMngeni	uMshwathi
2020	30 899	63 375	37 134	64 462	646 223	107 463	99 149
2025	32 163	68 824	39 654	69 042	717 492	125 810	103 097
2030	32 811	73 439	41 585	72 629	782 606	144 105	105 054
2035	32 283	75 791	42 155	73 864	825 480	159 046	103 229
2040	31 641	78 165	42 678	75 036	869 976	174 835	101 031
2045	30 797	80 340	43 032	75 932	913 621	190 973	98 175
2050	29 736	82 246	43 189	76 496	955 510	207 221	94 617

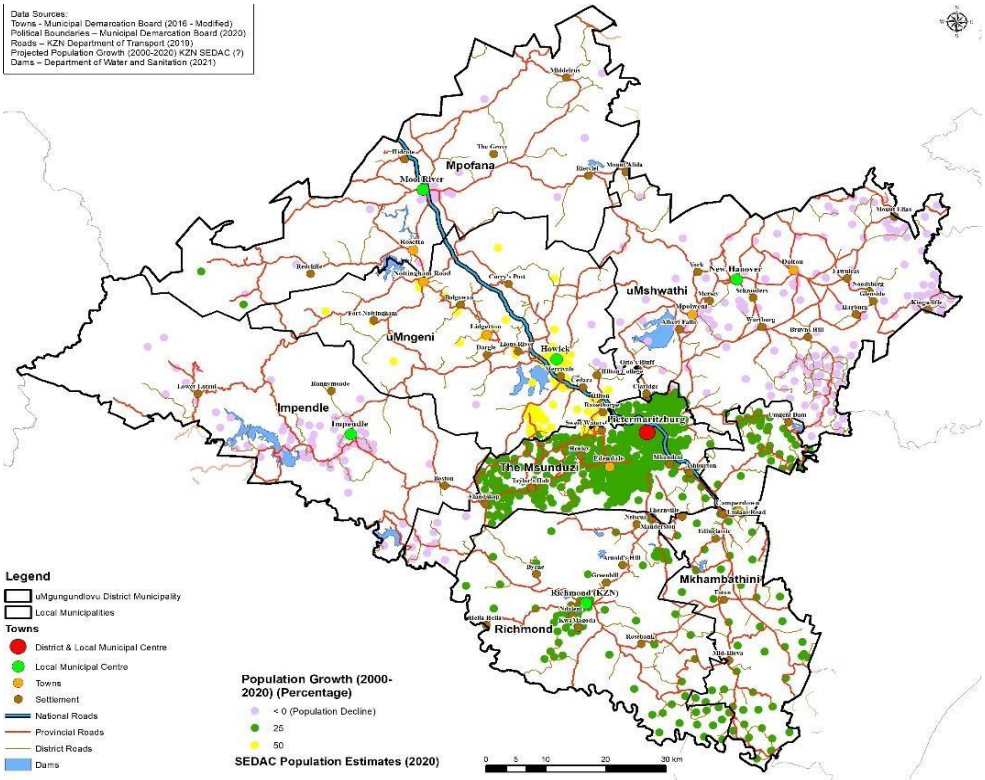
Evident from these growth projections are that municipalities like Impendle and uMshwathi is expected to decline in population numbers in the next 30 years. Population growth trends and change is depicted in the maps on the overleaf (map 3 and 4). These maps are based on data from the Socioeconomic Data and Applications Centre (SEDAC[1]), which indicates broad areas where the population has declined between 2000 and 2020, as well as areas where population increased at various standardised levels.

A noticeable trend is the decline in several rural localities over this period. These include rural areas in Impendle, as well as uMshwathi and Mkhambathini. However, the population increased between 25-

[1] SEDAC, the Socioeconomic Data and Applications Centre, is one of the Distributed Active Archive Centers (DAACs) in the Earth Observing System Data and Information System (EOSDIS) of the U.S. National Aeronautics and Space Administration. Focusing on human interactions in the environment, SEDAC has as its mission to develop and operate applications that support the integration of socioeconomic and earth science data and to serve as an "Information Gateway" between earth sciences and social sciences.

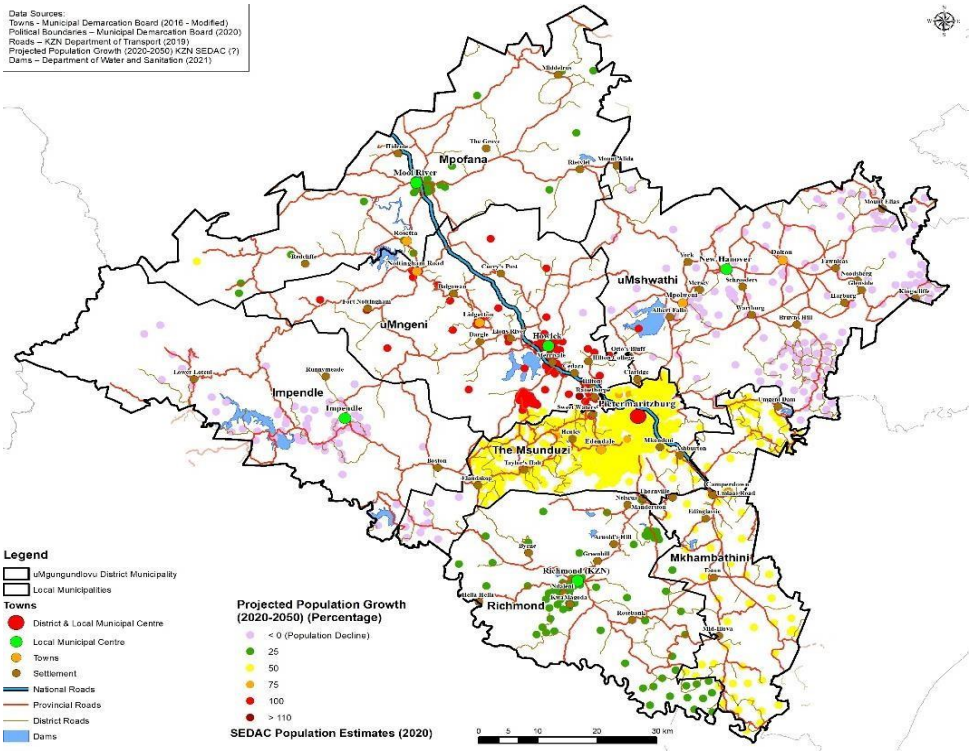
50% (yellow) in areas along the N3, especially in the Hilton and Howick areas. This trend is expected to continue between 2020-2050 based on population projections.

Map 3: Population Growth Trends (2000-2020)



Source: UMgungundlovu SDF (2022)

Map 4: Projected Population Growth Trends (2020-2050)



Source: UMgungundlovu SDF (2022)

2.3 URBANISATION AND POPULATION OUT-MIGRATION

Figure 6: Main reason for moving to the current place

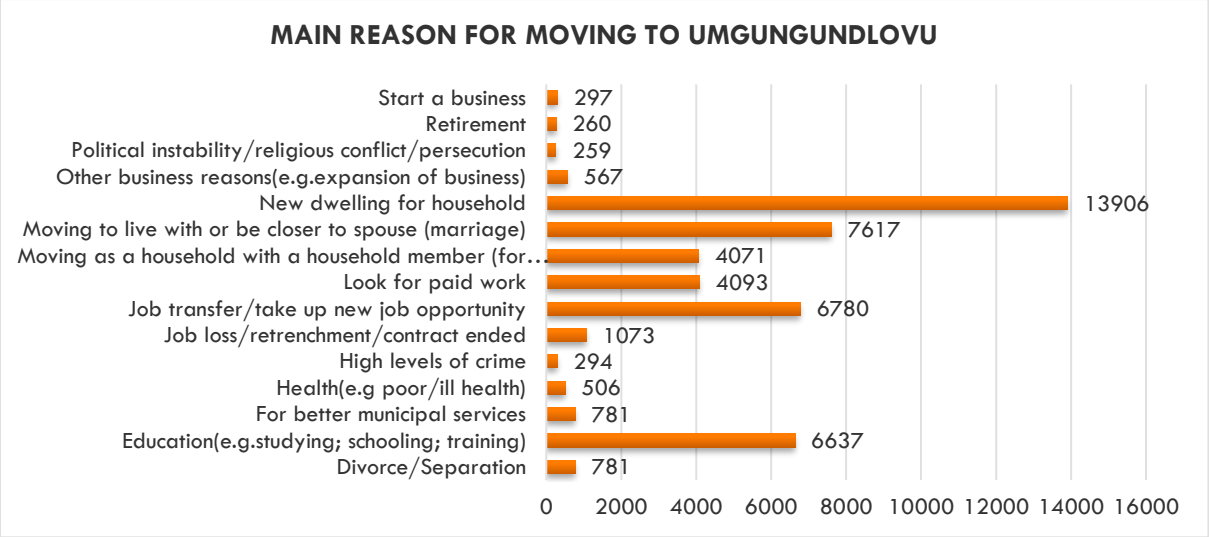


Figure 8: Province of birth

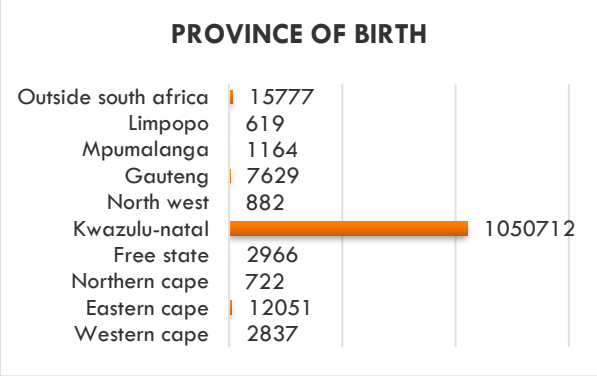


Figure 7: Province of previous residence

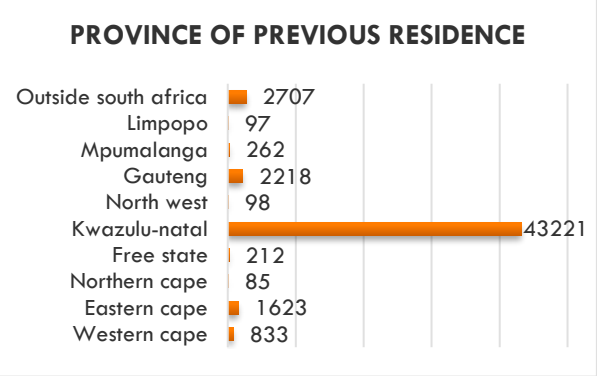


Figure 9: Year moved to current place

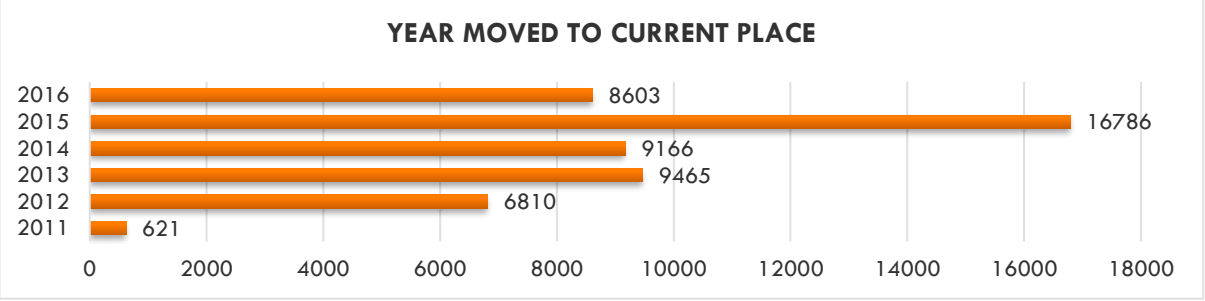
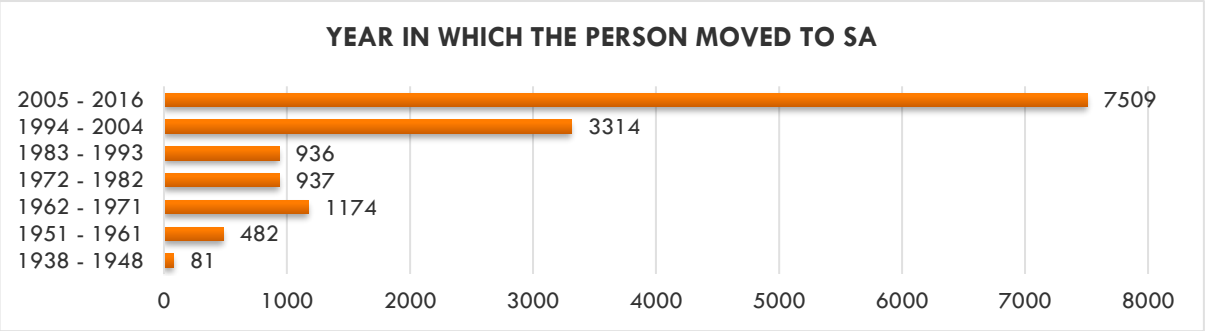


Figure 10: Year person moved into South Africa



Source: Statistics South Africa – Community Survey 2016

2.4 PEOPLE LIVING WITH DISABILITIES

2.4.1 TYPE OF DISABILITIES

Table 2: General health and functioning

Difficulty Type	No difficulty	Some difficulty	A lot of difficulty	Cannot do at all	Do not know	Unspecified	Not applicable
Communicating	952674	12014	2994	816	152	739	126476
Hearing	938839	24355	4806	597	146	645	126476
Remembering	927312	31248	8826	955	303	744	126476
Seeing	890402	65087	12672	416	167	645	126476
Walking	914950	36075	14667	2793	237	665	126476
Self-care	942128	18916	5248	2231	206	660	126476

Source: Statistics South Africa – Community Survey 2016

The following implications can be drawn:

- uMgungundlovu Municipality must consider developing inclusive environments which provide easy accessibility and accommodates differences in the way people use the built environment.
- People with disabilities are young, old, women, men, and of every race and ethnicity. uMgungundlovu Municipality must be aware of the fact that most prevalent disability within the municipality is difficulty in self-care, therefore proposed strategies must be in considerate of such.
- Important projects that are designed must make sure that when the municipality is being strategically for development, they are inclusive and accessible to the disabled. Not having enough people with disabilities involved in the planning of cities is a problem. Having more people with disabilities involved helps planners think about the different types of exclusions and barriers that people face in their everyday lives.
- People with disabilities face discrimination, if housing, transport, education, employment, health services, and information technology are not accessible. Therefore, UMDM must provide universal access and friendly buildings alleviate this discrimination.
- Disabled persons must be provided with houses close to everyday destinations e.g., shops, schools, and workplaces and public spaces and facilities that are safe and accessible to users of all ages and abilities e.g., libraries and sports centres. The existing amenities must Improve health and safety for at-risk population e.g., children and older people.

2.4.2 ASSISTIVE DEVICES FOR DISABLED PERSONS

An assistive device is any device that helps persons with disability to do something that they are unable to do without assistance, thus giving that person more independents. Assistive devices are not only equipment like wheelchairs, hoists, humps and adjustable beds, but also smaller items such as, lap trays, adapted eating utensils, hand braces, over bed tables & wheelchair gloves which can assist you with daily tasks such as writing, eating & drinking. These smaller assistive devices are used on a daily basis and can also be known as "accessories". According to StatsSA: Community Survey 2016, the above-mentioned disabilities (refer to 2.4) or rather difficulties which were surveyed also assess if, for an instance, a person(s) with difficulty seeing do actually use glasses/any other aid or not. The relevant Department for this sector's main objective, through this segment of the survey, is to provide population and household statistics at municipal level to government and the private sector, to support planning and decision-making. The table below (see table 3) will illustrate the number of persons using eyeglasses, hearing aids and etc. Other devices that the population of uMgungundlovu municipality could be of proponent for include assistive computer gadgets, cleaning robots, personal emergency systems, stair climbing power chair, smart watches and more, in order to uplift the socio-health well-being of its citizens.

Table 3: Existing assistive device usage for disabled persons within uMgungundlovu

UMGUNGUNDLOVU MUNICIPALITY: 2016 COMMUNITY SURVEY						
	Yes	No	Do not know	Unspecified	Not applicable	Total
Use eyeglasses/spectacles/contact lenses	83562	884707	415	704	126476	89 969
Use a hearing aid	5455	962636	519	779	126476	89 969
Use a walking stick; walking frame or crutches	15515	952838	320	716	126476	89 969
Use a wheelchair	3699	964384	549	757	126476	89 969
Use any other assistive device/aid	2274	966029	412	672	126476	89 969

Source: Statistics South Africa – Community Survey 2016

Based on table 3 below, implications for uMgungundlovu are as follows:

- The planned and, if deemed necessary, the existing facilities, such as the health and educational, within uMgungundlovu must align the usage of assistive devices of disabled people with resources to those who have difficulties as per type of disability.
- The municipality must consider programs or strategies that will attempt to provide more assistive devices which have been enlisted in the table above.
- The municipality must ensure that there are significantly improved information networks to raise awareness of the situation of disabled people and of appropriate solutions for change management in a sense that the number of people that have some difficulties in a certain disability must have access to assistive devices.
- The community development or corporate services unit of the municipality should have a database of all mentally disabled people that can be shared with Department of Social Development and other relevant non-governmental organisations.

2.5 CRIME

Figure 12: Safety during the day

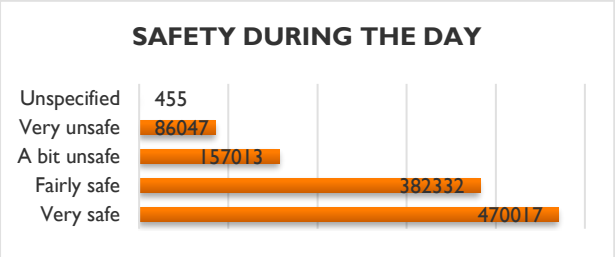
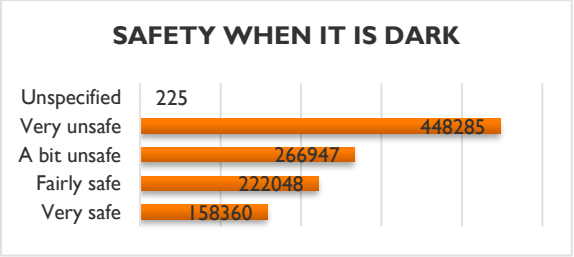
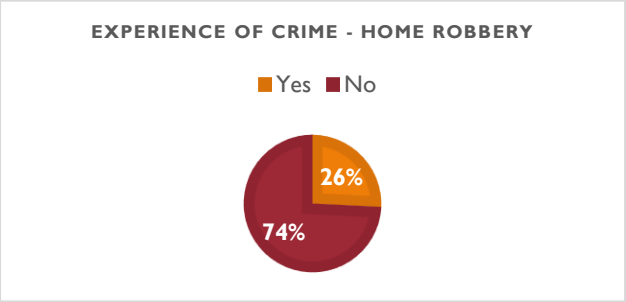
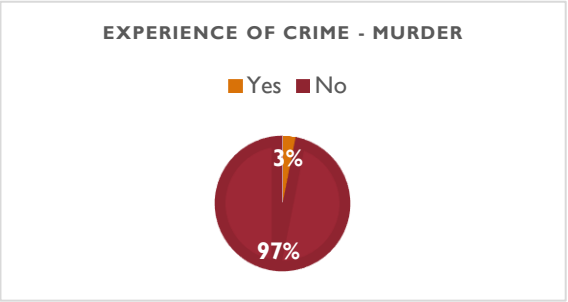
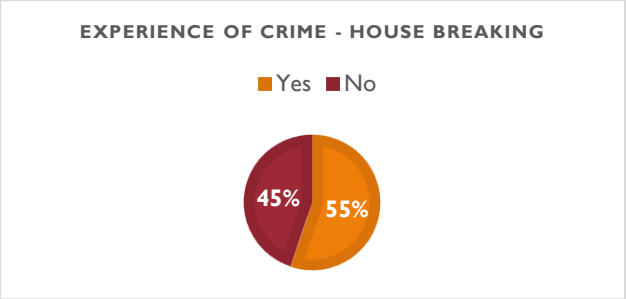


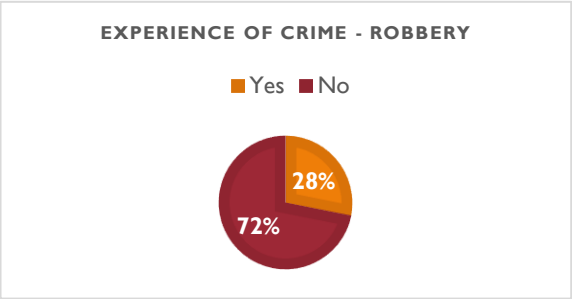
Figure 11: Safety during the night

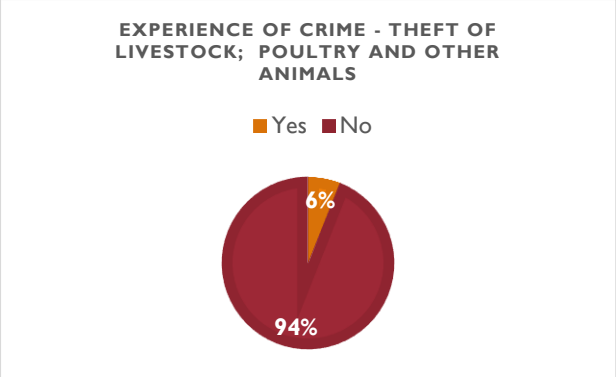


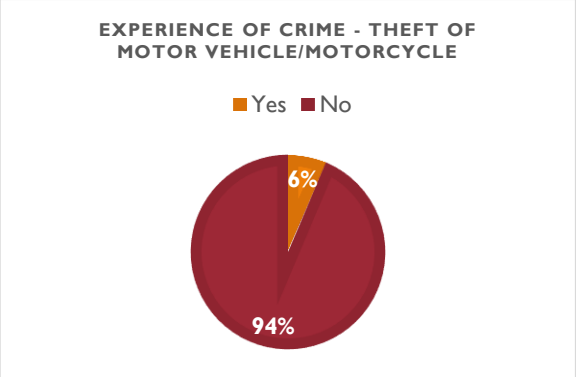












Source: Statistics South Africa – Community Survey 2016

2.6 KEY ISSUES

The key issues can be summarized as follows:

- UMDM has a growing population which implies that it is an attractive area to live, work and raise a family in;
- Such population growth also implies that the area must keep up with the demand for additional basic services, such as water, electricity etc. More people also mean an increased demand for food, water, housing, energy, healthcare and transportation;
- The later aspect of this demand also translates to the increase amount of waste that will be generated in future as well as the demand for cemetery space;
- Urbanisation is expected to continue unabatedly around the City of Pietermaritzburg which will requires a stronger focus on the upgrade of the existing infrastructure to cope with the population influx and organic growth. Land for future housing and economic opportunities will also need to be identified and prioritized on the local SDFs to avoid 'leapfrog' developments and the degeneration of the area with further growth of 'slums' settlements;
- There is also huge growth of peri-urban settlements which is positioned along the main roads in traditional council (ITB) land that is in close proximity to the urban areas. Essentially, some of the middle-income earners are choosing to migrate from the main urban settlements to the peri-urban settlements that are under communal/ ITB land. It is assumed that this choice is essentially driven by the benefits such as being in close proximity to urban opportunities while having the benefits of the rural lifestyle (e.g. not having to pay for property rates);
- The average household income reflects that the majority of the population are indigents as they earn less than R3500 per household per month;
- Approximately 70% of the households are fully paid or owned, this is a positive aspect for security of tenure;
- Almost 50% of the population have completed Grade 12 and some have higher tertiary qualifications which is also positive in terms of skills development or upskilling opportunities;
- There are people living with various forms of disabilities within UMDM as such universal access to services will be very important. This includes parking bay allocation, user friendly public buildings and transport infrastructure; and
- Crime is in existence with approximately 55% of the households that reported that they have been victims to house breaking.

2.7 SUMMARY OF CHALLENGES

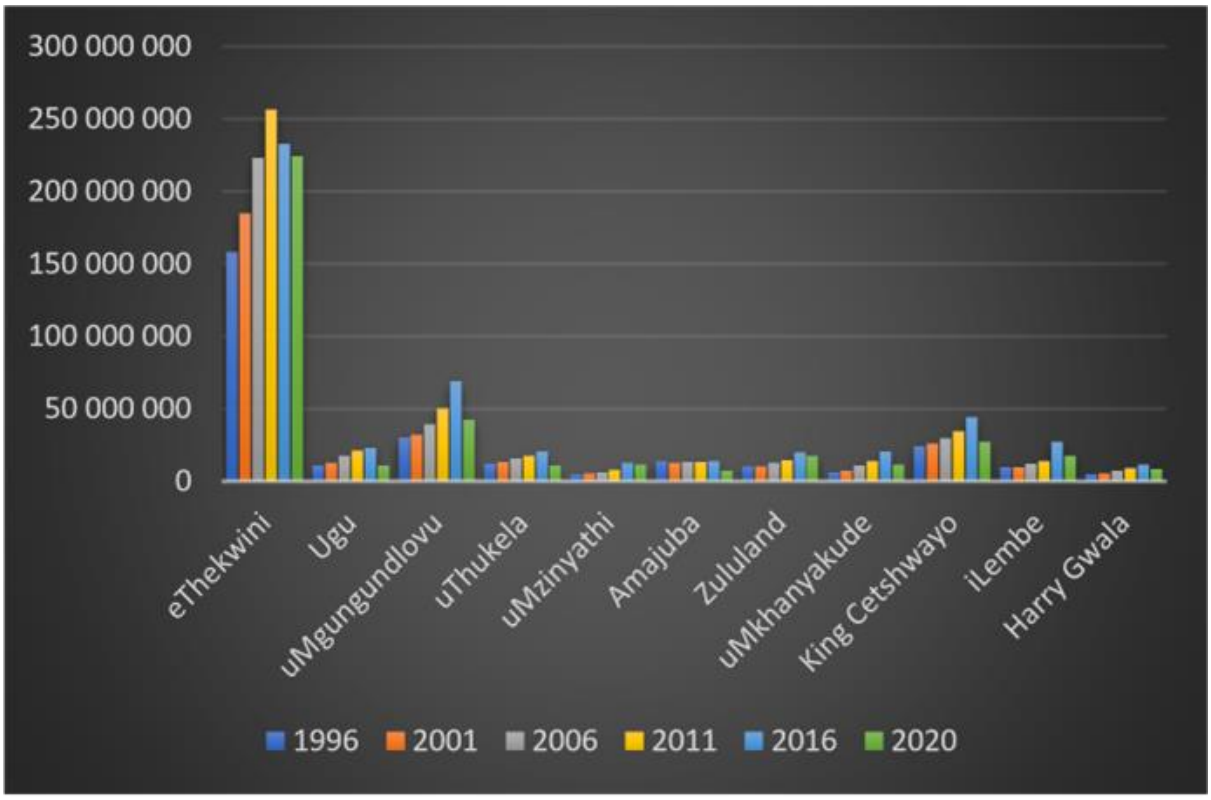
UMgungundlovu accounts for the second largest population within KwaZulu-Natal, following eThekwini. The district accounts for 10% of the total KZN population. As indicated, since the UMDM is projected to hold a positive population growth, more people mean an increased demand for food, water, housing, energy, healthcare, transportation, and more. And all that consumption contributes to ecological degradation, increased conflicts over social inclusivity, and a higher risk of large-scale disasters like

pandemics. Although, on the other hand, it is also arguable that population growth will lead to economic growth with more people able to produce more goods. It will lead to higher tax revenues which can be spent on public goods, such as health care and environmental projects. The obvious evaluation is to mention, the crucial thing is not GDP, but GDP per capita. Most people moved in the year 2015 for new dwelling for household. Furthermore, population growth is predicted majorly within the centre of the region, i.e. Pietermaritzburg, and decline in municipalities such as uMshwathi and Impendle. With regards to disability, difficulty in walking appeared to be most prevalent, and statistically is evident according to usage of a walking stick, walking frame or crutches. It is unsafe mostly during the night, and housebreaking is the prevalent crime experienced. In addition, according to NDP, the community of SA including all vulnerable groups such as women, children and rural communities should enjoy equal protection and their fear of crime should be eradicated through effective, coordinated responses of the police, business, community, and civil society.

3. ECONOMIC ANALYSIS

3.1 SIZE AND STRUCTURE OF THE ECONOMY

Figure 13: Gross Domestic Product by Region (GDP-R), Constant 2010 prices (R1000)



Source: Global Insight Regional Explorer 2020

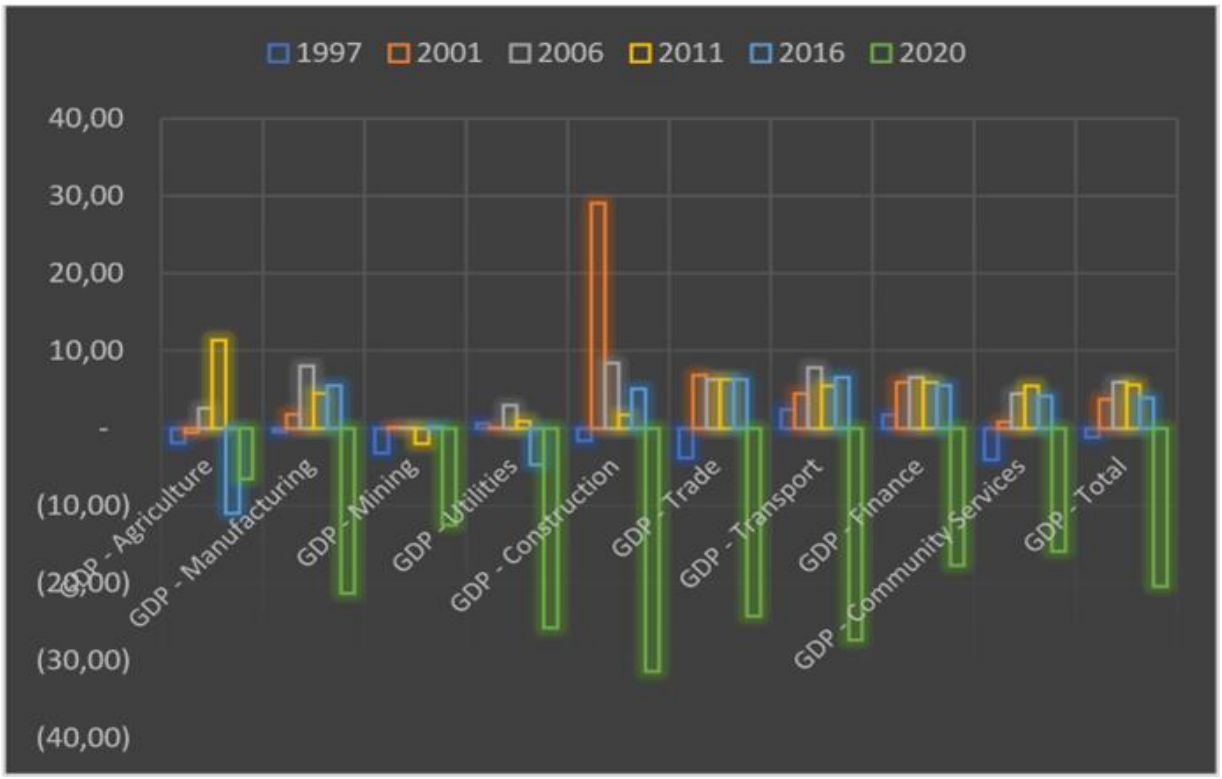
The GDP of UMgungundlovu District was estimated at R 77.1 billion in 2016 which was up from R 29.5 billion in 2006, however the past economic difficulties such as the 2020 Covid-19 period had a negative impact which saw the huge decline of the GDP as it is currently estimated at R 35 billion in 2020. The UMgungundlovu District Municipality contributed 11.11% to the KwaZulu-Natal Province GDP of R 694 billion in 2016 increasing in the share of the KwaZulu-Natal from 9.83% in 2006. UMgungundlovu District Municipality contributes 1.78% to the GDP of South Africa which had a total GDP of R 4.34 trillion in 2016 (as measured in nominal or current prices). It's contribution to the national economy stayed similar in importance from 2006 when it contributed 1.61% to South Africa. The dominance of the eThekwini Region is very evident at 58%. Second is the UMDM, followed by the King Cetshwayo District at 7%. UMDM District, on average, accounted for about 11% of the Provincial GDP, ranging between 9% and 14%.

3.2 SECTORIAL CONTRIBUTION

The GDP of the district is not equally distributed amongst the various economic sectors. Amongst others, the share of Manufacturing has stayed fairly constant over the period, whilst the share of Agriculture has decreased. On the other hand, the share of Finance has increased. In general, the structural economy has not changed much over the 24 years. In terms of structural growth, figure 14

below suggests that almost all sectors have experienced declining growth rates since 2017. The slowdown has started as far back as 2014 and has been accelerated thereafter by the Covid 19 health crises and lockdowns.

Figure 14: Structural Sector Growth



Source: uMgungundlovu SDF opportunities and challenges report 2021 (Adapted from Global Insight Regional Explorer 2020)

The tertiary sector is the main driver of the UMDM economy, with the main industries being community and personal services, followed by trade, accommodation, finance and business services, with lesser contributions from the transport, storage, communications and government services sectors. The secondary sector of the district economy consists predominantly of manufacturing activities, but also some utilities and construction activity (District Rural Development Plan, 2019). The primary sector constitutes 7% of the economy and predominantly comprises agriculture and forestry. The summary of these sectors can be listed as follows:

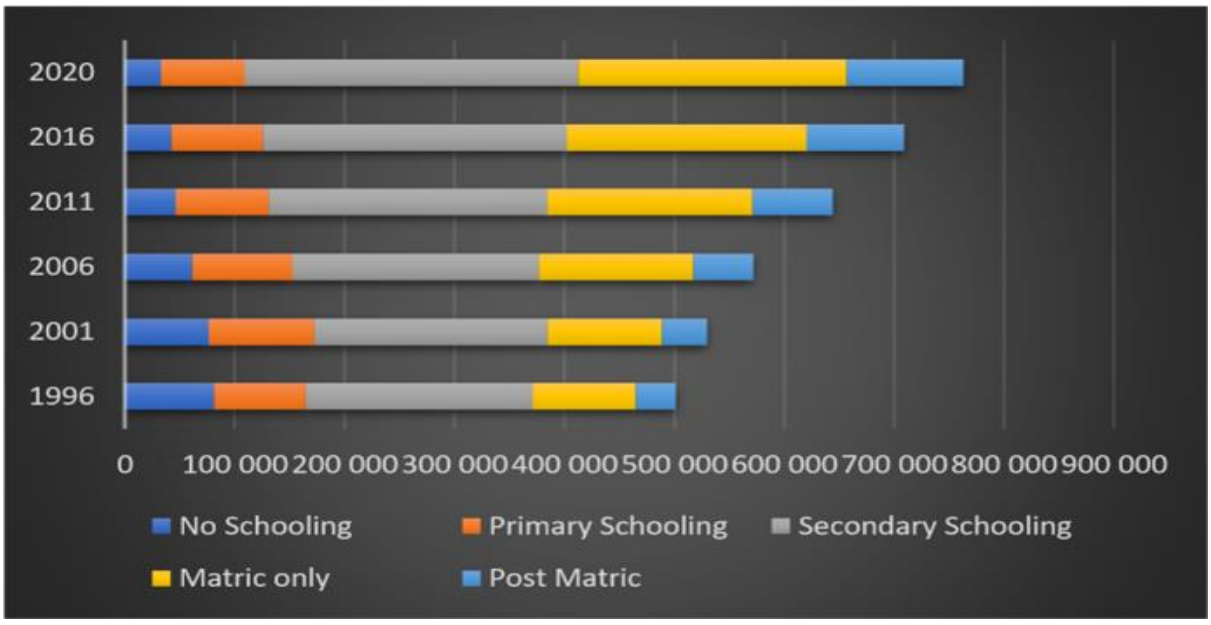
- Manufacturing: Most manufacturing enterprises are situated within the Msunduzi and uMngeni Municipalities, as well as Camperdown (Mkhambathini Municipality). Some manufacturing activities and businesses have chosen to situate in the Mkhambathini Municipality due to its proximity to eThekwini and Msunduzi, and relatively cheaper land and electricity costs. In Msunduzi, manufacturing activities include aluminium and steel processing, and manufacturing in the food and beverage industry. In uMngeni, most manufacturing takes place in Howick and focuses on agricultural products. Timber processing is important for the district and major firms in this industry comprise Sappi, NCT Forest and Mondi. Other notable industries include rubber, sawmills, pallet-making factories, as well as biodiesel and fuel replacement industries (District Rural Development Plan, 2019).
- Retail and Commercial: Pietermaritzburg, Howick, Mooi River, Camperdown and Richmond-Ndaleni have formalised retail and commercial industries, whilst areas such as Dalton, Impendle and Vulindlela have a mix of formal and informal retail activities. Pietermaritzburg, being a large second-order node within KZN, has a significant and varied

retail and government service offering, and as such has significant regional linkages with rural communities within the surrounding districts of Harry Gwala, Umzinyathi and uThukela.

- Tourism: UMDM has several major tourism attractions, most notably the Midlands Meander, the uKhahlamba-Drakensberg Park, and the uMkomazi River Valley. These attractions are well supported by historical and heritage sites; recreation facilities; accommodation facilities; and international sporting and outdoor events. Other supporting, but less significant routes include the Boston-Bulwer Beat and the Albert Falls Amble. The visual quality of the UMDM is a major contributor to the tourism value and this draws tourists to the area. Visual amenity should be protected. The real value of tourism is in the marketing of the many other opportunities offered by the UMDM, including quality of life, excellent education facilities, and major international and national sporting events (Comrades Marathon, the Midmar Mile, the Msunduzi Canoe Marathon, and the BMX Championship).
- Agriculture: UMgungundlovu is home to diverse agricultural activities, including crops such as maize, sugarcane, soyabeans avocadoes, citrus, potatoes, vegetables, peaches, berries, farming of cattle (dairy and beef) and goats, sheep, horse breeding, and timber plantations (Pine, wattle, and gum). There is opportunity for decentralised agro-processing in rural settlements, and opportunities exist to link rural nodes into the broader agro-processing supply chain and to include rural communities in dairy processing on dairy farms throughout the district (DRDLR, 2015). Maize, vegetable and beef farming have been identified by the Department of Rural Development as opportunities for development through their Agri-Parks programme (Department of Rural Development and Land Reform, 2016).

3.3 EDUCATION AND SKILLS

Figure 15: Educational Attainment



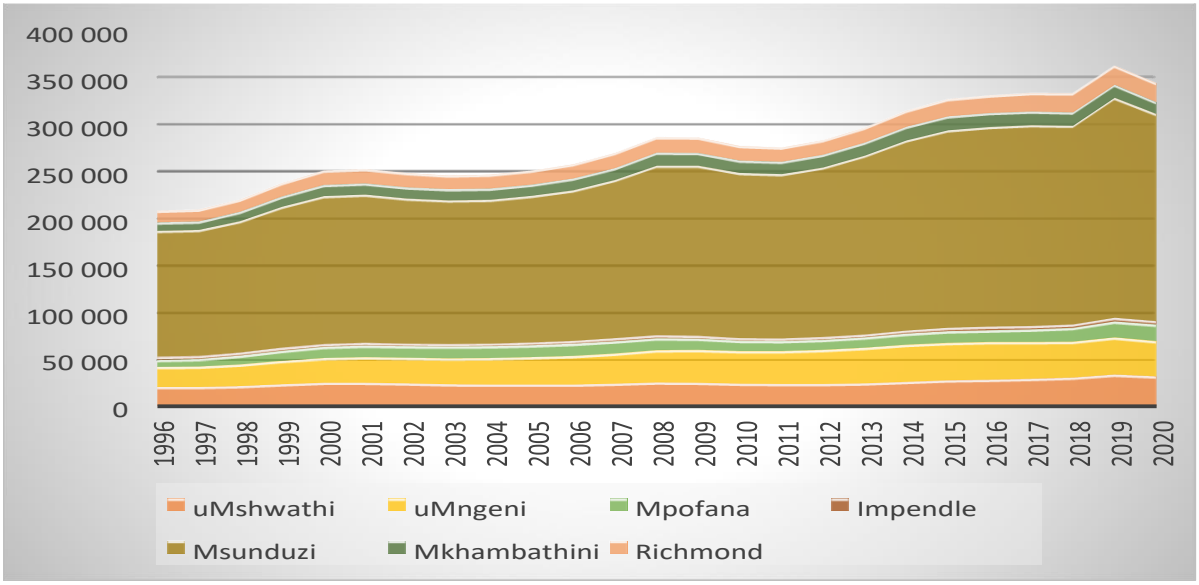
Source: uMgungundlovu SDF opportunities and challenges report 2021 (Adapted from Global Insight Regional Explorer 2020)

Education has many merits and therefore it is more relevant than most other factors in supporting human development and improved living standards. To this end, much progress has been made within UMgungundlovu District as evident in figure 15 above which shows the increase in number of residents with a Matric and/or Higher Qualifications since 1996. The number of people without any schooling decreased from 2006 to 2016 with an average annual rate of -3.44%, while the number of people within the 'matric only' category, increased from 137,000 to 208,000. The number of people with 'matric and a certificate/diploma' increased with an average annual rate of 2.01%, with the

number of people with a 'matric and a Bachelor's' degree increasing with an average annual rate of 8.87%. Overall improvement in the level of education is visible with an increase in the number of people with 'matric' or higher education.

3.4 EMPLOYMENT AND UNEMPLOYMENT

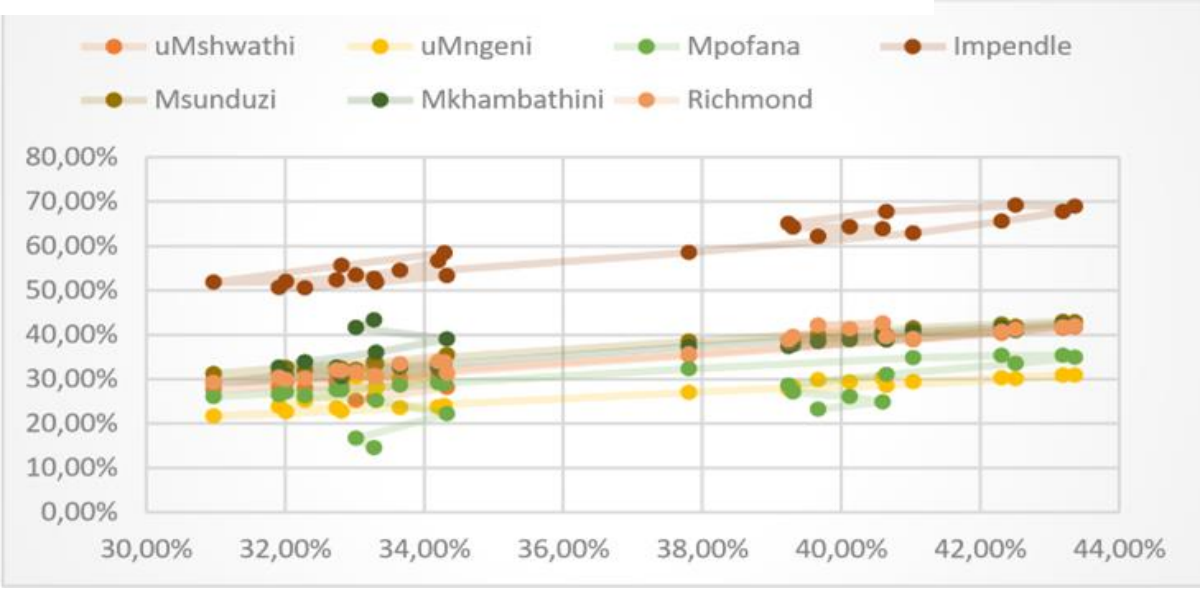
Figure 16: Number of People Employed



Source: uMgungundlovu SDF opportunities and challenges report 2021 (Adapted from Global Insight Regional Explorer 2020)

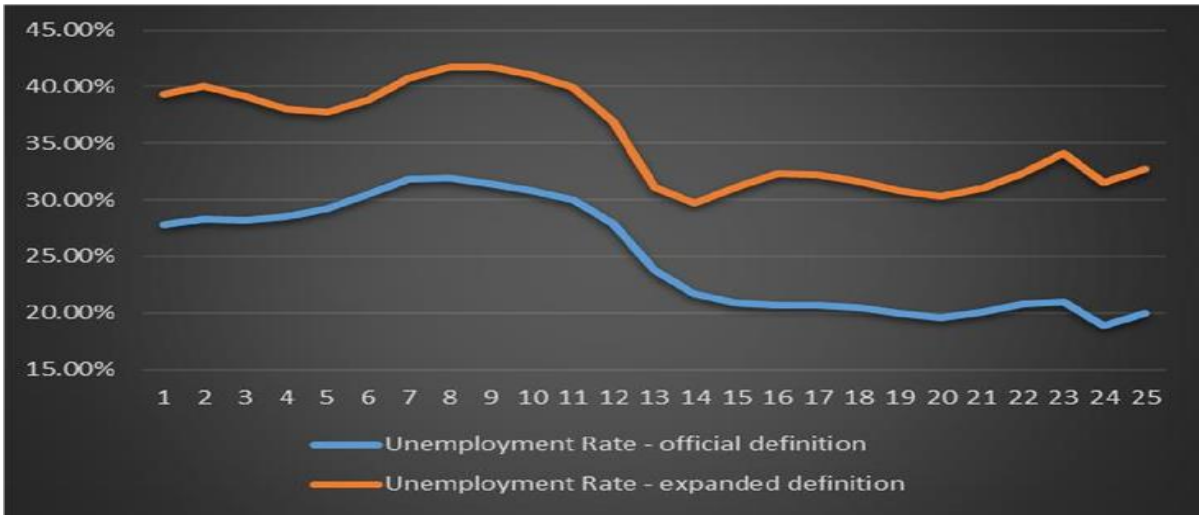
In terms of employment (figure 16), the below figure insinuates that it is only in Msunduzi and UMngeni where jobs have been created. As a result, these two regions experienced significant inward migration. Job creation in the other four municipalities has been stagnant for many years. In terms of the number of people unemployed (expanded definition), figure 17 suggests that Impendle had the highest number of unemployed people. UMngeni had the fewest. It also suggests that the number of unemployed persons in the district has increased from around 35% to 45% since 1996.

Figure 17: Number of People Employed (%)



Source: uMgungundlovu SDF opportunities and challenges report 2021 (Adapted from Global Insight Regional Explorer 2020)

Figure 18: Unemployed vs Discouraged



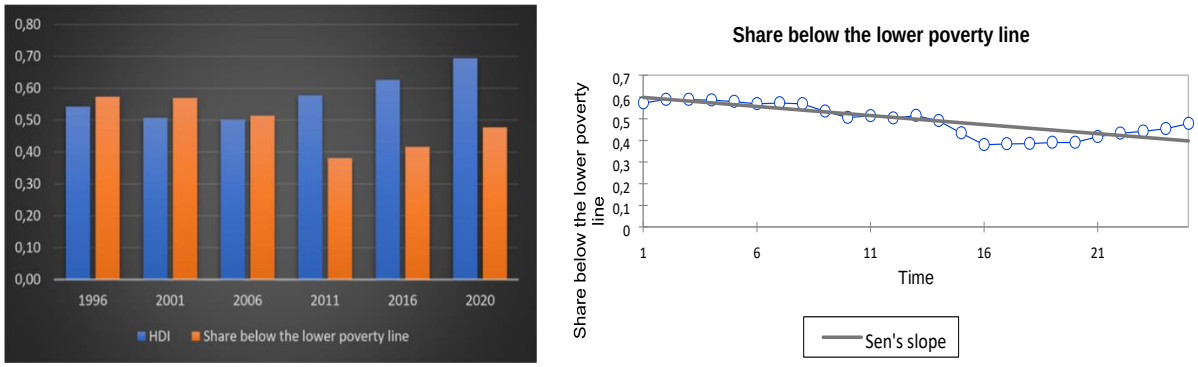
Source: uMgungundlovu SDF opportunities and challenges report 2021(Adapted from Global Insight Regional Explorer 2020)

What is serious is the fact that the difference (gap) between the unemployed and the discouraged workers are increasing (figure 18). This suggests that more and more people have given up on finding a formal job. Hopeless is the unfortunate consequence of this widening gap. The labour market dynamics as presented above can be summarized as follows:

- The labour market is in a bad space.
- Hopelessness has increased.
- Anticipated job opportunities in Msunduzi and uMngeni have created inward migration.
- Youth unemployment will morph into old unemployment.

3.5 POVERTY DISTRIBUTION AND INEQUALITY

Figure 19: HDI and Poverty Trends

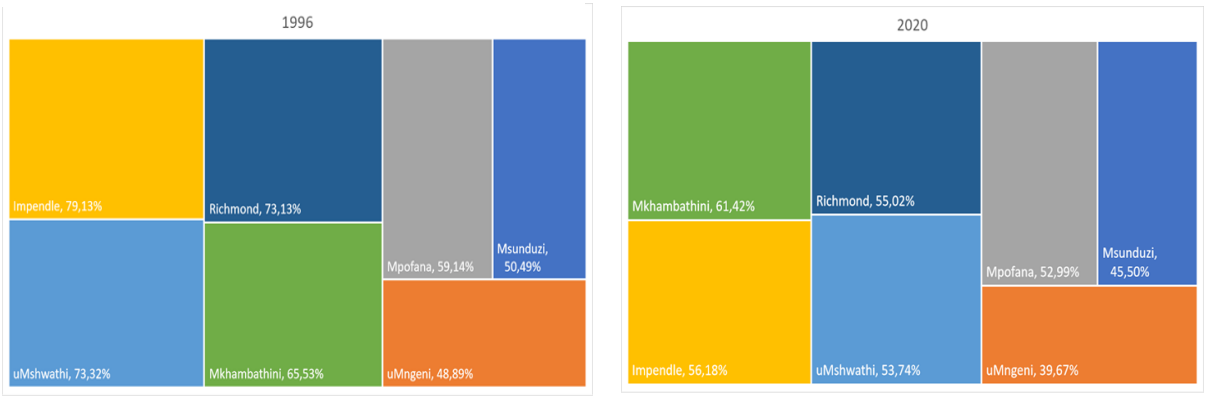


Source: uMgungundlovu SDF opportunities and challenges report 2021(Adapted from Global Insight Regional Explorer 2020)

The improved education profile of the district has, as stated, played a major role in improved human development within the district as highlighted in the below figure (figure 19). Also evident is a steady decrease in the number of people living below the lower poverty line. Testing the trend behaviour (long term behaviour), of the number of people below the lower poverty line yields the results as indicated in the and figure (figure 19). The results strongly suggest the rejecting of the null hypothesis, i.e. there is no trend in the series. The decrease in poverty over the past decade has not been temporary, but a more permanent change. In terms of the distribution of poverty within the district,

the following two hierarchy figure (figures 9 and 10) propose that poverty in relative terms (compared to the other municipalities) in Impendle has decreased, whilst it has increased in Mkhambathini. Poverty in UMshwathi has also comparatively decreased. Interestingly, the municipalities that experienced significant cuts in poverty are also the municipalities that experienced population decreases, i.e. outward migrations, suggesting that many thousands of people used migration as a means of getting out of poverty.

Figure 10: Poverty Hierarchy Charts, 2020



Source: uMgungundlovu SDF opportunities and challenges report 2021(Adapted from Global Insight Regional Explorer 2020)

With the past two years of adverse economic and health factors, it is possible to argue that the downward trend behaviour will resume once the current economic and health factors return to "normal". The Living Standards and Education Dynamics as presented above can be summarized as follows:

- Education levels have increased dramatically.
- In general Living Standards have improved.
- Absolute Poverty has decreased.
- Migration has been used to get out of Poverty.
- The reversal of poverty and living standard is only temporary and should return on its long-term trend behaviour.

3.6 KEY FINDINGS

The key findings can be summarized as follows:

- UMDM is the second largest economic powerhouse within KZN in terms of the Real GDP. It is also a notable economic hub in the country as such priority should be given for the area to innovate and keep the economic momentum going;
- The economic performance reflected a high level of vulnerability towards external economic disruptions such as Covid-19 pandemic, 2021 July Civil Unrest, April 2022 KZN Floods and Russia vs Ukraine War. While it may not be possible to develop an economy that is immune from externalities, there are aspect of resilience that can be explored and retrofitted towards economic sectors e.g. platforms economy;
- It is home to many strategic economic opportunities which includes Ukhahlamba Drakensberg World Heritage Site, Midland Meander, N3, Capital City, Events (e.g. Comrades Marathon, the Midmar Mile, the Msunduzi Canoe Marathon, and the BMX Championship), Large Industries (Aluminium, Timber and Food Processing), Pristine Farming Areas (Mpofana, Richmond, UMshwathi and UMngeni), Retail City Centre (Pietermaritzburg), Elite Schools (i.e. Hilton College) and Higher Learning Institutions (e.g. UKZN and DUT);

- There is potential to explore and build compact relationships with the local institutions of higher learning since these have a lot of research abilities. These can assist UMDM to develop creative strategies from their research and development (what is new out there that can assist). UMDM need these institutions as thinkers and the institutions need UMDM to test their ideas. This can build knowledge economy and innovative ways of creating jobs and creative delivery of services;
- The labour market findings reflect that unemployment is the worst in Impendle LM, employment is the highest in UMngeni LM. The unemployment has worsened due to the poor economic performance;
- Education levels have increased dramatically, in general Living Standards have improved and absolute poverty has decreased. However, unemployment, joblessness, poverty and inequality may have gotten worse due to the poor economic performance;
- The highest concentration of people in poverty lives within rural areas, especially in settlements within Traditional Authority areas. Other poverty pockets coincide with rural settlements across the district landscape with the highest concentration being located in the Mpofana Municipality;
- Although the District's overall unemployment rate is 1% less than that of the province, the Impendle Municipality has a very high unemployment rate of 37%;
- Economic potential and development has not been adequately explored in peripheral and traditional areas using indigenous knowledge and local practices – e.g. brick making, sourcing and utilising inkwali (tar materials), extraction and processing of umcako, ibomvu, ubumba etc;
- It is also noted that alternative and creative methods of economic development have not been adequately explored – using waste treatment centres etc; and
- Municipalities should be gathering information about what low-income people are already doing within their areas to earn a living and then provider additional resources for actions that work.

3.7 SUMMARY OF CHALLENGES

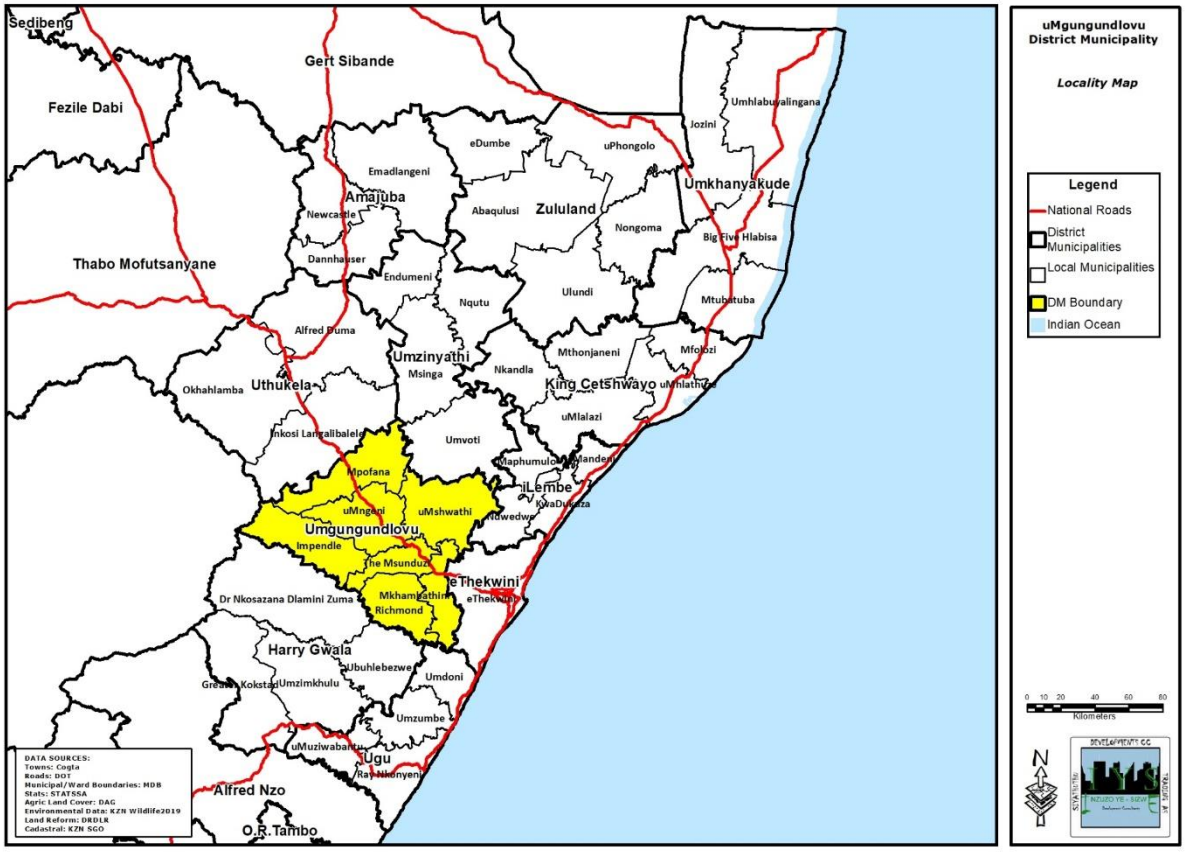
The economic challenges can be listed as follows:

- Impact of Covid-19 pandemic, Civil Unrest, KZN Floods, Russia vs Ukraine War had a devastating impact on the economy;
- Rising cost of living which is unaffordable for the poorest of the poor and low-income earners;
- Unemployment, joblessness, poverty, inequality is on an all-time high as the labour market is struggling;
- The country's economy is facing an unprecedented scenario with load shedding not only impacting food security and mobile networks, but business sectors and industries at large. This challenge is a huge threat to the economic growth in UMgungundlovu District Municipality.
- The Loss of productive commercial agricultural land to residential development is another challenge faced by UMgungundlovu District. If allowed to continue on the current trend it would negatively impact on the contribution of agriculture to the provincial economy and job creation. It would also negatively impact on opportunities for transformation in the agricultural sector.
- Land reform also has a negative impact in the agricultural sector of UMgungundlovu District. A large portion of the district is subject to various land reform programmes including labour tenant applications, land restitution and redistribution claims. While this

will transfer productive assets to the rural poor, it may also have an effect of reducing commercial agricultural land and create isolated settlements. Large tracts of land within the district are identified as irreplaceable, threatened, and primary agricultural land.

4. SPATIAL ANALYSIS

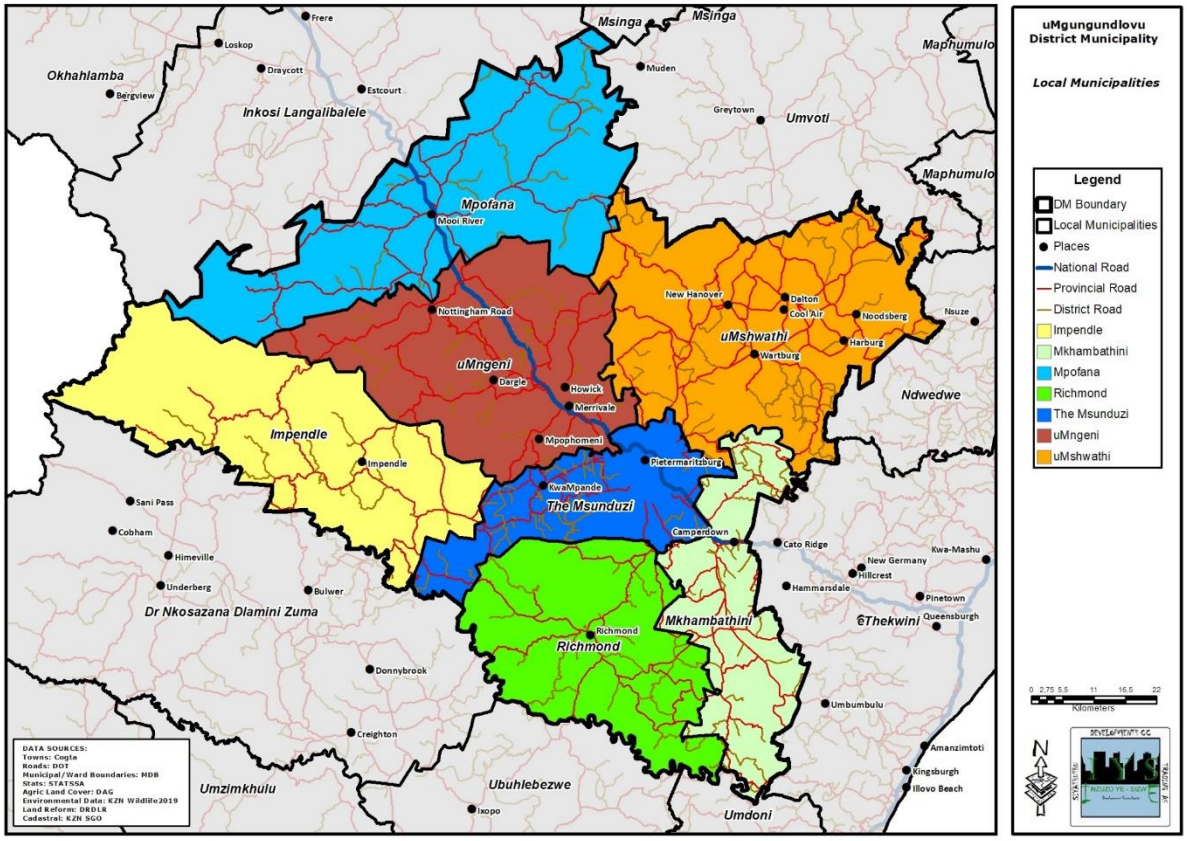
4.1 STRATEGIC LOCATION



UMgungundlovu District is one of the ten (10) district municipalities that make up the KwaZulu-Natal Province. It is located approximately 80 kilometres north-west EThekwini Metropolitan Municipality along the N3 national and provincial corridor. The district shares a boundary with eThekwini Metropolitan Municipality to the east; iLembe District to the north-east; uMzinyathi District to the north; Harry Gwala District to the south; and the uKhahlamba-Drakensberg World Heritage Site and uThukela District to the north-west, respectively. UMDM consists of seven (7) local municipalities, namely, Msunduzi, Impendle, UMshwathi, Mkhambathini, Mpofana, UMngeni and Richmond Local Municipalities. UMDM had a population of approximately 1 017 763 people (Census 2011), which increased to 1 095 865 in 2016. It covers approximately 9603 square kilometres and has a population density of around 110/km^2. The two maps below show UMDM within the KZN Province and the local municipalities found within the district municipality.

UMDM area of jurisdiction is diverse and made up of sub-areas each with unique attributes that combine in a systematic manner to establish the district as a distinct geographic functional region with Pietermaritzburg as the main economic and service hub. Other economic zones include the renowned Midlands Meander; areas with high agricultural production potential; expansive rural settlements; and several small towns that serve the

rural hinterland. The district occupies a strategic position and plays a critical role in the provincial economy. In addition to being the seat of the Provincial Cabinet and Parliament and the second contributor to the provincial economy after eThekwini, UMngeni River which supplies water to the industrial and logistics hub of eThekwini rises from and runs through the district in an east-west direction. A significant portion of the N3 industrial and logistics national corridor also runs through the district.



Development challenges facing the district include urbanization and the associated informal settlements; poverty; service backlogs; environmental degradation; economic stagnation; general lack of investment in the rural areas, particularly traditional council areas; land issues; and deteriorating infrastructure (bulk infrastructure) mainly in the urban centres.

4.2 REGIONAL SPACE ECONOMY

With regards to the regional space economy, the UMDM has to its advantage a couple of assets that contribute immensely to the economy of the region. These assets involve the following:

4.2.1 STRATEGIC ROUTES: N3, R103, R33 AND R56

There are certain strategic routes that have been identified within the UMDM which contribute immensely to the regional space economy of the district municipality, and it includes the following routes: N3, R103, R33 and R56. These routes play a role in global, national and regional connectivity.

4.2.2 PIETERMARITZBURG AIRPORT PREVIOUSLY KNOWN AS 'ORIBI AIRPORT'

Pietermaritzburg Airport also known as the 'Oribi Airport' has also been identified as a significant asset in the regional space economy. It is a small, but efficient airport that serves the whole area around Pietermaritzburg, including the Midlands and some of the outer areas on the west of Durban. This airport has been identified as a crucial asset in the regional space economy and remains a catalytic development playing a role in the Pietermaritzburg to Pinetown Industrial and Logistics Hub Economic Region. The distance from the airport to Pietermaritzburg is 6km and takes around 13 minutes via Oribi Road and 15 minutes via the R103. It's a small airport that only handles domestic flights and is the hub for 'SA Airlink'. In 2013, the terminal building and tarmac were both revamped. This airport was one of the few that could open for domestic travel during 2020 when others remained closed due to travel restrictions as a result of Covid. It offers flights to and from Johannesburg's international airport on the following airlines: Airlink and South African Express. The luxury private line, Federal Air, and other private charter jets also make use of this airport in Pietermaritzburg. There are facilities that allow for safe landing at night, an aero-club on the air field, and parachuting facilities. The increased direct access to the area from the N3 should increase the land value and demand from a business and commercial point of view.

4.2.3 UKHAHLAMBA WORLD HERITAGE SITE

UKhahlamba Drakensberg Park (UDP) World Heritage Site (WHS) is a form of Protected Area (PA) in the UMDM has been identified as a crucial asset in the regional space economy. It is the only UNESCO Mixed Heritage site in SA making it an international tourism destination as it attracts tourists from all parts of the world. It has been recognised as an essential asset that could continue to contribute immensely to the economy of the region.

4.2.4 PRISTINE AGRICULTURAL LAND

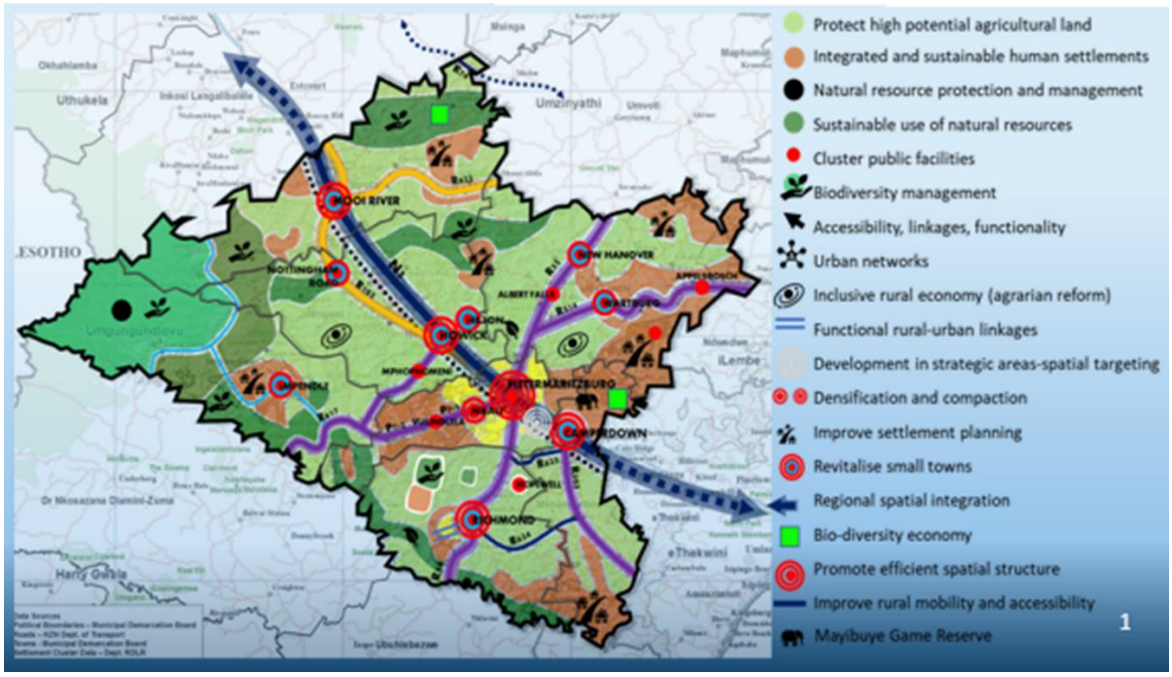
The protection of pristine agricultural land within the UMDM as an important asset that has a pivotal role in the building of the regional space economy as large tracts of land are under SALA. Given this reality, agriculture must remain a huge part of resource considerations. The Midlands area is renowned for its high agricultural potential and high value outputs, which accounts for its competitive advantage both provincially and nationally. This means that land with high agricultural potential should be preserved and fully utilised to promote food security and to improve the regional economy. Moreover, these pristine agricultural lands within UMDM have the potential to indorse agro-processing in the region. The agricultural produce from the high agricultural potential land can provide markets for domestic consumption.

4.2.5 ECONOMIC ACTIVITY PRESSURE POINTS/ SPATIAL ECONOMIC CONTRIBUTION

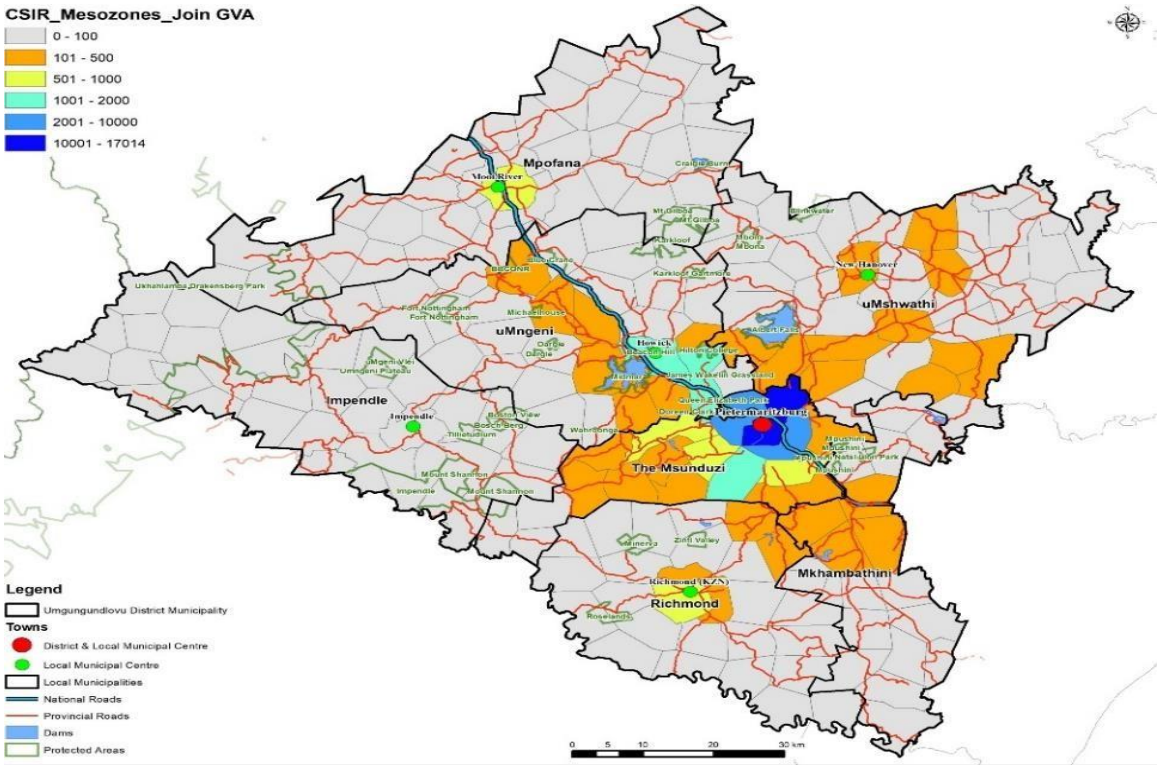
There are certain identified economic activity pressure points which contribute to the regional space economy of the district municipality. The municipal areas that have the highest exports in terms of percentage contribution of exports in KZN include eThekwini, King Cetshwayo and UMgungundlovu. The two figures below illustrate the assets in the UMDM

and economic activity pressure points or spatial concentration of economic contribution in the district. It is evident that the highest contribution to the economy of the district (combined contribution of economic sectors), is in and around Msunduzi and surrounds. Msunduzi LM seems to be centrally positioned within the district municipality and remains strategic in terms of international, domestic and regional markets.

Map 5: Assets in the UMDM



Map 6: Concentration of Spatial Economic Contribution

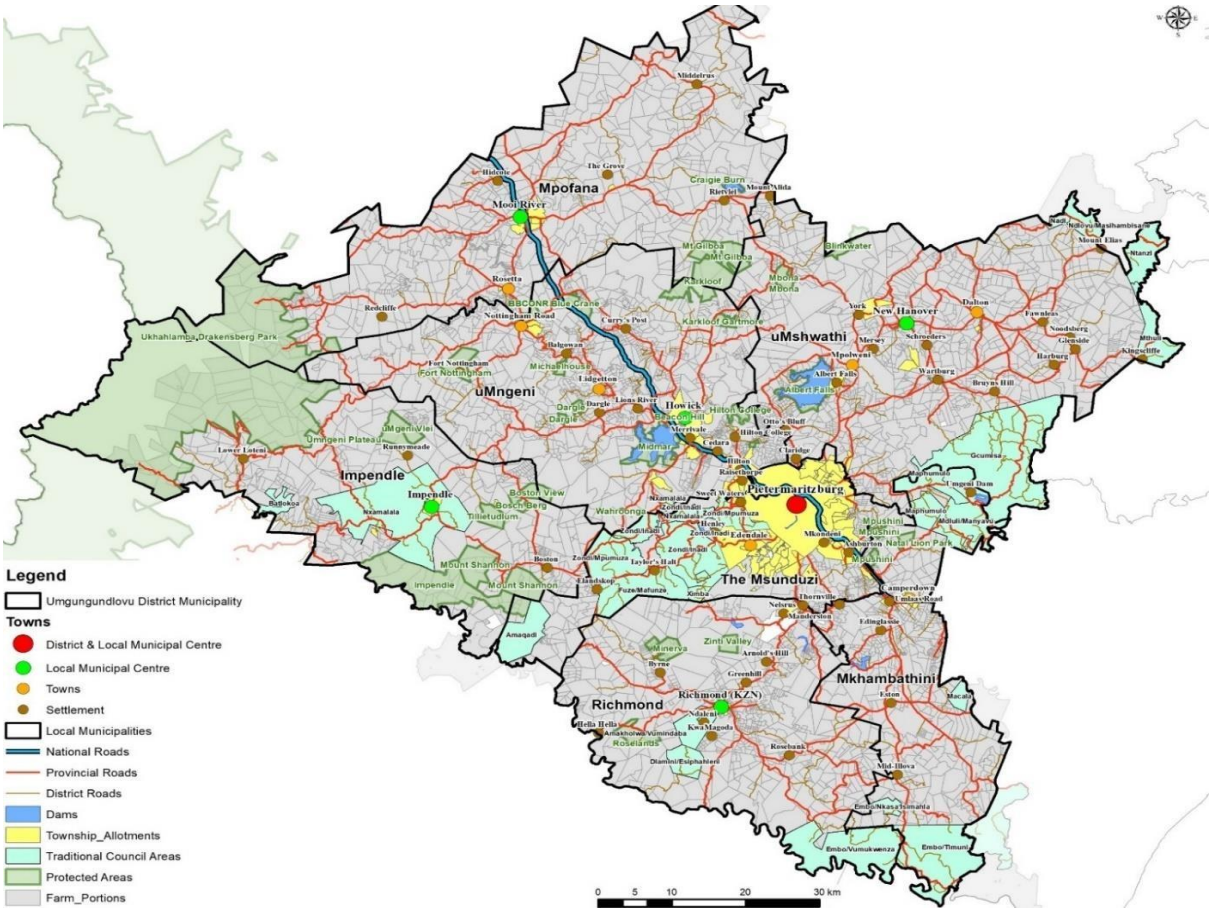


Source: SDF (2022)

4.2.6 PROTECTED AREAS

Protected Areas in the UMDM are recognised important to the regional space economy of the district municipality. The UMDM is home to a number of formally Protected Areas (PAs) and other conservation areas which remain a crucial asset in the regional space economy while supporting important biodiversity and ecosystems assets.

4.3 SPATIAL STRUCTURE AND FORM



Spatial structuring elements that influence the current settlement pattern and typology of the district includes natural environment features such as mountain areas, water bodies (dams and rivers), high bio-diversity areas, protected areas, and high potential agricultural land, as well as built environment structuring elements, such as settlements, roads, and railway lines. Msunduzi municipality dominates the spatial structure of the district as the main core/nucleus. Msunduzi LM is not only the administrative and legislative centre of the provincial government, but also performs an important commercial and industrial function in the economy of the district and the province (Stratplan, 2013).

It is highly accessible via the N3 route, which links it to the coast and further inland to the northwest. It also provides links with interprovincial transportation routes. This includes the linkage to the Eastern Cape Province via the R56, as well as the linkage to the north via the

R33 to Greytown. The urban core of Msunduzi is surrounded by a peripheral area that includes agricultural and rural areas with smaller towns and villages structured along main routes in the district. These urban areas (towns) used to serve the agricultural sector within the district and includes Howick (UMngeni Municipality), Mooi River (Mpofana Municipality), Impendle Village (Impendle Municipality), New Hanover-Wartburg-Dalton-Cool Air (uMshwathi Municipality), Camperdown (Mkhambathini Municipality) and Richmond-Ndaleni (Richmond Municipality).

The rural component of the district not only includes commercial farming land, but also large pockets of traditional authority land. Large areas of traditional land located to the southwest of Msunduzi (Vulindlela), as well as in UMswathi, Impendle, Mkhambathini and Richmond. The N3 is another important structural element in the district, which is identified as a national development corridor. This corridor traverses the spatial landscape of the district in a north-westerly to south-easterly direction. The portion of this development corridor between Camperdown and Howick is characterised by a range of activities, which is the focus areas of the development corridor.

In response to the spatial structure of the district, the 2014 SDF identified the Pietermaritzburg / Ashburton / Edendale areas as the primary node (strategic economic development node). The Howick / Hilton / Mphophomeni complex and the Camperdown / Cato Ridge area are identified as secondary nodes, while Mooi River / Bruntville, New Hanover/ Wartburg and Richmond serve as tertiary nodes fulfilling administrative and commercial roles. Rural nodes, serving as rural service nodes to the surrounding communities, are identified as Dalton / Cool Air, Impendle and Vulindlela. (UMgungudlovu SDF review, 2013/14).

There are also opportunities for other alternative areas to be considered for the establishment of rural towns / service centres. This can include KwaSwayimana in uMshwathi, KwaXimba (in eThekwini) or vicinity to serve parts of Mkhambathini (cross border cooperation), Appelsbosch / Bamshela to serve west of Ndwedwe and eastern parts of uMshwathi, Vumakwenza or Embo Timuni TCs in Richmond / Mkhambathini and Ndaleni in Richmond. Lastly, a tourism node is identified at Rosetta and Nottingham where the additional recreational and tourism opportunities are presented by the Spring Grove Dam.

4.4 SETTLEMENT TYPOLOGIES, PATTERN AND DENSITY

This section of the report gives an account of the existing settlement typologies, settlement patterns and settlement densities.

4.4.1 SETTLEMENT TYPOLOGIES

In UMDM, a diversity of settlement typologies has been identified to exist and these settlement typologies are discussed further into detail below:

4.4.1.1 FORMAL URBAN SETTLEMENTS

Existing data shows that numerous formal urban settlements exist within the district in the form of urban centres such as Pietermaritzburg, Mooi River, Richmond, Howick. These urban centres are old and formed part of the erstwhile Natal part of the province. These areas have town planning schemes, albeit based on apartheid planning legislation.

4.4.1.2 TOWNSHIP SETTLEMENTS

A number of township settlements exist within UMDM across the various local municipalities.

4.4.1.3 SUBURBAN SETTLEMENTS

A number of suburban settlements exist within UMDM and these centres offer a wide variety of commercial and administrative support for both urban and rural communities within the municipal area.

4.4.1.4 PERI-URBAN SETTLEMENTS

Peri-Urban settlements can be identified within UMDM and these peri-urban areas are zones of transition from rural to urban land uses located between the outer limits of urban and regional centres and the rural environment.

4.4.1.5 RURAL SETTLEMENTS

The District Municipality has a number of rural settlements which are scattered unevenly throughout the municipal area and are poorly serviced with infrastructure and facilities. The following is a list of rural settlements within the district municipality.

4.4.1.6 INFORMAL SETTLEMENTS

A large number of informal settlements exist within UMDM and these informal settlements are dispersed across the various municipalities.

4.4.1.7 SMALL HOLDINGS

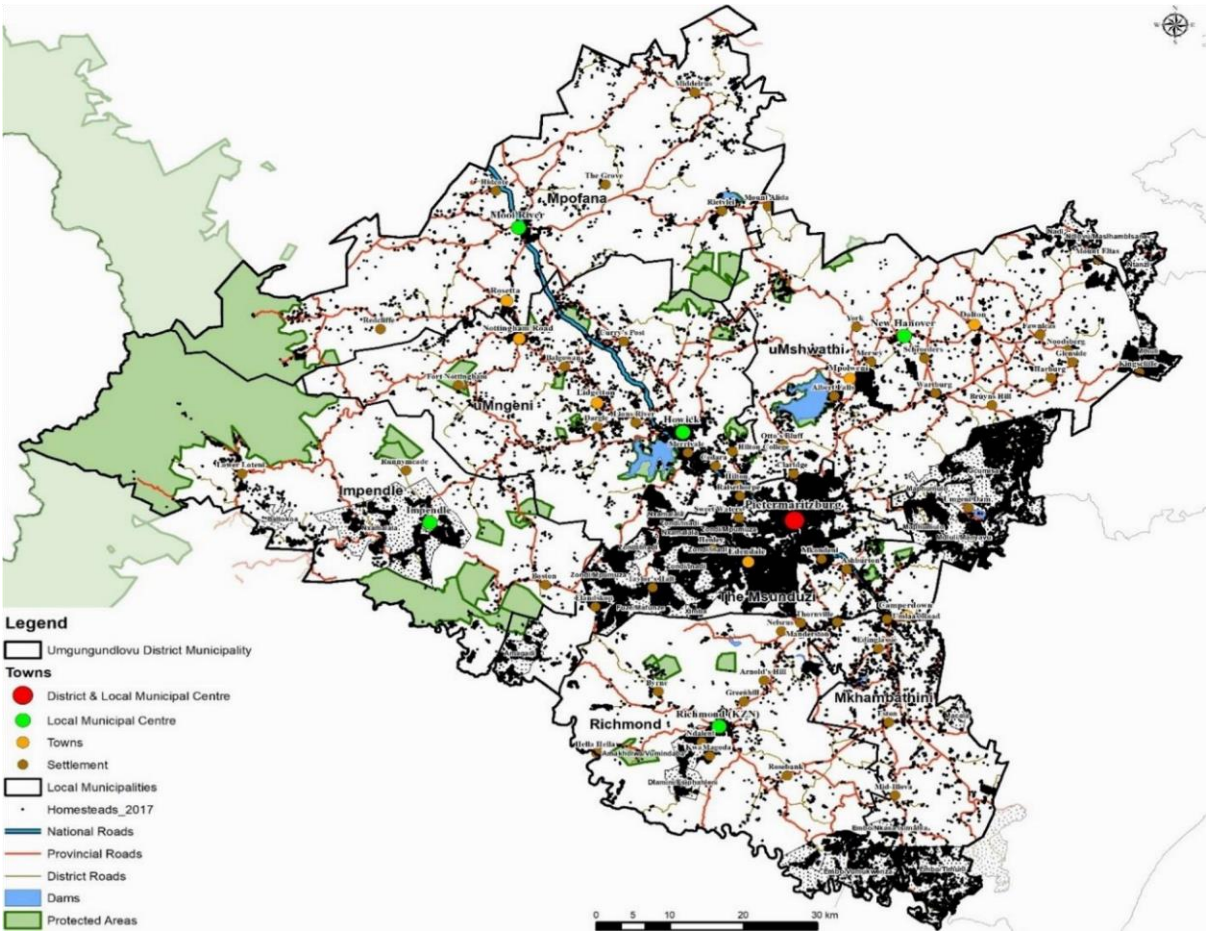
Small holdings can be defined as an area of land that is used for farming but is much smaller than a typical farm. There are several farms that have been subdivided into smaller plots and have transformed into small holdings. Most of the municipal area is occupied by privately owned commercial farms.

4.4.1.8 FARMS

A sizeable portion of UMDM is occupied by privately owned commercial farms. Commercial farmlands take up a considerable amount of land the district municipality. Forestry plantations and dry land crop production are the dominant agricultural land uses. This includes extensive and intensive farming activities. The central parts of the municipality have relatively gentle slopes and is where most of the commercial farming takes place.

4.4.2 SETTLEMENT PATTERN

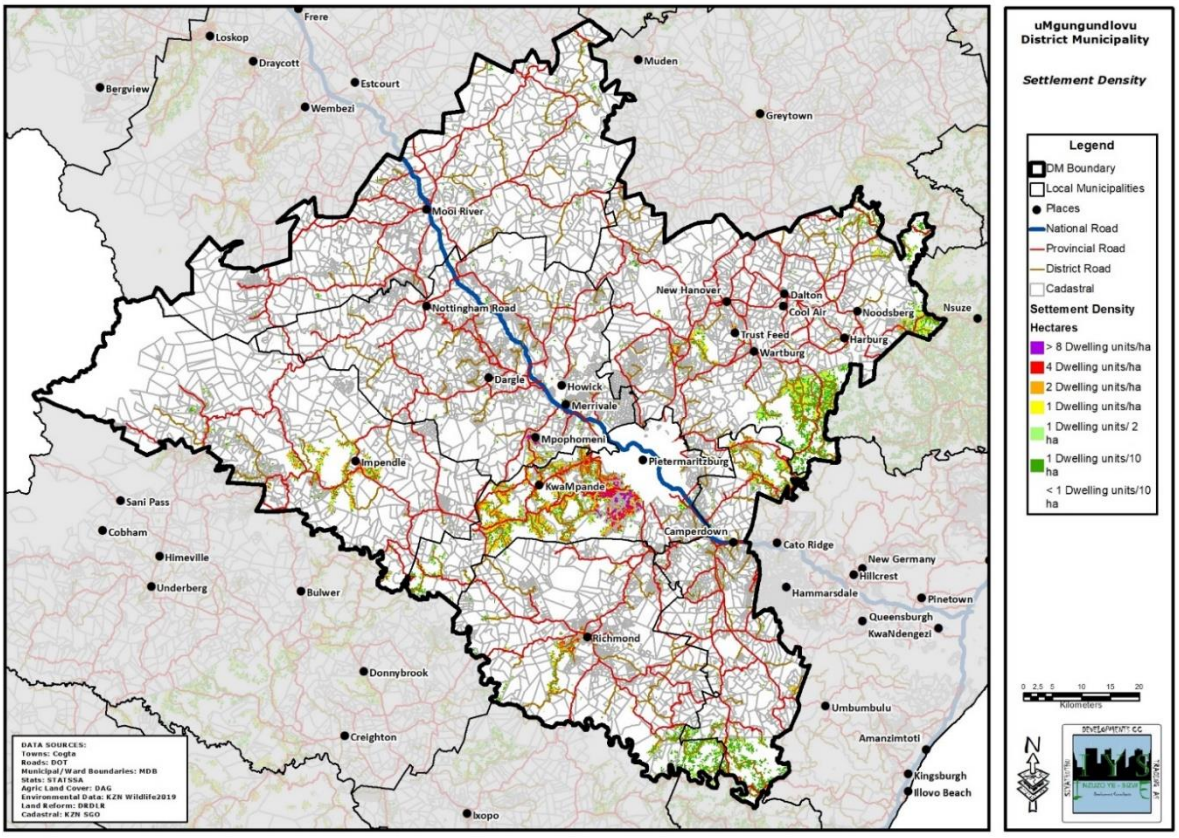
The settlement pattern reflects the dominance of the urban core, represented by the Msunduzi LM where up to eighteen households per hectare are found in some areas like Imbali and Northdale. The settlement pattern for the rest of the district can be described as dispersed settlements scattered in space. However, there is a correlation between the distribution and concentration of households, settlement density and the locality of Traditional Council Areas. The map below indicates that major clusters of households are within the core of Msunduzi and surrounding Traditional Council Areas, like Vullindlela, Gcumisa, Manyavu, Mthuli and Embo.



4.4.3 SETTLEMENT DENSITY

The average settlement density further illustrates that the dispersed settlements in the district are characterised by lower densities. Settlement densities are generally higher in small towns and traditional authority areas, as well as along certain sections of the N3 (between Camperdown and Howick). It is also evident that densities or agglomeration of households tend to be higher in closer proximity to access routes. This a general trend in rural areas. The distributed population, topography and human settlement pattern can make it difficult to service many of the settlements. The node and corridor system thus becomes important and may mean, for example, encouraging appropriate development and density levels within

nodes, by prioritising the servicing of the nodes accordingly. In order for servicing levels to improve, the nodes and corridors within the district need to be consolidated and sprawl needs to be discouraged. The potential efficiencies that result should mean that backlogs will and can be addressed more simply, more quickly, and at lower cost.



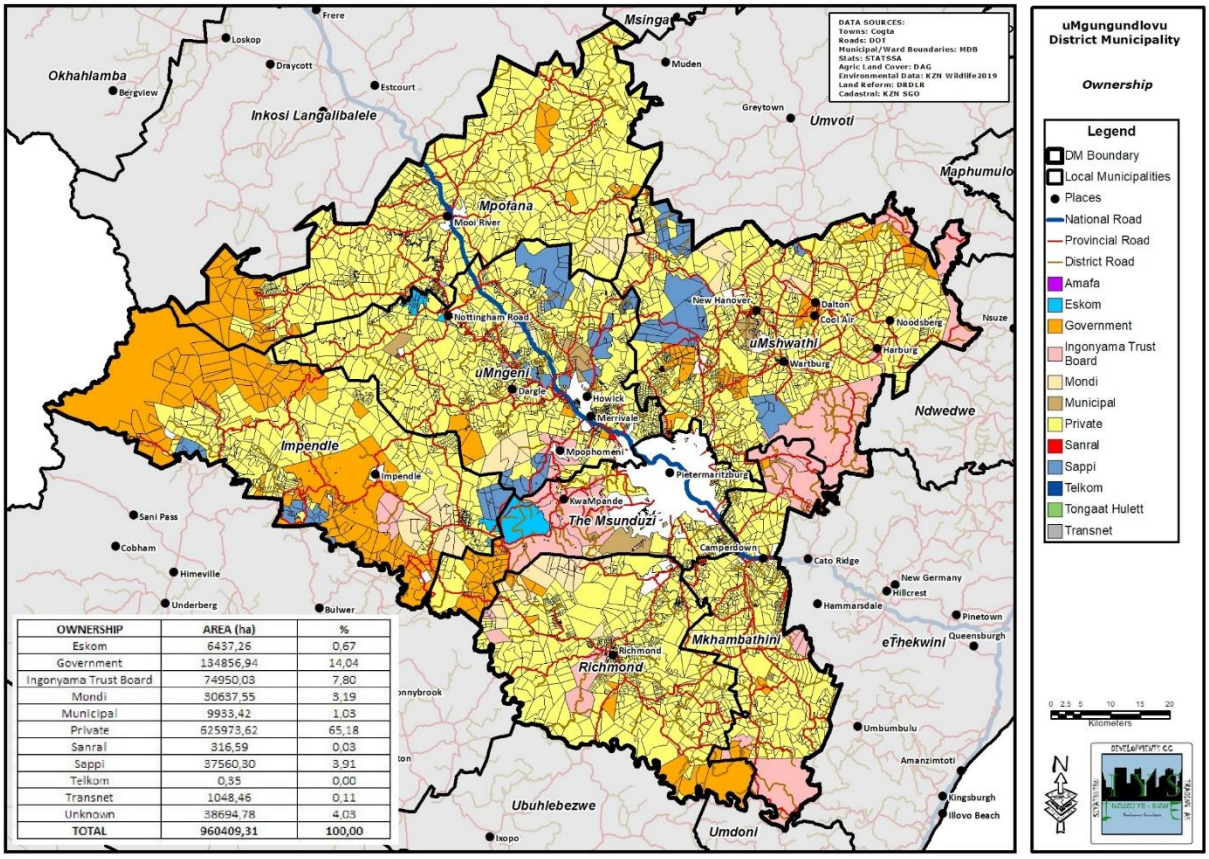
An increasing trend is land invasion, densification and growth around the urban periphery. This phenomenon manifest itself in the form of peripheral residential areas being constructed in the form of informal settlements or peri-urban settlements. Most of these areas have not been planned properly and do not contribute to the rates base of the respective municipalities. The lack proper infrastructure puts additional strain on municipal service delivery, since no planning has been done to accommodate this phenomenon. In Msunduzi, peri-urban settlements resulted in massive informal development and expansion in the form of large houses along the R56 and in the Ambleton/Shenstone. Illegal connections to existing infrastructure thereby creating an unplanned strain on existing networks resulting in infrastructure failures. This area developed in disregard of any planning processes and plans, controls applicable along provincial roads or the availability and capacity of infrastructure. Densification in certain rural settlements is also a trend of note.

4.5 LAND OWNERSHIP AND REFORM

The land ownership table and map below show that various entities or parties own land within UMDM. In terms of land ownership and tenure, the following is a summary of the existing status quo in terms of land ownership and tenure in UMDM:

Table 4: Land ownership

Land Ownership	Area (Ha)	Percentage %
Eskom	6 437,26	0,67
Government	134 856,94	14,04
Ingonyama Trust Board	74 950,03	7,80
Mondi	30 637,55	3,19
Municipal	9 933,42	1,03
Private	625 973,62	65,18
Sanral	316,59	0,03
Sappi	37 560,30	3,91
Telkom	0,35	0,00
Transnet	1 048,46	0,11
Unknown	38 694,78	4,03
Total	**960 409,31**	**100,00**

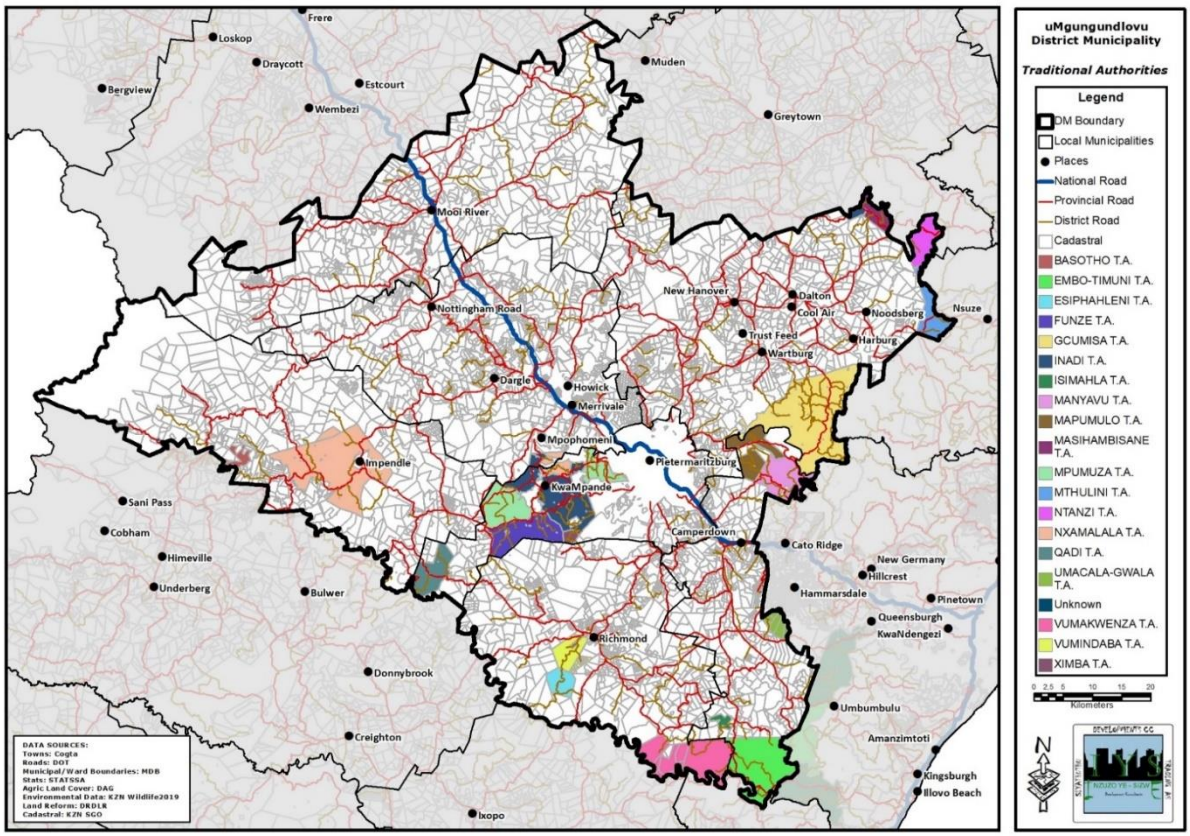


The map and table above have illustrated that the predominant type of land ownership in UMDM is private ownership with 625973,62 ha (65,18%), Government with 134856,94 ha (14,04%), Ingonyama Trust Board 74950,03 ha (7,80%), Unknown with 38694,78 ha (4,03%), Sappi with 37560,30 ha (3,91%), Mondi with 30637,55 ha (3,19%), Municipal with 9933,42 ha (1,03%), Eskom with 6437,26 ha (0,67%), Transnet with 1048,46 ha (0,11%), SANRAL with 316,59 ha (0,03%) and Telkom with 0,35 (0,00%). Observation made from the map seeks to indicate some of the following issues:

- There are mainly three dominant forms of tenure within the subject area, and they include privately owned land, government land, land under traditional administration;
- The bulk of the area is subject to private ownership, etc; and
- With the majority of land under private ownership, this presents a huge challenge with regard to land availability for enterprise development. Land under traditional

administration is normally difficult to access and presents investors with little confidence in terms of security of tenure.

4.5.1 TRADITIONAL LAND ALLOCATION SYSTEM AND HUMAN VULNERABILITY



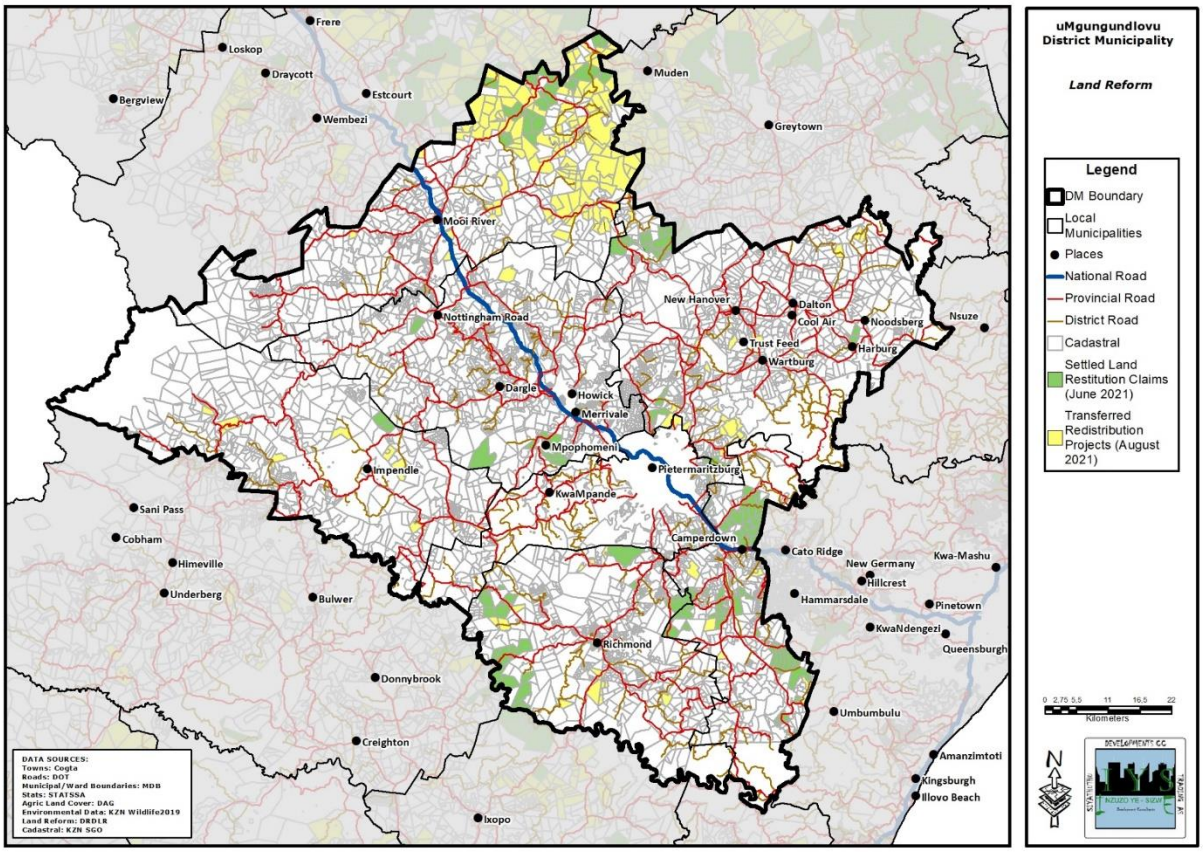
A considerable portion of the population in UMDM resides in areas where there is strong influence of traditional leadership and the associated traditional land allocation practices. These systems have been passed on from generation to generation and adapted in response to social changes. The kind of land tenure found within the rural land is communal land which is under Ingonyama Trust. This tenure arrangement allows for Amakhosi/ traditional to remain the custodians of the land in terms of administration, land allocation and decision connected thereto. The location of homesteads mirrors the general settlement pattern, which is a result of traditional land allocation practices and a lack of formal planning practice. In a context of population growth and in-migration, this system has given rise to settlements that are neither integrated nor sustainable.

Homesteads are unsystematically spread in space, which renders infrastructure development inefficient from a cost perspective. Some households have located in areas that are poorly accessible, environmentally sensitive, and generally not suitable for settlement purposes. This gives rise to human vulnerability, where people reside, for instance in areas that are too steep and not suitable for settlement. The map below shows that there exist eleven (19) Traditional Councils covering the traditional council areas within UMDM. This includes the following Traditional Councils:

- Basotho Traditional Council;

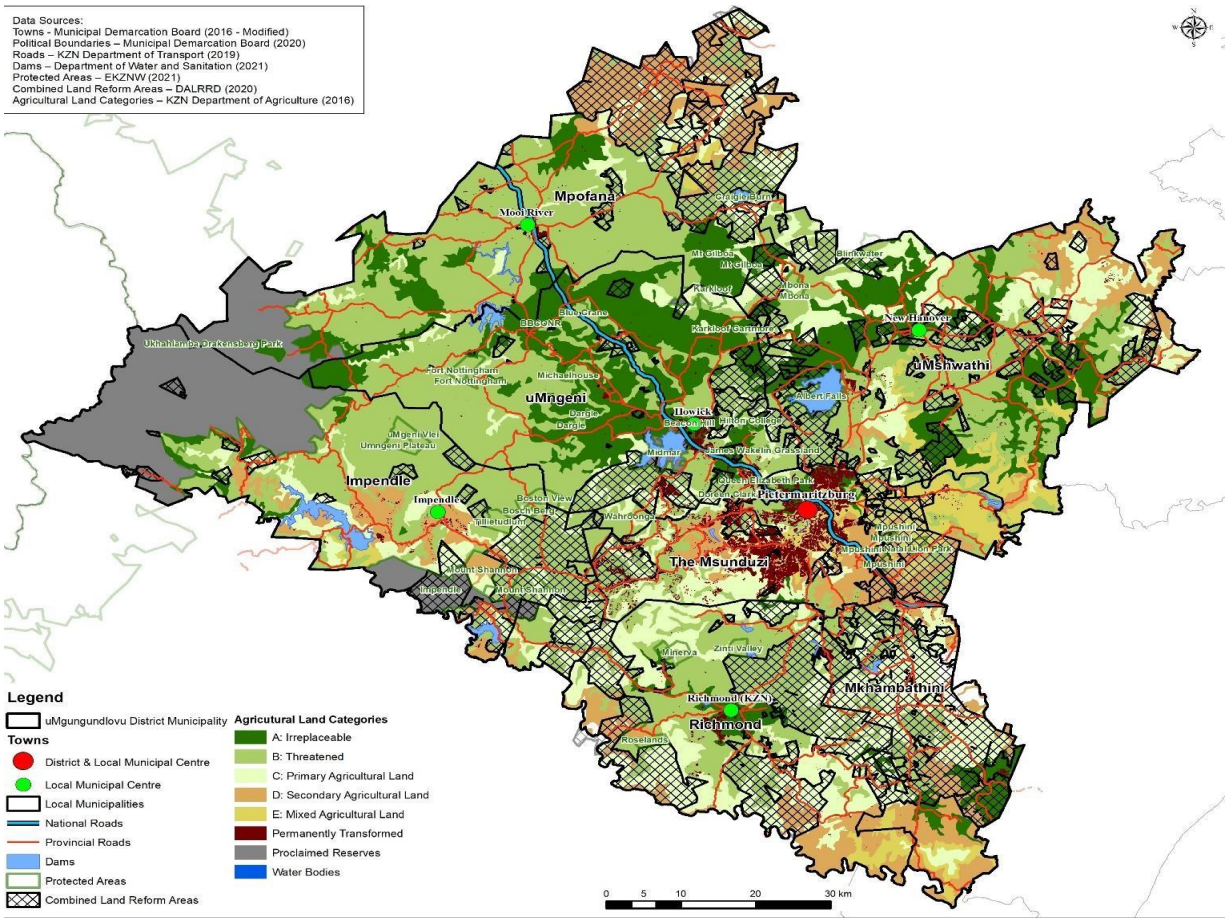
- Embo Timuni Traditional Council;
- Esiphahleni Traditional Council;
- Funze Traditional Council;
- Gcumisa Traditional Council;
- Inadi Traditional Council;
- Isimahla Traditional Council;
- Manyavu Traditional Council;
- Mapumulo Traditional Council;
- Masihambisane Traditional Council;
- Mpumuza Traditional Council;
- Mthulini Traditional Council;
- Vumakwenza Traditional Council;
- Umacala-Gwala Traditional Council;
- Ximba Traditional Council;
- Vumindaba Traditional Council;
- Qadi Traditional Council;
- Nxamalala Traditional Council; and
- Ntanzi Traditional Council.

4.5.2 IMPACT OF LAND REFORM



The land reform programme is a Constitutional imperative, and forms one of the cornerstones of the rural development programme of the national government. A large portion of the district is subject to various land reform programmes including labour tenant applications, land restitution and redistribution claims. While this will transfer productive assets to the

rural poor, it may also have an effect of reducing commercial agricultural land and create isolated settlements. Large tracts of land within the district are identified as irreplaceable, threatened, and primary agricultural land. Land capability and high value agricultural land must thus be secured, but the sustainable productive use thereof must also be promoted. The first map below represents data on settled restitution claims and transferred redistribution projects in 2021. Moreover, the second map below shows the impact of Land Reform on Agricultural Land.



4.5.1.1 LAND RESTITUTION

A total of approximately 237 498ha of land was subjected to the land restitution claims. Only about 39 969ha has been settled while 197 529ha has been gazetted. The gazetted restitution claims amount to 1772 (DRDLR, 2018). Most gazetted claims are located within the Impendle, Mkhambathini, Richmond, and UMshwathi Local Municipalities, while settled claims are far less and scattered across the district.

Table 5: Restitution Claims

		Mkhambathi	Mpofana	Richmon	Msunduz	uMngen	Impendl	uMshwath	DM
Gazette	Number of Projects	501	56	282	132	114	153	456	1772 (61 unknown)
	Area Transferred	45476	17820,6	43356,8	11704	15957	14426,25	36812,8	197 529
		Mkhambathi	**Mpofana**	**Richmon**	**Msunduz**	**uMngen**	**Impendl**	**uMshwath**	**DM**
Settle	Number of Properties	Not specified							198
	Area Transferred					Not specified			39 969
Tota	Number of Projects					Not specified			1970
	Area being Transferred					Not specified			237 498

Source: DALRRD 2018 and 2020, District Rural Development Plan 2018

4.5.1.2 LAND REDISTRIBUTION

A total of 53 438ha of land (244 projects) was transferred as part of land redistribution through the Proactive Land Acquisition Strategy (PLAS), Land Distribution for Agricultural Development (LRAD), Settlement Land Acquisition Grant (SLAG) and Production Land Acquisition Grant (SPLAG). Most transferred redistribution claims seem to be in the northern parts of Mpofana LM.

Table 6: Transferred Land Redistribution Projects

Programme And Grant Type	Sum Of Hectares	Count of Grant Type
ESTA	**1 574,50**	**21**
LRAD	200,98	2
SLAG	1 373,52	19
LTA	**9 361,42**	**31**
LRAD	595,87	3

Programme And Grant Type	Sum Of Hectares	Count Of Grant Type
SLAG	4 599,61	19
SLAG/LRAD	724,21	4
SPLAG	3 441,73	5
Redistribution	**41 520,37**	**187**
LASS	641,90	3
LRAD	14 276,83	71
PLAS	23 598,56	100
SLAG	15,09	2
SPLAG	2 987,99	11
Settlement	**982,11**	**5**
LRAD	769,19	3
SLAG	212,92	2
Grand Total	**53 438,39**	**244**

Source: DALRRD 2020 data

4.5.1.3 LAND TENURE REFORM

UMgungundlovu is characterised by complex and intricate land tenure reform challenges. These include farm dwellers whose land rights are protected in terms of the Extension of Security of Tenure Act. These are households that are established within commercial farms, but their members are no longer providing labour to the farm. Although these households may not be evicted unless an ESTA process has been followed, their land tenure remains insecure. The implications of land reform taking place on commercial agricultural land is that it impacts negatively on the agricultural sector and thus the local economy. This is largely due to poor planning, lack of post-settlement support and the slow implementation of land reform (Sisonke Area Based Plan, Isikhungusethu 2007). This is particularly pertinent to restitution claims and given the high number of these claims on agricultural land in the UMDM, this has already had negative impacts on the commercial agricultural sector (Isik, 2008).

The potential effect of land reform on the natural environment of UMDM will only become apparent in the longer term. This largely depends upon the land use planned for each property included in a land claim and the commitment to that plan in post project support by the beneficiaries and implementing agencies.

4.6 LANDSCAPE CHARACTER AND BUILT-FORM

4.6.1 LANDSCAPE AND SETTLEMENT

Landscapes are composed of different elements. It includes landforms such as valleys, ridges, mountains or plains and vegetation, as well as land-use or activities such as agriculture or settlement. A landscape can thus be described as what the viewer perceives when standing in a particular place and is driven by the character of the landscape. However, different

landscapes within UMDM have different capacities to absorb development. For example, steeper areas (which have unspoilt landscapes) are more sensitive to development as opposed to flatter areas. This requires the direction of development into areas where it is most appropriate, through the identification of landscapes that are more sensitive to development. Landscape should spatially guide development and should protect the intrinsic character of sensitive and valuable landscapes. Planning in the western portion of the UMDM municipality, which exhibits more sensitive areas, should thus be carefully guided (UMDM SDF, 2022).

4.6.2 BUILT FORM

It is important to discuss the existing built form in the UMDM as it differs from one geographical area to another. Built form refers to the function, shape and configuration of buildings as well as their relationship to streets and open spaces. The theoretical foundation of planning in South Africa and African in general is largely based on the old British Systems of Planning, commonly referred to as modernistic planning. This type of planning has a strong physical planning focus (with limited social, economic, environmental cultural aspects). It is largely based on the assumption that government will plan and direct all forms of spatial development and assume high levels of social influence to conform and to be legal, and government structures with capacity to ensure compliance (Forbes, 2011). The existing built form observed across the UMDM continues to reflect the legacies of apartheid spatial planning in post-apartheid SA.

4.6.1.1 BUILT FORM IN THE URBAN AREAS OF UMDM

The urban centres that once formed part of the erstwhile Natal part of the province show signs of the old British Systems of Planning (modernistic planning) and these urban areas already had town planning schemes, albeit based on apartheid planning legislation. They also have a relatively well-developed cadastral base which is a key enabler of the zoning system. The urban centres within UMDM are complex environments with mixed and intertwined uses governed by building regulations (construction standards), development parameters informed by town planning standards. All the buildings within the urban centres of UMDM are governed by South Africa's National Building Regulations (NBR) which are only available from the South African Bureau of Standards (SABS). The SANS 10400-NBR (SA) is a cornerstone document in building construction.

The buildings within the urban centres of UMDM have different functions, shapes and configurations which in turn have relationships to streets and open spaces. The urban centres are shaped by the use, design, massing, scale and type of buildings. The buildings within urban centres have a variety of buildings typologies, building designs, uses and carrying capacities. The building typologies range from high rise buildings, low-rise buildings, terraced housing, and semi attached or free-standing buildings. The following land use purposes can be found:

- Transport related uses;
- Agriculture uses;

- Educational uses;
- Institutional uses;
- Industrial uses;
- Commercial and business uses;
- Residential uses;
- Community uses; and
- Public and recreational uses.

4.6.1.2 BUILT FORM IN THE RURAL AREAS OF UMDM

The district also entails of rural local municipalities, thus the built form observed within the rural settlements is different from the existing built form in urban centres. It is predominantly characterized by a variety of basic but substandard architectural styles. The rondavel is one of the most prevalent building typologies, with most households having at least one. However, buildings with modern architectural styles also do exist. Most of the buildings in the rural areas are in an unsatisfactory condition and would not meet the building standards set by the National Home Builders Registration Council.

Some are in a state of despair, built from unstable building materials and susceptible to extreme weather conditions. Some of the structures are located in hazardous locations i.e. within watercourse buffers. The figures below illustrate the built form in UMDM. Urban Town residents have gotten accustomed to the building compliance procedure which includes preparation and submission of building plans which should be approved by the municipalities before construction. However, some parts of the district have never been subjected to such compliance. As such, there will be a need to encourage for the change in culture. This is not only seen as important for the legislative basis, but it aims to uphold the safety of the residents as a key principle that emanates from the Constitution of the Republic of South Africa.

4.7 ENVIRONMENTAL ECOSYSTEMS AND CORRIDORS

4.7.1 BIODIVERSITY MANAGEMENT

UMDM is located within the Maputaland-Albany-Pondoland- Albany Hotspot, a globally recognised biogeographic region of significance, which contains unusually high numbers of endemic species, as well as globally unique ecosystem diversity in terrestrial, fresh water and marine systems. At least 70% of the original habitat, which occurred in this hotspot, has already been lost. Given the above, the district is an important role-player in global efforts to influence the world's extinction crisis and to ensure the continued functioning of ecological and evolutionary processes that allow biodiversity to persist over time at a global scale. On a national level the significance of the area has been recognised by the listing 1 of threatened ecosystems that occur within UMDM.

Municipalities are expected to take the need for protection of these listed ecosystems into account by, amongst others, applying restrictive land-use guidelines to ensure that further loss and degradation of natural habitat in these ecosystems is avoided. These ecosystems

were also considered to produce the district-level Biodiversity Sector Plan, which is aimed at promoting biodiversity compatible development in spatial areas of priority. The significance of the environmental value of the area is further underscored by the South African National Biodiversity Institute's (SANBI) Biodiversity and Land Use Project which aims to minimise the multiple threats to biodiversity in the district. The uMgungundlovu District Municipality is one of four districts that were prioritised by the South African National Biodiversity Institute (SANBI) for 'mainstreaming biodiversity' as a key strategy for addressing issues of biodiversity loss and ecosystem degradation.

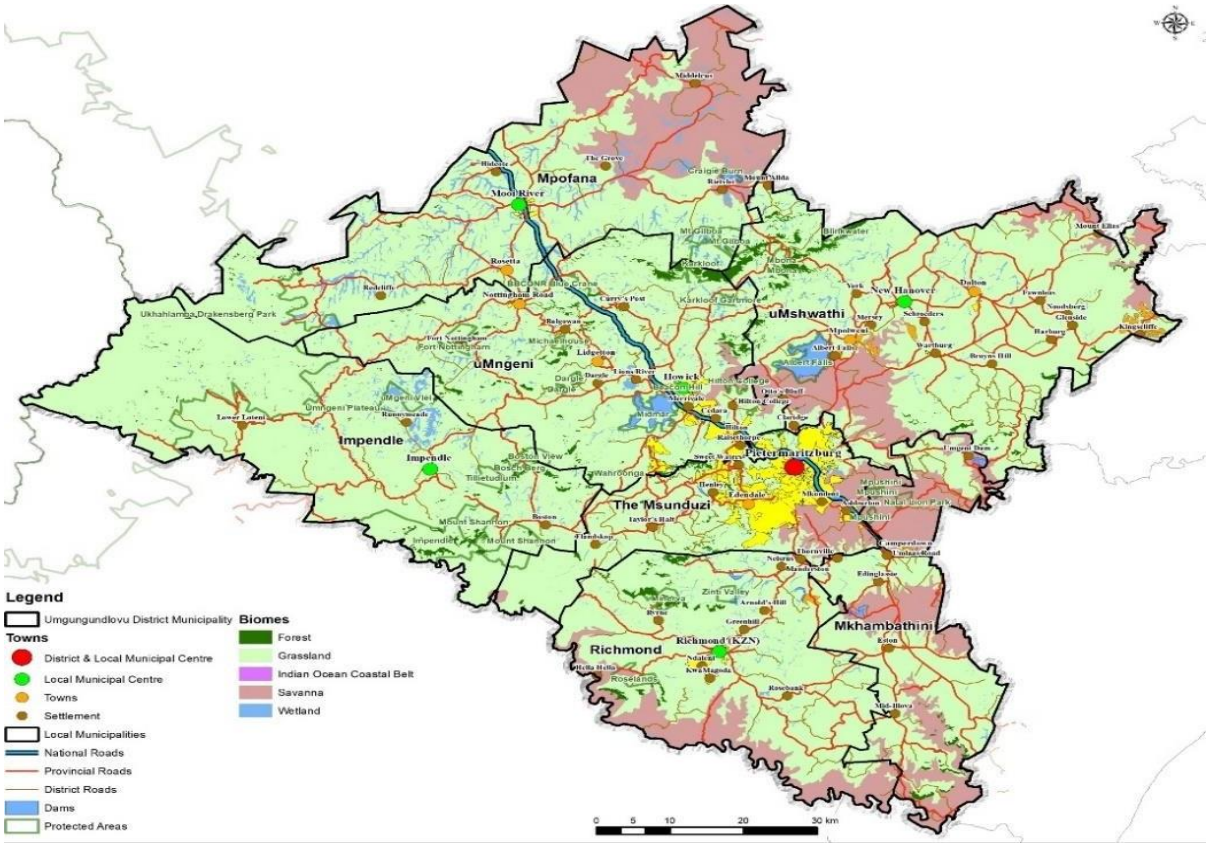
4.7.1.1 SPECIES OF CONCERN

UMDM supports several International Union for Conservation of Nature (IUCN) Floral Red Data species, including eight Critically Endangered, 12 Endangered, 36 Vulnerable, 20 Near Threatened and 12 Data Deficient species. Most of the Red Data plant species are small herbaceous pants. There are about 80 Faunal species of special concern that are known to occur or likely to occur within the UMDM. An additional 14 species are considered rare and/or endemic to the region. In terms of Red Data fauna, there are three Critically Endangered, nine Endangered, 26 Vulnerable, 30 Near Threatened and 4 Data Deficient species.

4.7.1.2 VEGETATION AND HABITAT TYPES

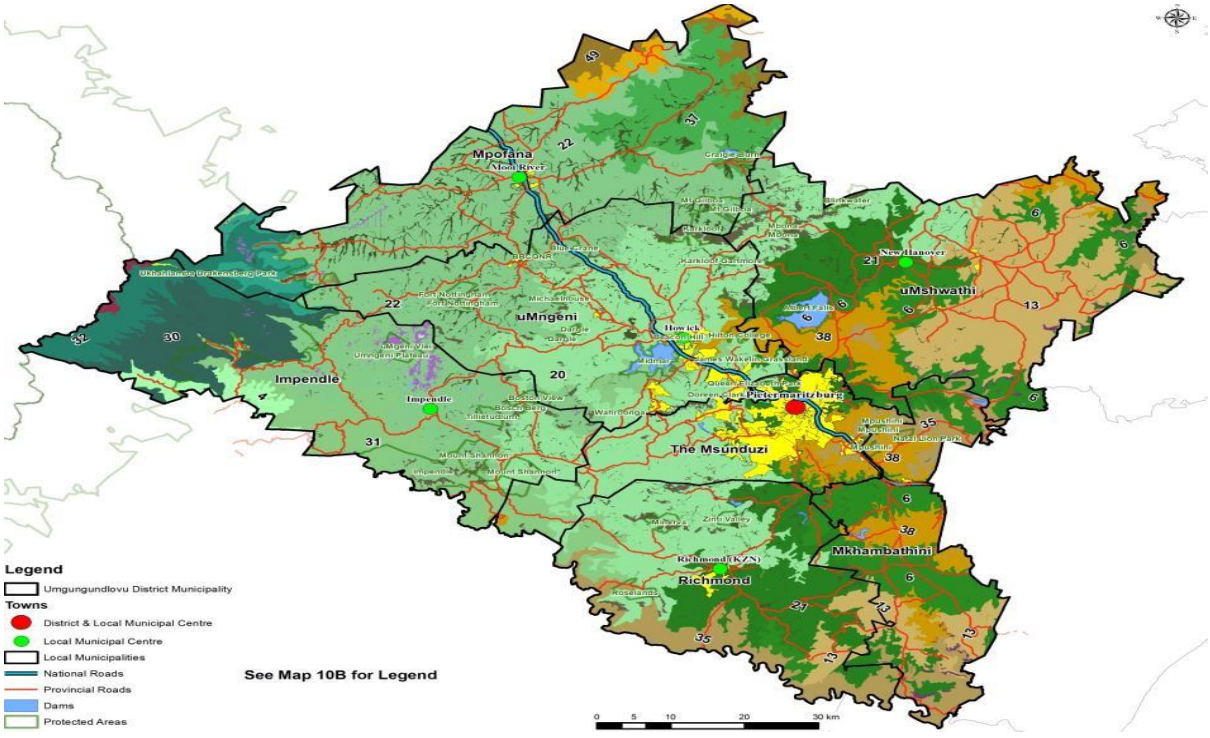
UMDM contains several vegetation types (Map 16), grouped into five biomes: Forest, Grassland, Indian Ocean Coastal Belt, Savanna and Azonal Vegetation (Map 15). The Grassland biome dominates UMDM making up approximately 60%, followed by Savanna, with about 38%. The remaining 2% comprises the Forest biome (~1.5%), the Indian Ocean Coastal Belt and Azonal Vegetation. Grassland is also the most significant from a biodiversity conservation perspective, supporting a greater proportion of threatened vegetation types, namely: KwaZulu-Natal Sandstone Sourveld (Critically Endangered), Midlands Mistbelt Grassland, Moist Coast Hinterland Grassland (both Endangered), Dry Coast Hinterland Grassland, Southern KwaZulu-Natal Moist Grassland and Mooi River Highland Grassland (all Vulnerable). The two (2) maps below illustrate the five (5) Biomes in UMDM, and the vegetation found within UMDM.

Map 7: The 5 Biomes in the UMDM



Source: SDF (2022)

Map 8: Vegetation in the UMDM



Source: SDF (2022)

UMDM also supports Eastern Mistbelt Forests which are classified as Endangered. The table below illustrates threatened terrestrial vegetation types in UMDM.

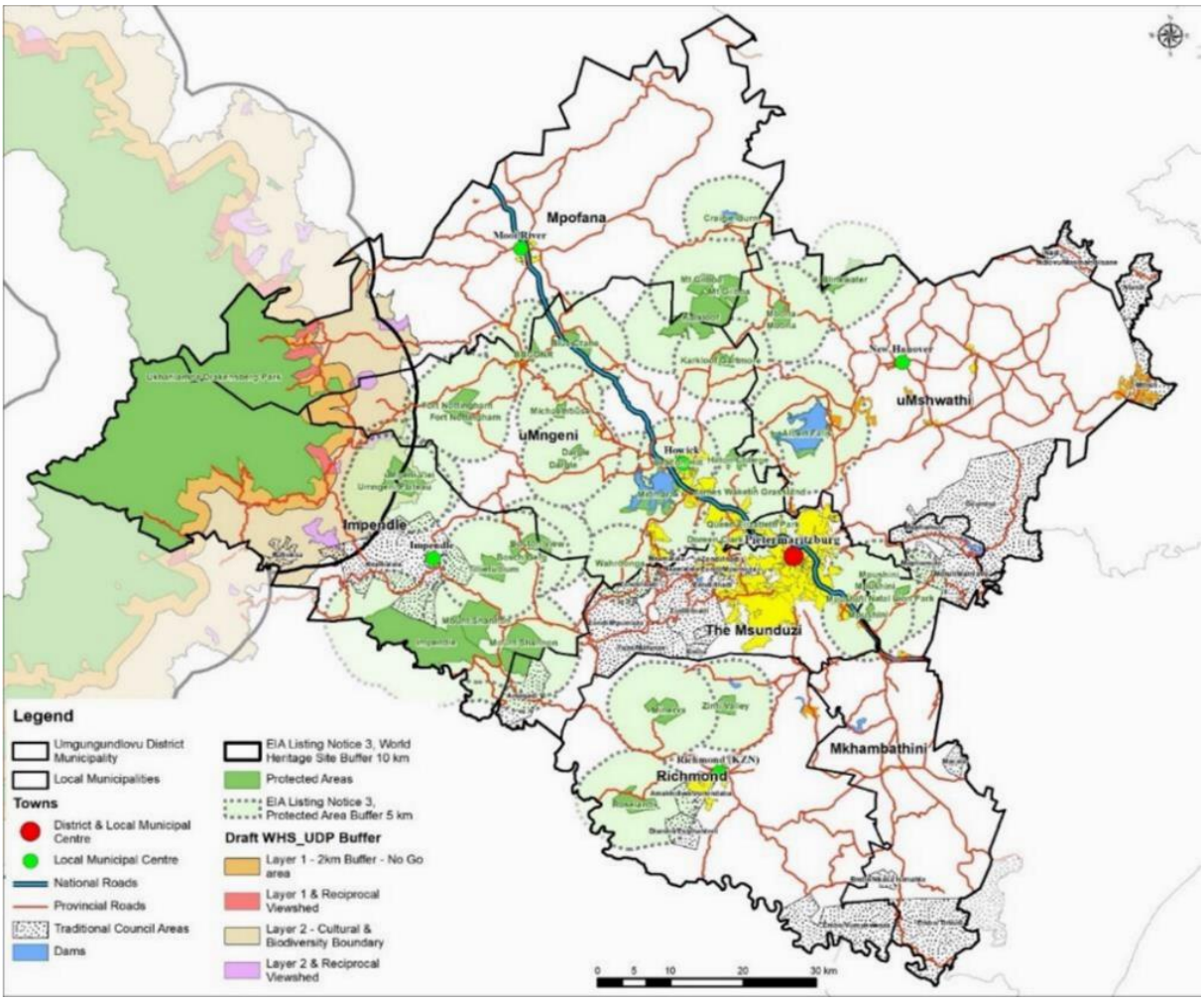
Table 7: Threatened terrestrial vegetation types in uMDM

Moist Coast Hinterland Grassland	Grassland	Endangered	437555.6	88448.7	20.2	26576.78	30.0
KwaZulu-Natal Sandstone Sourveld	Grassland	Critically Endangered	179667.6	81723.9	45.5	18545.82	22.7
Dry Coast Hinterland Grassland	Grassland	Vulnerable	276405.8	76283.5	27.6	37920.38	49.7
Southern KwaZulu-Natal Moist Grassland	Grassland	Vulnerable	231823.7	51348.0	22.1	35032.14	68.2
Eastern Mistbelt Forests	Forest	Endangered	44473.9	14753.9	33.2	13149.14	89.1
KwaZulu-Natal Coastal Belt Thornveld	Indian Ocean Coastal Belt	Vulnerable	111926.2	15.0	0.0	13.44	89.5

Source: KZN Vegetation Types 2014. Transformation erased using KZN Landcover 2017

4.7.1.3 PROTECTED AREAS AND OTHER CONSERVATION AREAS

Map 9: Protected Areas and Other Conservation Areas

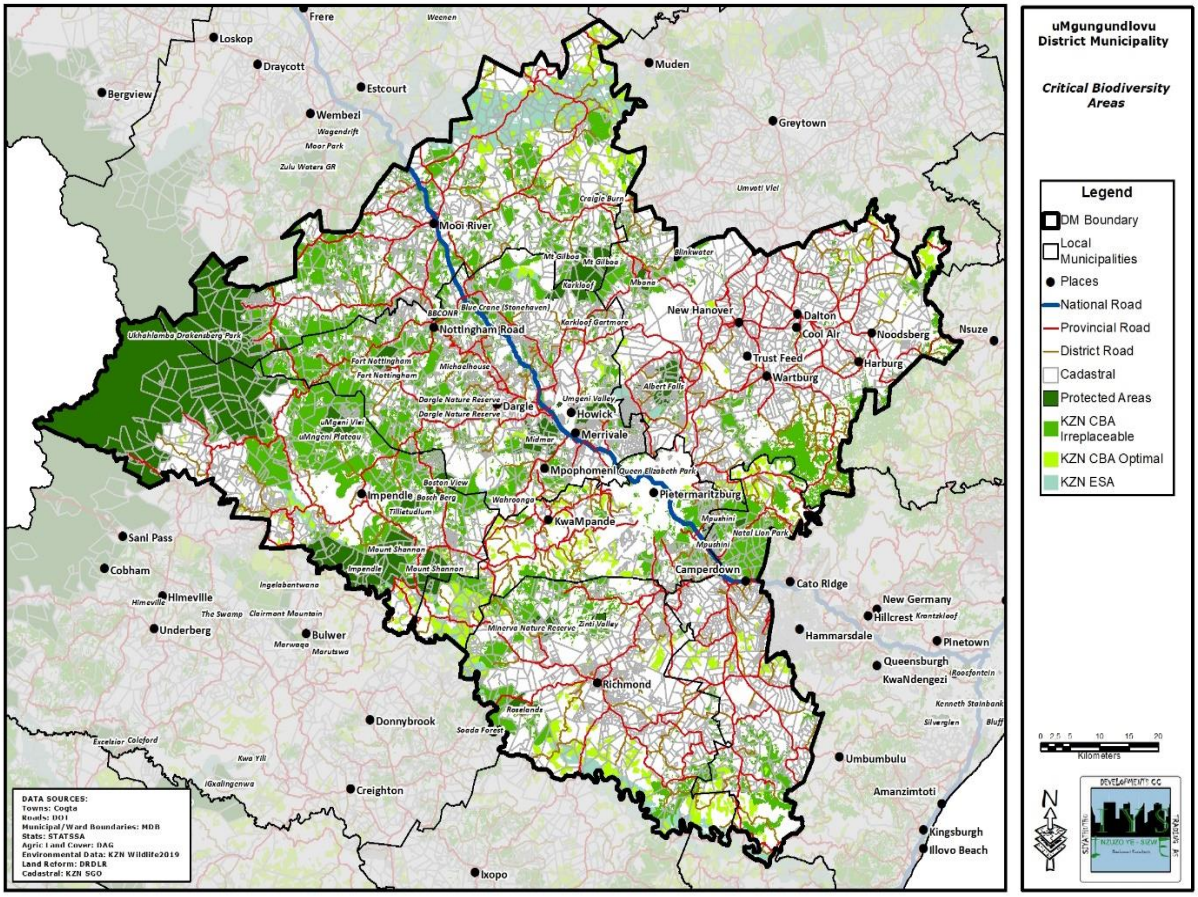


Source: SDF (2022)

Protected areas are areas of land that are, according to the National Environmental Management: Protected Areas Act (Act 57 of 2003), protected by law and as a result these

areas are managed for the conservation of biodiversity. The protected areas include several categories, namely: special nature reserves, nature reserves and protected environments; world heritage sites; specially protected forest areas, forest nature reserves and forest wilderness areas declared in terms of the National Forests Act (Act 84 of 1998); and mountain catchment areas declared in terms of the Mountain Catchment Areas Act (Act 63 of 1970). General conservation areas are areas of land not formally protected by law but informally protected by the current owners and users and managed at least partly for biodiversity conservation.

Map 10: CBAs in UMDM



Source: KZN Ezemvelo, 2022

The two maps below show that UMDM contains several formally protected areas and other conservation areas. Most notable is the uKhahlamba Drakensberg Park World Heritage Site (UDP WHS) (approximately 67 000ha), an area with international recognition supporting important biodiversity and ecosystems assets. Through this recognition, the UDP WHS has become listed as a Ramsar site, thereby supporting wetlands of international importance. In addition, there is the Biodiversity Stewardship sites and protected areas that make up close to 105 000ha, 11% of UMDM.

4.7.1.4 ECOLOGICAL CORRIDORS

Ecological corridors are defined as 'networks of interconnected terrestrial and aquatic habitat areas which allow linkages and passage of species and ecological processes across transformed landscapes. The maintenance of connectivity is essential to several movement-related ecological processes, including species migrations, seasonal and altitudinal dispersal, and range displacement in response to climate change.

The following macro ecological corridors form part of UMDM: The Tugela North Corridor which bisects a portion of the northern part of the UMDM; The Tugela Corridor, situated further south, which extends east west from the Blinkwater, Karkloof, and Nottingham Road to Karkloof; The Midlands Corridor, which mostly follows the southern boundary of the UMDM; and The Berg Corridor which forms a large portion of the UMDM in the west. These macro ecological corridors relate to regional connectivity to ensure the persistence of ecosystem processes.

Two micro-ecological corridors have been proposed in the UMDM: a link between the Tugela and Tugela North Corridor terminating in the south at the Karkloof Nature Reserve and Mbona Private and Mount Gilboa Nature Reserves; and a large micro-ecological corridor linking Kamberg in the west, via the uMngeni Vlei Nature Reserve, Boston View Biodiversity Agreement, the south of Midmar Nature Reserve (priority wetland), Hilton College Nature Reserve, following the uMngeni River to terminate at the Eastern Valley Bushveld protected area expansion area.

4.7.1.5 SENSITIVE ECOSYSTEMS

Conservation International recognises the Maputaland-Pondoland-Albany area, in which the UMDM falls as a Biodiversity Hotspot. The region is floristically, climatologically, and geologically complex. There are at least three clear foci of high endemism and high diversity in the area, the names of which have been amalgamated as the name of this hotspot: Maputaland (Tongaland) in the north, Pondoland further south and Albany in the southwest. The National Environmental Management: Biodiversity Act (Act 10 of 2004) (NEMBA) provides for listing threatened or protected ecosystems. Bioregional Plans, published in terms of NEMBA, identify Critical Biodiversity Areas (CBAs), which encompass Threatened Terrestrial Ecosystems as well as landscape-scale ecological features. It is vital that CBAs inform municipal environmental and spatial planning.

Threatened Terrestrial Ecosystems within the UMDM include:

- Critically Endangered - Blinkwater Valley, KwaZulu-Natal Sandstone Sourveld, New Hanover Plateau, Oakland and Townhill Ridge and Highover Nature Reserve and Roselands Farm Surrounds;
- Endangered - Cumberland Crest, Impendle Highlands, Karkloof Forest Collective, Loskop Grasslands, Pietermaritzburg South, Umgeni Valley Bushveld and KwaZulu-Natal Sandstone Sourveld; and
- Vulnerable - Eastern Temperate Freshwater Wetlands, KwaZulu-Natal Coastal Belt, Eastern Scarp Forest, Midlands Mistbelt Grassland, Beinn Mheadmon Mountain Grasslands,

Boschhoek Forests, Boschhoek Plateau, Drakensberg Foothill Wattled Crane Habitat, Easingwold Grasslands, Fort Nottingham Lowland Grasslands, Glen Cairn Valley, Impendle Lowland Grasslands, KwaMncane North Plateau, Michaelhouse Grasslands, Midmar Valley, Mount Gilboa Plateau, Oakspring Valley, Sherwood Forest Collective, Warley Commons and Moist Coast Hinterland Grassland and Dry Coast Hinterland Grassland.

A map was produced for UMDM EMF which designates biodiversity sensitivity zones which is attached below. Sensitivity was designated based on the following table extracted from the biodiversity specialist report (GroundTruth, 2017).

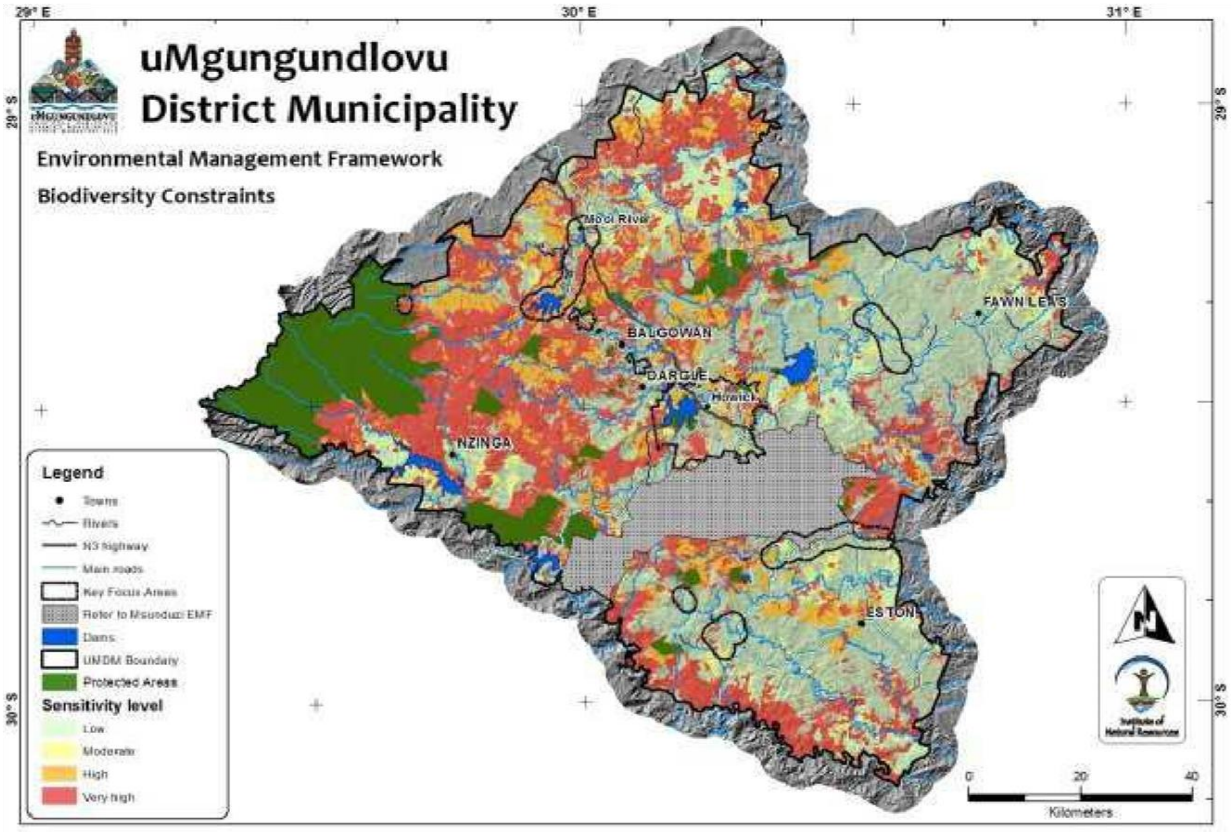
Table 8: Biodiversity sensitivity zones

Sensitivity level	Terrestrial biodiversity features
Very High Sensitivity	Protected areas
Very High Sensitivity	Critical Biodiversity Areas (CBAs) and Agro-Biodiversity Zones
High Sensitivity	Ecological Support Areas (ESAs) and Environmental Management Zones.
Medium Sensitivity	Other Natural Areas (ONAs) that are Threatened (i.e. Critically Endangered, Endangered, Vulnerable)
Low Sensitivity	Other Natural Areas (ONAs)

Source: GroundTruth, 2017. UMDM Environmental Management Framework: Terrestrial Biodiversity- Final Report. Project Number GTB142.

The map below illustrates the Biodiversity Sensitivity Levels in UMDM.

Map 11: Biodiversity Sensitivity Levels



Source: UMDM SDF, 2022

These zones should further be considered when planning new development and activities.

4.8 KEY ISSUES

The key spatial issues can be listed as follows:

- UMDM is strategically located within the central part of the province with a number of natural endowments including UMngeni and Msunduzi Rivers that runs through it and this reflects a need for the district to protect its natural water quality;
- The district is also seat for provincial cabinet and parliament where the strategic political decisions are taken. This status places UMDM as a provincial administrative hub which should ideally be well-maintained in order to present a decent image of the province from the aesthetic point of view;
- It comprises of seven municipalities with different spatial attributes with Msunduzi being the dominant urban municipality, Impendle dominant rural municipality and five other municipalities being the farming municipalities (UMngeni, Richmond, Mpofana, UMshwathi and Mkhambathini).
- The combination of a rural (communal and farmland) and urban within this one district has given rise to urbanisation and the growth of informal settlements around Pietermaritzburg. Essentially, the young population who live in the rural parts of the district will relocate to Msunduzi in search for opportunities. However, the in-migration of the poor who migrate to a city in order to wait for opportunities will continue to create informal settlements. Unfortunately, the growth of informal settlements is undesirable as these are badly located in fatal environmental hotspots such as floodlines which escalate the risks of disasters;
- Land invasion has increased at an unprecedented rate leaving most Municipalities at a loss on how to manage and curb unregulated land development. Sometimes there is a clear link between land evasion and the rapid growth of the informal settlements;
- UMshwathi and Mkhambathini has a substantial amount of the local population which reside on the edges of the municipalities. These local people are considered to be part of the municipality by a mere fact that there are within the administrative boundaries of the said municipalities. However, such location implies that the people do their economic and socio-economic activities outside of the municipality which is not helpful for the local economy and growth of these municipalities. The existing towns such as New Hanover (UMshwathi) and Camperdown (Mkhambathini) still appear to be underutilized for the transformative role of being the areas where most of the local population will migrate to for work, residency and socio-economic livelihood;
- The strategic location of Mpofana, UMngeni and Mkhambathini in relation to the N3 also presents opportunities for these to participate in notable industrial development;
- The richness of agricultural resources within UMshwathi, Richmond and Mpofana also present opportunities that should be explored for food processing;
- The existence of the UKhahlamba Drakensberg Park World Heritage Site in Impendle and Mpofana Local Municipalities presents opportunities that can be explored for community-based tourism initiatives;
- UMDM is located within the Maputaland-Albany-Pondoland- Albany Hotspot, a globally recognised biogeographic region of significance, which contains unusually high numbers of endemic species, as well as globally unique ecosystem diversity in terrestrial and fresh water.
- There are a number of households that are located in areas where they should not be settled in, these include steep collapsible areas (areas prone to landslides), wetlands and flood prone areas, under powerlines, in road reserves, in sensitive biodiversity areas and

agricultural priority areas. A comprehensive human settlement programme should be explored to address this situation;

- Environmental Management units are not established in certain Local Municipalities resulting in sustainable developments and planning. There is often a poor implementation and enforcement of Policies and By-Laws due to limited capacities and a lack of understanding;
- Most (65%) of the land is privately owned, land reform covers a very small portion which is at 5% but some of the farms under claims are pristine areas for farming which should never be transformed into non-food production activities; and
- Development planning is often reactive and not proactive there is a need to change the narrative and identify the Special Economic Zones, establishment of Industrial Hubs, etc.

4.9 SPATIAL PLANNING CHALLENGES

Municipalities across the SA face a myriad of spatial planning and land use management challenges. Local Municipalities in UMDM have prepared and adopted Land Use Schemes and SPLUMA by-laws for their areas of jurisdiction to regulate the use of land in line with the vision enshrined in the MSDF. The SPLUMA adopts a land use zoning approach which advantages the urban centres that formed part of the erstwhile Natal part of the province. These areas already had town planning schemes, albeit based on apartheid planning legislation. They also have a relatively well-developed cadastral base which is a key enabler of the zoning system. Major challenges in these areas relates mainly to the review of existing land use rights, and introduction of new land use zones and development parameters. More systemic challenges are in areas under traditional councils and on agricultural land.

Accordingly, each of the local municipalities have adopted SPLUMA by-laws and use these to regulate the preparation of Land Use Schemes and administration of development within their areas of jurisdiction. The institutional arrangements for an effective implementation of the LUSs are also set up in terms of the SPLUMA by-law. UMDM approved and adopted the uMgungundlovu District Joint Spatial Planning and Land Use Management By-Laws in 2016. This bylaw was adopted and approved by the Impendle, Mkhambathini, uMngeni, Mpofana, Richmond and UMshwathi Municipalities. Msunduzi Municipality developed its own Spatial Planning and Land Use Management By-Law. Despite the presence of the Land Use Schemes and SPLUMA By-Laws in each of the local municipalities within UMDM, the following spatial planning challenges face the urban centres:

- Mushrooming of illegal developments;
- Illegal conversion of land from one land use activity to another;
- Urban decay;
- Rapid urbanisation and migration trends to urban centres causing massive pressure to the supply of urban infrastructure;
- Limited housing opportunities within the towns or urban centres;
- Upsurge in urban Informality (informal settlements, informal trading areas); and
- Loss of beautification.

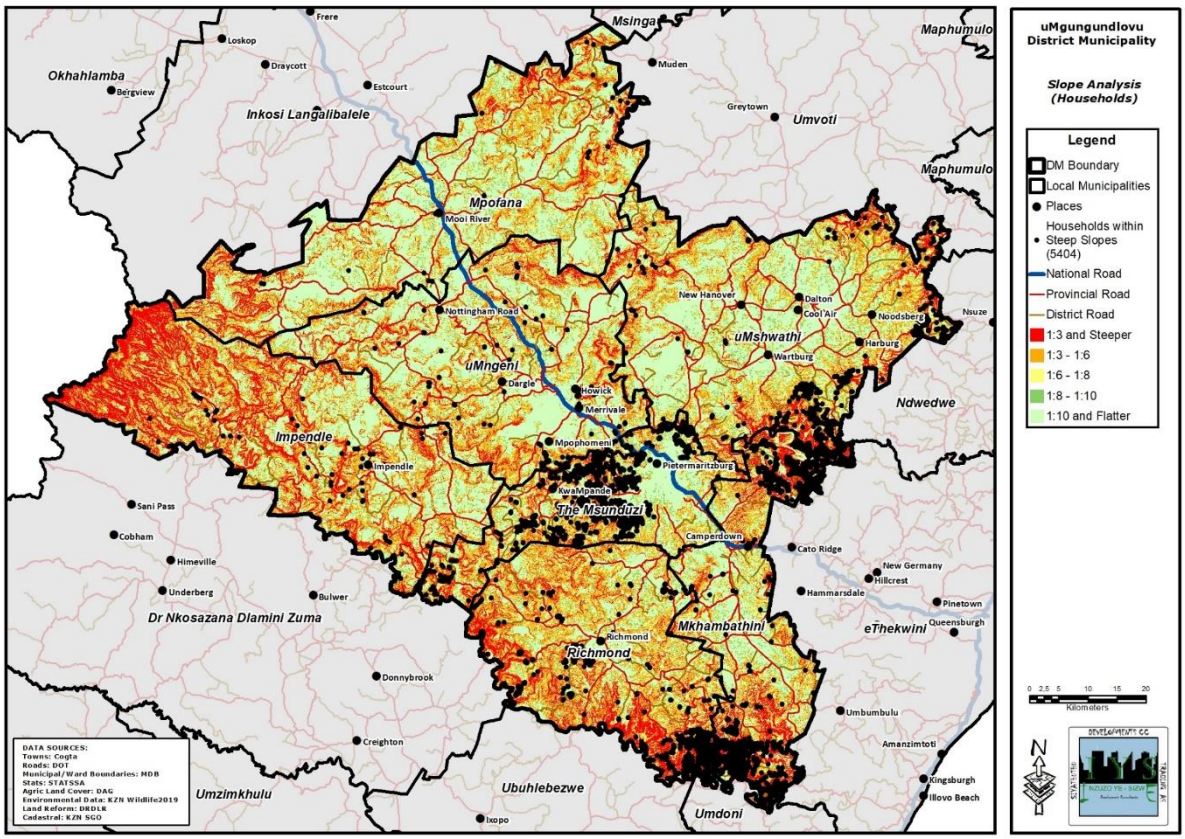
Moreover, in the rural areas under traditional councils and informal settlements the following spatial planning challenges can be observed:

- Developments and households located on the road (buffers) reserves of the existing road system and on servitudes (households located under HV & MV Cable Conductors);
- Households located on topographically challenging landscapes;
- Households located on environmentally sensitive areas (hydrology areas);
- Households located on other environmentally sensitive areas (high biodiversity value); and
- Households located on high potential agricultural land.

In addition, other spatial planning challenges relate to the encroachment of development into agricultural land poses several challenges:

- Conflicts associated with change in land use, access to water and pollution;
- Environmental degradation, increased runoff, and erosion;
- Increasing the value of rural properties, which increases pressure for further development; and
- Subdivision results in non-viable agricultural land parcels.

4.8.1 HH LOCATED ON TOPOGRAPHICALLY CHALLENGING LANDSCAPES



Altitude across UMDM ranges from 530m above sea level (ASL) in the southeast, extending to a height of 3 320m at the Drakensberg escarpment along the western border of the Impendle Local Municipality. A step in the topography, known as the "Hilton ridge" occurs between Pietermaritzburg and Howick running roughly in a north/south direction (UMDM, SDF, 2022). Understanding the municipal's topography is of critical importance as it influences settlement patterns, use of land and the cost of installing basic services. The topography varies greatly in the different areas of the municipal area in the sense that the topography is undulating. This means that some areas are steeper when compared to others. These

topographical characteristics are closely related to geological and geomorphological influences which need to be considered when developing an area. Gradients of 1:3 and steeper are generally classified as slopes which are undevelopable or where settlement should be avoided. This is due to several factors including soil instability, greater susceptibility to flooding and the high building and infrastructure costs associated with such slopes.

Two maps are attached below which represent the slope analysis of the entire municipal area and the households that are located on topographically challenging landscapes. The slope analysis map below shows that a huge percentage of the landscape within UMDM has a terrain with very steep slopes and there are other smaller proportions of the municipal area that have gentle slopes. People have settled on land that is considered inappropriate due to topographical factors. Furthermore, the other map below shows that there are 5404 households living/located on steep slopes beyond 1:3 and steeper with limited human settlements that are positioned on gentle slopes. Development is severely impaired and restricted by very steep slopes and it restricts movement and accessibility. The areas located in steep areas also pose a challenge for service delivery as well as the provision and maintenance of infrastructure.

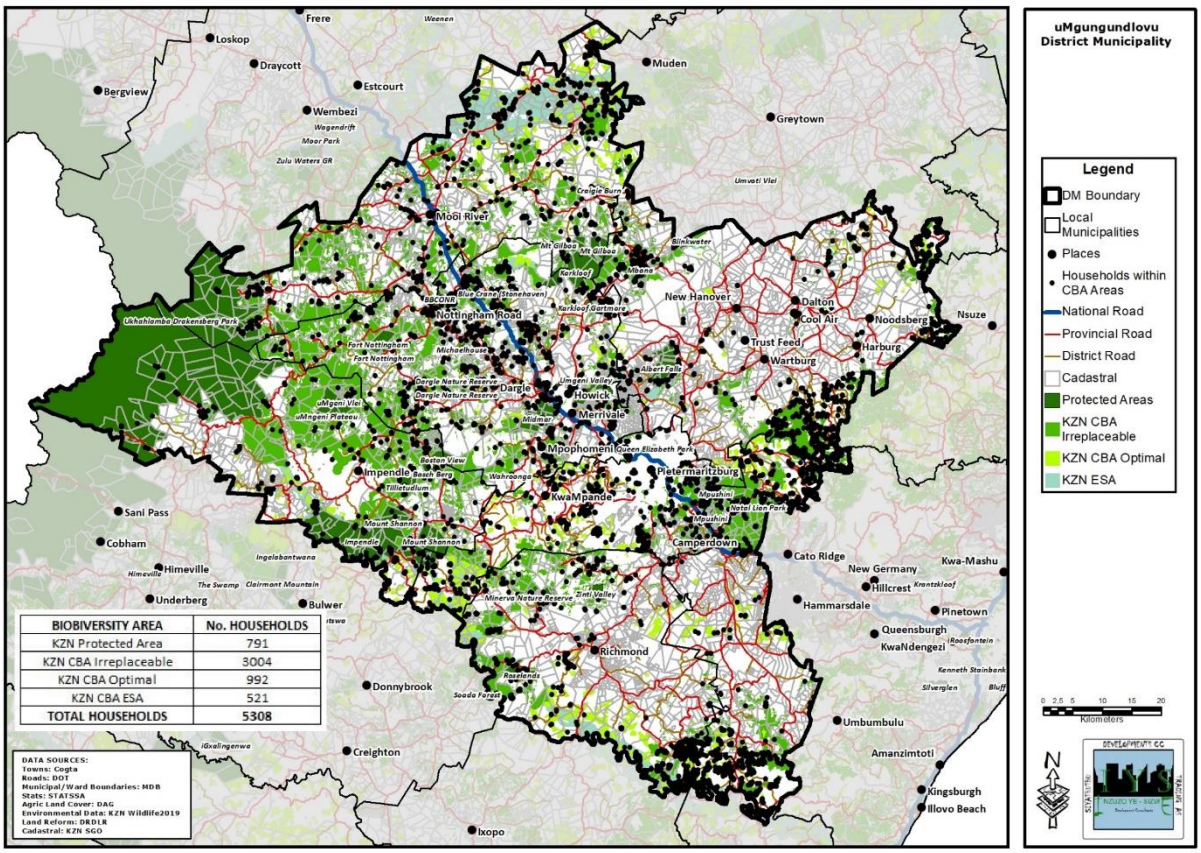
The Impendle municipal area is characterised by steep slopes, displaying the highest average slope, and including the Drakensberg escarpment and foothills. The UMngeni and Mpofana municipal areas have a gentler topography. The gentler topography of the UMngeni and Mpofana municipal areas provide more opportunities for agriculture, while the Impendle municipal area has the most slope limitations for agriculture. This would also affect soil erosion and exacerbate the impacts from over grazing of grassland areas. Development within the Impendle municipality would need to be undertaken in a sensitive manner to not cause land degradation. This area would likely not be suited to agricultural activities. Aspect should be considered when deciding on land use choices (UMDM, SDF, 2022).

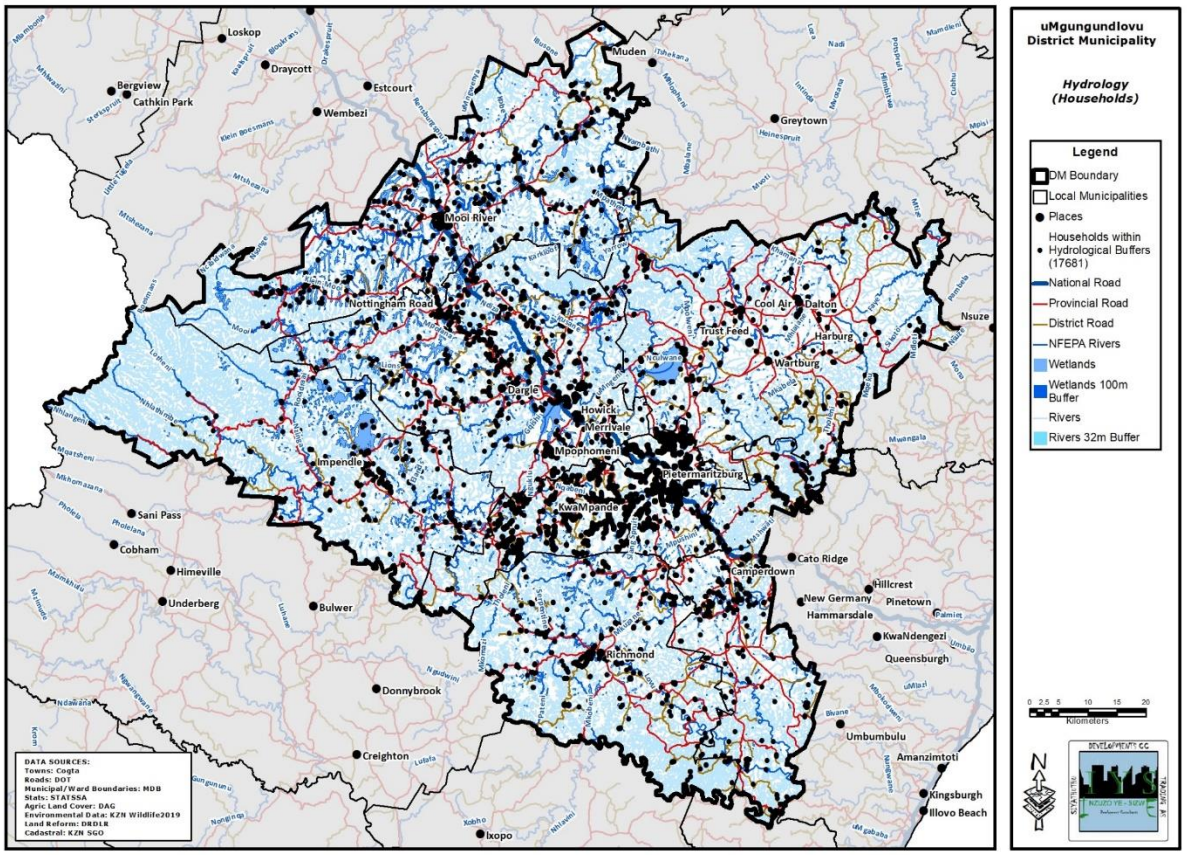
4.8.2 HH LOCATED ON ENVIRONMENTALLY SENSITIVE AREAS (HYDROLOGICAL AREAS)

UMDM is very sensitive when it comes to hydrological features. The map below shows that in UMDM, there are many surfaces water features such as rivers (perennial and non-perennial), catchments, dams and wetland systems that traverse through various conditions, landscapes and altitudinal gradients. The map further indicates that there is a number of 17 681 households located on or in close proximity to hydrology areas (surface water) and flood lines which is a concern for public health, public safety and environmental quality. Water resources should be protected in UMDM and in SA there is toolkit or package of legal frameworks and regulations devoted to the protection and management of the environment. With the recent scourges of climate change events leading to excessive heavy rainfall and floods, it has become more important for these situations to be avoided. Extreme flooding has become a deadly threat in the face of climate change and global warming.

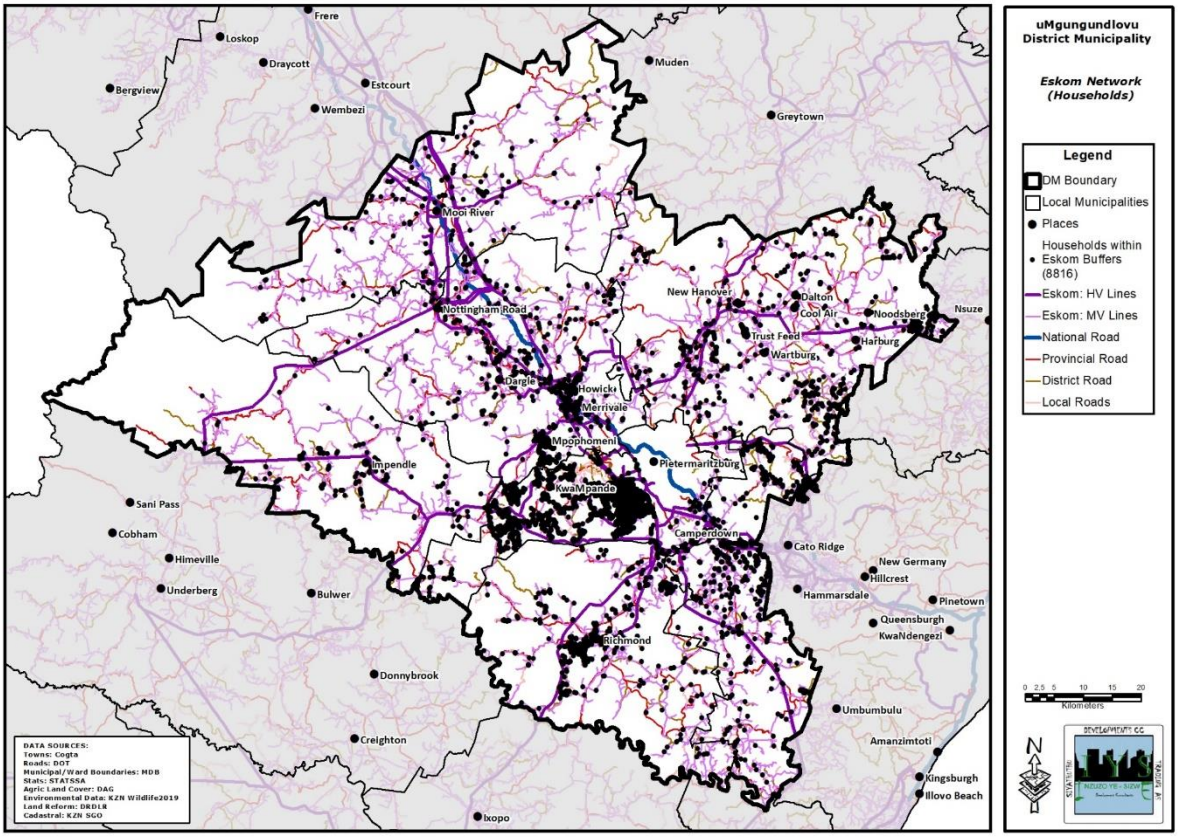
4.8.3 HH LOCATED ON OTHER ENVIRONMENTALLY SENSITIVE AREAS (HIGH BIODIVERSITY VALUE)

The other sensitive environmental component includes land that should be preserved due to high biodiversity value. The map below provides an indication on the number of households that have settled on land that can be considered as of good for conservation value. This includes 5308 households located on CBAs. This includes 791 households located on KZN Protected Areas (PAs), 3004 households located on CBA Irreplaceable land, 992 located on CBA Optimal and 521 located on CBA ESA land.


uMgungundlovu District Municipality
Legend
DM Boundary
Local Municipalities
Places
Households within CBA Areas
National Road
Provincial Road
District Road
Cadastral
Protected Areas
KZN CBA Irreplaceable
KZN CBA Optimal
KZN ESA
BIOBIVERSITY AREA | No. HOUSEHOLDS
KZN Protected Area | 791
KZN CBA Irreplaceable | 3004
KZN CBA Optimal | 992
KZN CBA ESA | 521
TOTAL HOUSEHOLDS | 5308
DATA SOURCES:
Towns: Cogta
Roads: DOT
Municipal/Ward Boundaries: MDB
Stats: STATSSA
Agric Land Cover: DAG
Environmental Data: KZN Wildlife2019
Land Reform: DRDLR
Cadastral: KZN SGO
Kilometers
N
Loskop
Draycott
Bergview
Estcourt
Wembezi
Muden
Greytown
Mooi River
Nottingham Road
New Hanover
Dalton
Cool Air
Noodsberg
Nsuze
Trust Feed
Harburg
Wartburg
Dargle
Howick
Merrivale
Mpophomeni
Impendle
Pietermaritzburg
KwaMpande
Sani Pass
Cobham
Himeville
Underberg
Bulwer
Camperdown
Cato Ridge
New Germany
Hillcrest
Hammarsdale
Pinetown
Queensburgh
KwaNdengezi
Richmond
Donnybrook
Umbumbulu
Amanzimtoti
Kingsburgh
Illovo Beach
Creighton
Ixopo


uMgungundlovu District Municipality
Hydrology (Households)
Legend
DM Boundary
Local Municipalities
Places
Households within Hydrological Buffers (17681)
National Road
Provincial Road
District Road
NFEPA Rivers
Wetlands
Wetlands 100m Buffer
Rivers
Rivers 32m Buffer
DATA SOURCES:
Towns: Cogta
Roads: DOT
Municipal/Ward Boundaries: MDB
Stats: STATSSA
Agric Land Cover: DAG
Environmental Data: KZN Wildlife2019
Land Reform: DRDLR
Cadastral: KZN SGO
Kilometers
N
Loskop
Draycott
Bergview
Cathkin Park
Estcourt
Wembezi
Muden
Greytown
Mooi River
Nottingham Road
Cool Air
Dalton
Nsuze
Trust Feed
Harburg
Wartburg
Dargle
Howick
Merrivale
Mpophomeni
Impendle
Pietermaritzburg
KwaMpande
Sani Pass
Cobham
Himeville
Underberg
Bulwer
Camperdown
Cato Ridge
Hillcrest
New Germany
Pinetown
Hammarsdale
KwaNdengezi
Queensburgh
Richmond
Donnybrook
Umbumbulu
Amanzimtoti
Kingsburgh
Illovo Beach
Creighton
Ixopo

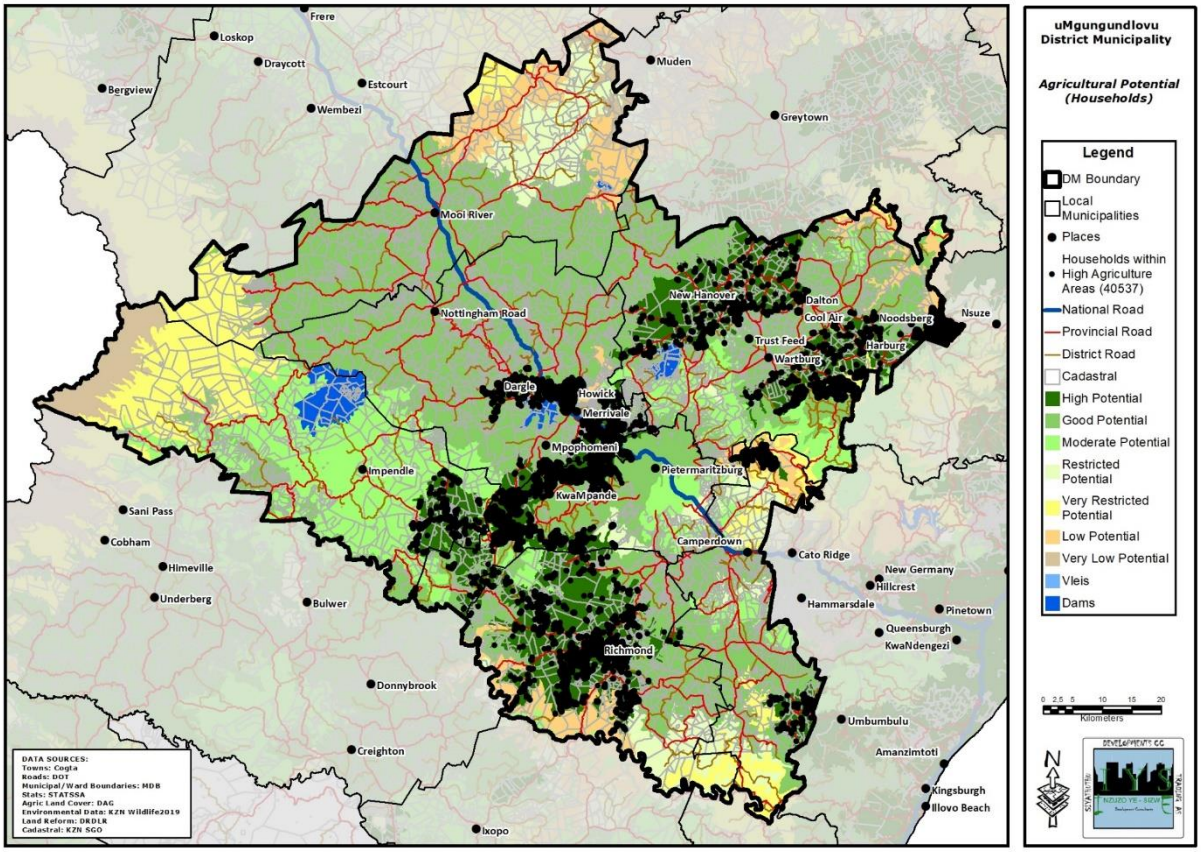
4.8.4 HH LOCATED UNDER HV AND MV CABLE CONDUCTORS



The map below indicates that there are approximately 8816 households which are located under Eskom Clearance Buffers. A high-voltage cable (HV cable) is a cable used for electric power transmission at high voltage and medium voltage cable (MV cable) is a cable used for electric power transmission at medium voltage. Power utility Eskom has appealed to the public to stop building houses or dwellings underneath power lines. Overhead power lines carry extremely high voltage and could be very dangerous should a power line come down. People who build houses or dwellings directly under power lines are not only breaking the law, but they are putting themselves, their families and their possessions at serious risk as these lines are not insulated and carry power of a very high voltage. If the power line drops onto the roof, the roof becomes live as most of these houses are roofed with corrugated iron. Due to storm, wind and general fault conditions these lines can drop from their support and if this happens, they can injure and even kill, depending on the circumstance.

The risk of being injured is increased if power lines or conductors are damaged, or their condition has deteriorated over time. There are also other possible disasters that could occur such as veld fires or lightning strikes that can cause the lines to drop. Power lines are categorized according to the voltage applied for transmission. This means the higher the voltage that is transmitted through the power lines the more dangerous. Eskom also says faults and general maintenance becomes very difficult to be carried out in the areas where houses are built under power lines.

4.8.5 LOSS OF HIGH POTENTIAL AGRICULTURAL LAND FROM PHYSICAL DEVELOPMENT



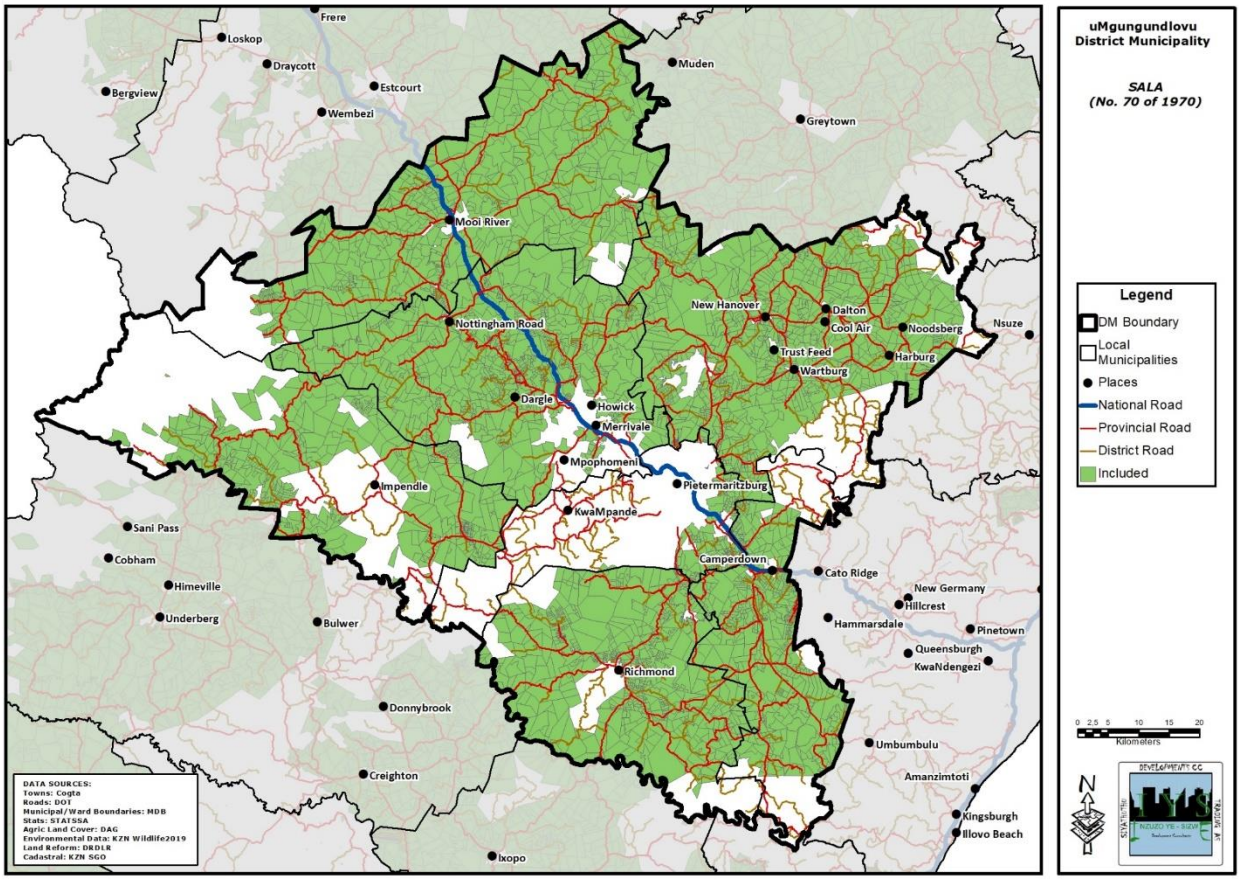
The other spatial planning challenge that faces UMDM is the loss of land with high agricultural potential from physical development and infrastructure. The map below illustrates that in UMDM large tracts of land are under SALA. Given this reality, agriculture must remain a huge part of resource considerations. The Subdivision of Agricultural Land Act, 1970 (Act 70 of 1970) (which has not been repealed by SPLUMA) will have specific relevance in the development of the DDM and the district municipality. The Midlands area is renowned for its high agricultural potential and high value outputs, which accounts for its competitive advantage both provincially and nationally.

A critical component of the productive system pillar is the incorporation of productive agricultural land. Agriculture and farmland are an integral part of the economy, environment, and overall quality of life. The map below indicates that there are approximately 40537 households are located within high potential agricultural land. Due to land use changes in the past, the potential for agricultural production has possibly been lost within these areas as a result of encroaching settlement patterns. Opportunities for urban agriculture and vegetable gardening should be encouraged.

Agriculture, which accommodates land uses and buildings associated with farming practices such as crop production, livestock farming, forestry and horticulture. There is a well-established agricultural primary sector, which focuses on forest, sugar cane, etc. Remnants of subsistence farming are evident especially within rural areas and this currently occurs on ad-hoc basis without any unified approach. The UMDM consists of small rural municipalities

whose economy has been driven by the agricultural sector for a long time. It is dominated by agricultural practices and this makes agriculture the biggest economic sector as well as the main sources of income in those municipalities. As a result of this, the uMDM has the mandate to protect and manage high value agricultural land. At part of this mandate, the municipality has formulated an agricultural potential map.

The agricultural potential map below shows that agricultural land within uMDM could broadly be divided into seven (7) categories which are as follows:



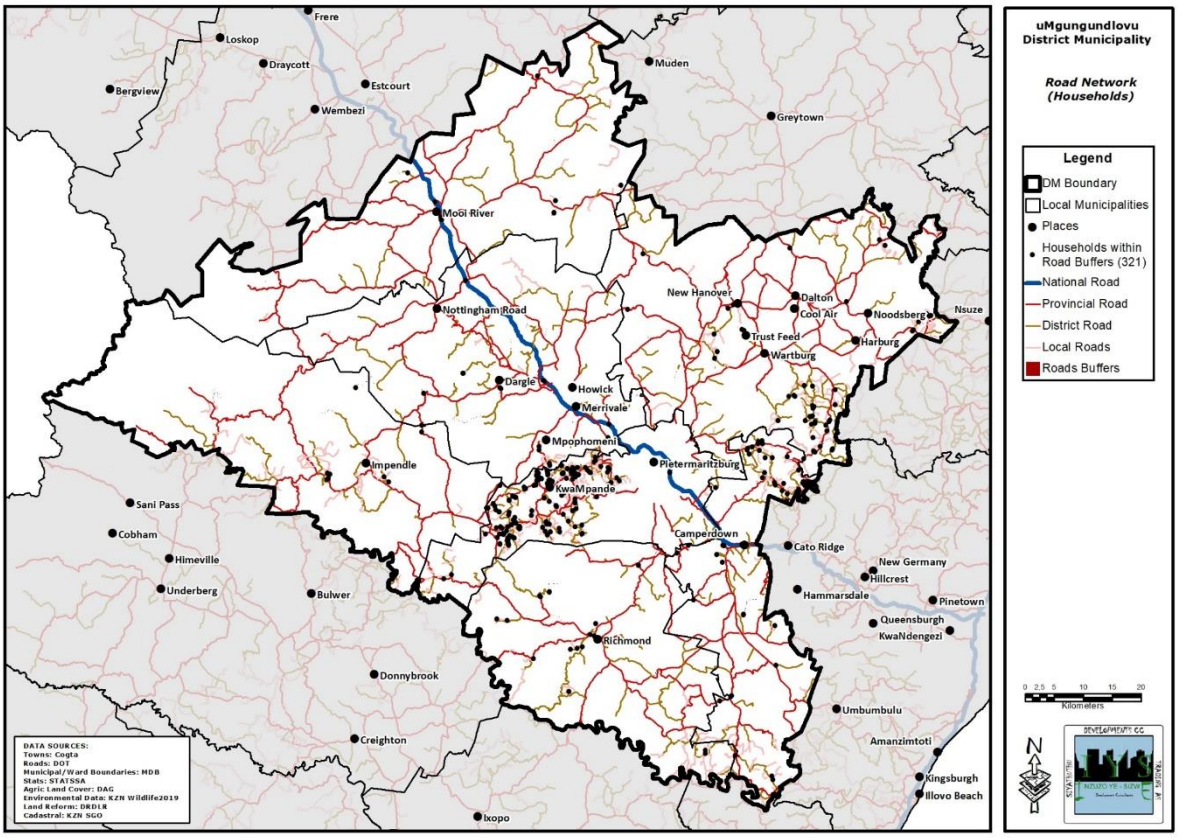
a) High potential agricultural land;
b) Good potential agricultural land;
c) Moderate potential agricultural land;
d) Restricted potential agricultural land;
e) Very restricted agricultural land;
f) Low potential agricultural land;
g) Very low potential agricultural land.

The protection of high potential agricultural land can provide several benefits, these include:

h) Securing opportunities for food production;
i) Food security;

j) Further developing commercial agricultural opportunities that could generate local economic development (LED), including agri-industry, transport services, and the provision of agricultural implements.

4.8.6 HH LOCATED ON ROAD BUFFERS OF THE EXISTING ROAD NETWORK



Data shows that some of the households within the uMDM are located on or within road buffers of the existing road network. There are approximately 321 households located on road buffers of national, provincial, district and local roads. It is unsafe for households to be located within road buffers and this undermines public safety.

5. INFRASTRUCTURE ANALYSIS

5.1 BULK WATER INFRASTRUCTURE

Image 1: UMgungundlovu WTPs

UMgungundlovu District Municipality is authorized in terms of the Municipal Structures Act (Act No. 117 of 1998) and the Municipal Structures Amendment Act (Act No. 33 of 2000) as the Water Services Authority (WSA) for its area of jurisdiction and therefore has a duty, as assigned to it in terms of the Water Services Act (Act No. 108 of 1997), to all consumers or potential consumers to progressively ensure efficient, affordable, economical, and sustainable access to water services. Therefore, UMgungundlovu DM services UMshwathi, Mkhambathini, Mpofana, Impendle, UMngeni and Richmond Local Municipalities with water and sanitation. Msunduzi WSA serves Msunduzi Municipality separately.

UMgungundlovu prepared and adopted a Water Services Development Plan (WSDP) in 2019 and it forms part of and is a required sector plan as part of the IDP. The WSDP is linked to an online Web enabled system that allows for easy access, map and data viewing of Demographic, Service level conditions and all other infrastructure related knowledge. The WSDP website is hosted by the Department of Water and Sanitation. Water supply to the district is derived from dams, rivers, ground water and bulk purchases from Umgeni Water. However, the UMgungundlovu Draft SDF (2022) notes that the district faces a number challenges in water supply and water quality, which have been explained as follows:

- The current water demand from the Umngeni catchment area exceeds existing supply levels and that is resulting in stress on the aquatic ecosystems;
- Degraded catchments and aquatic ecosystems diminish the ability of the natural systems to sustainably supply clean water; and
- The problem is further exacerbated by rapid urban, industrial expansion, population growth, inefficient water use and wastage.

Therefore, it is recommended that local municipalities take cognisance of the resulting Water Management Framework developed for UMgungundlovu SDF (2022) as it provides important information in respect to the areas where any development planning should consider water resources. Furthermore, the UMgungundlovu Draft SDF (2022) notes that when it comes to the management of water demand and supply, demand and associated abstraction is kept within sustainable levels of supply and that the ability of water resources to provide optimal quantities of fresh, clean water is not compromised. The following sustainability strategies have been recommended by the SDF:

- UMgungundlovu should participate in the determination (and any updates thereof) and support the maintenance of the ecological reserve for key rivers.
- Develop and implement a water loss and wastage management plan.
- Policies and measures implemented to significantly increase water use efficiency and to reduce levels of water consumption and demand.
- Water demand management should result in minimised water loss and optimised water conservation.
- Everyone should have access to the minimum supplies of potable water needed to maintain their health and well-being.
- Equitable and fair access to water supplies should be provided for all water users.
- Develop policies and strategies for more efficient and effective management of farm dams and irrigation systems.

The water supplied by UMgungundlovu DM is treated at several water treatment plants (WTP) owned by the district, before being distributed to households. The names and spatial representations of these WTP are shown in map 1 below. The Lidgetton WTP is located in UMngeni Municipality and supplies the village of Lidgetton from the Lions River. Plans are in place to implement the Mpofana Bulk Water Supply Scheme (BWSS) Phase 2, which is the supply to Lidgetton from the Mpofana BWSS, as there is an increase in demand in this area. Therefore, the Lidgetton WTP will be decommissioned when the Mpofana BWSS Phase 2 supply system is implemented.

The Mpofana WTP extracts water from the Mooi river to supply the town of Mooi River and Bruntville, located in Mpofana Local Municipality. The Rosetta WTP extracts water from the Mooi river to supply the village of Rosetta in Mpofana Municipality. However, both these plants will be decommissioned when the new Rosetta WTP is commissioned as part of the Mpofana BWSS. The Appelsbosch WTP was located in uMshwathi Municipality and only supplied the Appelsbosch Hospital, the Appelsbosch College, and the Appelsbosch community. However, the plant is no longer operation due to that the UMshwathi BWSS is now fully commissioned and operational, supplying most areas within UMshwathi Local Municipality. Table 1 below shows constraints surrounding some of these WTPs and their proposed mitigations.

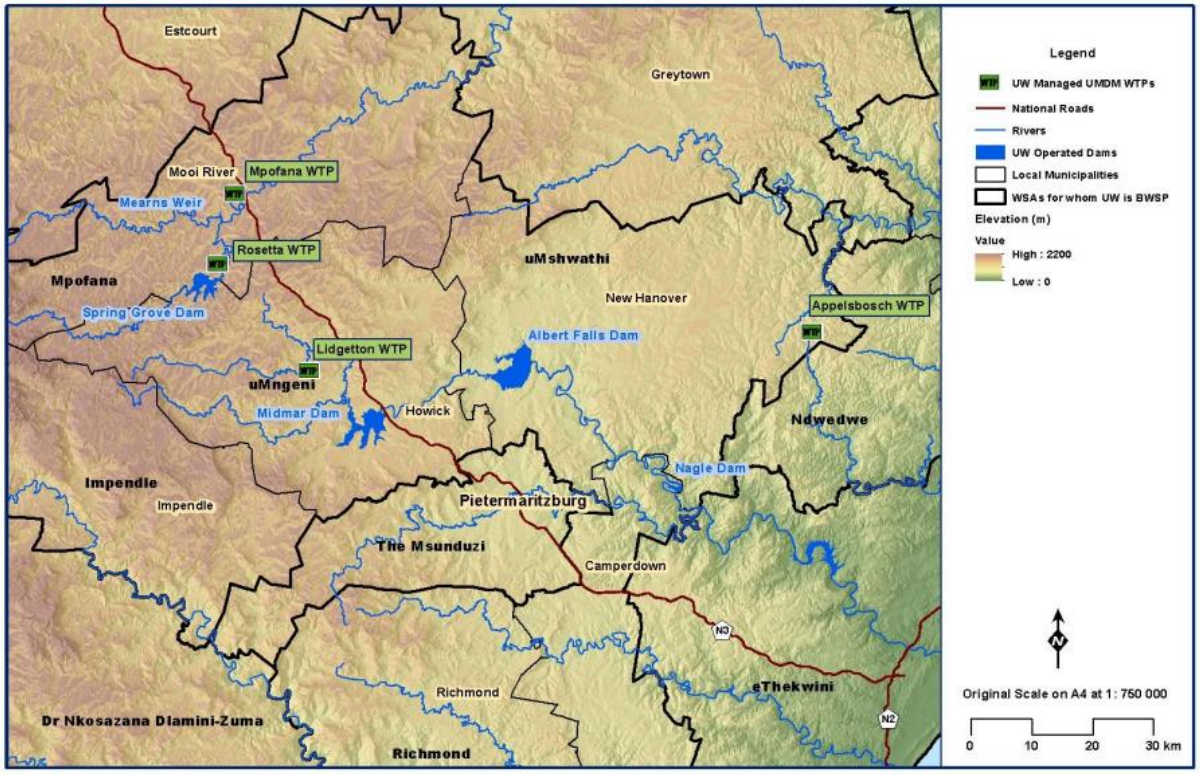
Table 9: UMgungundlovu WTPs constraints and migitations.

UMDM WTPs	CONSTRAINTS	MITIGATIONS
Lidgetton WTP	• 67.57% of the time this WTP was being operated above the optimal operating capacity for the period as stipulated and 35.13% above the normal design capacity. • Slow sand filters fail to treat raw water adequately resulting in final water quality often not meeting SANS:241 2015 standard. • The current operating capacity with two pumps running is 0.35 Ml/day and not the design capacity of 0.5 Ml/day, mainly due restrictions in the abstraction system(s).	• The 1 Ml/day package plant is envisaged to be fully operational by 2024, and it will mitigate current and future backlogs which are estimated at 1.5% demand growth per annum over the next two years

UMDM WTPs	CONSTRAINTS	MITIGATIONS
Mpofana WTP	• 2.06% of the time the WTP was being operated above the optimal operating capacity. • Experiences operational difficulty during high rainfall periods as it does not have the capacity to treat high turbidity raw water.	• This will be mitigated with the implementation of the proposed additional 2 Ml/day Package Plant increasing supply to the total of 8 Ml/day.
Rossetta WTP	• 92.05% of the time this WTP was being operated above the optimal operating capacity and 73.26% above the current design capacity during the period of the investigation (November 2020 to October 2021). • Experiences operational difficulty during high rainfall periods as it does not have the capacity to treat high turbidity raw water.	• Proposed new Rosetta WTP as part of the Mpofana BWSS.

Source: Umgeni Water Infrastructure Master Plan

Map 12: UMDM owned WTPs.



Source: Umgeni Water Infrastructure Master Plan

Furthermore, in terms of sales and demand, UMgungundlovu Municipality's sales increased by 14% from 62 Mℓ/day in the 2019/2020 financial year to 71 Mℓ/day in 2020/2021. Projected demands for 2020/2021 were determined in consultation between Umgeni Water and the District which led to the agreement of an 8% increase. The following demand increases were envisaged for some of the areas across the district:

- Growth in housing development will be experienced in the Mid-Illovo area over the next two years and this will increase the demand in this area.
- Umgungundlovu DM is planning to improve the level of service in the Greater Richmond area to house connections and plans to install waterborne sewerage systems thereafter. The water connection project was set to start at the beginning of the 2022/2023 financial year.

- An increase in housing development in the Lion Park/Manyavu area is also planned towards the end of the 2022/23 financial year and is likely to extend over the next 5 years. Therefore, the Enkanyezini Project is planned to be implemented.
- An increase in demand of 6 Mℓ/day to 7.5 Mℓ/day for the Howick West to Mpophomeni Supply area, mainly due to high water losses in the area. The Mpophomeni water project is out on tender.
- Umgungundlovu DM is in the process of connecting the Efaye and Oswathini areas within the UMshwati BWSS. Reticulation construction in Efaye is planned to be completed in 2024. The Ozwathini reticulation work is currently being implemented.
- A number of commercial development areas have been planned for UMDM and also construction for the Hilton commercial development has progressed steadily.

5.2 BULK SANITATION INFRASTRUCTURE

The provision of sanitation services is also the responsibility of UMgungundlovu District Municipality. This includes the delivery of bulk sanitation infrastructure such as the wastewater treatment plants (WWTP). The sanitation service provision in the UMgungundlovu District area of jurisdiction is broken down to urban and rural sanitation. With regards to the urban sanitation the service delivery standard is mostly waterborne sewer and for rural sanitation the pit toilets with ventilation (VIPs). The urban sanitation comprises a combination of waterborne sewerage linked to Wastewater Treatment Works (WWTW) as well as a system of septic tanks and conservancy tanks in the less densely populated areas.

Table 10: UMgungundlovu WWTW.

UMGUNGUNDLOVU DISTRICT MUNICIPALITY					
Mpofana	**UMngeni**	**Msunduzi**	**UMshwathi**	**Mkhambathini**	**Richmond**
Mpofana WWTW [Mooi River]	Mpophomeni WWTW Howick WWTW	Darvill WWTW, Lynfield Park WWTW [Pietermaritzburg]	Cool Air WWTW, Trust Feeds WWTW, Applesbosch WWTW, Albert Falls North & South WWTW	Camperdown WWTW	Richmond WWTW

Source: Umgeni Water Infrastructure Master Plan

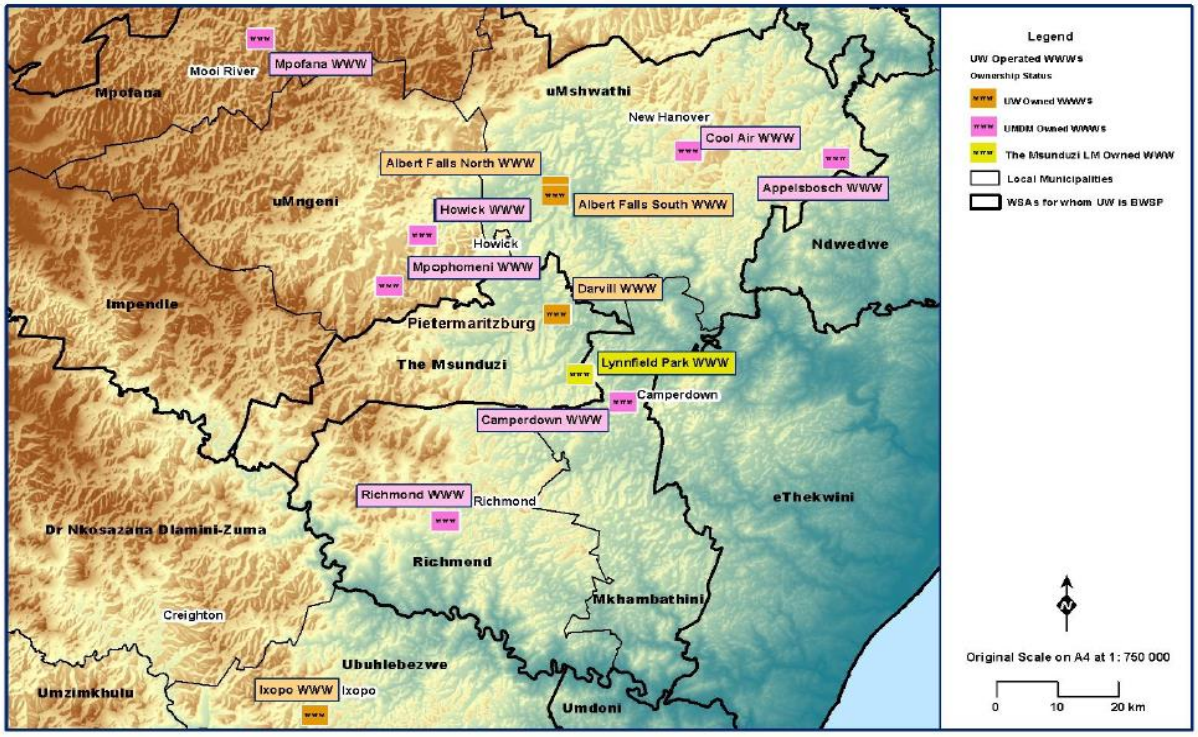
UMgungundlovu District Municipality has six WWTW which are maintained by Umgeni Water on behalf of the district, as shown in table 2 above. Furthermore, the UMgungundlovu Draft SDF (2022) suggests that due to the water scarcity situation it is important that waterless sanitation systems and alternative sanitation be given focus and ultimately mainstreamed. Alternative sanitation options must be evaluated and introduced in areas where this can be beneficial. Ecological sanitation approaches such as dry sanitation have several advantages. These systems are of a waterless nature, have low energy requirement and the creation of fertilizer is an added value product. This is a sustainable sanitation approach that may reduce the burden on infrastructure and provide sanitation to those without access to it (UMgungundlovu Draft SDF, 2022).

Effective and sustainable wastewater management practices must be implemented to protect public health and prevent pollution of the environment. It is also important to ensure that public awareness is created around key public health risks and that appropriate measures about hygienic conditions are promoted. Sanitation services must not cause contamination of surface or groundwater. It is important to promote and implement effective and sustainable greywater management practices to protect public health and prevent pollution of the environment. Wastewater and greywater re-use

strategies must be investigated and implemented to reduce the pressure on the potable water resources (UMgungundlovu Draft SDF, 2022).

Conventional/ mechanical methods for wastewater treatment often pose financial and technical challenges and are not always feasible. If properly treated, wastewater can represent a new water source and other options such nature-based solutions can be introduced. This can include sustainable technology such as constructed wetlands for the treatment of various wastewater source. In the context of the district, these can be particularly useful in low-income areas or rural settlements. Several studies that tested the application of constructed wetlands have been effectively implemented and can also be tested in the district. It can be a tool to be used to adapt to climate change and preserve ground and surface water. The use of wastewater in agriculture also has potential benefits. Using wastewater for irrigation of agricultural crops can lead to significant savings in the consumption of fresh water, as well as fertilizers (UMgungundlovu Draft SDF, 2022).

Map 13: UMDM owned WWTW.



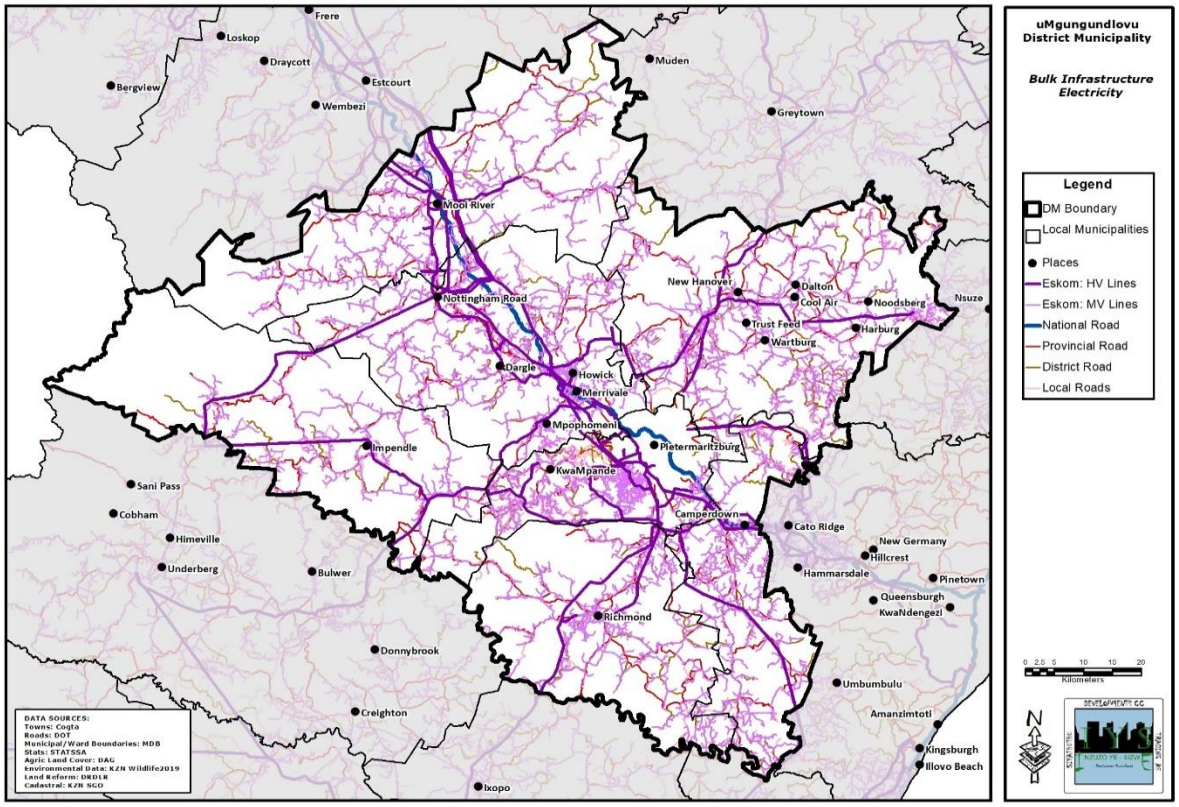
Source: Umgeni Water Infrastructure Master Plan

5.3 BULK ELECTRICITY INFRASTRUCTURE

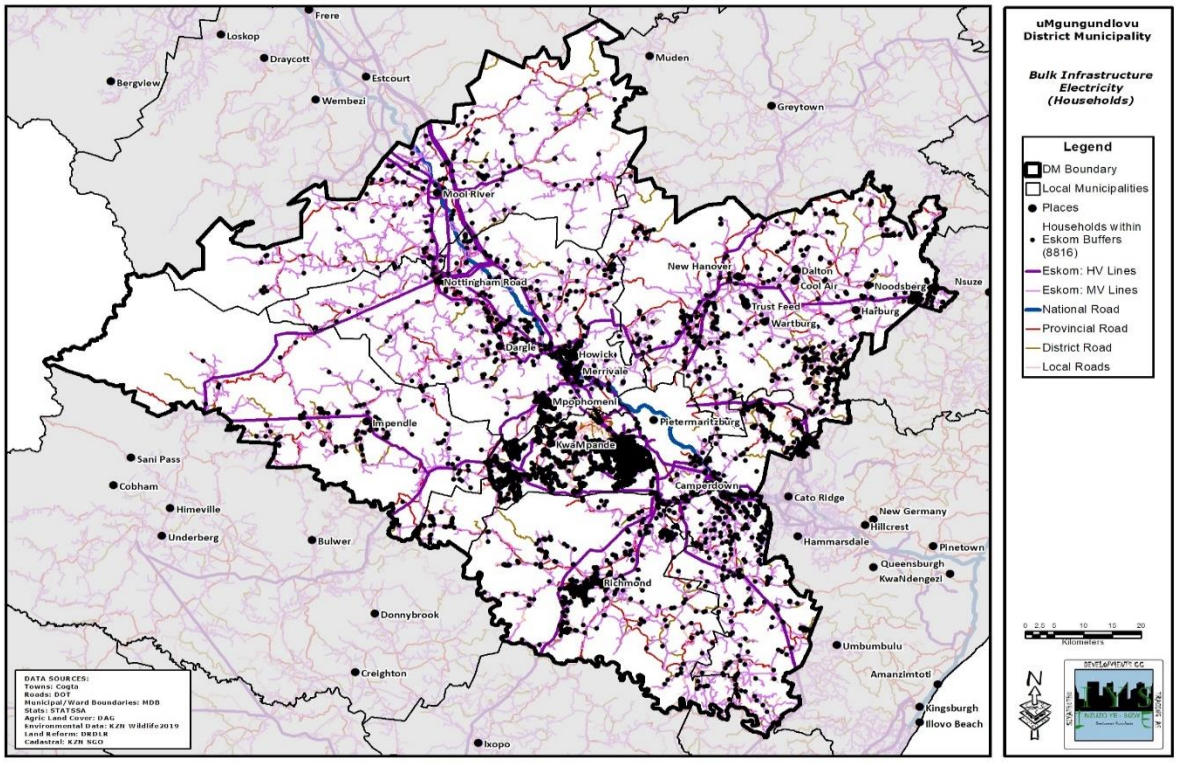
UMgungundlovu Draft SDF (2022) notes that the supply of electricity to most areas within the district has improved significantly over the last few years. However, despite the continued investment and supply of electrical infrastructure from Eskom within the District, South Africa is still facing an energy crisis. The SDF further suggests that the District's energy agenda should strongly remain on addressing maintenance, refurbishment and strengthening shortcomings in key electricity distribution infrastructure rather than focusing on alternative energy generation sources at this time (UMgungundlovu Draft SDF, 2022). Furthermore, the SDF suggests that transformation to such alternative environmentally friendly energy sources is to start at a household level, mainly in areas that are off the main Eskom grid. Amongst the recommended technologies are small photovoltaic

systems, small wind turbines, safer and more efficient cookers such as gel fuel, and more efficient and sustainable use of wood fuel.

Map 14: UMDM Bulk Electricity Infrastructure.



Map 15: Households located under Eskom powerlines.



Solar energy for individual household lighting, as well as within social facilities (e.g. schools) and at emerging service nodes must be promoted at rolled out. Other options include solar water heating that utilise the subsidy provided by government for individual household, as well as within social facilities (e.g. schools) and at emerging service nodes. Opportunities that include waste recycling to energy can also be explored further. There is also a need to promote and incentivise Eskom's feed in tariffs more effectively (i.e. Eskom purchasing excess electricity produced by consumers or developers using alternative technology at a rate higher than the cost of its own main grid electricity – this includes alternative power generation by wind, solar power, landfill gas or small hydro and which is fed back into the grid) (UMgungundlovu Draft SDF, 2022). Maps 3 and 4 below are spatial representations of the bulk electricity infrastructure existing in the district, further showing that there are about 8 816 households located under Eskom power lines which presents a health risk for the families (Statistics SA, Census 2011).

5.4 ICT BROADBAND ROLL-OUT

It is important to expand community access to broadband services and to increase bandwidth (speed) for economic competitiveness within the district. Possible linkages to SIP 15, which aims at expanding access to communication technology, should also be investigated. SIP 15 aims to provide for 100% broadband coverage to all households by 2020 by establishing core Points of Presence. The effective use of Information and Communication Technology (ICT) is of great importance, given the fact that it can act as an enabler, to merge a wide range of dimensions (such as utilities, mobility, economy, environment, education, people, living, health, planning and governance). It is also stated that the optimal deployment of ICT can further play a critical role in development. However, in the context of uMgungundlovu, only 19.2 percent of households have access to computers and only 35.3 percent have access to the internet (Stats SA 2011). Broadband has been a driver of growth and development across the globe, improving community development, ensuring access to economic opportunities and knowledge and allowing for greater access of services.

However, access to broadband is usually clustered in the main urban economic nodes, effectively excluding township areas, informal settlements and non-urban/agricultural areas. At the same time, access to cell phones has increased from 27.9% in 2001 to 86.8% in 2011, reflecting a global trend of increasing cell phone usage. Smart phones are increasing, including among the urban poor, and serve as a useful tool through which people can access the internet. This means that there are important opportunities for bridging the digital divide through the use of wireless broadband networks. These opportunities have as yet, not been optimised by the State, to improve its service offerings. In the context of ICT development, it is thus critical that technological skills in the workplace and by citizens be supported, while the functionality and speed of ICT technology for a growing economy (business and government) be developed optimally. It is thus suggested that computer skills be taught to learners from a young age, but also be included in the ABE curriculum to reach a broad spectrum of citizens.

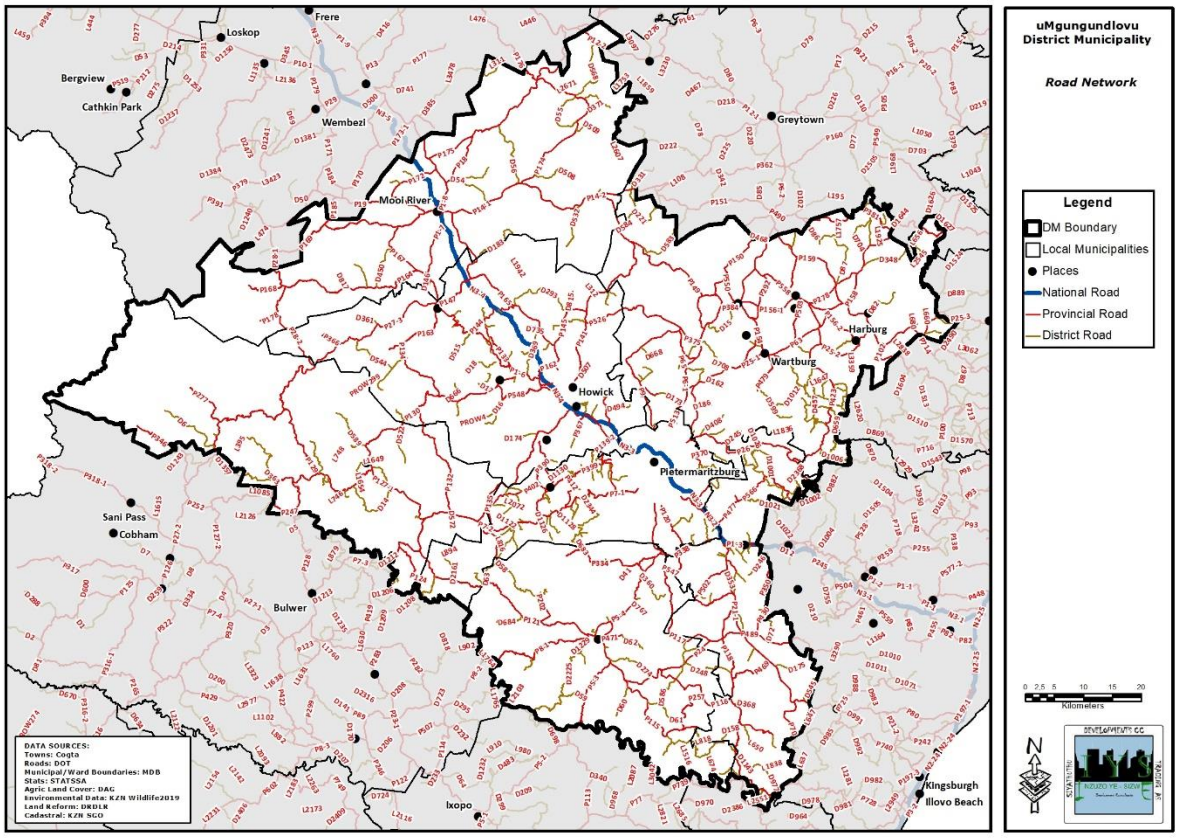
The development of a fibre optic network throughout the District will further lead to increased connectivity and usage, decreased costs, and stimulating growth and development. To this end, KZN produced a Provincial Broadband Strategy that indicates interventions required and identifies the roll-out for all parts of the province. This strategy will ensure that all segments of society can extract the benefits of broadband services.

The development of ICT infrastructure will also further benefit business operations by providing cost effective and reliable ICT services. The District should take part in investing and rolling-out broadband to all areas and define a clear framework and strategy in respect of broadband and other areas. The involvement and cooperation of the District with the various role-players in this regard is critical (major role-players include the Department of Communications, Sentech, Infraco, USAASA, Telkom, State Enterprises, DEDT etc.).

- Facilitate broadband investment.
- Expand community access to broadband (especially to rural and non-urban areas).
- Increase the speed of bandwidth for economic competitiveness.

5.5 ROADS AND TRANSPORTATION INFRASTRUCTURE

Map 16: UMDM road network.



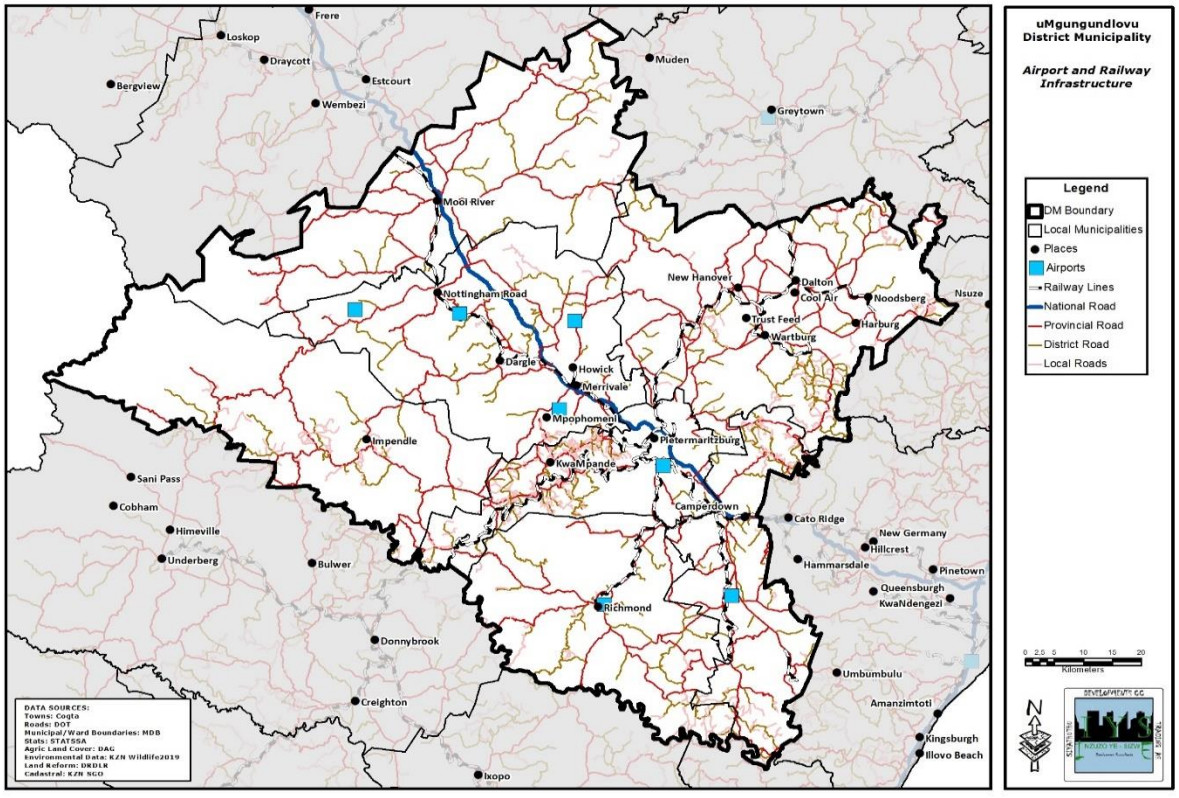
An extensive road network exists in UMgungundlovu District Municipality, providing a large number of households with access to road transport. While the national and provincial roads are in a generally good condition, the quality of district and local roads is poor and requires continued upgrading and maintenance. Most of the roads in the District, being 70%, are assumed to be gravel or earth, 16% are gravel and 10.9% of the roads are blacktop surfaced (UMgungundlovu Draft SDF, 2022). Map 5 below is a spatial representation of the road network within the District. The N3 is the primary north-south linkage and it links Pietermaritzburg in the South with the upper places in the North of the District including Howick and Mooi River. Large traffic volumes in on the N3 are usually the result of those travelling from the Durban ports through to Pietermaritzburg and Johannesburg. The provincial road network provides a high proportion of the road network in the District and covers a vast range of types of roads from main regional links (class 2) through to local roads (class 7). Improved access to certain

parts of the district is also important to open certain economic opportunities and strengthen rural linkages to nodes (UMgungundlovu Draft SDF, 2022). UMgungundlovu SDF (2022) further notes the following important interventions towards improving the road network in the district:

- Finalisation and implementation of the district's Integrated Transport Plan that is now in the process of being reviewed in collaboration with the KZN Department of Transport.
- The expansion of the capacity of the N3 corridor. Additional lanes will be added between Durban and Cato Ridge (six lane in both directions).
- of the freeway) and between Cato Ridge and Cedara (four lanes in both directions).
- The secondary road network must be maintained, and rural road access extended.
- The rail network within the district is currently underutilised and presents an opportunity for passenger and freight transport. As such, the upgrading and maintenance of the core freight network remains important.
- Commuter rail transport must be promoted and the completion of the upgrading of the Pietermaritzburg Station and the business express train between Pietermaritzburg and Durban is still vital.
- Secure funding for the completion of the Msunduzi Public Transport Network, which aims at the integration of various forms of public transport to realise a more efficient and reliable transport network. This is critical in the urban context of the Msunduzi as the capital of the province the largest urbanised area in the District.

5.6 AIRPORT AND RAILWAY INFRASTRUCTURE

Map 17: UMDM airports and railway infrastructure.



The National Airport Development Plan (NADP) has been developed in response to the Draft White Paper on Civil Aviation Policy (NACP) as a plan to address gaps between the current airport network

and the future desired state. The NADP aims to guide and support both overall network planning and the development of individual airports integrated within their broader spatial and transport contexts, in consultation with key airport stakeholders. The NADP highlights that the network includes more than 1500 airports and airfields, of which 135 are licensed (10 internationally) and 50 voluntarily registered. Ownership is indicated as 9 ACSA, 9 provincial government, 33 military, 100 municipal and the remaining majority as private. Information related to runway capacity, rescue and firefighting provision and other facilities is summarised in NADP. Airspace, airport network planning and individual airport planning are addressed in the NADP and National Airspace Master Plan (National Transport Master Plan, 2050). Airports in South Africa come in varying sizes and configurations that are usually determined by the function of the airport and the size of the population it serves. Functional categories in South Africa include the type of service provided – international, domestic or local transport services, military airports, heliports, and the size of the aircrafts. Dedicated freight airports do not exist in South Africa (National Transport Master Plan, 2050).

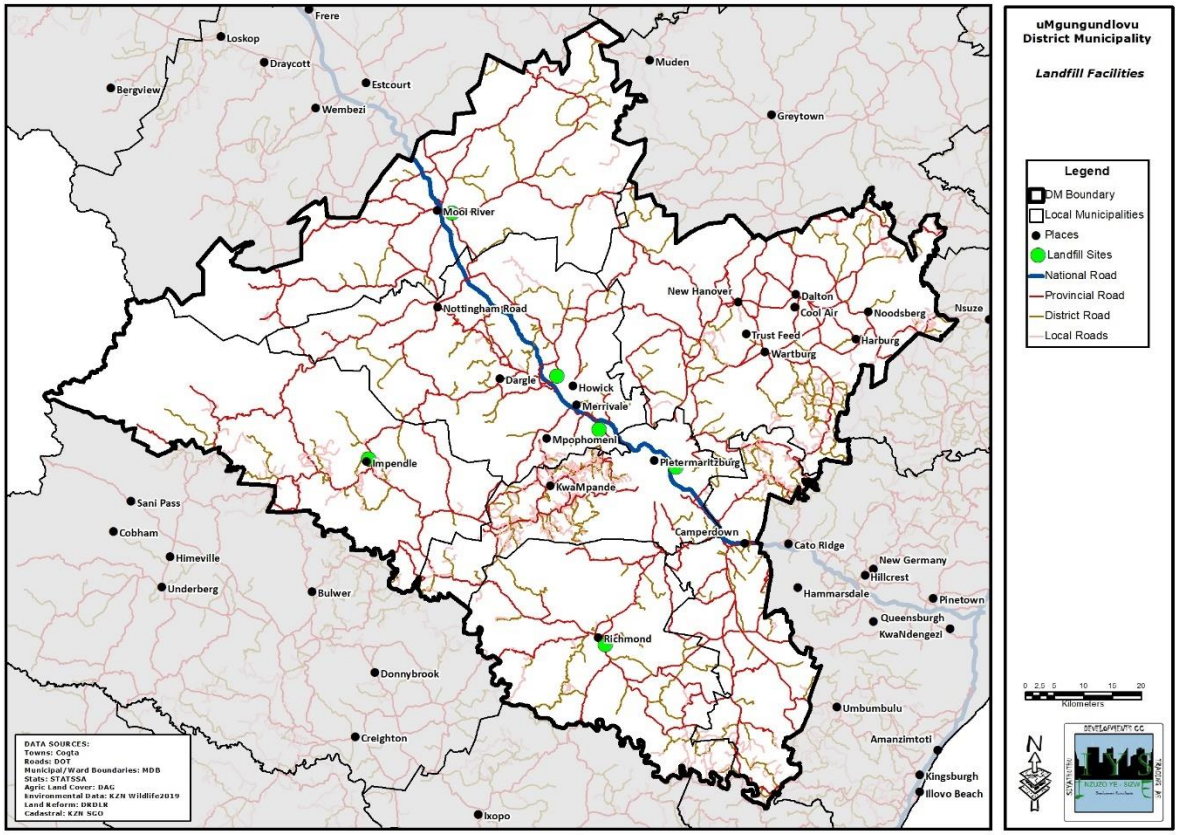
Rail is seen as an essential long-term component of the networks for both freight and passenger transport. The national freight rail network is owned by Transnet and is managed, maintained, and operated by its Transnet Freight Rail division (National Transport Master Plan, 2050). Numerous sidings (branch lines) connect industrial, commercial, and mining facilities to the national network, some of which are operated by private entities that are owned by Transnet (National Transport Master Plan, 2050). The National Infrastructure Plan (2050) states that the average condition of the core rail network is fair of which the coal and ore lines are classified as good and that the branch line network was classified as poor to very poor. Map 6 above is a spatial representation of the airports as well as railway infrastructure existing within the district. It is unclear on which airports are owned by which entities. However, as part of proposed infrastructure interventions the UMgungundlovu IDP (2022) stresses that improvement or expansion of the Pietermaritzburg Airport needs to be finalized.

5.7 RECYCLING CENTRES AND LANDFILL SITES

The amount of waste that is generated within UMgungundlovu District is estimated at 235,000 tonnes per annum. It is estimated that by 2025 this would have grown to almost 250,000 tonnes per annum (GreenEng, 2010). The composition of waste includes Organic Waste which is 23%, Inert Waste at 22%, Recyclable Waste at 20%, Garden Waste at 16% and Other Waste at 19%. The 2011 census indicated that only 47% of households within the uMDM had access to regular weekly refuse collection services. UMngeni (71%), Msunduzi (56%) and Mpofana (51%) Local Municipalities have the highest collection rates. Since 2011 very little progress has been made across the uMDM to provide waste collection services to most low-income households in urban areas and all households in peri urban and rural contexts. It is generally accepted that half of all households in the uMDM have no access to a weekly kerbside or communal waste collection service.

The Waste Act and Waste Management Strategy requires all South Africans and municipalities to operate from the view that wasted materials are resources from which economic, environmental and social value can be extracted through various treatment processes from recycling of mainline packaging to the treatment of organic materials to produce energy and nutrients. The uncontrolled use of natural resources to produce fuel, energy and food for our economies has led us to the point where long-term changes in our climate now pose serious grave risks to human survival. We have passed the point where we can landfill garden materials, food and other organic materials and create

greenhouse gases that then fuel climate change. We are also past the stage where we can allow materials that can be recycled to be lost permanently as a resource through landfilling. Landfill Sites within the uMDM have not yet managed to attain the standards of a sanitary landfill site, instead most of our landfills are non-compliant with their license conditions and are at different stages of enforcement and prosecution actions by EDTEA.



The best-case scenario anticipates that by 2024 the Msunduzi, uMshwathi, Mkhambathini and uMngeni municipalities will have no landfill airspace to dispose of waste from 85% of UMDM population. This crisis presents an opportunity to divert recyclables and organic materials away from landfill sites. UMDM is to recommence the process of obtaining a waste management license for a landfill site. A need to have a co-ordinated recycling strategy is also necessary.

Recycling means the remanufacturing of recovered materials. 80% of household waste is considered to be the recyclable. The ultimate aim of recycling is the protection of the environment and public health. This is due to the fact that recycling reduces the amount of natural resources necessary for the manufacture of any product. The type of waste that can be recycled includes cans, glasses, papers, plastics, scrap metal, oil (engine, gear and hydraulic oil) and electronic waste. The glass products that cannot be recycled are light bulbs, car headlights, drinking glasses, ceramic dishware, plate glass (windowpanes) and radioactive material.

The paper products that cannot be recycled are cement bags, dog food bags, disposable nappies, plastic lined papers, foil lined papers, self-adhesive post-it notes, chemically treated fax or photographic papers, wax coated boxes, food wrappings, paper towels, tissues and carbon papers. In UMDM there is no clear strategy that is being implemented for recycling instead at Msunduzi, uMngeni and Mpofana landfill sites there are wastepickers who are recovering recyclables waste materiel for small personal gains. This is not an ideal arrangement from the point of view of human

safety or progressive approach towards waste management, but it has been the only form of activity that has been practiced which has somehow reduced the pressure at the landfill sites but to a very limited extent.

5.8 KEY ISSUES

The key issues can be listed as follows:

- UMDM has notable surface water as well as ancillary water infrastructure for water catchment, storage, treatment and distribution. However, there are challenges with the maintenance of infrastructure and the upkeep with future developments. The impact of failing to maintain the existing infrastructure will be catastrophic to environment and human well-being. This will result in strain on the aquatic ecosystem as well as limited capacity to meet the current and future demand and the incidents of water contamination will likely increase which will be a danger to human health. Water losses and inefficient (water wastage) are the exacerbators of the water problems;
- Wastewater that is channelled to wastewater treatment plants renders financial costs and technical demands for the district. There is a need for UMDM to explore creative strategies for managing wastewater than conventional mechanical treatment. These include artificial wetlands which can create new water sources and usage of wastewater for irrigation of agricultural crops. The greywater re-use strategies can also be explored in terms of certain commercial and domestic activities such as car wash, cleaning, flushing public toilets and garden watering i.e. one does not need purified water for such;
- The electricity infrastructure is in existence but there is a need for alternative sources of energy. These should go beyond the obvious and explore the long-term sustainable energy initiatives which include generation of energy using the new sources e.g. leachate gas that is formed due to landfilling practice can be converted into energy which can power a number of households;
- Energy savings methods should also be explored such as the usage of solar for streetlights, traffic lights, public buildings and even commercial establishments;
- Introduction of optic fibre network throughout the District will further lead to increased connectivity and usage, decreased costs, and stimulating growth and development;
- The transportation infrastructure and network is well established at a basic level, however there is a need to take this to the advanced level through a multi-modal transportation system. The study that Msunduzi had commenced with for Integrated Rapid Public Transport System (IRPT) should be prioritized and implemented; and
- A ground-breaking integrated and comprehensive waste management programme should be explored within UMDM. This should be prepared with the intention of getting the best value out solid waste with the clear involvement and the links amongst all the seven municipalities within the district. Key to this programme should be a highly co-ordinated solid waste collection that should involve municipalities, waste pickers (including the homeless), waste transfer stations in all the seven local municipalities, local recycling and product making (using recycled materiel), a district wide regional landfill site with the capacity and infrastructure to generate leachate gas, a leachate gas conversion station which will turn such a gas into energy and the transfer of such energy to be an alternative source of power. The ripple effect will be a creation of many permanent job opportunities, establishment of new waste management businesses and a cleaner environment that is attractive for other investments that are targeted within UMDM.

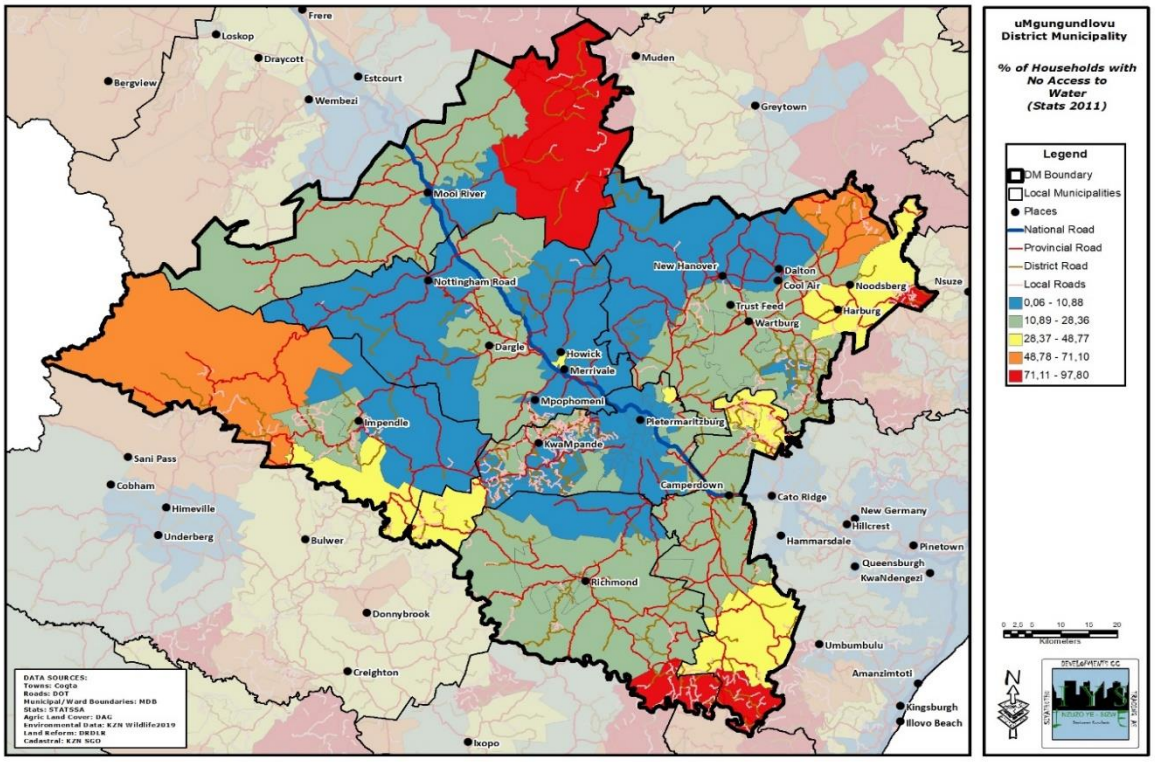
5.9 SUMMARY OF CHALLENGES

The challenges can be summarized as follows:

- Current water demand from UMngeni Catchment exceed existing supply levels and puts a strain on the aquatic ecosystem;
- Rapid population growth and industrialization has been detrimental to water efficiency resulting in water wastage;
- Strain and challenges in terms of energy implies a need to explore alternative energy sources;
- A lack of a district wide broadband ICT network is limiting the district's competitiveness in terms of communication and potential investment options;
- The condition of local and district road network is in a dire need of intervention. Such improvement will ease the flow and movement within and between settlements particularly in terms of the movement of goods and people;
- An Integrated Multi-Modal Transport System is worth exploration in order to improve mobility choices by the public, this should also consider the re-sourcing of the existing rail and air transport network; and
- A robust waste management approach and programme is necessary to holistically deal with waste management challenges. This can also explore the best way at which the district can be resourced with waste recycling and landfill needs.

6. SERVICE DELIVERY ANALYSIS

6.1 ACCESS TO WATER

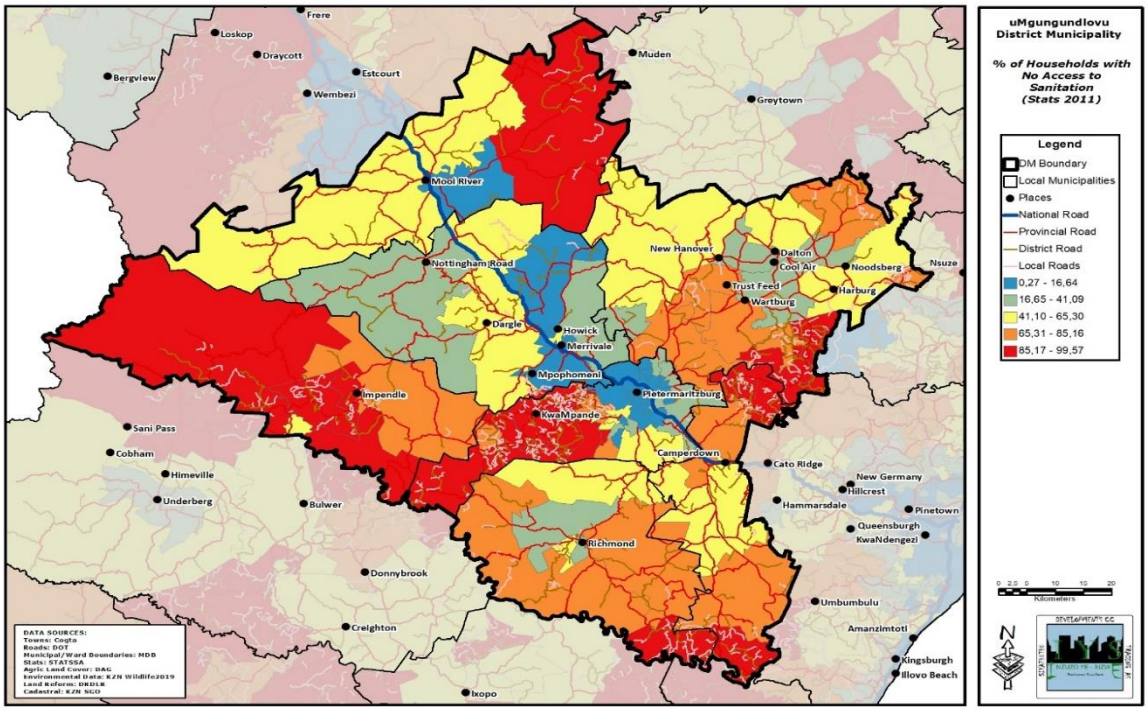


The map above spatially depicts households having no access to water in the Census year 2011, showing that water access is mostly concentrated in the inner areas of the District, of which was still the lesser total compared to the number of households having no access. However, UMgungundlovu Draft SDF (2022) states that according to the Provincial Water Master Plan (2021), approximately 85.9% of households in the District had access to water in 2020, of which 37% had a yard connection and 15.6% had RDP level connections. The RDP standard for water supply is that each household should be supplied with 6000 litres of potable water, within 200m of the home. This shows a highly significant increase from the Census year 2011 investigation.

6.2 ACCESS TO SANITATION

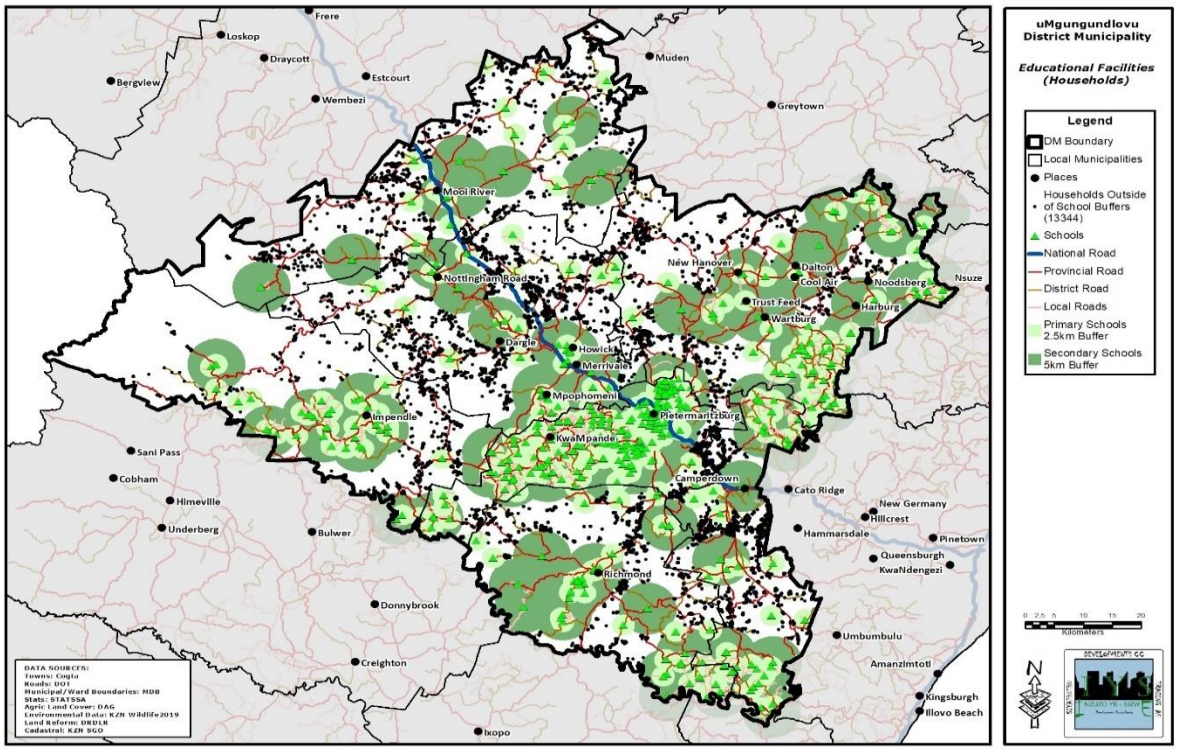
There are generally three levels of service in terms of sanitation services. There is the full waterborne sewerage network that discharge into a wastewater treatment plant (WWTP). There also are on-site septic tanks or alternatively conservancy tanks that are emptied periodically by a vacuum tanker which in turn discharges the wastewater into a WWTW. And lastly, there are the on-site Ventilated Improved Pits (VIP) which basically function as holes in the ground. The map above spatially depicts the areas within the district having no access to sanitation during the census year 2011 and shows that access to sanitation was very low with only the inner parts of the District, being also the urban areas, having access. However, according to the Department of Cooperative Governance and Traditional Affairs UMgungundlovu Municipal Profile, most of the households within the district have access to flush toilets that are connected to the public sewerage system whilst a considerable portion has access

to pit latrines (both ventilated and nonventilated). However, there is still 1 859 households still using the bucket toilet (UMgungundlovu DM Profile, 2020).



6.3 ACCESS TO EDUCATION

Map 18: Educational facilities access.

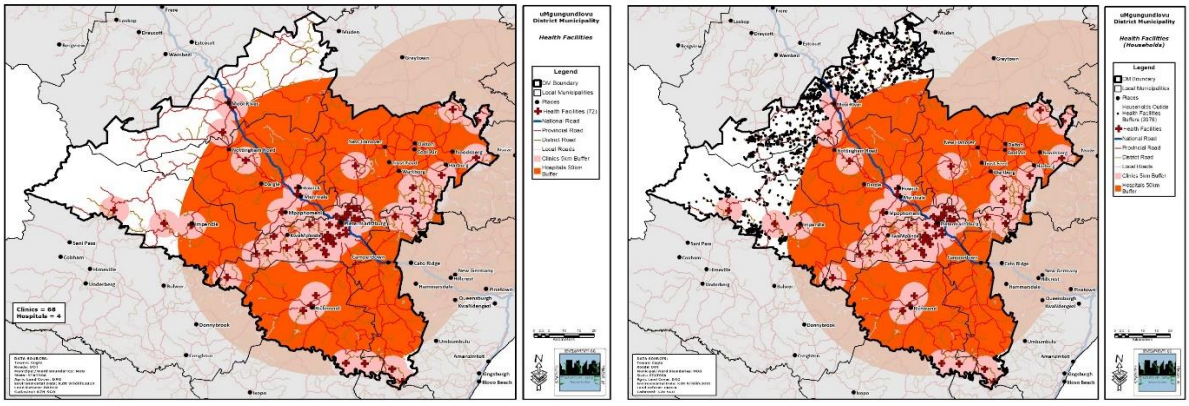


The map below depicts the number of educational facilities within the district, and also shows that there is a total of 13344 households having no access to educational facilities, according to the

prescribed norms and standards (Stats SA, Census 2011). Guidelines indicate that households should be located not more than 2.5km away from a primary school and 5km away from a secondary school. UMgungundlovu Draft SDF (2022) suggests that schools should be seen as resources serving both pupils the school population during the day and, where possible, adult education during the evenings. Similarly, halls and libraries can serve the school population during the day and the broader community during the evening, ensuring high or maximum usage of facilities.

6.4 ACCESS TO HEALTH FACILITIES

Map 19: Health facilities access.

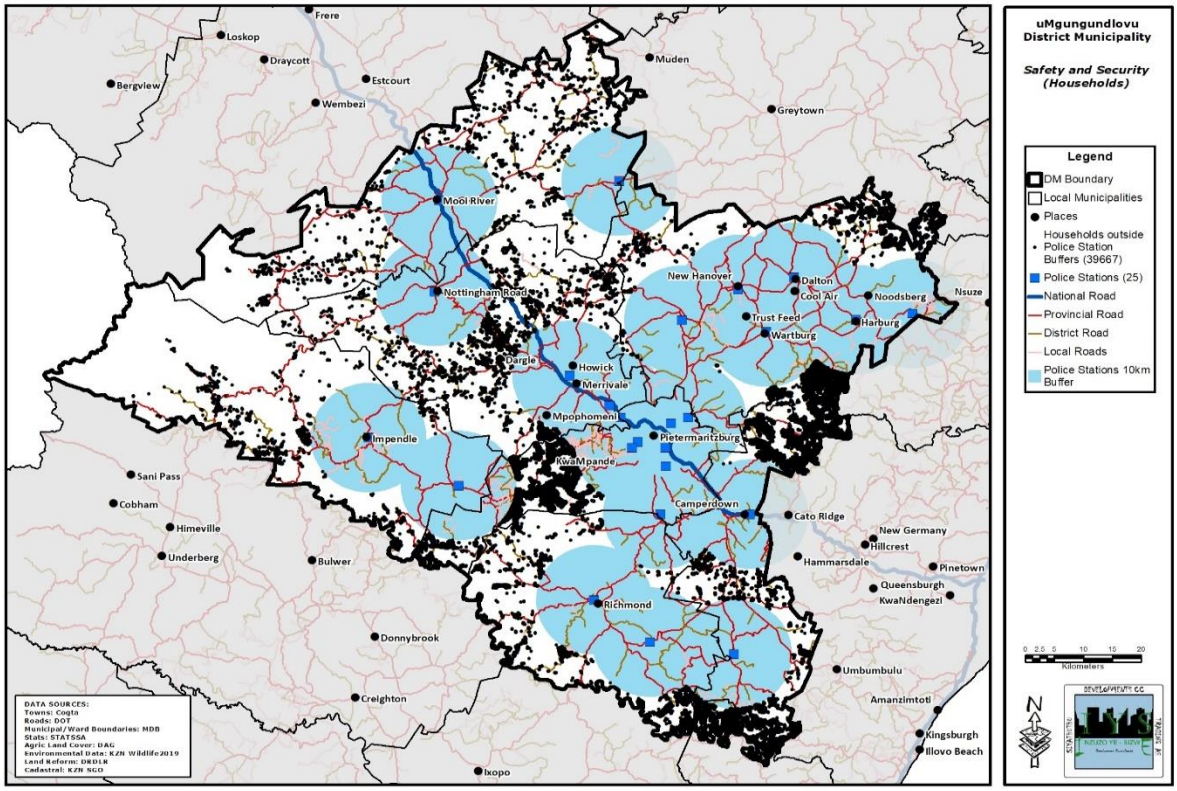


According to the UMgungundlovu Draft SDF (2022), health considerations form an integral part of spatial transformation and settlement making in the District. Provision of health facilities should consider, among other, public transportation and service thresholds, and be located close to activity areas and regular places of gathering. In line with the national planning standards for health facilities, a clinic should be developed for every 6000 households or 5km radius where service thresholds allow whereas a hospital's radius is 50km. Deep rural settlements should be prioritized for mobile clinic services (UMgungundlovu Draft SDF, 2022). The maps above spatially depict the locations of the existing health facilities within the district, showing that there is a total of 68 clinics and 4 hospitals. However, there is a total 3976 households having no access to health facilities according to the prescribed norms and standards (Stats SA, Census 2011).

6.5 ACCESS TO SAFETY AND SECURITY FACILITIES

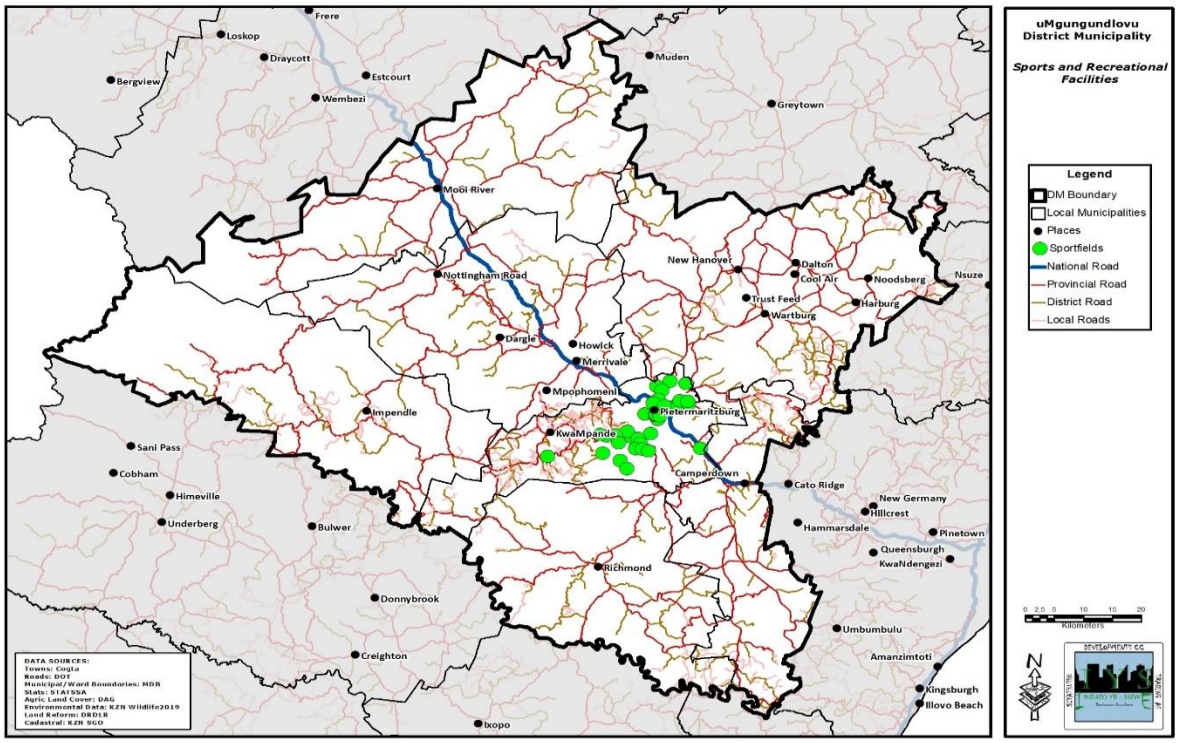
At a high level, public safety involves protecting the public — safeguarding people from crimes, disaster, and other potential dangers and threats. Public safety is the dedicated responsibility of certain government organizations and local departments such as police officers, security agents, emergency response teams, fire forces, parole officers, and more. Concerning UMgungundlovu District Municipality, the IDP (2022) indicates that the Fire Prevention Officers undertake regular trainings with hospitals, commerce and industries in order to impart basic fire safety training; while the Public Education Section engages schools and communities regularly about basic fire and life safety awareness in order to impart rudimentary skills. Furthermore, the map below spatially depicts the locations of the existing police stations within the District, showing a total of 25 police stations. However, there is still a backlog of 39667 households having no access to the police stations. The prescribed norms and standards indicate that households should be located within a distance of 10km from a police station.

Map 20: Access to safety and security facilities.



6.6 ACCESS TO SPORTS AND RECREATIONAL FACILITIES

Map 21: Access to sports and recreational facilities.

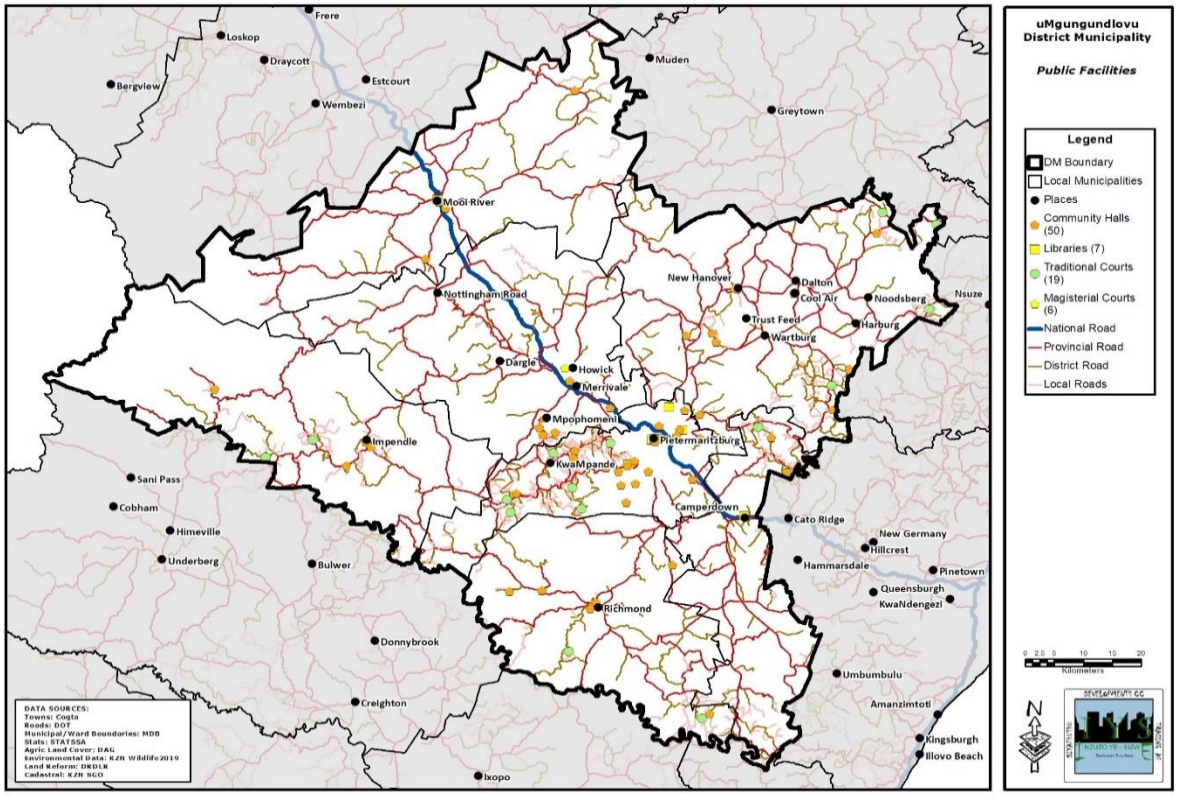


The White Paper on Sports and Recreation (2013) state that every South African should have an equal opportunity to participate in sport and recreation with the emphasis on the disadvantaged and

marginalised groups, including women, children, the youth, the elderly, persons with a disability and people living in rural areas. The White Paper also expresses the need to facilitate and provide appropriate resources to enable such levels of access and participation. The key impact of a sports and recreational facility in addition to national building is that it also has a secondary impact on amongst others the following: tourism, health; education; job creation; poverty alleviation; contribution to GDP; peace and development, the environment and rural development. Municipalities should, among others, include the building of sports facilities in their planning; ensure maximum and equitable access to facilities by reviewing municipal by-laws and tariffs and developing effective partnerships with lease holders; carefully consider the advantages of multi-purpose sports facilities; and develop a way forward for the effective coordination, monitoring and management of such sports and recreational facilities. The map above spatially depicts the locations of the existing sport facilities within the district. It is visual from the map that the district's provision of such facilities is very low, and that more focus needs to be placed towards overcoming this backlog.

6.7 ACCESS TO OTHER SOCIAL FACILITIES

Map 22: Access to other social and public facilities.



In respect of other social facilities, map 12 above indicates that there is a total of 50 community halls across the district area. However, it must be noted that in some cases community members may be utilizing local school halls as community halls outside of school normal operating hours. Therefore, the backlog for community halls is not quite clear. Furthermore, these facilities are a community resource and therefore should be accessible to the community at large for a variety of purposes. The ideal location should be on transport route with adequate access for delivery vehicles for functions. Community halls should preferably be located in nodes and close to shops or include shops on the premises. (KZN Planning and Development Commission, 2008, p23). In addition, there is a very high demand for community halls in rural areas due to that the majority of the population comprises of

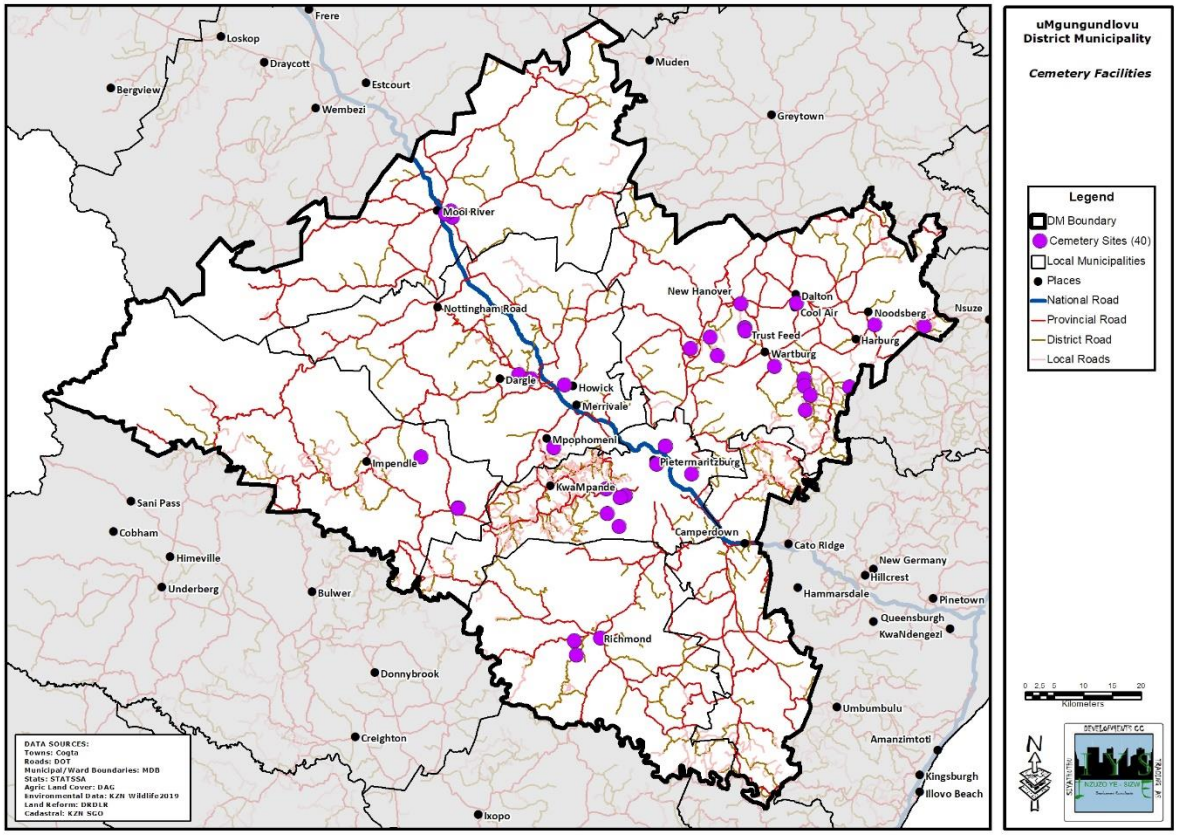
low-income earners who cannot afford to hold functions in hotels and clubs. The proposed service threshold for rural areas should be 1 Community Hall per a population of 5000 people or 1000 homesteads. (KZN Planning and Development Commission, 2008, p23).

6.8 ACCESS TO OTHER PUBLIC FACILITIES

In regard to other public facilities existing within the District, map 12 above shows the existence of 19 traditional courts, 7 libraries as well as 6 magistrate courts. A traditional court is a court established as part of the traditional justice system, which functions in terms of customary law and custom, and is presided over by a king, queen, senior traditional leader, headman, headwoman or a member of a royal family who has been designated. Furthermore, the planning standards (Redbook v1, 2000) indicate that libraries can serve populations of 5 000-50 000, and the maximum travelling time should be 20-30 minutes. In addition, libraries can be combined with several other facilities to form a convenient cluster i.e., schools, community centres, etc.

6.9 CEMETERIES AND CREMATORIA

Map 23: Access to cemeteries and crematoria.



There are numerous cemeteries, and graveyards in the District, these are associated with townscapes, rural landscapes, farmsteads, church land. Although formal cemeteries are reflected in existing data bases there are no accurate records of informal cemeteries and graves. The rural hinterland for instance, indicates numerous graves and informal cemeteries when studying aerial photographs of the area. However, these are not reflecting in any existing database. Map 13 above indicates that there is a total of 40 formal cemetery sites within the District.

6.10 KEY ISSUES

The key issues can be listed as follows:

- UMDM has done well in terms of addressing the backlogs for water which is evident from approximately 85% of the households that have access to water at a basic level, however there is a need to ensure that the district prioritizes the maintenance of infrastructure as well;
- Access to basic facilities such as schools and health seems to persists as a challenge in rural areas such as those in Mpofana and UMshwathi Local Municipalities; and
- Space for future cemetery will be needed since the area has a very high population and the existing cemetery spaces are nearing capacity.

6.11 SUMMARY OF CHALLENGES

The following issues can be noted as challenges that UMgungundlovu still faces when it comes to the matter of service delivery:

- The sparsely populated rural areas seems to be under-provided with the services.
- There are still many households not having access to facilities such as schools, clinics and police stations. This may be the result of uncontrolled urbanisation that is happening within KwaZulu-Natal and especially within the District. Therefore, the issues underlying these backlogs need to be investigated and thereafter planned against.

7. GOVERNMENT AND MANAGEMENT ANALYSIS

7.1 INSTITUTIONAL ARRANGEMENTS

UMgungundlovu District Municipality consists of seven local municipalities, namely, Msunduzi, Impendle, uMshwathi, Mkhambathini, Mpofana, uMngeni and Richmond Local Municipalities. The DDM as a One Plan concept should have structures in-place which fully accommodate the entire family of municipalities within the district. As such the established structures can be briefly listed as follows:

UMgungundlovu District Municipality inter-governmental relations structure are established and functional as depicted above. UMgungundlovu DDM/OSS structures have been assessed on a quarterly basis by COGTA IGR unit. All sub-clusters, together with the technical and political hubs are fully functional.

7.2 SECTION 139 INTERVENTION

Section 139 of the Constitution empowers provincial government to intervene when a municipality cannot or does not fulfil an executive obligation in terms of the Constitution or other legislations. Mpofana and Msunduzi Local Municipalities are under Intervention in terms of Section 139 of the Constitution. COGTA is supporting these Municipalities to get them out of this situation. The district experiences poor financial health including a negative cash position, operating deficit, a debtors collection rate under 80% and the creditors days are more than thirty days.

7.3 AUDIT OPINION

Msunduzi, Impendle, Mkhambathini and Richmond Municipalities have Unqualified Audit Opinions for the 2020/21 financial year. This can be seen as improvement from the previous year, since it was only Umshwathi, UMngeni and Richmond that had Unqualified Audit Opinions. UMgungundlovu

District Municipality, Umshwathi, UMngeni and Mpofana Local Municipalities received the Qualified Audit Opinion.

7.4 WARD COMMITTEES

A total of 88 Ward Committees have been established and inducted. Msunduzi has the highest number of ward committees which are counted as 39, followed by UMshwathi at 14 and UMngeni at 12. Mpofana has the least number of ward committees which are counted to be 5.

7.5 PARTICIPATION OF AMAKHOSI

It is noted that all TCs are functional excluding the landless committees. CoGTA has supported all TCs with catering for the TC meetings as well as providing sponsorship for cultural activities. Section 81 of the Municipal Structures Act, 118 of 1998 has been implemented as Amakhosi are part of the Council and they participate at Portfolio Committees. Recently, the District Chairperson attended the Mayor's Forum. Further to that the IGR Manager employed within the Office of the Municipal Manager, department who ensures the functionality of all IGR structures.

7.6 KEY ISSUES

The key issues can be summarized as follows:

- UMDM has structures in-place for the development and implementation of the DDM One Plan;
- Two municipalities namely Mpofana and Msunduzi are under Intervention in terms of Section 139 of the Constitution, but the situation is improving as there were three in the recent years;
- The Opinion of the Auditor General on financial administration is also improving as there are four municipalities that have the Unqualified Audit Opinion namely Msunduzi, Impendle, Mkhambathini and Richmond Municipalities; and
- A total of 88 Ward Committees have been established and inducted and it is noted that all Traditional Councils are functional excluding the landless committees.[2]

7.7 SUMMARY OF CHALLENGES

The summary of challenges can be listed as follows:

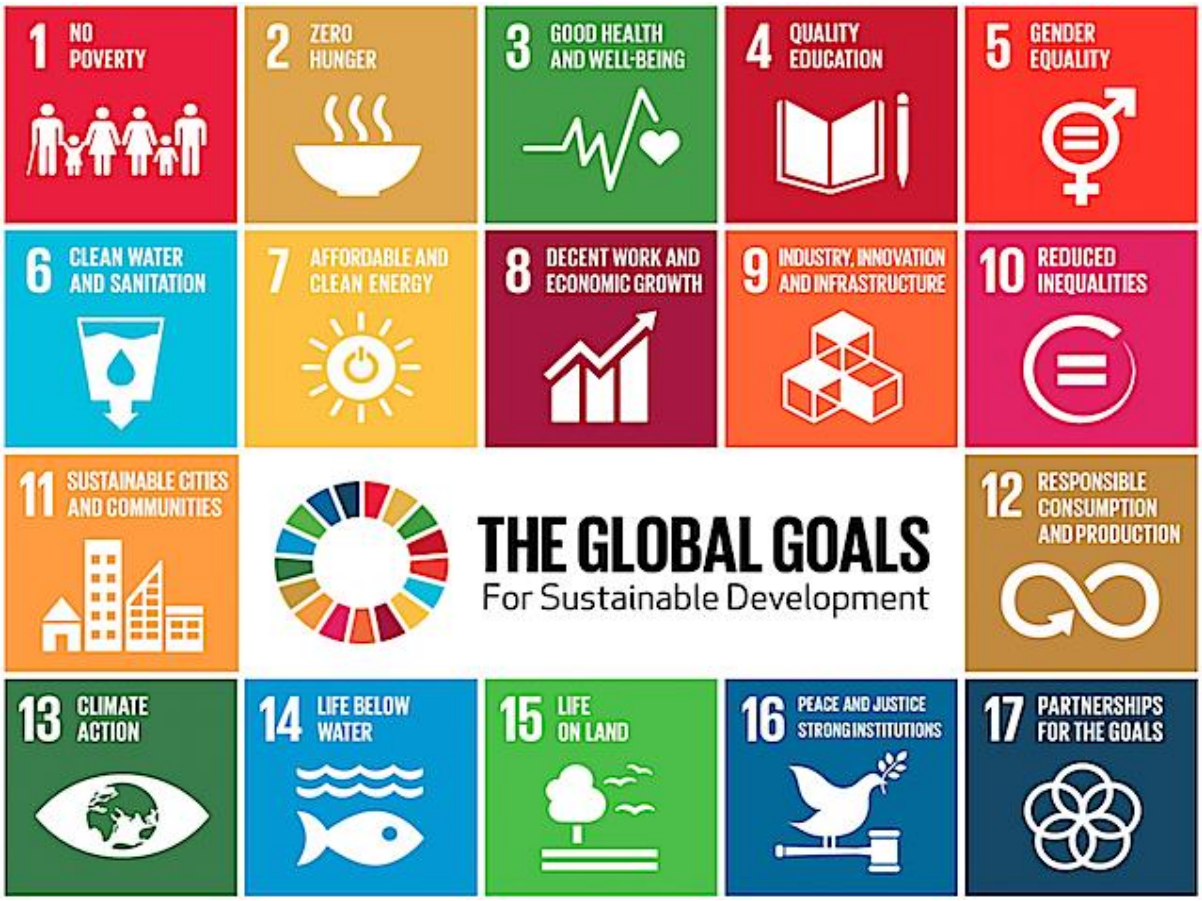
- The district experiences poor financial health including a negative cash position, operating deficit, a debtors collection rate under 80% and the creditors days are more than thirty days.
- The Mpofana and Msunduzi Local Municipalities are under Intervention in terms of Section 139 of the Constitution.
- Of the 88 Ward Committees in the District, 13 are fully functional, 50 are functional, 18 is poorly functional and 3 are dysfunctional.

[2] Umgungundlovu District Municipality Fifth Generation Final Integrated Development Plan 2022/ 23 - 2026/27

- Despite the reasonable number of community feedback meetings conducted in the Municipalities, there has been a notable number of public protests relating to issues of service delivery in the district area. Within 2019 there were 22 public protests in the District Area relating to water, electricity and housing provision.
- The high number of public protests suggests that Government including Municipalities should do more to deliver services to the respective areas. The district received during the period 1 July 2018 to 30 June 2019 disproportionate negative media coverage, focussing on irregular expenditure and water service delivery issues. There may be a need to improve communication as some of the reason for the public protests cut across the three spheres of Government.
- Both the Municipal Planning Tribunal for Msunduzi and the Joint Municipal Planning Tribunal (Umshwathi, UMngeni, Impendle, Mkhambathini and Richmond Municipalities) are functional.
- Enforcement of the by-laws and scheme contraventions within the smaller Municipalities of the District is problematic as there is capacity, processes or funds. It is recommended that the District Municipality explores the idea of providing enforcement services to the relevant Municipalities on an application basis.
- As proposed by the DGDP, there needs to be increased participation and engagement between Traditional Councils, the Local Municipalities, District Municipality and identified sector departments. This will ensure that projects are more sustainable and developed with the assistance of local communities - buy-in as opposed to imposing.
- CoGTA: Traditional Affairs need to be engaged further on equipment requirements and conflict issues in identified TCs.

8. TREND AND SCENARIO ANALYSIS

8.1 GLOBAL (SDGS)



The Sustainable Development Goals (SDGs) includes a set of 17 Goals, 169 Targets and 231 Indicators and are a universal call for action to end poverty, protect the planet and ensure that all people enjoy peace and prosperity. South Africa subscribes to the Sustainable Development Goals (SDGs), which act as the foundation of the United Nations Development Programme (UNDP). The SDGs build on the successes of the Millennium Development Goals (MDGs), while including new areas such as climate change, economic inequality, innovation, sustainable consumption, peace and justice, among other priorities. The goals are interdependent with action on one goal contributing to the attainment of targets for the other goals. It should be noted that almost all the Sustainable Development Goals are applicable to UMgungundlovu except Goal 14.

8.2 CONTINENTAL (AGENDA 2063)

Agenda 2063 (AU63) was adopted by the African Union as a 50-year strategic framework for socio-economic transformation within the African continent in 2015. The New Urban Agenda plays an important role toward the achievement of the Sustainable Development Goals, as well as for the Paris Agreement on Climate Change. Some of the key outcomes of the agenda include improved standards of living through improved access to basic services; transformed, inclusive and sustained economies; increased levels of regional and continental integration; a population of empowered women and

youth and a society in which children are cared for and protected; societies that are peaceful, demonstrate good democratic values and practice good governance principles and which preserve and enhance Africa's cultural identity. In effect, it suggests that future settlements within UMDM should be sustainable, inclusive, resilient, and integrated. The agenda further promotes sustainable natural resource management, biodiversity conservation, sustainable consumption and production patterns, water security, climate resilience and natural disasters preparedness and prevention, and renewable energy.

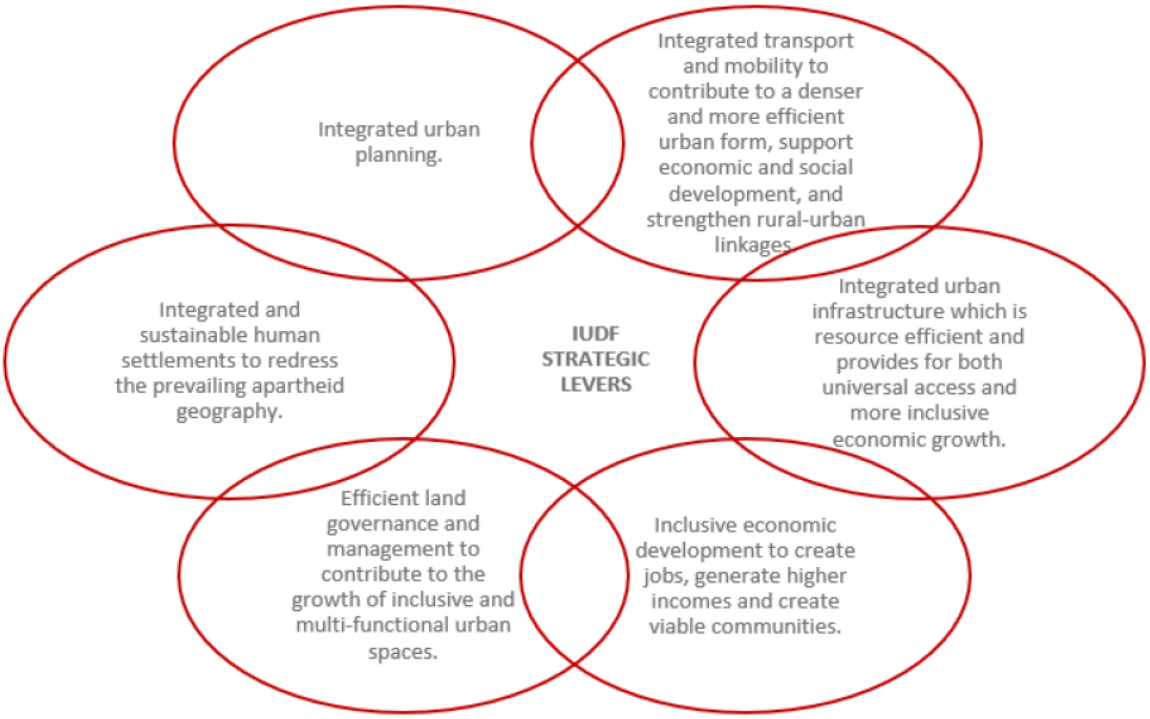
8.3 NATIONAL (NDP/ NSDF) POLICY CONTEXT

The National Development Plan (NDP) introduces a long-term vision for the future development of South Africa. It acknowledges the spatial inefficiencies that characterises existing settlements while recognizing the unique needs and potentials of different rural and urban spaces. It commits the national government to developing a national Spatial Framework as a policy framework to address these abnormalities. The NDP requires plans such as the SDF to respond directly to area specific issues, such as population movement patterns; the impact of external factors such as globalisation and climate change on spatial planning; public sector investment in economic infrastructure; inclusivity and integration of rural areas; supporting the development of spatial plans that cross municipal and even provincial boundaries (especially to deal with biodiversity protection, climate-change adaptation, tourism and transportation). UMDM SDF should give effect to the spatial planning principles outlined in the NDP and contribute to an effective implementation of the national spatial development vision. This includes spatial transformation and promoting spatial integration.

8.4 URBANISATION IMPACT

The Integrated Urban Development Framework (IUDF) is a policy initiative of the Government, coordinated by the Department of Cooperative Governance and Traditional Affairs (COGTA). It responds to the SDGs, particularly Goal 11 (making cities and human settlements inclusive, safe, resilient, and sustainable), as well as the NDP's strategic intent to transform human settlements and the national space economy.

The key outcome of the IUDF is spatial transformation by creating more functionally integrated, balanced, and vibrant urban settlements. This is to be achieved by encouraging compact, connected, and coordinated cities and towns. The strategic levers / programmes identified to achieve the desired future situation, include the following:



The IUDF is therefore a unified and innovative guide to build inclusive, resilient, safe, and liveable urban settlements.

8.5 INEQUALITY TRENDS

The Gini coefficient has been a commonly used measure of inequality in South Africa. The Gini ranges from 0 to 1, where 0 indicates perfect equality (all individuals have the same income) and 1 indicates prefect inequality (where one person has all the income and the rest have none). Therefore, the closer the Gini coefficient gets to 1, the more unequal the population is. On the other hand, as the Gini coefficient approaches 0, the more equal the population becomes. In 2015, the Gini coefficient in uMgungundlovu District Municipality was at 0.631, a decrease between 2005 to 2015. The KwaZulu-Natal Province and South Africa had a Gini coefficient of 0.628 and 0.63 respectively. uMgungundlovu District Municipality had the highest Gini Coefficient when compared to KwaZulu-Natal Province and South Africa as a whole. It is among the highest in the province. This indicates a wide gap between the rich and the poor people within the province as a whole. This inequality gap is evidenced from many features within the district which includes:

- High rate of uneployment and poverty;
- Low level of education and skills to assist to attain socio-economic opportunities;
- Spatial divides (i.e. communities located away from economic opportunities); and
- Previously neglected areas have not grown sustainably with enough resources, services and infrastructure to allow the inhabitants to attain the lifestyle that is equally comparable to

the previously resourced areas (i.e. quality of health care, education, job opportunities still remain far from reach).

8.6 CLIMATE CHANGE SCENARIOS

In 2019, The Council for Scientific and Industrial Research (CSIR) published a Green Book on Adapting South African Settlements to Climate Change. This Green Book identified a number of climate issues that will affect UMgungundlovu District area of jurisdiction which are recalled as follows:

- By 2050, the district is projected to be affected by higher annual average temperatures, which will adversely affect water and food security. Evaporation rates will also likely increase, and agricultural outputs may reduce.
- Increases in the number of rainfall days are likely to result in an increase in intense storms, and flooding events across the district.
- Fire detection and suppression is available for commercial farmers. The district has to invest in building fire stations, purchasing fire equipment and software infrastructure.
- Social inequalities are the factors that affect the susceptibility and coping mechanisms of communities and households. Indicators for social vulnerability attempt to consider the sensitivity, response and recovery from the impacts of natural hazards. Mkhambathini and Impendle are seen to be more vulnerable in terms of socio-economic coping mechanisms.
- Environmental vulnerability describes the vulnerability and risk to the natural environment and the impacts on the ecological infrastructure of which surrounding settlements are dependent. The environmental risk of an area includes ecosystems, habitats, physical and biological processes (reproduction, diversity, energy flows, etc). Impendle, UMngeni and Mpofana are seen to be vulnerable in terms of climate change Environmental Risks.

8.7 TECHNOLOGY (SMART REGION)

Bauer M. et. al. (2019, p1) defines the concept of a Smart Region as a possible solution for sustainable development for region with a rural and urban character. Such a region is not only a set of technological tools and solutions but as network system of people living in a region, their quality of living, communication, government, infrastructure, transport, economy, science, technology etc. Therefore, a central field of action on the way to the Smart Region is the development of a holistically conceived information and communication infrastructure. A solution developed for the entire district is the important prerequisite for future "smarter" processes between the individual organizational units (e.g. transport, administration, schools, supply infrastructures). As a result, an improved network integration of all regional actors optimizes in the future the interaction of all participants from many spheres.

While there are proposals to have a Smart City within UMDM, the entire district should ideally move towards being a smart region in an effort to bridge the urban to rural digital divides. The notion of focusing on a smart city will be a limited scope to the entire district given the context of UMDM as a blend of both urban and rural. The concept of a smart region is one of the ways to slow negative demographical trend and make life more attractive in smarter non-urban regions.

8.8 KEY FINDINGS

The key findings can be listed as follows:

- Almost all the seventeen Sustainable Development Goals resonates with UMDM as these are No poverty, zero hunger, good health and well-being, quality education, gender equality, clean water and sanitation, affordable and clean energy, decent work and economic growth, industry, innovation and infrastructure, Reduced Inequality, Sustainable Cities and Communities, Responsible Consumption and Production, Climate Action, Life On Land, Peace, Justice, and Strong Institutions, Partnerships for the Goals. The only goal that is not directly related is Life Below Water since UMDM is not a coastal district;
- Agenda 2063 is quite relevant to the context of UMDM as it states that future settlements within the UMDM should be sustainable, inclusive, resilient, and integrated. The agenda further promotes sustainable natural resource management, biodiversity conservation, sustainable consumption and production patterns, water security, climate resilience and natural disasters preparedness and prevention, and renewable energy;
- UMDM should give effect to the spatial planning principles outlined in the NDP and Integrated Urban Development Framework (IUDF) by contributing to an effective implementation of the national spatial development vision. This includes spatial transformation and promoting spatial integration. There should be a unified and innovative guide to build inclusive, resilient, safe, and liveable urban settlements within the district through local and district SDFs;
- The inequality gap is still evidenced from many features within the district which includes poverty, high unemployment rate, spatial divides (people located away from economic opportunities) and widening of the development gap between previously neglected areas and previously resourced areas;
- The impact on climate change by 2050 could reduce farming output, increase the amount of rain as well as the risks of flooding, increase the risks of veld fires in farms, strain the ecosystem further especially in biodiversity resourced municipalities (Impendle, UMngeni and Mpofana) and widen social inequalities especially to indigent municipalities with very little coping abilities such as Mkhambathini and Impendle are seen to be more vulnerable in terms of socio-economic coping mechanisms; and
- UMDM as the home of the Capital City in the province is best position to be a place where the Smart Region concept is tested and realized within the next few years.

9. DESIRED FUTURE

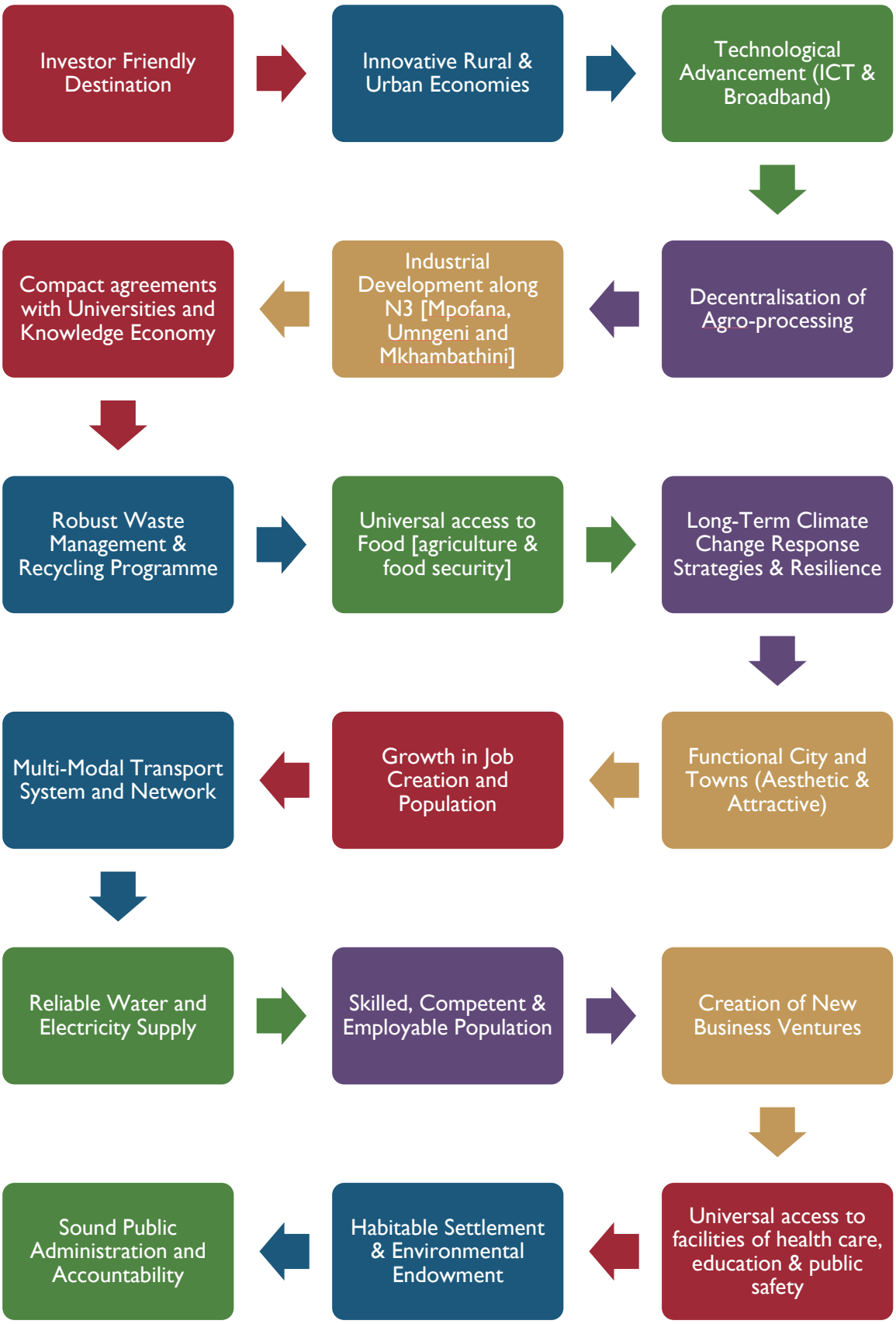
9.1 WHERE ARE WE NOW? [SWOT ANALYSIS]

Strength	Weaknesses
• Competitive advantages include: export of aluminium and steel; significant food and beverage industry; established food value chain; and location to major transportation routes (N3, R56, R614 and railway lines to JHB and EC). • There is an established tourism network mostly focused on the Msunduzi, Umngeni and Mpofana Municipalities but this needs to be overhauled and publicised. • There are a number of protected areas across the District most notably the Okhahlamba Drakensburg region in the west. • Several major storage dams (Midmar, Albert falls, Spring Grove, Nagle and Craigieburn). • The District has a Service Delivery Improvement Plan that is linked to the SDBIP in terms of measuring performance. • Growing population and in-migration reflects that the area is attractive to settle in. • Second largest economic hub in KZN. • Level of education and skills is fairly growing. • UMDM is centrally positioned with the Capital City, N3, World Heritage Site and a domestic Airport. • District has pristine farming areas in Mpofana, Richmond, Umngeni, Umshwathi and Umkhambathini Local Municipalities. • Access to water at a basic level is at 85%.	• Even with the competitive advantages etc. the District struggles to attract substantial economic development due to poor investor confidence. • There are high unemployment rates across the District especially in marginalised areas where skills and accessibility are limited. • There is minimal focus on developing practical and innovative economic opportunities within "rural" areas that uses local experiences, skills and resources. • Much of current economic sector needs to evolve to diversify and take into consideration technological advancements, and connectivity. • The district has a high dependency ratio especially in Impendle, Richmond and Umshwathi – bulk of the population relies on adults for food and shelter etc. • Whilst there are a large number of female headed households, there are often limited opportunities for women in the work place – especially those with younger children that are unable to travel far. • Poor access to health facilities and limited education on key health issues has had a considerable impact on communities in non-urban areas in terms of their functionality, prevention, and lifespan. • There is poor maintenance and security of existing infrastructure and assets due to limited budgets and revenue. • Whilst there are a number of opportunities to work with local research institutions and faculties, there is a general lack of innovation in terms of service delivery and asset development to curb costs in terms of construction, operation, maintenance and use – smart technology and sustainable solutions. • There are people living with disabilities but universal access to services is still unclear. • Crime is in existence as 55% of people have been victims of housebreaking. • There is evidence of inequality and uneven distribution of the economy. • All economic sectors have been affected by the recent economic disruptions. • There are few isolated rural settlement on the administrative edges of municipalities which are not properly mainstreamed to the local economy. • The growth of rural settlements over the years has continued unabatedly. • The sparsely located rural settlements are still under-provided with some of the facilities such as schools and clinics.

	• Poor financial health and debt collection rate affects the monetary position of the institutions to finance operations. • There are two municipalities that are under section 139 of the constitution. • Not all ward committees are fully functional. • Public protests are still witnessed in response to public dissatisfaction about service delivery. • Enforcement of the law on contraventions is still a challenge. • Competitive advantages include: export of aluminium and steel; significant food and beverage industry; established food value chain; and location to major transportation routes (N3, R56, R614 and railway lines to JHB and EC). • There is an established tourism network mostly focused on the Msunduzi, Umngeni and Mpofana Municipalities but this needs to be overhauled and publicised. • There are a number of protected areas across the District most notably the Okhahlamba Drakensburg region in the west. • Several major storage dams (Midmar, Albert falls, Spring Grove, Nagle and Craigieburn). • The District has a Service Delivery Improvement Plan that is linked to the SDBIP in terms of measuring performance. • Competitive advantages include: export of aluminium and steel; significant food and beverage industry; established food value chain; and location to major transportation routes (N3, R56, R614 and railway lines to JHB and EC). • There is an established tourism network mostly focused on the Msunduzi, Umngeni and Mpofana Municipalities but this needs to be overhauled and publicised. • There are a number of protected areas across the District most notably the Okhahlamba Drakensburg region in the west. • Several major storage dams (Midmar, Albert falls, Spring Grove, Nagle and Craigieburn). • The District has a Service Delivery Improvement Plan that is linked to the SDBIP in terms of measuring performance.
Opportunities	Threats
• There is an opportunity to decentralise agro-processing within the District that will see linkages between "rural" areas and the broader agro-processing supply chain. • In terms of the age structure, there is a considerable portion of the population that is between the ages of 20-29 which, if skilled appropriately, has the potential to be a strong labour/economic force. • Food security opportunities need to be explored and protected noting the impact of urbanisation on land – innovative and new opportunities need to be explored.	• Impacts of climate change are not tangibly and realistically considered in long-term development plans (risks) including SDFs and Disaster Management Plans. • Any further economic disruptions will deter the prospects of building a progressive economy. • Any form of violent civil unrest will leave a devastating impact on the growth and investments prospects of UMDM. • The cost of living (CPI) is placing a strain on low income earners, indigents and it is deepening poverty that is experiences. • Power outages and loadshedding is strenuous to the survival of SMMEs.

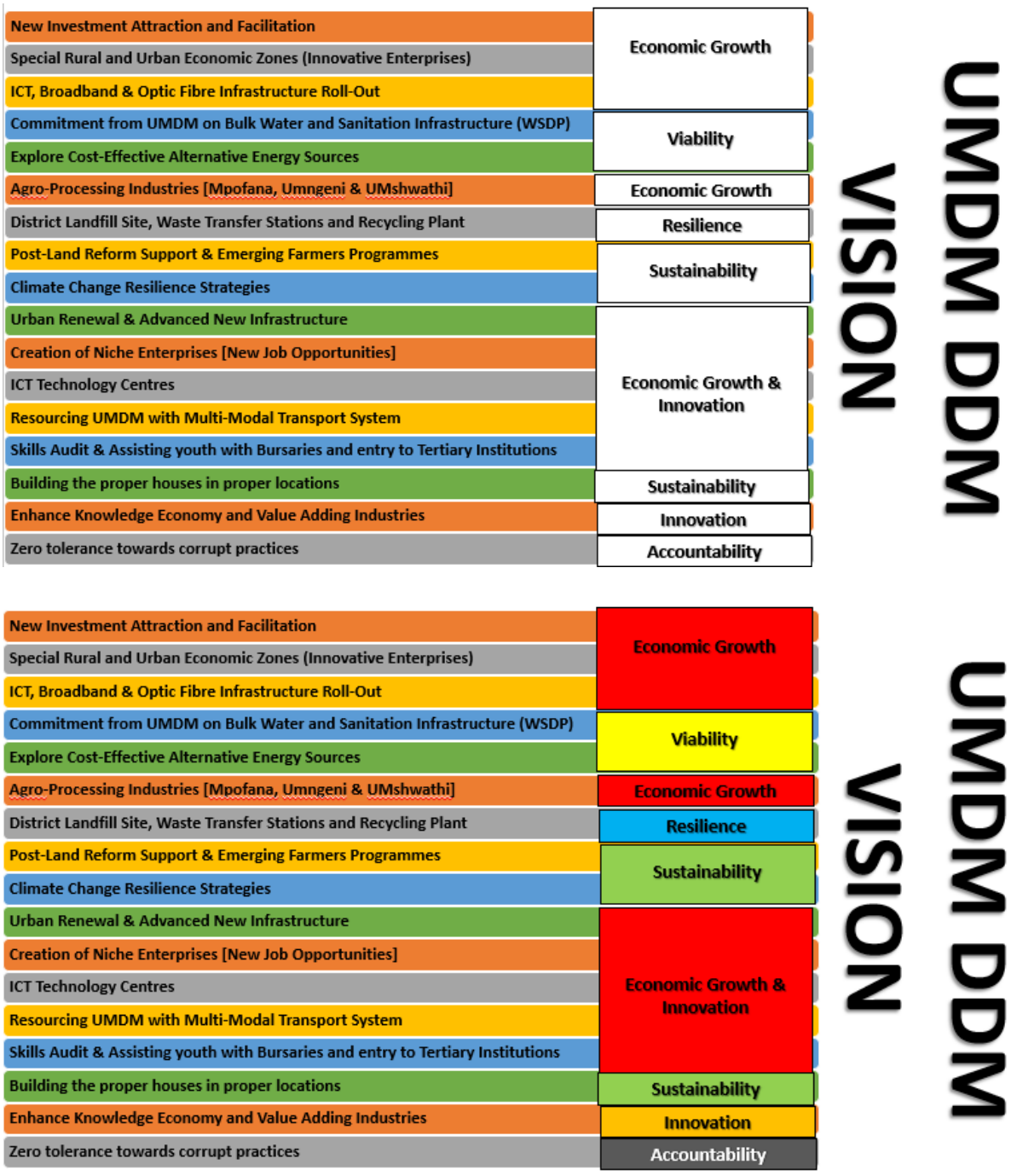
• There are a number of opportunities across the District to harness local resources and climate to sustain alternative energy solutions. • Land is a scarce resource and focus needs to be given to developing SMART settlements that use innovation and technology to make accessibility and connection quicker as well as easier - including vertical expansion. • Need to be strategic about land use development and management to attract and restrict development in identified areas. • Opportunities to develop waste transfer stations that will decrease input into landfills, recycle various materials and offer income to various disadvantaged groups through formal employment. • Introduction of newer and smarter technologies within the Local Municipalities to: log infrastructure faults; spatially identify the location of faults; acquire timeous feedback from working teams; relay progress to community at large. • Strategic projection, budgeting and provision of basic services to non-urban areas and informal settlements in a manner that takes into consideration the level of return and legal requirements related to accessibility. • Opportunity exist to augment the existing infrastructure capacity in order to meet future demand. • UMDM is best positioned to develop a multi-modal transport system given the presence of all the basic transportation elements. • A robust waste management programme can be developed which can be accompanied by profitable recycling and eco-friendly landfill. • Opportunity to develop broadband ICT infrastructure exists in order to improve competitiveness. • Creating relationships and having compact agreements with the existing universities as an opportunity for knowledge economy.	• Loss of agricultural land to settlement sprawl is devastating to the agrarian economy. • Land reform without post-distribution support is a threat to food production. • Climate change creates uncertainty in terms of food production and other aspects of life. • Growth of settlements on the no-go areas increase the risks of fatalities during disasters and depletes the natural environmental ecosystems.

9.2 WHERE DO WE WANT TO GO?



9.3 HOW DO WE GET THERE?

9.4 TOWARDS THE VISION 2052



The 30-year long-term vision for UMgungundlovu DDM [One Plan] requires a carefully thought-out synopsis of the desired future state and the aspirations that UMDM intends to achieve with this One Plan. The above figure is a composite reflection of what the district intends to achieve with its One Plan as reflected in the preceding chapters. The key elements that should make a synopsis of the vision include the following:

- Economic Growth;
- Viability;
- Resilience;
- Sustainability;
- Innovation; and
- Accountability.

9.5 UMDM DDM [ONE PLAN] VISION 2052, STRATEGIES AND OBJECTIVES

TERM	DEFINITION	UMDM DDM One Plan [Guiding Suggestions]
VISION	*Desired Future State, the aspiration of the Organisation*	Option 1: "By 2052, UMDM shall be a viable, innovative and resilient region that is built on sustainable economic growth and accountability" Option 2: "To be a theatre for innovation, sustainable economic development, resilience and accountability by 2052"
MISSION	*Overriding purpose in line with values and expectations of stakeholders*	1. To create a platform for open and co-operative government; 2. To uniquely brand UMDM as an attractive area for investment; 3. To promote technological advancement and innovation as a new driver for the economy; 4. To deliver sustainable services and infrastructure to our communities; 5. To create an efficient & effective environment for sustainable development; 6. To create a vibrant and viable economy using our natural resources; and
GOAL	*General Statement of aim and purpose*	UMDM will evolve into a dynamic and functional economic region that boosts with a vibrant economy and improved quality of lives.
OVERALL OBJECTIVES	*Quantification (if possible) or more precise statement of the goal*	To have investigate the feasibility (or viability) and secure funding of identified innovative initiatives by 2022 – 2027, ensure that funding that has been secured is accounted for and initiatives are successfully and sustainably implemented between 2027 – 2037. To facilitate economic growth, employment creation and downstream beneficiation by 2052.
OVERALL STRATEGIES	*Long-term direction*	To build support of open and cooperative government, by 2022, in order to ensure that by 2052, Umgungundlovu District is uniquely branded, smartly operated region, resilient; sustainable; and has growing settlements, economies and resources by undertaking innovative approaches towards diversification, community investment, public-private partnership, and technological advancements.

10. STRATEGIES AND ACTION PLAN

Key Findings	Recommendation	Objectives	Strategies	Project	Indicators
Economic Powerhouse of KZN	New Investment Attraction and Facilitation	Investor Friendly Destination	Creation of new Business Ventures (Flagship Initiatives)	Medical Hub (Medical Tourism Facility)	• No. of temporal jobs created • No. of permanent jobs created • % of GDP growth within UMDM • % of GVA growth in UMDM • % increase in the number of tourists • % increase in the number of SMMEs (trickle down effect) • % decrease in unemployment
				Edendale Hospital & Health Precinct	
				Imbali Education Precinct	
				Camps Drift Waterfront	
Tourism Assets and Tourism Events				International Film Studio	
				Mayibuye Game Reserve (Mkhambathini)	
				Mandela Capture Site	
				PMB- Gandhi Railway Station	
				Freedom Square Redevelopment	
				Heroes Arce Memorial Park	
				Development of a Cultural Village at Ezulwini (Richmond)	
				Development of the Boston area into a town (Impendle)	
Existence of Provincial Cabinet				Legislature Precinct Development	
Opportunity for a Smart City				Umgungundlovu/ Cedara Agritropolis (UMngeni)	
				Development of a new Government Precinct	
				Camperdown Smart City	
High Crime Rate			Universal access to public safety	New Police Stations	• Reduced number of contact crimes per annum
				Street Safety Mechanisms (Streetlights and CCTV Surveillance)	

Key Findings	Recommendation	Objectives	Strategies	Project	Indicators
				Outreach Programmes (Crime and Drugs)	• Reduced number of trio crimes per annum • Number of property related crimes.
Matriculants			Upskilling the youth to skilled, competent and employable population	Skills Audit	• % increase in employable youth • % increase in skills • % decrease in crime • % decrease in drug usage amognst the youth
				Future Career Opportunities	
				Bursary Opportunities	
Strategic land along N3 in Mpofana, UMngeni & Mkhambathini			Decentralisation of Agro processing	Mpofana Agro processing	• % increase in GVA • % increase in job opportunities • Increase in local investments and growth of local SMMEs
				UMngeni Agro processing	
				UMshwathi Agro processing	
			Industrial Development along N3	Mkhambathini Industrial Park	
				Mkhambathini Logistics Hub (Dry Port)	
				UMngeni Industrial Park	
				Mpofana Industrial Park	
				Arlington Farm (Timber)	
Lack of maintenance of water infrastructure, water losses and wastage			Reliable Water, Sanitation and Electricity Infrastructure	Bulk Water Infrastructure Maintenance	• Decrease in water losses • Decrease in water wastage • Client satisfaction (paying consumers) • Improved investor confidence
				Bulk Sewer Infrastructure Upgrade	
				Mpofana Bulk Infrastructure Upgrade	
				Mkhambathini Bulk Infrastructure Upgrade	
				UMngeni Bulk Infrastructure Upgrade	
				Richmond Bulk Infrastructure Upgrade	

Key Findings	Recommendation	Objectives	Strategies	Project	Indicators
Lack of reliable connectivity and fast-speed internet			Technological Advancement (ICT and Broadband)	ICT, Broadband Infrastructure & Optic Fibre Roll-Out Explore Opportunities in Platforms Economy Explore opportunities in Artificial Intelligence Explore opportunities in Coding	• Minimum broadband speed available in District • Number of ICT infrastructure nodes • Improved investor confidence
Rural poverty and Lack of a pro-active approach towards development Too many indigents	Special Rural and Urban Economic Zones	Innovative Rural and Urban Economies	Explore alternative methods & local knowledge for LED	Imicako Local Workshop Ibomvu Local Workshop Ubumba Local Workshop Brick Making Workshops Ikwali Extraction Imbali Light Industrial Hub Plessislaer Tannery (EDTEA) NDPG: Civic Zone Phase 1: Market Stalls	• Number of Co-operatives established • Number of SMME established • Number of new permanent Jobs created • Reduced number of indigents
High Unemployment in Impendle			Creation of Niche Enterprises [New Job Opportunities]	Waste Tyre Products Woodworking Workshops UMgungundlovu Cannabis Park Development of a Shopping Centre in Impendle	• Number of new niche enterprises established • Number of new jobs created
UDP WHS opportunities for Mpofana and Mpendle Inequalities gap			Creation of new Tourism Ventures (Community Wide Initiatives)	Cultural Villages (2) Homestays & Air BnB Spring Grove Commercial Trout Farm Imbali Leather and Biomass Facility (Msunduzi) Edendale Town Centre Promenade (Msunduzi)	• Number of new niche enterprises established • Number of new jobs created

Key Findings	Recommendation	Objectives	Strategies	Project	Indicators
Relationship with Universities			Enhance knowledge economy and value adding industries	Research and Development [Economic Projects] Research and Development [Infrastructure Projects] Research and Development [Innovative Projects]	• Number of new cutting edge research conducted • Number of feasibility studies conducted to further test research • Number of cutting edge projects implemented
Rich Agricultural resources in UMshwathi, Richmond and Mpofana			Universal access to Food (Agriculture and Food Security)	Post-Land Reform Support and Emerging Farmers Programmes	• Total employment in agricultural sector • Value of agricultural contribution to district economy • Number of emerging commercial farmers • Hectares of land under agricultural production
Growing Population and existence of Provincial Cabinet	Functional City and Towns (Aesthetic and Attractive)	Habitable Settlements and Environmental Endowment	Urban Renewal and Advanced Infrastructure	Pietermaritzburg Urban Renewal, Regeneration and Amenity [Provincial Civic Centre] Edendale Private Land Acquisition Initiative (Restructuring Zone) Student Accommodation Howick CBD Rehabilitation Howick Falls Upgrade Hilton Urban Regeneration Richmond CBD Rehabilitation Mooi River CBD Rehabilitation	• Vibrant urban economies with permanent and dignified settlements • Attractive urban environment with aesthetic. • Decreased traffic and traveling distances between workplace and home resulting in fewer car accidents

Key Findings	Recommendation	Objectives	Strategies	Project	Indicators
				New Hanover Urban Regeneration	• Decrease in % of housing backlog in the District. • % of budget spent by DoHs on development of human settlements. • Number of Financially Linked Intervention Subsidies (FLIPS). • Number of Community Residential Units in the District. • % of households in district with access to basic services • % households with registrable form of tenure • Increased number of people who settle formally within the district • Decrease number of informal settlements • Decrease cases of land invasion
				Wartburg Urban Regeneration	
				Impendle Urban Regeneration	
				Camperdown Urban Regeneration	
Urbanisation			Building proper houses in suitable locations	Pietermaritzburg Inner-City High Density Residential (100 000 Units)	
				Howick Inner Town Cluster Housing (10 000 Units)	
				Hilton Inner Town Cluster Housing (5000 Units)	
Informal settlement mushrooming				Richmond Inner Town Cluster Housing (2000 Units)	
				Mooi River Inner Town Cluster Housing (5000 Units)	
				New Hanover Inner Town Cluster Housing (2000 Units)	
Land invasions				Wartburg Inner Town Cluster Housing (2000 Units)	
				Impendle Inner Town Cluster Housing (2000 Units)	
				Camperdown Inner Town Cluster Housing (5000 Units)	
Lack of Space for future Cemetery			Identification of new land for future cemeteries	New Cemetery Site in Pietermaritzburg	

Key Findings	Recommendation	Objectives	Strategies	Project	Indicators
				New Cemetery Site in Howick/ Hilton	• Number of cemetery sites approved (EIA & SPLUMA) • Confirmed 20 – 30 year capacity for each site
				New Cemetery Site in Richmond	
				New Cemetery Site in New Hanover	
				New Cemetery Site in Impendle	
				New Cemetery Site in Camperdown	
				New Cemetery Site in Mooi River	
Multi-Modal Transport System			Integrated Rapid Public Transport System	Msunduzi Integrated Rapid Public Transport System	• Reduced time spent on traffic congestion • Increased availability of parking bays • Volume of passengers through Pietermaritzburg airport • Value of improvements to airport • Increase in number of flights • No. of km declared road that provide access to communities • % of district road network in poor condition
				Pietermaritzburg Bypass	
				Pietermaritzburg Ring Road	
				Edendale Town Centre Prominade (Road Upgrade)	
				Old Edendale Road Upgrade	
				Pietermaritzburg Non-Motorized Transport Infrastructure Network	
				NDPG Edendale Walkway	
				Hilton/ Howick Non-Motorized Transport Infrastructure Network	
				Pietermaritzburg (Oribi) Airport upgrade	
				Oribi Airport Precinct Development	
				The development of a Regional Logistics and Automotive Hub (OneLogix/Grinrod/Cato Ridge Logistics Extension)	

Key Findings	Recommendation	Objectives	Strategies	Project	Indicators
				The development of a 600 hectare Logistics Park in Mooi River along the N3 (Tambo Springs Logistics Port)	• % of provincial and national road network in poor condition • % modal split in commuter transport
A number of people are living with disabilities			Universal Access to Public Facilities	Disability Parking Bay Allocation	• % of public places with disability parking • % of public buildings with wheel chair ramp
				Disabilities Friendly Public Buildings	
				Disability Friendly Public Transport	
			ICT Public Access Points	Public Wifi Hotpots on Libraries	• % of municipalities with established access networks • % of households with access to internet at home • Minimum broadband speed available in District • Number of ICT infrastructure nodes
				Wifi Hotspots in Community Halls	
				Wifi Hotspots in Oribi Airport	
				Techno Hub in Msunduzi	
Uncoordinated Waste Management Systems and Practices			Comprehensive, co-ordinated and Integrated Waste Management Programme	District Landfill Site (1)	• % increase of local products made of recycled materiel • % increase of decent and full-time job opportunities (waste pickers) • Number of homeless who are involves as waste pickers
				Waste Transfer Stations (7)	
				District Recycling Plants (7)	

Key Findings	Recommendation	Objectives	Strategies	Project	Indicators
				Local Recycling Workshops	• Improved aesthetic of the urban environment (Free of solid waste) • % decrease of illegal dump spots • Kilowatt (kW) of energy converted from leachate gas • Amount of households receiving power
				Leachate Gas Conversion into Energy Station	
				Storage and Distribution of Alternative Energy	
Energy Saving Needs			Installation of solar panels on public infrastructure and buildings	Streetlights	• Number of solar water heaters implemented with housing projects. • % productivity of the uMkomaas hydro electricity power generation facility • Units saved through energy efficiency generation • Units produced through energy efficiency
				Traffic Lights	
				Public Buildings	
				Commercial Establishments	
Alternative Energy Needs			To introduce new sources of energy in order to reduce the strain that is currently experienced by the existing source	uMkomaas hydro electricity power generation (Mkhambathini)	
				Springrove dam/Mearns dam to Midmar dam water transfer Hydro-electricity power generation facility (Mpofana)	
				Impendle solar power station and the Biomass Power station (UMngeni)	
				Establishment of a renewal energy hub (KZN Red Hub)	
Wastewater and Greywater recycling			To adopt the greywater and wastewater strategies in order to preserve purified water for human consumption	Greywater usage in Public Toilets	• Cubic meters per capita per year available
				Greywater usage in ablution facilities of Public Buildings	

Key Findings	Recommendation	Objectives	Strategies	Project	Indicators
				Greywater usage in Car Wash Establishments	• % households with water & sanitation to MIG standards • Functional and healthy aquatic ecosystems • % Municipal water losses. • % Reduction of water demand • Number aquatic ecosystems in a functional and healthy state.
				Greywater (Rainwater) usage in domestic gardens	
				Wastewater usage for irrigation	
				Artificial Wetlands for Wastewater	
				Local Grey Water (Rainwater) Harvesting by Households (Jojo Tanks)	
People located on the periphery of the economy	Spatial Sustainability and Resilient Growth	Habitable Settlements and Environmental Endowment	To attract people to locate within the mainstream economy	New Hanover Integrated Mixed Residential Development	• Number of new mixed income settlements within the towns of UMDM. • Vibrant urban economies that are supported by new settlements • Reduced number of households who are located in fatal environmental hotspots
				Wartburg Integrated Mixed Residential Development	
				Camperdown Integrated Mixed Residential Development	
				Richmond Integrated Mixed Residential Development	
Households located in unsuitable locations			To embark on a comprehensive human settlement rectification programme	Relocation of 5 404 HH from Steep Terrain	
				Relocation of 17 681 HH from Hydrological (flood risks) Buffers	
				Relocation of 8 816 HH from Powelines	
				Relocation of 321 HH from Road Reserves	

Key Findings	Recommendation	Objectives	Strategies	Project	Indicators
Important Rivers (Umngeni & Msunduzi)			Integrate sustainability criteria and environmental sensitivity information of the SEA into all municipal planning (SDFs)	Develop and implement a scheduled river maintenance programme	• % decrease in the Provincial Land Degradation index for the District • % land transformation of areas identified as being essential for the persistence of biodiversity and ecosystem goods and services • % land transformation of high potential agricultural land to non-agricultural uses • Hectares of land rehabilitated annually
Freshwater and Biodiversity Ecosystem				Restoration of Msunduzi River	
				CACEN Open Space System	
				Develop a water pollution emergency response protocol	
Access to basic facilities in rural areas (Mpofana and UMshwathi)			To deliver public facilities in accordance to the demand within the rural areas	Schools and Clinics in Mpofana and UMngeni	• Number of new schools built in areas that had a backlog. • Number of clinics built in areas that had a backlog.
Climate change challenges			Long term climate change response strategies and resilience	Agricultural Response Strategies (i.e. New Crops)	• New types of crops best suited for new climate • % of Households located in safe zones
				Flood Risk Response Strategies (i.e. Spatial Planning)	
				Veld Fire Risks Response Strategies (i.e. Fire belts)	

Key Findings	Recommendation	Objectives	Strategies	Project	Indicators
				Disaster Response Strategies (i.e. Emergency Resources)	• % of farms equipped with fire belts • % of budget allocation for emergencies and relief support
				Post-Disaster Strategies (i.e. Socio-Economic Support)	
The financial administration and health of the organisation need to improve	To run an accountable institution with values of good governance	Sound administrative procedures and accountability	Zero tolerance towards corrupt practices	Operation Clean Audit	• % of municipalities with Clean Audit • Number of structures established and operational • % of cases dealt with promply on fraud and corruption
				Introduce and implement Integrity Management Programmes	
				Re-orientate the business of the clusters to align to government's core policies of transformation, growth and development	
				Create a single window of co-ordination between the provincial government, municipalities and non-government forums	
				Develop an Integrated Funding and Implementation Management Framework	

11. IMPLEMENTATION PLAN

Project Description	Location	Beneficiaries	Proposed Budget	Maintenance Cost over 10 Years	Sources of Funds	Project Duration
Medical Hub (Medical Tourism Facility)	Msunduzi	Tourists and Locals	R 150 000 000	TBC	Private	10 Years
Edendale Hospital & Health Precinct	Msunduzi	Locals and SMMEs	R 10 500 000	TBC	COGTA, Treasury, International Donor Funders	5 Years
Camperdown Smart City	Mkhambathini	Tourists and Locals	R 10 200 000 000	TBC	Growth Fund, SANRAL, TIKZN, DTI, UMngeni Water and Private	30 Years
Camps Drift Waterfront	Msunduzi	Tourists and Locals	R 982 000 000	TBC	Private	15 Years
Mandela Capture Site	UMngeni	Tourists and Locals	R 12 000 000	TBC	EDTEA	5 Years
International Film Studio	Msunduzi	Tourists and Locals	R 400 000 000	TBC	KZN Film Commission, DTI and Private	15 Years
New Government Precinct	Msunduzi	Government	R 17 000 000 000	TBC	GSID	15 Years
Legislature Precinct Development	Msunduzi	Government	R 2 000 000 000	TBC	KZN Treasury	10 Years
PMB- Gandhi Railway Station	Msunduzi	Tourists and Locals	R 1 000 000	TBC	TBC	1 Year
Freedom Square Redevelopment	Msunduzi	Tourists and Locals	R 68 872 677	TBC	TBC	5 Years
Heroes Arce Memorial Park	Msunduzi	Tourists and Locals	R 2 000 000	TBC	TBC	1 Year
Mayibuye Game Reserve (Mkhambathini)	Mkhambathini	Tourists and Locals	R 100 000 000	TBC	EDTEA and Private	20 Years
Development of the Boston area into a town (Impendle)	Impendle	Tourists and Locals	R 200 000 000	TBC	EDTEA, COGTA and Private	20 Years
Development of a Cultural Village at Ezulwini (Richmond)	Richmond	Tourists and Locals	R 50 000 000	TBC	EDTEA and Private	10 Years
Umgungundlovu/ Cedara Agritropolis (UMngeni)	UMngeni	Farmers and Locals	R 2 000 000 000	TBC	DALRRD and AgriSETA	30 Years
New Police Stations	Various	Locals	TBC	TBC	DoPW	10 Years
Street Safety Mechanisms (Streetlights and CCTV Surveillance)	All Towns	All the users of the Towns	R 70 000 000	TBC	LMs	25 Years
Outreach Programmes (Crime and Drugs)	UMDM	Youth	R 1 000 000	TBC	SAPS and UMDM	30 Years

Project Description	Location	Beneficiaries	Proposed Budget	Maintenance Cost over 10 Years	Sources of Funds	Project Duration
Skills Audit	UMDM	Youth	R 500 000	TBC	DHET and UMDM	1 Year
Future Career Opportunities	UMDM	Youth	R 200 000	TBC	DHET and UMDM	2 Years
Bursary Opportunities	UMDM	Youth	R 100 000	TBC	DHET and UMDM	5 Years
Mpofana Agro processing and Canning (Feasibility Study)	Mpofana	Farmers and Locals	R 1 000 000	TBC	DALRRD, DTI, DARDS, ADA and UMEDA	10 Years
UMngeni Agro (processing) Hub	UMngeni	Farmers and Locals	R 50 000 000	TBC	EDTEA, UMngeni and Private	10 Years
Arlington Farm (Timber)	UMngeni	Youth and Unemployed	R 100 000 000	TBC	EDTEA, UMngeni and Private	10 Years
UMshwathi Agro processing	Umshwathi	Farmers and Locals	R 50 000 000	TBC	EDTEA, UMngeni and Private	10 Years
Mkhambathini Industrial Park	Mkhambathini	Locals and Investors	R 80 000 000	TBC	EDTEA, UMngeni and Private	10 Years
Mkhambathini Logistics Hub (Dry Port)	Mkhambathini	Locals and Investors	R 40 000 000	TBC	EDTEA, UMngeni and Private	10 Years
UMngeni Industrial Park	UMngeni	Locals and Investors	R 20 000 000	TBC	EDTEA, UMngeni and Private	10 Years
Mpofana Agri Park (Feasibility Study)	Mpofana	Locals and Investors	R 3 500 000	TBC	TIKZN, Growth Fund, DALRRD and Private	10 Years
Bulk Water Infrastructure Maintenance	UMDM	Locals and Investors	R 1 000 000 000	TBC	UMDM	30 Years
Bulk Sewer Infrastructure Upgrade	UMDM	Locals and Investors	R 1 000 000 000	TBC	UMDM	30 Years
Mpofana Bulk Infrastructure Upgrade	Mpofana	Locals and Investors	R 373 529 878	TBC	UMDM	15 Years
Mkhambathini Bulk Infrastructure Upgrade	Mkhambathini	Locals and Investors	R 99 000 000	TBC	UMDM	15 Years
UMngeni Bulk Infrastructure Upgrade	UMngeni	Locals and Investors	R 353 232 356	TBC	UMDM	15 Years
Richmond Bulk Infrastructure Upgrade	Richmond	Locals and Investors	R 30 000 000	TBC	UMDM	15 Years
ICT, Broadband Infrastructure and Optic Fibre Roll-Out	UMDM	Locals and Investors	R 140 000 000	TBC	DST, UMDM, LMs and Private	30 Years
Explore Opportunities in Platforms Economy	UMDM	Locals and Investors	R 200 000	TBC	DST, UMDM, LMs and Private	5 Years

Project Description	Location	Beneficiaries	Proposed Budget	Maintenance Cost over 10 Years	Sources of Funds	Project Duration
Explore opportunities in Artificial Intelligence	UMDM	Locals and Investors	R 200 000	TBC	DST, UMDM, LMs and Private	5 Years
Explore opportunities in Coding	UMDM	Locals and Investors	R 200 000	TBC	DST, UMDM, LMs and Private	5 Years
Imicako Local Workshop	Rural UMDM	Unemployed Locals	R 2 000 000	TBC	EDTEA, UMDM and LMs	10 Years
Ibomvu Local Workshop	Rural UMDM	Unemployed Locals	R 2 000 000	TBC	EDTEA, UMDM and LMs	10 Years
Ubumba Local Workshop	Rural UMDM	Unemployed Locals	R 2 000 000	TBC	EDTEA, UMDM and LMs	10 Years
Brick Making Workshops	Rural UMDM	Unemployed Locals	R 1 000 000	TBC	EDTEA, UMDM and LMs	10 Years
Ikwali Extraction	Rural UMDM	Unemployed Locals	R 1 000 000	TBC	EDTEA, UMDM and LMs	10 Years
Waste Tyre Products	Rural UMDM	Unemployed Locals	R 1 000 000	TBC	EDTEA, UMDM and LMs	10 Years
Woodworking Workshops	Rural UMDM	Unemployed Locals	R 10 000 000	TBC	EDTEA, UMDM and LMs	10 Years
Plessislaer Tannery (EDTEA)	Msunduzi	Unemployed Locals	R 20 000 000	TBC	EDTEA	5 Years
NDPG: Civic Zone Phase 1: Market Stalls	Msunduzi	Unemployed Locals and SMMEs	R 19 000 000	TBC	NDPG	5 Years
Imbali Light Industrial Hub	Msunduzi	Unemployed Locals	R78 984 994	TBC	Msunduzi Municipality	5 Years
UMgungundlovu Cannabis Park (Feasibility Study)	UMDM	Unemployed Locals	R 1 000 000	TBC	ADA, DALRRD and Private	15 Years
Development of a Shopping Centre in Impendle	Impendle	Locals and Tourists	R 150 000 000	TBC	EDTEA, UMDM, Impendle and Private	10 Years
Cultural Villages (2)	Mpofana and Impendle	Locals and Tourists	R 20 000 000	TBC	EDTEA, UMDM and Private	5 Years
Homestays and AirBnB	Mpofana and Impendle	Locals and Tourists	R 200 000	TBC	EDTEA, UMDM and Private	5 Years
Spring Grove Commercial Trout Farm	Mpofana	Locals and Tourists	R 20 000 000	TBC	EDTEA, TETA and Private	5 Years
Imbali Leather and Biomass Facility (Msunduzi)	Msunduzi	Youth and Unemployed	R2 000 000	TBC	EDTEA, UMDM and Private	5 Years
Edendale Town Centre Promenade (Msunduzi)	Msunduzi	Locals	R 200 000 000	TBC	GSID	15 Years
Research and Development [Economic Projects]	UMDM	UMDM and Universities	R 500 000	TBC	UMDM and Universities	30 Years
Research and Development [Infrastructure Projects]	UMDM	UMDM and Universities	R 500 000	TBC	UMDM and Universities	30 Years

Project Description	Location	Beneficiaries	Proposed Budget	Maintenance Cost over 10 Years	Sources of Funds	Project Duration
Research and Development [Innovative Projects]	UMDM	UMDM and Universities	R 500 000	TBC	UMDM and Universities	30 Years
Post-Land Reform Support and Emerging Farmers Programmes	UMDM	Land Reform Beneficiaries	R 117 000 000	TBC	DARDLR	10 Years
Pietermaritzburg Urban Renewal, Regeneration and Amenity [Provincial Civic Centre]	Msunduzi	Locals & Businesses	R 120 000 000	TBC	EDTEA, Msunduzi and Private	10 Years
Student Accommodation	Msunduzi	Students & Businesses	R 250 000 000	TBC	Private	5 Years
Howick CBD Rehabilitation	UMngeni	Locals & Businesses	R 35 000 000	TBC	EDTEA, UMngeni and Private	10 Years
Howick Falls Upgrade	UMngeni	Locals & Businesses	R 8 000 000	TBC	EDTEA, UMngeni and Private	10 Years
Hilton Urban Regeneration	UMngeni	Locals & Businesses	R 15 000 000	TBC	EDTEA, UMngeni and Private	10 Years
Richmond CBD Rehabilitation	Richmond	Locals & Businesses	R 35 000 000	TBC	EDTEA, Richmond and Private	10 Years
Mooi River CBD Rehabilitation	Mpofana	Locals & Businesses	R 20 000 000	TBC	EDTEA, Mpofana and Private	10 Years
New Hanover Urban Regeneration	UMshwathi	Locals & Businesses	R 20 000 000	TBC	EDTEA, UMshwathi and Private	10 Years
Wartburg Urban Regeneration	UMshwathi	Locals & Businesses	R 20 000 000	TBC	EDTEA, UMshwathi and Private	10 Years
Impendle Urban Regeneration	Impendle	Locals & Businesses	R 20 000 000	TBC	EDTEA, Impendle and Private	10 Years
Camperdown Urban Rehabilitation	Mkhambathini	Locals & Businesses	R 14 000 000	TBC	CoGTA	10 Years
Imbali Education Precinct	Msunduzi	Locals and Students	R 250 000 000	TBC	TBC	10 Years
Pietermaritzburg Inner-City High Density Residential (100 000 Units)	Msunduzi	Locals and migrant labour	R 50 000 000 000	TBC	DoHS	30 Years
Edendale Private Land Acquisition Initiative (Restructuring Zones)	Msunduzi	Locals and migrant labour	TBC	TBC	DBSA	5 Years
Howick Inner Town Cluster Housing (10 000 Units)	UMngeni	Locals and migrant labour	R 5 000 000 000	TBC	DoHS	30 Years
Hilton Inner Town Cluster Housing (5000 Units)	UMngeni	Locals and migrant labour	R 2 500 000 000	TBC	DoHS	30 Years

Project Description	Location	Beneficiaries	Proposed Budget	Maintenance Cost over 10 Years	Sources of Funds	Project Duration
Richmond Inner Town Cluster Housing (2000 Units)	Richmond	Locals and migrant labour	R 1 000 000 000	TBC	DoHS	30 Years
Mooi River Inner Town Cluster Housing (5000 Units)	Mpofana	Locals and migrant labour	R 2 500 000 000	TBC	DoHS	30 Years
New Hanover Inner Town Cluster Housing (2000 Units)	UMshwathi	Locals and migrant labour	R 1 000 000 000	TBC	DoHS	30 Years
Wartburg Inner Town Cluster Housing (2000 Units)	UMshwathi	Locals and migrant labour	R 1 000 000 000	TBC	DoHS	30 Years
Impendle Inner Town Cluster Housing (2000 Units)	Impendle	Locals and migrant labour	R 1 000 000 000	TBC	DoHS	30 Years
Camperdown Inner Town Cluster Housing (5000 Units)	Mkhambathini	Locals and migrant labour	R 2 500 000 000	TBC	DoHS	30 Years
New Cemetery Site in Pietermaritzburg	Msunduzi	Locals	R 10 000 000	TBC	Msunduzi	30 Years
New Cemetery Site in Howick/ Hilton	UMngeni	Locals	R 5 000 000	TBC	UMngeni	5 Years
New Cemetery Site in Richmond	Richmond	Locals	R 5 000 000	TBC	Richmond	5 Years
New Cemetery Site in New Hanover	UMshwathi	Locals	R 5 000 000	TBC	UMshwathi	5 Years
New Cemetery Site in Impendle	Impendle	Locals	R 5 000 000	TBC	Impendle	5 Years
New Cemetery Site in Camperdown	Mkhambathini	Locals	R 5 000 000	TBC	Mkhambathini	5 Years
New Cemetery Site in Mooi River	Mpofana	Locals	R 5 000 000	TBC	Mpofana	5 Years
Msunduzi Integrated Rapid Public Transport System (Planning)	Msunduzi	Locals	R 2 500 000	TBC	Msunduzi	20 Years
Pietermaritzburg Bypass	Msunduzi	Locals, Travelers and Businesses	R 2 036 000 000	TBC	SANRAL	30 Years
Pietermaritzburg Ring Road	Msunduzi	Locals, Travelers and Businesses	R 8 000 000 000	TBC	SANRAL	30 Years
Old Edendale Road Upgrade	Msunduzi	Locals, Travelers and Businesses	R1 934 500	TBC	NDPG	5 Years
NDPG Edendale Walkway	Msunduzi	Locals, Travelers and Businesses	R 4 772 600	TBC	NDPG	5 Years
Edendale Town Centre Prominade 1	Msunduzi	Locals, Travelers and Businesses	R 15 000 000	TBC	NDPG and Msunduzi	25 Years

Project Description	Location	Beneficiaries	Proposed Budget	Maintenance Cost over 10 Years	Sources of Funds	Project Duration
Edendale Town Centre Prominade 2	Msunduzi	Locals, Travelers and Businesses	R 26 000 000	TBC	NDPG and Msunduzi	25 Years
Pietermaritzburg Non-Motorized Transport Infrastructure Network	Msunduzi	Pedestrians	TBC	TBC	Msunduzi	25 Years
Hilton/ Howick Non-Motorized Transport Infrastructure Network	UMngeni	Pedestrians	TBC	TBC	UMngeni	25 Years
Pietermaritzburg (Oribi) Airport upgrade	Msunduzi	Locals, Travelers and Businesses	R 500 000 000	TBC	ACSA and Msunduzi	10 Years
Oribi Airport Precinct Development	Msunduzi	Locals, Travelers and Businesses	R 27 000 000		EDTEA	10 Years
The development of a Regional Logistics and Automotive Hub: OneLogix/ Grinrod/ Cato Ridge Logistics Extension (Feasibility Study)	Mkhambathini	Investors and Locals	R 1 000 000	TBC	Private	10 Years
The development of a 600-hectare Logistics Park in Mooi River along the N3 (Tambo Springs Logistics Port)	Mpofana	Investors and Locals	R 2 000 000 000	TBC	DoT, Transnet and Private	10 Years
Disability Parking Bay Allocation	UMDM	People living with disabilities	TBC	TBC	LMs, Sector Departments and Private	5 Years
Disabilities Friendly Public Buildings	UMDM	People living with disabilities	TBC	TBC	LMs and Sector Departments	5 Years
Disability Friendly Public Transport	UMDM	People living with disabilities	TBC	TBC	DoT, Public Transport Operators	5 Years
Public Wifi Hotpots on Libraries	UMDM	Locals	TBC	TBC	UMDM and LMs	5 Years
Wifi Hotspots in Community Halls	UMDM	Locals	TBC	TBC	UMDM and LMs	5 Years
Wifi Hotspots in Oribi Airport	Msunduzi	Locals	TBC	TBC	UMDM and LMs	5 Years
Techno Hub in Msunduzi	Msunduzi	Locals	R 939 415 000	TBC	UMDM and LMs	5 Years
District Landfill Site (1)	Msunduzi	Locals	TBC	TBC	Msunduzi	15 Years
Waste Transfer Stations (7)	UMDM	Locals	TBC	TBC	UMDM and LMs	15 Years
District Recycling Plants (7)	UMDM	Locals	TBC	TBC	UMDM and LMs	15 Years
Local Recycling Workshops	UMDM	Locals	TBC	TBC	UMDM and LMs	15 Years
Leachate Gas Conversion into Energy Station	UMDM	Locals and Investors	TBC	TBC	UMDM, LMs and Private	20 Years

Project Description	Location	Beneficiaries	Proposed Budget	Maintenance Cost over 10 Years	Sources of Funds	Project Duration
Storage and Distribution of Alternative Energy	UMDM	Locals and Investors	TBC	TBC	UMDM, LMs and Private	20 Years
Solar Streetlights	UMDM	Government	TBC	TBC	UMDM and LMs	5 Years
Solar Traffic Lights	UMDM	Government	TBC	TBC	UMDM and LMs	5 Years
Solar in Public Buildings	UMDM	Government	TBC	TBC	UMDM and LMs	5 Years
Solar in Commercial Establishments	UMDM	Businesses	TBC	TBC	UMDM and LMs	5 Years
uMkomaas hydro electricity power generation (Mkhambathini)	Mkhambathini	Locals and Investors	TBC	TBC	UMDM and LMs	20 Years
Springrove dam/Mearns dam to Midmar dam water transfer Hydro-electricity power generation facility (Mpofana)	Mpofana	Locals and Investors	TBC	TBC	UMDM and LMs	20 Years
Impendle solar power station and the Biomass Power station (UMngeni)	Impendle	Locals and Investors	TBC	TBC	UMDM and LMs	20 Years
Establishment of a renewal energy hub (KZN Red Hub)	Mkhambathini	Locals and Investors	R 2 000 000 000	TBC	DME, EDTEA and Private	15 Years
Greywater usage in Public Toilets	UMDM	UMDM	TBC	TBC	LMs and Sector Departments	20 Years
Greywater usage in ablution facilities of Public Buildings	UMDM	UMDM	TBC	TBC	LMs and Sector Departments	20 Years
Greywater usage in Car Wash Establishments	UMDM	UMDM	TBC	TBC	LMs and Sector Departments	20 Years
Greywater usage in domestic gardens	UMDM	UMDM	TBC	TBC	LMs and Sector Departments	20 Years
Wastewater usage for irrigation	UMDM	UMDM	TBC	TBC	LMs and Sector Departments	20 Years
Artificial Wetlands for Wastewater	UMDM	UMDM	TBC	TBC	LMs and Sector Departments	20 Years
Local Grey Water Harvesting by Households (Jojo Tanks)	UMDM	UMDM	TBC	TBC	LMs and Private	20 Years
New Hanover Integrated Mixed Residential Development	UMshwathi	Locals	TBC	TBC	DoHS and Private	20 Years
Wartburg Integrated Mixed Residential Development	UMshwathi	Locals	TBC	TBC	DoHS and Private	20 Years

Project Description	Location	Beneficiaries	Proposed Budget	Maintenance Cost over 10 Years	Sources of Funds	Project Duration
Camperdown Integrated Mixed Residential Development	Mkhambathini	Locals	TBC	TBC	DoHS and Private	20 Years
Richmond Integrated Mixed Residential Development	Richmond	Locals	TBC	TBC	DoHS and Private	20 Years
Relocation of 5 404 HH from Steep Terrain	UMDM	Locals	R 648 480 000	TBC	DoHS	5 Years
Relocation of 17 681 HH from Hydrological Buffers	UMDM	Locals	R 2 121 720 000	TBC	DoHS	30 Years
Relocation of 8 816 HH from Powelines	UMDM	Locals	R 1 057 920 000	TBC	DoHS	10 Years
Relocation of 321 HH from Road Reserves	UMDM	Locals	R 38 520 000	TBC	DoHS	5 Years
Restoration of Msunduzi River	Msunduzi	UMDM	R 69 400 000	TBC	Treasury (NDPG)	5 Years
CACEN Open Space System	Msunduzi	UMDM	TBC	TBC	EDTEA	5 Years
Develop and implement a scheduled river maintenance programme	UMDM	Locals	TBC	TBC	EDTEA	30 Years
Develop a water pollution emergency response protocol	UMDM	Locals	TBC	TBC	EDTEA	30 Years
Schools and Clinics in Mpofana and UMngeni	Mpofana and UMngeni	Locals	TBC	TBC	DoH and DoPW	30 Years
Agricultural Response Strategies (i.e. New Crops)	UMDM	Farmers and Locals	TBC	TBC	EDTEA and DoA	30 Years
Flood Risk Response Strategies (i.e. Spatial Planning)	UMDM	Locals	TBC	TBC	EDTEA, UMDM and LMs	30 Years
Veld Fire Risks Response Strategies (i.e. Fire belts)	UMDM	Farmers and Locals	TBC	TBC	EDTEA, UMDM and LMs	30 Years
Disaster Response Strategies (i.e. Emergency Resources)	UMDM	Locals	TBC	TBC	EDTEA, UMDM and LMs	30 Years
Post-Disaster Strategies (i.e. Socio-Economic Support)	UMDM	Locals	TBC	TBC	EDTEA, UMDM and LMs	30 Years
Operation Clean Audit	UMDM	Government	TBC	TBC	AG, PT, UMDM and LMs	5 Years
Introduce and implement Integrity Management Programmes	UMDM	Government	TBC	TBC	UMDM and LMs	5 Years

Project Description	Location	Beneficiaries	Proposed Budget	Maintenance Cost over 10 Years	Sources of Funds	Project Duration
Re-orientate the business of the clusters to align to government's core policies of transformation, growth and development	UMDM	Government	TBC	TBC	UMDM and LMs	5 Years
Create a single window of co-ordination between the provincial government, municipalities and non-government forums	UMDM	Government	TBC	TBC	UMDM and LMs	5 Years
Develop an Integrated Funding and Implementation Management Framework	UMDM	Government	TBC	TBC	UMDM and LMs	5 Years

12. 30 YEAR CAPITAL INVESTMENT FRAMEWORK

Project Description	ESTIMATED START AND END DATES																														Priority Level	Applicable Development Procedure
	5 YEARS					10 YEARS					15 YEARS					20 YEARS					25 YEARS					30 YEARS						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30		
Medical Hub (Medical Tourism Facility)	■	■	■	■	■	■	■	■	■	■																					2	EIA & SPLUMA
Edendale Hospital and Health Precinct	■	■	■	■	■																										2	No approvals
Camperdown Smart City	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	1	EIA & SPLUMA
Camps Drift Waterfront	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■																2	EIA & SPLUMA
International Film Studio	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■																1	EIA & SPLUMA
New Government Precinct	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■																2	EIA & SPLUMA
Legislature Precinct Development	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■																2	No Approvals
PMB- Gandhi Railway Station	■	■	■	■	■																										3	No Approvals
Freedom Square Redevelopment	■	■	■	■	■																										3	No Approvals
Heroes Arce Memorial Park	■	■	■	■	■																										3	No Approvals
Mayibuye Game Reserve (Mkhambathini)	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■											2	EIA & SPLUMA
Development of the Boston area into a town (Impendle)	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■											3	EIA & SPLUMA
Development of a Cultural Village at Ezulwini (Richmond)	■	■	■	■	■	■	■	■	■	■																					2	EIA & SPLUMA
Umgungundlovu/ Cedara Agritropolis (UMngeni)	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	2	EIA & SPLUMA
New Police Stations	■	■	■	■	■	■	■	■	■	■																					5	EIA & SPLUMA
Street Safety Mechanisms (Streetlights and CCTV Surveillance)	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■						2	No Approvals
Outreach Programmes (Crime and Drugs)	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	2	No Approvals
Skills Audit	■																														2	No Approvals

Project Description	ESTIMATED START AND END DATES																														Priority Level	Applicable Development Procedure
	5 YEARS					10 YEARS					15 YEARS					20 YEARS					25 YEARS					30 YEARS						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30		
Future Career Opportunities																															2	No Approvals
Bursary Opportunities																															2	No Approvals
Mpofana Agro processing and Canning (Feasibility Study)																															2	EIA & SPLUMA
UMngeni Agro (processing) Hub																															2	EIA & SPLUMA
UMshwathi Agro processing																															2	EIA & SPLUMA
Mkhambathini Industrial Park																															2	EIA & SPLUMA
Mkhambathini Logistics Hub (Dry Port)																															2	EIA & SPLUMA
UMngeni Industrial Park																															2	EIA & SPLUMA
Mpofana Agri Park (Feasibility Study)																															1	EIA & SPLUMA
Arlington Farm (Timber)																															1	No Approvals
Bulk Water Infrastructure Maintenance																															1	No Approvals
Bulk Sewer Infrastructure Upgrade																															1	No Approvals
Mpofana Bulk Infrastructure Upgrade																															2	No Approvals
Mkhambathini Bulk Infrastructure Upgrade																															2	No Approvals
UMngeni Bulk Infrastructure Upgrade																															2	No Approvals
Richmond Bulk Infrastructure Upgrade																															2	No Approvals
ICT, Broadband Infrastructure and Optic Fibre Roll-Out																															1	EIA & SPLUMA
Explore Opportunities in Platforms Economy																															3	No Approvals

Project Description	ESTIMATED START AND END DATES																														Priority Level	Applicable Development Procedure
	5 YEARS					10 YEARS					15 YEARS					20 YEARS					25 YEARS					30 YEARS						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30		
Explore opportunities in Artificial Intelligence																															3	No Approvals
Explore opportunities in Coding																															3	No Approvals
Imicako Local Workshop																															2	EIA & SPLUMA
Ibomvu Local Workshop																															2	EIA & SPLUMA
Ubumba Local Workshop																															2	EIA & SPLUMA
Brick Making Workshops																															2	EIA & SPLUMA
Ikwali Extraction																															2	EIA & SPLUMA
Waste Tyre Products																															2	EIA & SPLUMA
Woodworking Workshops																															2	EIA & SPLUMA
Plessislaer Tannery																															2	No Approvals
Imbali Light Industrial Hub																															2	EIA & SPLUMA
NDPG: Civic Zone Phase 1: Market Stalls																															2	EIA & SPLUMA
UMgungundlovu Cannabis Park (Feasibility Study)																															2	EIA & SPLUMA
Development of a Shopping Centre in Impendle																															2	EIA & SPLUMA
Cultural Villages (2)																															2	EIA & SPLUMA
Homestays and AirBnB																															2	SPLUMA
Spring Grove Commercial Trout Farm																															1	EIA & SPLUMA
Imbali Leather and Biomass Facility (Msunduzi)																															2	EIA & SPLUMA
Edendale Town Centre Promenade (Msunduzi)																															2	EIA & SPLUMA
Research and Development [Economic Projects]																															2	No Approvals
Research and Development [Infrastructure Projects]																															2	No Approvals
Research and Development [Innovative Projects]																															2	No Approvals

Project Description	ESTIMATED START AND END DATES																														Priority Level	Applicable Development Procedure
	5 YEARS					10 YEARS					15 YEARS					20 YEARS					25 YEARS					30 YEARS						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30		
Post-Land Reform Support and Emerging Farmers Programmes																															3	No Approvals
Pietermaritzburg Urban Renewal, Regeneration and Amenity [Provincial Civic Centre]																															1	No Approvals
Student Accommodation																															3	SPLUMA
Imbali Education Precinct																															3	No Approvals
Howick CBD Rehabilitation																															2	No Approvals
Howick Falls Upgrade																															2	No Approvals
Hilton Urban Regeneration																															2	No Approvals
Richmond CBD Rehabilitation																															2	No Approvals
Mooi River CBD Rehabilitation																															2	No Approvals
New Hanover Urban Regeneration																															3	No Approvals
Wartburg Urban Regeneration																															3	No Approvals
Impendle Urban Regeneration																															3	No Approvals
Camperdown Urban Rehabilitation																															3	No Approvals
Edendale Private Land Acquisition Initiative (Restructuring Zone)																															3	EIA & SPLUMA
Pietermaritzburg Inner-City High Density Residential (100 000 Units)																															1	EIA & SPLUMA
Howick Inner Town Cluster Housing (10 000 Units)																															2	EIA & SPLUMA
Hilton Inner Town Cluster Housing (5000 Units)																															3	EIA & SPLUMA

Project Description	ESTIMATED START AND END DATES																														Priority Level	Applicable Development Procedure
	5 YEARS					10 YEARS					15 YEARS					20 YEARS					25 YEARS					30 YEARS						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30		
Richmond Inner Town Cluster Housing (2000 Units)																															3	EIA & SPLUMA
Mooi River Inner Town Cluster Housing (5000 Units)																															3	EIA & SPLUMA
New Hanover Inner Town Cluster Housing (2000 Units)																															3	EIA & SPLUMA
Wartburg Inner Town Cluster Housing (2000 Units)																															3	EIA & SPLUMA
Impendle Inner Town Cluster Housing (2000 Units)																															3	EIA & SPLUMA
Camperdown Inner Town Cluster Housing (5000 Units)																															3	EIA & SPLUMA
New Cemetery Site in Pietermaritzburg																															4	EIA & SPLUMA
New Cemetery Site in Howick/ Hilton																															4	EIA & SPLUMA
New Cemetery Site in Richmond																															4	EIA & SPLUMA
New Cemetery Site in New Hanover																															4	EIA & SPLUMA
New Cemetery Site in Impendle																															4	EIA & SPLUMA
New Cemetery Site in Camperdown																															4	EIA & SPLUMA
New Cemetery Site in Mooi River																															4	EIA & SPLUMA
Msunduzi Integrated Rapid Public Transport System																															2	No Approvals

Project Description	ESTIMATED START AND END DATES																														Priority Level	Applicable Development Procedure
	5 YEARS					10 YEARS					15 YEARS					20 YEARS					25 YEARS					30 YEARS						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30		
Construction of a Regional airport along the N3 Corridor (Mkhambathini)																															1	EIA & SPLUMA
Pietermaritzburg Bypass																															2	EIA & SPLUMA
Pietermaritzburg Ring Road																															2	EIA & SPLUMA
Edendale Town Centre Prominade 1 and 2																															2	EIA & SPLUMA
Old Edendale Road Upgrade																															2	No Approvals
NDPG Edendale Walkway																															2	No Approvals
Pietermaritzburg Non-Motorized Transport Infrastructure Network																															6	No Approvals
Hilton/ Howick Non-Motorized Transport Infrastructure Network																															6	No Approvals
Pietermaritzburg (Oribi) Airport upgrade																															3	EIA & SPLUMA
Oribi Airport Precinct Development																															2	EIA & SPLUMA
The development of a Regional Logistics and Automotive Hub: OneLogix/ Grinrod/ Cato Ridge Logistics Extension (Feasibility Study)																															2	EIA & SPLUMA
The development of a 600-hectare Logistics Park in Mooi River along the N3 (Tambo Springs Logistics Port)																															2	EIA & SPLUMA
Disability Parking Bay Allocation																															5	No Approvals
Disabilities Friendly Public Buildings																															5	No Approvals

Project Description	ESTIMATED START AND END DATES																														Priority Level	Applicable Development Procedure
	5 YEARS					10 YEARS					15 YEARS					20 YEARS					25 YEARS					30 YEARS						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30		
Disability Friendly Public Transport																															5	No Approvals
Public Wifi Hotpots on Libraries																															4	No Approvals
Wifi Hotspots in Community Halls																															4	No Approvals
Wifi Hotspots in Oribi Airport																															4	No Approvals
Techno Hub in Msunduzi																															3	EIA & SPLUMA
District Landfill Site (1)																															1	EIA & SPLUMA
Waste Transfer Stations (7)																															1	EIA & SPLUMA
District Recycling Plants (7)																															1	EIA & SPLUMA
Local Recycling Workshops																															1	EIA & SPLUMA
Leachate Gas Conversion into Energy Station																															1	EIA & SPLUMA
Storage and Distribution of Alternative Energy																															1	EIA & SPLUMA
Solar Streetlights																															2	No Approvals
Solar Traffic Lights																															2	No Approvals
Solar in Public Buildings																															2	No Approvals
Solar in Commercial Establishments																															2	No Approvals
uMkomaas hydro electricity power generation (Mkhambathini)																															2	EIA & SPLUMA
Springrove dam/Mearns dam to Midmar dam water transfer Hydro-electricity power generation facility (Mpofana)																															2	EIA & SPLUMA
Impendle solar power station and the Biomass Power station (UMngeni)																															2	EIA & SPLUMA

Project Description	ESTIMATED START AND END DATES																														Priority Level	Applicable Development Procedure
	5 YEARS					10 YEARS					15 YEARS					20 YEARS					25 YEARS					30 YEARS						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30		
Establishment of a renewal energy hub (KZN Red Hub)																															2	EIA & SPLUMA
Greywater usage in Public Toilets																															2	No Approvals
Greywater usage in ablution facilities of Public Buildings																															2	No Approvals
Greywater usage in Car Wash Establishments																															2	No Approvals
Greywater usage in domestic gardens																															2	No Approvals
Wastewater usage for irrigation																															2	EIA
Artificial Wetlands for Wastewater																															2	EIA
Local Grey Water Harvesting by Households (Jojo Tanks)																															2	EIA
New Hanover Integrated Mixed Residential Development																															3	EIA & SPLUMA
Wartburg Integrated Mixed Residential Development																															3	EIA & SPLUMA
Camperdown Integrated Mixed Residential Development																															3	EIA & SPLUMA
Richmond Integrated Mixed Residential Development																															3	EIA & SPLUMA
Relocation of 5 404 HH from Steep Terrain																															2	EIA & SPLUMA
Relocation of 17 681 HH from Hydrological Buffers																															2	EIA & SPLUMA
Relocation of 8 816 HH from Powelines																															2	EIA & SPLUMA

Project Description	ESTIMATED START AND END DATES																														Priority Level	Applicable Development Procedure
	5 YEARS					10 YEARS					15 YEARS					20 YEARS					25 YEARS					30 YEARS						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30		
Relocation of 321 HH from Road Reserves																															2	EIA & SPLUMA
Develop and implement a scheduled river maintenance programme																															3	No Approvals
Restoration of Msunduzi River																															2	No Approvals
CACEN Open Space System																															2	No Approvals
Develop a water pollution emergency response protocol																															3	No Approvals
Schools and Clinics in Mpofana and UMngeni																															3	EIA & SPLUMA
Agricultural Response Strategies (i.e. New Crops)																															2	No Approvals
Flood Risk Response Strategies (i.e. Spatial Planning)																															2	No Approvals
Veld Fire Risks Response Strategies (i.e. Fire belts)																															2	No Approvals
Disaster Response Strategies (i.e. Emergency Resources)																															2	No Approvals
Post-Disaster Strategies (i.e. Socio-Economic Support)																															2	No Approvals
Operation Clean Audit																															1	No Approvals
Introduce and implement Integrity Management Programmes																															1	No Approvals
Re-orientate the business of the clusters to align to government's core policies																															2	No Approvals

Project Description	ESTIMATED START AND END DATES																														Priority Level	Applicable Development Procedure
	5 YEARS					10 YEARS					15 YEARS					20 YEARS					25 YEARS					30 YEARS						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30		
of transformation, growth and development																																
Create a single window of co-ordination between the provincial government, municipalities and non-government forums																															2	No Approvals
Develop an Integrated Funding and Implementation Management Framework																															2	No Approvals