ZULULAND DISTRICT MUNICIPALITY

ZULULAND DISTRICT MUNICIPALITY SPATIAL DEVELOPMENT FRAMEWORK

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NWRS2	2nd National Water Resource Strategy
AWD	Acid Water Drainage
BLU	Biodiversity Land Use
BNG	Breaking New Ground
CEF	Capital Expenditure Framework
CIF	Capital Investment Framework
CHC	Community Health Centre
CAAGR	Compounded Average Annual Growth Rate
CBAs	Critical Biodiversity Areas
DARD	Department of Agriculture and Rural Development
DALRRD	Department of Agriculture, Land Reform and Rural Development
COGTA	Department of Cooperative Government and Traditional Affairs
DFFE	Department of Enviromental Affairs
DDM	District Development Model
DGDP	District Growth and Development Plan
DM	District Municipality
ESA	Ecological Support Areas
ESKOM	Electricity Supply Commission
EMF	Environment Management Framework
EKZNW	Ezemvelo KwaZulu Natal Wildlife
GDP	Gross Domestic Product
GVA	Gross Value Added
HA	Hectare
HDI	Human Development Index
ICT	Information and Communications Technology
IDP	Integrated Development Plan
ISRDP	Integrated Sustainable Residential Development Programme

JMPT	Joint Municipal Planning Tribunal
Km	Kilometres
KCDM	King Cetshwayo District Municipality
EDTEA	KwaZulu Natal Department of Economic Development, Tourism and Environmental Affairs
KZNIIMP	KwaZulu Natal Integrated Infrastructure Master Plan
KZNTMP	KwaZulu Natal Tourism Master Plan
KZN	KwaZulu-Natal
LRAD	Land Redistribution for Agricultural Development
LUS	Land Use Scheme
LM	Local Municipality
LTAS	Long-Term Adaptation Scenarios
MAP	Mean Annual Precipitation
MTEF	Medium-Term Expenditure Framework
MTSF	Medium-Term Strategic Framework
MEC	Member of the Executive Council
MIG	Municipal Infrastructure Grant
MSDF	Municipal Spatial Development Framework
NBA	National Biodiversity Assessment
NBES	National Biodiversity Economy Strategy
NBSAP	National Biodiversity Strategy and Action Plan
DHS	National Department of Human Settlement
NDP	National Development Plan
NEMA	National Environmental Management Act
NFSD	National Framework for Sustainable Development
NFEPA	National Freshwater Ecosystem Priority Areas
NIP	National Infrastructure Plan
NPAES	National Protected Areas Expansion Strategy

NWA	National Water Act 36 of 1998
PEMP	Poverty Eradication Master Plan
PHC	Primary Health Care
PHSHDA	Priority Human Settlements and Housing Development Areas
PLAS	Proactive Land Acquistion Strategy
SPLAG	Production Land Acquisition Grant
PGDP	Provincial Growth and Development Plan
PSDF	provincial Growth and Development Strategy
PGDS	Provincial Growth and Development Strategy
PSEDS	Provincial Spatial Economic Development Strategy
RDP	Reconstruction and Development Programme
RBIG	Regional Bulk Infrastructure Gran
RWSS	Regional Water Supply Scheme
SLAG	Settlement/Land Acquisition Grant
SANBI	South African National Biodiversity Institute
SANRAL	South African National Roads Agency Limited
SADC	Southern African Development Community
SDF	Spatial Development Framework
SDF	Spatial Development Framework
SPLUMA	Spatial Planning and Land Use Management Act
StatsSA	Statistics South Africa

SIP	Strategic Integrated Projects
SWSA	Strategic Water Source Areas
SDG	Sustainable Development Goals
Abbreviation	Term
TKZN	Tourism KwaZulu Natal
UN	United Nations
UNDP	United Nations Development Programme
UISP	Upgrading of Informal Settlements programme
WDS	Waste Disposal Site
WMA	Water Management Areas
WSA	Water Services Authority
WSDP	Water Services Development Plan
WSIG	Water Services Infrastructure Grant
WSS	Water Supply Scheme
WTW	Water Treatment Works
WCDM	West Coast District Municipality
ZDM	Zululand District Municipality
VIP	Ventilated Pit Latrine
ZDA	Zululand Development Agency

1 INTRODUCTION

The Zululand District Municipality (ZDM) has initiated a process towards the formulation of a Municipal Spatial Development Framework (MSDF) in terms of Sections 21 of the Spatial Planning and Land Use Management Act (SPLUMA), Act 16 of 2013. The MSDF will form an integral part of the district's Integrated Development Plan (IDP) and will express the development vision of the municipality spatially. This document presents a draft report on spatial challenges and opportunities that characterises the ZDM.

1.1 The Zululand District Municipality

The Zululand District Municipality (ZDM) is one of the ten district municipalities in the KwaZulu-Natal Province. It is located to the north-west of the province approximately 250 kilometres north-west of the eThekwini Metropolitan Municipality along the border with the Kingdom of Eswatini (See map 1). The ZDM shares a boundary with the Gert Sibande District Municipality (in the Mpumalanga Province) to the north-west; Amajuba and Umzinyathi District Municipalities to the west; King Cetshwayo District Municipality to the south and the uMkhanyakude District Municipality to the north, respectively.

The ZDM had a population of approximately 803 576 people in 2011 (Census 2011) which increased to 892 310 people (Community Survey 2016) and in 2016. It covers approximately 1 479 900 hectares and has a population density of about 0.6 persons per hectare. The district is characterised by a largely rural population (77%) with high levels of unemployment (56%) and low levels of education (ZDM, 2017a; COGTA, n.d.). Local municipalities located within the Zululand District Municipality are eDumbe, uPhongolo, Nongoma and Abaqulusi.

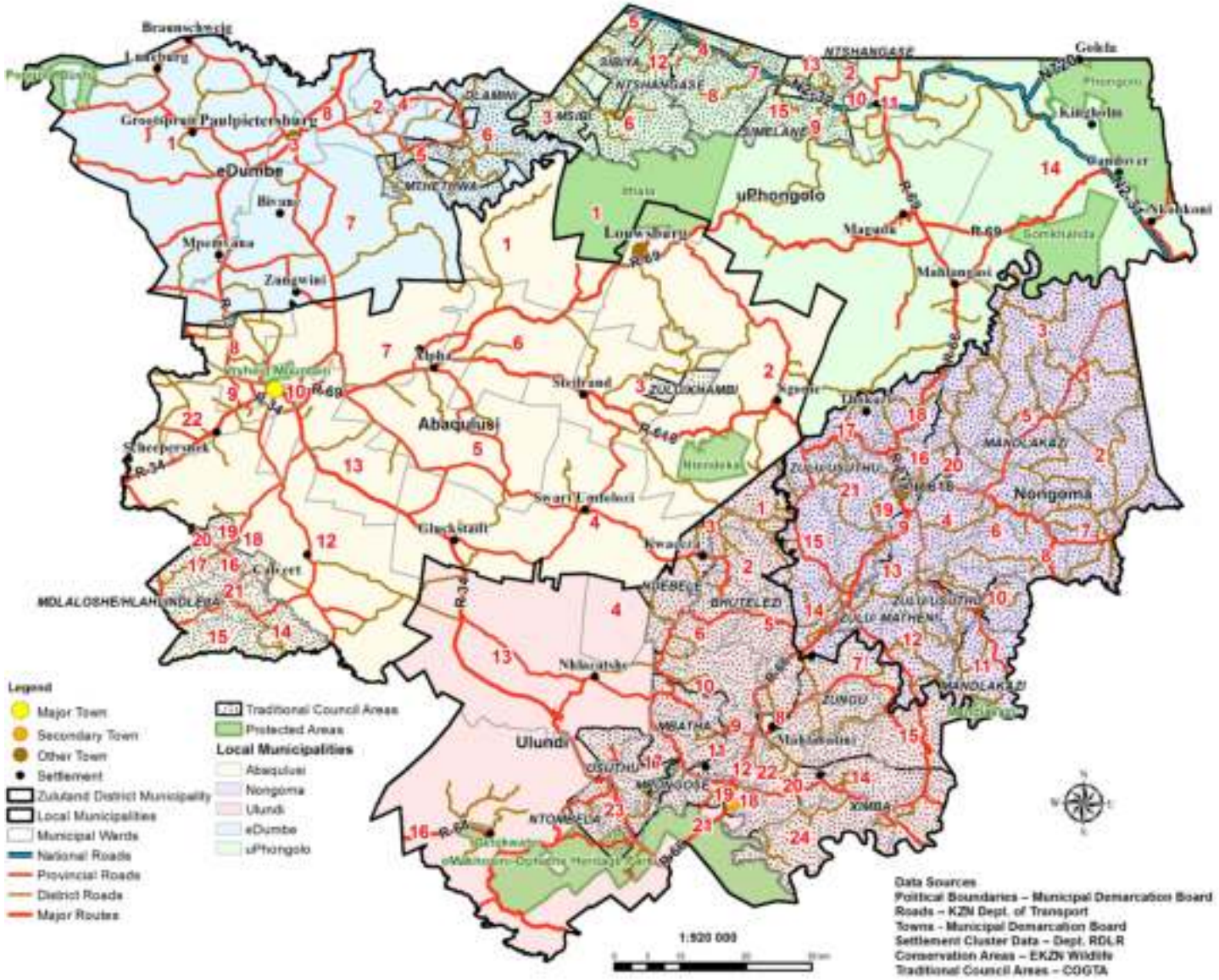
The ZDM does not have a single dominant urban centre with strong functional linkages and a service threshold that covers the entire district. Instead, it is structured around five towns, each serving as an economic and/or administrative hub within its local municipality and beyond. These towns are Vryheid in the Abaqulusi Municipality; Paul-Pietersburg in the Edumbe Municipality; Phongola in the uPhongolo Municipality; Ulundi in the Ulundi Municipality; and Nongoma in the Nongoma Municipality. Nongoma and Ulundi are surrounded mainly by expansive rural settlements while Vryheid, Phongola and Paul-Pietersburg developed as service centres for the surrounding farmlands.

Map 1: Locality Map

Settlement pattern in the ZDM resembles the situation in many parts of the KZN Province. It is characterised by uneven and dualistic development arising from the apartheid past; and reflects the impact of natural features, road network and development initiatives of the post-apartheid democratic government. Settlements in the district take different forms including urban centres, peri-urban settlements, dense rural settlements, low density rural settlements and farm dweller settlements in the commercial farmlands.

Vryheid, Ulundi and Phongola are the main economic centres within the ZDM. The economy of Pongola is based on large scale sugarcane production, but the area also has potential for eco-tourism near the Pongolapoort Dam. Vryheid has a much larger commercial and services sector although the economy is also dependant on agriculture and coal mining. Ulundi is the current seat of the Zululand District Municipality, and the former seat of the KwaZulu-Natal (KZN) Government. It has a strong administrative, commercial, and service oriented economy. Each of these towns has a substantial residential component. Other urban settlements include Emondlo, Bilanyoni, Paulpieterburg, Nongoma and Louwsburg.

Map 2: Zululand District Municipality



1.2 Municipal Planning

South Africa has an extensive collection of sectoral legislation that regulates different aspects of municipal spatial planning within the local government's areas of jurisdiction. The Constitution of the Republic of South Africa, Act No. 108 of 1996 is the supreme law while the SPLUMA specifically deals with the MSDFs which is the focus of this planning initiative.

Section 156 of the Constitution read together with Part B of Schedule 4 of the Constitution of the Republic of South Africa, Act No. 108 of 1996, assigns municipal planning to the local sphere of government (municipalities). As such, municipalities have an executive power and a right to administer municipal planning to the extent provided in Section 155 of the Constitution. The preparation of the ZDM's MSDF is a practical implementation of this Constitutional mandate. Failure to do this may undermine spatial governance, and the developmental role of the ZDM. The Constitution requires the ZDM to undertake this responsibility within the principle of cooperative governance; in consultation with all the relevant stakeholders; in due cognisance of property rights; and in the public interest.

Further to the Constitution, the Local Government Municipal Systems Act, Act No. 32 of 2000 sets out in Chapter 4 the requirement, amongst others, for newly elected municipal councils to prepare and adopt an integrated development plan (IDP) for their respective areas and to provide for annual revision thereof. The MSA identifies a spatial development framework (SDF) as one of the key components of an IDP. Section 5(1) of the SPLUMA identifies the primary components of municipal planning as:

- an Integrated Development Plan (IDP);
- a Municipal Spatial Development Framework (MSDF); and
- a Land Use Scheme (LUS).

The IDP outlines a short to medium term strategic development agenda of the municipality while a MSDF provides for spatial transformation, integration, and sustainable development. A LUS is a tool that local municipalities use to regulate land use and land development within their areas of jurisdiction.

Other critical pieces of legislation with serious implications for spatial planning at a municipality level include:

- National Environmental Management Act, Act No. 107 of 1998 (NEMA) specifies a list of land use changes that require an environmental authorisation in addition to any planning permission.
- Subdivision of Agricultural Land Act, No. 70 of 1970 requires the approval of the Minister of Agriculture for the subdivision and/or rezoning of any agricultural land.

1.3 Need for the ZDM MSDF

The development of the ZDM MSDF is intended, in part, to comply with Section 20 of the Spatial Planning and Land Use Management Act, Act 16 of 2013 (SPLUMA) which requires a municipality to prepare and adopt an SDF as a component of its Integrated Development Plan (IDP).

The SPLUMA introduces a hierarchy of spatial plans from national spatial development frameworks to provincial, regional, and municipal spatial development frameworks. Each of the more localised plans should both inform and conform to the context and parameters the broader framework set. Nesting jurisdictions and the multi-scale nature of spatial planning necessitates alignment of the different scales of SDFs. This applies between different spheres or jurisdiction and within spheres (i.e. between local MSDFs and a district MSDF). It places cooperative governance at the centre of the new spatial planning system and requires SDFs to be coordinated among and across the spheres of government with the mandate, powers, and functions as well as spatial logic determining the role, focus and content of SDFs at different levels.

The ZDM MSDF will give direction to future planning and development within the municipality and provide a framework for a site or area specific land use management system.

Figure 1: Hierarchy of Spatial Development Frameworks

A long-term national spatial planning instrument that provides an overarching set of principle-driven spatial investment and development directives for all three spheres and sectors of government; and a set of strategic spatial areas of national importance from an ecological, social, economic and/or ICT or movement infrastructure perspective, to be targeted in the pursuit of strategic national development objectives.

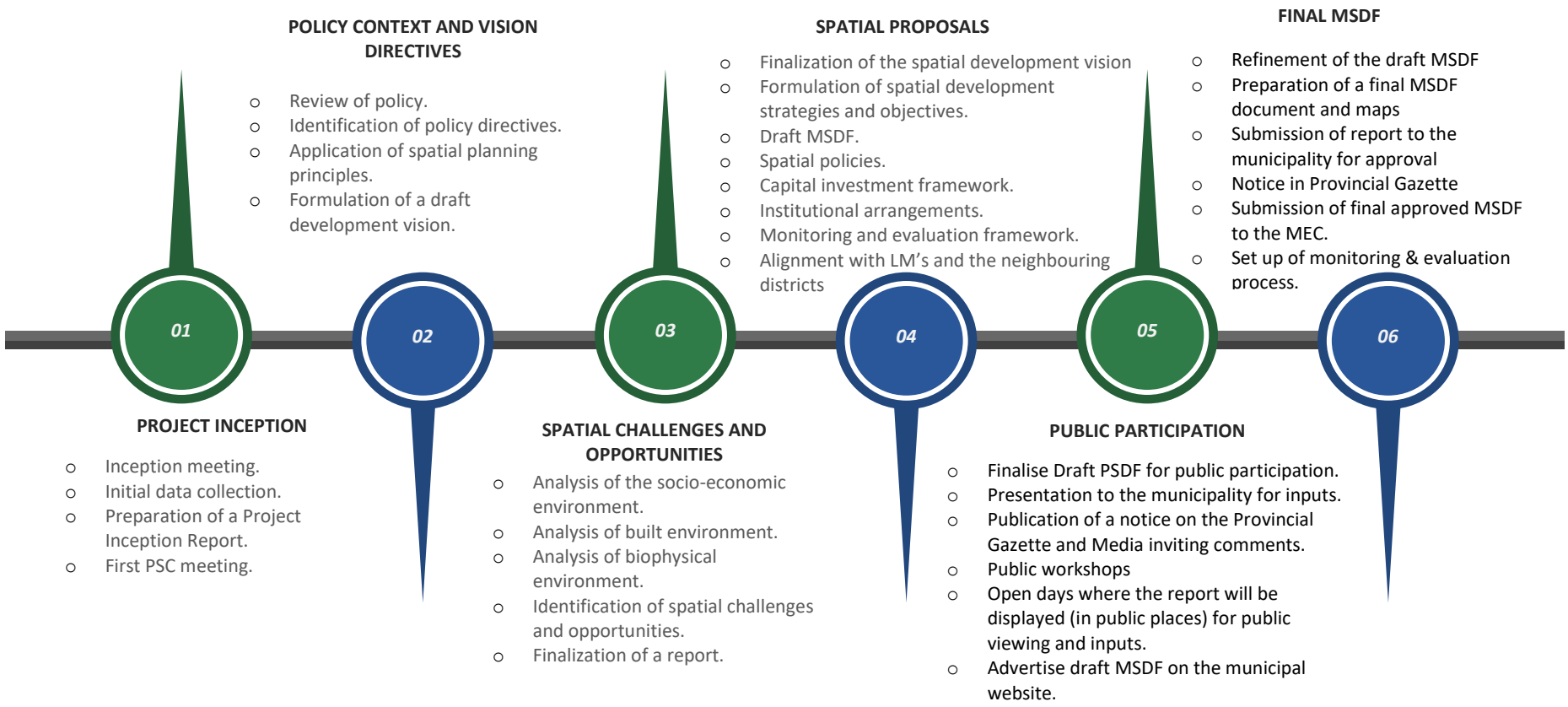
A long-term provincial spatial planning instrument that provides an overarching framework for spatial planning and development, coordinates the development activities or government departments; provides a framework for the preparation of municipal spatial development frameworks; identifies areas of provincial strategic importance; and directs both public and private sector investment towards the attainment of development goals outlined in the Provincial Growth and Development Strategy.

A long-term regional spatial planning instrument that provides an overarching framework for spatial planning and development, in areas identified by the Minister in consultation with the MEC as development regions. A regional SDF deals with cross boundary areas that requires integrated management such as water catchment areas, protected areas, development corridors, and similar areas.

A long-term municipal spatial planning instrument that provides an overarching framework for spatial planning and development, guides spatial planning and development at a local level, integrates the government activities with municipal spatial planning, guides private and public sector investment, and provides a framework for land use regulation.

1.4 Phased Approach

Figure 2: Project Phases



1.5 Scope of the ZDM MSDF

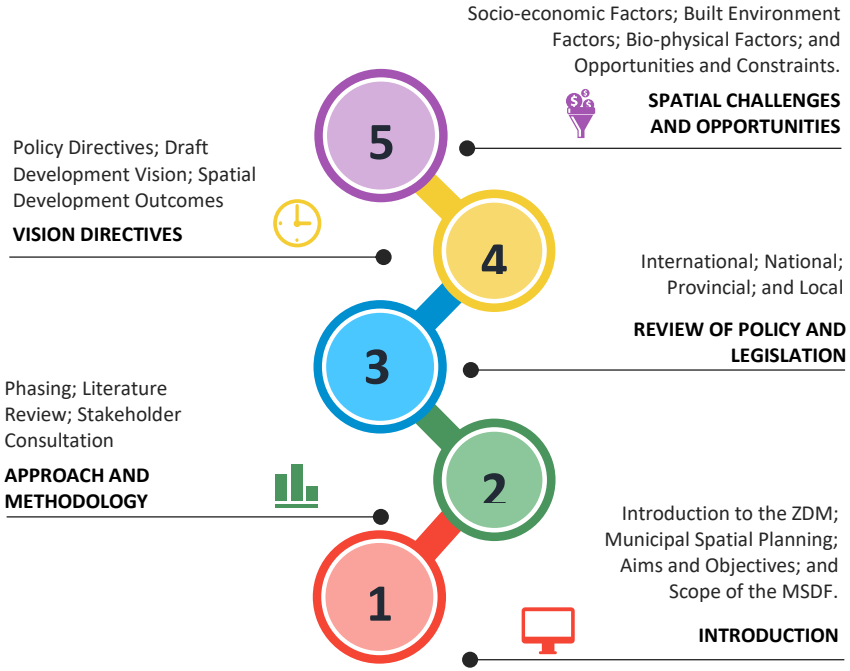
The ZDM MSDF is a medium to long-term strategic spatial development plan. It guides and informs all planning, land management, development, and spatial decision-making in a municipality. It provides a spatial interpretation of development strategies, programmes and projects contained in the IDP. Figure 2 Below indicates the key components of the MSDF for the ZDM.

Figure 3: Content of Zululand District Municipality Municipal Spatial Development Framework

In addition, the SPLUMA requires a MSDF to include strategic environmental pressures and opportunities, environmental sensitivities, high potential agricultural land, and a capital investment framework for the municipality's development programmes.

1.6 Structure of the Report

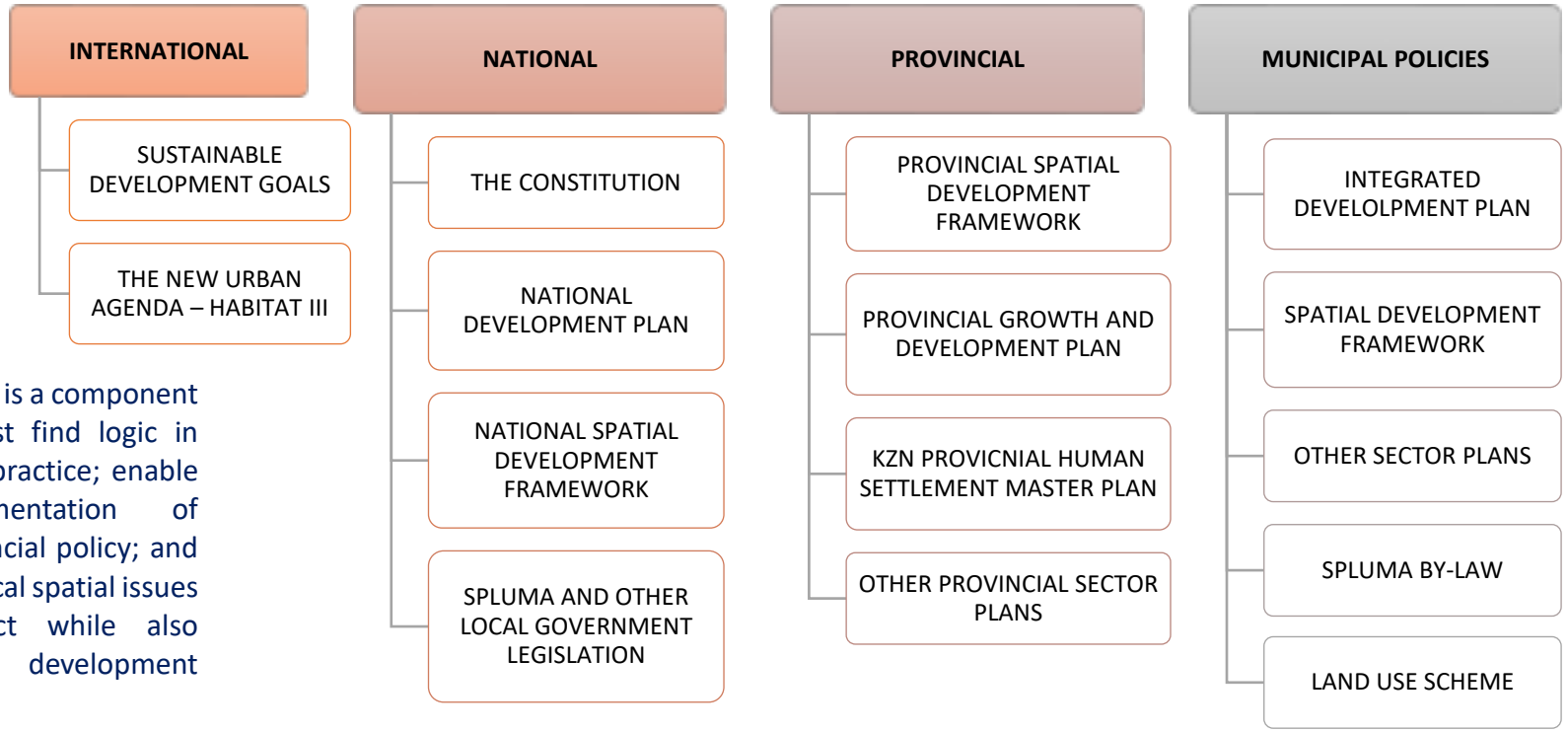
Figure 4: Structure of the Report



2 POLICY REVIEW

Municipal spatial planning in South Africa operates within a policy framework, which seeks to enable local government to deliver on its Constitutional mandate. Municipal planning requires a municipality to strike a balance among various and often competing social, economic, and environmental interests to contribute to developmentally oriented local governance; promote integrated and sustainable development; and protect while also enhancing property rights and public interests. The policy framework guides and directs municipal spatial planning towards the attainment of global, national, and provincial spatial development goals.

Figure 5: Policies and Pieces of Legislation



Although the MSDF is a component of the IDP, it must find logic in international best practice; enable effective implementation of national and provincial policy; and respond to the critical spatial issues facing the district while also unlocking development opportunities.

2.1 International Policy

2.1.1 Sustainable Development Goals

South Africa subscribes to the Sustainable Development Goals (SDGs) which act as the foundation of the United Nations Development Programme (UNDP). Although each goal has a set of specific targets, they are interdependent with action on one goal contributing to the attainment of targets for the other goals. SDG 11 commits member states to the development of sustainable towns and communities. Essentially, this refers to settlements that ensures access for all to adequate, safe, and affordable housing; basic services; public transport; public spaces; and positive economic, social, and environmental links between urban, peri-urban, and rural areas. Other critical goals for spatial planning within the ZDM include goal 6 dealing with access to clean water and sanitation; goal 8 dealing with decent work and economic growth; goal 12 dealing with responsible production and consumption; and goal 13 dealing with climate action.

2.1.2 The New Urban Agenda

The New Urban Agenda is crucial for the achievement of the Sustainable Development Goals, as well as for the Paris Agreement on Climate Change. It identifies cities, towns, and villages as areas where practical action towards sustainable development should occur. It promotes urban and territorial planning that encourages synergies and interactions among urban areas of all sizes and their peri-urban and rural surroundings, including those that are cross-border. It supports the development of sustainable regional infrastructure projects that stimulate sustainable economic productivity, promote equitable growth of regions across the urban-rural continuum. It encourages planned urban extensions and infill developments; facilitates urban renewal and regeneration; and promotes the upgrading of slums and informal settlements. Therefore, future settlements within the ZDM should be sustainable, inclusive, resilient, and integrated.

2.2 National Policy

The National Development Plan is a comprehensive overarching development policy in South Africa. It adopts a medium-term horizon (vision 2035). It is implemented through various sectoral policies and government programmes organised through the Medium-Term Strategic Framework linked to the term of office for each administration. National policies can be categorised into rural development, environmental management, human settlement, and infrastructure development.

2.2.1 The National Development Plan

The National Development Plan (NDP) acknowledges the unfortunate spatial impact of the past apartheid policies while recognizing the unique needs and potentials of different rural and urban spaces. It promotes equitable access to basic services and social facilities and emphasises the urgency of addressing service backlogs in rural areas. Vision 2030 of the National Development Plan (NDP) calls for an inclusive rural economy wherein:

> *"...rural communities should have greater opportunities to participate fully in the economic, social and political life of the country. People should have access to high-quality basic services that enable them to be well nourished, healthy, and increasingly skilled. Rural economies will be supported by agriculture, and were possible by mining, tourism, agro-processing, and fisheries…better integration of the country's rural areas, achieved though successful land reform, job creation and poverty alleviation".*

It envisages inclusivity and integration of rural areas, through successful land reform, job creation and poverty alleviation, and identifies agriculture as the driving force behind this vision.

2.2.2 Rural Development Policy

Further to the NDP, the national government's rural development policy is encapsulated in the Comprehensive Rural Development Programme the government introduced in 2009. The programme aims to deal with rural poverty and underdevelopment through investment in rural economic infrastructure; land reform programme; and agrarian transformation. Rural areas and the agrarian economy face high rates of unemployment, inequality and stagnant growth which contributes to migration to urban areas and exacerbates spatial inequalities within cities and towns. Rural economic development holds significant potential for creating decent and productive jobs, contributing to sustainable development and economic growth, and mitigating rural urban migration. The promotion of decent work in the rural economy is key to eradicating poverty and ensuring that the nutritional needs of a growing population are met (Medium-Term Strategic Framework - 2021-2024).

Although not adopted as government policy yet, the Draft Policy for the Preservation and Development of Agricultural Land (2016), sets out the strategic spatial agenda for managing South Africa's scarce non-renewable agriculture resources. It seeks to protect and preserve agricultural land and its productive use to ensure national and household food security. It therefore suggests the development of national norms and standards to regulate the sub-division and change in use of agricultural land; and implementation of a coherent approach to coordinated planning and development relating to agricultural land and its optimal use in each province, and to

establish systems of agricultural land use planning and regulations; land use zoning for agricultural land; and to regulate agricultural land conversions.

2.2.3 Human Settlement Policy

The Comprehensive Plan for the Development of Sustainable Human Settlements - commonly known as 'Breaking New Ground' (BNG) is the main national human settlement policy. It promotes development of more liveable, equitable and sustainable cities, towns, and regions; reversing of inequalities and inefficiencies of the apartheid space economy; densification; integration of planning for sustainable human settlements in the broader spatial planning at different scales of spatial planning; location of new human settlements closer to urban opportunities; and equitable access to services and public facilities. It seeks to achieve this through a range of products and instruments outlined in detail in the Housing Code (2009). These include rural housing designed to address housing backlog in rural areas; Upgrading of Informal Settlements (UISP) which provides for incremental upgrading and inclusion of informal settlement into the urban systems; and Integrated Sustainable Residential Development Programme (ISRDP) which promotes development of integrated communities.

2.2.4 Environmental Management Policy

The impact of human activities on the natural environment increases as the population grows and settlements expand. Human activities manifest on the natural environment in the form of destruction and extraction of non-renewable natural resources; production of waste products; and pollution. The national government has introduced a wide range of environmental management policies to promote and facilitate sustainable development.

Firstly, the National Framework for Sustainable Development (NFSD) introduced in 2008 provides a coherent and overarching national strategy for sustainable development. The NFSD calls for the pursuit of growth that respects the limits of ecosystems and that is not dependent on intensive/inefficient resource use; and the mainstreaming of environmental sustainability concerns in both planning and implementation of government policies and programmes.

Secondly, South Africa's 2nd National Water Resource Strategy (NWRS2) was published in 2013 in terms of the National Water Act (Act of 1998). This strategy directs that national water resources should be protected, conserved, used, developed, managed, and controlled in an efficient, equitable and sustainable manner, to meet South Africa's development goals over the next five to 10 years. It

provides a single, nationally guidance for incorporating water ecosystem goals into planning and decision-making processes.

Furthermore, the National Biodiversity Strategy and Action Plan (NBSAP) provides a framework for an effective management of a network of protected areas and conservation areas across administrative boundaries to avoid risk of loss and extinction; and expansion, strengthening and transformation of the bio-diversity economy to be inclusive of the rural poor as provided for in the National Biodiversity Economy Strategy (NBES).

A Draft National Biodiversity Framework developed in terms of Section 38 of the National Environmental Management: Biodiversity Act (Act 10 of 2004) was published in 2018 for comments. It provides for an integrated, co-ordinated, and consistent approach to biodiversity management; identify priority areas for conservation action, and for the establishment of protected areas; and reflects regional cooperation issues concerning biodiversity management in Southern Africa. It is informed, primarily by the NBSAP, the National Biodiversity Assessment (NBA) and the National Protected Areas Expansion Strategy (or NPAES). The NBA provides headline indicators and a spatial assessment of ecosystems and species while the NPAES is a long-term strategy for guiding cost-effective expansion of the country's protected area estate. It recommends accelerators for an effective implementation of the biodiversity policies and programmes.

2.2.5 Infrastructure Development Policy

The National Infrastructure Plan (NIP) 2012, seeks to transform economic landscape to strengthen the delivery of basic services while creating an employment-friendly, equitable and inclusive economic trajectory. It presents spatial mapping of infrastructure gaps based on the analyses of future population growth; projected economic growth; and areas of the country which are not served with water, electricity, roads, sanitation, and communication. It identifies the northern parts of KZN including the ZDM as one of the areas with limited access to services. The NIP identifies eighteen Strategic Integrated Projects (SIPs) to support economic development and address service delivery. SIPs 1 seeks to unlock the northern mineral belt with Waterberg as the catalyst and improving rail capacity to the Mpumalanga Province and Richards Bay.

2.3 Provincial Policy

2.3.1 Provincial Growth and Development Strategy

The Provincial Growth and Development Strategy (PGDS) analyses the provincial development trends and patterns and identifies development challenges facing the province. It identifies the ZDM as

one of the rural districts with relatively high service backlogs, poverty, and underdevelopment. It presents a long-term development vision and a short-to-medium term development strategy. The latter includes seven strategic goals and 31 strategic objectives. Goal 11 commits the provincial government to the development of an equitable spatial structure and access to basic services, public facilities, and development opportunities.

2.3.2 Provincial Growth and Development Plan

The main purpose of the PGDP is to translate the PGDS into an implementation plan that provides a sound platform for departmental, sectoral and stakeholder annual performance planning, resource allocation, and monitoring. The PGDP indicates, among others, the desired 2035 outcomes in the 7 goals and 31 objectives; a set of indicators that will be applied to measure progress being made to achieve the desired outcomes; the targets and the KZN growth path for 2020, 2025, 2030 and 2035 in respect of each of the indicators; the institutional framework for the implementation of the PGDP; and monitoring, evaluation, reporting and review framework of the plan. It is a strategic management tool to ensure that there is a concerted and measured effort to achieve the 2035 Vision. It identifies catalytic projects throughout the province.

2.3.3 Provincial Spatial Development Framework

The KwaZulu-Natal Provincial Spatial Development Framework (PSDF) is a core component of the PGDP. It presents the spatial dimension required to achieve the goals and objectives of the PGDS in a spatially targeted and coordinated manner. It provides logic and serves as a framework for the location and implementation of interventions and catalytic projects outlined in the Provincial Growth and Development Plan (PGDP). It identifies the north-eastern part of the district as one of the areas with a high social need in the province while the western areas are included within the priority agricultural zone. The ZDM has a poor urban accessibility rate given its rural character. It is surrounded by critical bio-diversity areas. It classifies Ulundi, Pongola and Vryheid as tertiary provincial nodes serving vast rural hinterland.

2.3.4 Provincial Spatial Economic Development Strategy, 2017

The KwaZulu-Natal Spatial Economic Development Strategy (PSEDS) places significant emphasis on spatial analysis and economic development planning. It identifies the priority development areas in the province; specific types of development that are required in those areas; areas that must be protected for biodiversity and conservation; and directs private and public sector investment. It

identifies development nodes and corridors; and categorises them according to function and service threshold. Vryheid in Abaqulusi Municipality is identified as one of the Multi-Sectoral Nodes while route 66 is classified as a secondary corridor. Paulpietersburg; Pongola; and Ulundi are named among the strategic development nodes.

2.3.5 KwaZulu-Natal Tourism Master Plan

The KwaZulu-Natal Tourism Master Plan identifies several strategic objectives that seeks to increase tourism contribution to the provincial economy by, *inter alia*, increasing levels of all foreign and domestic visitor arrivals to the province; diversifying tourism products and offerings; and improve the geographic spread of tourism within the province. Although the KZNTMP does not specifically brand the tourism regions of the province, Tourism KZN (TKZN), which is responsible for the development, promotion, and marketing of tourism in the province, includes the ZDM within the Zululand Destination for tourism marketing purposes. This recognises the rich heritage of the Zulu-Nation in the area.

2.3.6 KwaZulu-Natal Integrated Infrastructure Master Plan

The KZN Integrated Infrastructure Master Plan (KZNIIMP) is a strategic tool that guides, integrates, coordinates implementation of strategic infrastructure programmes in KwaZulu-Natal in accordance with the Provincial Growth and Development Plan, 2035. It provides a platform for all the national and key infrastructure delivery agents to share information and align the long-term infrastructure planning and development for the province. It has an emphatic emphasis on processes and mechanisms to enhance implementation of the PGDP. Whilst recognising the value of a long-term vision and strategy, as well as targets setting a trajectory to 2035, there is an equal recognition of the need for a clear implementation plan with a focus on immediate action and the attainment of short-term gains. It recommends strategic infrastructure such as the development of seaports; addressing service backlogs in underdeveloped areas; and development of road and rail networks.

2.3.7 Water Master Plan

This Infrastructure Master Plan (2020) is a comprehensive technical report that provides information on current infrastructure and on future infrastructure development plans. It is presented in eight volumes that describe the current water resource situation and water supply infrastructure of the various systems in KwaZulu-Natal. The ZDM is included predominantly in the Umfolozi System with uPhongolo and eDumbe Local Municipalities forming part of the uMkhuze / uPhongolo / Lake Sibiya System. The Water Master Plan provides a synopsis of the system; description of the existing

infrastructure and supply system; and concludes with firm recommendations for the improvement of water infrastructure.

2.4 Zululand District Municipality Policies

2.4.1 Environmental Management Framework

The main purpose of an EMF is to identify areas of potential conflict between development proposals and critical or sensitive environments proactively. The Zululand EMF is a framework of spatially represented information connected to parameters, such as ecology, hydrology, infrastructure, and services. An EMF is essentially a strategic decision support instrument that assists in environmental planning by determining the status of the environment and developing a desired state of the environment based on prevailing opportunities and constraints as well as public input; providing detailed environmental information to all stakeholders; indicating strategic environmental management priorities and targets; and facilitating co-operative governance. It commits the ZDM to the conservation of biodiversity in a manner that enhances the well-being of the people in Zululand.

2.4.2 Spatial Development Framework

The Zululand District Municipal Spatial Development Framework (MSDF) is a core component of the IDP. It identifies spatial development challenges facing the district and presents a spatial translation of the development strategy outlined in the IDP. It adopts a service centre approach and accordingly identifies Ulundi, Phongola and Vryheid as primary development nodes. Secondary nodes are Nongoma and Edumbe. This recognises the role each of these areas play in the delivery of services and governance, as well as their contribution to the district economy. Tertiary nodes spread uneven throughout the district serve as major connectors between settlement areas and major economic/administrative hubs. It aligns with the SDFs of the neighbouring district municipalities and provides a framework for the preparation of local municipality SDFs and land use schemes. It presents a Capital Investment Framework (CIF) linked to the budget and the Medium-Term Expenditure Framework (MTEF).

2.4.3 District Growth and Development Strategy

The Zululand DGDP is not an 'inventory' development plan for the district, but rather focuses on a limited but strategic, high impact, fast-track interventions that can act as catalysts for accelerated and shared growth. It integrates the 5-Year Strategic Programme outlined in the Integrated Development Plan and the associated sector plans, with the NDP and the PGDP. As such, it serves as a district translation and an implementation framework for the PDGP. It identifies key economic intervention areas and outlined a shared

vision and strategy for increased levels of sustainable investment, co-operation, and innovation. It presents an implementation plan for the PGDP identifying district strategic interventions in relation to each provincial development strategy and sets specific targets in this regard.

2.4.4 Rural Development Plan

The Zululand District Municipality Rural Development Plan seeks to promote rural social and economic development, and to enhance linkages between the rural and urban components of the district. It divides the district into functional areas based on commodities and identifies food security, commodity development, agricultural value chains, sustainable livelihoods, urban rural linkages, disaster management, strategic rural infrastructure, and rural land management as strategic intervention areas. It identifies rural clusters for development focus, economic functional regions, key regional centres, emerging rural hubs, settlement containing lines and key access and distribution routes.

2.4.5 Water Services Development Plan

The ZDM Water Services Development Plan (WSDP) supports the ZDM's Strategic Water Services Authority (WSA). It provides for the implementation of ten back-to-back regional water schemes and allows for intermediate stand-alone schemes for areas falling within the regional scheme context which will take a long time to be implemented due to costly bulks. These intermediate stand-alone schemes are designed with a sustainable intermediate source which will all be integrated into the regional scheme once the regional bulk scheme reaches the area. A rudimentary water level of service is implemented in the form of boreholes with handpumps, or spring protections. In some areas a small reticulation scheme with RDP level of services will be constructed where possible. It states that sanitation is being rolled out progressively based on prioritised zones or clusters to make implementation more cost-effective and practical. There is also a future sanitation rollout planned to replace the old Arch Loo, Zinc and block-type VIP's.

2.5 Local Municipalities' Policies

2.5.1 Municipal Development Frameworks

Local municipalities within the ZDM have developed Municipal Spatial Development Frameworks albeit at different levels of detail and compliance with the SPLUMA. They identify key focus areas in the form of development nodes and corridors; priority areas for public investment to improve access to basic services and address backlogs; agricultural land that requires protection; and conservation worthy areas. The ZDM MSDF will provide a framework

for the refinement of the MSDFs and cross-boundary alignment among local municipalities.

2.5.2 Spatial Planning and Land Use Management By-law

The Spatial Planning and Land Use Management Act, Act No. 13 of 2016 assumed the form of framework legislation. It provides for and require local municipalities to develop and implement spatial planning and land use management by-laws consistent with the national and provincial legislation. 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.

2.5.3 Land Use Scheme

Local Municipalities in the ZDM have prepared and adopted Land Use Schemes for their areas of jurisdiction to regulate the use of land in line with the vision enshrined in the MSDF and should promotes an effective implementation of national and provincial policies. 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.

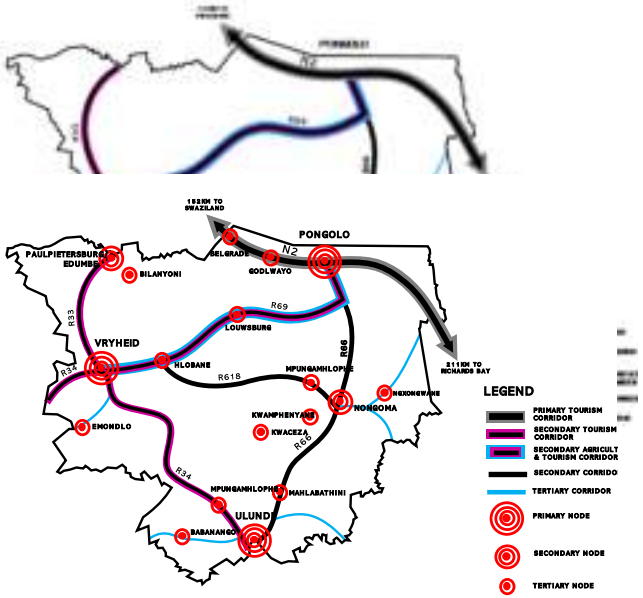
2.6 Policy Directives

The ZDM MSDF addresses the following directives:

- Plan for climate change.
- Plan for urbanisation.
- Integrate the ZDM into the Provincial space economy.
- Transform existing settlement into sustainable human settlements.
- Develop an inclusive rural economy.
- Protect high value agricultural land.
- Create a balance between development and nature conservation.
- Address rural poverty and service backlogs.
- Regenerate small towns and define their role in the district space economy.
- Manage outward expansion of rural and urban settlements.
- Introduce effective land use management systems.

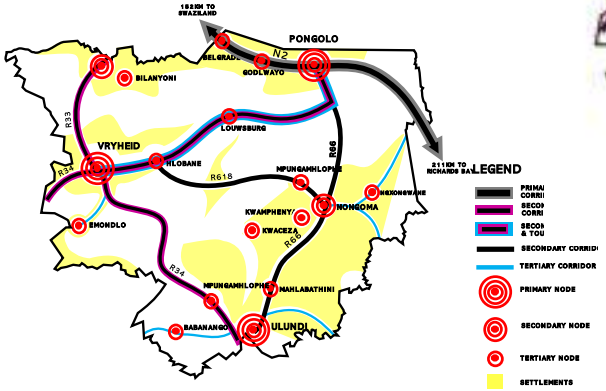
3 DRAFT SPATIAL DEVELOPMENT VISION DIRECTIVES

3.1 Spatial Development Vision



VISION STATEMENT

'We are the Zululand region and proud of our heritage. We are mindful of the needs of the poor and we seek to reflect the aspirations of our communities. We are committed to responsible and



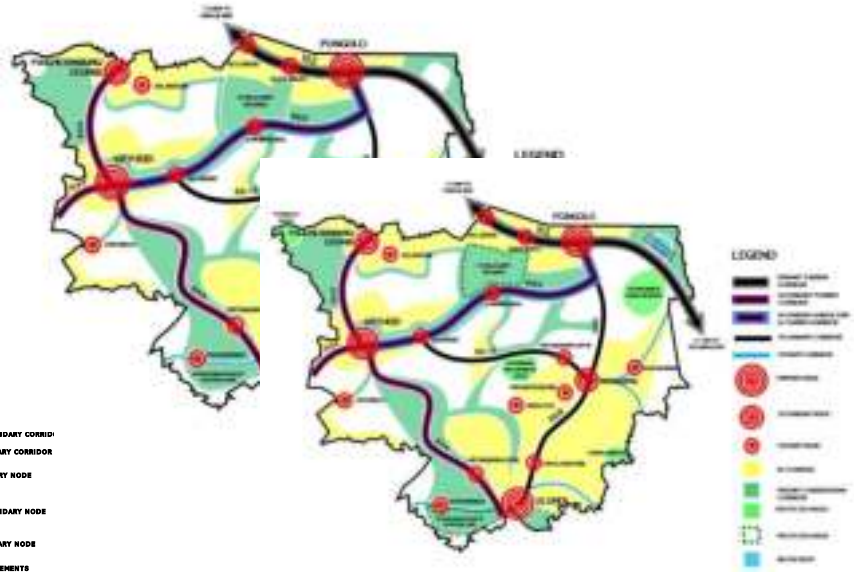
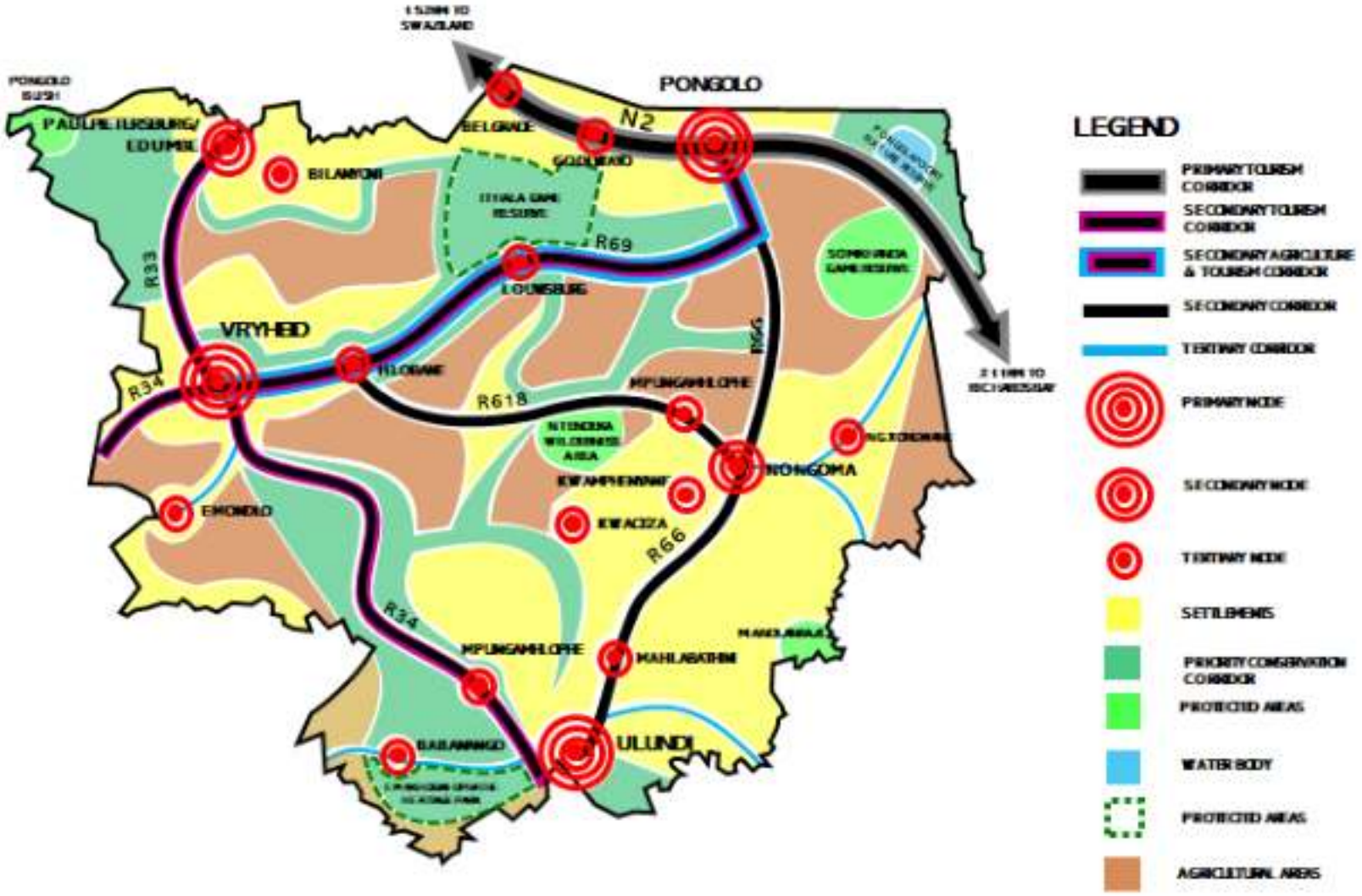
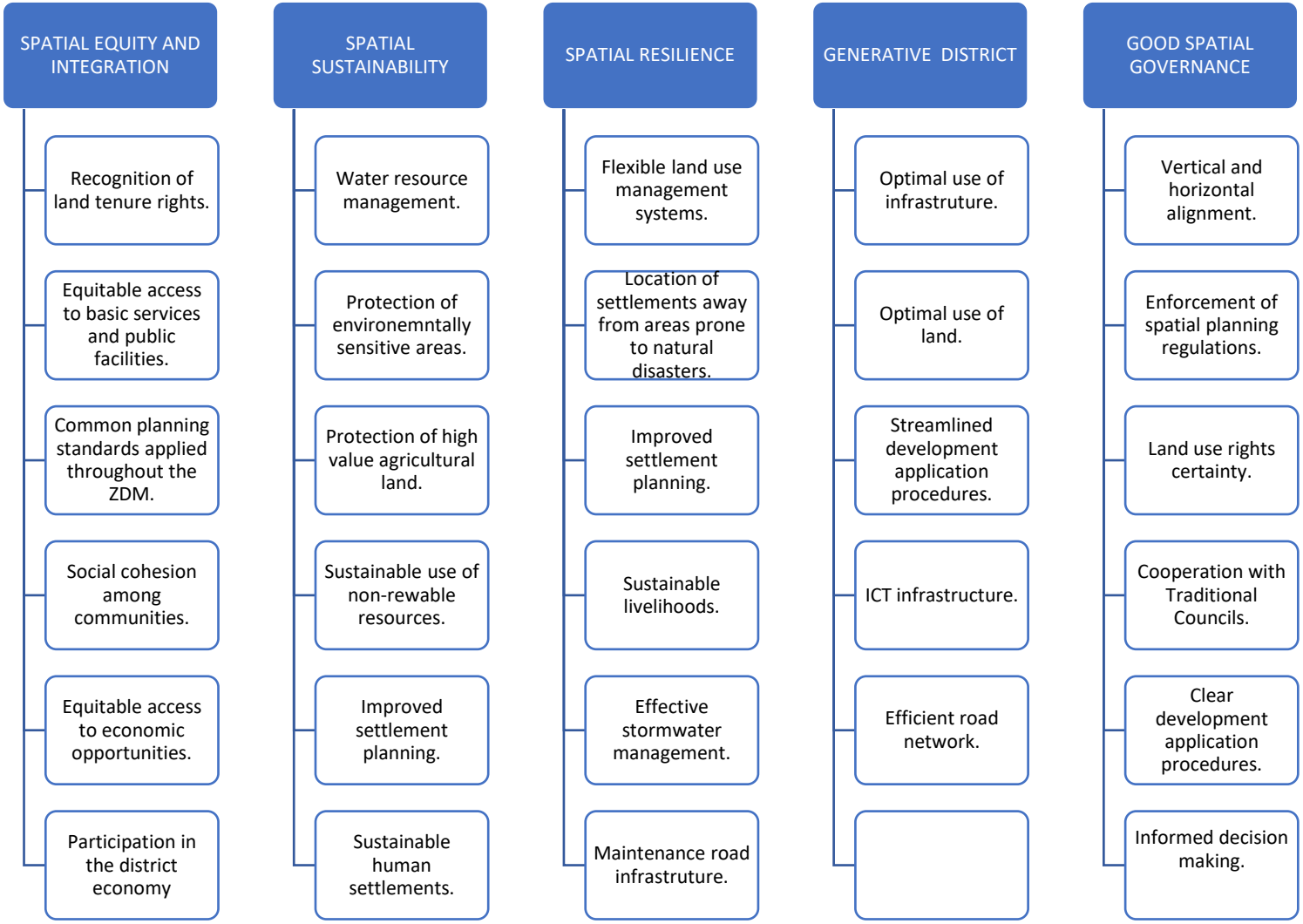


Figure 6: Spatial Vision



3.2 Spatial Development Outcomes

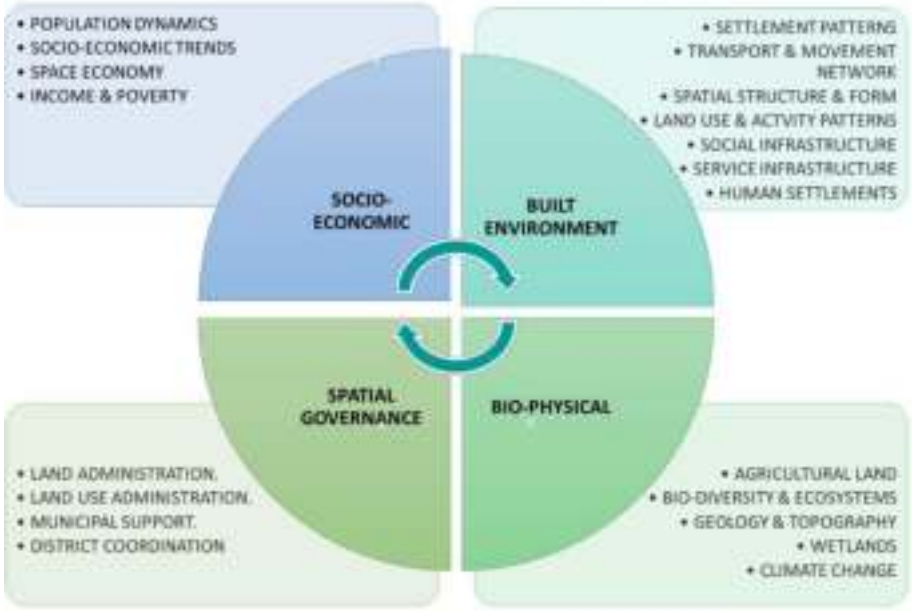
Figure 7: Spatial Development Outcomes



4 SPATIAL CHALLENGES AND OPPORTUNITIES

This section presents a strategic analysis of various factors that influences spatial planning in the ZDM. It divides these issues into four categories, that is, socio-economic trends and patterns, built environment, bio-physical issues, and spatial governance.

Figure 8: Approach to Spatial Challenges and Opportunities



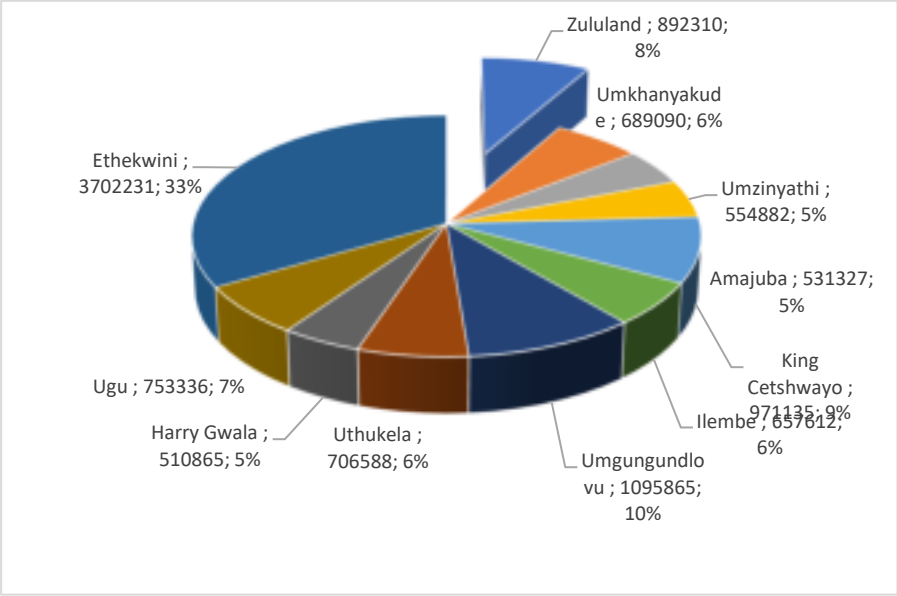
4.1 Socio-economic Factors

4.1.1 Demographic Profile

The ZDM like many other parts of the world, is experiencing significant changes in population dynamics, including continued growth in size, major changes in household structures, and spatial distribution related to migration and urbanisation.

4.1.1.1 Population Size

Figure 9: ZDM Population within the KZN Province

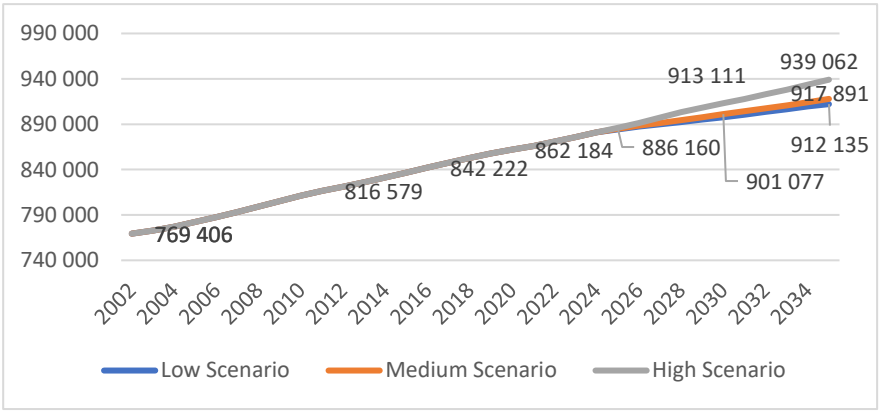


Source: Community Survey 2016 (Adapted)

The Zululand District has the third largest population in the KwaZulu Natal Province, with 892 310 people (StatSA, 2016). It accounts for 8% of the total KZN population. More than 50% of the provincial population resides in municipalities that has the largest urban centres, that is eThekwini, uMgungundlovu, and King Cetshwayo Municipalities (refer to figure 9).

4.1.1.2 Population Growth Projections

Figure 10: Zululand District Population Growth Projection (2002 – 2035)

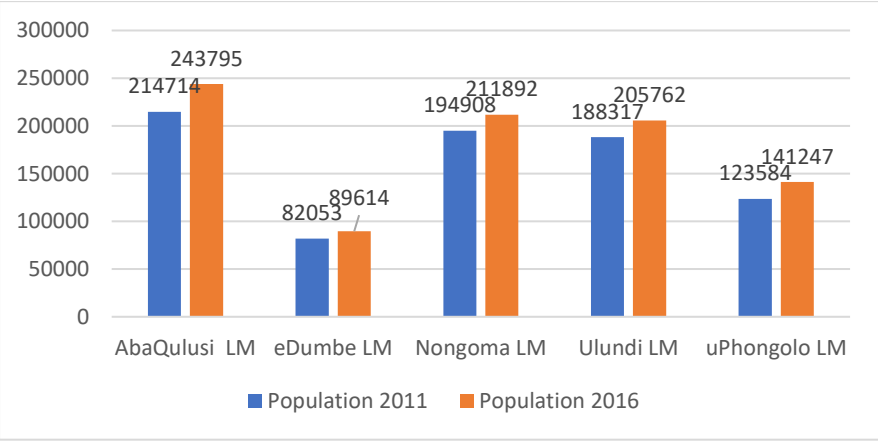


According Statistics South Africa (Statssa), the ZDM population increased at an average growth of 2.37% between 2011 and 2016. This is above the provincial average of 1,7% per annum during the same period, and suggests that the Zululand District experienced the highest population growth rate among the district municipalities in

the province. Assuming high growth rate, the population is projected to reach 913 111 by 2030 and 939 062 by 2035. Assuming low growth rate, the population will be about 901 077 by 2030 and 912 135 by 2035.

4.1.1.3 Population Distribution by Local Municipalities

Figure 11: District Population Distribution by Local Municipalities

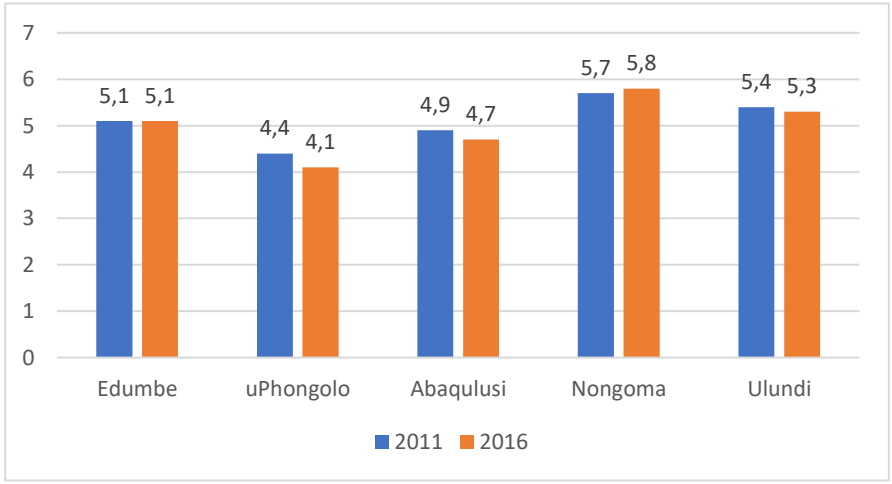


Source: Community Survey 2016

The ZDM population is spread unevenly among the five local municipalities with Abaqulusi having the largest share with 243 795 people or 27%. Nongoma follows closely with 211 892 people (24%) of the population. The eDumbe has the least population in the district, with 89 614 people and accounts for only 10% of the total district population. It is expected that higher growth rate will continue in the uPhongolo and Abaqulusi Municipalities as people more from deep rural areas to where there are opportunities for improved access to opportunities and services.

4.1.1.4 Household Size

Figure 12: ZDM Average Household Size



Source: Community Survey, 2016

Household remained largely unchanged between 2011 and 2016. While an average household had 5.1 members in 2011, an average household had 5 members in 2016. As indicated in figure 12, an average household size in Nongoma and Ulundi LM is 5.8 and 5.3

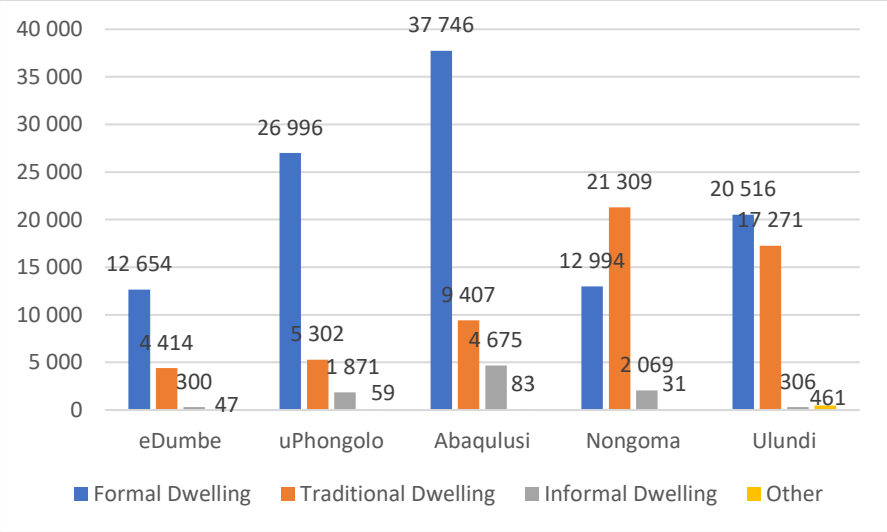
members which is above district average. These are among the most rural municipalities in the province.

4.1.2 Socio-Economic Profile

4.1.2.1 Housing (Dwelling Types)

Most households in Abaqulusi, uPhongolo and eDumbe municipalities reside in formal dwellings. These municipalities have substantial urban components compared to Nongoma and, to a lesser extent, Ulundi where large number of households occupy traditional dwellings.

Figure 13: Type of Main Dwelling

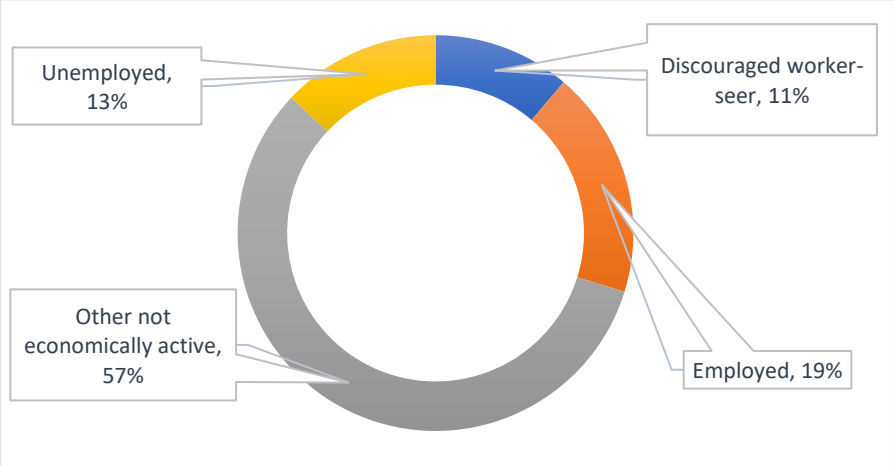


Source: Stats SA Community Survey, 2016

4.1.2.2 Employment/Unemployment Profile

The 2016 Community Survey results indicates that a total population of 448 330 in Zululand is considered economically active. 57%% of the working age group was not economically active in 2016, with only 19 % of this group employed. The representation of the not economically active population is higher compared to the provincial average of 45% and the national average of 39%. This implies a relatively low labour participation rate at 23,7%. The number of the unemployed decreased from 66 908 in 2006 to 39 388 in 2011, however, this number increased from 41 848 in 2012 to 50 147 in 2015. This trend was also evident across all local municipalities, which is an indication of scarce job opportunities in the district.

Figure 14: Population of Zululand District by employment status, 2016

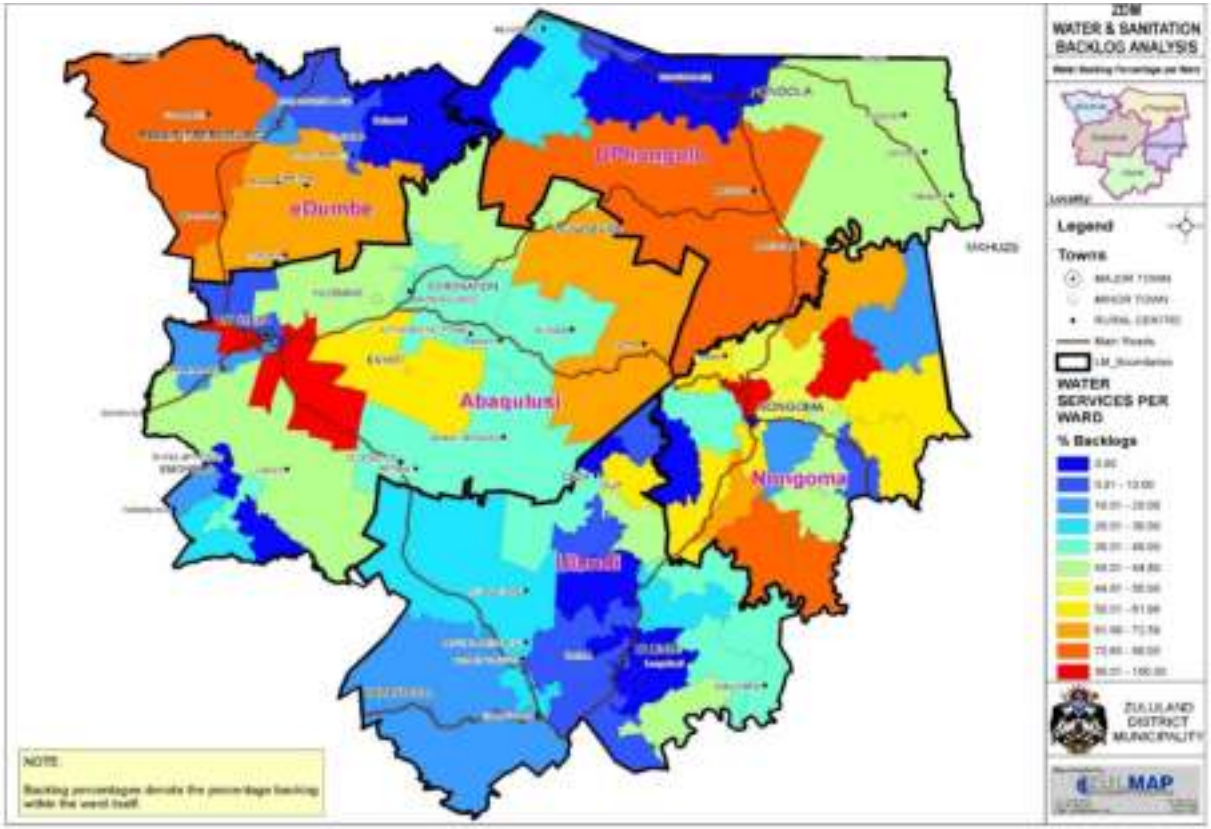


Source: StatsSA Community Survey 2016

4.1.3 Access to Basic Services

4.1.3.1 Water

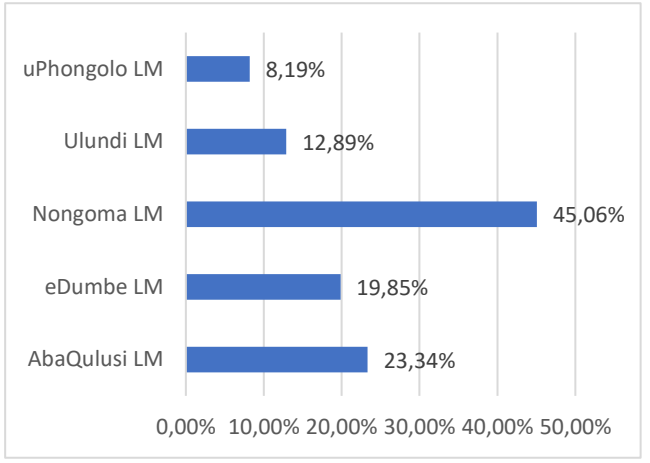
Map 3: Water Backlogs



Map 3 below indicates the status in ZDM with regards to water services backlogs and progress with the provision of water to at least RDP standards. 21 540 households either do not have access to water or have inadequate access to water while another 21 171 have access to water below RDP standards.

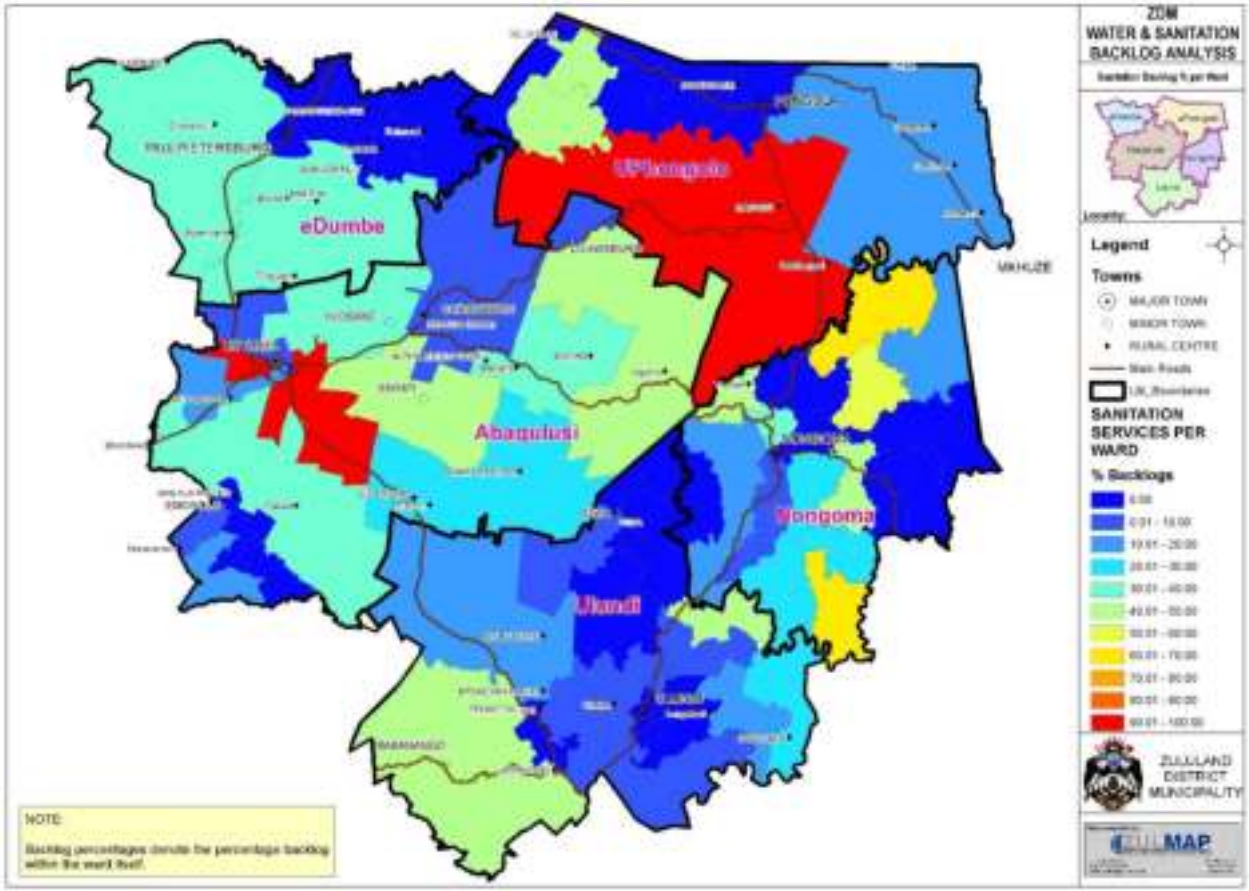
Source: WSDP, 2020

Figure 15: Water Backlog



4.1.3.2 Access to Sanitation

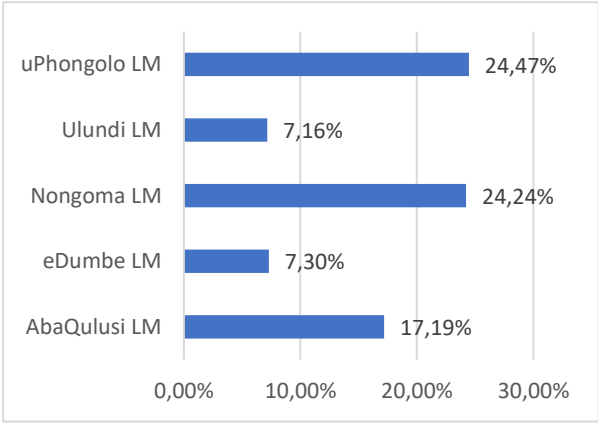
Map 4: Sanitation Backlog



While none of the urban settlements has inadequate access to sanitation, the situation in the rural areas is completely different. 30 586 rural households have inadequate access to sanitation. The majority of these are in Abaqulusi and uPhongolo Local Municipalities.

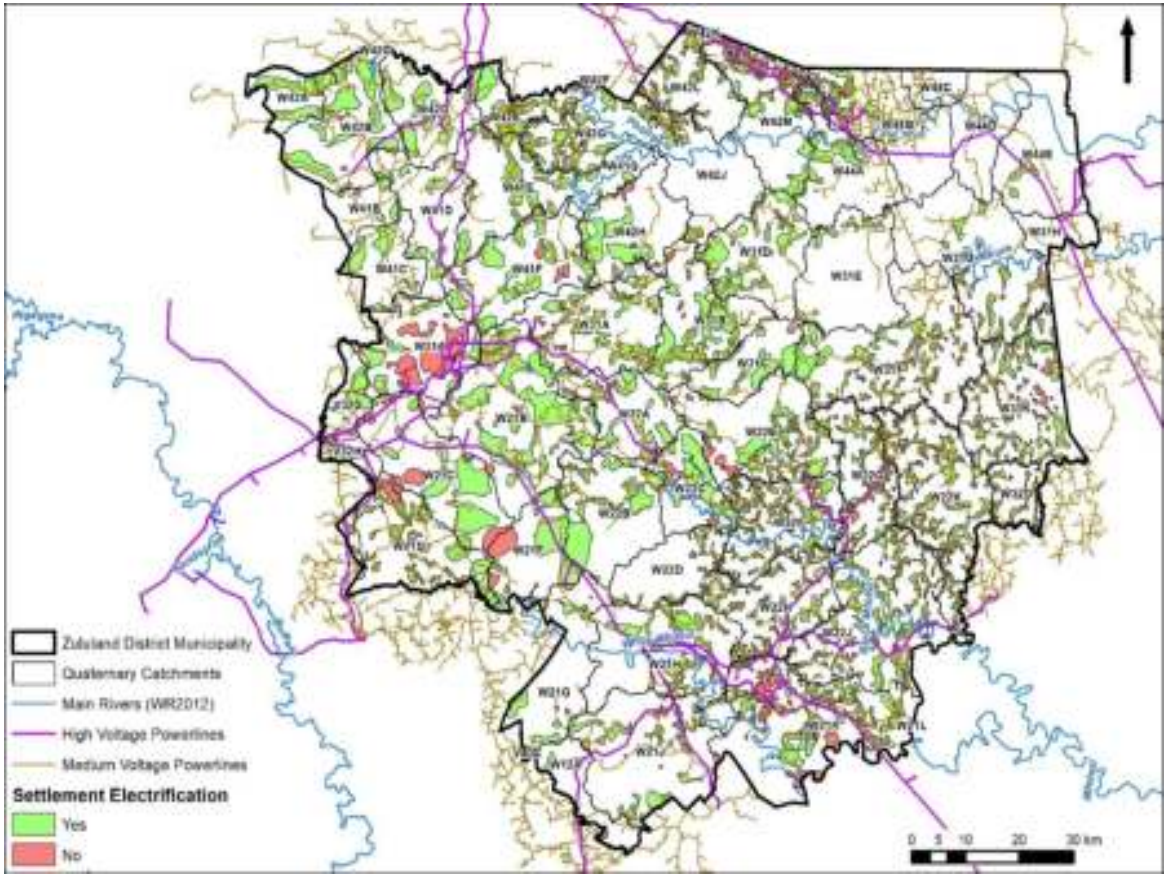
Source: ZDM WSDP, 2020

Figure 16: Sanitation Backlog



4.1.3.3 Access to Electricity

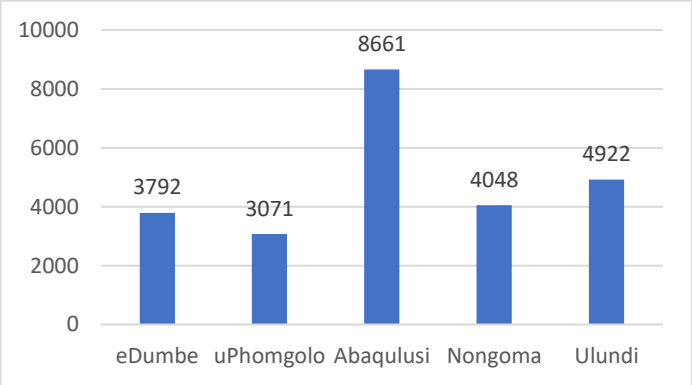
Map 5: Electrification



Most households (154 022 or 86%) in Zululand District have access to electricity. Figure 15 below depicts that out of these, 78% have in-house prepaid meter and 6,1% have in-house conventional meters.

The district still has higher numbers of households without electricity, compared to KZN. The main supplier of electricity in the district is ESKOM, with 105 742 households purchasing electricity from ESKOM.

Figure 17: Electricity Backlogs

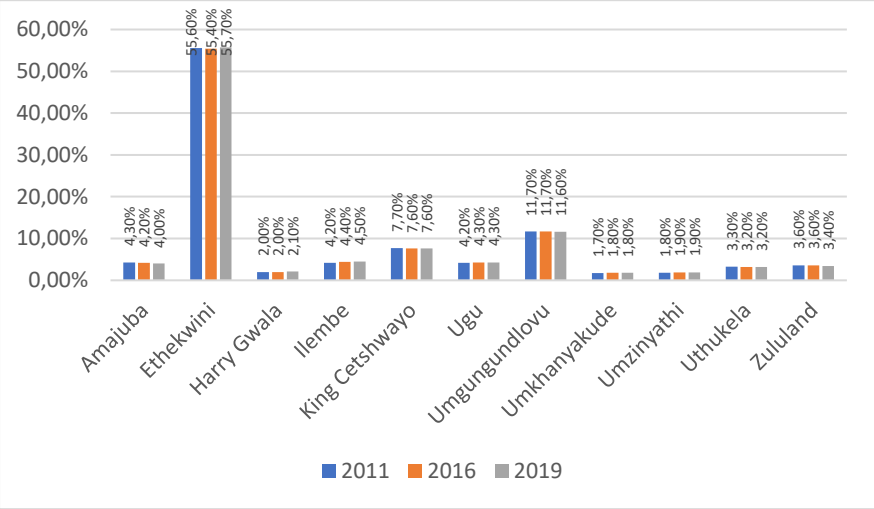


4.1.4 Economic Profile

4.1.4.1 Zululand within the Provincial Space Economy

The KZN economy is dominated by eThekwini Metro making up over half (55.6%) of the total provincial economic output. The next major contributor to KZN economy is Umgungundlovu DM at 11.7% of the KZN economy. This is followed by King Cetshwayo DM with 7.7% of KZN output. The ZDM contributes only 3.6% to the KZN economy making the district the fourth smallest economy in the province.

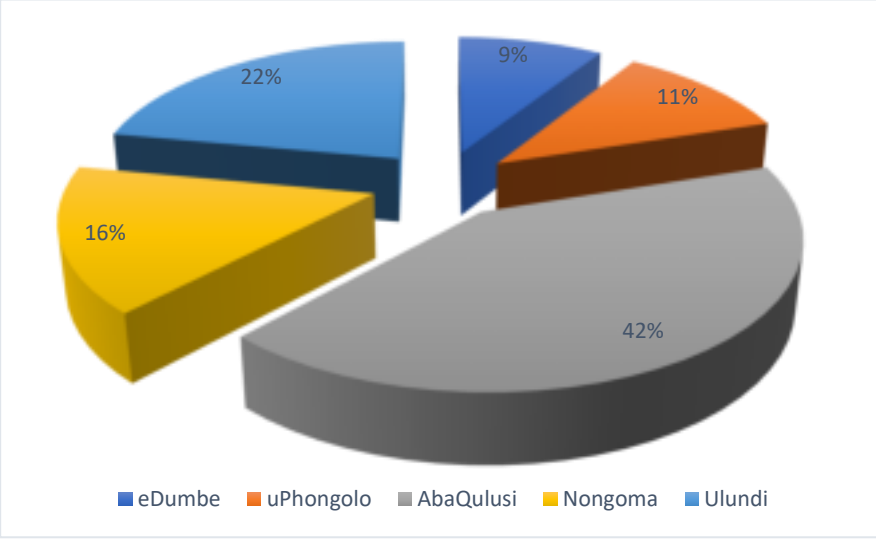
Figure 18: KZN GVA Per District, 2011 -2016



Source: Based on StatsSA 2011 Census Data; 2016 CSIR Mesozone Data adjusted to 2019

4.1.4.2 Gross Value Added (GVA)

Figure 19 : Contribution to Zululand GDP by local municipalities, 2018



Source: IHS Markit, 2019

The largest contributor to Zululand's GDP is Abaqulusi at 42.2%, followed by Ulundi at 21.5% and Nongoma at 15.6%. UPhongolo and 11.2% and eDumbe Local Municipalities contribute 11.2% and 9% to the district economy, respectively. Figure 19 further demonstrates that the level of economic growth in Zululand is not equally distributed amongst its local municipalities.

eDumbe is the smallest local municipality in the district not only in terms of population size but also in terms of GVA contribution to the district's total. The municipality is heavily reliant on four sectors, excluding community services, namely, agriculture and forestry, trade, transport, and finance. These sectors combine to account for about 50% of local economic output. Community services sector is the second biggest contributor to GVA in the municipality. Electricity has the lowest share of GVA in the municipality.

uPhongolo Municipality has a relatively diverse economy, with a particularly strong primary and secondary sector, in the form of Agriculture and Manufacturing industries, which together contribute over 30% of the municipality's GVA. General Government has a comparatively small economic role in the municipality as compared to the rest of the region, although it remains the biggest sectoral contributor (18%) followed by finance at also about 17%.

Abaqulusi is the district's biggest economy, and its economic structure is reflective of a more rounded and well-developed economy. This reflects the economic importance of Vryheid as a business and retail hub within the district municipality. The municipality boast a vibrant mining sector with significant coal and anthracite reserves around the Vryheid Area. Mining contributed 15.6% to total GVA in 2015 after contributing 15.4% in 2014. Manufacturing and Agriculture are also prominent sectors. Community services on the other hand were the largest contributor to total GVA in the municipality, contributing 22.4% in 2014 and 2015 respectively.

Ulundi Municipality is dominated by the General Government sector, contributing over 44% of GVA for the municipality, significantly more than the district average of 28%. This finding is consistent with the positioning of Ulundi as an administrative and public services capital for Zululand district. The share of General Government has, however, declined over the past 10 years from a high of 44.7% in 2006 to 43.7% in 2015, indicating that private sector production is beginning to play a greater role. Mining and quarrying is another sector that is relatively strong in Ulundi Municipality, contributing about 8% to GVA in 2015.

Nongoma's economy is more dominated by community services and to a large extent by the tertiary sector, with Transport and Communication; and Wholesale and Retail Trade being particularly prominent in contributing nearly 35% of municipal GVA. The community service contributes about 34% to GVA. Compared to the other local municipalities in the district, Nongoma has a very low value primary sector, contributing only about 12% to municipal GVA. This may be due to a lack of natural resources and arable land or the mismanagement of these resources.

4.1.4.3 Economic Sectors

Table 1: Gross Value by Economic Sectors, 2017

ECONOMIC SECTORS	GVA 2017	% CONTRIBUTION	5 yr. CAAGR
Agriculture, forestry, and fishing	1,431,190	8%	0.3%
Mining and quarrying	1,714,084	9%	0.0%
Manufacturing	1,110,148	6%	0.0%
Electricity, gas and water	1,192,521	6%	-2.3%
Construction	640,691	3%	1.5%
Wholesale and retail trade, catering, and accommodation	2,246,599	12%	1.4%
Transport, storage, and communication	1,873,814	10%	1.1%
Finance, insurance, real estate, and business services	2,492,439	13%	1.5%
General government	2,076,136	11%	2.4%
Community, social and personal services	4,114,947	22%	0.5%

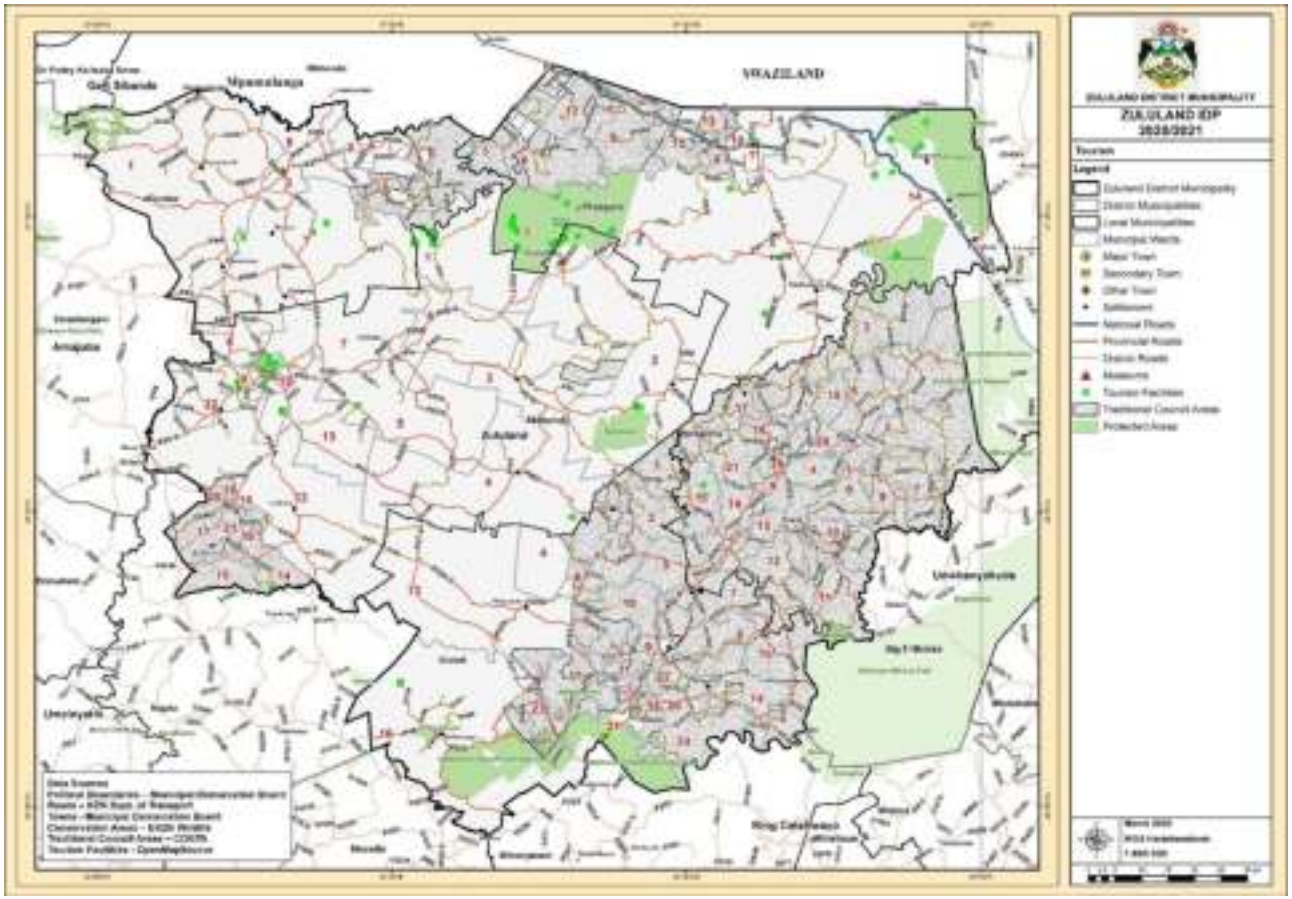
The economy of Zululand district is driven by the tertiary sector, with community services having the highest contribution at 31%. This is attributed to the poor and rural nature of the district, and the need for social interventions.

The table below shows Zululand's GVA per sector, the percentage contribution of each sector to the total Zululand GVA, and CAAGR per sector.

The trade, transport and commerce sectors contribute the most to Zululand's GVA and GVA growth, followed by the community, social and personal services sector combined with the general government sector. The productive sectors of agriculture, forestry and fishing, mining, and manufacturing account for 23% of the district's GVA but have experienced no growth since 2012.

4.1.4.3.1 Tourism

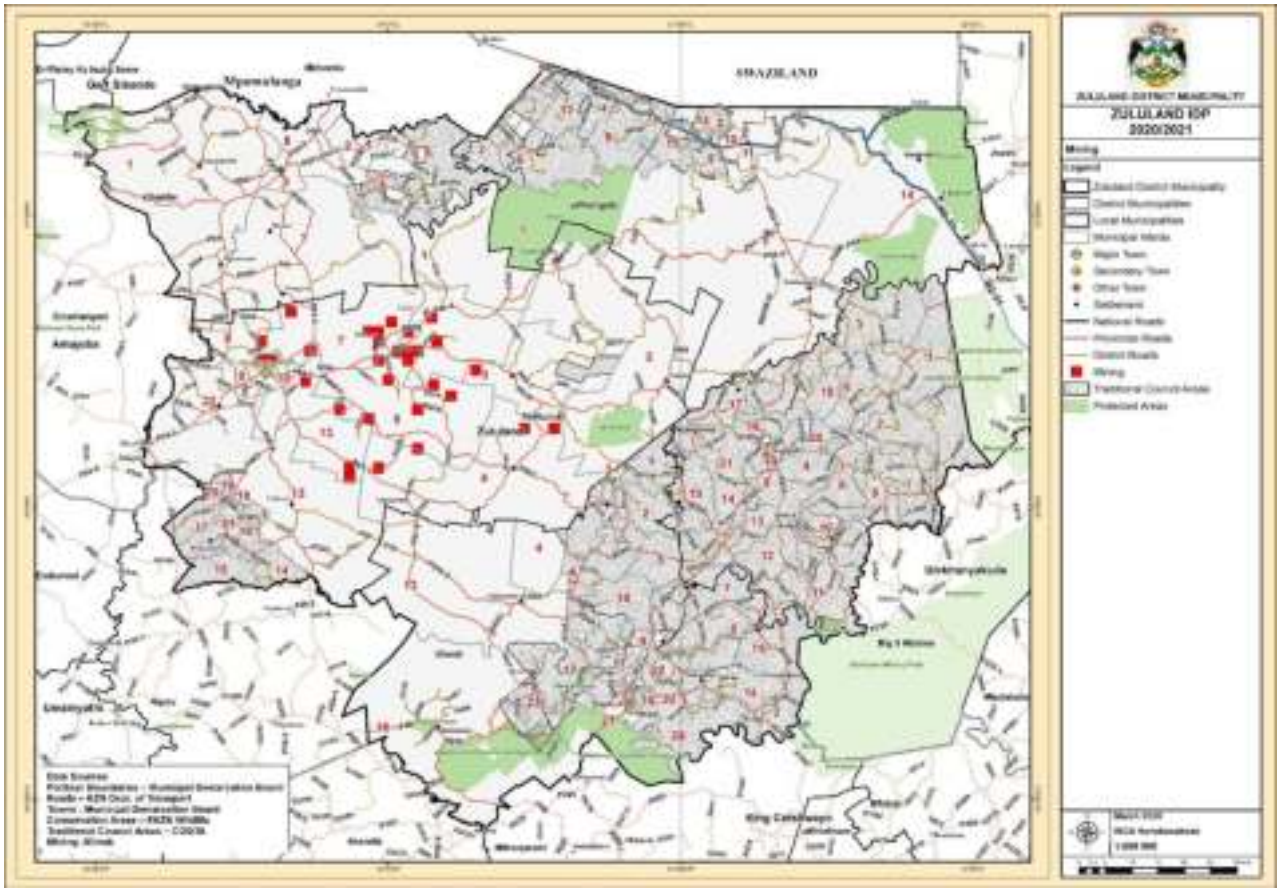
Map 6: Tourism Assets



A wealth of attractions that are authentic and inimitable to the ZDM accounts for the district's comparative advantages in for tourism development. As indicated on Map 6, the ZDM has a rich history and heritage associated with the Zulu nation. These include royal palaces where some of the events are held; various memorial sites and monumental sites such as Emakhosini-Ophathe Heritage Park; tourism routes such as the Battlefields and birding routes; game reserves including Ithala and privately owned game farms; the Pongolapoort dam; and proclaimed nature conservation sites.

4.1.4.3.2 Mining

Map 7: Mining Areas

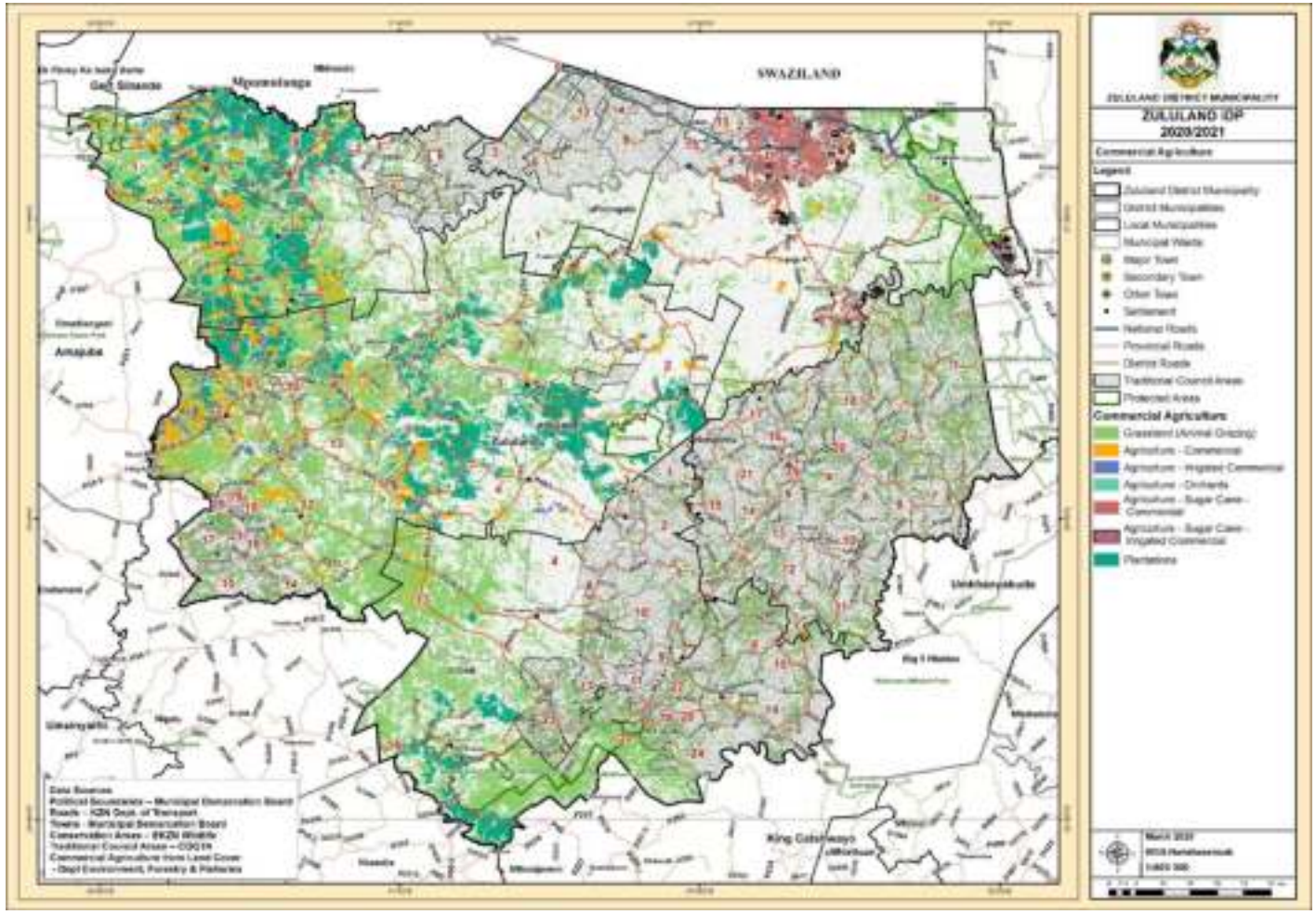


Mining activities in the district decreased in the mid 1990's mainly due to closure of mines because of the open market in coal mining.

The mines had significant forward and backward linkages to all the economic sectors, particularly those located in Vryheid and surrounding areas. Nonetheless, the sector GVA analysis reflects that, even with the decline, mining still plays an important role for the district's economy. The CAAGR reflects this decline as -4.2% for the period 2012 to 2017. Mining and quarrying contributed 9% of total GVA in 2017. The major mining activity is coal extraction, which makes use of the Coal Line corridor that runs across the district linking the mining areas in the Mpumalanga Province with Richards Bay Terminal in the KZN province.

4.1.4.4 Agriculture

Map 8: Commercial Agriculture



Agriculture has seen a decreasing trend over the period 2009 through 2018 from 10.3 per cent in 2009 to 7 per cent in 2018. The decrease is more than likely due the drought conditions which prevailed over KZN in 2016. Despite the overall decrease in this sector, Agriculture saw a slight increase from 2016 to 2017 of 0.3 per cent, this possibly being due to a relief in the drought. It is essential that this sector be revived, and agri-processing and beneficiation encouraged to improve food security in the district and consequently the province and the country at large.

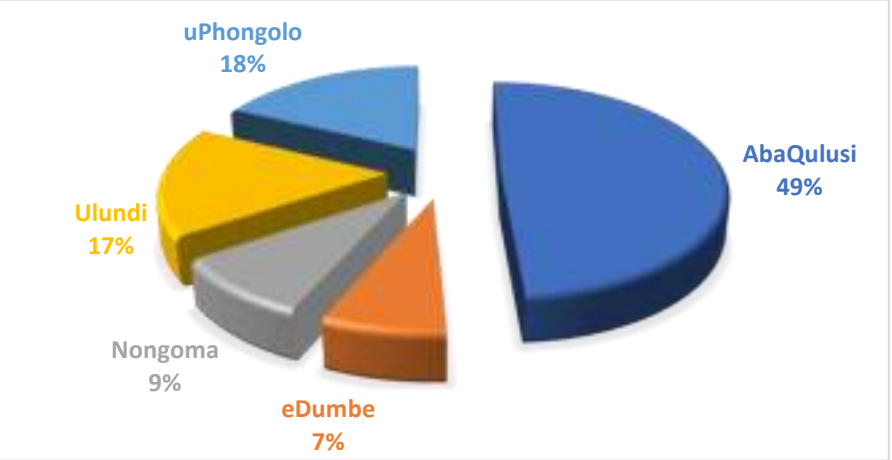
4.1.4.5 Manufacturing

In 2017, manufacturing accounted for 6% of the district's total GVA and 7% of total employment. The only agri-processing of note in the district is the Illovo Sugar Mill in the uPhongola Municipality. There is opportunity to expand agri-processing, bioprocessing, and business support services to help develop the manufacturing sector. Growth activities in this sector include focusing on arts and crafts production and marketing, taxidermy, mineral water, and charcoal manufacturing for export, as well as, establishing new industries such as clothing and textiles and building materials.

4.1.4.6 Commercial Sector (Includes Retail and Services)

Economic activities tend to concentrate in the major towns. Abaqulusi Municipality, particularly Vryheid has the largest commercial and services sectors (49%) in the district. It functions as a service centre for the surrounding rural population (refer to figure 20 below). Agriculture and mining contribute to its economy, and Vryheid act as a service centre for these activities. It is followed by uPhongolo and Ulundi with 18% and 17% respectively. The economy of Pongola is based on large-scale commercial production of sugarcane. Pongola's retail sector also services the passing N2 traffic.

Figure 20: Concentration of business across the district



Source: ZDM Growth and Development Strategy

Ulundi, as the current seat of the Zululand District Municipality, and the former seat of KZN, has a strong public service-oriented economy. Commercial and light industrial activities have developed in support of the administrative function and the surrounding vast rural settlements. In the town of Ulundi there is substantial formal and informal retail sector.

Nongoma and Edumbe have the least concentration of economic activities. Nongoma is the only urban centre within the Nongoma municipality. It is principally a large rural market town with both formal and informal economies. There is no industry in the town. Paul Pietersburg in Edumbe Municipality, on the other hand,

developed as a service centre for the agriculture sector and the surrounding rural population.

However, only part of the population can access these services. These nodes are not easily accessible for most of the rural population that currently account for 75% of the district population. In the rural services centres, retail and services are limited. The map reflecting the business and commercial buildings shows the concentration of these in towns such as Vryheid, uPhongola, Ulundi, Paulpietersburg and Nongoma followed by secondary nodes which are serve as service centres.

4.1.5 Poverty

The population rate of people living below the food poverty line have declined over time, declining from 51% in 2006 to 38% in 2015. Even though the declines may also be seen across municipalities, Nongoma and Ulundi showed higher percentages of poverty compared to other municipalities and district average. The declining poverty rates show significant progress that the government is making in terms of ensuring that deserving citizens get their allocated grant social services. Despite significant progress, poverty remains rampant in most rural municipalities compared to their relatively urbanized counterparts.

Table 2: Percentage of People Below Food Poverty Line, 2006 - 2015

	eDumbe	uPhongolo	AbaQulusi	Nongoma	Ulundi	Zululand
2006	53%	47%	48%	57%	50%	51%
2007	54%	47%	49%	57%	50%	52%
2008	58%	52%	53%	61%	54%	55%
2009	60%	53%	54%	62%	56%	57%
2010	50%	44%	45%	52%	46%	48%
2011	43%	37%	38%	45%	39%	41%
2012	43%	38%	39%	44%	40%	41%
2013	43%	37%	39%	43%	39%	40%
2014	41%	36%	38%	42%	39%	39%
2015	40%	34%	38%	41%	38%	38%

Source: ZDM Growth and Development Strategy

4.1.6 Human Development Index

Table 3: ZDM Human Development Index 2006-2015

YEARS	EDUMBE	UPHONGOLO	ABAQULUSI	NONGOMA	ULUNDI	ZULULAND
2006	0.37	0.40	0.42	0.35	0.38	0.39
2007	0.38	0.40	0.42	0.35	0.39	0.39
2008	0.38	0.41	0.43	0.36	0.39	0.40
2009	0.41	0.43	0.45	0.39	0.42	0.42
2010	0.42	0.45	0.47	0.41	0.44	0.44
2011	0.45	0.47	0.49	0.44	0.46	0.46
2012	0.46	0.49	0.50	0.45	0.47	0.48
2013	0.49	0.51	0.53	0.48	0.50	0.51
2014	0.51	0.54	0.55	0.51	0.52	0.53
2015	0.51	0.54	0.55	0.51	0.52	0.53

Source: ZDM Growth and Development Strategy

Zululand District achieved an average HDI of 0.44 against a provincial average of 0.52 whereas it achieved 0.38 in 2011 when the province achieved 0.52. This implies a slight growth in human development in the district compared to the province which remained the same over the period under review. Abaqulusi Municipality is the most advanced within the district with an average of 0.47, followed by uPhongolo and Ulundi with an average of 0.44 and 0.43, respectively.

4.1.7 Rural Development and Land Reform

4.1.7.1 Land Restitution

Table 4: Land Restitution

	ITEMS	ABAQULUSI	EDUMBE	NONGOMA	ULUNDI	UPHONGOLA	DM
Gazetted	Number of Projects/ properties	392	104	1	77	603	1177
	Area Transferred	114010	38108	1,22	42799	199321	394241
Settled	Number of Projects/ properties	Not specified					317
	Area Transferred	Not specified					136510
Total	Number of Projects/ properties	Not specified					1494
	Area being Transferred	Not specified					530751

Source: ZDM Growth and Development Strategy

A total of 530 750ha of land in the ZDM is subject to the land restitution claims. Only 136 509ha has been settled while 394 240ha has been gazetted. The gazetted restitution claims amount to 1177 properties (DRDLR, 2018). Map 9 indicates that the land reform (settled and gazetted land restitution claims) is scattered throughout the district, save for the Nongoma LM and the north-eastern parts of Ulundi LM.

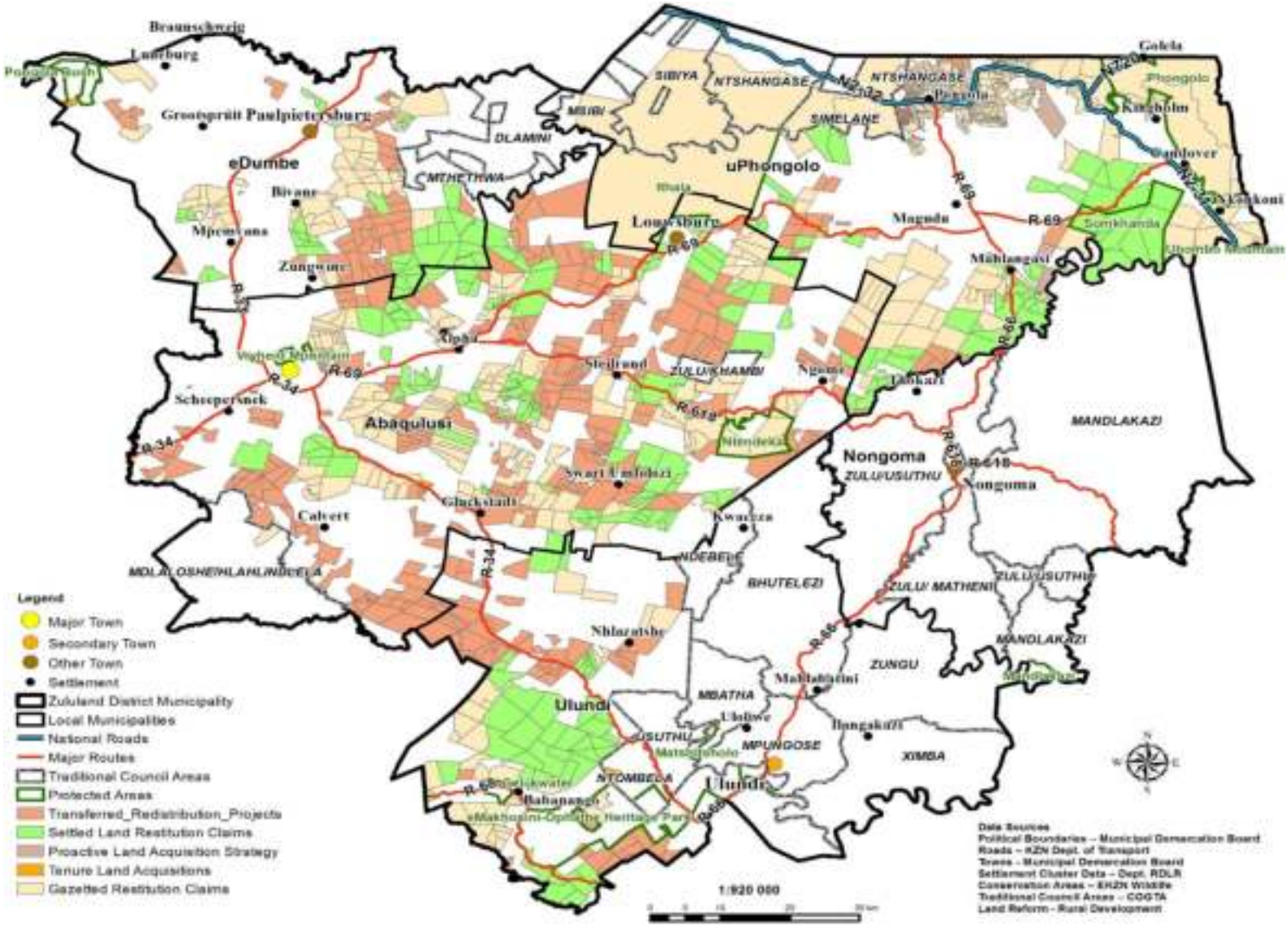
4.1.7.2 Land Redistribution

Table 5: Land Transferred Through the Land Redistribution Programme

GRANT TYPE	EXTENT_HA	COUNT OF GRANT
PLAS	41 331,91	139
Donation	7 780,40	4
Tenure Grant	747,69	1
Commonage Grant	None	None
LRAD	42 731,98	193
N/A	293,41	1
SLAG	38 454,07	105
SPLAG	12 937,09	49
Unknown	755,72	2
Grand Total	**145 032,26**	**500**

Source: DRDP 2018

Map 9: Land Reform Programme



A total of 145 032ha of land (consisting of 500 projects/grants) has been transferred as part of land redistribution programme through the Proactive Land Acquisition Strategy (PLAS), Land Distribution for Agricultural Development (LRAD), Settlement Land Acquisition Grant (SLAG) and Production Land Acquisition Grant (SPLAG).

4.1.7.3 Land Tenure Reform

Zululand is characterised by complex and intricate land tenure reform challenges. These include farm dwellers who continue to face the threat of land evictions despite the Extension of Security of tenure Act, people with insecure beneficial occupation rights on Ingonyama Trust and stateland, holders of deeds of grants in the former R293 townships, and people residing in informal settlements. Approximately 731.76ha of land has been acquired for land tenure reform (DRDP 2018).

4.2 Built Environment

4.2.1 Spatial Structure

The ZDM does not have clearly discernible spatial structure. This could be attributed to the lack of a single dominant urban centre with strong functional linkages and a service threshold that covers the entire district. Instead, the ZDM is structured around five towns, each serving as an anchor within its local municipality and having a service threshold that covers the whole local municipality area and immediate surrounds. These towns are Vryheid in Abaqulusi Municipality, Paul Pietersburg in Edumbe Municipality, Phongola in uPhongolo Municipality, Ulundi in Ulundi Municipality and Nongoma in Nongoma Municipality.

Nongoma and Ulundi are surrounded mainly by expansive rural settlements while Vryheid, Phongola and Paul Pietersburg (to a limited extent) developed as service centres for the surrounding commercial farmlands. Functional linkages among these towns are week despite being connected via a network of provincial and regional roads.

The ZDM could be divided into three distinct geographic zones, that is northern, central, and southern areas. The northern areas refer mainly to the vast rural and peri-urban settlements that form part of Edumbe and Phongola Municipalities. These settlements include Frischgewaagd, Bilanyoni and Ncotshane. These areas have a restricted agricultural potential, are poorly developed with infrastructure, and presents very limited economic development opportunities. They were designed to provide labour to the neighbouring farms and the associated towns.

The central area occurs largely along R66 linking Vryheid to the west with Phongola to the east. This area is dominated by vast commercial agricultural farms and has good to moderate agricultural potential.

A few dislocated settlements that accommodate farm workers and labour tenants are found in this area. Hlahlindlela is a large settlement located along the boundary with Nquthu Municipality. The southern area consists of the whole of Nongoma and Ulundi Local Municipalities. It is generally characterized by low agricultural potential and expansive and underdeveloped rural settlements.

4.2.2 Settlement Pattern

Settlement pattern in the ZDM resembles the situation in many parts of the KZN Province. It is characterised by uneven and dualistic development arising from the apartheid past; and reflects the impact of natural features, road network and development initiatives of the post-apartheid democratic government. Settlements in the district take different forms including urban centres, peri-urban settlements, dense rural settlements, low density rural settlements and farm dweller settlements in the commercial farmlands. Existing settlement types are summarized in the table 6 below.

Vryheid, Ulundi and Phongola are the main economic centres within the ZDM. The economy of Pongola is based on large scale sugarcane production, but also has potential for eco-tourism near the Pongolapoort Dam. Vryheid has a much larger commercial and services sector although the economy is also dependant on agriculture and coal mining. Ulundi is the current seat of the Zululand District Municipality, and the former seat of KZN Government. It has a strong administrative, commercial, and service oriented economy. Each of these towns have a substantial residential component. Other urban settlements include Emondlo, Bilanyoni, Paulpieterburg, Nongoma and Louwsburg.

Table 6: Settlement Types

CLASS	SETTLEMENT TYPE	NUMBER OF SETTLEMENTS	TOTAL HOUSEHOLDS
URBAN	Urban - Formal Town	4	6 425
	Urban - Former Township	5	14 675
	Urban - Ex Homeland Town	13	10 233
	Urban - Working Town	6	1 335
	Urban - Service Centre	8	1 549
	Urban - Squatter Camp	1	115
RURAL	Urban Fringe - Informal Settlement	19	8 906
	Peri-Urban - Squatter Camp	1	284
	Rural - Formal Dense >5000	2	3 046
	Rural - Formal Dense <5000	35	10 310
	Rural - Scattered Dense	5	2 612
	Rural - Scattered Medium Density	5	223
	Rural - Scattered Low Density	59	10 732
	Rural - Scattered Very Low Density	1 106	107 422
	Rural - Scattered households	N/A	5 775
	TOTAL	**1 269**	**183 642**

Source: ZDM WSDP, 2020

Dense rural and peri-urban settlements occur close to and around the urban settlements including the former R293 townships. These include Hlahlindlela near Emondlo Township, Mangosuthu Village and Freshgewaagd near Bilanyoni, settlements around Ulundi and Nongoma Towns, etc. Low density settlements are scattered

unevenly in different parts of the district with a higher concentration in Nongoma and Ulundi Local Municipalities. Low density rurual settlements are also common in Edumbe, Vryheid and Uphongolo Local Municipalities. There also settlements that emerged because of the land reform programme such as KwaGumbi in uPhongolo Municipality and coals mining such as Emnyathi in Abaqulusi Municipality.

4.2.3 Settlement Densities

The Nongoma LM has the highest population density at 92.6 persons per square kilometre, while uPhongolo has the lowest at 43 persons per square kilometre. These demographics are tabulated in Table 3. Settlement density is high within major towns and lower in traditional council areas. The sparsely distributed population and human settlement pattern can make it difficult to service many of the settlements.

Table 7: Population Density by Local Municipalities - 2018

	Population size	% Share of KZN Population	% Share of Zululand Population	Area in Square KM	% Share of KZN area	% Share of Zululand Area	Population Density
KZN	11 288 892	100.0		94 361	100.0		119.6
Zululand	857 502	7.6	100.0	14 799	15.7	100.0	57.9
eDumbe	86 012	0.8	10.0	1 943	2.1	13.1	44.3
UPhongolo	133 850	1.2	15.6	3 110	3.3	21.0	43.0
Abaqulusi	238 928	2.1	27.9	4 314	4.6	29.2	55.4
Nongoma	201 992	1.8	23.6	2 182	2.3	14.7	92.6
Ulundi	196 720	1.7	22.9	3 250	3.4	22.0	60.5

However, the node and corridor system that is evident within the District needs to be enhanced so that maximum value can be achieved through these. This may mean, for example, encouraging appropriate development and density levels within nodes, by prioritising the servicing of the nodes accordingly.

4.2.4 Land Use Pattern

Land use within the district could broadly be categorised as follows:

- Urban settlements.
- Rural settlements.
- Commercial agriculture and forestry
- Conservation

4.2.4.1 Urban Settlements and Land Use

Urban settlements in the ZDM are Vryheid, Ulundi, Pongola, Nongoma, Paul Pietersburg (Edumbe), Louwsburg, Emondlo and Bilanyoni. These areas differ significantly in character reflecting the impact of the apartheid past with Pongola, Vryheid, Louwsburg and Edumbe having a defined spatial structure and a history of orderly development. These towns have Central Business Districts developed around a civic centre and having a structured mix or commercial, business, service industrial and high density residential. They are surrounded by residential properties with industrial land located in designated areas.

Bilanyoni and Emondlo are the former R293 townships. They developed mainly as residential areas for black people working in the

neighbouring towns and farms. Although they are developed with some commercial and public facilities, they remain poorly developed dormitory areas. Relatively dense peri-urban settlements have developed around these townships as more people move closer to access some urban opportunities.

Ulundi is like these two areas but became a much bigger settlement due to its role as the administrative centre of the erstwhile KwaZulu Government. It has since attracted shopping centres, service industry and other commercial facilities. Nongoma developed organically along R66. As such, it occurs in a linear format with a row of shopping and public facilities occurring on both sides of the road. The town lacks orderly and harmonious development.

4.2.4.2 Rural Settlements and Land Use

Expansive rural settlement characterises the landscape and settlement pattern in the ZDM. The location of these settlements in space is highly influenced by the livelihood strategies, such as access to arable land, reliable sources of water, grazing land, terrain, etc. Factors such as access to public facilities (schools, clinics, etc), public transport routes and bulk services are fast emerging as critical factors in the growth and expansion of some of the rural settlements.

There are approximately 1269 rural settlements in the ZDM with the majority being in Nongoma and Ulundi Local Municipalities. Rural settlements under traditional leadership developed because of traditional land allocation system which is implemented by izinduna without any pre-determined spatial structure or specific spatial planning standards. Settlements are scattered in space in an unsystematic manner with some occurring in areas that are not suitable for human habitation. These include wetlands, steep slopes, and other environmentally sensitive areas. Site sizes for different land uses vary significantly within and among settlements. Land use management is based on collective memory where members of the community collectively agree that a piece of land is earmarked for a particular use or belongs to someone.

Settlements also differ in size and density depending on location in relation road transport network; access to water and electricity; and access to social facilities such as schools and clinics. Relatively high-density settlements are found in along the major transport routes. In some areas, there is a clear separation between residential, crop production and grazing land. This spatial structure or lack thereof results in very expensive service delivery costs.

4.2.4.3 Commercial Agriculture

Commercial agriculture is one of the key economic activities in the ZDM and consumes large tracks of the district land mass. It tends to concentrate in the old farming districts of Paulpietersburg (Edumbe Municipality); Vryheid and Louwsburg in Abaqulusi Municipality; uPhongolo Municipality; and Babanango in Ulundi Local Municipality. It occurs in the form of livestock farming, irrigated crop production, sugar cane production (in the uPhongolo Municipality), crop production (in Edumbe and Abaqulusi Local Municipalities), orchards and forestry plantations. Crop production coincides with areas that have relatively moderate to high agricultural production potential while livestock farming is spread throughout the district. Commercial agriculture is under threat from land degradation, invasive species, and land reform programme.

4.2.4.4 Conservation and Protected Areas

There are 11 proclaimed protected areas within the Zululand District Municipality; 2 areas awaiting proclamation; and 3 community run nature reserves. Pongola Game Reserve is one of the most notable conservation and protected areas within the district.

The Ithala Game Reserve is considered to contain significant habitat diversity with numerous habitats running from high Highveld to low Lowveld at the Pongola River. Other nature reserves of significant importance include the Vryheid Hill Nature Reserve; and the Klipfontein Bird Sanctuary which includes a large wetland and provides a refuge for many rare wild water-birds species such as African Rail, Red-chested Flufftail, and Black and Baillon's Crakes (ZDM, 2017a).

4.2.5 Bulk Water Infrastructure

The ZDM has undertaken a comprehensive water master planning exercise to determine the most appropriate methods of providing previously neglected communities with water services. The result of this exercise was the coverage of the entire district with ten (10) back-to-back regional bulk water schemes as indicated on Map 10. Whilst new infrastructure has been rolled out to the previously neglected communities, infrastructure in towns have received very little attention and funding since 1994 and it can be expected that most of the refurbishment requirements will be in these areas.

4.2.5.1 Hlahlindlela Regional Water Supply

The Hlahlindlela RWSS supplies water to communities located under the Abaqulusi Local Municipality and is made up of two water schemes, that is Vryheid Town Water Scheme and Emondlo Water Scheme. The Vryheid Town WSS supplies water to the Town of Vryhied from two water treatment plants namely, the Klipfontein WTW and Bloemveld WTW. The Emondlo WSS supplies water to

Mondlo Township located on the southern boundary of the Abaqulusi LM. Water is supplied from two water treatment plants namely the Mondlo WTW and Mvuzini WTW.

4.2.5.2 Coronation Regional Water Supply Scheme

The Coronation RWSS covers communities residing under the Abaqulusi and Phongola Local Municipalities and is made up four water schemes that is, Louwsburg Water Scheme, Coronation Water Scheme, Hlobane Water Scheme, and Boreholes and Springs Supply. The Louwsburg Water Scheme supplies water to the Town of Lowsburg. Water is supplied to the areafrom the Louwsburg WTW. Raw water is sourced from a dam located on the southwestern edge of the town. Raw water is pumped from the dam to the WTW via a 100mm dia pumping main.

The Coronation Water Scheme supplies water to the coal mining town of Coronation and surrounding villages of Kengolanga, Shongololo and Thukuzele. Potable water is supplied to the area from the Coronation WTW, and raw water is sourced from Coronation dam located on Mbilane River, a tributaryof Mkuze River to the south of the supply area.

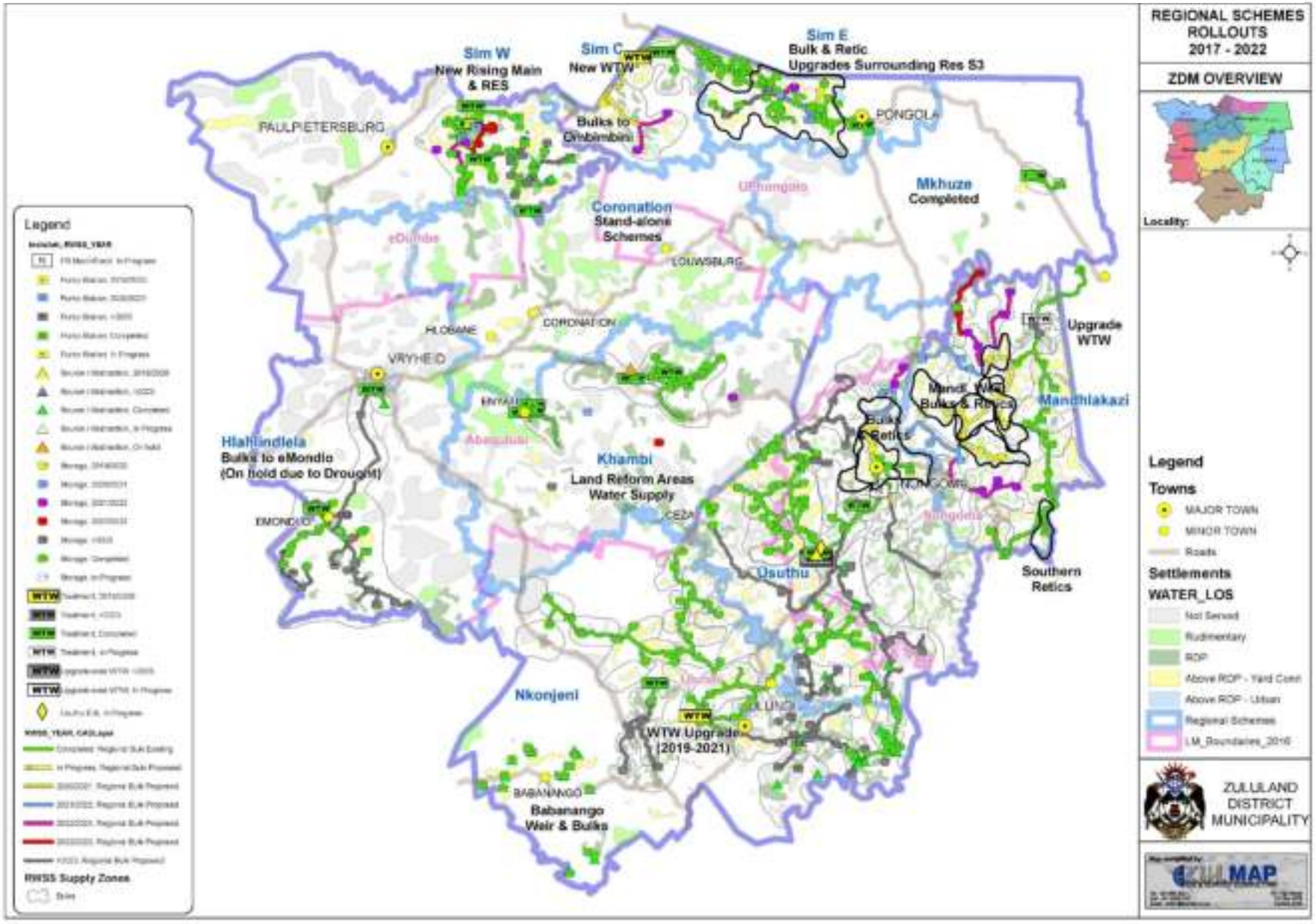
The Hlobane Water Scheme supplies water to the villages of Hlobane and Vaalbank. Potable water issupplied to the area from the Hlobane WTW and raw water is sourced from Hlobane Dam located upstream of Coronation dam on Mbilane River, a tributary of Mkuze River to the south east of the supply area. The other communities residing around Louwsburg Town mainly to the south and west of the town are farming communities with pockets of localised rural communities. ZDM is not planning to provide a regional water supply to these communities but rather intends to supply from localised sources such as boreholes and springs.

4.2.5.3 Khambi Regional Water Supply Scheme

The Khambi RWSS supplies water to communities located under the Abaqulusi Local Municipality andis made up three water schemes that is Khambi Water Scheme, Enyathi Water Scheme, and Mountain View Water Scheme. The Khambi WSS supplies water to the Ngenetsheni village located under the Abaqulusi LM. The village is located 18km due South (as the crow flies) of the town of Louwsburg. Potable water is suppliedto the area from the Khambi WTW and is obtained through river abstraction on a tributary of Mkuze River.

The Enyathi WSS supplies water to the localised villages of Enyathi and Bloemendal under the Abaqulusi LM. The villages are located 25km due South east (as the crow flies) of the town of Vryheidand are in the midst of farmlands. Potable water is supplied to the area from the Enyathi WTW and isobtained through abstraction from a weir on the Black Umfolozi River.

Map 10: Bulk Water Schemes



The Mountain View WSS supplies water to the Salvation village located under the Abaqulusi LM. The village is located 27km due South east (as the crow flies) of the town of Louwsburg. Potable water is supplied to the area from the Mountain View WTW and is obtained from a spring on top of the mountain.

4.2.5.4 Simdlangentsha West Regional Water Scheme

The Simdlangentsha West RWSS supplies water to communities located under the eDumbe LocalMunicipality and is made up two water schemes that is Simdlangentsha West Water Scheme, Paulpietersburg Town Water Scheme, and Borehole supply. The Simdlangentsha West Water Scheme supplies water to the Town of Frischgewaagd and surrounding villages up to the Bivane River on the south. Water is supplied from three plants namely the Frischgewaagd WTW, Tholakela WTW and Bivane WTW.

The Paul Pietersburg Town Water Scheme supplies water to the Town of Paul Pietersburg (also referred to as Dumbe Town) and receives raw water supplies from Dumbe Dam located on the Egoda River 3,5km from the Dumbe Town CBD along the Main Road R33 from Vryheid.

The other communities residing around Paulpietersburg Town mainly to the west, north and south of the town are farming communities with pockets of small households that are served from localised borehole sources. Due to the scattered nature of such "pocket communities", ZDM is not planning to provide a regional water scheme. Any water supply upgrades would be based on localised sources.

4.2.5.5 Simdlangentsha East Regional Water Scheme

The Simdlangentsha East Regional Water Supply Scheme is the main source of domestic water supplies to the town of Phongolo and villages which cover the area stretching from the border with Swaziland in the north, the communities of Manyandeni and Highlands to the east and the Pongola River to the south and Spekboom to the west. The raw water for the treatment plant is obtained by means of abstraction, via a calibrated sluice from the Impala irrigation primary canal, which passes above the Pongola WTW. Water is gravitated directly into the works or into one of three balancing dams. Water can also be pumped directly from the Pongola River into the same delivery canal, as a backup.

4.2.5.6 Simdlangentsha Central Regional Water Scheme

The Simdlangentsha Central (Belgrade) Water Supply Scheme is supplied by a water treatment works which gets its raw water from a weir situated in the Mozana River. There are three other small package water treatments plants that receive raw water supplies from tributaries of the Mozana River which is also a tributary of

Phongola River and serve localised communities. These are namely Khiphunyawo WTW, Nkosentsha WTW and Msibi WTW.

4.2.5.7 Gumbi/Candover Regional Water Supply Scheme

The Gumbi/Candover RWSS covers communities residing on the eastern end of the uPhongolo Local Municipality next to the Phongolo Dam but on the western side of the N2. However, the area covered by the scheme is vast stretching to the west to include portions of Ithala Game Reserve. The community residing next to the N2 close the Phongolo Dam are served with potable water supplies by the Gumbi Water Scheme. Potable water is supplied to the area from the Gumbi WTW, and raw water is reportedly sourced from Phongolo Dam located on the Phongolo River.

4.2.5.8 Usuthu Regional Water Supply Scheme

The Usuthu RWSS supplies water mainly to communities located under the Nongoma Local Municipality and communities located on the northern border of the Ulundi Local Municipality. The scheme covers almost the entire Nomgoma area of jurisdiction except for the eastern portion which is supplied from the Mandlakazi Water Scheme. The scheme area is served by seven water treatment facilities namely, Vuna WTW, Usuthu WTW, Ceza WTW, Embile WTW, Thulasizwe WTW, Sidinsi WTW and osingisingni WTW.

4.2.5.9 Mandlakazi Regional Water Supply Scheme

The Mandlakazi RWSS supplies water to communities located on the eastern side of the Nongoma Local Municipality up the boundary with Hlabisa LM under the Umkhanyakude DM and is made up two water schemes namelt, Mandlakazi Water Scheme and Sidinsi Water Scheme. Raw water is currently being purchased from the Charl Senekal Trust in terms of a memorandum of agreement for treatment at Mandlakazi WTW. Raw water supply for the Mandlakazi WTW is pumped from the weir upstream of Blackie Dam through a raw water pumping main to the Mandlakazi WTW located in Madulaleni village. ZDM currently have no abstraction facility on the Pongolapoort Dam. Raw water is also obtained from the Mona River and treated at Sidinsi (KwaMpanza) WTW whose capacity is 0.28Ml/day and is located on the southern end of the water scheme area.

4.2.5.10 Nkonjeni Regional Water Supply Scheme

The Nkonjeni RWSS supplies water to communities located under the Ulundi Local Municipality and ismade up two water schemes that is Greater Ulundi Water Scheme, Babanango Water Scheme, and Mpungamhlophe Water Scheme. The Greater Ulundi WSS supplies water to the Town of Ulundi and the surrounding villages. Water is supplied to the area by only the Ulundi WTW. Water is sourced from

the Ulundi Weir situated on the White Mfolozi River, some 8 km north west of the Town. Water is released from the Klipfontein Dam, near Vryheid, 71 km away and meanders for 144 km along the river to the weir, which provides the balancing needs for abstraction. The Klipfontein Dam was built to supply both domestic water to Vryheid and Ulundi as well as irrigation water for the farmers downstream of the dam. Besides the surface water allocation, the surrounding communities in the Ulundi Water Supply Scheme area are also supplied from groundwater. Babanango sits on the watershed of Mhlatuze River quaternary catchment to the west, and White Mfolozi River quaternary to the east. Babanango Water Supply Scheme area is supplied by a water treatment works (WTW) which gets its raw water from the weir situated in the Gologodo River, a tributary of the Mhlatuze River. The Mpungamhlophe WTW is located 17km upstream of the White Mfolozi River along the river course.

4.2.6 Electricity

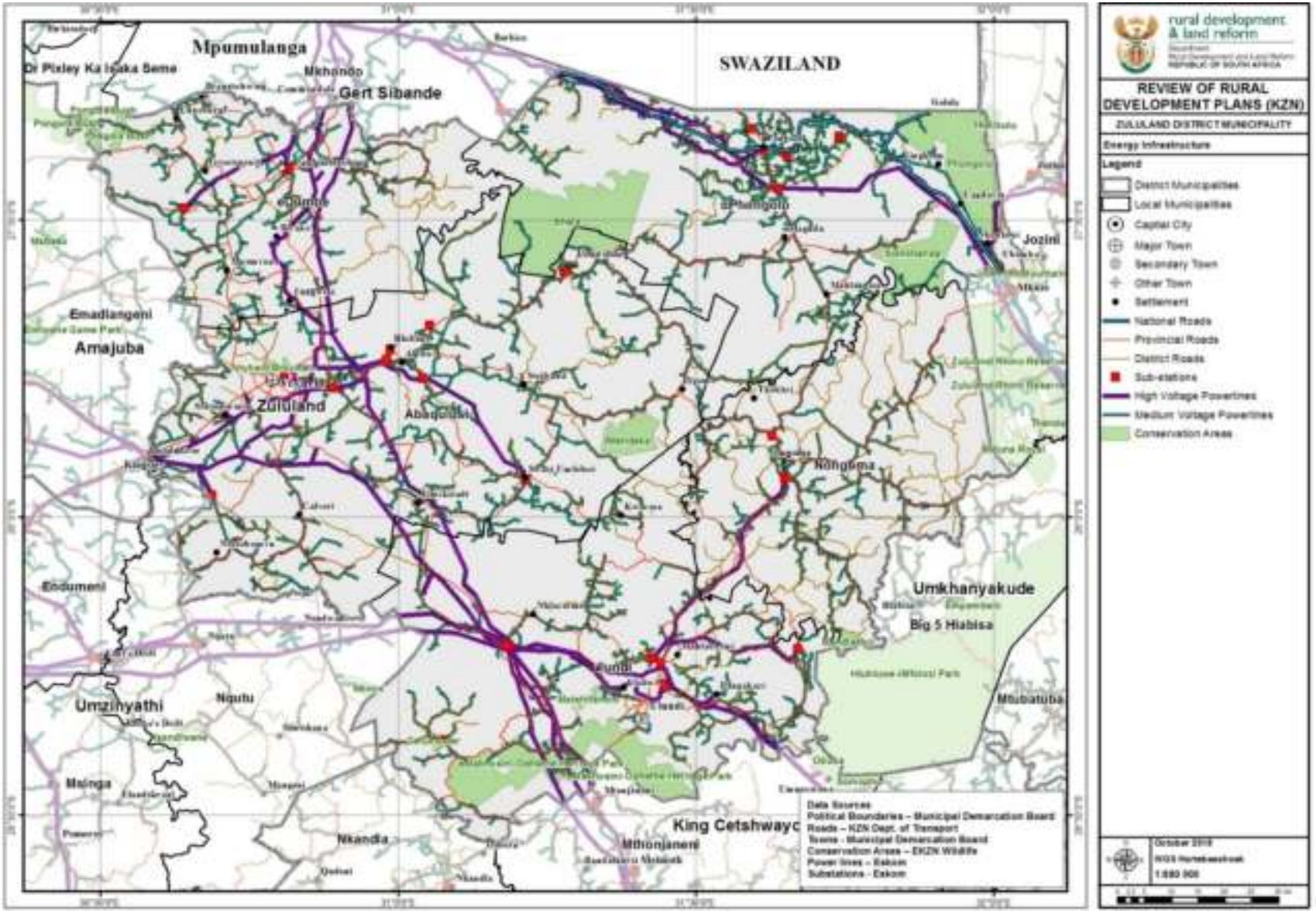
According to the Zululand IDP, the electrical services authority in the district is ESKOM. In urban areas, however electricity is supplied through local municipalities. The electricity network in the southern portions of the have very limited capacity, which contributes to figures of areas with no electricity and the district's backlogs. Energy provision focuses on rural backlogs as urban electricity is provided as part of municipal services.

4.2.7 Waste Disposal Sites

Several waste disposal sites within the district are not suitable for waste disposal and require closure licenses. A Waste Disposal Regionalisation Study undertaken in 2007 to investigate various options for resolving the issue of these illegal sites recommended, *inter alia*, regionalisation of waste disposal, which include regional waste disposal sites in Vryheid and Ulundi, with some sites being used as transfer stations. A further Solid Waste Facility Backlog Study conducted in 2010 by ZDM, providing updated details on the status quo and recommendations for each LM. A summary per local municipality is provided below:

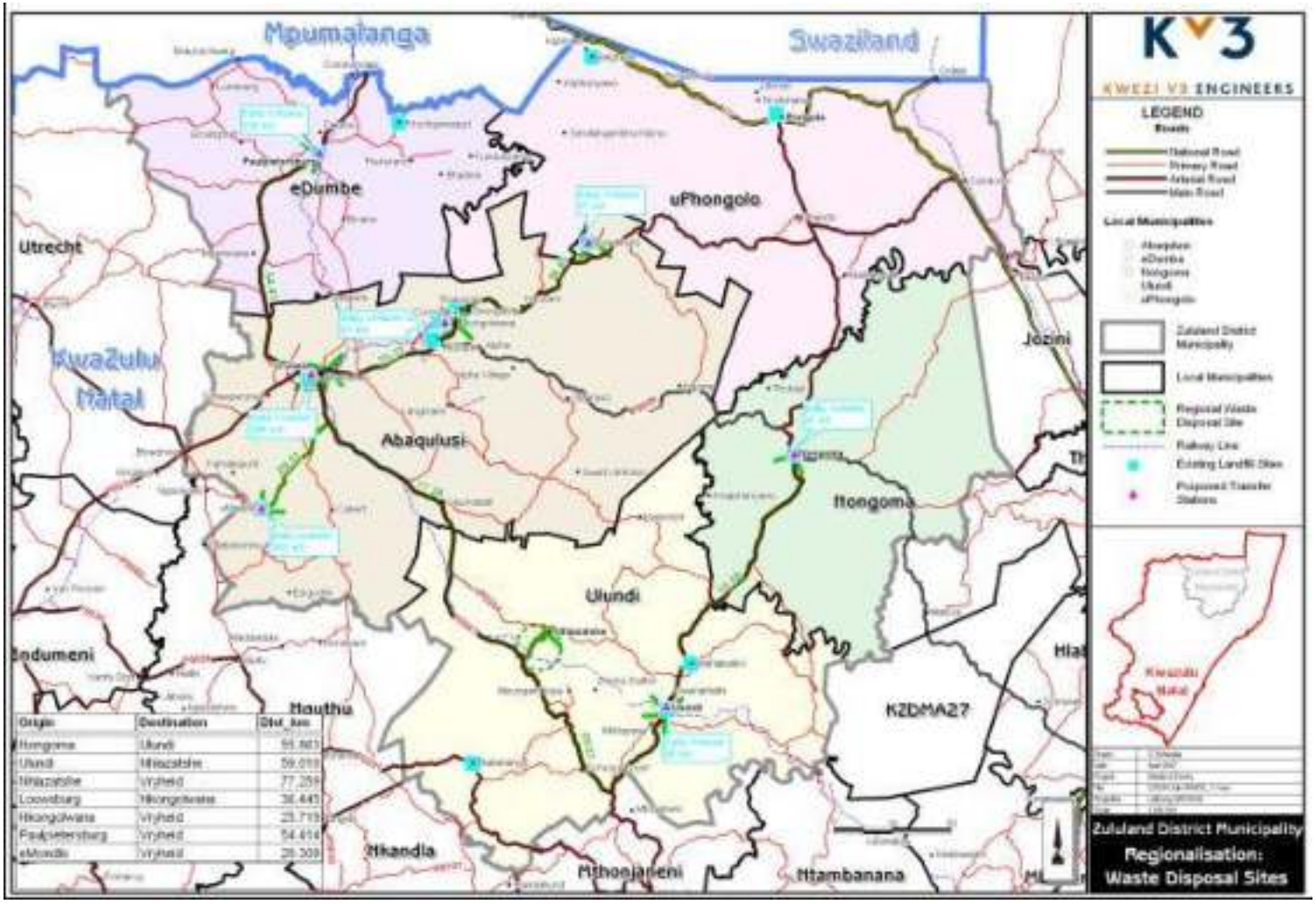
- The Vryheid Landfill Site handles the bulk of the Abaqulusi Municipality's waste as it receives waste from several villages as well as waste collected from the town itself. This site requires infrastructure upgrades to be eligible for licensing.
- Enyathi and Coronation Waste Disposal Sites have been abandoned as the waste is being transported to Vryheid. These sites require closure as they pose a potential health risk as they are both located within 100m of residences.

Map 11: Energy Infrastructure



4.2.8 Waste Disposal Sites

Map 12: Waste Disposal Sites



- The eMondlo Waste Disposal Site is located near to a sensitive environment and human residences and therefore requires proper closure and rehabilitation.
- The eDumbe Waste Disposal Site is unsuitable, and a closure license was recommended.
- The Bilanyoni site has a life expectancy of at least 50 years. The site is properly designed but needs upgrading.
- The Pongola Town site requires a general upgrade and basic maintenance.
- The Belgrade site is not a formal WDS and is merely a dump site in a donga adjacent to a road in a drainage line.
- The Nongoma Waste Disposal Site is currently unlicensed and in poor condition. A new site has been identified at eMbonjeni Area and preliminary work is underway, including the geo-hydrological studies.
- The Ulundi Municipality 2 unauthorised Waste Disposal Sites, namely the Ulundi and Mahlabathini sites. The Ulundi site is located on the outskirts of Ulundi town and is now a disused exposed field with a severe litter problem. It is no longer used as a result of complaints from the surrounding community. The Mahlabathini site is merely an informal dumping area located on a hillside, with no clear boundary.

4.2.9 Transport and Movement Network

4.2.9.1 Rail Infrastructure

The “coal line” railway line passes through Zululand carrying coal from the Mpumalanga mines to Richards Bay. This is a highly specialized line and rail system, which carries 200 trucks, dedicated coal trains (23/day in 1999), which do not stop at stations within Zululand except to change crew. Also, on this line are freight trains transporting goods through Richards Bay. Most of their cargo is loaded in the Northern province and Mpumalanga, but a considerable amount of timber is loaded from stations in the northern parts of the Zululand district around Paul Pietersburg and Vryheid. The ROVOS rail, on its “African Rail Tour” Travels into Zululand. Its route extends from the Dolphin Coast, up to Richards Bay, along the KwaZulu-Natal north coast and inland into Zululand, including the towns of Vryheid and Ulundi.

4.2.9.2 Road Network

The ZDM has an extensive road network comprising of national, provincial, regional, district and local roads. The National Route N2, runs along the north-eastern boundary of the district, from Phongola Poort Dam in the east to through the town of Pongola to Mpumalanga Province.

Table 8: Road Network Length

AUTHORITY	MUNICIPAL & ACCESS ROADS LENGTH (KM)		
	PAVED ROADS (KM)	UNPAVED ROADS(KM)	TOTAL(KM)
Abaqulusi LM	195.98	727.18	923.16
eDumbe LM	35.61	243.95	279.56
Nongoma LM	10.14	602.02	612.16
Ulundi LM	101.14	740.08	841.22
uPhongolo LM	46.9	390.07	436.97
Total	**389.77**	**2703.3**	**3 093.07**

Source: Business Plan for Rural Road Assets Management Grant

The R33, R34 and R69 are main provincial roads converging in Vryheid. The R69 runs between uPhongolo and Vryheid, the R66 runs between Ulundi and uPhongolo, the R34 runs between Ulundi and Vryheid and lastly the R618 runs between Nongoma and Vryheid.

A number of local municipal roads provides access to various settlements and link them with the neighbouring towns. Table 30 below indicates that the district has a total length of 3 093.07 of which 2703.3 is unpaved. Only 389.77 is paved. Abaqulusi, Ulundi and Nongoma have the longest unpaved roads. The table above indicates paved and unpaved road length in the Zululand District Municipality.

4.2.9.3 Airport and Landing Strips

The district has two aerodromes, that is the Ulundi Airport and the Vryheid Airport. However, due to a discontinuation of scheduled flights to Vryheid in the mid-1980s, the Vryheid airport is no longer licensed, and the municipal parks department maintains the airport. This facility is used for emergency services when patients need to be flown to institutions that are equipped for advanced medical interventions, as well as ferrying relief doctors in the morning to assist in nearby hospitals each day and flown out in the afternoon. The newly built Tourism Hub building at the airport houses the ZDM Tourism offices, Car Rental offices, a training facility, and a coffee/restaurant facility.

The ownership of the Ulundi airport was transferred from the Office of the Premier to the Zululand District Municipality in April 2007. The KwaZulu-Natal provincial government provided financial assistance to the District Municipality for the a short period (3 years) thereafter to subsidise the cost of operations at the airport; allow for the training of District Municipality staff to operate the facility; the re-laying of the main runway; upgrading of fire and rescue equipment; and the installation of all-weather navigational instruments. Clearance was obtained from the Civil Aviation Authority for commercial flights to be resumed, in recognition of the vital role the airport has to play in local development.

A Strategy document outlining strategies and objectives that need to be implemented to ensure viability of the airport was produced and it is the yardstick according to which progress and achievements made are measured. The airport then commenced with the handling of commercial flights daily between Virginia Airport in Durban to Ulundi, and flights to Oribi Airport in Pietermaritzburg in 2012, with a view to stimulating both business and tourism growth in the district. In order to sustain the facility, the KZN Provincial Government has extended to the Zululand District Municipality (owner and operator of the facility) a grant of R 30 million for Airport Development (upgrades and rehabilitation).

4.2.10 Access to Public Facilities

Abaqulusi Local Municipality and uPhongolo Local Municipality are better provided with social facilities such as education, health, safety, and sports compared to the more rural municipalities. However, there is a need to provide additional facilities to accommodate increasing population and demand arising from urbanisation. An even bigger challenge is to improve access to public facilities in rural areas where backlogs are huge due to historical neglect.

4.2.10.1 Community Halls

Figure 21: Access to Community Halls

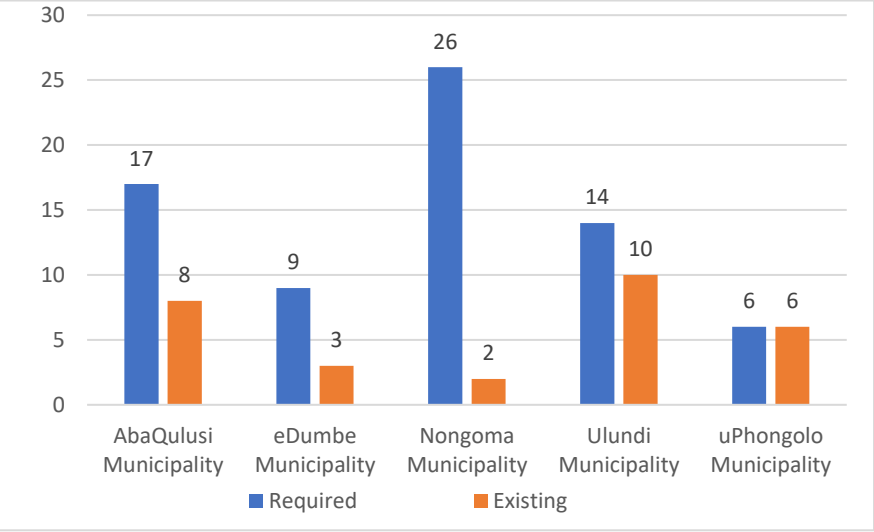


Figure 21 above indicates existing and required (backlog) community halls per local municipality within the ZDM. It is evident from the figure above that the number of community halls in the district is far below what is required. In fact, only 28% of the required number of community halls have been built. However, the state in which these buildings are, and therefore their functionality is not documented at a district level.

Map 13: Access to Social Infrastructure

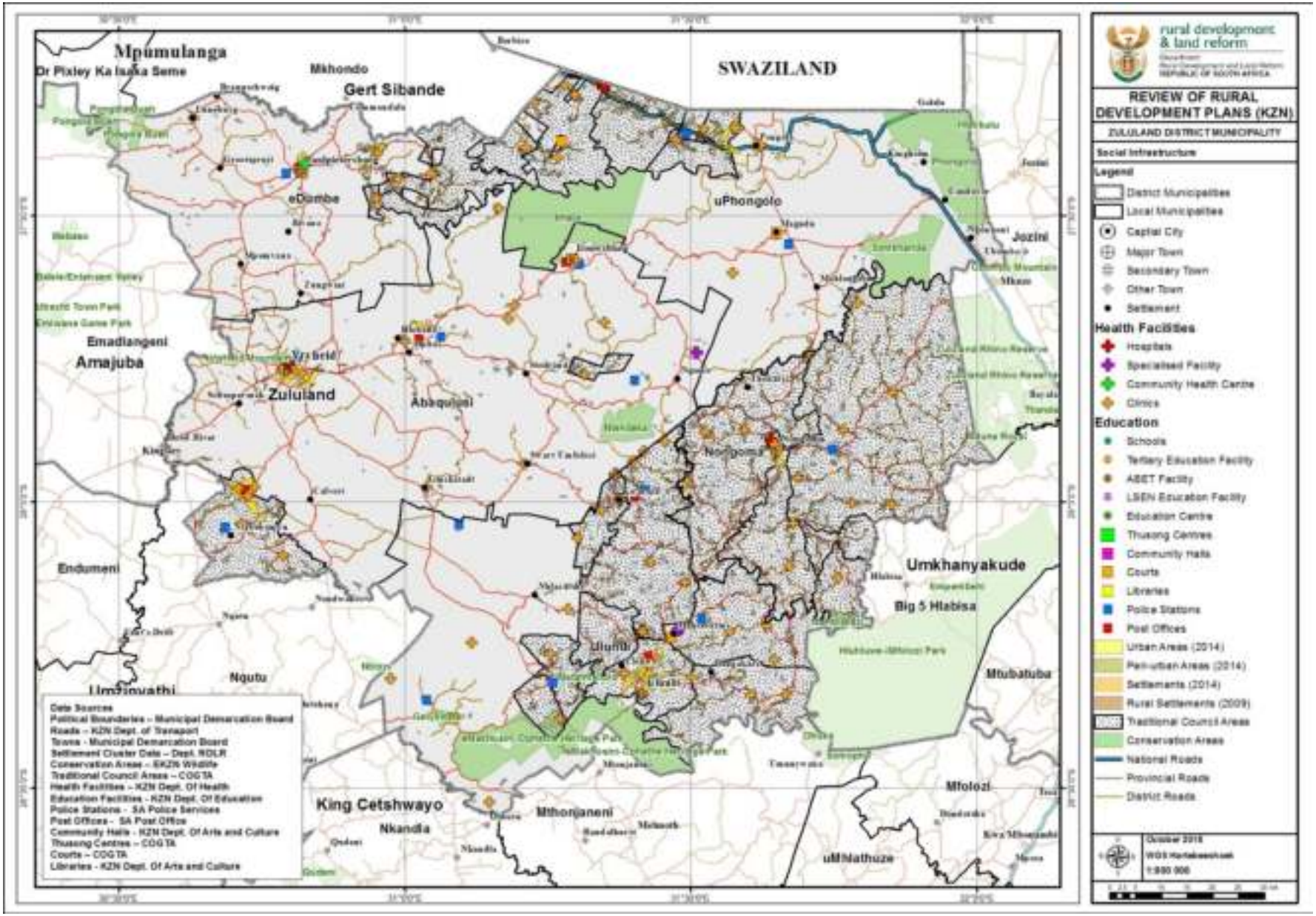


Table 9: Access to Community Halls

LOCAL MUNICIPALITY	0 - 10KM			10KM - 20KM		
	HOUSEHOLDS	POPULATION	PERCENTAGE	HOUSEHOLDS	POPULATION	PERCENTAGE
Abaqulusi Municipality	15122	102270	45%	6408	43337	19%
eDumbe Municipality	4307	29128	30%	7547	51040	53%
Nongoma Municipality	4381	29629	13%	11534	78004	35%
Ulundi Municipality	19033	128720	56%	9840	66548	29%
uPhongolo Municipality	13873	93823	67%			

4.2.10.2 Health Facilities

The Zululand Health District has five district hospitals, 2 specialized hospitals, 69 clinics, 1 CHC and 17 Mobile clinic teams. Ulundi Municipality has four hospitals and 19 clinics while Abaqulusi Municipality which has the largest population has three hospitals and 13 clinics. UPhongolo and Nongoma Municipalities have one hospital each while Edumbe is the only municipality that does not have a hospital. In addition, access to the district's Primary Health Care (PHC) facilities is not equitably distributed, due to poor road infrastructure and challenging topography/terrain in some areas.

4.2.10.3 Education Facilities

The ZDM is generally well provided with primary and secondary schools. However, level of access differs markedly depending on type (level) of school and location. Primary schools are the most accessible. More than 88% of households in in all local municipalities have a primary school within a 2,5km radius except Nongoma Municipality where 80% of households access a school within a 2,5km radius. Secondary schools are fewer that primary schools hence the number of households who travels more than 5km to access a secondary school is higher.

A backlog analysis based on households that travel more than 5km to reach a primary school and a threshold of 3500; and households located further than 5km from a secondary school and a service threshold of 8000 people revealed a need for a further 100 primary schools and 34 secondary schools.

Table 10: Primary Schools in the District

LOCAL MUNICIPALITY	PRIMARY SCHOOLS		SECONDARY SCHOOLS	
	Required	Existing	Required	Existing
Abaqulusi Municipality	25	104	7	45
eDumbe Municipality	10	71	3	27
Nongoma Municipality	33	98	12	49
Ulundi Municipality	27	158	7	66

LOCAL MUNICIPALITY	PRIMARY SCHOOLS		SECONDARY SCHOOLS	
	Required	Existing	Required	Existing
uPhongolo Municipality	15	101	5	42

4.2.10.4 Safety, Security and Justice

The distribution of police stations is provided in table 11 below. A backlog analysis based on households located further than 20km from a police station and a service threshold of 25000 people suggests a need for a further 16 police stations in the ZDM.

Table 11: Police Stations in the ZDM

LOCAL MUNICIPALITY	REQUIRED	EXISTING
Abaqulusi Municipality	14	6
eDumbe Municipality	13	1
Nongoma Municipality	49	1
Ulundi Municipality	41	4
uPhongolo Municipality	32	2

4.3 Bio-physical Factors

This section provides information regarding the baseline environmental conditions that are prevalent throughout the ZDM. It describes the receiving environment in terms of biophysical aspects such as biodiversity, climate, geology, etc.

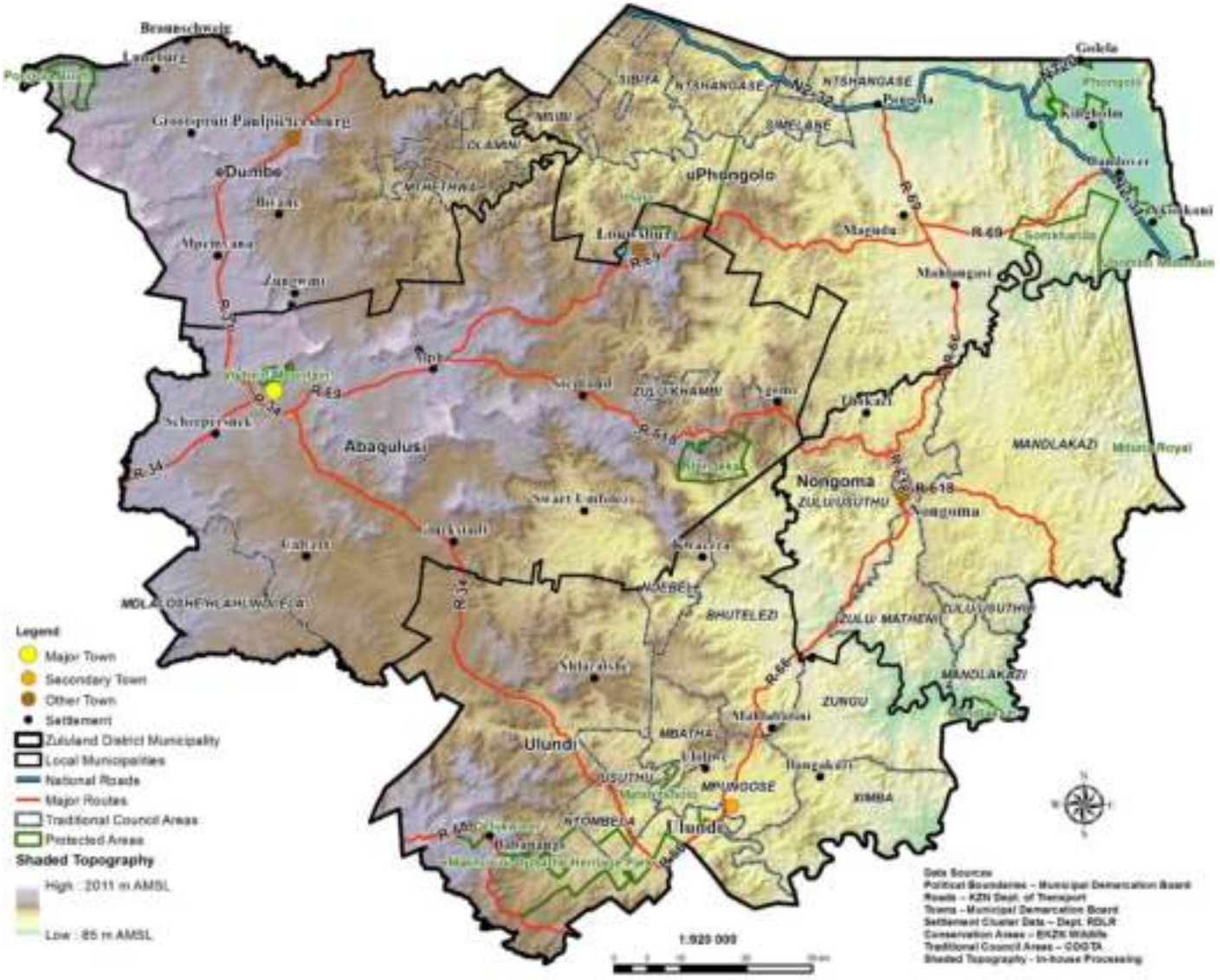
4.3.1 Land Resources

4.3.1.1 Topography

The Zululand district municipality is characterised by complex topography in the northern and central areas comprising of slopes 12 – 20 and 20 – 40%%, while in the eastern and western areas, the complexity of the topography decreases as slopes decrease to between 0 - 12%. The steeper gradients that separate these flat areas are as a result of the valleys and hills that make up the topography of this region.

The Zululand District Municipality consists of elevation that ranges from 0m above sea level to 2133.85m above sea level. Figure 10 illustrates an increase in elevation as one moves inland and away from the coastline. As a result, the eastern areas of the region are relatively flat terrain while the western and southwestern parts of the region contain mountainous terrain.

Map 14: Slope Analysis



4.3.1.2 Soils Overview

Most of the soils found within the district are generally poorly drained, while better drained soils are found in small portions in the southern, central, and northern regions. The implication of this is that in those areas that are poorly drained, water retention will be higher, while infiltration rates will be lower. This indicates a higher presence of clay in the soil, than in the southern, central, and northern regions. Well-drained soils cannot retain water for long periods of time, although they will have a higher infiltration rate, better able accommodate the occurrence of higher intensity rainfall events, which are frequent in this area.

4.3.1.3 Geology

Most of the municipality is underlain by the Karoo Supergroup consisting of Dwyka and Ecca Group. The Dwyka group comprises the diamictite rocks while the Ecca group comprises shale and sandstone rocks.

4.3.2 Terrestrial Ecosystems and Biodiversity Priority Areas

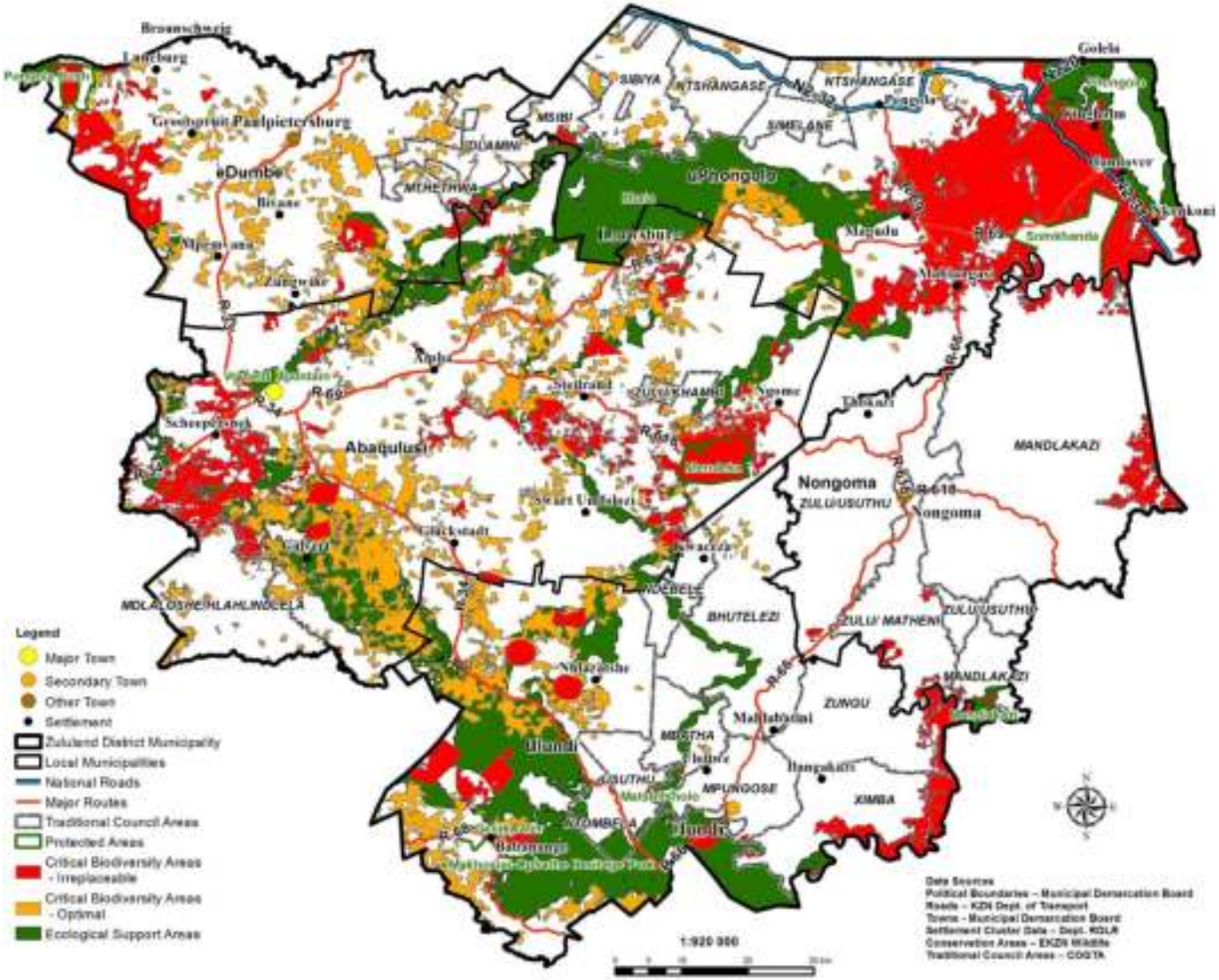
Ezemvelo KZN Wildlife has, through a process of systematic conservation planning, identified areas that are critical for meeting regional biodiversity targets and thresholds. These are known as Critical Biodiversity Areas (CBAs) and Ecological Support Areas (ESAs). CBAs are either unique habitats or they contain unique species of flora and fauna while ESAs may form corridors for the migration of species or perform a supporting role to the CBAs. As indicated in the figure, there are two corridors in the central interior that form ESA corridors. The north-western interior regions of this municipality are comprised more of Optimal Critical Biodiversity Areas, while irreplaceable CBAs are found in the north-eastern area. Furthermore, it should be noted that there is little correlation between the two biodiversity areas, and slope. This may be positive from an agriculture/development perspective, as the flatter areas are, in most instances, better for development.

4.3.2.1 Critical Biodiversity Areas

Critical Bio-diversity Areas (CBA) within the ZDM are linked to vegetation types that have the potential to sustain numerous species. Therefore, the priority conservation areas are distributed as follows:

- The woodland areas between Pongola and the Pongola Poort Dam (uPhongolo LM);
- The forest areas south of and between Ngome and Ferisgewaagd (aBaqulusi LM);
- Forests South of Louwsburg (aBaqulusi LM);

Map 15 - Biodiversity and protected areas within this District Municipality



- The Mixture of Grasslands, woodlands, and forests south of Clifton and Scheepersnek (aBaqulusi LM); and
- The Bush lands and Woodlands linking to the Hluhluwe-uMfolozi Park (Ulundi LM);

As shown on Map16, there are approximately 148 347 ha of small CBA Optimal patches that are scattered throughout the district, with the largest networks of CBA Optimal patches occurring in the western part of the district within the Abaqulusi and eDumbe Local Municipality. 165136ha of larger CBA Irreplaceable areas are present within the district, with the largest CBA Irreplaceable area (71240 ha) situated within the uPhongolo Local Municipality.

4.3.2.2 Ecological Support Areas

As show in Map 14, there are significant Ecological Support Areas (ESA) situated within the Zululand District Municipality and connect the Hlathikhulu Nature Reserve to numerous CBA Priority 1 and 3 areas as well as the Ithala Nature Reserves. These Ecological Support Areas also act as landscape corridors that aim to create corridors that provide linkages in a fragmented landscape. The purpose of the Ecological Support Areas is to provide areas that are required to ensure the persistence of specific species. Although these areas are frequently modified, a change in current land use, to anything other than rehabilitated land, would most likely result in a loss of that feature from the area identified.

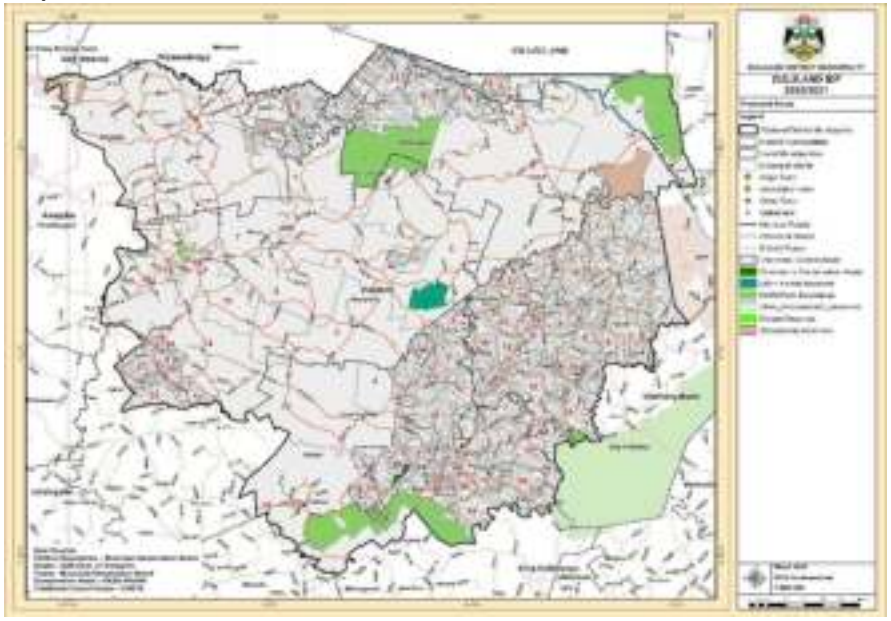
Map 16: Ecological Support Areas

4.3.2.3 Protected Areas

The Zululand District Municipality contains 11 proclaimed protected areas, 2 areas still awaiting proclamation and 3 community run nature reserves. In addition, Map 15 identify areas that can be considered for land-based expansion of protected areas. These areas are "*large, intact and unfragmented areas of high importance for biodiversity representation and ecological*

persistence, suitable for the creation or expansion of large, protected areas" (SANBI, 2010).

Map 17: Protected Areas



Some of the most notable conservation and protected areas within the district include the Pongola Game Reserve, which contains four of the big five, except for lion. The game reserve boasts more than 70 elephants, as well as rhino, buffalo, leopard, cheetah, hyena, giraffe, zebra, and numerous species of antelope. The Ithala Game Reserve is considered to contain significant habitat diversity with numerous habitats running from high Highveld to low Lowveld at the uPhongolo River. Other nature reserves of significant importance include the Vryhied Hill Nature Reserve which contains grey duiker, mountain reedbuck, oribi, eland, Burchell's zebra and blesbok as well as a pair of crowned eagles who nest in a Cape ash tree in the forest overlooking the town; and the Klipfontein Bird Sanctuary which includes a large wetland and provides a refuge for many rare wild water-birds species such as African Rail, Red-chested Flufftail, and Black and Baillon's Crakes (ZDM, 2017a).

4.3.3 Water Resources

4.3.3.1 Catchment Areas

Most of the streams and smaller rivers in this municipality form part of the Pongola, White Mfolozi, Black Mfolozi, Mkuze and Mhlathuze River catchments (refer to Map 18). The afore-mentioned rivers form the primary water sources for the different areas throughout this district municipality. It should be noted that although these smaller streams and rivers may not contribute as much as the larger systems in terms of water resources, they are still important and are protected by law. Development permission will be required when development proposals have potential to alter drainage networks and/or compromise the integrity of the water systems (including wetlands). Section 21 of the National Water Act 1998 will apply and an application for a water use license will be required if these resources are to be used.

Map 18: Secondary Catchment

4.3.3.2 NFEPA Rivers and Wetlands

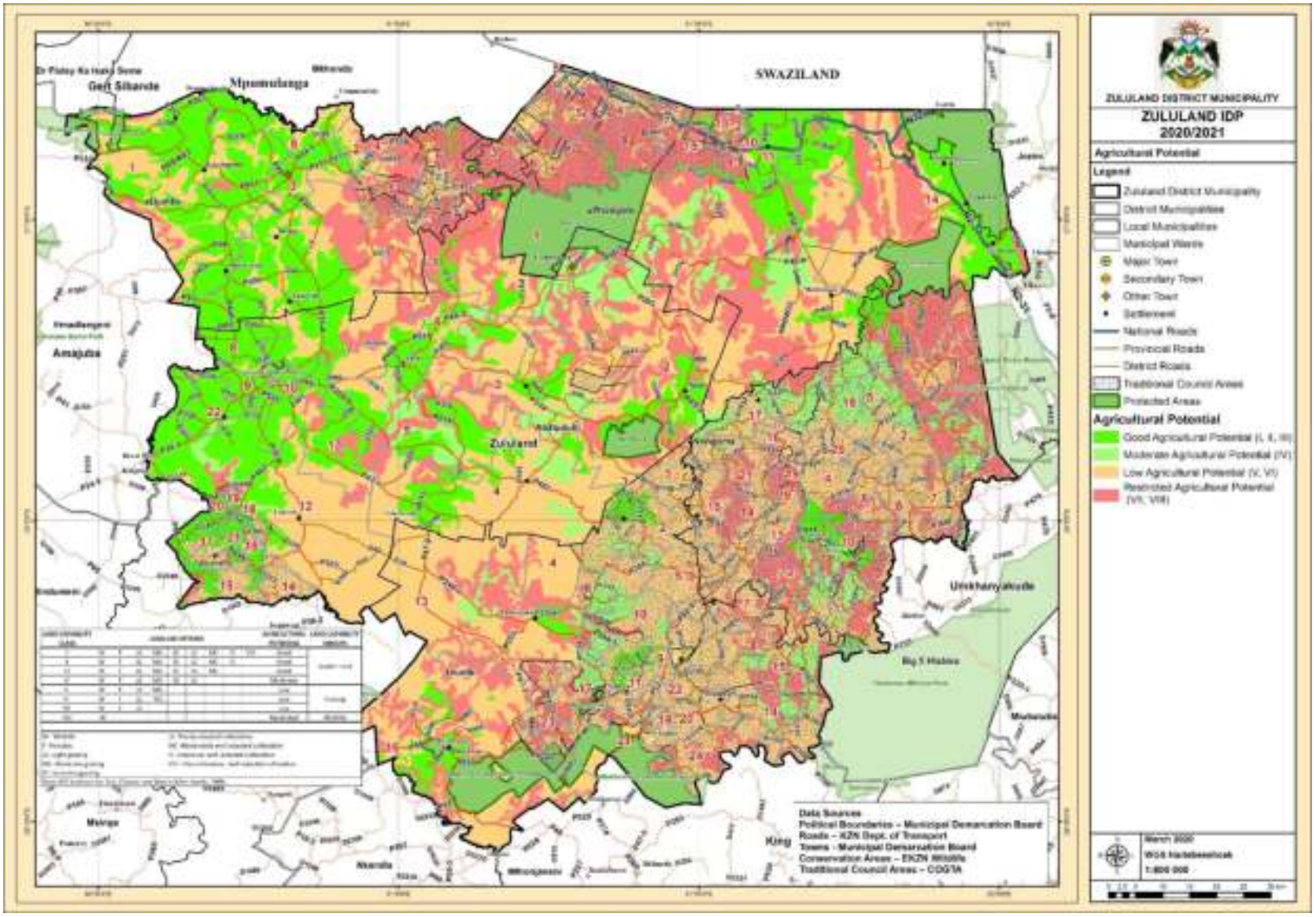
According to the South African National Biodiversity Institute (SANBI) national wetland database, the wetland systems in the Zululand District Municipality are distributed in a complex mosaic, occupying a variety of positions in the landscape across altitudinal gradients, ranging from open water bodies, vleis and marshes, down to extensive wetlands associated with stream and river courses. The National Freshwater Ecosystem Priority Areas (NFEPA) are areas where rivers, wetlands and estuaries should remain healthy. There is a total of 22 NFEPA's for the Zululand District of which the majority are classified as unmodified natural and largely natural. Only one river, the Ntombe River, is classified as being moderately modified.

4.3.4 Agricultural Potential

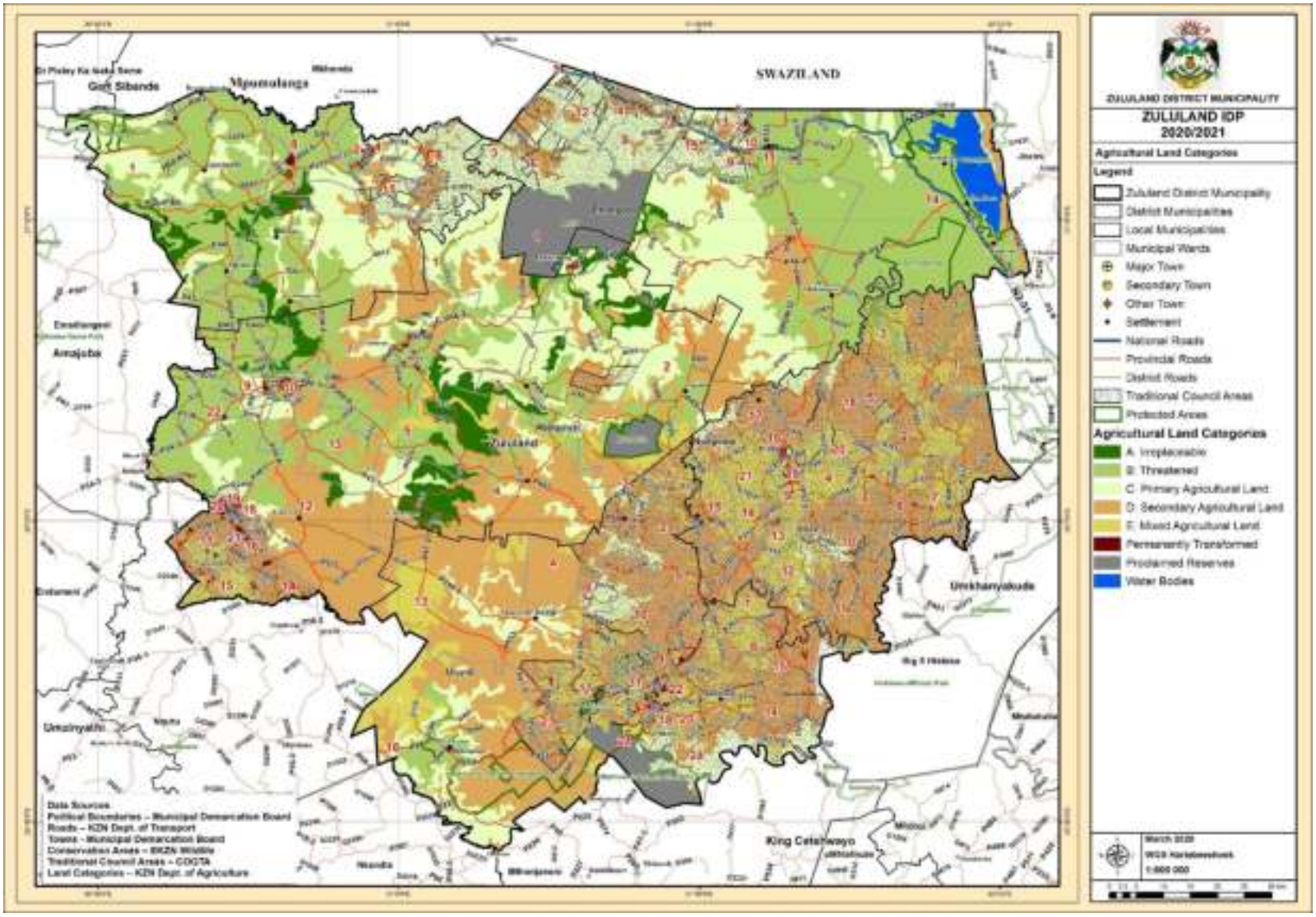
Agricultural potential in the ZDM is dependent on climatic variables such as rainfall and has the potential to contribute towards economic growth within the district. The Western parts of the district contain large amounts of arable land while the eastern parts of the district remain poor arable conditions. As illustrated in Map 16, the north-western parts of the district contain high to very high potential land while the eastern and southern parts of the district contain low agricultural potential. These areas, although not suitable for agricultural production, are suitable for livestock and game production (ZDM, 2006a). The highest potential for agriculture is in the Abaqulusi, eDumbe, and uPhongolo local municipalities. High agricultural potential within the uPhongolo valley is attributed to factors such as high irrigation opportunities within the area (DRDLR, 2018). Communal areas of Ulundi and Nongoma do not contain the same amount of agricultural potential apart from the high lying plateaus within each municipality which do not make up a large portion of the land.

The Valley bushveld within the two Mfolozi Rivers contain potential for the development of irrigation and agricultural potential. Furthermore, the climate in these valleys consists of high temperatures and temperate winters making these areas suitable to produce vegetables. Additionally, agricultural potential for sugarcane, out of season vegetables and sub-tropical fruit, exists within the low altitude rivers of the valley of uPhongolo and Mfolozi Rivers. However, outside the scope of these valleys is restricted to livestock and game farming and production (DRDLR, 2016). Variables such as slope and elevation affect the production of agriculture within the district. The district comprises of slope categories that range from smaller than 1:10 (10% incline), 1:6 (17% incline), 1:3 (33% incline) and steeper. The higher the gradient of the slopes, the more difficult farming activities and production are (DRDLR, 2016).

Map 19: Agricultural Potential



Map 20: Agricultural Land Categories



The terrain of the area also determines the agricultural potential and patterns. The central and northwestern parts of the district contain mountainous slopes of 1:3 (33% incline) and steeper with the slopes becoming less steep moving east of the district.

Elevation of the district also influences agricultural activities and potential. The elevation of the district rages from about 0m above sea level to 6987m above sea level. The height above sea level decreases from the coast moving inland. The uPhongolo local municipality and the Nongoma local municipality consist of 1m to 910m above sea level. The eDumbe and Abaqulusi local municipalities range from 655m to 4559m above sea level (DRDLR, 2016).

4.4 Cross-cutting Elements

Cross-cutting elements refers to factors that affects socio-economic conditions, the built environment and bio-physical environment such as climate change, disaster management and spatial governance. An analysis of each of these is provided below.

4.4.1 Climate and Mean Annual Precipitation

Varying climate conditions prevails across the ZDM with the area being subject to summer rainfall with dry winters. The mean annual temperature ranges from approximately 4°C to 20°C with temperatures becoming cooler towards the west.

The mean annual precipitation (MAP) ranges from 493mm to 1682mm in the district with most rainfall occurring during the summer period of the year. This excludes areas where the Ithala Quartzite Sourveld occurs which experiences peak rains during midsummer. A negligible quantity of precipitation in the form of drizzle with occasional frontal rainfall will occur during the winter months as cold fronts pass over this area. Most of the precipitation received in this area during summer is convectional rainfall, i.e., is because of hot humid air rising, cooling, condensing and then falling because of thunderstorms of considerable magnitude. This type of rainfall is of high intensity and often does not last for more than a few hours. However, during the summer season the frequency of these events is high, sometimes occurring daily, and can because of the intensity of rainfall cause considerable damage to property and crops.

4.4.2 Climate Change

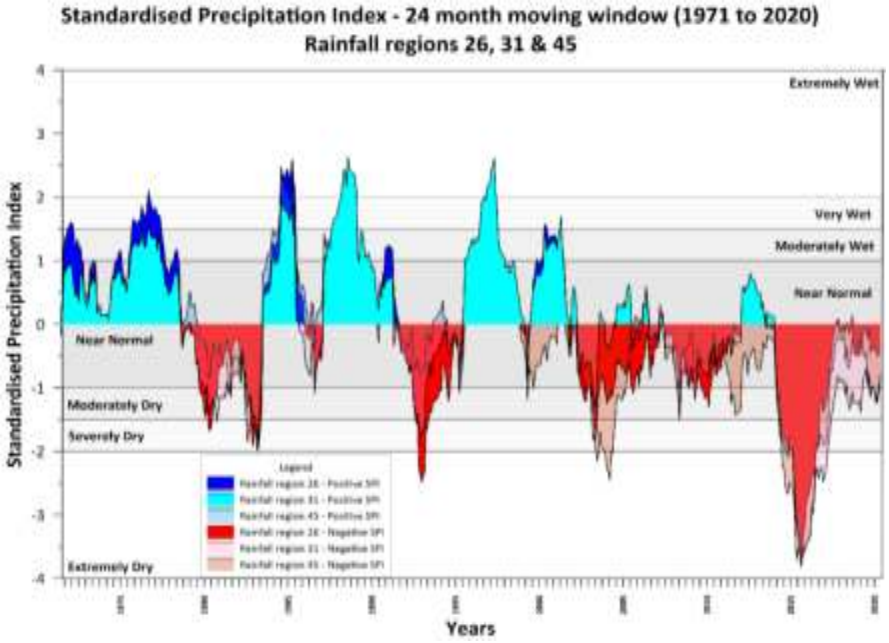
Changes to weather patterns and ultimately regional climates, increase the vulnerability of systems such as public health, food, and water security. This presents challenges to the sustainability and expose communities to a range of natural disasters. The ZDM and

the associated local municipalities play a crucial role in building climate resilience through the provision of municipal infrastructure and services; appropriate planning of human settlements and urban development; water and energy demand management; and local disaster response, amongst others.

Table 12. Comparison between Rainfall regions for the periods 1922-2002 and 2003-2020. Values expressed as a percentage.

SPI Classification	1922 - 2002			2003 - 2020		
	Rr 26	Rr 31	Rr 45	Rr 26	Rr 31	Rr 45
Extremely dry	0.62	0	0.31	7.41	6.94	14.35
Severely dry	1.87	1.04	2.39	6.48	10.19	9.26
Moderately dry	6.76	6.97	4.27	16.20	13.89	14.81
Near normal (Dryer)	38.19	40.69	32.47	58.80	47.69	55.56
Near normal (Wetter)	31.95	31.11	42.77	11.11	21.30	6.02
Moderately wet	10.82	11.24	9.47	0	0	0
Very wet	6.04	6.56	5.31	0	0	0
Extremely wet	3.75	2.39	3.02	0	0	0

Climate change is cross-cutting and requires responses from across the various sectors, spheres of governance, civil society, and the private sector. Sector responses need to align and be integrated into existing processes, strategies, development priorities and objectives. The strategy needs to be responsive to a changing climate change policy landscape and encourage engagement with national and provincial strategies and plans that have climate change components. This is important in understanding what are the actions required by local government and how national and provincial government can assist.



Climate change will have an impact on rainfall patterns in the ZDM, like in any other parts of the world. Future rainfall predictions for Zululand indicate that the district municipality will have a change in rainfall patterns. Veld fires, storms and strong winds are common hazards in the district and will likely be exacerbated by climate change (ZDM, EMF, 2018:9).

The EMF, further states that the Long-Term Adaptation Scenarios (LTAS) have projected that climate change is expected to increase the total average rainfall in the east of South Africa. Climate change is also predicted to shift biomes in South Africa, which will result in changes to the ecosystems and vegetation found in the Zululand District Municipality. Under a medium risk climate scenario, a nearly complete loss of the Grassland Biome will occur with it being replaced by the Savanna Biome and a small patch of Indian Ocean Coastal Belt Biome in the south-east of Zululand District Municipal Area (DEA, 2017b).

A high-risk climate scenario, forecasts that the Grassland Biome will be completely replaced by the Savanna Biome (DEA, 2017b). These predictions are based on an intermediate case scenario looking at temperature increases and changes in rainfall. This change in biome will have a considerable effect on biodiversity, as habitats for species are lost. This, in turn affects larger ecosystems through disruptions in food chains etc. The subsequent loss of habitats also results in the loss of the associated ecosystem services, such as energy dissipation of water run-off during storm events. These losses in ecosystem services have cascading negative effects on surrounding ecosystem services-dependent local communities.

The EMFs suggests that the Ulundi and Nongoma Local Municipalities experienced a low level of temperature change within the ZDM between 2010 and 2018. The uPhongolo and eDumbe Local Municipalities experienced a moderate change in temperature while the Abaqulusi Local Municipality has observed a moderate to high increase in average temperature during the same period.

4.4.3 Natural Disasters

The ZDM is highly vulnerable to a wide range of disasters. The eastern part of the district is recognised to be a very dry area, with sugarcane flourishing only because of the irrigation scheme. The larger part of the uPhongolo Local Municipality is used for game farming due to the dry nature of the environment. Drought will impact negatively on the following:

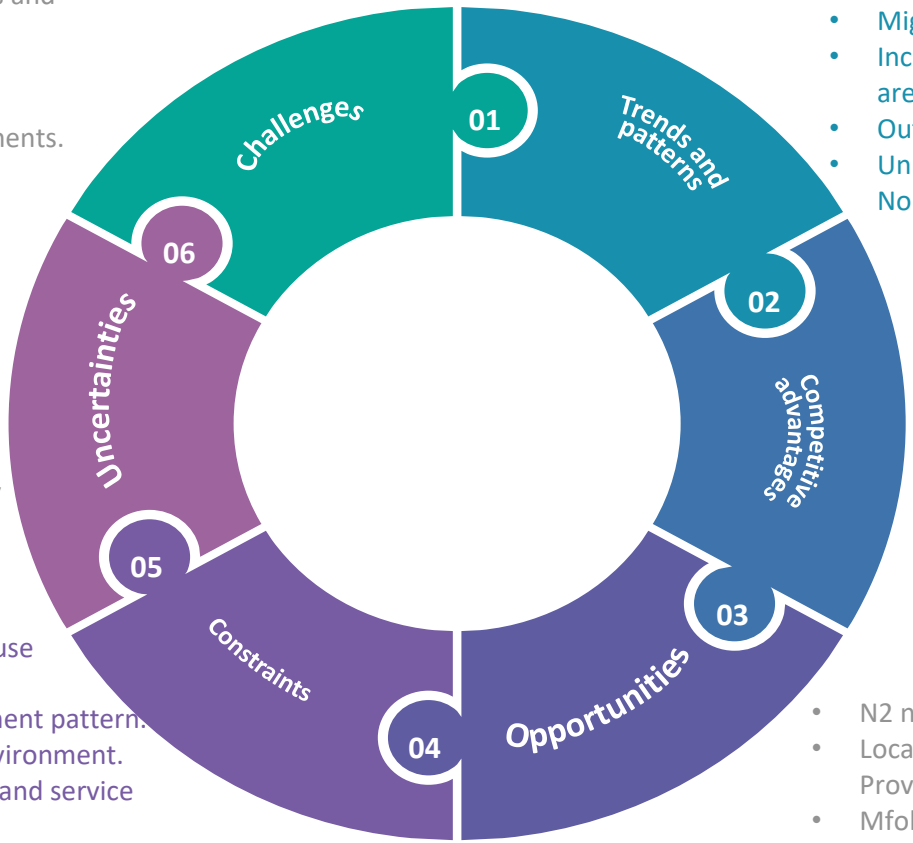
- Quantity of water available for consumption. This will impact on service delivery and the need to make alternative arrangements with regards to water. Especially in the more rural areas on Nongoma Local Municipality; and
- Profitability of the game farming activities, thus impacting on the economic base of the district in terms of tourism (ZDM, 2013b).

4.5 Opportunities and Constraints

- Provincial spatial integration
- Spatial transformation.
- Poor access to public facilities and opportunities.
- High service backlogs.
- Spatial marginalization.
- Unsustainable human settlements.

- Impact of technological advancement.
- Outbreak of diseases such as Covid-19.
- Impact of climate change.
- Rate of urbanization.
- Population growth rate.
- Performance of the economy and currency.
- Impact of land reform.

- Spatial segregation and land use separation.
- Scattered low density settlement pattern.
- Declining quality of urban environment.
- Poverty, underdevelopment, and service backlogs.
- Poor road access.
- Undulating terrain in Ulundi and Nongoma.
- Peripheral location in the Provincial



- Population growth in nodal areas and along regional routes.
- Decline of urban centres such as Louwsburg.
- Urbanization in areas such as Vryheid.
- Migration away from deep rural areas.
- Increase in population density in some areas.
- Outward expansion of rural settlements.
- Unmanaged growth of towns such as Nongoma

- Protected areas such as Emakhosini Valley and Ithala Game Reserve.
- Existing urban centres.
- Large and expansive rural settlements.
- Agricultural land with high production potential.
- Rich Zulu and Afrikaner heritage.
- Water resources.
- Coal reserves.

- N2 national corridor.
- Location in relation to Mpumalanga Province and Eswatini.
- Mfolozi River Catchment.
- Phongolo/Jozini Dam.
- Hluhluwe/Imfolozi Park

5 THE ZULULAND DISTRICT MUNICIPALITY RE-ENVISIONED

5.1 Spatial Development Vision

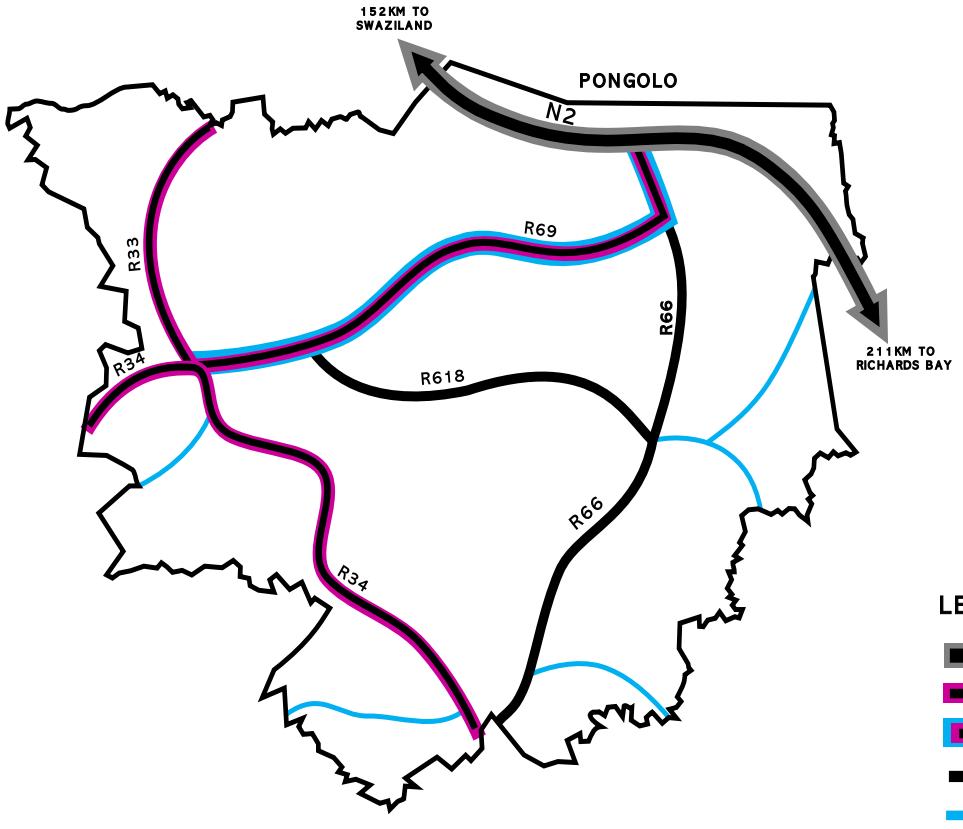
Figure 22: Vision Statement

5.2 Spatial Planning Objectives

SPATIAL DEVELOPMENT IMPACTS	STRATEGIC GOAL	STRATEGIC OBJECTIVES
Spatial Equity and Integration	INTEGRATION AND INCLUSIVE DEVELOPMENT	1) To create an integrated and functional spatial structure. 2) To develop a hierarchical network of development nodes (focus areas) throughout the district. 3) To integrate urban nodes and the surrounding rural areas spatially and functionally. 4) To facilitate regeneration of the existing small towns. 5) To guide and inform spatial and development planning throughout the ZDM.
Spatial Sustainability	CRITICAL BALANCE BETWEEN NATURE CONSERVATION AND DEVELOPMENT	6) To protect and conserve freshwater resources. 7) To protect and conserve all environmentally sensitive areas. 8) To protect and preserve agricultural land with high production potential. 9) To mobilise communities to adopt practices that sustain long-term benefits of biodiversity. 10) Ito facilitate investment in ecological infrastructure to enhance resilience and ensure benefits to society.
Resilient Settlement and Land Use Pattern	SUSTAINABLE URBAN AND RURAL HUMAN SETTLEMENTS	11) To provide bulk infrastructure and basic services equitably throughout the district. 12) To facilitate equitable access to public and community facilities. 13) To build resilience and adaptive capacity to respond to climate change risk and vulnerability.
Spatial Efficiency	REGIONAL ECONOMIC DEVELOPMENT AND GROWTH	14) To unlock opportunities for tourism. 15) To facilitate developmental land reform outcomes. 16) To provide and maintain bulk services in economic development opportunity areas.
Good Spatial Governance	GOOD ADMINISTRATION AND GOVERNANCE	17) To facilitate effective public participation in planning process. 18) To develop a GIS database indicating all households in the traditional settlement areas. 19) To develop capacity to support local municipalities in the implementation of the SPLUMA. 20) To guide spatial planning in the District Development Model initiative.

5.3 Spatial Development Structuring Elements and Concepts

Figure 23: Corridor-Based Development

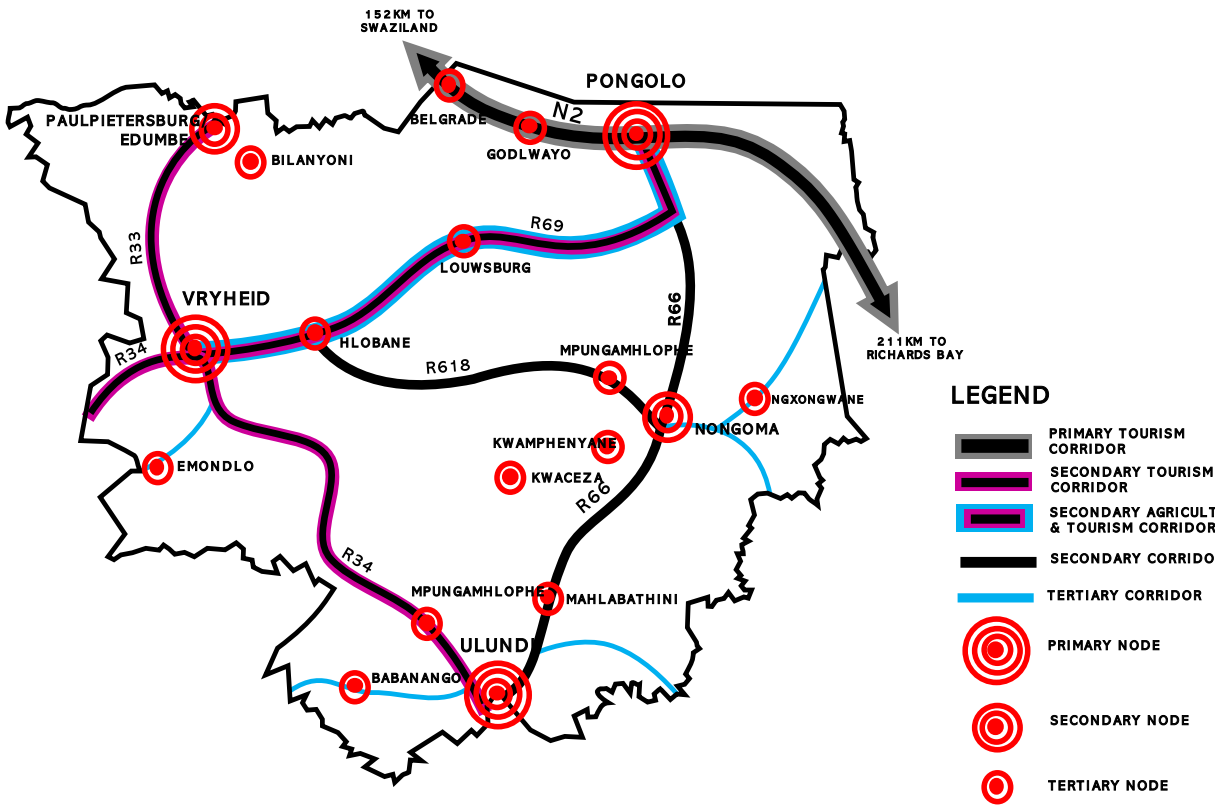


5.3.1 Corridor-based Development

A development corridor is a geographical area identified as a priority for investment to catalyse economic growth and development. This is usually through the creation of or use of existing infrastructure such as railways and roads. They can be designed to attract new investments, boost agricultural production, open access to natural resources and facilitate their export to world markets. Extensive and efficient transport infrastructure is essential for well-functioning economies and the development of regions and cities. When designed effectively, transport networks can be an engine for productivity and improved quality of life for citizens. “Effective modes of transport – including high-quality roads and railways enable efficient movement of goods, people and services, and enhances functional linkages between production centres and markets.

5.3.2 Development Nodes

Figure 24: Development Nodes

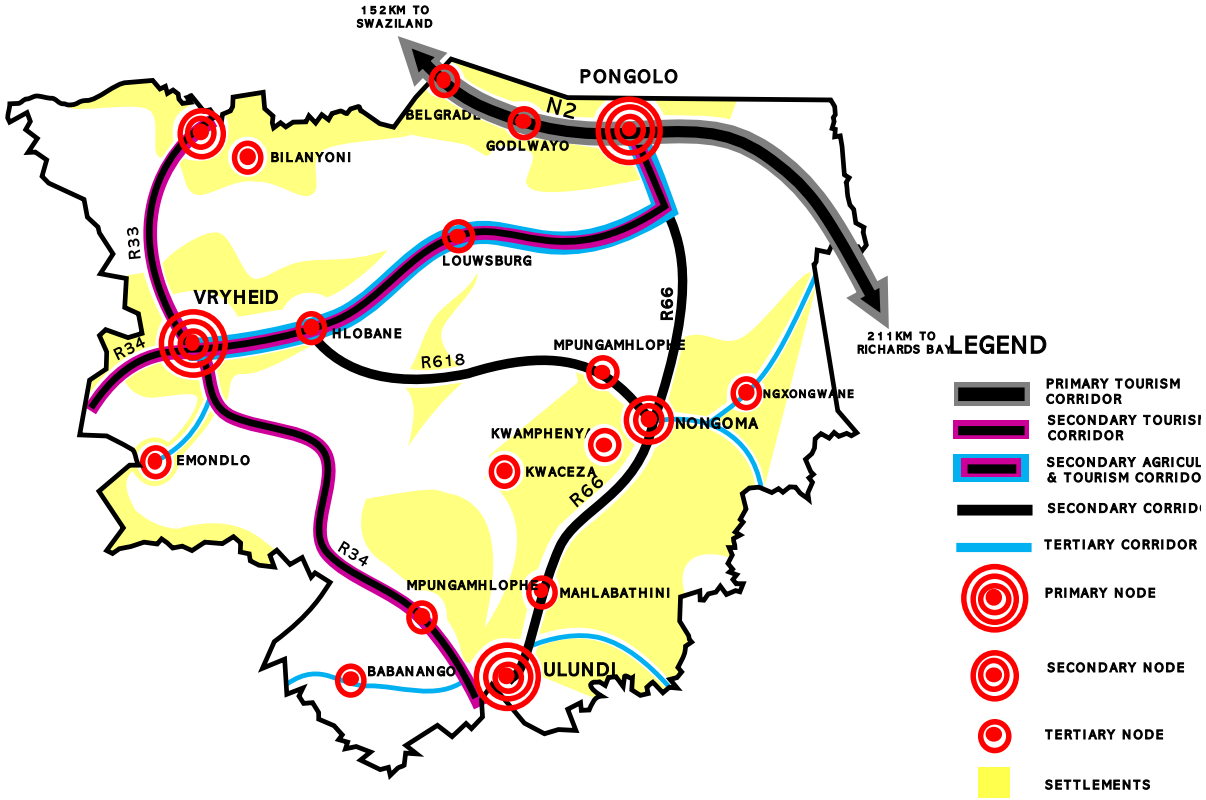


Effective utilisation of the road network and corridor-based development are attained only when there is proper connectivity and orientation. Development corridors are the outcome of the flow of goods, services and information between nodes which leads to the manifestation of urban development and economic growth. This functional relationship leads to two key elements, that is a link between nodes which provides access to different levels of economies, and the intensity of economic development within nodes which vary in size and dominance. The outcome is a regional system comprised of a larger number of lower-order and fewer higher order development nodes settlements, each having a different impact and contribution to regional social and economic development.

Therefore, great cumulative benefits may become apparent when the district spatial structure is modelled along social and economic spaces that create areas or zones for investment and promote regional spatial restructuring to establish a balanced regional structure.

5.3.3 Sustainable Urban and Rural Settlements

Figure 25: Sustainable Rural and Urban Settlements

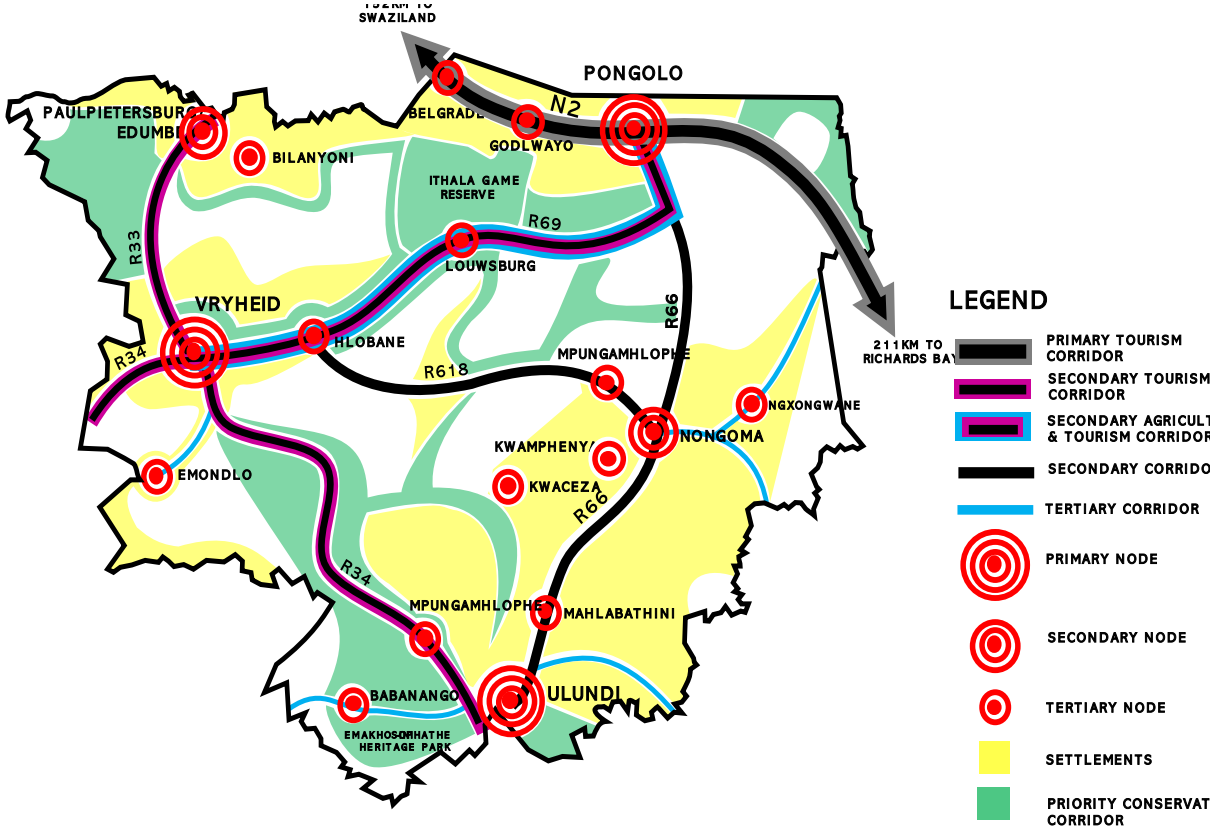


The scattered nature of rural settlements that accommodates most of the population in the ZDM is not sustainable and renders service delivery and development ineffective. Similarly, spatial segregation and land use separation that characterises urban settlements runs against the grain of the national spatial development policies which emphasises integration and efficiency. However, settlements are not static. They respond to change and are continuously in a state of transformation. While urban settlements are highly structured and provided with infrastructure, the same does not apply to rural settlements. The latter are scattered unsystematically in space and characterised by huge service backlogs reflecting the impact of years of institutionalised neglect.

The key challenge is to turn these settlements into sustainable rural and urban human settlements through improved access to services, public facilities, employment opportunities and functional integration. A convenient settlement improves the level of choice, encourages creativity and investment, while a less convenient settlement imposes a lifestyle on people and results in unnecessary expenses.

5.3.4 Unique Value Agricultural Land

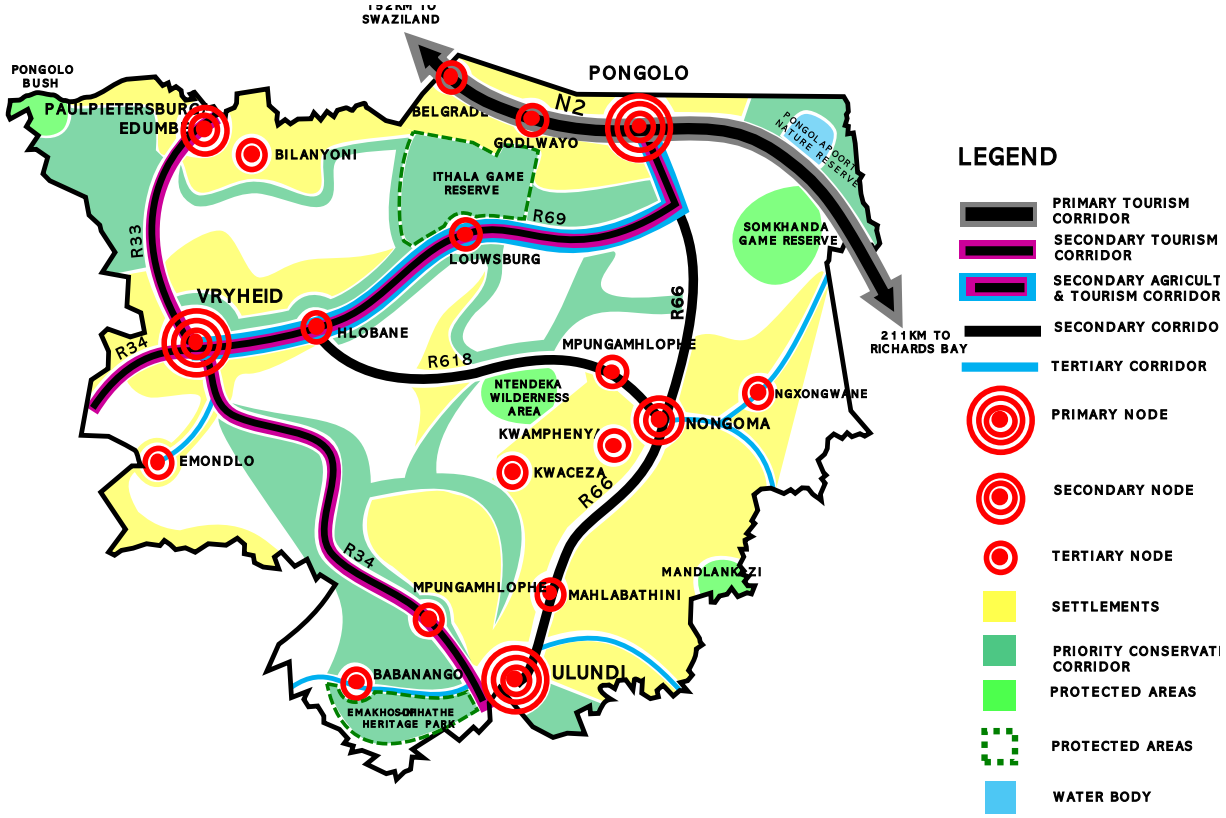
Figure 26: Agricultural Land



The preservation, development and sustainable use of agricultural land are of vital importance to ensure long-term food security and to manage increasing pressures to have subdivide and change use of agricultural land. In addition, the ZDM has a limited supply of high value agricultural land. The aims is to protect and preserve agricultural land and its productive use in order to ensure national and household food security, ensure that agricultural land remains available and viable for agricultural development, ensure sustainable development of the agricultural sector, maintain and increase rural employment, ensure a reduction in poverty levels and a sustained improvement in quality of life, and increase agricultural production and the contribution of agriculture to the Gross Domestic Product (GDP).

5.3.5 Natural Resource Management

Figure 27: Natural Resource Management

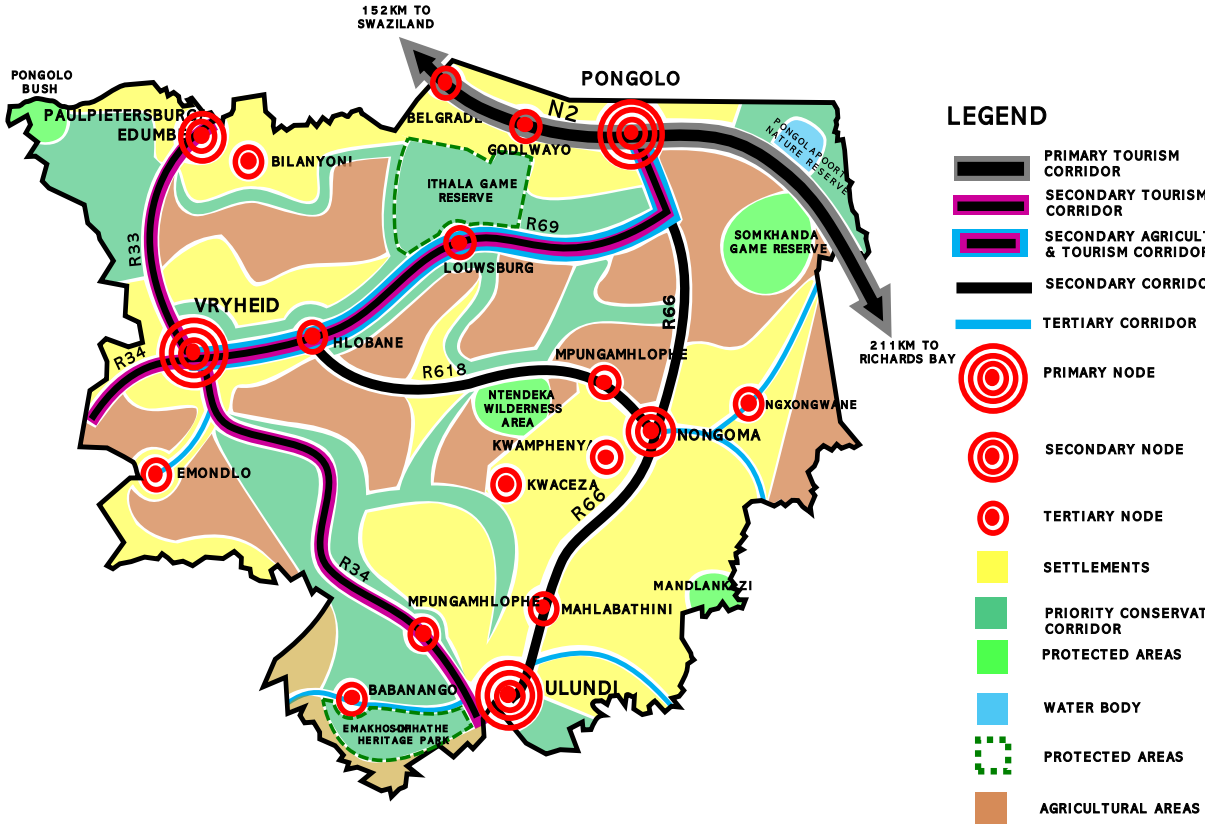


According to the United Nations (UN) World Commission on Environment and Development environmental sustainability is about acting in a way that ensures future generations have the natural resources available to live an equal, if not better, way of life as current generations. It is the capacity to improve the quality of human life while living within the carrying capacity of the earth's supporting ecosystems. Although the ZDM is relatively well endowed with natural resources such as good agricultural land, freshwater resources, conservation sites and others, the protection and sustainable utilisation of natural resources is one of the key elements for sustainable district social and economic development.

Competing land uses cause overexploitation and degradation of natural resources. It unbalances the ecosystem, depletes the quality and quantity of water resources, and reduces soil formation and pollination – natural assets that are essential to the economy. These pressures are exacerbated by increased climate variability because of climate change.

5.3.6 Regional Development

Figure 28: Regional Economic Development



Regional development is a broad term that refers to general efforts to reduce disparities in development among regions and within a region by supporting employment and wealth-generating economic activities to improve economic and social welfare. These actions may involve investing in key infrastructure, human capital, business development, agricultural development, etc. The ZDM is one of the districts in the KZN Province that has experienced net decline in employment, shrinking size of the district economy and reduced contribution to the provincial economy. This is a result of the closure of coal mining operations, lack of investment in the agricultural sector and massive poverty and underdevelopment in areas that previously fell under the erstwhile KwaZulu-Government.

The SDF will therefore facilitate balanced regional development. This does not imply equal development of all parts of the district but emphasises effective exploitation of development potential and comparative advantages of the district so that the benefit of overall economic growth is shared by the inhabitants of all the different parts of the district.

5.4 Spatial Development Concept

Figure 29: Spatial Development Concepts

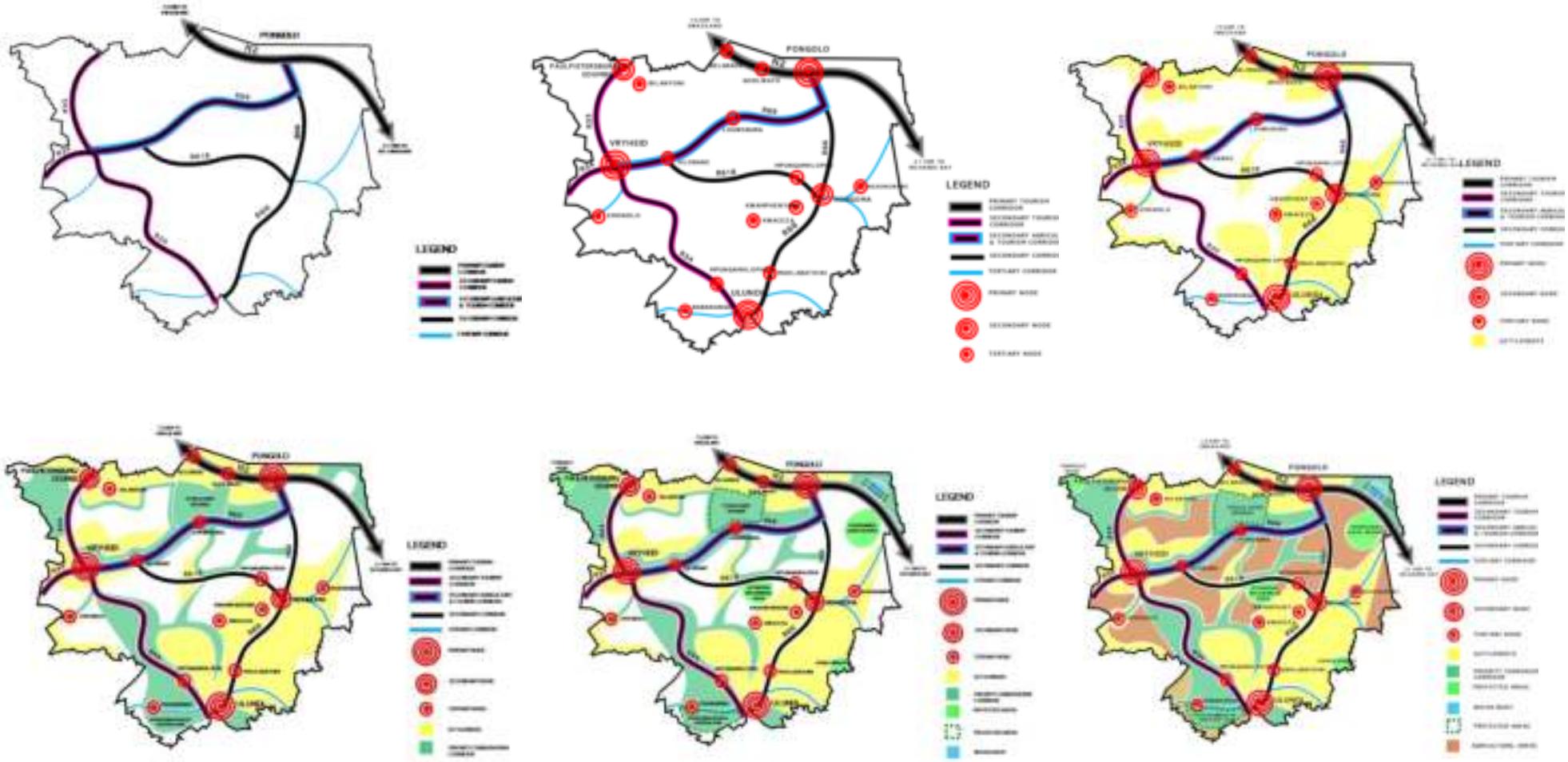
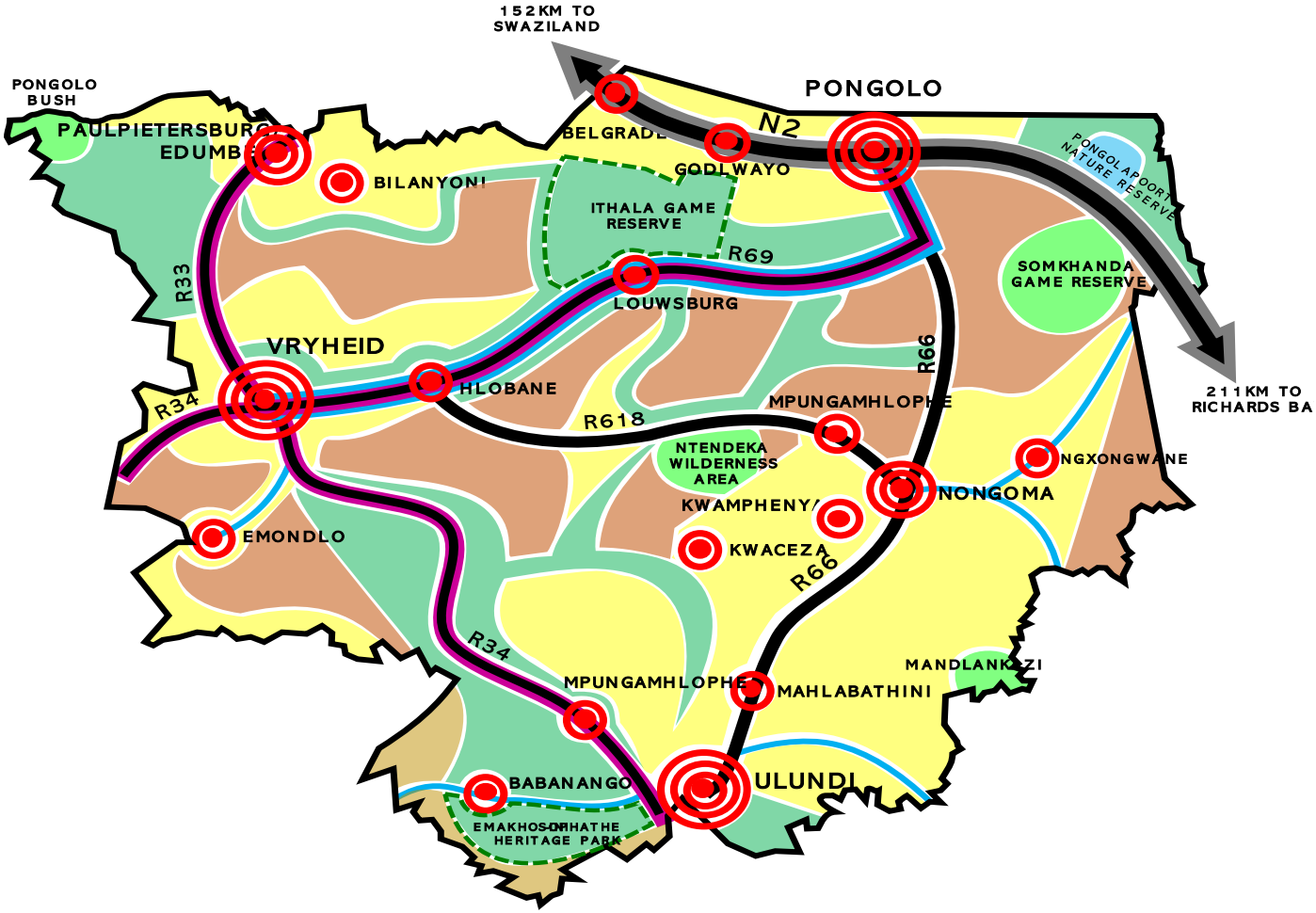
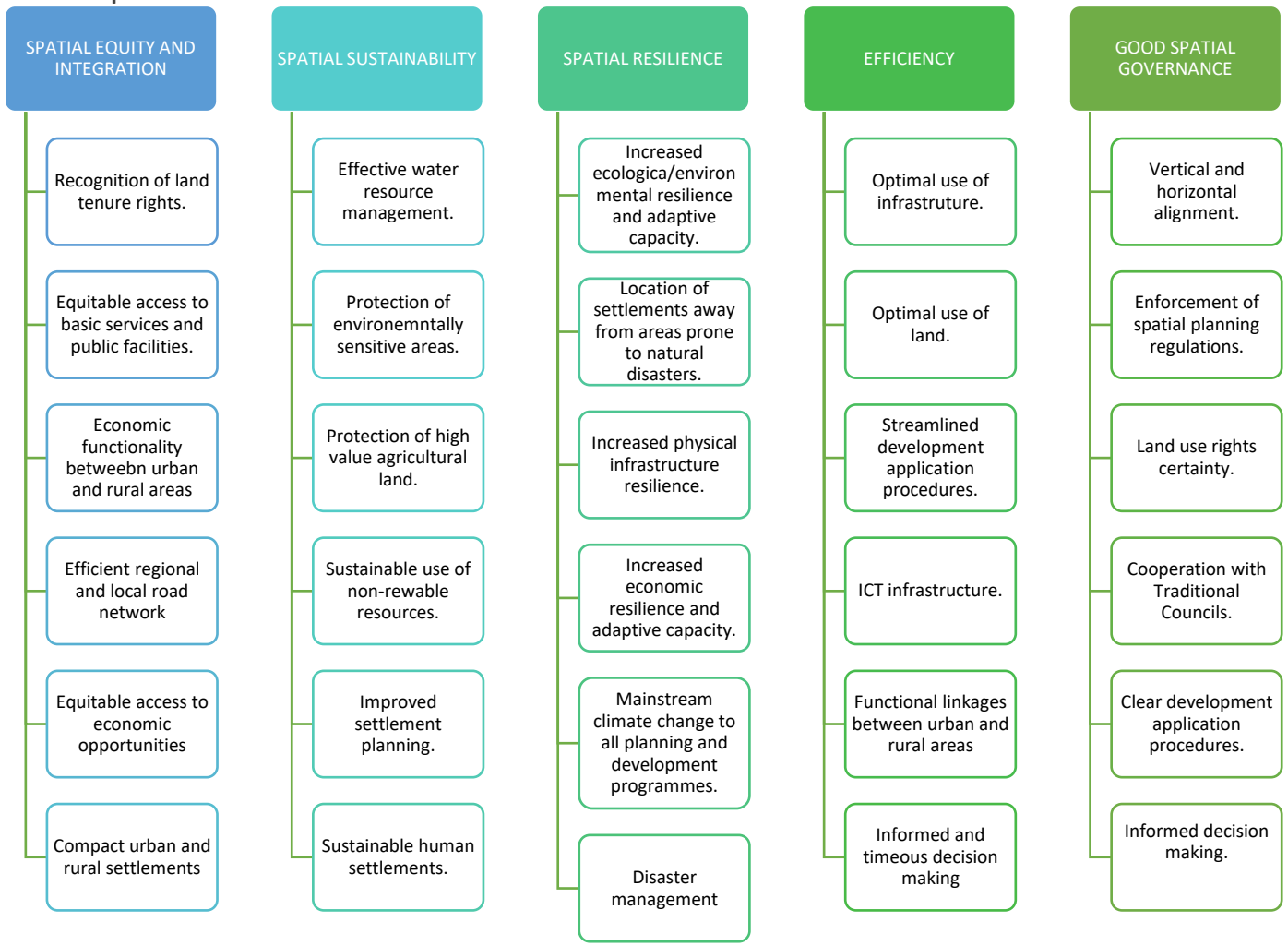


Figure 30: Concept Plan



5.5 Spatial Development Outcomes

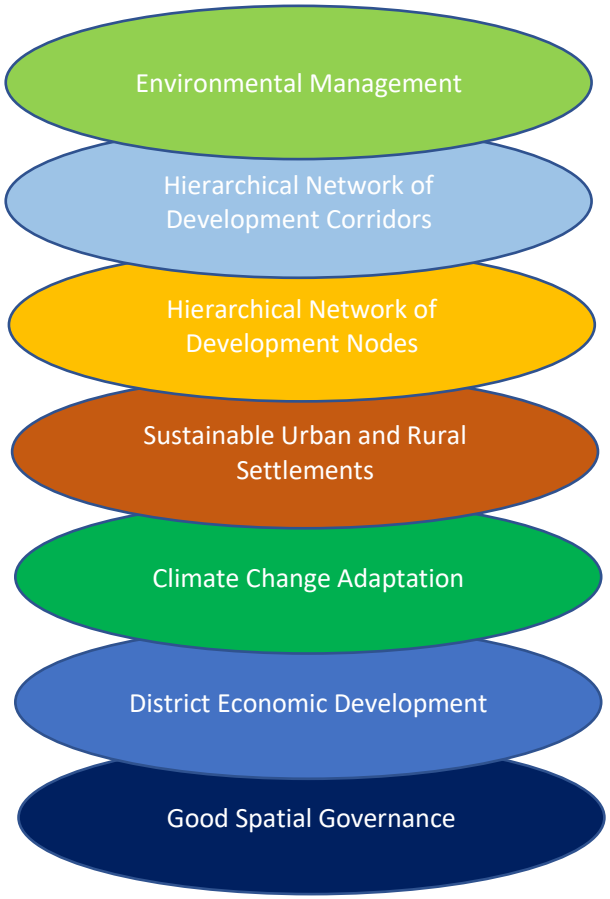
Figure 31: Spatial Development Outcomes



6 SPATIAL PROPOSALS

The ZDM MSDF facilitates regional spatial integration using development corridors and nodes as key structuring elements and acknowledges the limits the natural environment places on development. It seeks to unlock district development potential, enable equitable access to basic services and public facilities and improve access to opportunities and provide for integrated development across sectors vertically and horizontally. This includes alignment of national and provincial development policies and setting a framework for the preparation of Spatial Development Frameworks for the local municipalities.

Figure 32: Spatial Framework



This frame provides for effective management of the natural environment including environmentally sensitive areas, agricultural land, and water resources.

This frame presents a network of corridors intended to integrate the ZDM into the national and provincial space economy; unlock opportunities for development; and improve access within the district.

This frame presents a system of development nodes arranged in a hierarchical format in line with their service thresholds and role in the district space economy.

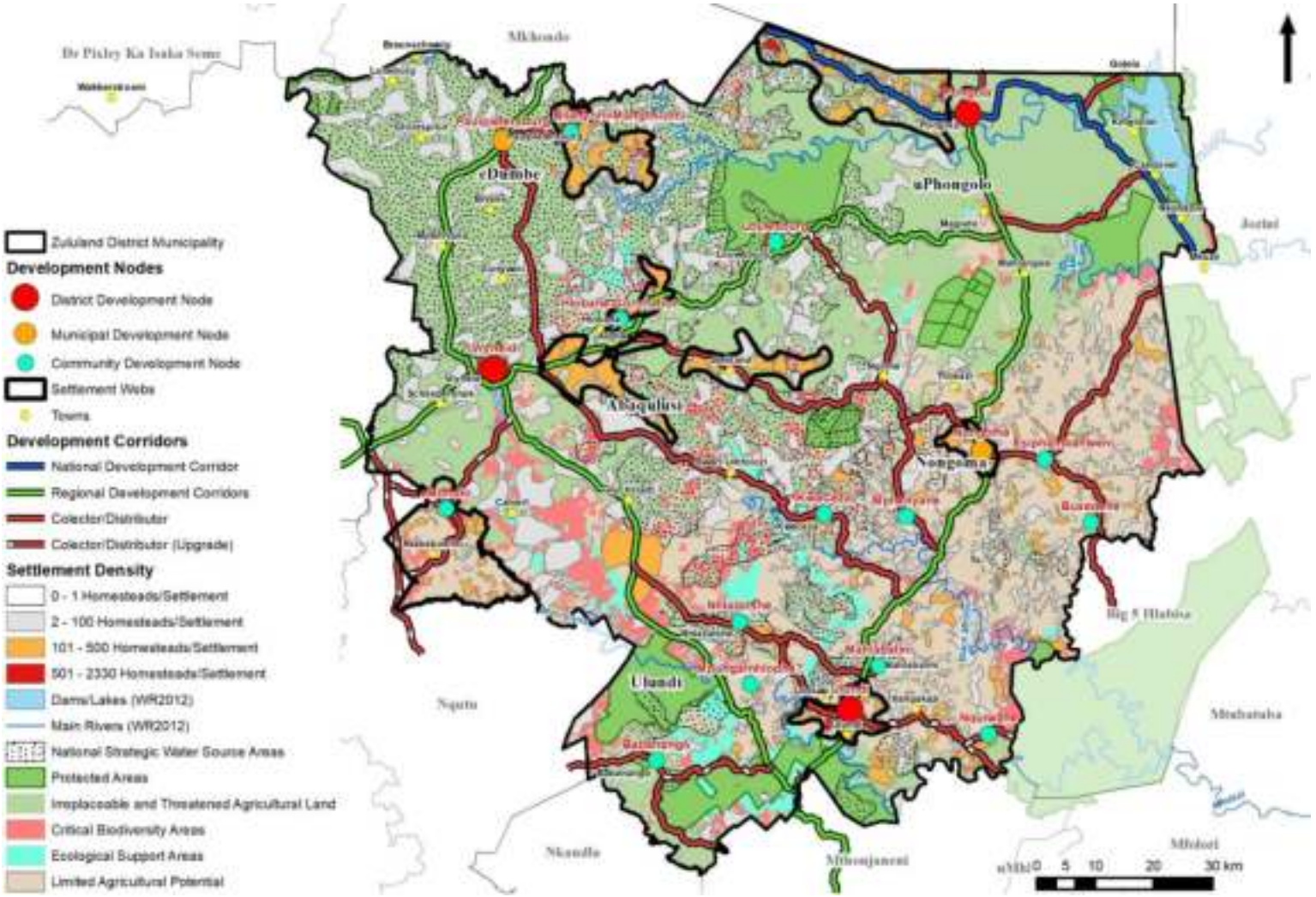
This frame is intended to guide and support the development of sustainable human settlements in line with the national policy through integrated spatial planning, bulk infrastructure development and coordinating the provision of public facilities.

This frame is intended to guide prevention, responses to and mitigation of impact of climate change.

This frame is intended to facilitate district economic development particularly tourism, agriculture, industry, and commerce. It also includes integration into the regional and provincial economies.

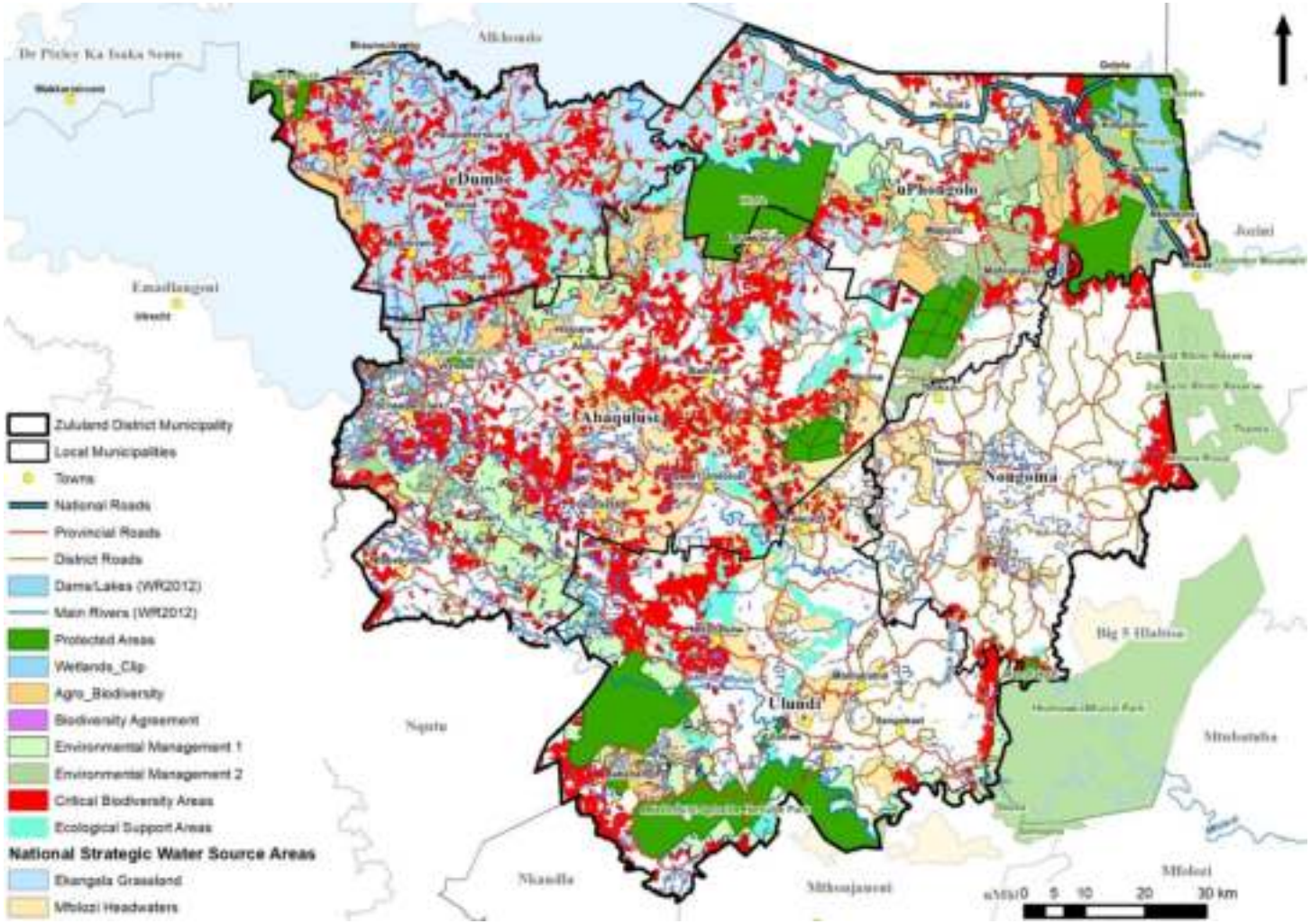
This frame is intended to facilitate integrated planning and development in the ZDM including the effective implementation of the District Development Model.

Map 21: Consolidated Spatial Development Framework



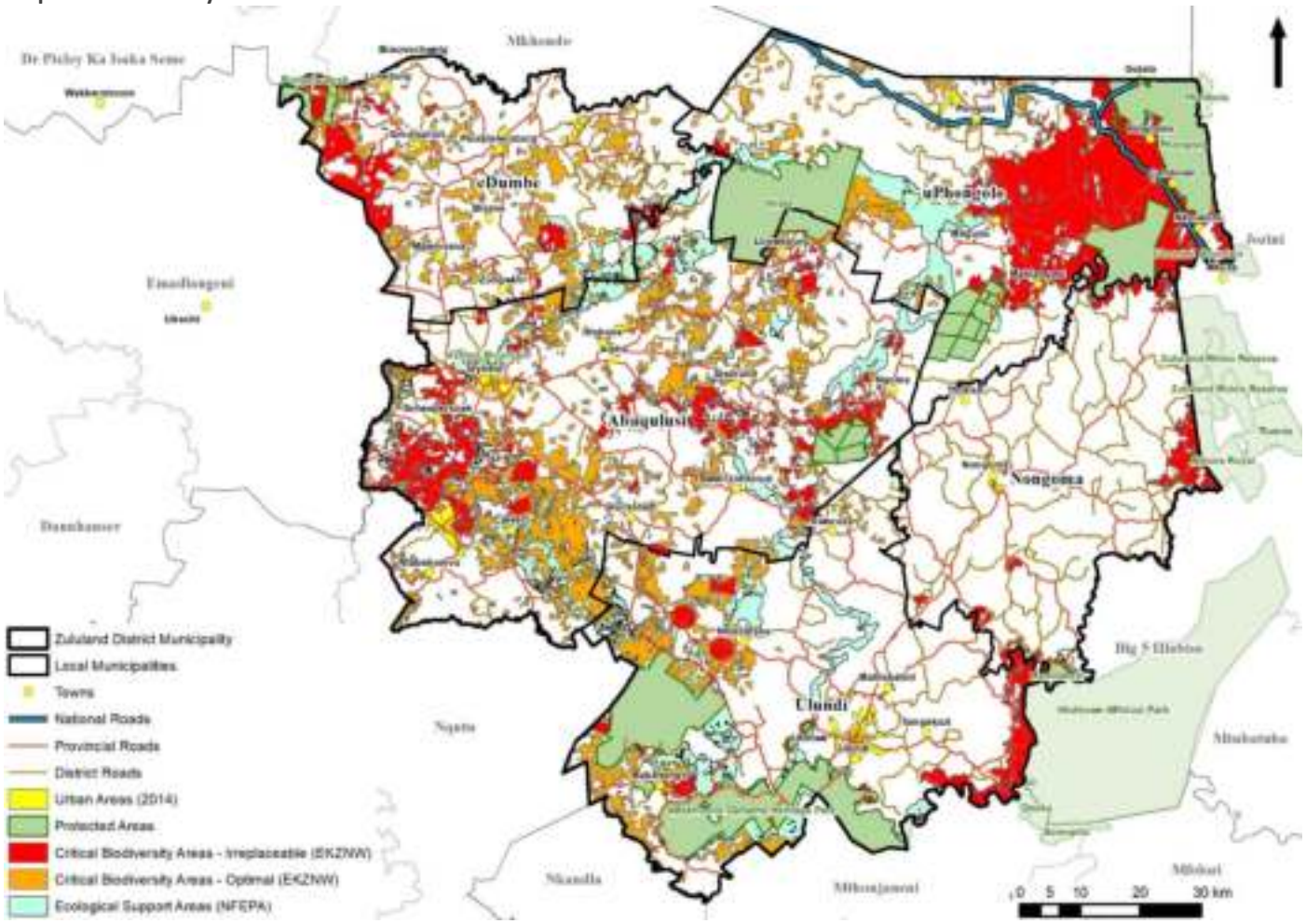
6.1 Environmental Management Framework

Map 22: Environmental Management Frame



6.1.1 Biodiversity Framework

Map 23: Biodiversity Frame



6.1.1.1 Protected Areas

Altogether 84 723 ha, which amounts to 5.7% of Zululand District Municipality is statutorily protected. Most notably, the Ntendeka Wilderness Area covers approximately 5624 ha (22% of extent within Zululand DM) of the endangered Ngome Mistbelt Grassland and Forest within Abaqulusi Local Municipality. Other protected areas to take into account for future spatial development planning include: the recently gazetted Elandsberg Protected Environment in eDumbe LM, which currently protects 16 755 ha (10.3% of extent within Zululand DM) of the vulnerable Paulpietersburg Moist Grassland ecosystem[1]; the Somkhanda Game Reserve in uPhongolo LM, which currently protects 11 127 ha (10.7%) of the vulnerable Black Rhino Range ecosystem within Zululand DM; and the Mandlakazi Community Nature Reserve, which protects 1 202 ha (6.5%) of the vulnerable Imfolozi Savanna and Sourveld ecosystem. Infrastructural development within a 10km buffer around these protected areas must be monitored and strictly managed to rapidly identify and mitigate environmental impacts.

Activities involving the clearing of vegetation, development of waste management facilities, bulk water supply and transportation infrastructure, facilities for the storage and processing of livestock and other infrastructural development, should avoid these buffer areas where possible as they will require Environmental Authorisation through the Environmental Impact Assessment process.

Environmental education programs, focussing on the ecological value of these protected areas, must be developed, and provided to communities surrounding these protected areas. This education may benefit conservation efforts by reducing the environmental impacts posed by rural and impoverished communities, such as poaching, loss of land to subsistence farming practices and conflict between natural fauna and livestock. Successful education programs will highlight sustainable methods of using land and natural resources and will empower community members who follow these practices. Spaces between protected areas should in turn be protected and development within these “biodiversity corridors” limited to reduce the fragmentation of these important biodiversity areas. Guidelines for the necessary expansion of protected areas have been developed

[1] WWF-SA. Elandsberg Protected Environment: Management Plan 2021-2030, KZN, South Africa.

Ezemvelo KZN Wildlife and must be used in in future spatial development planning[2].

6.1.1.2 Critical Biodiversity Areas

Due to the large ecotourism industry within the Zululand DM, Critical Biodiversity Areas (CBAs) CBAs should be viewed as an asset and their protection of great importance[3]. There are 165 121ha of Irreplaceable CBAs and 148 346ha of Optimal CBAs within the Zululand DM, making up 11.1% and 10% of the total area within the district municipality. Around 73 165ha of the irreplaceable CBAs are concentrated within the vulnerable Black Rhino Range ecosystem of the uPhongolo LM. 71 750ha of the optimal CBAs are concentrated within the Abaqulusi LM, the majority of which are located south of Vryheid. Some of the CBAs cover cultivatable land to meet conservation targets and will possibly clash with agricultural development within areas of previously untransformed arable land[4]. Environmentally detrimental spatial development, occurring within and near optimal and irreplaceable CBA's, must be identified, monitored, and reduced where possible. Future development of infrastructure and environmentally degrading industries must avoid these areas.

6.1.1.3 Ecological Support Areas

Ecological Support Areas (ESA) are not seen as having the same biodiversity value as CBA's due to them often being partially modified by alternative land uses. These ESA's may be agricultural land that support certain ecological processes, threatened or protected species and/or ecological infrastructure, such as forest and wetlands. These areas may occur within the "corridors" between protected areas as they provide necessary links between areas of high biodiversity such as CBA's and protected areas[5]. ESA's provide environments for both important agriculture and ecological processes. Assessment of successful and sustainable interaction between agricultural land-uses and important ecological processes or species must be prioritised to inform future sustainable development and aid in conserving a greater variety of threatened and protected species.

[2] EKZNW. 2009. KZN Protected Area Expansion Strategy and Action Plan (2009-2028). Pietermaritzburg: Ezemvelo KZN Wildlife unpublished report.

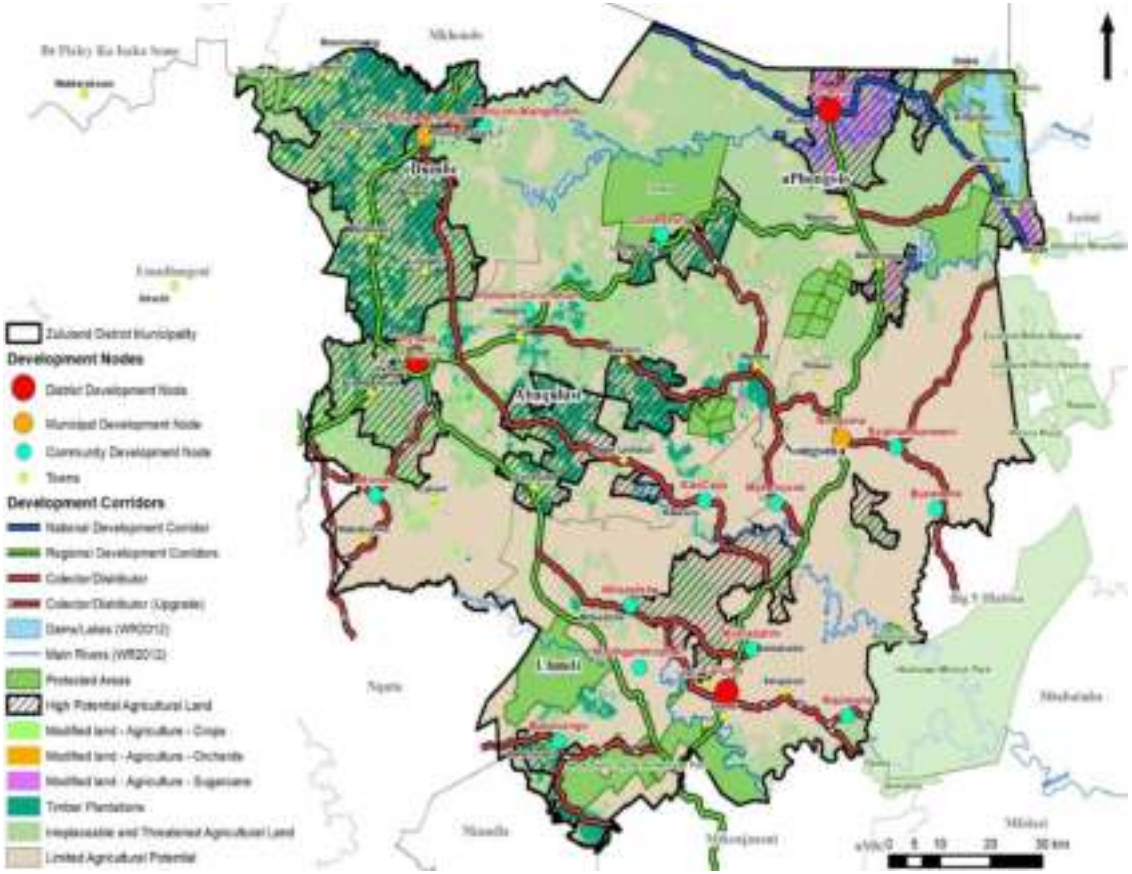
[3] Ezemvelo KZN Wildlife. 2015. Zululand District Municipality: Biodiversity Plan

[4] Felicity Elliot. 2021. ZDM MSDF_Draft Opportunities and Constraints comments 28 June 2021-request for data. Ezemvelo KZN Wildlife. Ezemvelo LUMS Guideline.

[5] Ezemvelo KZN Wildlife. 2015. Zululand District Municipality: Biodiversity Plan

6.1.2 High and Good Potential Agricultural Land

Map 24: Agricultural Frame



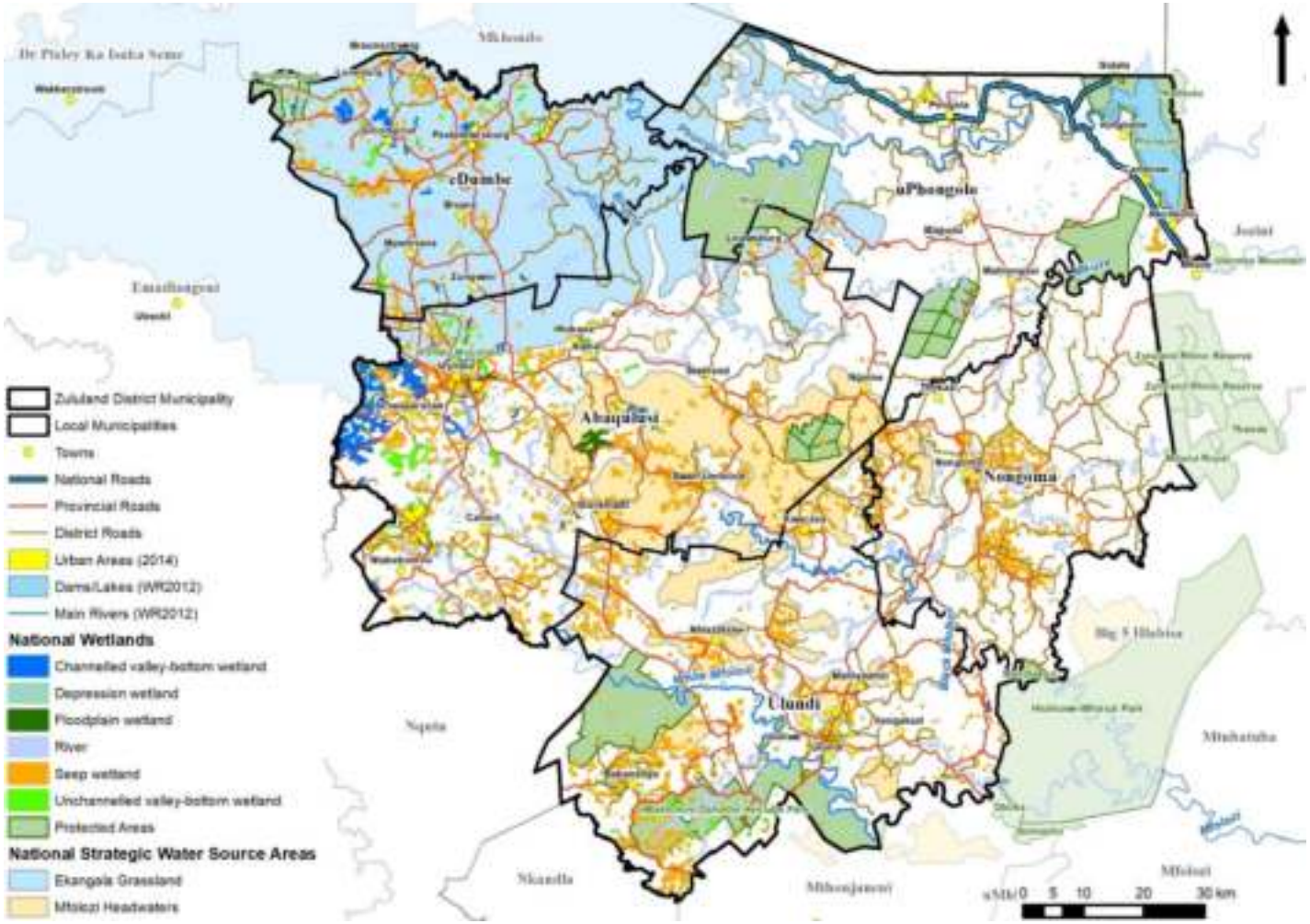
The potential of arable land is determined by available water quantity and quality, dominant meteorological conditions, and the presence of nutrient rich soil types. These factors are greatly influenced by surrounding topography, local climate, underlying geology, previous and current land-uses, and possible sources of air and water pollution. Lands with a high agricultural potential are very important as these areas have the potential to yield larger quantities of higher quality agricultural food produce than lands with a low agricultural potential. These high agricultural potential areas are seen as an irreplaceable natural resource.[6] The majority of these high agricultural potential lands are located within eDumbe and Abaqulusi local municipalities, where they extend and are concentrated north of Vryheid. Irrigation schemes supplying uPhongolo Local Municipality have increased the agricultural potential of this region[7].

[6] Zululand District Municipality. Integrated Development Plan: 2020/2021 review.

[7] Zululand District. 2018. Draft Spatial Development Framework.

6.1.3 Hydrological Framework

Map 25: Water Conservation Frame



6.1.4 Hydrological Framework

6.1.4.1 Wetlands

NFEPA wetlands identified from the desktop study, cover an area of 42 766 ha which amounts to 2.8% of the total Zululand DM area. Most of these scattered wetland, 14 244 ha, are located within the Abaqulusi LM with the second largest concentration, approximately 13 532 ha, within the uPhongolo LM. Most of the wetland area within uPhongolo LM is made up by the floodplain wetlands of Pongolapoort Dam. Wetlands provided natural materials for local industry, food for local communities, an array of ecoservices, such as flood attenuation and natural filtration of pollutants[8], and generate income through ecotourism.[9] Development that poses a risk to a watercourse within 500m of a wetland or within the 1:100-year floodline of a watercourse requires a Water Use Authorization from DWS, therefore these areas must be taken note of when planning future development.

Strategies for Effective Environmental Management of Protected Areas:

- Due to the ecoservices that Wetlands provide, such as disaster management through flood attenuation and waste management through pollutant filtration, emphasis must be made on their protection. These features must be monitored and in field analysis will be required to accurately detect their presence.
- Investigations must be made into the economic value provided by wetlands within the Zululand District Municipality. These investigations must assess the use of wetland features, including artificial wetlands and floating wetlands, to remove contaminants from wastewater and provide emergent biodiversity hotspots.[10]
- No development apart from maintenance of structures may occur within a wetland, this must be strictly adhered too. Developments which reduce the impact of existing structures on a wetland may be considered.
- Individuals must be educated on the importance of wetlands. Field analysis and assessment of wetlands will be required and therefore, this creates an opportunity to empower, educate and supply employment to local community members.

[8] Ollis et al. 2013. SANBI Biodiversity Series 22: Wetlands Classification.

[9] Annika Dahlberg. 2005. Local resource use, nature conservation and tourism in Mkuze wetlands, South Africa: A complex weave of dependence and conflict, Geografisk Tidsskrift-Danish Journal of Geography

[10] Wright et al. 2017. Floating Wetlands- Increasing Biodiversity and cleaning water in farm dams. Table Mountain Fund, Cape Town, South Africa.

- Water Use Authorisation must be obtained from the relevant authority for any development within 500m of these wetland features.

6.1.4.2 Rivers Channels & River Corridors

The main rivers of WMA 4 within Zululand DM are the uPhongolo, Mhlatuze, Mkhuze, Black and White Umfolozi Rivers. Rivers form an important source of water for local communities and industries such as agriculture. Therefore, their longevity and ecological health is highly important. Plans for the development of infrastructure and/or modifying land use around watercourses must consider the importance of these water resources as well as the all-relevant legislation i.e., NEMA and NWA. Rivers which are more natural, such as Category A and B PES categories, may be weighted different in terms of conservation of biodiversity than rivers that have been greatly modified, i.e., PES categories D to F. This will inform the decision of environmental authorisation and/or water use authorisation. More natural rivers will in general host higher biodiversity and will therefore be protected to meet conservation goals.

Strategies for Effective Environmental Management of Protected Areas:

- As best practice, a buffer zone of 32m must be mapped around all watercourses and these areas avoided, where possible, in planning future spatial development.
- Current land-uses around rivers must be identified and their inputs, such as wastewater, stormwater, quantified. This data can be used to identify river systems most at risk by human settlements.
- Moderating water quality within the rivers is of high importance, thus contaminated and degraded rivers and their sources of contamination must be identified. Input water containing contaminants will require treatment where possible. This may require the construction of improved or upgrade of existing wastewater treatment plants. Natural and more cost-effective methods for treating contaminated water, such as the use of floating wetlands, must be investigated and implemented.[11]
- Abstraction of water from rivers must also be strictly monitored and managed to reduce water shortages for downstream users.

[11] Wright et al. 2017. Floating Wetlands- Increasing Biodiversity and cleaning water in farm dams. Table Mountain Fund, Cape Town, South Africa.

- Water Use Authorisation must be obtained from the relevant authority for any development within 32m of these watercourse features.

6.1.4.3 Strategic Water Source Areas

Strategic Water Source Areas (SWSAs) are areas within Zululand are mainly fed by surface water. The largest SWSA is the Enkangala Grassland SWSA which covers an area of 269 019ha of Zululand DM. It is situated in the northwest and covers the entire eDumbe LM. The second noteworthy SWSA is the Mfolozi Headwaters, which is made up of several smaller catchments throughout Abaqulusi, Nongoma and Ulundi LMs. The Mfolozi Headwaters covers an area of approximately 170 776ha.[12]

Strategies for Effective Environmental Management of Protected Areas:

- As the identified SWSAs supply most of the water to the Municipality, these must be accurately mapped and monitored. Spatial developments which may have detrimental effects on water quality and water budgets, such as water intensive agriculture or human settlement wastewater processing plants, should avoid these headwaters and the main rivers they supply.
- The water supplied by these SWSAs must be quantified and constantly monitored for disruptions. This data can be used to predict future water availability and inform on the impacts of Climate Change.

6.1.4.4 Ground water

No Groundwater SWSAs occur within Zululand DM. However, this does not mean that no groundwater resources are available to the municipality. Many rural communities within the municipality rely on groundwater resources to meet their water needs. These communities often need to make use of rudimentary boreholes and manual hand-pump systems to access and utilise the groundwater.[13]

Strategies for Effective Environmental Management of Protected Areas:

- The extent of groundwater resources within the municipality must be evaluated. Once the quantity of these resources is known, spatial development management may be able to plan the sustainable use of available groundwater.
- Education on the efficient and sustainable use of groundwater resources must be provided to communities which rely on these resources.

[12] Water Research Commission. 2017 SWSA Surface water [Vector] 2017. Available from the Biodiversity GIS website, downloaded on 06 October 2021

[13] Ezemvelo KZN Wildlife. 2015. Zululand District Municipality: Biodiversity Plan

- Updated infrastructure, for the sufficient extraction and monitoring of groundwater, should be supplied to communities who rely on out-dated and rudimentary equipment for abstracting groundwater. Updated monitoring equipment can supply data on the water level and quality within a groundwater resource. This data can be used for effective and sustainable water management at the municipal level. Water quality data will also determine whether a community is receiving potable water.

6.1.4.5 Wastewater

Wastewater is the by-product of human activities, whereby water is processed, contaminated with chemical or biological waste and output, and contaminated stormwater runoff. Many rural communities, outside urban settlements, make use of formal and informal ventilated pit latrines and have no formal waterborne sewerage systems. With increases in the population the wastewater from these communities may pollute other natural surface water and groundwater resources.[14] Other important sources of wastewater include leachate from landfill sites, and acid-mine drainage (AMD) from decommissioned mines or illegal mining activities in the municipality.[15]

Strategies for Effective Environmental Management of Protected Areas:

- All sources of wastewater must be identified. Once identified mitigation strategies, such as wastewater processing facilities and natural ecological infrastructure, must be developed and implemented to reduce the impact of this wastewater on the environment, surrounding communities and downstream water users.
- Landfill sites must implement the correct lining and containment technology to reduce contamination of water resources by leachate.
- Decommissioned mines must be identified and monitored as AMD is a highly toxic and environmental detrimental wastewater source. Mitigation strategies involving retention and wastewater processing facilities may be required for larger mines. The input water from surface runoff and groundwater sources must be reduced to reduce the output wastewater. Passive systems, such as retention ponds combined with large artificial wetland bodies or indigenous grasses alongside sulphate reducing bacteria, must

[14] ZDM. 2018. Environmental Management Framework. Draft Status Quo Report. Revision 1.

[15] Humphries et al. 2017. Attenuation of pollution arising from acid mine drainage by a natural wetland on the Witwatersrand. South African Journal of Science, 113 (1-2).

be researched as these may form a cost-effective mitigation strategy to deal with AMD..[16]

6.1.4.6 Water Catchments

The Zululand DM is located within Water Management Area 4, the Pongola-Mtamvuma catchment. The main rivers of WMA 4 within Zululand DM are the uPhongolo, Mhlatuze, Mkhuze, Black and White Umfolozi Rivers.

Water sourced within this catchment and headwater areas (Section 1.2.3) feeds human settlements and industries within Zululand, Umkhanyakude and King Cetshwayo District Municipalities meaning cross-boundary co-operation in management efforts will be required..[17]

Strategies for Effective Environmental Management of Protected Areas:

- Impacts from sources of pollution and water intensive activities, such as forestry, must be identified within important water catchment areas. These impacts must be monitored and mitigated. Management strategies which promote the sustainable use of water must be implemented.
- Future infrastructural development must use materials and construction methodology which limits impacts to water resources.
- Education regarding the sustainable use of water resources and on the identification of threats to water must be provided to communities within these important catchment source areas.
- The importance of water as a natural resource necessitates that more individuals are trained and employed to monitor and sustainably manage the water resources within Zululand DM.
- Incentives can be provided to individuals and businesses that develop and incorporate methods of sustainable water use and wastewater rehabilitation.

6.1.4.7 Topography & Ridge lines

There is large variation in elevation range from as low as 480m a.s.l, for areas surrounding Pongolapoort Dam, up to 2068m a.s.l within the north-western corner of eDumbe Local Municipality. This vast range accounts for the variation in topography which includes Mountainous areas with both steep and gentle slopes, incised by river gorges, ridges, scarps and plateaus; undulating and rolling

[16] Ramla and Sheridan. 2015. The potential utilisation of indigenous South African grasses for acid mine drainage remediation. Water SA, 41(2).

[17] Ezemvelo KZN Wildlife. 2015. Zululand District Municipality: Biodiversity Plan

landscapes; rocky lowlands; broad, wide, and flat valley basins and even flat extensive plains. This range of topographical landscapes indicates a large variation in local climate and biodiversity. The location of dominant ridge lines and valley basin features will often indicate the location and extents of water catchment areas.[18]

Strategies for Effective Environmental Management of Protected Areas:

- Activities which alter landscape, such as large-scale vegetation clearance and mining activities, must be identified and reduced where possible.
- Incentives must be provided to alternative and environmentally sustainable land-uses in areas affected by erosion and other landscape degrading activities.
- Previously transformed and disturbed areas must be earmarked for spatial development to mitigate impacting intact topographical landscapes. Spatial development must incorporate methods to reduce further impacts upon degraded landscapes.
- Areas of major landscape degradation, such as decommissioned mines, should be rehabilitated and used for future spatial development where feasible.

6.1.5 Climate Change Response and Adaptation

Issues of environmental degradation, water quality and scarcity, and limited access to agricultural production potential decrease the coping capacity of poor and vulnerable communities. Poverty and unemployment forces people to exploit natural resources as a livelihood strategy and as a result fall victim to environmental degradation. Changes associated with a changing climate may further impair the resilience of communities. Changes to weather patterns and ultimately regional climates, increase the vulnerability of systems such as public health, food, and water security. Climate change will change the magnitude and intensity of hazards and changing physical and socio-economic characteristics will influence the sensitivity of settlements and households against these impacts. This presents challenges to sustainability and expose communities to a range of natural disasters.

The district and local municipalities play a crucial role in building climate resilience through the provision of municipal infrastructure and services; appropriate planning of human settlements and urban development; water and energy demand management; and local disaster response, amongst others.

[18] Zululand District Municipality. Integrated Development Plan: 2020/2021 review.

The incorporation of disaster risk reduction and climate change adaptation responses, as well as reducing human vulnerability within all spatial planning and land use management has become very important. The following interventions must be considered (refer to map 24):

- Delineation of flood risk areas and developing appropriate response for settlements located in these areas.
- Improve the environmental management capacity of Traditional Leaders and develop environmental planning standards that are aimed at creating ecological resilience.
- Promote sustainable development and ensure that communities are resilient and adaptable to climate change.
- The District Air Quality Management Plan, including comprehensive ambient air quality standards, and air quality monitoring, evaluation and reporting protocols, must be reviewed and updated.
- Establish the financial and human resources to manage and monitor air quality in the district.
- Promote efficient and clean public transport systems.
- The implementation of the climate change response and adaptation strategy must be reviewed and updated.
- Update disaster management plans to include pro-active response to climate change.
- Restore and maintain indigenous woodlands, forests, and other areas suitable for the sequestration of carbon.
- Promote urban greening initiatives for the role it plays in mitigating air pollution and in carbon sequestration.
- Reducing household indoor combustion of wood and coal by increasing access to electricity.
- Develop and implement increased standard design specifications for key infrastructure to cater for extreme climatic events.
- Develop incentives for energy efficiency and air pollution reduction and abatement.

6.1.6 Protection of Agriculture Land

High potential agricultural land is limited and under severe threat from competing land use types in South Africa. As such, its preservation is critical, to prevent local and national food shortages, and to ensure that vulnerable communities remain resilient.

The district is endowed with vast tracts of high potential agricultural land and for dryland agriculture and extensive water sources used for irrigation associated with high value agricultural enterprises, including important dairy and vegetable producing areas. In

addition, substantial grasslands are used for livestock grazing (and provide important ecosystem services).

Sugarcane and timber are also important agricultural commodities in the district. Large areas within the district are, categorised as 'irreplaceable' and 'threatened' agricultural land.

An Agricultural Framework map was produced (Map 25: Agricultural Framework), to depict these agricultural areas of concern spatially. Development, particularly within the high potential agricultural land areas should be undertaken with caution. Spatial planning should therefore avoid development in such areas within the district. Where it is foreseen, that development is likely to occur in such high potential areas, District planners should be engaging with the KwaZulu-Natal Provincial Department of Agriculture and Rural Development (DARD) to consider how such development could be accommodated and how any negative impacts on agricultural production can be mitigated.

Further, cognisance of the Subdivision of Land Act 70 of 1970 also needs to be considered where any land proposed for development is designated as agricultural land use. Finally, formal planning for new development and, importantly, control and enforcement of unplanned development is critical to limit the loss of high value agricultural land, including both cropping and grazing lands.

- Protect and enhance the productive value of agricultural land.
- Exclude high potential agricultural land from further development.
- Engage with the KZN DARD to inform development planning to limit or mitigate loss high potential land.
- Ensure compliance with spatial planning processes in areas where high potential agricultural occurs.

Support value addition and high value cropping in areas of high potential agricultural land.

6.2 Hierarchical Network of Development Corridors

The ZDM will make an optimal use of the existing transport network to facilitate regional spatial restructuring and the confluence of economic integration and inclusive growth. Modelling future development within the ZDM along potential corridors as economic spaces to distribute development equitable through the district and to enhance economic competitiveness at a provincial and national level. Development corridors have potential to channel economic

growth, the reconstruct fragmented spatial disparities, regenerate regional economies, and map new economic spaces.

6.2.1 National Development Corridor

The N2 is the national development corridor linking KwaZulu-Natal Province with the Eastern Cape to the South and Mpumalanga Province to the North-west. It is also an important regional within the Southern African Development Community (SADC) linking South Africa with both Mozambique and Eswatini. It is a trade route that carries large volumes of traffic with towns and cities located along its length serving as trade and interchange zones. The N2 almost by-passes the ZDM as its runs along its north-eastern boundary within the uMkhanyakude District Municipality. UPhongolo Town in the uPhongolo Local Municipality is the only town within the ZDM located along the N2 Corridor, and therefore the direct link into the national space economy. The ZDM will capitalise and built on access to the national transportation grid to facilitate regional economic development with uPhongolo being a regional development anchor and a functional link between the ZDM and parts of Mpumalanga Province and Eswatini.

- Promote projects that strengthens the role of uPhongola as a regional integrator for the ZDM. These include unlicking land and facilitating commercial and industrial development at strategic intersections along the length of the N2 with the municipality.
- Upgrading settlements located along the N2 into safe (for both vehicular and pedestrian traffic) sustainable human settlements in line with the national policy.
- Developing tourism facilities along the N2 to provide for passing traffic and tourists generally.
- Developing uPhongolo as a Boarder Town for trade purposes with Swaziland.
- The uPhongola Dam has potential to develop as a major tourist node/attraction along the N2 Corridor.

6.2.2 Regional Development Corridors

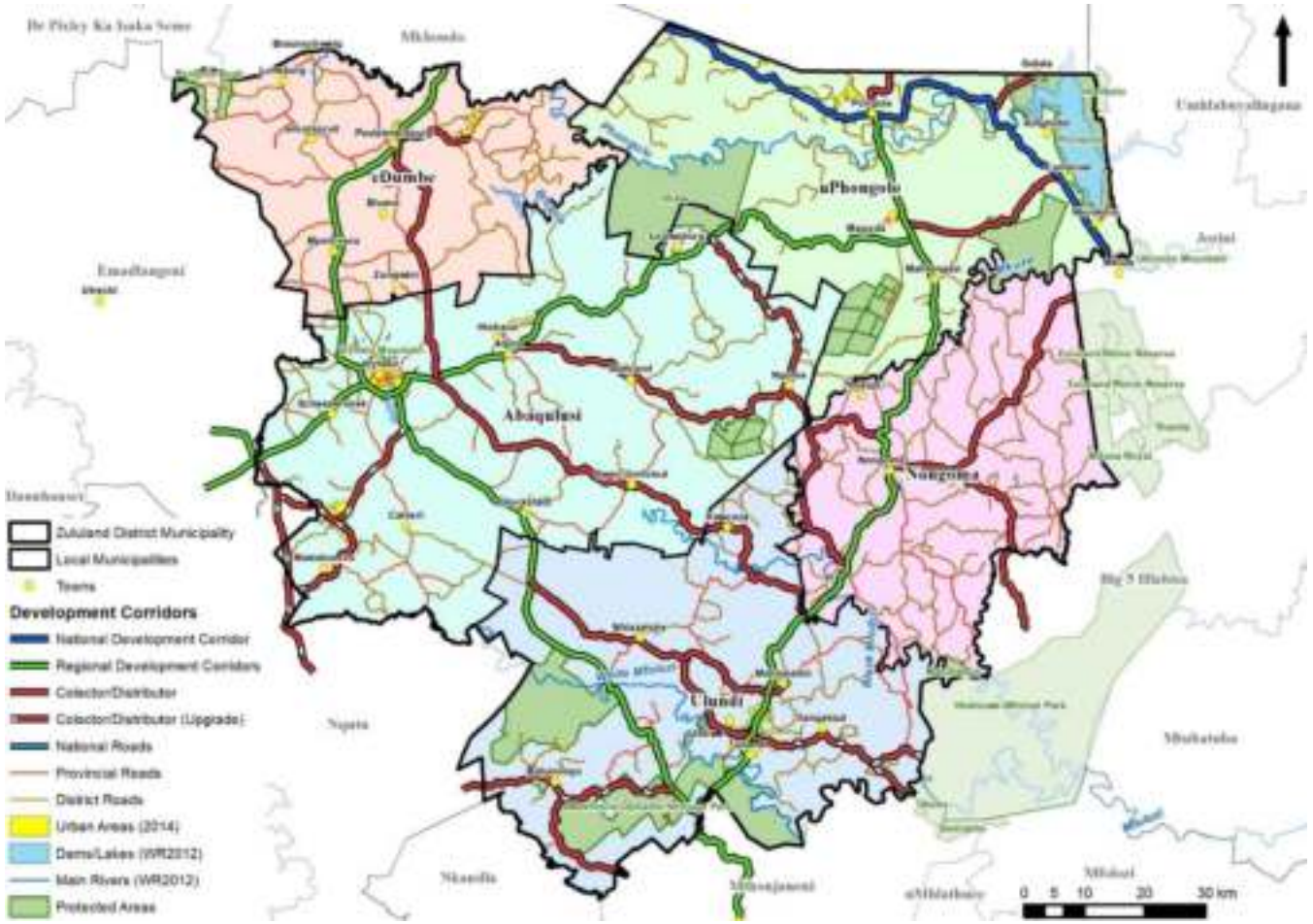
Three major regional arterial routes, that is R33/R34, R66 and R69 provides a strategic framework upon which the regional space economy has developed. They also hold the key to future integrated and coordinated regional development. R33 and R34 Corridor runs through the ZDM linking the north-coast with the coal producing areas in the Mpumalanga Province. The railway line that transports coal between Mpumalanga and Richards Bay runs almost along this route. Located along this corridor are the rural towns of Ulundi in the South, Vryheid and Edumbe to the north. In addition, to these urban settlements are Afrikaner and Zulu heritage areas in Vryheid and

Ulundi, expansive rural settlements to the north of Ulundi and Edumbe, expensive commercial farmlands including areas with good to high agricultural development potential in both Abaqulusi and Edumbe Local Municipalities.

The R66 runs through sprawling and unstructured rural settlements in the Ulundi and Nongoma Municipalities linking Ulundi through Nongoma Town with uPhongolo in the north. Some commercial agriculture and game farming activities occur in the vicinity of uPhongolo Town along this corridor.

The R69 development corridor runs through former mining, agricultural and nature conservation areas in the Abaqulusi Municipality through Louwsburg to uPhongolo in the north and Dundee in the Umzinyathi District.

Map 26: Development Corridors



- Working with the Department of Transport to maintain and continuously upgrade road network connecting the three towns.
- Facilitating clustering of mixed land uses in strategic points along the length of each of these roads, especially where there is higher concentration of the population.
- Protect agricultural land located along the corridor between Vryheid and Edumbe while also creating opportunities for tourism development.
- Develop tourism routes running along the regional development corridors.

6.2.3 Local Collector/Distributor Development Corridors

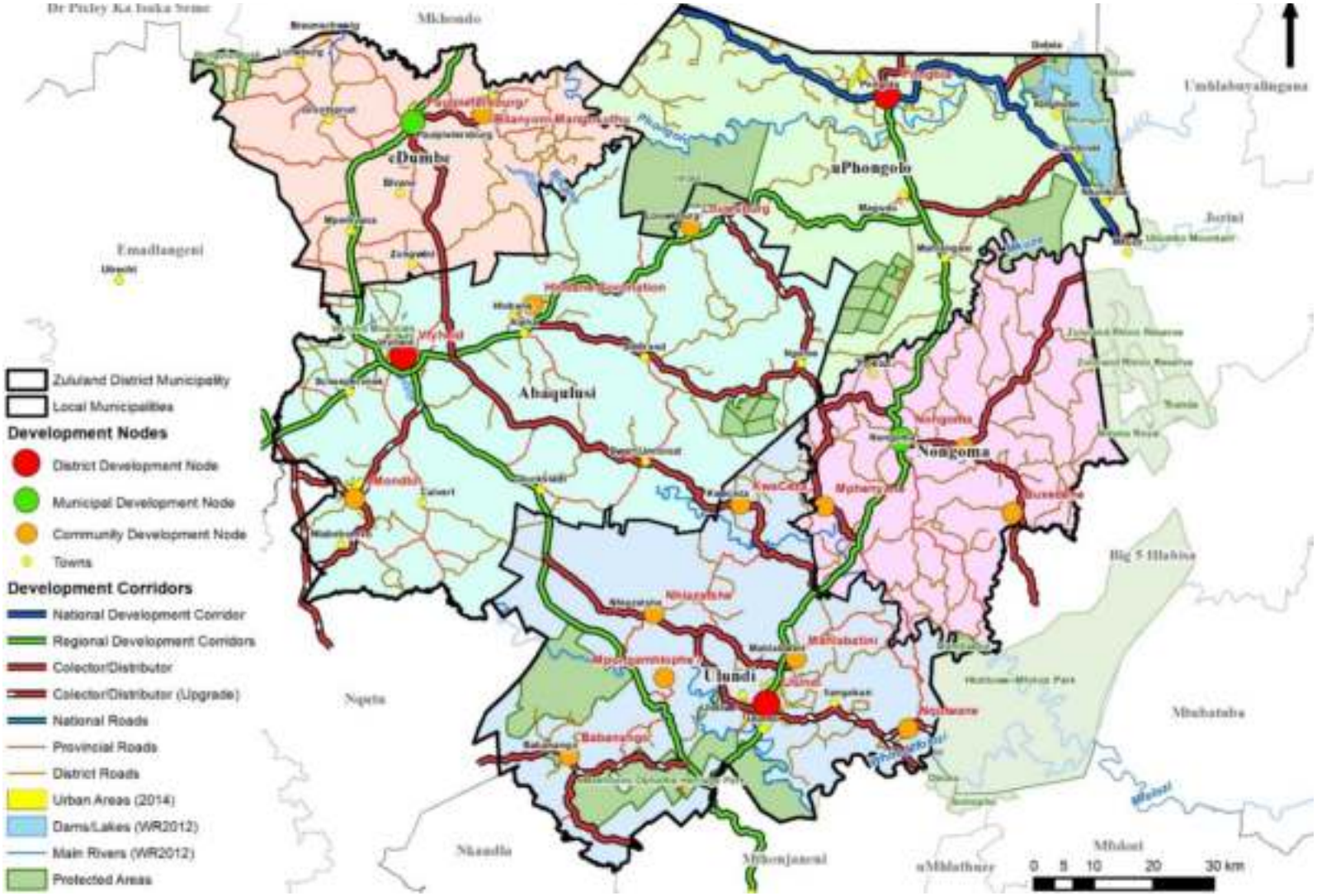
Further to the regional arterial routes, local collector/distributor development corridors are the major link roads connecting various parts of the municipality. They have been identified based on the character of the area, intensity of use and number of households/settlements that derives access from each of these connector/distributor roads. Many secondary corridors occur along both provincial and district routes. The R618 runs from Mtubatuba through Hlabisa and Nongoma to Hlobane along the R69. It runs through the sprawling rural settlement in Nongoma and some commercial farmlands to the former mining town of Hlabane. The P234 runs from Nongoma to Mkhuze in the uMkhanyakude District while the R68 runs from Ulundi through Babanango to Nkandla.

6.3 Hierarchy Network of Development Nodes

6.3.1 District Regional Development Nodes – Vryheid, Ulundi, and uPhongolo (VUU) Triangle

Typical of most district municipalities in the KZN Province, the ZDM does not have a single dominant development node. Three urban centres developed independent of each other reflecting spatial governance of the time and differences in comparative advantages (economic bases). Vryheid which developed within an agricultural and coal mining region and served as a service centre for the surrounding commercial farming areas has potential for further industrial, commercial and tourism development. Uphongolo Town developed in support of the sugar industry is also developed with some commercial and business activities. It serves as the service centre for the surrounding rural hinterland including portions of Eswatini.

Map 27: Development Nodes



The town has potential for the intensification of commercial, business, and industrial development to take advantage of the eco-tourism industry and strategic location along the N2 national corridor. Ulundi developed as the administrative centre of the erstwhile KwaZulu Government and serves as a rural service centre for the surrounding rural settlements. In addition to the administrative infrastructure, Ulundi is developed with a range of commercial facilities supporting communities in both Ulundi and Nongoma Municipalities. The location of these three regional development anchors where regional development corridors converge in a triangular format creates a frame that holds the district economy together. Urban regeneration initiatives will enhance the performance of these nodes and boost district contribution to the provincial economy.

6.3.2 Sub-regional (Municipal) Development Nodes

Nongoma and Edumbe (Paulpietersburg) play a secondary role to the regional development nodes. They do not provide services or economic advantages significant on provincial level but fulfil very important service delivery functions within the local economies of the municipalities and are the only areas providing commercial choice to the residents of the respective municipalities. Nongoma Town is the main commercial and administrative centre for the Nongoma Local Municipality. It's strategic location at the intersection of the R66 regional corridor and P618 local collector/distributor corridor positions Nongoma centrally to serve the whole municipal area and beyond. The eDumbe, on the other hand, developed as a rural service centre for the surrounding farming community, but also serves the rural settlements such as Mangosuthu, Bilanyoni, Ophuzane and Tholakele. which the primary commercial centre serving the whole Municipality. It is also the hub of the administrative, commercial, and industrial activity in the Municipality which includes municipal offices, national and provincial government offices and facilities, major retail centres, an industrial area, and residential areas.

6.3.3 Community Development Nodes

Community development nodes serve as a link between settlements and municipal development nodes. They are developed with some commercial and community facilities which may include a clinic, schools, taxi rank, community hall, etc. They serve a web or webs of settlements and provide an opportunity for the clustering of public/community facilities to improve access. While Ulundi Municipality MSDF classifies Babanamgo, Ceza, Mpungamhlophe and Nqulwane as community development nodes, the Nongoma Municipality MSDF identifies Buxedene, Esiphambanweni and

KwaPhenyane under this category of development nodes. Hlobane, eMondlo, Louwsburg and Corronation in the Abaqulusi Municipality; and Bilanyoni/Mangosuthu in Edumbe are categorised as community development nodes.

6.4 Sustainable Urban and Rural Settlements

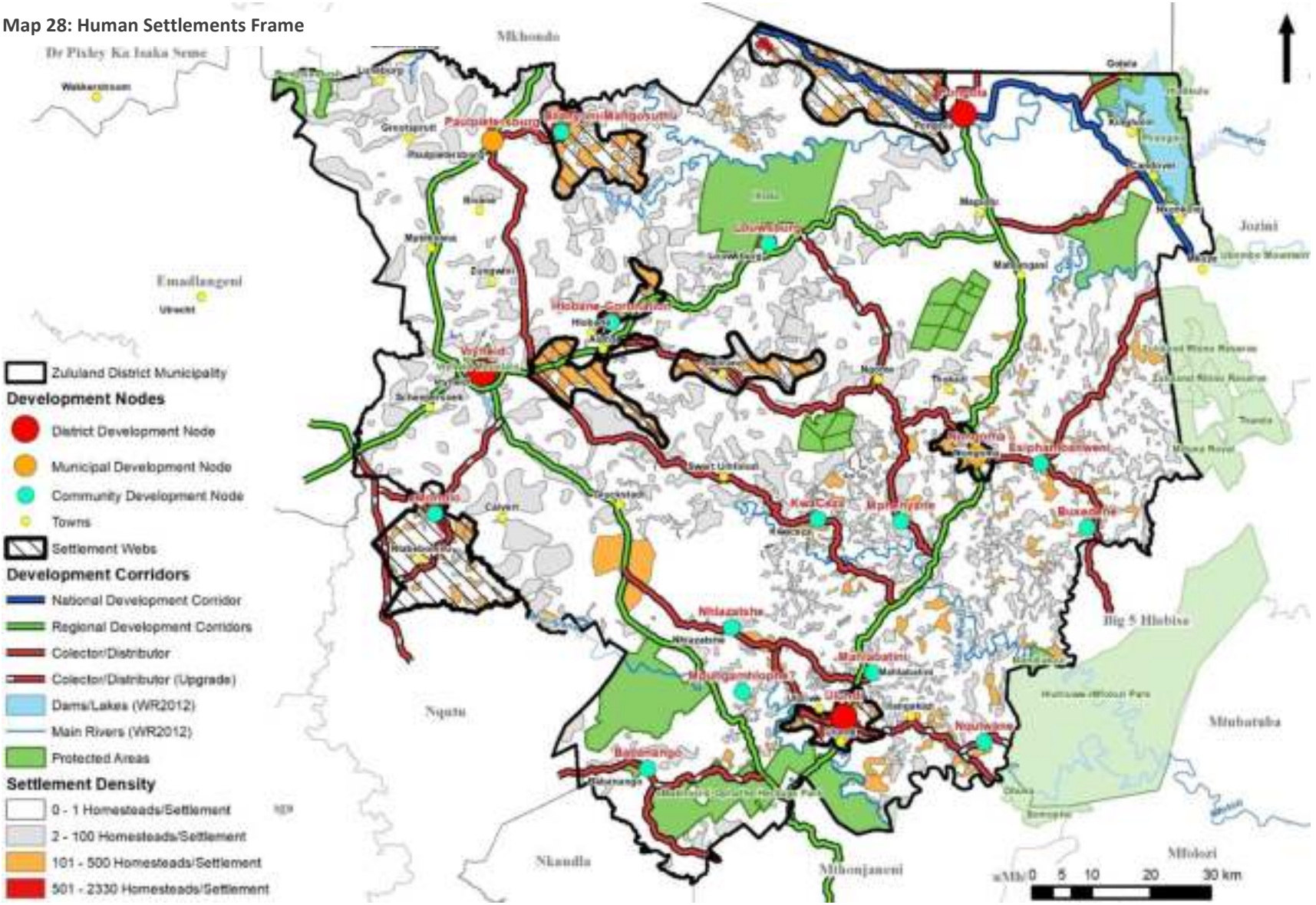
The ZDM, together with the local municipalities, will facilitate the transformation of the existing settlements into sustainable human settlements, and the evolution of a settlement pattern that reflects strong functional linkages between settlement areas and the associated development nodes. This will be achieved through the categorisation of settlements ranging from remote scattered rural to formal high-density urban settlements. This pattern has several benefits, including:

- Maximizing lifestyle choice and where people want to live and attracting middle to higher income earners into the area.
- Providing an effective framework for the service delivery and application of service standards based on character of the area.
- Unlocking economic development potential at different scales thus enabling remote rural areas to realize their agricultural economic development potential.
- Improving economic performance of the region.

A sustainable and convenient settlement improves the level of choice, encourages creativity and investment while a less convenient settlement imposes a lifestyle on people and results in unnecessary expenses. Settlements should be equitable in the sense that they should provide a reasonable access to opportunities and facilities to all based on location and potential for further development. Settlements should be located along the development corridors and held together by a web of local access roads and public facilities. At a regional level, they should be knit together by a system of regional development corridors and the collector/distributor corridors.

However, settlements are also not static. They respond to change and are continuously in the process of transformation. The key challenge is to turn them from being creations and remnants of the past apartheid regime into sustainable human settlements.

Map 28: Human Settlements Frame



6.4.1 Settlement Webs/Clusters (Rural Settlement Planning)

The ZDM is predominantly rural and characterised by a scattered settlement pattern. However, several large and relatively dense settlement have developed in different parts of the district. These include Bilanyoni and Mangosuthu in Edumbe, Bhekumthetho and other rural settlements around eMondlo Township, Nongoma, Ulundi, and settlements to the west of Uphongolo Town. These settlements have emerged, in part, because of the breakdown in land administration system in the rural villages, and movement of households from remote areas to well-located settlements along the main transport routes. The majority of these occur around or near development nodes. These areas should be prioritised for settlement planning, provision of higher level of basic services, development of community development nodes, and rural housing.

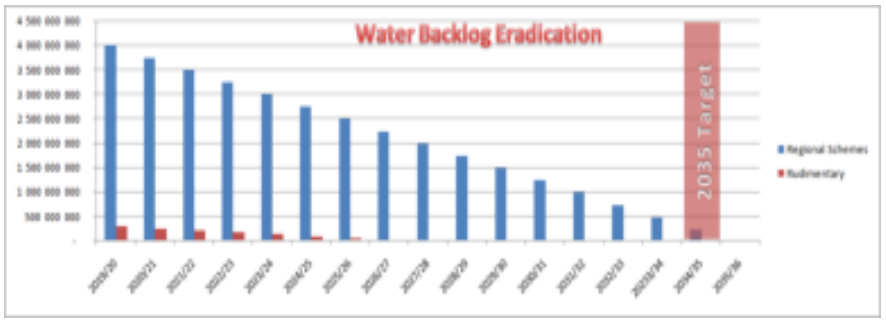
Further expansion of small-scattered rural settlements should be discouraged in the short to medium term with an intention to enable them to develop into settlements with a strong agricultural character. Spatial planning interventions in these settlements should focus on the following agricultural development particularly protection of agricultural land from settlement; management of grazing land including introduction of strategies such as rotational grazing; and consolidation of settlements to create service thresholds.

6.4.2 Bulk Water

Water	None or Inadequate	Rudimentary	Communal standpipes	Yard/House connections	TOTALS
		<RDP	RDP	>RDP	
AbaQulusi LM	0	0	0	16 000	16 000
eDumbe LM	0	0	0	5 458	5 458
Nongoma LM	0	0	0	632	632
Ulundi LM	0	0	0	5 912	5 912
uPhongolo LM	0	0	0	4 009	4 009
Total (urban)	**0**	**0**	**0**	**32 011**	**32 011**
AbaQulusi LM	7 088	3 908	10401	9 407	31 119
eDumbe LM	2 775	726	1628	6 940	12 183
Nongoma LM	7 227	12 768	11 086	12 662	43 744
Ulundi LM	3 143	2 658	14 333	18 806	39 075
uPhongolo LM	1 307	1111	2570	16 478	25 510
Total (rural)	**21 540**	**21 171**	**40 018**	**64 293**	**151 631**
Total (households)	**21 540**	**21 171**	**40 018**	**96 304**	**183 642**

Figure 15 below suggests that it will take approximately 14 years to eradicate all water backlogs below RDP standard if current Municipal Infrastructure Grant (MIG) funding allocations remains constant. Regional Bulk Infrastructure Grant (RBIG) and Water Services Infrastructure Grant (WSIG) funding allocations fluctuate based on approved funding applications, and future projections have not been included in this review. These funding allocations will however be

added as funding is confirmed. In response to the water backlog, the ZDM has undertaken comprehensive water master planning exercise to develop the most appropriate and cost-effective methods of providing previously neglected communities with water services.



The main drivers were to obtain the technical solution that will not necessarily be the lowest in terms of capital requirements to implement, but rather provide a sustainable service at the lowest possible water tariff (R/kl). The result has been a multi-pronged approach consisting of back-to-back Regional Water Supply Schemes (RWSS), intermediate stand-alone water supply schemes, and rudimentary water supply schemes.

6.4.2.1 Regional Water Supply Schemes

The district is covered with 10 back-to-back Regional Schemes that are at different levels of implementation. Coronation is however currently under review to rather implement stand-alone schemes. While Hlahlindlela is on hold due to water shortage, Khambi and Mkhuze Regional Water Supply Schemes have been completed. Mandlakazi, Nkonjeni, Simdlangentsha Central, Simdlangentsha West and Usuthu are all in progress. Simdlangentsha East is being upgraded to cater for increased water demands. Each regional scheme has a sustainable water source where infrastructure is progressively rolled out within the supply area in a sustainable manner and at the lowest possible cost (R/kl).

6.4.2.2 Intermediate Stand-alone Schemes

Due to time and budget constraints with implementation of costly bulk infrastructure, ZDM has initiated an intervention to alleviate the severe water shortage in areas where a sustainable local source can be developed. These water sources will supply several settlements in the surrounding area and will become part of the Regional Scheme infrastructure in future. Implementation will be done according to the ZDM Prioritisation Model for water services within each Regional Scheme.

Figure 34: Regional Water Supply Schemes

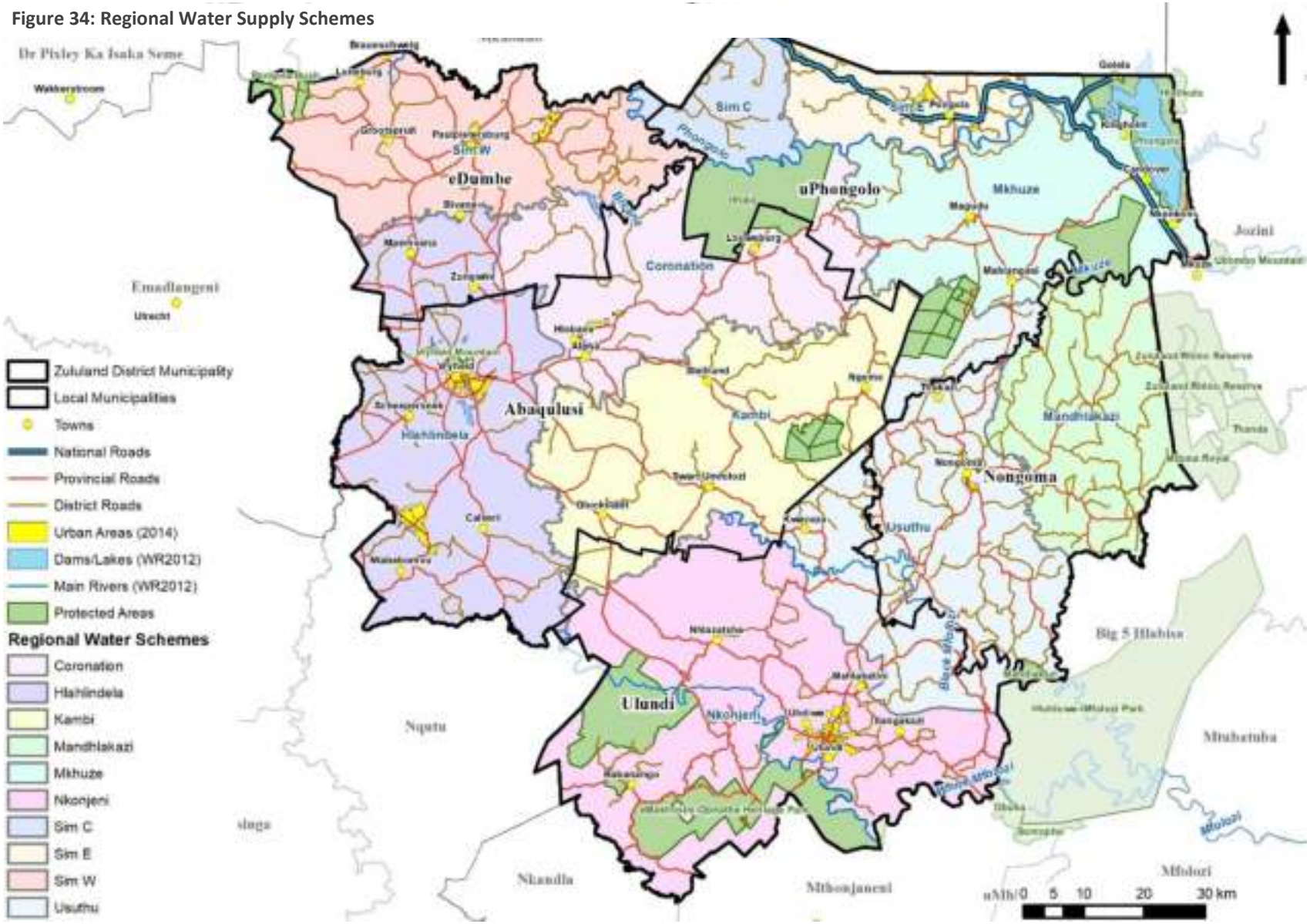
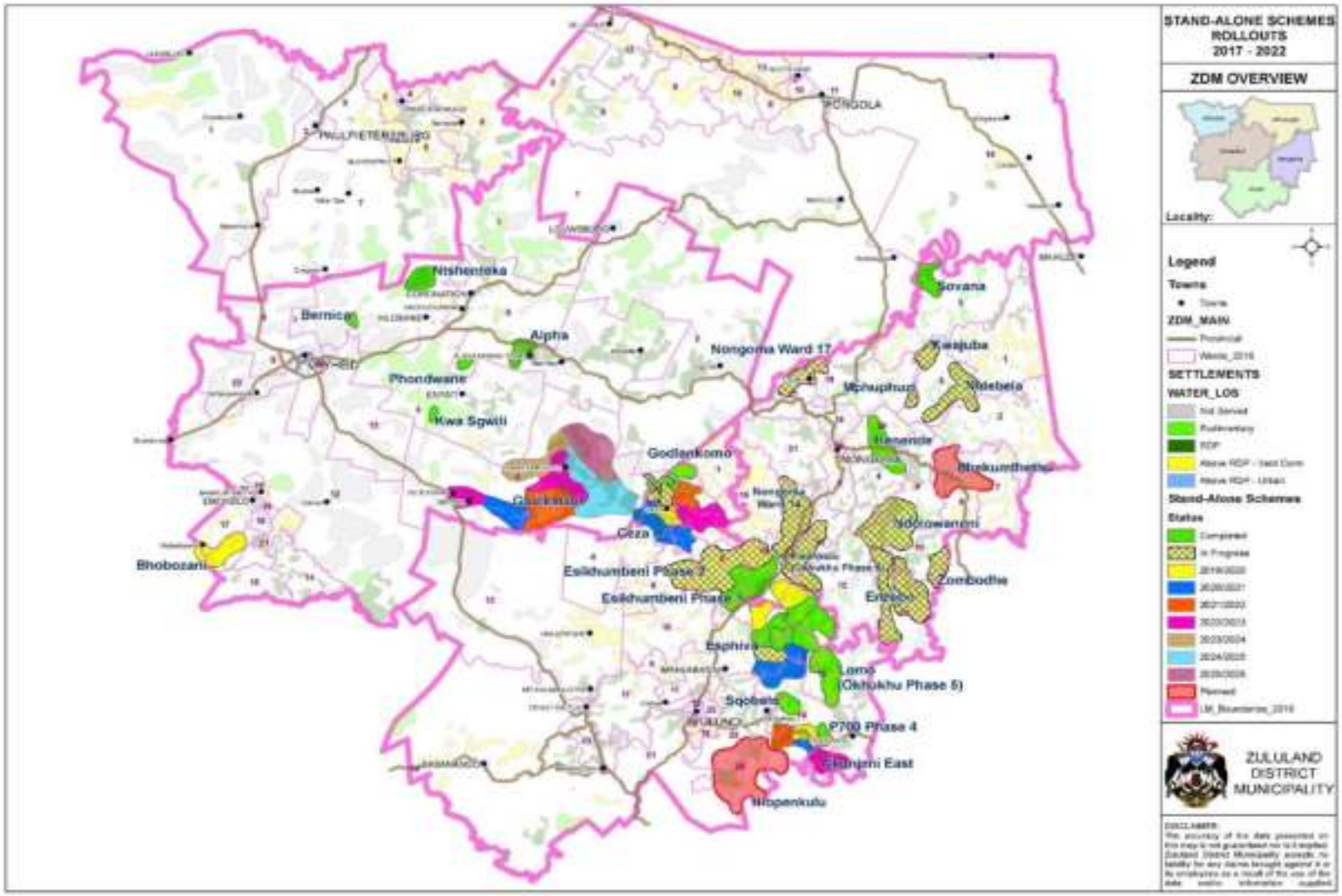
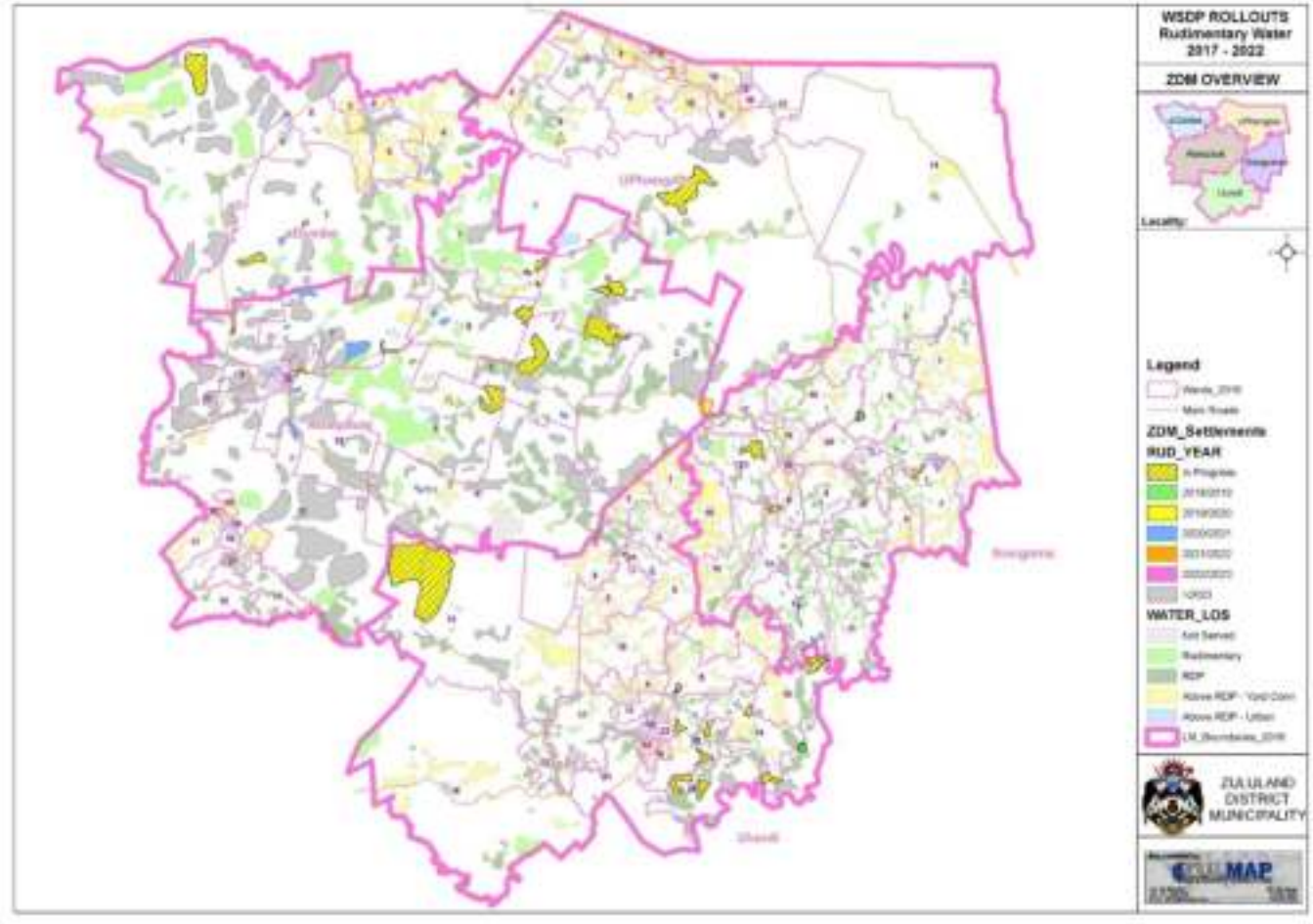


Figure 35: Immediate Stand-Alone Water Schemes



6.4.2.3 Planned Rudimentary Water Roll-out

Figure 36: Planned Rudimentary Water Roll-out



In areas where settlements cannot be served soon by the Regional Schemes or Intermediate Schemes, local water sources are used to provide a survival level of water on a rudimentary level. Implementation is done according to the ZDM Prioritisation Model for water services.

6.4.3 Sanitation

Table 13: Sanitation Backlog

Local Municipality	None or Inadequate (Excl. Infills/Replacements)	VIP	Septic tank	Waterborne	TOTALS
		RDP	RDP	>RDP	
AbaQulusi LM	0	0	1035	14 965	16 000
eDumbe LM	0	2981	498	1 979	5 458
Nongoma LM	0	283	0	349	632
Ulundi LM	0	635	0	5 277	5 912
uPhongolo LM	0	698	0	3 311	4 009
Total (urban)	**-**	**4 597**	**1 533**	**25 881**	**32 011**
AbaQulusi LM	8 098	22 597	424	0	31 119
eDumbe LM	1 288	10 629	266	0	12 183
Nongoma LM	10 755	32 989	0	0	43 744
Ulundi LM	3 222	35 801	52	0	39 075
uPhongolo LM	7 223	17 951	336	0	25 510
Total (rural)	**30 586**	**119 967**	**1 078**	**0**	**151 631**
Total (households)	**30 586**	**124 564**	**2 611**	**25 881**	**183 642**

Figure 37: Sanitation Backlog Eradication Targets

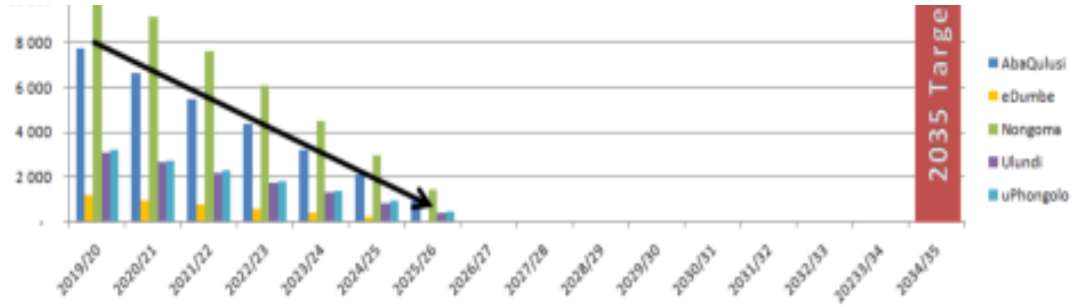
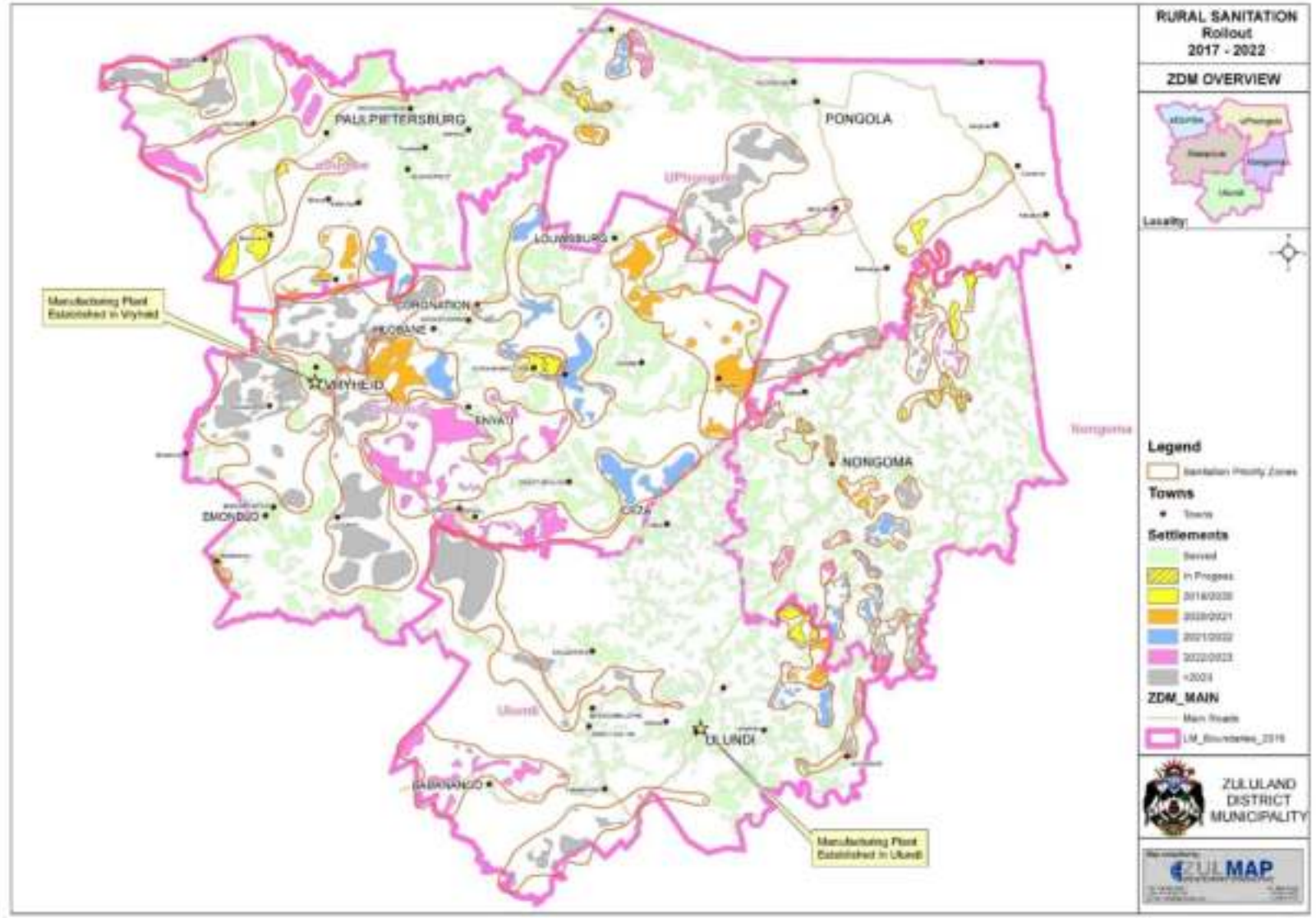
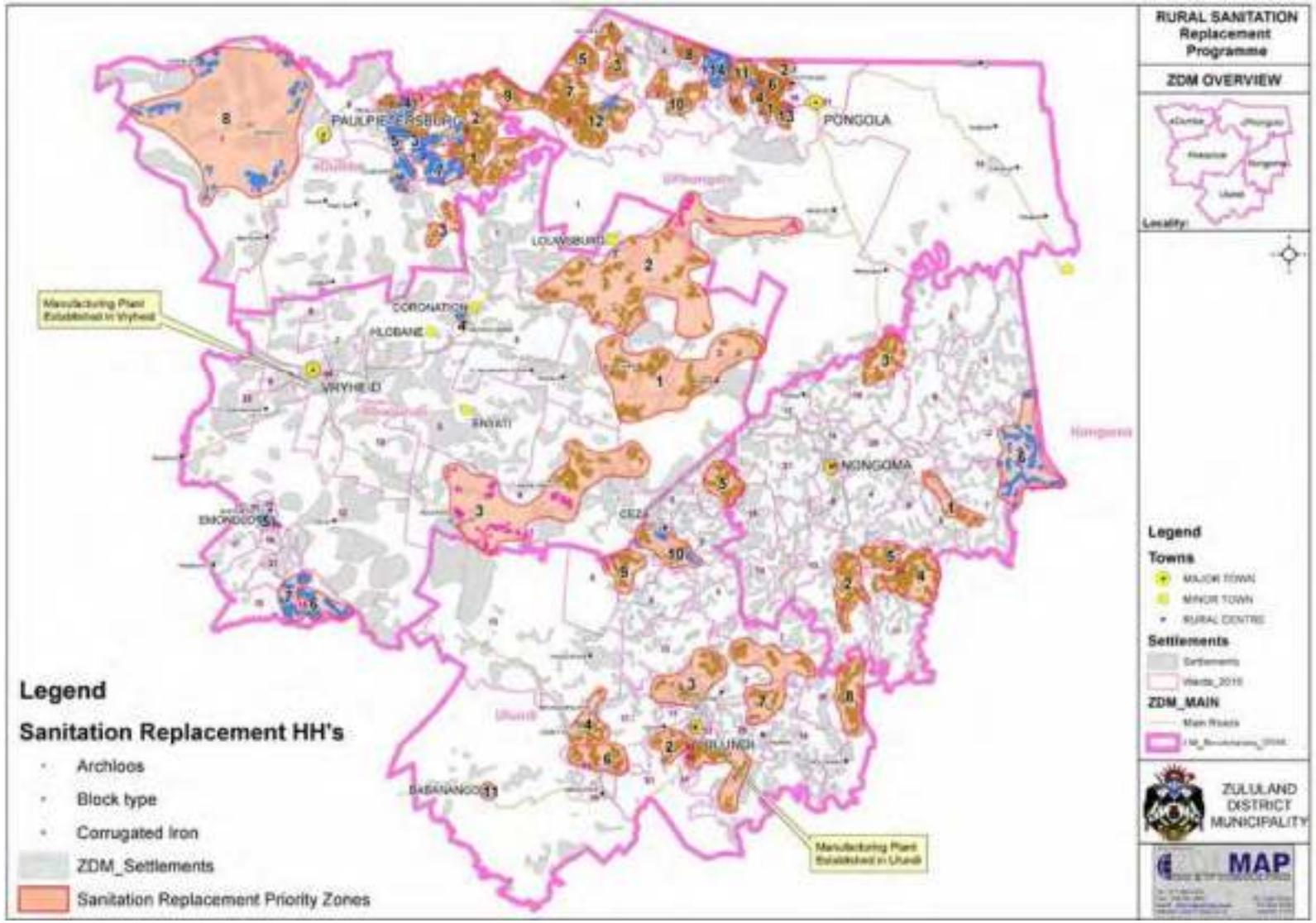


Figure below depicts the estimated time it will take to eradicate all sanitation backlogs below RDP standard if current MIG funding allocations remains constant. With the 2035 goals in mind, the backlogs in rural sanitation should be eradicated by 2026. However, settlements are continuously expanding, and the ZDM is currently experiencing net household growth rate.

Map 29: Sanitation Roll-out

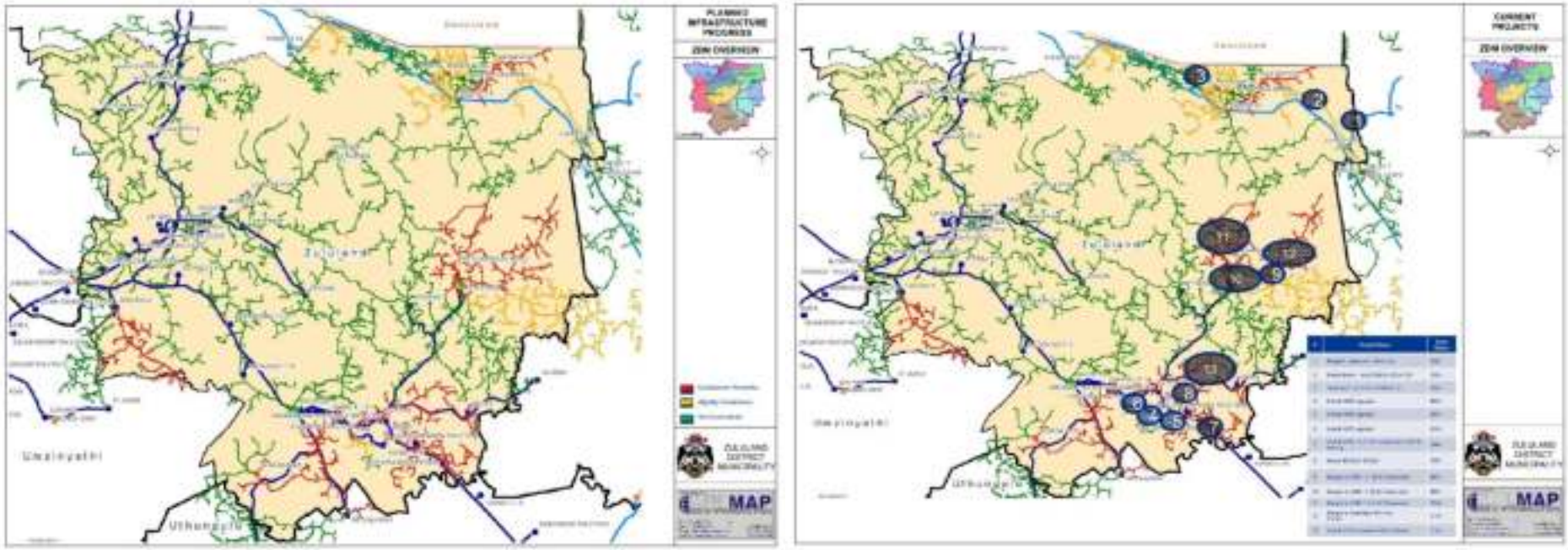


Map 30: Sanitation Replacement



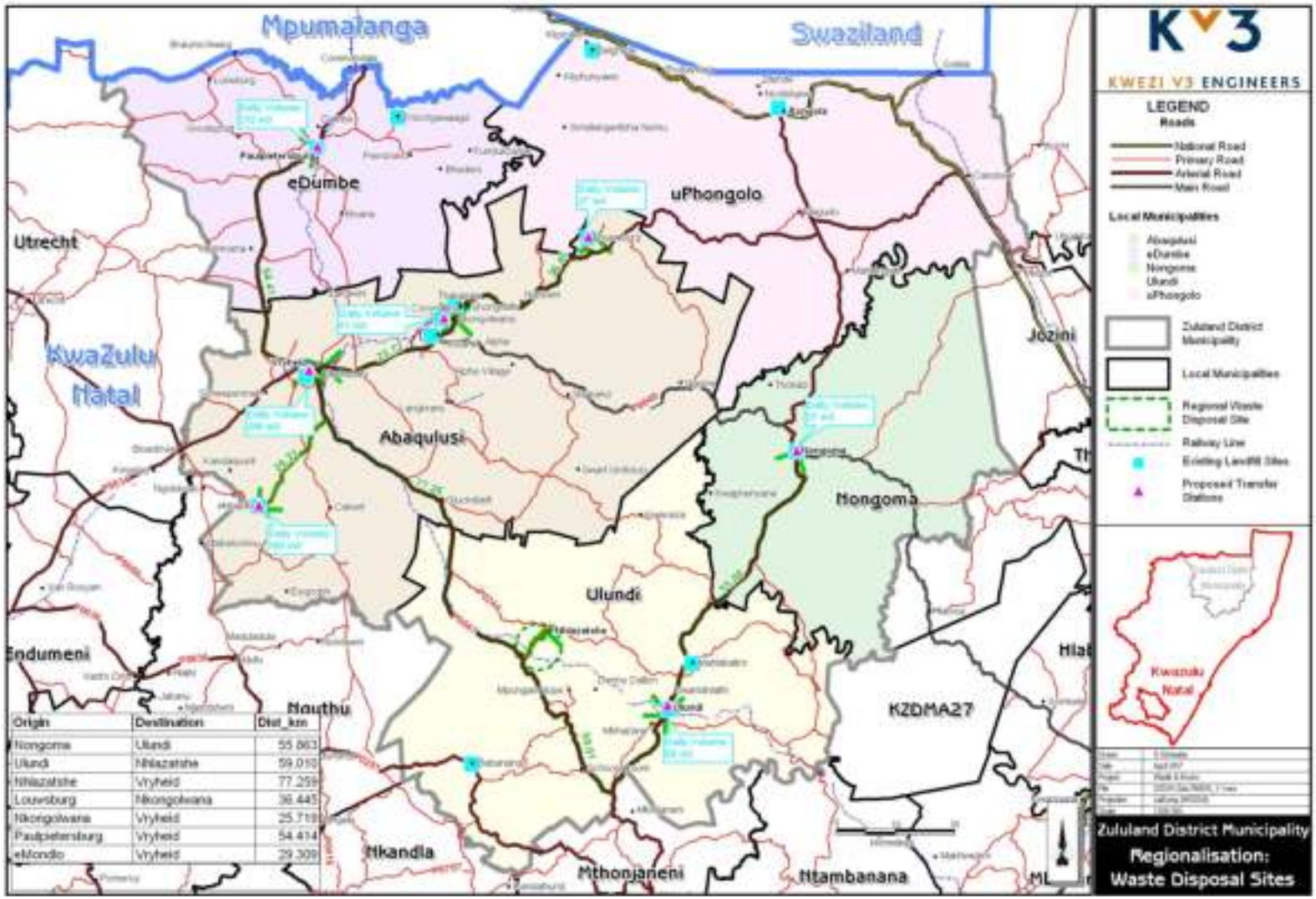
6.4.4 Electricity

Map 31: Electricity Roll-out



6.4.5 Waste Disposal

Map 32: Waste Disposal Sites



Origin	Destination	Dist_km
Nongoma	Ulundi	55.863
Ulundi	Nhlazatshe	59.010
Nhlazatshe	Vryheid	77.259
Louwsburg	Nkongolwana	38.445
Nkongolwana	Vryheid	25.719
Paulpietersburg	Vryheid	54.414
eMondlo	Vryheid	29.309

6.4.6 Road Network

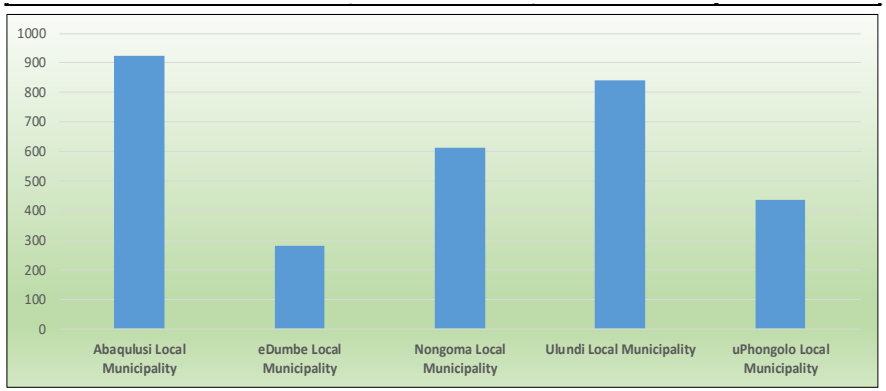
Roads are among the most important public assets in the Zululand District. Road improvements bring immediate and sometimes dramatic benefits to road users through improved access to public facilities such as hospitals, schools, and markets. For the Zululand District to sustain these benefits, road improvements must be followed by a well-planned program of extension and maintenance. Without regular maintenance, roads can rapidly fall into disrepair, preventing realization of the longer-term impacts of the improvements on development.

Table 14: Road Network within the ZDM

Authority	*Paved Roads (km)*	*Unpaved Roads(km)*	*Total(km)*
Abaqulusi LM	195.98	727.18	923.16
eDumbe LM	35.61	243.95	279.56
Nongoma LM	10.14	602.02	612.16
Ulundi LM	101.14	740.08	841.22
uPhongolo LM	46.9	390.07	436.97
Total	**389.77**	**2703.3**	**3 093.07**

The road network within the Zululand District falls under the jurisdiction of three (3) authority who are each responsible for specific level of road network. The authorities are the South African National Roads Agency Limited (SANRAL), who is responsible for national road; the KwaZulu-Natal Provincial Department of Transport responsible for regional and provincial roads; and the local municipalities who are responsible for local access roads. The table below illustrates the network statistics that excludes the provincial and the national roads.

Figure 38: Road Network within the ZDM



6.4.7 Public Facilities

Community facilities are important place-making elements, and they should be deliberately used, in combination with public space, to make memorable places. They are dependent upon public support and play an important integrating function in and between communities/settlements. They should therefore be ‘‘externalized’’, by being in places of high accessibility, and made accessible to the local and surrounding communities. In this way, they bring together people from several local areas and are not tied to the dynamics of any one community.

6.4.7.1 Health

Health considerations form an integral part of spatial transformation and settlement making in the ZDM. 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.

District PHC facilities are not equitably distributed. The road infrastructure and topography influences access to health facilities in the district. Nongoma municipality is the second largest sub district with 13 clinics and 3 mobile teams while Ulundi has 24 clinics and 6 mobile teams. Abaqulusi has 15 clinics and 3 mobile teams. The district plans to increase the number of mobile teams at Abaqulusi- sub district and both residential clinics and mobile teams under Nongoma municipality to improve equity in distribution of health facilities. IDP planning between the Department of Health and Municipality should address social determinants of Health, mainly road infrastructure to improve access to health services by the people of Nongoma. The district will prioritize upscaling PHC reengineering teams to bring services to the people and to bridge gaps in areas under served with clinics. The location of preventively orientated health facilities, such as clinics, in association with primary and pre-primary schools, offers advantages. Preventive functions, such as inoculation and nutritional programmes are best delivered through schools. Where a multipurpose hall serves several schools, a clinic may be beneficially located within or adjacent to that hall. 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. Deep rural settlements should be prioritized for mobile clinic services.

6.4.7.2 Meeting spaces

Both open-air public spaces and enclosed spaces such as community halls are important parts of social infrastructure. Halls should be in association with public spaces as this will allow for events in one to spill over into the other or provide alternatives in case of weather changes. Community halls should also be associated with other public facilities, such as schools and markets. Given the limited number of public facilities, which can be provided in any one settlement, it makes sense to concentrate these to create a limited number of special places, which become the memorable parts of the settlement. The number and location of meeting places cannot simply be numerically derived. Rather, it is necessary to create "forum" places, places that over time assume a symbolic significance outstripping their purely functional role.

6.4.7.3 Education Facilities

The creation of environments, which promote learning, forms an integral part of the settlement-making process. This necessitates a rethink of the concept of the specialized self-contained school, located on a spatially discrete site and serving only its pupil population. Schools should be seen as resources serving both pupils and the broader community. In this regard schools can accommodate the school population during the day and, where possible, adult education during the evenings.

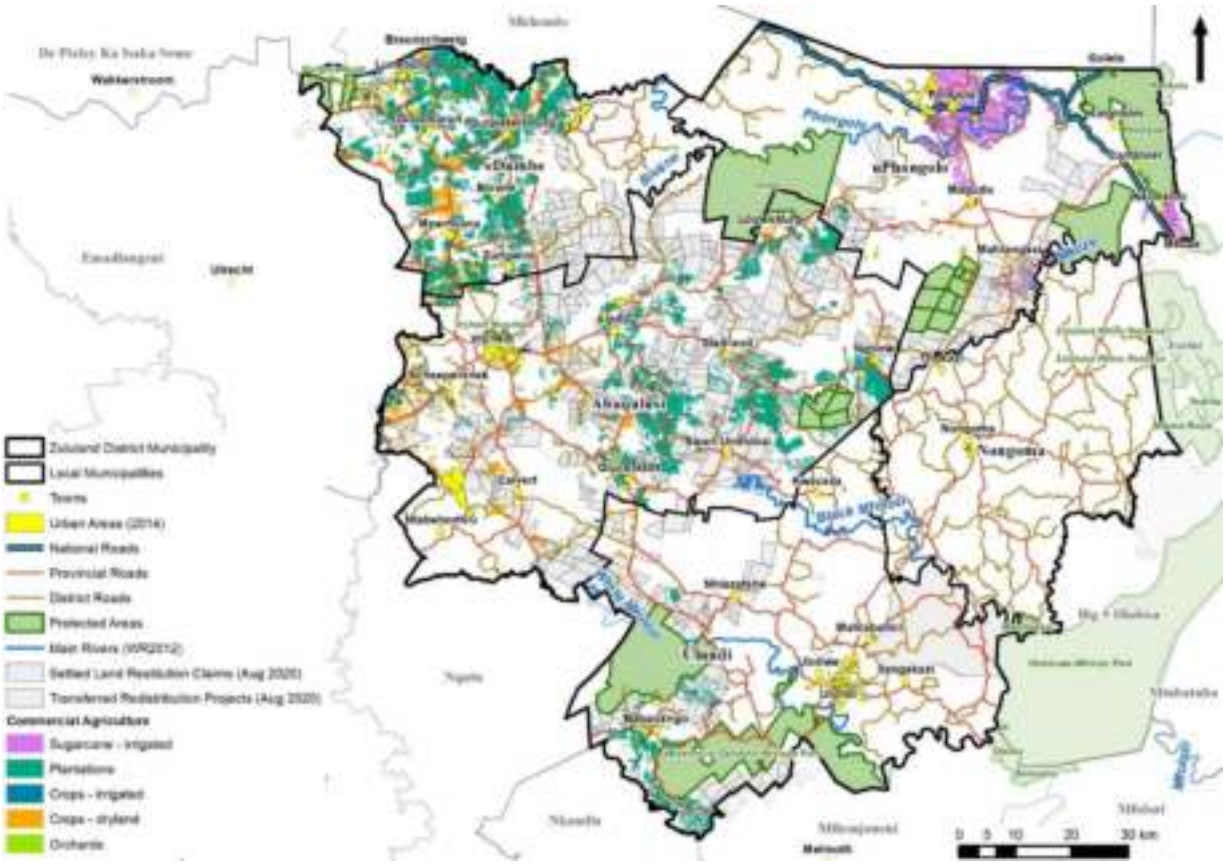
Guidelines Related to the Planning for Public School Infrastructure (Department of Basic Education, 2012) requires that the total minimum size for a school site, including sporting fields, is a total of 2.8ha for a primary school and 4.8ha for a secondary school. The location of the school should ensure easy accessibility to roads, sewage lines and other basic services. In addition, the slope of the site should not exceed 15 degrees. A school should be situated within a radius of 5km from the community it serves. Sites with servitudes should be avoided, but if a servitude exists or is imposed on the school, the buildings and sporting fields should be planned in such a way that the servitude will not affect normal school activities. A school site should preferably be rectangular with the longest sides facing north and south. Furthermore, Formal sports fields can serve both the school and the broader community. In terms of their location, schools should be part of an accessible, settlement-wide system of education facilities. Accordingly, they should be located close to continuous public transport routes. This will make schools sustainable over a longer period, since they will draw pupils from a larger area, thus becoming less susceptible to fluctuations in the local population.

6.5 District Economic Development

6.5.1 Commercial Agriculture

The agricultural sector is of key strategic importance in Zululand District. As a primary sector, agriculture contributes about 9% to district GVA. At present, the primary agricultural sector contributes over 16.5% to total employment. If appropriately harnessed, the agricultural sector in Zululand has the potential to create a substantially higher number of jobs in a shorter time frame. Over the short to medium term the agricultural value chain can support labour-intensive absorbing activities generating large-scale employment. This in turn contributes towards addressing food security and enabling sustainable livelihoods. The district recognises the importance of stimulating commercial farming as a means of expanding agricultural production and enhancing the contribution of small-scale farmers within the sector in Zululand. Agriculture is a major sector within the district and has the potential to contribute to the development of employment opportunities as well as addressing matters related to food security.

Map 33: Commercial Agriculture



The provision of good infrastructure, particularly irrigation, as a requirement for achieving higher levels of agricultural productivity and profitability is widely acknowledged. Good agricultural potential exists in the western highlands and the eDumbe Municipality has very high potential as has most of the Abaqulusi municipality. High potential in the Phongola valley is because of irrigation opportunities that have been developed in this area. Current land cover reflects these potentials.

This intervention aims to protect and rehabilitate agricultural land through co-ordinated planning for the protection of zoned agricultural land. It is essential to establish a practical arrangement between national and provincial authorities in respect of the regulation of the sub-division of agricultural land. High-value agricultural land must be protected through appropriate statutory land use management schemes.

6.5.2 Tourism

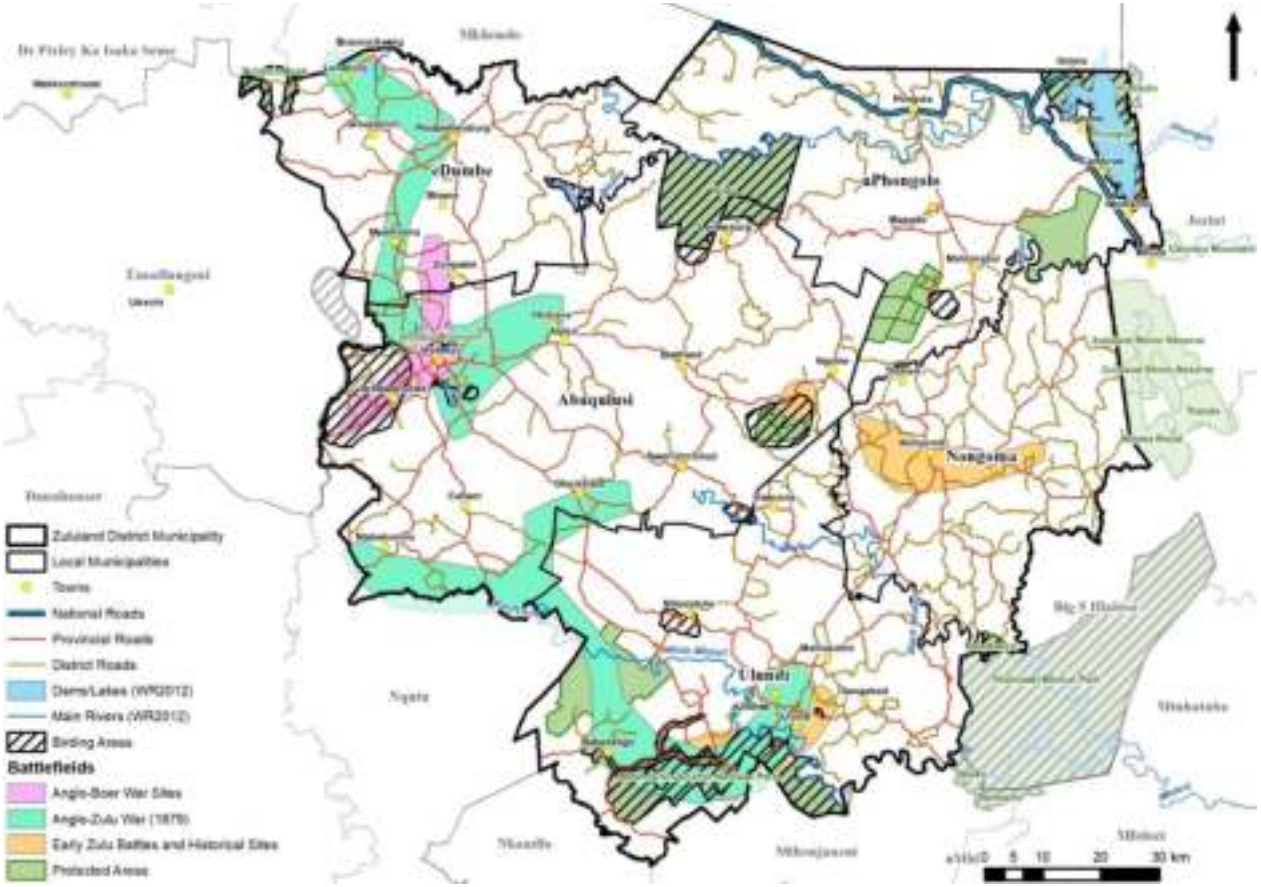
Zululand has a rich heritage, globally appreciated cultural value which underpins its strength as a destination. The approach of this draft ZDM Tourism Strategy is to strengthen unique selling propositions the district has in terms of culture, heritage and nature-based tourism and using these valuable assets to build a solid foundation over the coming years upon which tourism can thrive in the longer term. This approach emphasises leveraging the unique cultural, heritage and nature-based tourism assets of the Zululand District. For the purposes of this focus area, the following definitions apply:

- **Cultural tourism** is a type of tourism activity in which the visitor's essential motivation is to learn, discover, experience, and consume the tangible and intangible cultural attractions/products in a tourism destination.
- **Heritage tourism** is traveling to experience the places, artefacts and activities that authentically represent the stories and people of the past, heritage tourism can include cultural, historic, religious, and natural resources.
- **Nature-based tourism** is expressed through various forms of including ecotourism, cycle tourism, adventure tourism, wildlife tourism, avitourism and other outdoor, nature-based activities.

The existing tourism spread across the Zululand district incorporates all these themes and tourism niches at various levels. However, at a very broad scale, and to ensure locally unique value propositions, one can look at core tourism areas and overlay a core tourism focus.

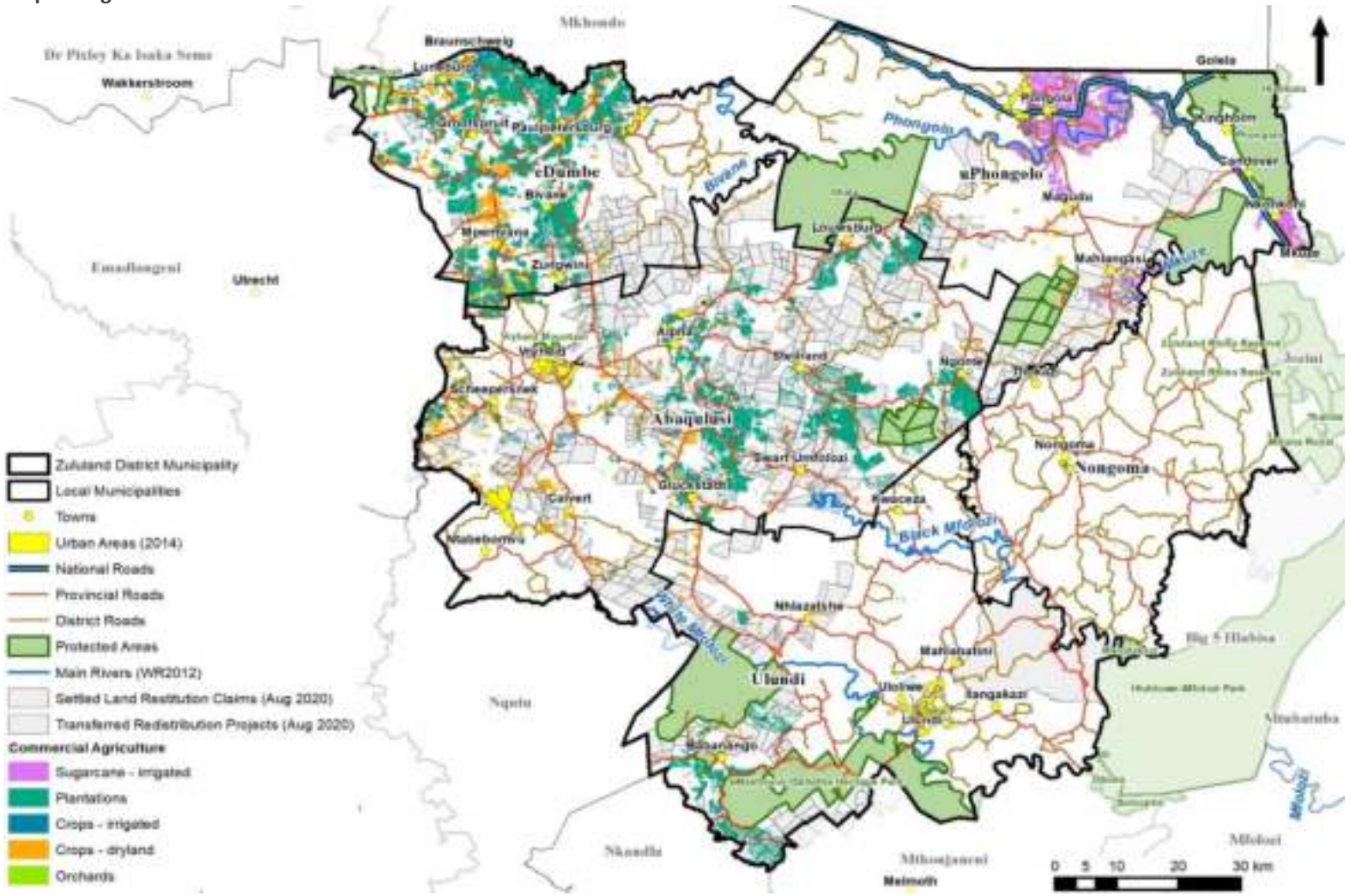
Importantly, this does not imply that because one area has a wildlife focus that it cannot also have cultural products or vice versa, it merely aims to focus on efforts in a specific direction. The north-eastern parts of Zululand, especially around uPhongolo local municipality through to Ithala Game Reserve is highly focused on wildlife-based tourism. Moving east towards Edumbe and Abaqulusi local municipalities, more general nature-based tourism and adventure tourism dominate. South towards Ulundi along the R34, hosts two major wildlife tourism developments (along the iMfolozi Biodiversity Corridor.) Within the greater Ulundi area itself, numerous museums and heritage sites place it in a strategically valuable position for heritage-based tourism with a more contemporary modern-day Zulu cultural focus around areas of Nongoma.

Map 34: Tourism Frame



6.5.3 Land and Agrarian Reform

Map 35: Agrarian and Land Reform Frame



There are several land reform projects spread unevenly across the length and breth of the ZDM , especially towards the central and northern areas. The impact of land reform on agriculture must be considered and managed in relation to the vast high-potential agricultural land and production potential within the district.

The intention of government's rural development programme is to create vibrant, equitable and sustainable rural communities through coordinated and integrated broad-based agrarian transformation, strategically increasing rural development, and improving the land reform programme.

To achieve the intentions of the rural development programme and address land issues within the context of the district, the following must be considered (refer to map 18).

- Recapitalisation of land reform projects that have a history and potential for intensive agricultural activities.
- Implementation of land reform programme in a sustainable manner.
- Support the concept of agri-villages to curb the development of large settlements on agricultural land and address farm evictions.
- Urban land reform should focus on the finalisation of the township establishment process on the former R293 townships.
- Upgrading of well-located informal settlements.
- Acquire land through the Pro-Active Land Acquisition Strategy in areas that have medium to high agricultural production potential.

Facilitating agrarian transformation by providing agricultural development support to land reform beneficiaries and emerging farmers by including assistance with productive and sustainable land use, infrastructure support, agricultural inputs, and strategic linkages with the markets.

- Support for land reform beneficiaries to increase agricultural production through supply linkages and possible joint ventures with major companies in Agri-Process.
- Small-scale grower retention and support, in both land reform and traditional council areas.
- Clustering projects in a geographic area (across products) to optimise development potential, rationalise support services and promote efficient use of scarce resources. Identification of clusters should be based on access, social identity, development opportunities, land use pattern and social relationships. This will provide a framework for a comprehensive approach to the resolution of labour tenant and land restitution claims.

- Land acquisition as part of the land reform programme must focus on land with high production potential and located closer to the markets.
- Agricultural land abutting urban areas such as Vryheid should be subdivided into small holdings for intensive farming and crop production.
- Identify and facilitate settlement of small-scale farmers and emerging farmers on state owned agricultural land.
- Land reform projects with high production potential should be prioritises for technical and financial support.
- Irrigation and crop production must be supported in areas where priority irrigation areas for irrigated and rainfed cultivation have been identified and which are located on Ingonyama Trust Land. This should include livestock farming schemes.
- Land rehabilitation programmes to address land degradation must be introduced and educational programmes that will contribute to an improved understanding of actions that leads to land degradation must be implemented.
- Agri-parks and Farmers Production Support Units must be supported in strategic areas identified by DALRRD.

Important for the district is also to recognise the need to manage land tenure rights on Ingonyama Trust land.

There is a need to prepare Settlement Master Plans for each traditional council area, as well as more detailed settlement plans for each isigodi, especially those that experience population growth. To prepare these settlement plan, the locality of each household and public facility must be captured. This will contribute the development of certain standards toward residential site allocation, as well as procedures and guidelines required when land is being allocated by izinduna. The formalisation of some of these dense settlements through detailed layouts and township establishment processes will also benefit spatial planning in the district.

7 IMPLEMENTATION PLAN

7.1 Alignment with the Neighbouring District Municipalities

The ZDM shares a boundary with the uMkhanyakude District Municipality to the east, King Centshwayo District Municipality to the south and the Umzinyathi and Amajuba District Municipalities to the west respectively. The Gert Sibande District in the Mpumalanga Province and Eswatini are located along the northern boundary.

Although there is no legal requirement for the ZDM to align its MSDF with those of the neighbouring districts, the Provicnial Spatial Development Framework provides for contineous land use pattern across municipal boundaries. This provides for economic, environmental management, service infrastructure, service thresholds, and settlement areas that cuts across adminstrative boundaries. Cross-boundary alignment will prevent the implementation of conflicting development initiatives and facilitate integrated and coordinated land development and use.

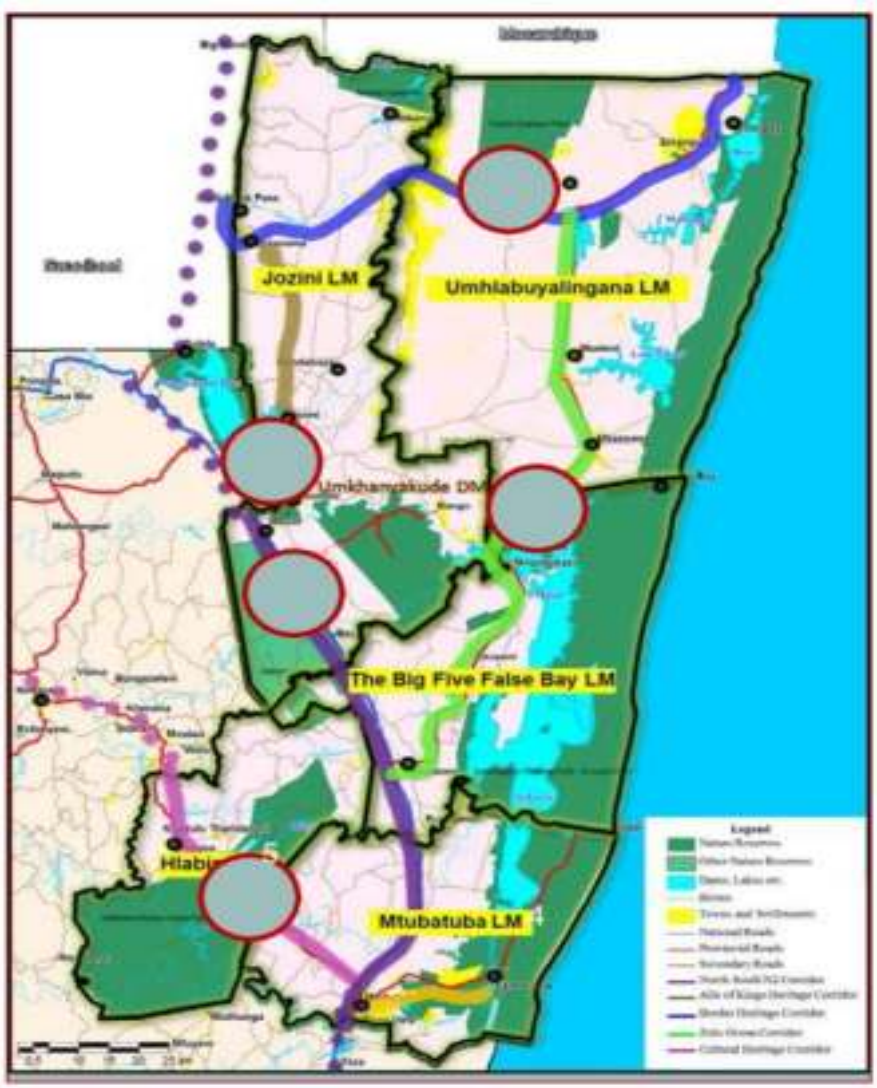
7.1.1 uMkhanyakude District Municipality

The N2 Corridor runs along the north-eastern boundary of the ZDM almost separating it from uMkhanyakude District. It is a national and provincial development corridor which facilitates nodular development at strategic road intersections. Phongola is the only provincial development node located along the N2 in the ZDM. This area is dominated by irrigated sugar cane farms in both districts.

Phongola Dam is split between the two municipalities which emphasises the significance of coordinated development and land use management in this area to limit negative externalities. Phongola River rises from the ZDM and runs to uMkhanyakude and eventually to Mozambique.

The Hluhluwe/Imfolozi Game Park is a nature conservation and tourist destination of national and international significance. Although the Park is entirely located in uMkhanyakude District, it lies along the southern boundary of the ZDM and is accessible from the Ulundi Municipality.

Expansive rural settlements spread unevenly from Hlabisa Municipality in the South-eastern part of uMkhanyakude District through to Nongoma and Ulundi Local Municipalities in the ZDM. These settlements have not received any formal spatial planning, and therefore do not have a pre-determined spatial structure. They area under-developed and characterised by massive service backlogs



7.1.2 King Cetshwayo District Municipality

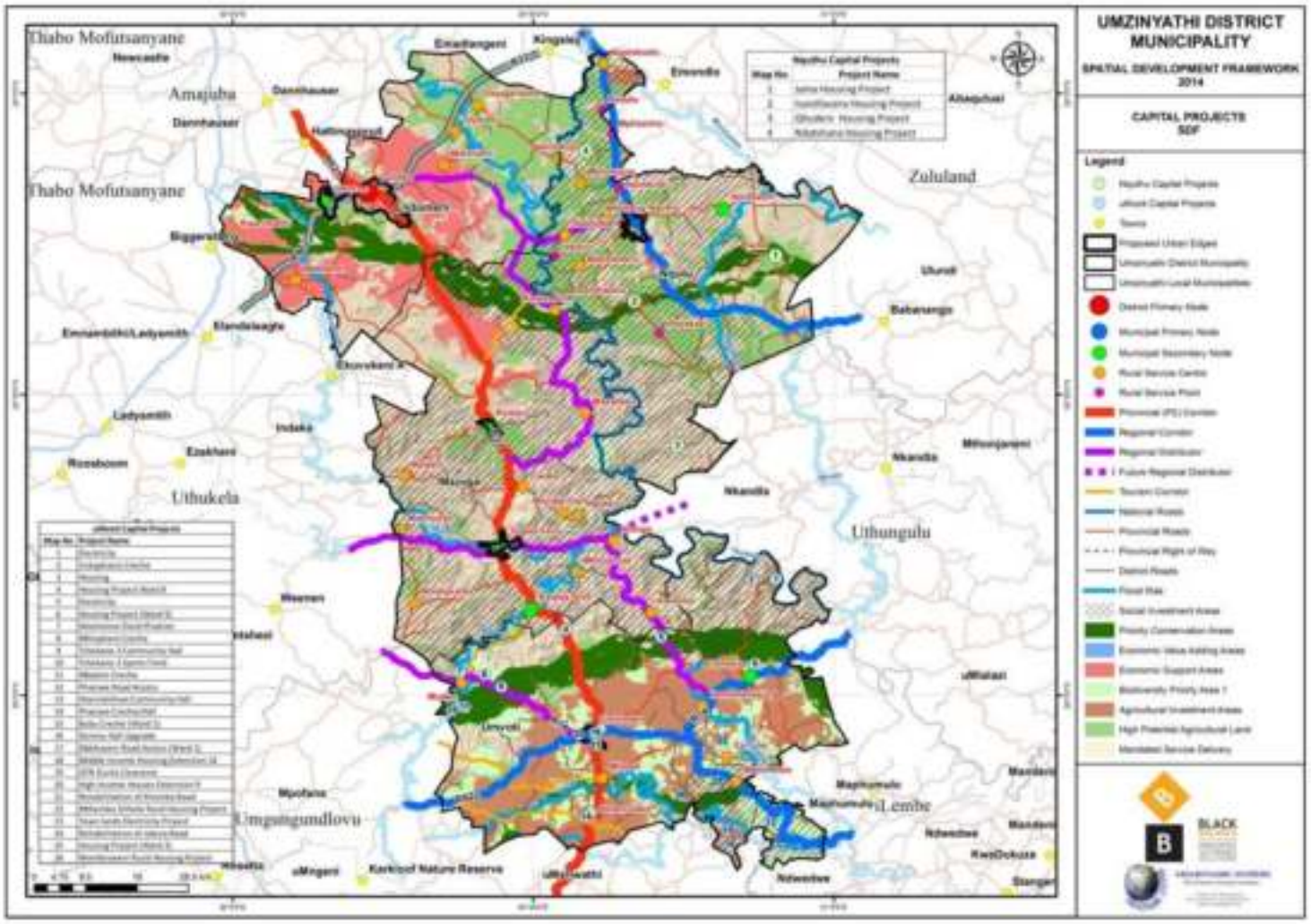
Figure 28

R66/R34 Regional Development Corridor linking the coal producing areas in the Mpumalanga Province with the Port of Richards Bay in the King Cetshwayo District through the ZDM.

Development nodes along this corridor include Vryheid and Ulundi in the ZDM and Melmoth, Eshowe and Mpangeni-Richards Bay in the KCDM.

Also, important agricultural land with relatively high production potential strtching from the south of Ulundi LM to Mthonjaneni and uMlalazi.

7.1.3 Umzinyathi District Municipality

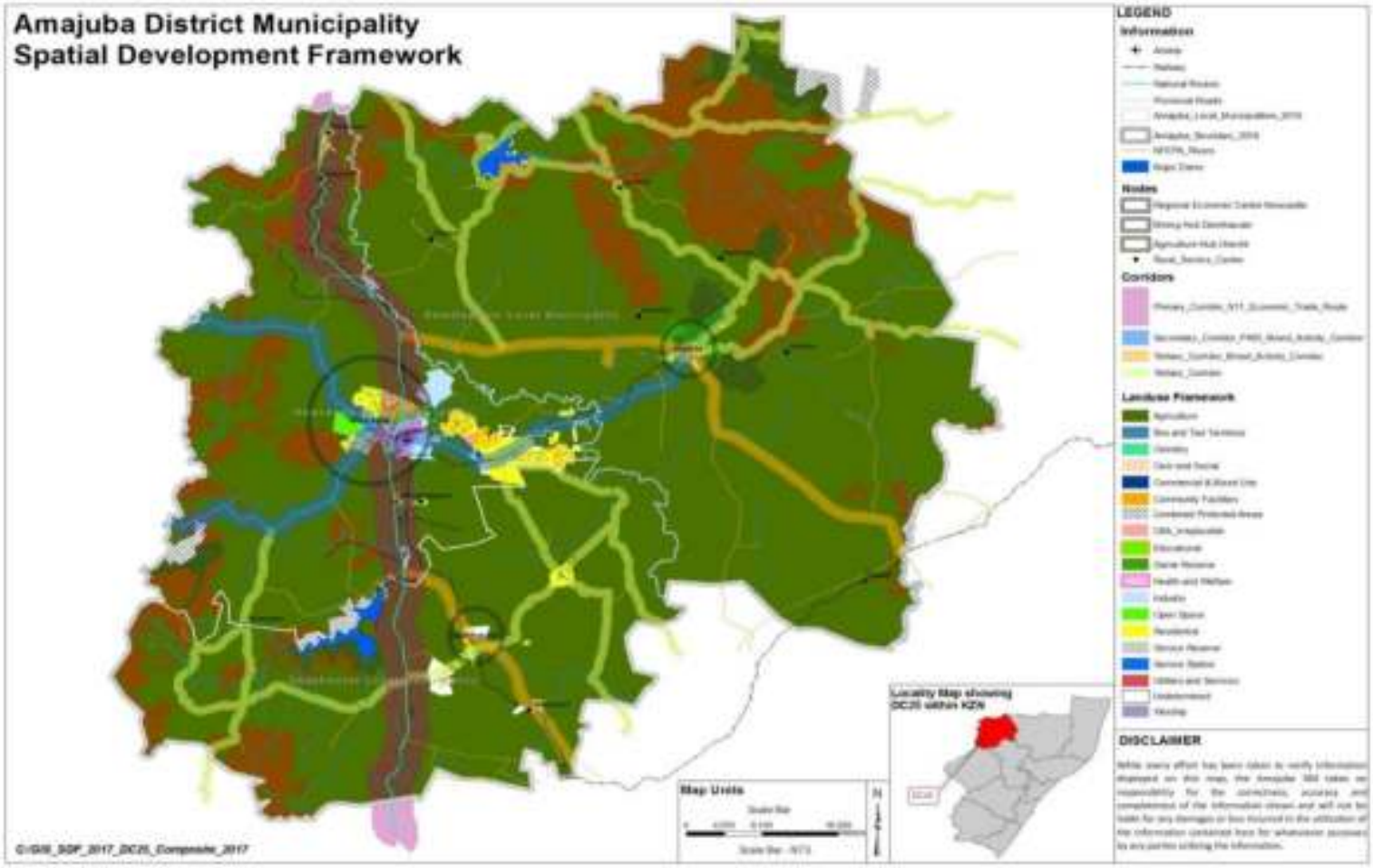


Umzinyathi District borders the Zululand District along south-western boundary. These two municipalities are linked by the R33 and R68 secondary corridors.

The two districts form an integral part of the battlefields Route with sites such as Blood River, Esandlwane and Vryheid as critical heritage sites.

Rural settlements are spread unevenly in space across Abaqulusi and Nquthu Local Municipalities.

7.1.4 Amajuba District



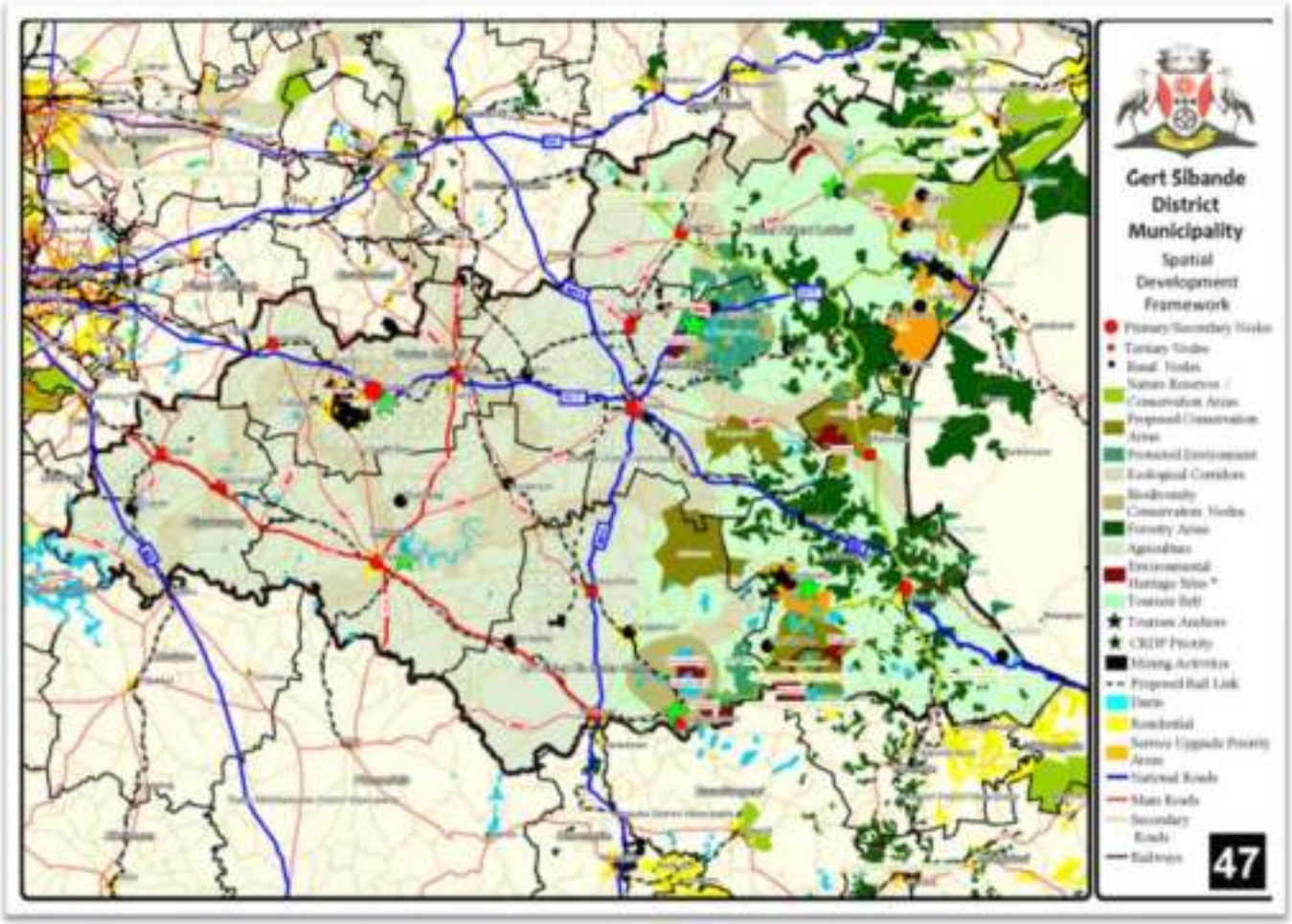
Amajuba District Municipality lies along the north-western boundary of the ZDM with the road from the R….. and R……being the main development corridors linking the two districts.

Agricultural land with relatively high production potential occurs stretches from Newcastle Utrecht in Amajuba to Edumbe, Vryheid and uPhongolo in the ZDM.

Coal belt stretching from Newcastle through Utrecht to Vryheid accounts for the mining activities that take place in both districts.

The ZDM and Amajuba District are also part of the Battlefields Tourism Region and have significant heritage sites which form the basis for tourism in the region.

7.1.5 Gert Sibande District

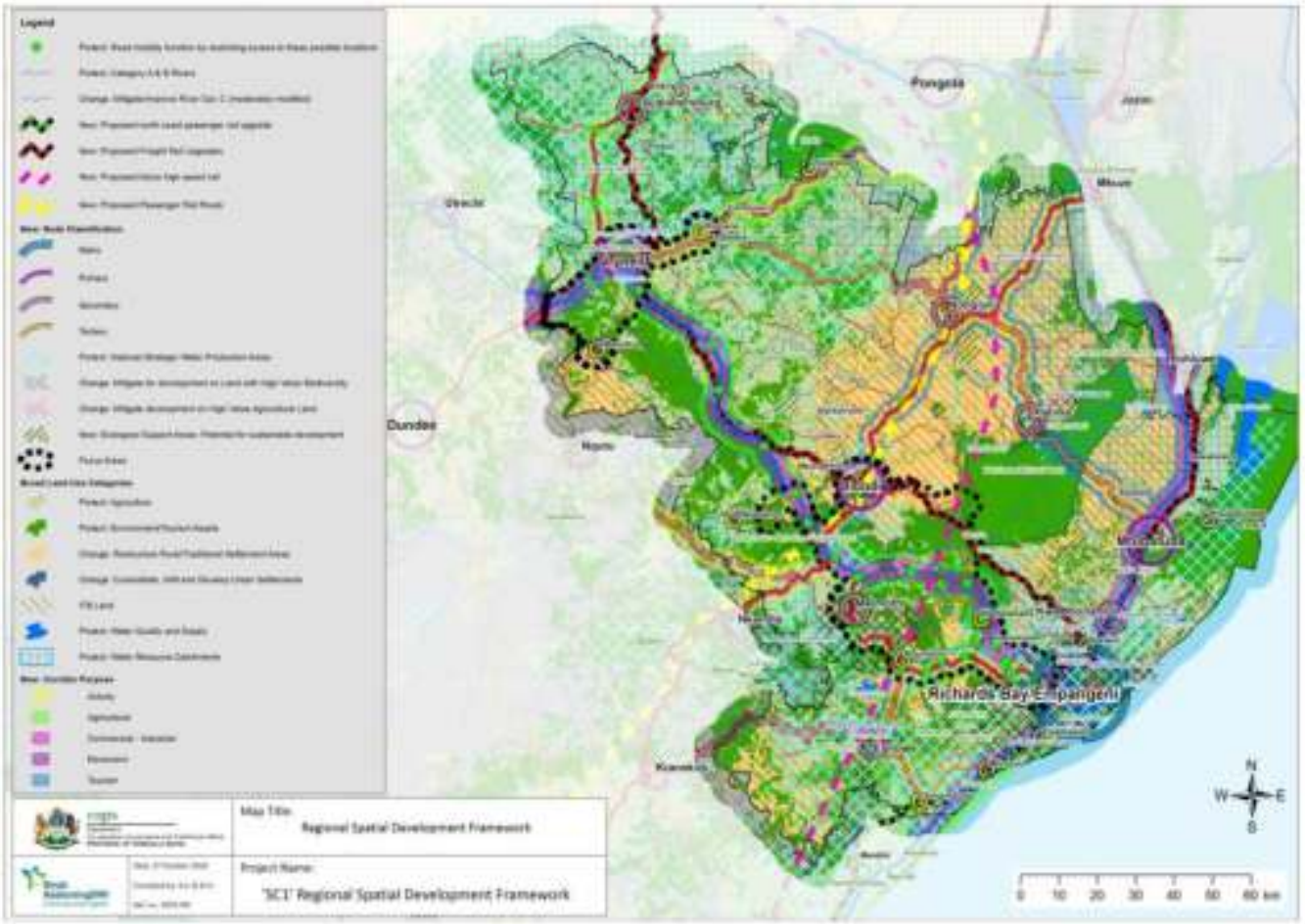


Strategic Infrastructure Project 1 (SIP1) has as one of its components the development of rail capacity to transport goods between Mpumalanga Province and KwaZulu-Natal, Richards Bay Terminal. This rail corridor runs through both districts, and it highlights their significance in the national economy.

The N2 Development Corridor is a major link between Mpumalanga and KZN Provinces. Phongola, Piet Retief (Mkhondo) and Ermelo are the main economic hubs located along this corridor.

Areas of bio-diversity and agricultural production significance stretched from the southern part of Gert Sibande to Phongola, Edumbe and Abaqulusi in the ZDM.

7.1.6 UMhlathuze-Ulundi-Vryheid Secondary Corridor



Within the rural restructuring areas, there are Wards that have the highest socio-economic deprivation and need. Under the KZN Poverty Eradication Master Plan (PEMP), these Wards need to be targeted with specific proposals to address the socio-economic deprivation and needs and eradicate poverty within these areas.

The areas with high agricultural potential are those areas that are currently used for agricultural purposes and/or have been identified as having high potential / capacity for agricultural use. Existing agricultural activities within these areas should be retained and opportunities for diversification of agricultural activities should be considered.

Re-alignment and upgrading of the R34 from north of Melmoth through to the N2 is essential from a mobility and road safety perspective and will also contribute considerably to economic development within the corridor.

Key interventions and investments in the high biodiversity value areas include environmental and biodiversity planning and management, sustainable resource use and controlled harvesting, and low impact recreational and tourism activities. Any activities or land uses within these areas need to be carefully managed and controlled to avoid adverse environmental impacts and protect the integrity, ecological functioning, and interconnection of the open space system.

Hierarchical organisation of development nodes based on potential service threshold and role of each node in the regional space economy.

7.2 Capital Expenditure Framework

Section 21(n) of the SPLUMA requires a MSDF to determine a Capital Expenditure Framework (CEF) for the municipality's development programmes depicted spatially. Further to this requirement, the KwaZulu-Natal Department of Cooperative Government and Traditional Affairs (COGTA) has developed a Guideline Document for Municipal Spatial Development Framework and Spatial Development Plan Monitoring Tools (January 2022). This document seeks, among others, to guide municipalities in the preparation of Capital Expenditure Frameworks. According to these guidelines a CEF:

> *provides a portfolio of capital expenditure that is required by all spheres of government, in the long-term, for a particular Municipality to support the implementation of the SDF objectives and strategies and for which are prioritised at 5-year intervals using a Criteria Based Matrix.*

It is intended that the CEF will eventually influence the allocation of funds by National government and budgeted for by Provincial government through the DDM and the MTSF in a manner that contributes to spatial restructuring as envisaged in the MSDF.

The CEF projects have been spatially referenced, where possible, to assist the municipality with the evaluation of where capital expenditure will be focussed in the municipal area. Thus, the intent is capital investment that lays the foundations for sustainable development. It must be noted that some projects do not have spatial referencing (no information available) and is therefore only reflected in the table format.

The following set of tables and maps depict the different projects in the district, categorised as follows:

- Bulk water schemes.
- Intermediate stand-alone schemes.
- Rudimentary roll-out schemes.
- New rural sanitation rollouts.
- Housing projects.

7.2.1 Bulk Water Scheme Projects

LM	REG. SCHEME	FIN. YEAR	WARD 2016	INFRASTRUCTURE TYPE	SIZE OR NUMBER OF HOUSEHOLDS	LENGTH OR SIZE	SETTLEMENT ID	DESCRIPTION OR SETTLEMENT NAME	COST (BULKS)	COST (RETICS)
AbaQulusi	Coronation	In Progress	1,2,3,5,6, 7,13,23	Planning				Coronation Regional Scheme Masterplan - Stand-alone Schemes		1 000 000
AbaQulusi	Hlahlindlela	In Progress	18,20	Water Conservation				Water Conservation and Demand Management for eMondlo Town	3 092 654	
AbaQulusi	Hlahlindlela	On hold	TA	Bulks & Secondary Bulk Connections	16 051 HH			Remaining Regional Bulks & Secondary bulk connections to all existing stand-lone schemes	263 878 995	
AbaQulusi	Khambi	2022/2023	3	Khambi RWSS Augmentation				New Production BH, rising main to existing Khambi WTW.	10 727 651	
AbaQulusi	Khambi	2023/2024	3	Settlement Reticulation		26	ZNEW30	Kewulane		1 572 349
AbaQulusi	Khambi	2023/2024	3	Settlement Reticulation		54	ZNEW31	Ndulinde		
eDumbe	Coronation	In Progress	7	Planning				Coronation Regional Scheme Masterplan - Stand-alone Schemes		1 000 000
eDumbe	Sim West	Completed	4	Treatment	10ml			Phase2 10ML to Sim West		
eDumbe	Sim West	Completed	4	Bulks				Raw Water Abstraction, Booster P/S & Rising Main to Frishgewaagd.		
eDumbe	Sim West	2022/2023	2,4,5,6,8	WCDM				Water Conservation & Demand Management	10 000 000	
eDumbe	Sim West	2022-2024	2	Storage	10ML			Demolish existing WTW and construct new terminal res.	84 646 060	
eDumbe	Sim West	2022-2024	4	Pump Station				New P/S to Mpunzi		
eDumbe	Sim West	2024-2026	2,10	Rising Main				Rising Main from Terminal Res to New Mpunzi Res.	41 591 876	
eDumbe	Sim West	2026/2027	10	Pump Station				Mpunz1 Booster Pumpstation with 600kl Sump	12 118 575	
eDumbe	Sim West	2026/2027	10	Reservoir	5ML			Mpunz1 5Ml Reservoir	12 298 928	
eDumbe	Sim West	>2027	5,6,8	Bulks				Remaining scope of works to connect all existing stand-alone schemes	363 847 582	
Nongoma	Mandlakazi	Completed	2,5,22	Bulks				PHASE 5.5 Bulk Pipelines & Reservoirs		
Nongoma	Mandlakazi	Completed	3	Bulks				Phase 5.1 Bulks		
Nongoma	Mandlakazi	In Progress	3	Reticulation				PHASE 5.1 Reticulation		

LM	REG. SCHEME	FIN. YEAR	WARD 2016	INFRASTRUCTURE TYPE	SIZE OR NUMBER OF HOUSEHOLDS	LENGTH OR SIZE	SETTLEMENT ID	DESCRIPTION OR SETTLEMENT NAME	COST (BULKS)	COST (RETICS)
Nongoma	Mandlakazi	In Progress	3,22	Bulks				PHASE 5.2 Bulk Pipelines & Reservoirs	72 811 713	
Nongoma	Mandlakazi	In Progress	3	Bulks				PHASE 5.3 Bulk Pipelines & Reservoirs	14 109 144	
Nongoma	Mandlakazi	2022/2023	3	Reticulation				PHASE 5.3 Reticulation		52 250 489
Nongoma	Mandlakazi	2022/2024	3	Bulks				PHASE 5.4 Bulk Pipelines & Reservoirs	58 676 211	
Nongoma	Mandlakazi	2022-2027	All	Bulks				Upstream Bulks: Abstraction Works & Raw Water Mains	1 443 865 170	
Nongoma	Mandlakazi	2023/2024	2,5,22	Reticulation				PHASE 5.5 Reticulation		202 756 956
Nongoma	Mandlakazi	2023/2024	20	Bulks				PHASE 5.6A Bulk Pipelines & Reservoirs	86 236 319	
Nongoma	Mandlakazi	2024/2025	6,7,8	Bulks				PHASE 5.6B Bulk Pipelines & Reservoirs	46 448 406	
Nongoma	Mandlakazi	2024-2026	3,22	Reticulation				PHASE 5.2 Reticulation		59 853 619
Nongoma	Mandlakazi	2024-2026	20	Reticulation				PHASE 5.6A Reticulation		75 645 844
Nongoma	Mandlakazi	2024-2026	1	Bulks				Potable water rising main & P/S to command reservoir	118 682 216	
Nongoma	Mandlakazi	2026/2027	3	Reticulation				PHASE 5.4 Reticulation		73 529 532
Nongoma	Mandlakazi	2026-2029	6,7,8	Reticulation				PHASE 5.6B Reticulation		223 233 058
Nongoma	Mandlakazi	2026/2028	1	Bulks				WTW Upgrade to 60ML/day	344 919 960	
Nongoma	Mandlakazi	>2027	1,5,6,7,8,20	Bulks				Bulk Mains & Pump Stations for Hlabisa Bulk Supply	479 083 370	
Nongoma	Mandlakazi	On Hold	22	Bulks				PHASE 5.7 Bulk Pipeline	33 377 821	
Nongoma	Usuthu	Completed	9	PS Mech/Electr		-	-	Lindizwe PS2	-	-
Nongoma	Usuthu	Completed	9	PS Mech/Electr		-	-	Holinyoka PS1	-	-
Nongoma	Usuthu	Completed	9	Usuthu Bulk Res B & 3ML Res		-	-	Completion of bulk reservoirs for Zone G	-	-

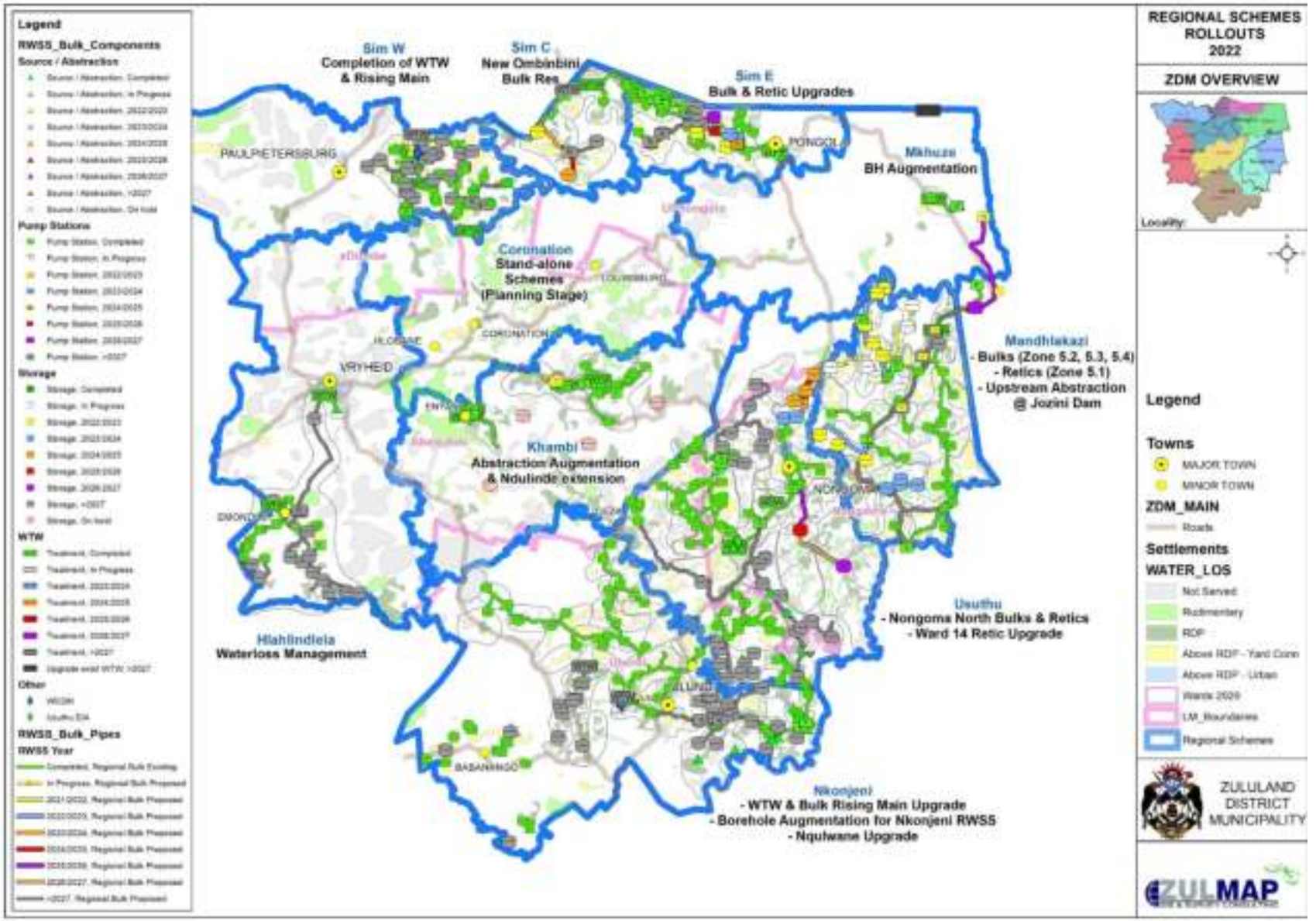
LM	REG. SCHEME	FIN. YEAR	WARD 2016	INFRASTRUCTURE TYPE	SIZE OR NUMBER OF HOUSEHOLDS	LENGTH OR SIZE	SETTLEMENT ID	DESCRIPTION OR SETTLEMENT NAME	COST (BULKS)	COST (RETICS)
Nongoma	Usuthu	Completed	15	Usuthu Raw Water Abstraction		-	-	Mechanical Works	-	-
Nongoma	Usuthu	In Progress	14	Reticulation	142	-	Z554	Badlaneni	-	
Nongoma	Usuthu	In Progress	14	Reticulation	112	-	Z564	Emahlombe	-	
Nongoma	Usuthu	In Progress	14	Reticulation	284	-	Z561	Esigangeni 1	-	
Nongoma	Usuthu	In Progress	14	Reticulation	80	-	Z562	Itshodo	-	
Nongoma	Usuthu	In Progress	14	Reticulation	297	-	Z578	Ivuna	-	
Nongoma	Usuthu	In Progress	14	Reticulation	49	-	Z560	Khalweni	-	13 800 000
Nongoma	Usuthu	In Progress	14	Reticulation	66	-	Z563	Kwandase	-	
Nongoma	Usuthu	In Progress	14	Reticulation	66	-	ZJM2c	Kwazwede	-	
Nongoma	Usuthu	In Progress	14	Reticulation	110	-	Z559	Newgoli	-	
Nongoma	Usuthu	In Progress	14	Reticulation	42	-	ZJM2b	Phenyane 2	-	
Nongoma	Usuthu	2022/2023	16	Pump Station				Canaan Pump Station	1 500 000	
Nongoma	Usuthu	2022/2023	23	Reticulation				Holinyoka Area Reticulation Phase 1		30 000 000
Nongoma	Usuthu	2023/2024	13	Reticulation				Holinyoka Area Reticulation Phase 2		6 000 000
Nongoma	Usuthu	2023/2024	18	Bulks				Bulk pipelines for Bulk Res G North	30 000 000	
Nongoma	Usuthu	2024/2025	18	Bulks				Remaining Bulk pipelines for Bulk Res G North	9 000 000	
Nongoma	Usuthu	2025/2026	23	Bulks				Bulk Pipline to Res F, Reservoir F	27 552 000	
Nongoma	Usuthu	2026-2029	10,12,13,23	Reticulation				Reticulation within Bulk Res F Zone		142 600 000
Nongoma	Usuthu	2026/2027	23,10	Bulks				Bulk Pipline to Res J, Reservoir J	6 221 000	

LM	REG. SCHEME	FIN. YEAR	WARD 2016	INFRASTRUCTURE TYPE	SIZE OR NUMBER OF HOUSEHOLDS	LENGTH OR SIZE	SETTLEMENT ID	DESCRIPTION OR SETTLEMENT NAME	COST (BULKS)	COST (RETICS)
Nongoma	Usuthu	>2027	10,11	Reticulation				Reticulation within Bulk Res J Zone		55 042 000
Nongoma	Usuthu	>2027	17,21	Bulks				Bulks in Res H Zone	28 000 000	
Nongoma	Usuthu	>2027	17,21	Reticulation				Reticulation in Bulk Res H Zone		140 000 000
Nongoma	Usuthu	>2027	12,13	Bulks				Bulk supply lines & Reservoirs to Zone D	53 694 000	
Nongoma	Usuthu	>2027	4	Reticulation				White City Reticulation Upgrade		12 000 000
Nongoma	Usuthu	>2027	16	Reticulation				Mthwatube and surrounding reticulation upgrade		59 960 000
Nongoma	Usuthu	>2027	13	RWSS				Fish Ladder @ Vuna Dam	3 500 000	
Nongoma	Usuthu	>2027	13	RWSS				Vuna Dredging	13 000 000	
Ulundi	Usuthu	>2027	7,8,14	Bulks				Bulk supply lines & Reservoirs to Zone E	57 550 000	
Ulundi	Usuthu	>2027	5	Bulks				Bulk supply lines & Reservoirs to Zone C	23 100 000	
Ulundi	Usuthu	>2027	4,5	Bulks				Bulk Supply to Ceza, Ceza Bulk Res	71 000 000	
Ulundi	Usuthu	>2028	4,6	Bulks				Off-channel Dam	613 822 560	
Ulundi	Nkonjeni	In Progress	RWSS	RWSS Augmentation	Boreholes			Additional BH's to augment water supply to Nkonjeni & Ulundi water schemes.	14 500 000	
Ulundi	Nkonjeni	In Progress	RWSS	Bulks	20ML			Upgrade WTW with 20ML Phase1	10 600 000	
Ulundi	Nkonjeni	In Progress	RWSS	Bulks				Replace Rising Main to Ulundi Town	17 900 000	
Ulundi	Nkonjeni	2022/2023	RWSS	WCDM				Water Conservation & Demand Management	10 000 000	
Ulundi	Nkonjeni	2022/2023	15	Reticulation	455		Z417	Reticulation upgrade at Nqulwane		3 500 000
Ulundi	Nkonjeni	2023-2024	RWSS	RWSS Augmentation	Boreholes			Additional BH's to augment water supply to Nkonjeni & Ulundi water schemes.	8 573 600	
Ulundi	Nkonjeni	2023-2032	RWSS	WCDM				Water Conservation & Demand Management	240 925 400	

LM	REG. SCHEME	FIN. YEAR	WARD 2016	INFRASTRUCTURE TYPE	SIZE OR NUMBER OF HOUSEHOLDS	LENGTH OR SIZE	SETTLEMENT ID	DESCRIPTION OR SETTLEMENT NAME	COST (BULKS)	COST (RETICS)
Ulundi	Nkonjeni	2023-2026	RWSS	Treatment				Upgrade WTW with 20ML Phase2	159 279 945	
Ulundi	Nkonjeni	2026/2027	RWSS	Pump Station	22KV			Upgrading of P/S at WTW	10 830 000	
Ulundi	Nkonjeni	>2017	RWSS	WTW	30ML			Upgrading of WTW Phase 3 to 30ML/day	639 427 140	
Ulundi	Nkonjeni	>2017	14,20,24	Bulks				Planned bulk water supply to Nkonjeni Central and East	498 985 291	
Ulundi	Nkonjeni	>2017	13,16,17,23	Bulks				Planned bulk water supply to Mpungamhlope region	523 831 154	
Ulundi	Nkonjeni	>2017	16	Bulks				Planned bulk water supply to Babanango region from Mpungamhlope WTW		
uPhongolo	Coronation	In Progress	1	Planning				Coronation Regional Scheme Masterplan - Stand-alone Schemes		1 000 000
uPhongolo	Mkhuze	2022/2023	1	RWSS Augmentation			ZHR2	Gumbi Trust Water Supply Augmentation	2 601 477	
uPhongolo	Sim East	2022-2024	9	Bulks	1ML			PROJECT 3A: Rising Main, Pump Station & Reservoir S1	42 368 141	
uPhongolo	Sim East	2022-2024	9	Reticulation				PROJECT 3B: Reticulation to Res S1 zone		
uPhongolo	Sim East	2022-2026	11					Augmentation to Golela WTW, Rising Main & Reticulation to Golela Border Post	55 000 000	
uPhongolo	Sim East	2024/2025	13		700ML			PROJECT 2A: Rising Main, Pump Station & Reservoir S3	28 599 289	
uPhongolo	Sim East	2024/2025	13	Reticulation				PROJECT 2B: Reticulation to Res S3 zone		
uPhongolo	Sim East	2025/2026	9,11	Reticulation				PROJECT 1B: Reticulation to Reservoir S2		29 483 379
uPhongolo	Sim East	2025/2026	9,15		300KL			PROJECT 4-6: 2x Pump Stations & Reservoir P2	19 979 490	
uPhongolo	Sim East	2026/2027	13		300KL			PROJECT 7-9A: Pump Station, Rising Main & Reservoir S5	6 972 711	
uPhongolo	Sim East	2026/2027	13	Reticulation				PROJECT 9B: Reticulation to Res S5		11 559 576
uPhongolo	Sim East	>2017	7,8,13,15					PROJECTS 11-24: Bulks & Reticulation to Res S4, S6,S7,S8, S11, P3, S12, S13, S14	95 352 787	
uPhongolo	Sim Central	Completed	3	Bulks	250			Regional bulk pipeline from Luphiso reservoir to new regional bulk reservoir at Ombimbini1		
uPhongolo	Sim Central	2022/2023	3	Storage	3ML			New bulk regional reservoir at Ombimbini	9 950 000	

LM	REG. SCHEME	FIN. YEAR	WARD 2016	INFRASTRUCTURE TYPE	SIZE OR NUMBER OF HOUSEHOLDS	LENGTH OR SIZE	SETTLEMENT ID	DESCRIPTION OR SETTLEMENT NAME	COST (BULKS)	COST (RETICS)
uPhongolo	Sim Central	2023/2024	3	Settlement Reticulation	91		Z722	KWAMBHULU	TBA	
uPhongolo	Sim Central	2023/2024	3	Settlement Reticulation	140		Z759	VIMBEMSHINI		
uPhongolo	Sim Central	2023/2024	3	Settlement Reticulation	118		Z462	OMBIMBINI 1		
uPhongolo	Sim Central	2023/2024	3	Settlement Reticulation	96		Z753	NEWSTAND		
uPhongolo	Sim Central	2023/2024	3	Settlement Reticulation	136		Z427	MDIYANE		
uPhongolo	Sim Central	2023/2024	3	Settlement Reticulation	156		Z526	MANZABOMVU 1		
uPhongolo	Sim Central	2023/2024	3	Settlement Reticulation	175		Z428	NCITINI		
uPhongolo	Sim Central	2023/2024	3	Settlement Reticulation	113		Z421	DUNGAMANZI 2		
uPhongolo	Sim Central	2023/2024	3	Settlement Reticulation	140		Z423	GESI		
uPhongolo	Sim Central	2023/2024	6	Settlement Reticulation	167		Z424	NTABAKAYISHI		
uPhongolo	Sim Central	2023/2024	6	Settlement Reticulation	220		Z429	ALTONA		
uPhongolo	Sim Central	2023/2024	6	Settlement Reticulation	48		Z760	MAGIQWENI		
uPhongolo	Sim Central	2024/2025	3,6	Bulks				Regional bulk to Bongaspoort P/S	221 635 780,20	
uPhongolo	Sim Central	2025/2026	6	Pump Station				Booster Pump Stations at Bongaspoort	59 422 000	
uPhongolo	Sim Central	2026/2027	6	Bulks				Bulk Pipeline to Res 4 at Klipwal	123 130 989	
uPhongolo	Sim Central	2026/2027	6	Storage	1ML			Res 4 at Klipwal	3 000 000	
uPhongolo	Sim Central	>2027	6	Settlement Reticulation	40		Z769	MAFINDOSE	TBA	
uPhongolo	Sim Central	>2027	6	Settlement Reticulation	58		Z761	BONGASPOORT		
uPhongolo	Sim Central	>2027	6	Settlement Reticulation	137		Z768	KLIPWAL		
uPhongolo	Sim Central	>2027	6	Settlement Reticulation	54		Z767	MFENYANE		
uPhongolo	Sim Central	>2027	6	Settlement Reticulation	76		Z762	EZINKETHENI		

LM	REG. SCHEME	FIN. YEAR	WARD 2016	INFRASTRUCTURE TYPE	SIZE OR NUMBER OF HOUSEHOLDS	LENGTH OR SIZE	SETTLEMENT ID	DESCRIPTION OR SETTLEMENT NAME	COST (BULKS)	COST (RETICS)
uPhongolo	Sim Central	>2027	6	Settlement Reticulation	92		ZBUK63	DLOMODLOMO		
uPhongolo	Sim Central	>2027	6	Bulks				1ML Res 3 at Emabomvu	147 757 186,80	
uPhongolo	Sim Central	>2027	6	Bulks	1ML			Bulk Pipeline to Res 3 at Emabomvu	3 000 000	
uPhongolo	Sim Central	>2027	6	Settlement Reticulation	49		Z527	MFALOVALO	TBA	
uPhongolo	Sim Central	>2027	6	Settlement Reticulation	25		ZTAS57	THUSAZANE		
uPhongolo	Sim Central	>2027	6	Settlement Reticulation	43		Z377	EZIBAYEN		
uPhongolo	Sim Central	>2027	6	Settlement Reticulation	44		Z376	EMABOMVU		
uPhongolo	Sim Central	>2027	6	Settlement Reticulation	26		Z380	KORTNEK		
uPhongolo	Sim Central	>2027	6	Settlement Reticulation	102		Z378	NKOSIENTSHA		
uPhongolo	Sim Central	>2027	6	Settlement Reticulation	66		Z379	MAQANDA		
uPhongolo	Sim Central	>2027	6	Settlement Reticulation	38		Z381	MGWADLU		
uPhongolo	Sim Central	>2027	3	Treatment	18ML			New WTW at abstraction to supply Sim Central	97 333 978	
uPhongolo	Sim East	>2027	11	Abstraction	TBA			Planned upgrading of abstraction works at river	TBA	


Legend
RWSS_Bulk_Components
Source / Abstraction
Pump Stations
Storage
WTW
Other
RWSS_Bulk_Pipes
RWSS Year
Sim W
Completion of WTW
& Rising Main
Sim C
New Ombinbini
Bulk Res
Sim E
Bulk & Retic Upgrades
Mkhuze
BH Augmentation
Coronation
Stand-alone
Schemes
(Planning Stage)
Mandhlakazi
- Bulks (Zone 5.2, 5.3, 5.4)
- Retics (Zone 5.1)
- Upstream Abstraction
@ Jozini Dam
Khambi
Abstraction Augmentation
& Ndulinde extension
Usuthu
- Nongoma North Bulks & Retics
- Ward 14 Retic Upgrade
Hlahlindlela
Waterloss Management
Nkonjeni
- WTW & Bulk Rising Main Upgrade
- Borehole Augmentation for Nkonjeni RWSS
- Nquhwane Upgrade
PAULPIETERSBURG
PONGOLA
VRYHEID
REGIONAL SCHEMES
ROLLOUTS
2022
ZDM OVERVIEW
Locality:
Legend
Towns
MAJOR TOWN
MINOR TOWN
ZDM_MAIN
Roads
Settlements
WATER_LOS
Not Served
Rudimentary
RDP
Above RDP - Yard Conn
Above RDP - Urban
Wards 2016
LM_Boundaries
Regional Schemes
ZULULAND
DISTRICT
MUNICIPALITY
ZULMAP

7.2.2 Intermediate Stand-Alone Schemes

LOCAL MUNICIPALITY	REGIONAL SCHEME	WARD 2016	IMPLEMENTATION YEAR	STAND-ALONE SCHEME NAME	PHASE	Z-NR	SETTLEMENT NAME	HOUSEHOLDS SERVED
	Hlahlindlela	15	Completed	Bhobozani		Z116	Bhobozani (Ginqa)	238
		15/17	2022/2023	Mhlangeni/Nqulwane		Z119	Mhlangeni	249
		15/17	2022/2023	Mhlangeni/Nqulwane		Z941	Nqulwane	120
	Khambi	4	In Progress	Gluckstad/Bevenson	Phase 1		EIA and Approvals	
		4	2023/2024	Gluckstad/Bevenson	Phase 2	ZNew56	Emaqigwe	22
		4	2023/2024	Gluckstad/Bevenson	Phase 2	ZNew57	Hlongane	28
		4	2023/2024	Gluckstad/Bevenson	Phase 2	ZNew58	Enkaleni	53
		4	2024/2025	Gluckstad/Bevenson	Phase 3	ZNew55	KwaNgada	59
		4	2024/2025	Gluckstad/Bevenson	Phase 3	ZNew54	KwaDevan	48
		4	2025/2026	Gluckstad/Bevenson	Phase 4	ZNN6	Egazini	175
		4	2025/2026	Gluckstad/Bevenson	Phase 4	ZNN7	Kwanyoni	29
		4	2025/2026	Gluckstad/Bevenson	Phase 4	ZNN9	Mfofana	79
		4	2025/2026	Gluckstad/Bevenson	Phase 5	ZMAP126	Mangoe	103
		4	2025/2026	Gluckstad/Bevenson	Phase 5	ZNN14	Emangumbu	81
		4	2026/2027	Gluckstad/Bevenson	Phase 6	ZNN10	Makukula	207
		4	2026/2027	Gluckstad/Bevenson	Phase 6	ZMAP60	KwaSodumo	69
		4	2026/2027	Gluckstad/Bevenson	Phase 6	ZTAS52	Cebekazi	138
		4	2026/2027	Gluckstad/Bevenson	Phase 6	ZNN1	Zwati	146
		4	2026/2027	Gluckstad/Bevenson	Phase 6	ZNN11	Mandunduwe	75
		4	2026/2027	Gluckstad/Bevenson	Phase 6	ZTAS50	Esigangeni 2	58
		4	2026/2027	Gluckstad/Bevenson	Phase 6	ZNN13	KwaSozwane	71
		4	2026/2027	Gluckstad/Bevenson	Phase 8	Z897a	Bethel (Mission)	93
		4	2026/2027	Gluckstad/Bevenson	Phase 8	Z897b	Bethel (Salema)	205
	Nkonjeni	4	2026/2027	Gluckstad/Bevenson	Phase 6	ZMAP59	Masigane	50
Nongoma	Mandhlakazi	2	Planned	Nhlebela		Z251	Ovukneni	141
		3	Completed	Sovana	Phase 1	Z330	Sovana	97

LOCAL MUNICIPALITY	REGIONAL SCHEME	WARD 2016	IMPLEMENTATION YEAR	STAND-ALONE SCHEME NAME	PHASE	Z-NR	SETTLEMENT NAME	HOUSEHOLDS SERVED
		3	Completed	Sovana	Phase 1	Z327	Macijo	62
		3	Completed	Sovana	Phase 1	Z329	Vesonweni	43
		3	Completed	Sovana	Phase 1	Z331	Machibini	133
		3	Completed	Sovana	Phase 1	Z332	Njonyomane	78
		4	Completed	Henenende		Z211	Khokhwaneni	170
		5	Planned	Nhlebela		Z248	Nhlebela	135
		5	Planned	Nhlebela		Z250	Fakude	110
		5	Planned	Nhlebela		Z268	Ndimhlana	140
		5	Planned	Nhlebela		Z266	Khethankomo	198
		5	Planned	Nhlebela		Z264	New Town	74
		5	Planned	Nhlebela		Z265	Mthincongo	183
		5	Planned	Nhlebela		Z280	Sinqanda	175
		5	Planned	Mphuphuzi		Z247	Mpuphusi	137
		5	Planned	Kwajuba		Z718	Mahlomane	71
		5	Planned	Kwajuba		Z292	Kwajuba	126
		5	Planned	Kwajuba		Z294	Kolubomvu 1	20
		7	Planned	Bhekumthethu		Z956	Egudu	157
		7	Planned	Bhekumthethu		Z957	Nzondwane	40
		7	Planned	Bhekumthethu		Z197	Mpuqwini	206
		7	Planned	Bhekumthethu		Z205	Chinamorgan	45
		7	Planned	Bhekumthethu		Z206	Nkungwini	74
		8	Planned	Bhekumthethu		Z186	Ncemaneni	110
		8	Planned	Bhekumthethu		Z196	Bhekumthetho 2	305
		8	Planned	Bhekumthethu		Z207	Nkonjeni	185
		20	Completed	Henenende		Z630	Vilane	267
Nongoma	Usuthu	4	Completed	Henenende		Z823	Mbonjeni	54
		4	Completed	Henenende		Z218	Henenende	295
		10	Completed	Zombodhe		Z575	Kwahelibheshu	15

LOCAL MUNICIPALITY	REGIONAL SCHEME	WARD 2016	IMPLEMENTATION YEAR	STAND-ALONE SCHEME NAME	PHASE	Z-NR	SETTLEMENT NAME	HOUSEHOLDS SERVED
		10	Completed	Zombodhe		ZBUK56	Nombanjana	65
		10	Completed	Zombodhe		ZNN26	Engongoma	21
		10	Completed	Enzobo		Z572	Qule	22
		11	Completed	Enzobo		Z155	Eziqhumeni	114
		11	Completed	Enzobo		Z156	Entwala	54
		11	Completed	Enzobo		Z157	Nqala	79
		11	Completed	Enzobo		Z158	Entuthukweni	125
		11	Completed	Enzobo		Z159	Elanjeni/Msasanani	174
		11	Completed	Enzobo		ZBA4	Sidakeni 2	27
		11	Completed	Enzobo		ZBA5	Khanjaneni	53
		11	Completed	Enzobo		ZNN22	Ebungwini	121
		11	Completed	Enzobo		Z570	Kwazungu	175
		11	Completed	Enzobo		ZNN23	Emhemeni	62
		11	Completed	Enzobo		Z568	Mbamba	51
		11	Completed	Enzobo		Z567	Othinsangu	115
		11	Completed	Enzobo		ZNN27	Hlathidumayo	80
		11	Completed	Enzobo		ZBA2	Singangeni	73
		11	Completed	Enzobo		Z154	Zampilo	37
		11	Completed	Enzobo		Z153	Mcibilindini	47
		11	Completed	Enzobo		Z151	Mhlabaneni	60
		11	Completed	Enzobo		ZBA1	Kwavumela	76
		11	Completed	Enzobo		Z152	Masokaneni	160
		12	Completed	Kwankulu		Z347	Manhlanhla	169
		13	Completed	Kwankulu		ZMAP17	Emgodi 2	87
		13	Completed	Kwankulu		Z350	Kwamfemfeni	117
		13	Completed	Kwankulu		Z372	Ingundwane	19
		13	Completed	Kwankulu		Z351	Kwankulu	97
		13	Completed	Kwankulu		Z353	Hlambanyathi 1	87

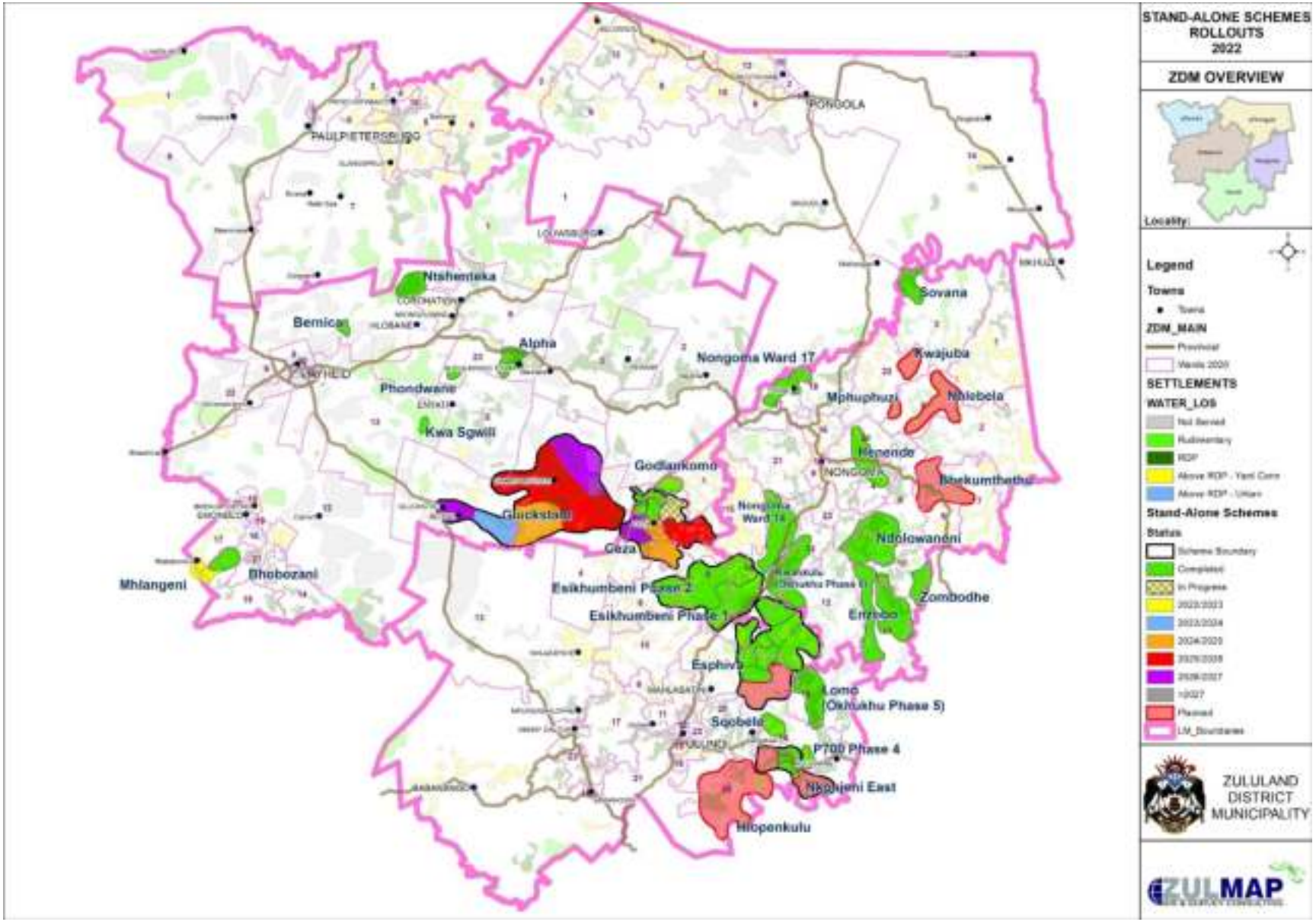
LOCAL MUNICIPALITY	REGIONAL SCHEME	WARD 2016	IMPLEMENTATION YEAR	STAND-ALONE SCHEME NAME	PHASE	Z-NR	SETTLEMENT NAME	HOUSEHOLDS SERVED
		14	Completed	Esikhumbeni	Phase 1	Z549a	KwaMusi	312
		14	Completed	Esikhumbeni	Phase 1	Z549b	KwaMahashi	39
		14	Completed	Esikhumbeni	Phase 1	Z551b	KwaBoy 2	17
		14	Completed	Esikhumbeni	Phase 1	Z551a	Dayeni	104
		14	Completed	Esikhumbeni	Phase 2	ZMAP29	Mbhukudu	116
		14	Completed	Esikhumbeni	Phase 2	Z555	Ezimpakaneni	164
		14	Completed	Esikhumbeni	Phase 2	Z552	Shisuthu	143
		14	Completed	Esikhumbeni	Phase 2	Z553	Nsimbini	137
		14	Completed	Esphiva	Phase 3	Z550	Onyango	156
		17	Completed	Nongoma Ward 17		Z659	Thokazi	142
		17	Completed	Nongoma Ward 17		ZKAY1	Esiweni	25
		17	Completed	Nongoma Ward 17		ZKAY7	Msasaneni	35
		17	Completed	Nongoma Ward 17		ZMAP34	Phoqukhalo	23
		17	Completed	Nongoma Ward 17		Z660	Mjiza	157
		17	Completed	Nongoma Ward 17		Z658	Mbengo	73
		17	Completed	Nongoma Ward 17		ZKAY8	Echibini	9
		18	Completed	Nongoma Ward 17		ZKAY6	Magedlana B	57
		20	Completed	Henenende		Z224	Qathaqatheni	121
		20	Completed	Henenende		Z223	Ebukhalini	68
Ulundi	Nkonjeni	14	Planned	Nkonjeni East	Phase 3	Z403	Tshiyazane	81
		14	Planned	Nkonjeni East	Phase 3	Z404	Bhongisilwane	32
		14	Planned	Nkonjeni East	Phase 4	Z413	Njomelwane	318
		14	Completed	Sqobelo		Z407	Ezinyosini	203
		14	Completed	Sqobelo		Z782	Sqobelo	70
		14	Completed	P700 (Dindi)		Z412	Zilulwane	99
		14	Completed	Nkonjeni East	Phase 1	Z410	Ganwini	146
		15	Planned	Nkonjeni East	Phase 4	Z416	Zenzele	88
		15	Planned	Nkonjeni East	Phase 4	Z166	Ngqolothi	193

LOCAL MUNICIPALITY	REGIONAL SCHEME	WARD 2016	IMPLEMENTATION YEAR	STAND-ALONE SCHEME NAME	PHASE	Z-NR	SETTLEMENT NAME	HOUSEHOLDS SERVED
		24	Completed	Nkonjeni East	Phase 1	Z411	Dindi	243
		24	Completed	Nkonjeni East	Phase 2	ZNew100	Eskhaleni Kwankosi	13
		24	Completed	Nkonjeni East	Phase 2	ZTAS13	England	80
		24	Planned	Nkonjeni East	Phase 3	ZTAS17	Nkonjane	213
		24	Planned	Nkonjeni East	Phase 3	ZTAS16	Kwathuthu	19
		24	Planned	Hlopenkulu		ZMAP109	Ezisasaneni	26
		24	Planned	Hlopenkulu		ZMAP108	Basamlilo	66
		24	Planned	Hlopenkulu		Z758	Ekujulukeni	269
		24	Planned	Hlopenkulu		ZTAS18	Ezimfeneni	67
		24	Planned	Hlopenkulu		Z813	Enguqe	178
		24	Planned	Hlopenkulu		Z820b	Sibanisakhe	64
		24	Planned	Hlopenkulu		Z398	Ekatini	42
		24	Planned	Hlopenkulu		Z820a	Hlophekhulu	80
		24	Planned	Hlopenkulu		Z820c	Gijima	85
		24	Planned	Hlopenkulu		ZTAS19	Ezikhumbeni	99
	Usuthu	1	2025/2026	Ceza	Phase 10	Z26	Obhedeni	36
		2	In Progress	Ceza	Phase 9	Z10b	Kwamasane	31
		2	In Progress	Ceza	Phase 9	Z16	Mndaweni	78
		2	In Progress	Ceza	Phase 9	Z14	Nsimbi	129
		2	In Progress	Ceza	Phase 9	Z15	Phethu	78
		2	In Progress	Ceza	Phase 9	Z9	Mgxotshwa	14
		2	In Progress	Ceza	Phase 9	Z10a	Brush/Nsukangihlale	355
		2	2025/2026	Ceza	Phase 10	Z19	Nomponjwana	64
		2	2025/2026	Ceza	Phase 10	ZMAP116	Ezinxagwini	49
		2	2025/2026	Ceza	Phase 10	Z25	Siyekela	100
		2	2025/2026	Ceza	Phase 10	ZRN6	Ezimqaqeni	49
		2	2025/2026	Ceza	Phase 10	ZRN1	Ezihlaqeni	40
		2	2025/2026	Ceza	Phase 10	ZMAP115	Nhlohlala	118
		2	2025/2026	Ceza	Phase 10	ZMAP114	Sikhalampama	80

LOCAL MUNICIPALITY	REGIONAL SCHEME	WARD 2016	IMPLEMENTATION YEAR	STAND-ALONE SCHEME NAME	PHASE	Z-NR	SETTLEMENT NAME	HOUSEHOLDS SERVED
		2	2025/2026	Ceza	Phase 10	Z24	Edlakude	81
		2	2025/2026	Ceza	Phase 10	Z17	Nhlonga	132
		3	Completed	Godlankomo		ZRN4	Godlankomo	322
		3	Completed	Ceza	Phase 1		Weir B, Rising Main & WTW	
		3	Completed	Ceza	Phase 3	Z436	Isihululu	157
		3	Completed	Ceza	Phase 3	Z437a	Mguluze	64
		3	Completed	Ceza	Phase 3	Z437b	Nsukahlale	186
		3	Completed	Ceza	Phase 4	Z443	Nomdidwa	87
		3	Completed	Ceza	Phase 4	Z441	Mkhulwana	84
		3	Completed	Ceza	Phase 4	ZMD9	Ngobodo	89
		3	Completed	Ceza	Phase 4	Z438b	Dayingubu	189
		3	Completed	Ceza	Phase 4	Z438a	Nhlatwini	26
		3	Completed	Ceza	Phase 4	Z440	Magayiseni	56
		3	Completed	Ceza	Phase 4	Z439	Dakaneni	105
		3	Completed	Ceza	Phase 4	ZNew51	Eziqhwageni	52
		3	Completed	Ceza	Phase 8		Weir A & Bulks	
		4	2024/2025	Ceza	Phase 5	Z448	Ezembeni 1	281
		4	2024/2025	Ceza	Phase 5	ZMD10	Chibini	226
		4	2026/2027	Ceza	Phase 7	Z446	Esidakeni 2	578
		4	2026/2027	Ceza	Phase 7	Z442	Ngubaneni	113
		5	2024/2025	Ceza	Phase 6	ZNew117	Magagodolo	15
		5	2024/2025	Ceza	Phase 6	Z33	Ntambonde	76
		5	2024/2025	Ceza	Phase 6	Z29	Egqumeni	110
		5	2024/2025	Ceza	Phase 6	Z30	Ndwaleni	48
Ulundi	Usuthu	5	2024/2025	Ceza	Phase 6	Z27	Nende	15
		5	2024/2025	Ceza	Phase 6	Z28	Ezembeni 2	88
		5	2024/2025	Ceza	Phase 6	ZMAP113	KwaFini	40
		5	Completed	Esikhumbeni	Phase 1	Z83	Kwameke	78
		5	Completed	Esikhumbeni	Phase 1	Z89	Phangole	47

LOCAL MUNICIPALITY	REGIONAL SCHEME	WARD 2016	IMPLEMENTATION YEAR	STAND-ALONE SCHEME NAME	PHASE	Z-NR	SETTLEMENT NAME	HOUSEHOLDS SERVED
		5	Completed	Esikhumbeni	Phase 1	Z46	Qhudebe	127
		5	Completed	Esikhumbeni	Phase 1	Z82	Sikhumbeni	113
		5	Completed	Esikhumbeni	Phase 2	Z44	Kwadayeni	57
		5	Completed	Esikhumbeni	Phase 2	Z43	Kwasaku	33
		5	Completed	Esikhumbeni	Phase 2	Z45	Odizima	64
		5	Completed	Esikhumbeni	Phase 2	Z42	Okhalweni 1	104
		5	Completed	Esikhumbeni	Phase 2	Z41	Kwampanza	149
		5	Completed	Esikhumbeni	Phase 2	Z40	Esibomvu	124
		5	Completed	Esikhumbeni	Phase 2	ZMAP112	Okhwathe	1
		5	Completed	Esikhumbeni	Phase 2	Z47	Ezimfabeni	166
		5	Completed	Esikhumbeni	Phase 2	Z48	Nsabekkuluma 1	129
		5	Completed	Esikhumbeni	Phase 2	Z49	Emfenyane	71
		5	Completed	Esikhumbeni	Phase 2	ZHR6	Esembeni	267
		6	2024/2025	Ceza	Phase 6	Z32	Mashiyane	162
		6	2024/2025	Ceza	Phase 6	Z31	Dlabane	112
		6	Completed	Esikhumbeni	Phase 2	Z38	Emabeka	65
		6	Completed	Esikhumbeni	Phase 2	Z39	Qwasha (Nongoma)	27
		6	Completed	Esikhumbeni	Phase 2	ZHR7	Nzukasi	170
		6	Completed	Esikhumbeni	Phase 2	ZHR5	Shkulile	82
		7	Completed	Esphiva	Phase 2D	Z670	Nqabeni	84
		7	Completed	Esphiva	Phase 2D	Z674	Bhokweni	214
		7	Completed	Esikhumbeni	Phase 1	Z80	Kwamame	252
		7	Completed	Esphiva	Phase 1A	Z676	Thusini	52
		7	Completed	Esphiva	Phase 1A	Z671	Xasane	175
		7	Completed	Esphiva	Phase 1B	Z672	Bhungwane	123
		7	Completed	Esphiva	Phase 1B	Z679	Esphiva	120
		7	Completed	Esphiva	Phase 2B	Z675	Mpangeleni	76
		7	Completed	Esphiva	Phase 2C	ZMAP93	Qubeni	24

LOCAL MUNICIPALITY	REGIONAL SCHEME	WARD 2016	IMPLEMENTATION YEAR	STAND-ALONE SCHEME NAME	PHASE	Z-NR	SETTLEMENT NAME	HOUSEHOLDS SERVED
		7	Completed	Esphiva	Phase 2C	Z680	Xolo	219
		7	Completed	Esphiva	Phase 3	Z666	Enqunyaneni / Amaphiva	233
		8	Planned	Esphiva	Phase 4	Z691	Gezizandla	53
		8	Planned	Esphiva	Phase 4	Z692	Ewela 2	96
		8	Planned	Esphiva	Phase 4	Z685	Mganimbobo	105
		8	Planned	Esphiva	Phase 4	ZNew78	Qubenz	7
		8	Completed	Esphiva	Phase 1B	Z684	Mnqakwe	94
		8	Completed	Esphiva	Phase 2A	Z683	Isiphethu	88
		8	Completed	Esphiva	Phase 2A	Z681	Isiguqa 1	31
		8	Completed	Esphiva	Phase 2A	Z682a	Chibini 2	48
		8	Completed	Esphiva	Phase 2B	Z682b	Chibini 1	83
		14	Planned	Esphiva	Phase 4	ZTAS6	Ewela 1	36
		14	Planned	Esphiva	Phase 4	Z701	Mabululwane	74
		14	Planned	Esphiva	Phase 4	Z693	Njojo	107
		14	Planned	Esphiva	Phase 4	Z695	Bhodludaka	47
		14	Planned	Esphiva	Phase 4	Z694	Glula	63
		15	Completed	Lomo		Z686	Makhukwane	192
		15	Completed	Lomo		Z696/Z697/Z708/Z709	Lomo	170


STAND-ALONE SCHEMES ROLLOUTS 2022
ZDM OVERVIEW
Locality
Legend
Towns
ZDM_MAIN
SETTLEMENTS
WATER_LOS
Stand-Alone Schemes
Status
Ntshemleka
Bemica
Alpha
Phondwane
Kwa Sgwili
Nongoma Ward 17
Sovana
Kwajuba
Nhlebela
Mphuphuzi
Godlankomo
Glückstadt
Geza
Nongoma Ward 14
Mhlangeni
Bhobozani
Esikhumbeni Phase 2
Esikhumbeni Phase 1
Ndolowaneni
Zombodhe
Esphivu
Lomo (Okhukhu Phase 5)
Sqobeld
P700 Phase 4
Nkonjeni East
Hlopenkulu
ZULULAND DISTRICT MUNICIPALITY
ZULMAP

7.2.3 New Rural Sanitation Rollouts

MUNICIPALITY	SANITATION YEAR	WARD 2020	Z_NUMBER	SETTLEMENT NAME	HH 2020	COST
Abaqulusi Local Municipality	2022/2023	2	ZNew46	Emarondweni	12	240 000
		2	ZNew48	Empumazi	16	320 000
		2	ZNew47	Kwamadamu	149	2 980 000
		2	ZNew49	Kwamsezane	62	1 240 000
		2	ZNew40	Kwasithole	84	1 680 000
		15	Z119	Mhlangeni	270	5 400 000
		17	Z941	Emadwaleni 1	127	2 540 000
	2023/2024	2	ZNew15	Dlomodlomo	33	660 000
		2	ZNew22	Kwabudula	30	600 000
		2	ZNew16	Kwakopie	16	320 000
		2	ZNew20	Kwanmnunse	61	1 220 000
		2	ZNew19	Kwathemba	35	700 000
		2	ZNew18	Kwazondo	23	460 000
		2	ZNew21	Makhwela	94	1 880 000
		2	ZMAP65	Mkuze	13	260 000
		2	ZNew17	Ndulo	9	180 000
		2	ZNew14	Ngongomane	208	4 160 000
		2	ZNew13	Ongcwezeni	190	3 800 000
		3	ZNew29	Mabova	33	660 000
		5	Z960	Boschoek (Bhokwe) Low-cost Housing	1000	14 000 000
	2024/2025	5	ZNew83	Shikila	331	6 620 000
		13	ZNew86	Triangle store	1059	21 180 000
	2025/2026	6	ZNew104	Enkwaleni	18	360 000
		6	ZNew34	Gobeni	19	380 000
		6	ZNew33	Mciyo	37	740 000
		6	ZNew103	Uitzicht	33	660 000

MUNICIPALITY	SANITATION YEAR	WARD 2020	Z_NUMBER	SETTLEMENT NAME	HH 2020	COST
		7	ZNew107	Shoba 1	512	10 240 000
		7	ZNew108	Shoba 2	382	7 640 000
		23	ZNew97	KwaBoy 3	67	1 340 000
	2026/2027	2	ZNew12	Mphitiphtini	146	2 920 000
		2	ZNew11	Thuthukani	17	340 000
		3	ZNew27	Hlanewana	44	880 000
		3	ZNew181	Hlanganani CPA	4	80 000
		3	ZNew30	Kewulane	88	1 760 000
		3	ZNew32	Mfabantu	20	400 000
		3	ZNew28	Mthumeni	14	280 000
		3	ZNew31	Ndulinde	119	2 380 000
		3	ZNew26	Shawelwo	75	1 500 000
		4	ZNew64	Emgageni	157	3 140 000
		4	ZNew53	Kwamahashi	33	660 000
	>2027	4	ZNew70	Berlin	10	200 000
		4	ZNew52	Boschoek	18	360 000
		4	ZNew60	Dagane	48	960 000
		4	ZNew68	Elim	16	320 000
		4	ZNew56	Emaqigwe	26	520 000
		4	ZNew58	Enkaleni	57	1 140 000
		4	ZNew62	Enqothweni	83	1 660 000
		4	ZNew69	Entabeni 1	9	180 000
		4	ZNew57	Hlongane	38	760 000
		4	ZNew54	KwaDevan	58	1 160 000
		4	ZNew55	KwaNgada	62	1 240 000
		4	ZNew66	KwaPaul	9	180 000
		4	ZNew65	Kwaschoeman	17	340 000

MUNICIPALITY	SANITATION YEAR	WARD 2020	Z_NUMBER	SETTLEMENT NAME	HH 2020	COST
		4	ZNew61	Leeunek 1	31	620 000
		4	ZNew71	Lenjane 1	70	1 400 000
		4	ZNew59	Siyaphambile	38	760 000
		4	ZNew67	Thabankulu	38	760 000
		5	ZNew81	Ekamvu	20	400 000
		5	ZNew82	KwaJohn 2	22	440 000
		5	ZNew116	KwaMdaga	104	2 080 000
		5	ZNew131	Lenjane 2	26	520 000
Abaqulusi Local Municipality	>2027	7	ZNew89	Bozuzu	30	600 000
		7	ZNew111	Emakwateni	95	1 900 000
		7	ZNew105	Entabeni 2	81	1 620 000
		7	ZNew112	Geluk 1	14	280 000
		7	ZNew130	Hellberg farms	80	1 600 000
		7	ZNew129	KwaBevu	26	520 000
		7	ZNew91	Kwabozuzu	23	460 000
		7	ZNew113	Kwalancast	19	380 000
		7	ZNew128	KwaNgethe	47	940 000
		7	ZNew153	Kwatwo	29	580 000
		7	ZNew126	Magot	45	900 000
		7	ZNew88	Mtenteka	59	1 180 000
		7	ZNew90	Ntendeka 2	111	2 220 000
		7	ZNew95	Voorkeur	84	1 680 000
		7	ZNew94	Zungweni	62	1 240 000
		8	ZMAP122	Vryheid Dump Site	130	2 600 000
		9	ZNew154	KwaMatiela	21	420 000
		9	ZNew125	KwaSavells	26	520 000
		9	ZNew119	Stillwater	100	2 000 000

MUNICIPALITY	SANITATION YEAR	WARD 2020	Z_NUMBER	SETTLEMENT NAME	HH 2020	COST
		12	ZNew163	Brakfontein	33	660 000
		12	ZNew177	Brakfontein 2	12	240 000
		12	ZNew174	Driefontein	30	600 000
		12	ZNew176	Dubbelrecht	14	280 000
		12	ZNew161	Emooi	92	1 840 000
		12	ZNew160	Enyanyeni	24	480 000
		12	ZNew173	Geluk 3	8	160 000
		12	ZNew171	Grootfontein	51	1 020 000
		12	ZNew166	Jimane/Driekwart	174	3 480 000
		12	ZNew164	Langverwacht	39	780 000
		12	ZNew168	Mabunya	14	280 000
		12	ZNew172	Middelpunt	10	200 000
		12	ZNew169	Tintas Drift	163	3 260 000
		12	ZNew162	Vamba	33	660 000
		13	ZNew96	Banga	10	200 000
		13	ZNew75	Beafort	79	1 580 000
		13	ZMAP123	Ema300	285	5 700 000
		13	ZNew93	Eskame	61	1 220 000
		13	ZNew74	Golden Valley	74	1 480 000
		13	ZNew109	Hluma	46	920 000
		13	ZNew72	Ishoba 1	153	3 060 000
		13	ZNew85	Ishoba 2	28	560 000
		13	ZNew77	Klipfontein	20	400 000
		13	ZNew110	Kwabanga 1	85	1 700 000
		13	ZNew92	Kwabanga 2	66	1 320 000
		13	ZNew73	Leeunek 2	14	280 000
		13	ZNew84	Ma'Romenie	155	3 100 000

MUNICIPALITY	SANITATION YEAR	WARD 2020	Z_NUMBER	SETTLEMENT NAME	HH 2020	COST
		13	ZNew76	Mpofini	40	800 000
		22	ZNew124	Betel	26	520 000
		22	ZNew106	Eensgevonden plotte	115	2 300 000
		22	ZNew122	Fearmdale	70	1 400 000
		22	ZNew123	KwaLubeck	25	500 000
		22	ZNew120	Scheepersnek	41	820 000
		22	ZNew121	Zaaifontein	28	560 000
eDumbe Local Municipality	2022/2023	7	ZNew146	Makhwabe	9	180 000
		7	ZNew147	Mazezeni	40	800 000
		7	ZNew152	Sefamanzi	50	1 000 000
		7	ZNew148	Zungwini	27	540 000
	2023/2024	7	ZNew149	Gweje	111	2 220 000
		7	ZNew150	Mqwabe	37	740 000
	2024/2025	7	ZNew156	Doornkloof	43	860 000
		7	ZNew145	Matshekazi	180	3 600 000
	2025/2026	1	ZMAP120	Schikhoek (Land Reform)	70	1 400 000
		9	ZNew134	Kwalembe	67	1 340 000
	2026/2027	1	ZNew143	Brecher	43	860 000
		4	ZNew182	Bilanyoni New Stands	20	400 000
		9	ZMAP121	Tholwethu (Land Reform)	73	1 460 000
		9	ZNew144	Titane	32	640 000
	>2027	1	ZNew139	Hloko	66	1 320 000
		1	ZNew140	KwaBhema	65	1 300 000
		1	ZNew137	Ntshakwe	31	620 000
		1	ZNew138	Ntshakwe (Mhlamone)	169	3 380 000
Nongoma Local Municipality	2022/2023	3	Z331	Machibini	148	2 960 000
		3	ZBUK25	Magendene	26	520 000

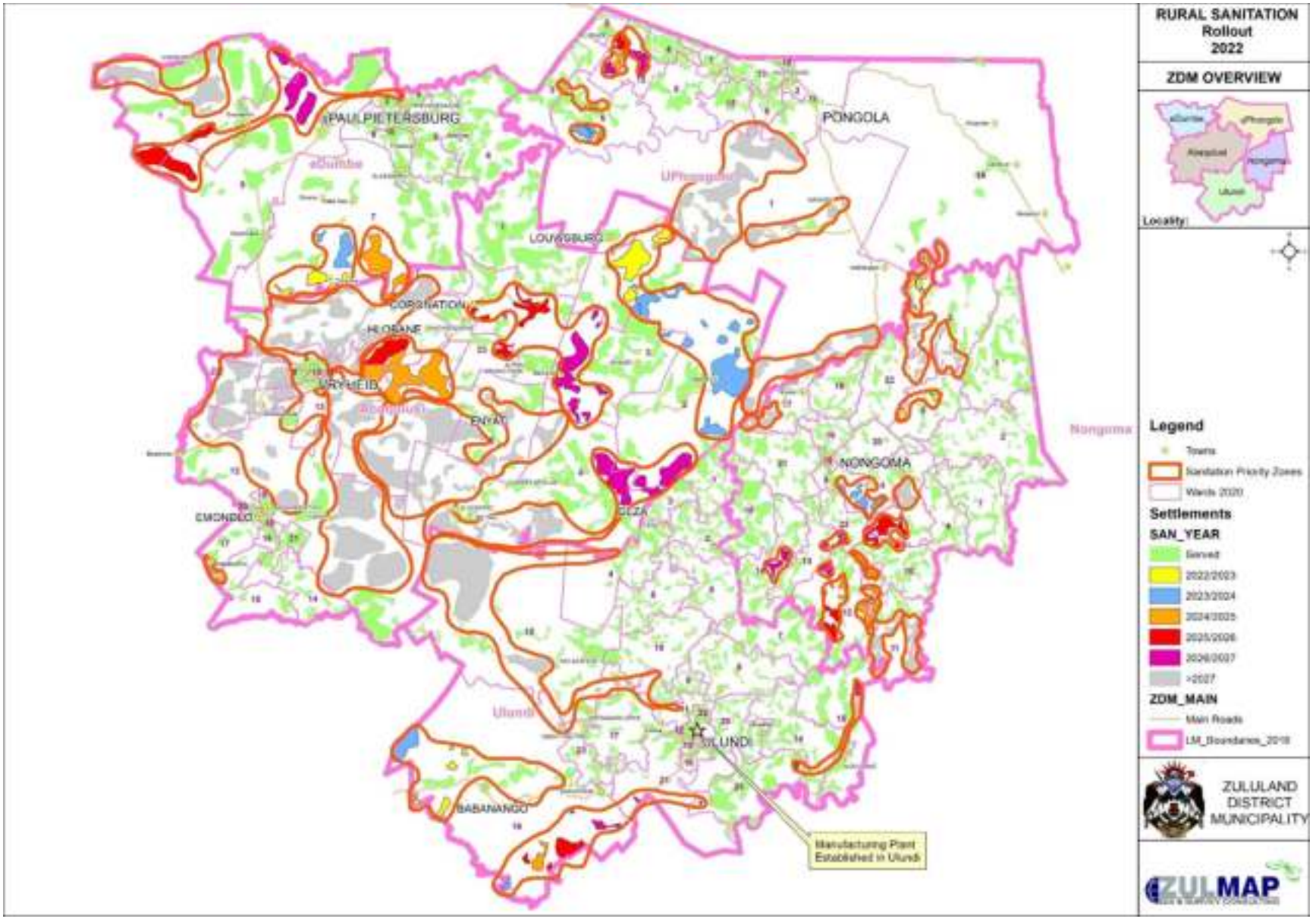
MUNICIPALITY	SANITATION YEAR	WARD 2020	Z_NUMBER	SETTLEMENT NAME	HH 2020	COST
		3	Z336	Mapambeni	135	2 700 000
		3	Z332	Njonyomane	95	1 900 000
		3	Z329	Vesonweni	50	1 000 000
		5	Z247	Mpuphusi	150	3 000 000
		5	Z269	Toyisa Langalesizwe	185	3 700 000
	2023/2024	4	Z192	Makholweni	61	1 220 000
		4	Z190	Manyoni 1	237	4 740 000
		4	Z193	Sindaba	90	1 800 000
		9	Z215	Mfankomo	94	1 880 000
		9	Z214	Mhlwehlwe	73	1 460 000
		11	ZNN23	Emhemeni	65	1 300 000
		23	ZNew159	Sikheleni B	96	1 920 000
	2024/2025	10	Z569	Kwandwandwe	148	2 960 000
		11	ZNN27	Hlathidumayo	79	1 580 000
		11	Z570	Kwazungu	176	3 520 000
		11	Z567	Othinsangu	119	2 380 000
		12	ZAM12	Ezingolaneni	27	540 000
		12	Z349	Isizinda A	10	200 000
		12	Z375	Macekaneni	98	1 960 000
		12	Z373	Nhloyane	10	200 000
		12	ZMAP13	Nqalu	54	1 080 000
	2025/2026	6	Z170	Ekuvukeni	191	3 820 000
		6	Z171	Ndololwane	63	1 260 000
		10	Z164	Esweni	92	1 840 000
		10	Z165	Hlathi	146	2 920 000
		10	ZMAP18	Nokhesheni	19	380 000
		12	ZMAP16	KwaLuphonjwana	121	2 420 000

MUNICIPALITY	SANITATION YEAR	WARD 2020	Z_NUMBER	SETTLEMENT NAME	HH 2020	COST
Nongoma Local Municipality		12	ZMAP14	Ndlazini	75	1 500 000
	2026/2027	10	Z168	Magutshwa	120	2 400 000
		13	Z362	Emaqeleni 2	25	500 000
		13	Z362	Emaqeleni 3	25	500 000
		13	Z359	Embokodweni	77	1 540 000
		13	Z360	Engwelezane	29	580 000
		13	Z374	Ngalonde	96	1 920 000
		14	Z554	Badlaneni	150	3 000 000
		14	Z560	Khalweni	52	1 040 000
		14	Z559	Newgoli	111	2 220 000
		23	Z361	Mashenge	55	1 100 000
	>2027	3	Z314	Emathlomane	56	1 120 000
		3	Z322	Esigodiphola 1	72	1 440 000
		3	Z291	Geqa	55	1 100 000
		3	Z317	Hlushwaneni	108	2 160 000
		3	Z316	Mduda	111	2 220 000
		3	Z321	Mgxanyini	131	2 620 000
		3	Z313	Mngamunde	30	600 000
		3	Z303	Mthonjaneni	123	2 460 000
		3	Z304	Ntweni 1	84	1 680 000
		3	ZBUK29	Shalashala	69	1 380 000
		3	Z290	Zidwadweni	93	1 860 000
		6	Z194/Z195/Z187	Esidinsi	665	13 300 000
		11	ZMAP9	Doncaneni	75	1 500 000
		11	Z156	Entwala	61	1 220 000
		11	Z155	Eziqhumeni	142	2 840 000
		11	ZBA1	Kwavumela	88	1 760 000

MUNICIPALITY	SANITATION YEAR	WARD 2020	Z_NUMBER	SETTLEMENT NAME	HH 2020	COST
		11	Z152	Masokaneni	180	3 600 000
		11	Z153	Mcibilindini	54	1 080 000
		11	Z151	Mhlabaneni	71	1 420 000
		11	Z147	Ngolotshe	340	6 800 000
		11	Z157	Nqala	95	1 900 000
		11	Z154	Zampilo	41	820 000
		17	ZKAY8	Echibini	13	260 000
		17	Z641	Efefe	150	3 000 000
		17	Z644a	Kwanomehle	29	580 000
		17	Z645	Majomela	438	8 760 000
		17	Z644b	Maqoma	157	3 140 000
		17	Z642	Obhuqwini	126	2 520 000
		22	Z294	Kolubomvu 1	20	400 000
		22	Z292	Kwajuba	136	2 720 000
		22	Z718	Mahlomane	78	1 560 000
Ulundi Local Municipality	2022/2023	All	Community	Public Amenities	250	5 000 000
		16	ZMAP119	Hlengile	51	1 020 000
		16	ZMAP87	Nsingizane 1	38	760 000
		16	ZNew24	Nyashana	4	80 000
		16	ZMAP88	Qaba	6	120 000
		16	ZBUK49	Uitzight 203	17	340 000
	2023/2024	16	ZMAP117	Mhlathuze	45	900 000
		16	ZNew183	Ntinini	81	1 620 000
	2024/2025	16	ZBUK51	Langfontein	146	2 920 000
	2025/2026	16	ZMAP82	Mombeni	27	540 000
		16	ZMAP118	Ngenetsheni	14	280 000
		16	ZMAP90	Nzololo-Maganda	60	1 200 000

MUNICIPALITY	SANITATION YEAR	WARD 2020	Z_NUMBER	SETTLEMENT NAME	HH 2020	COST
	2026/2027	15	ZMAP110	Mgubameni	26	520 000
		16	ZMAP100	Dingaanstad	61	1 220 000
		16	ZNew23	Qanuatho	9	180 000
		21	ZNew101	Dorsfontein	2	40 000
		24	ZNew100	Eskhaleni Kwankosi	13	260 000
		24	ZNew99	Isandlwana	4	80 000
	>2027	9	ZNew79	Manaba	12	240 000
		11	ZNew98	Kwamhlongo	10	200 000
		13	ZNew115	KwaHenie	204	4 080 000
		13	ZNew87	Maduna	18	360 000
		13	ZNew114	Nhlazatshe	57	1 140 000
		15	Z689	Obinda	12	240 000
		15	Z710/Z711	Okhukhu Phansikwentaba	80	1 600 000
		16	ZNew80	Mandevu 1	3	60 000
UPhongolo Local Municipality	2022/2023	3	Z753	Newstand	118	2 360 000
		6	Z527	Mfaluvalo	69	1 380 000
		6	ZTAS57	Thusazane	39	780 000
	2023/2024	6	Z768	Klipwal	179	3 580 000
		6	Z767	Mfenyane	82	1 640 000
	2024/2025	6	ZBUK63	Dlomodlomo 1	86	1 720 000
		12	Z463	Kwesimhlope (Manyandeni)	145	2 900 000
	2025/2026	12	Z460	Manyandeni	265	5 300 000
	2026/2027	12	Z464	Gabela (Manyandeni)	119	2 380 000
		12	Z789	Kwazibhedlu	32	640 000
		12	Z486	Nyawoshane	122	2 440 000
	>2027	1	ZHR3	Dwarsrand	116	2 320 000
		1	ZNew35	Embangeni	56	1 120 000

MUNICIPALITY	SANITATION YEAR	WARD 2020	Z_NUMBER	SETTLEMENT NAME	HH 2020	COST
		1	ZNew36	Emganwini	39	780 000
		1	ZNew44	Emkhayeni	96	1 920 000
		1	ZNew39	Emthunzini	39	780 000
		1	ZNew118	Eskhaleni	92	1 840 000
		1	ZMAP52	Hhinihhini	14	280 000
		1	ZMAP33	Kwamhlanga	52	1 040 000
		1	ZMAP32	Kwampondo	71	1 420 000
		1	ZNew41	Kwamshikashika	29	580 000
		1	ZNew42	Kwaphatha	33	660 000
		1	ZNew37	Kwaslevu	45	900 000
		1	ZJD1	Kwasotsha	21	420 000
		1	Z936	Magudu	168	3 360 000
		1	ZTAS51	Manzamhlophe	130	2 600 000
		1	ZNew43	Morreson	92	1 840 000
		1	ZMAP31	Mpakama	292	5 840 000
		1	ZHC25	Mpalaza	100	2 000 000
		1	ZNew38	Mthaniya	43	860 000
		1	ZMAP81	Nyaliza	88	1 760 000
		1	ZTAS58	Sithole	43	860 000


RURAL SANITATION
Rollout
2022
ZDM OVERVIEW
Locality
Legend
Towns
Sanitation Priority Zones
Wards 2020
Settlements
SAN_YEAR
Served
2022/2023
2023/2024
2024/2025
2025/2026
2026/2027
>2027
ZDM_MAIN
Main Roads
LM_Boundaries_2018
ZULULAND
DISTRICT
MUNICIPALITY
ZULMAP
PAULPIETERSBURG
PONGOLA
LOUWSBURG
COronation
HLOBANE
VRYHEID
ENYATI
NONGOMA
EMONDLO
ULUNDI
BABANANGO
Manufacturing Plant
Established in Ulundi

7.2.4 ZDM Catalytic Projects

NAME OF PROJECT	PROJECT SUSTAINABILITY	SECTOR	LOCATION	VALUE
Ulundi 19 Tourism Gateway Project	Local government will be responsible for providing access to infrastructure. A private sector developer will establish and sustain the node.	Economic, Infrastructure, Tourism, Human Capital	Ulundi (ward 9)	**R5 million**
Pongolapoort Development Node	This project will see various nodes, including tourism and commercial nodes, being established. That will attract private sector investment. Local government will ensure appropriate land use zoning and access to infrastructure, with private sector developing facilities.		uPhongola (ward 14)	**R 32 million**
Zululand Centre of Technology	Non-Profit Organization	Economic, Human Capital, Education	Ulundi (ward 12)	**R 15 million**
Tyre Recycling Centre	Private Sector and or Public Private Partnership. The municipality (thereafter the ZDA) will see the construction of the facility. A private partner will purchase equipment, administer	Economic, Infrastructure, Human Capital	Vryheid (Collection and storage stations in all LMs)	**R 12 million**
	the facility including payment of rates.			

NAME OF PROJECT	PROJECT SUSTAINABILITY	SECTOR	LOCATION	VALUE
Regional Solid Waste / land fill site	Zululand DM	Infrastructure, Human Capital	Zululand DM	**Capital Exp-R8M, Operational Exp-R3M**
Municipal Solid Waste to energy facility	Zululand DM	Human Capital, Infrastructure	Ulundi	**R 5 million**
PPE Manufacturing Facility	Private Sector	Human Capital, Infrastructure, Economic	Nongoma	**R 3 million**
Expansion of Indonsa Arts and Crafts Centre	Zululand DM	Human Capital, Economic, Infrastructure	Ulundi	**R 4 million**
Zululand Youth Centre Hub	Zululand DM , All local municipalities		All municipalities	**R 10 million**
eDumbe Waterborne Sewerage	eDumbe/Paulpietersburg	Infrastructure, Human Capital, Economic	Zululand DM	**R 350 million**
Mona Market Development	Zululand DM	Economic, Human Capital, Infrastructure	Nongoma	**R 70 million**
Aloe Processing Facility	Zululand DM	Agriculture, Human Capital, Economic, Infrastructure	Ulundi/Nongoma	**R 25 million**
Usuthu Off-storage Dam	Zululand DM, Department of Water and Sanitation	Infrastructure, Human Capital,	Nongoma	**R 700 million**

NAME OF PROJECT	PROJECT SUSTAINABILITY	SECTOR	LOCATION	VALUE
KwaMajomela Manufacturing Facility	Zululand DM, Nongoma LM	Infrastructure, Human Capital, Economic	Nongoma	**R 13 million**
ZDM Digital Transformation Programme	Zululand DM, GCIS, Telecommunications Sector	Infrastructure, Human Capital, Economic	All	**R 30 million**
Kind Goodwill Zwelithini Monument	Zululand DM	Infrastructure, Human Capital, Tourism	Ulundi	**R 8 million**
Zululand Disaster Management Centre	Zululand DM	Infrastructure, Human Capital	Abaqulusi	**R 10 million**
Prince Mangosuthu Airport	**Zululand DM**	**Infrastructure, Economic, Human Capital, Tourism**	**Ulundi**	**R 150 million**

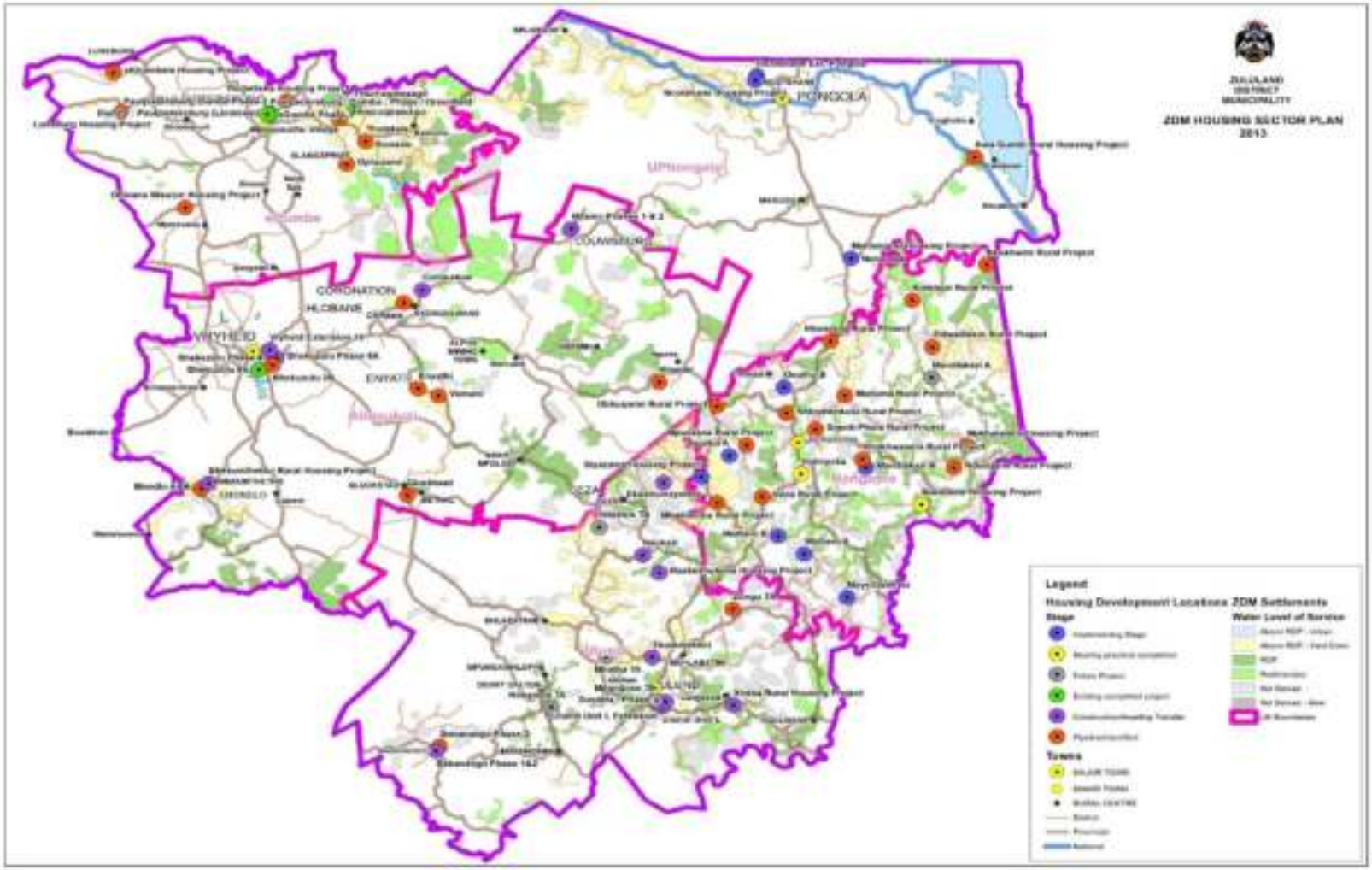
Source: ZDM Municipality

7.2.5 Department of Economic Development Tourism and Environmental Affairs

PROJECT NAME	PROJECT DESCRIPTION	LEAD DEPARTMENT	LOCALITY	DURATION	BUDGET		
					2022/2023	2023/2024	2024/2025
Blackhorses Farm Holdings Pty Ltd	Establishment of a commercial greenhouse	EDTEA	Abaqulusi ward 7	12 months	R0.00	R0.00	R0.00
Ukukhanyakwasemvuzini primary co op	Development of a commercial broiler production enterprises	EDTEA	Abaqulusi ward 22	12 months	R0.00	R0.00	R0.00
Zuwande umnotho agricultural and farming activities PTY LTD	Establishment of a commercial beef enterprise	EDTEA	Ulundi ward 16	24 months	R1,800,000.00	R0.00	R0.00
Isiqalokuhle holdings PTY LTD	Establishment of a commercial goat enterprise	EDTEA	Ulundi ward 10	12 months	R0.00	R0.00	R0.00
Mbangweni logistics	Establishment of a commercial beef enterprise	EDTEA	Ulundi ward 13	24 months	R2,000,000.00	R0.00	R0.00
Mampontshi piggery	Establishment of a female owned commercial piggery enterprise	EDTEA	Abaqulusi ward 22	12 months	R0.00	R0.00	R0.00
Koppie Guest House	To upgrade the Guesthouse	EDTEA	UPhongolo LM	12 months	R0.00	0.00	0.00
Mkuze Falls Lodge and Game Reserve	To upgrade and refurbish the lodge	EDTEA	UPhongolo LM	12 months	R0.00	R0.00	R0.00

7.2.6 Housing Development Projects

Map 37: Current Housing Projects



Identified & Planned Housing Projects

Municipality	Ward	Name	Stage	Component	Comments	Households	Longitude	Latitude
Abaqulusi LM	1	Mzamo Phases 1 & 2	Construction/Awaiting Transfer	Project Management	urban low-cost housing (several properties in Louwsburg)	500	31.29339	-27.578393
Abaqulusi LM	2	Khambi	Pipeline/Identified	Planning	Rural In-situ housing for whole ward 2	1000	31.430627	-27.814617
Abaqulusi LM	3	Bhekumthetho Rural Housing Project	Construction/Awaiting Transfer	Project Management	1000 to be completed by Dec 2014. rural in-situ housing to Bhekumthetho settlement	3000	30.72857	-27.97029
Abaqulusi LM	4	Glucktaad	Pipeline/Identified	Planning	Rural In-situ housing for whole ward 4	1115	31.03832	-27.989323
Abaqulusi LM	5	Enyathi	Pipeline/Identified	Planning	urban low-cost housing in Enyathi town	600	31.05527	-27.824645
Abaqulusi LM	5	Vumani	Pipeline/Identified	Planning	rural 198 in-situ, 802 low-cost housing development around Vumani settlement	1000	31.08663	-27.836136
Abaqulusi LM	6	Coronation	Construction/Awaiting Transfer	Project Management	urban low-cost housing project in Coronation town. Almost completed, 9 units remaining	225	31.06103	-27.67284
Abaqulusi LM	7	Cliffdale	Pipeline/Identified	Planning	Low Cost Housing in Cliffdale settlement	800	31.032299	-27.692476
Abaqulusi LM	11	Bhekezulu Phase 4	Construction/Awaiting Transfer	Project Management	urban low-cost housing project in Bhekuzulu Phase 4. Awaiting Transfer for last 4 sites	528	30.829763	-27.780627
Abaqulusi LM	11	Bhekuzulu Phase 6A	Construction/Awaiting Transfer	Project Management	urban low-cost housing project in Bhekuzulu Phase 6a	485	30.83401	-27.777281
Abaqulusi LM	11	Vryheid Extension 16	Construction/Awaiting Transfer	Project Management	903 to be built by Dec 2013. urban low-cost housing project behind industrial area	903	30.82354	-27.765087
Abaqulusi LM	11	Bhekuzulu 3B	Pipeline/Identified	Planning	urban in-situ housing in Bhekuzulu Phase 3b for qualifying households	178	30.82757	-27.788353
Abaqulusi LM	13	Bhekuzulu 6b	Existing completed project	Project Management	urban low-cost housing project in Bhekuzulu Phase 6b	1078	30.80685	-27.795828
Abaqulusi LM	18	Mondlo A&B	Pipeline/Identified	Planning	urban in-situ housing in for qualifying households in eMondlo town	822	30.71613	-27.978982
eDumbe LM	1	Obivane Mission Housing Project	Pipeline/Identified	Planning	rural mixed in-situ and new low-cost housing	750	30.692612	-27.545558
eDumbe LM	1	Luneburg Housing Project	Pipeline/Identified	Planning	rural in-situ for surrounding community, location to be confirmed!	180	30.594359	-27.397365
eDumbe LM	1	eKhombela Housing Project	Pipeline/Identified	Planning	rural in-situ for eKhombela settlement, project to be confirmed!	0	30.581862	-27.336951
eDumbe LM	2	Mangosuthu Village	Pipeline/Identified	Planning	semi-urban in-situ housing to Schaapkraal, Blinkwater & Klipspruit farms	1500	30.931931	-27.408213
eDumbe LM	3	Paulpietersburg : Dumbe : Phase I Greenfield	Existing completed project	Project Management	Urban low-cost housing project in eDumbe township (To be closed-out) eDumbe to submit close-out report.	0	30.82502	-27.40204
eDumbe LM	3	Paulpietersburg Dumbe Phase 2	Existing completed project	Project Management	Urban low-cost housing project in eDumbe township (To be closed-out) eDumbe to submit close-out report.	0	30.82034	-27.401487
eDumbe LM	3	eDumbe Phase 3	Pipeline/Identified	Planning	urban low-cost housing in eDumbe township	483	30.82104	-27.401171
eDumbe LM	4	Frischegewaagd	Existing completed project	Project Management	Urban low-cost housing project in Frischgewaagd township (To be closed-out) eDumbe to submit close-out report.	0	30.95476	-27.389568
eDumbe LM	5	Tholakele	Pipeline/Identified	Planning	rural in-situ for Tholakele settlement	1000	30.9732	-27.443985
eDumbe LM	8	Dumbe : Paulpietersburg (Lindelani)	Existing completed project	Project Management	Urban low-cost housing project (To be closed-out). eDumbe to submit close-out report.	0	30.823894	-27.399354
eDumbe LM	8	Ophuzane	Pipeline/Identified	Planning	rural in-situ for Ophuzane settlement	1000	30.94331	-27.478721
eDumbe LM	8	Thubelisha Housing Project	Pipeline/Identified	Planning	Urban low-cost housing for whole of ward 8, location to be confirmed!	1000	30.850921	-27.381065
Nongoma LM	1	Nkukhwini Rural Project	Pipeline/Identified	Community Services	Rural Housing	3000	31.939	-27.631
Nongoma LM	2	Makhalaneni Housing Project	Pipeline/Identified	Community Services	Rural Housing	2000	31.911	-27.91
Nongoma LM	3	Kombuzi Rural Project	Pipeline/Identified	Community Services	Rural Housing	1500	31.824	-27.686
Nongoma LM	4	Mandlakazi B	Implementing Stage	Planning	Rural housing	2000	31.75352	-27.9449
Nongoma LM	5	Mandlakazi A	Future Project	Planning	Rural housing	2000	31.85507	-27.80552

Identified & Planned Housing Projects

Municipality	Ward	Name	Stage	Component	Comments	Households	Longitude	Latitude
Nongoma LM	5	Zidwadweni Rural Project	Pipeline/Identified	Community Services	Rural Housing	2000	31.856	-27.758
Nongoma LM	7	Ndongane Rural Project	Pipeline/Identified	Community Services	Rural Housing	2000	31.891	-27.944
Nongoma LM	8	Buxedene Housing Project	Nearing practical completion	Project Management	65 to be built due by end of June 2013,9 wait for approval because of death	1400	31.84044	-28.001075
Nongoma LM	9	Holinyoka	Nearing practical completion	Project Management	To be built last 45 units completed by June 2013 (Rural)	1100	31.65286	-27.95481
Nongoma LM	12	Matheni A	Implementing Stage	Planning	Rural housing	2000	31.6584	-28.0781
Nongoma LM	13	Matheni B	Implementing Stage	Planning	Rural housing	2000	31.61725	-28.05096
Nongoma LM	14	Vuna Rural Project	Pipeline/Identified	Community Services	Rural Housing	2000	31.592	-27.99
Nongoma LM	15	Siyazama Housing Project	Implementing Stage	Project Management	Long time appointed from 2001 but no action & the termination of contruct. The Process of re-advertise is on.	1000	31.49653	-27.960436
Nongoma LM	15	Mhambuma Rural Project	Pipeline/Identified	Community Services	Rural Housing	1000	31.522	-28
Nongoma LM	16	Nhlophenkulu Rural Project	Pipeline/Identified	Community Services	Rural Housing	2100	31.629	-27.862
Nongoma LM	17	Obhuqwini Rural Project	Pipeline/Identified	Community Services	Rural Housing	3000	31.521	-27.851
Nongoma LM	18	Osuthu B	Implementing Stage	Planning	Rural housing	2000	31.62507	-27.82141
Nongoma LM	18	Maye/Dabhasi	Implementing Stage	Project Management	Only 6 slabs completed, concrete supplier Afromat delay & try to make plant for concrete.	1000	31.72602	-28.144579
Nongoma LM	18	Nkunzana Rural Proiect	Pipeline/Identified	Community Services	Rural Housing	1500	31.697	-27.75
Nongoma LM	20	Sigodi-Phola Rural Project	Pipeline/Identified	Community Services	Rural Housing	2000	31.675	-27.886
Nongoma LM	21	Osuthu A	Implementing Stage	Planning	Rural housing	2000	31.54027	-27.92694
Nongoma LM	21	Mpunzana Rural Project	Pipeline/Identified	Community Services	Rural Housing	1500	31.567	-27.911
Nongoma LM	20 &18	Maduma Rural Project	Pipeline/Identified	Community Services	Rural Housing	3000	31.72	-27.834
Nongoma LM	4&6	Khokhwaneni Rural Project	Pipeline/Identified	Community Services	Rural Housing	3100	31.748	-27.932
Ulundi LM	2	Ekushumayeleni	Construction/Awaiting Transfer	Project Management	Construction still in progress ?% (1274 sites, rural)	1600	31.43803	-27.969213
Ulundi LM	4	Ndebele TA	Future Project	Future Project	Possible future project for whole of Ndebele TA	3500	31.338	-28.038
Ulundi LM	5	Nsabekhuluma Housing Project	Construction/Awaiting Transfer	Project Management	Construction still in progress 64% (1280 sites, rural)	2000	31.43176	-28.108046
Ulundi LM	6	Nsukazi	Construction/Awaiting Transfer	Project Management	Construction still in progress 79% (787 sites, rural)	1000	31.40589	-28.08117
Ulundi LM	7	Zungu TA	Pipeline/Identified	Planning	Possible future project for whole of Zungu TA	3500	31.5469	-28.1638
Ulundi LM	9	Mbatha TA	Future Project	Future Project	Possible future project for whole of Mbatha TA	3500	31.349	-28.238
Ulundi LM	12	Mpungose TA	Future Project	Future Project	Possible future project for whole of Mpungose TA	4000	31.427	-28.305
Ulundi LM	16	Babanango Phase 1&2	Construction/Awaiting Transfer	Project Management	Only transfer of land, then close-out. Urban	325	31.08339	-28.383453
Ulundi LM	16	Babanango Phase 3	Pipeline/Identified	Planning	urban low cost housing	200	31.08894	-28.376357
Ulundi LM	17	Nobamba TA	Future Project	Future Project	Possible future project for whole of Nobamba TA	3500	31.264	-28.316
Ulundi LM	18	Ulundi Unit L	Construction/Awaiting Transfer	Project Management	Project at standstill. Previous I.A. abandoned the project. 436 houses completed. Project Manager to be appointed. Urban	552	31.43703	-28.314916
Ulundi LM	18	Ulundi Unit L Extension	Construction/Awaiting Transfer	Project Management	Planning Phase 95% completed. No construction as yet. urban	954	31.43026	-28.311771
Ulundi LM	22	Zondela : Phase I	Construction/Awaiting Transfer	Project Management	Construction completed, beneficiary administration, transfer, close-out. Urban	854	31.44271	-28.306855
Ulundi LM	14, 20	Ximba Rural Housing Project	Construction/Awaiting Transfer	Project Management	Construction still in progress 52% (1044 sites, rural)	2000	31.5487	-28.31215
Ulundi LM	8 & 9	Ekudubekeni	Construction/Awaiting Transfer	Project Management	Construction still in progress 26% (426 sites, rural)	1600	31.42141	-28.238361
uPhongolo LM	1	Mahlangosi Housing Project	Implementing Stage	Planning	ZDM paid for surveing of site (urban low cost housing)	60	31.5616	-27.535
uPhongolo LM	10	Ncotshane Housing Project	Implementing Stage	Project Management	ZDM paid for surveing of site (urban low cost housing)	60	31.57829	-27.348264
uPhongolo LM	11	Incotshane Ext. Pongola	Implementing Stage	Project Management	ZDM paid for surveing of site (urban low cost housing)	60	31.58048	-27.34175
uPhongolo LM	14	Kwa Gumbi Rural Housing Project	Pipeline/Identified	Planning	Implementing Agent tender to be advertised.	550	31.920172	-27.465068

7.3 Sustainability Assessment

REF.	CRITERION	EVALUATION	SCORES	KEY RISKS	RECOMMENDATIONS
1	**Environmental sustainability parameters** Have environmental sustainability parameters and impacts on the natural environment been identified, and have the risks and opportunities been used to inform strategies in the municipal plan?	**Positive/Negative:** Both. Positive applies if natural areas are viewed as assets for tourism and visual quality. **Neutral/No Impact:** N/A **Direct/Indirect:** Both **Scale of Effect:** Marginal to significant **Timing of Effect:** Short to long-term **Geographical Scale:** Municipal, district and provincial influence **Rural/Urban:** Both **Cumulative Effects:** Yes **Notes:** The Status Quo report describes the state of the environment in the ZDM and the pressures and impacts currently being faced. The report further describes opportunities for planning using the natural assets to enhance development and risks to these assets to be minimised. This has been carried through into the spatial proposals mapping.	**Sustainability:** 2 **Trend Towards Sustainability:** 2 **Sustainability Targets:** 1	Key risks include unregulated / unauthorised development (primarily housing) as is being seen in several areas in the district. These developments do not take environmental sustainability or the SDF into account. An important risk to sustainability is the lack of fine scale spatial information being made available to the public / developers as the EMF decision support platform on which much of the SDF is based is not currently accessible.	**Avoidance:** Ongoing **Risk Mitigation:** Ongoing **Continual improvement strategies:** Improve district and municipal policies and planning approval protocols. The mapping should be applied to planning development approval applications. Policies should be strengthened in the ZDM and integrated into planning approvals to ensure that mapped sensitive areas are developed sensitively and protected to enhance natural assets. Strengthening and enforcement of policies regarding unauthorised developments and developments outside of the planning framework is required. The EMF decision support platform should be reactivated to provide fine scale spatial information to developers and the public in general.
2	**Water resource features**	**Positive/Negative:** Both **Neutral/No Impact:** N/A **Direct/Indirect:** Both	**Sustainability:** 2	Key risks include water quality impacts to critical water supply dams and rivers	**Avoidance:** Ongoing Risk **mitigation:** Ongoing

REF.	CRITERION	EVALUATION	SCORES	KEY RISKS	RECOMMENDATIONS
	Have important water resource features been identified and the potential impacts of existing and proposed settlement patterns on the water resource (water availability and quality) been evaluated to inform strategies?	• **Scale of Effect:** Marginal to significant • **Timing of Effect:** Short to long-term • **Geographical Scale:** Municipal, district and provincial influence • **Rural/Urban:** Both • **Cumulative Effects:** Yes • **Notes:** The status quo report and spatial mapping proposals describe and map water resource features and the pressures and impacts currently being exerted on these. Attention has been paid to water quantity issues given its scarcity in the district.	**Trend Towards Sustainability:** 2 **Sustainability Targets:** 1	related to urbanisation, lack of or poorly functioning wastewater infrastructure, and poor agricultural practices.	• The SDF should continually aim to direct development into appropriate areas based on specific development's potential impacts on water resources. • Development planning approvals should carefully consider potential impacts on water quality and quantity availability. Particularly for developments located in 'very high or high sensitivity catchments', or 'water stressed' catchments. • A focus on stormwater and wastewater management is required for all developments.
3	**Protected areas and buffer areas of statutory protected areas** Have Protected Areas and the buffer areas of statutory	**Positive/Negative:** Both. Positive applies if these areas are viewed as assets for tourism and visual quality. **Neutral/No Impact:** N/A **Direct/Indirect:** Both **Scale of Effect:** Marginal to significant	**Sustainability:** 2	• Unplanned development (primarily settlement) is a key threat to buffer areas. This is a clear risk to sustainability given that communities do not consider the SDF.	**Avoidance:** Ongoing risk **Mitigation:** Ongoing **Continual improvement:** • Improve district and municipal policies and planning approval protocols. The mapping should be applied to planning development approval applications.

REF.	CRITERION	EVALUATION	SCORES	KEY RISKS	RECOMMENDATIONS
	protected areas been identified and the potential impacts of existing and proposed settlement patterns in such areas been evaluated to inform strategies?	**Timing of Effect:** Short to long-term **Geographical Scale:** Municipal, district and provincial influence **Rural/Urban:** Mostly in rural parts of the ZDM. **Cumulative Effects:** Yes **Notes:** The Status Quo report and spatial proposals and mapping describe, and map protected areas and buffer areas and the pressures and impacts currently being exerted on these.	**Trend Towards Sustainability:** 2 **Sustainability Targets:** 1	• Also, mineral and gas prospecting and mining is a threat to protected areas and buffer zones that is not addressed in the SDF process.	• Introduce settlement planning in areas under traditional councils. • Development planning approvals should carefully consider potential impacts on protected areas and buffer areas. Particularly for border-line developments.
4	**Priority biodiversity areas** Have Priority Biodiversity Areas including Critical Biodiversity Areas (CBAs) and Ecosystem Support Areas (ESAs) (Landscape Corridors) been identified and the impacts of existing and proposed settlement patterns on biodiversity planning priorities been evaluated to inform strategies?	**Positive/Negative:** Negative **Neutral/No Impact:** N/A **Direct/Indirect:** Both **Scale of Effect:** Marginal to significant **Timing of Effect:** Short to long-term **Geographical Scale:** Municipal, district and provincial influence **Rural/Urban:** Both **Cumulative Effects:** Yes **Notes:** The Status Quo report and spatial mapping and proposals describe and map CBAs/ESAs and the pressures and impacts currently being exerted on these.	**Sustainability:** 2 **Trend Towards Sustainability:** 2 **Sustainability Targets:** 1	• Unplanned development (primarily rural settlements) is a key threat to priority biodiversity areas. Development of these settlements is not based on spatial planning considerations. • Also, mining is a threat to priority biodiversity areas that is not addressed in the SDF process.	**Avoidance:** Ongoing risk **Mitigation:** Ongoing **Continual improvement:** • The Biodiversity Land Use (BLU) coverage published by EKZNW should be consulted as a reference for continual improvement. • Strengthening and enforcement of policies regarding unauthorised developments and developments outside of the planning framework is required. • Development planning approvals should carefully consider potential impacts to CBAs and ESAs. These areas are often of a micro to medium spatial scale and therefore would require decision-making to occur on a case-by-case site basis.

REF.	CRITERION	EVALUATION	SCORES	KEY RISKS	RECOMMENDATIONS
5	**Threatened Ecosystems** Have Threatened Ecosystems been identified and the potential impacts of existing and proposed settlement patterns in such areas been evaluated to inform strategies?	**Positive/Negative:** Negative **Neutral/No Impact:** N/A **Direct/Indirect:** Both **Scale of Effect:** Marginal to significant **Timing of Effect:** Short to long-term **Geographical Scale:** Municipal, district and provincial influence **Rural/Urban:** Both **Cumulative Effects:** Yes **Notes:** The Status Quo report and spatial proposals and mapping note that several parts of the ZDM have biodiversity hotspot.	**Sustainability:**3 **Trend Towards Sustainability:** 2 **Sustainability Targets:** 2	• Unplanned development (primarily rural settlements) is a key threat to priority biodiversity areas. Development of these settlements is not based on spatial planning considerations. • Mining is a threat to priority biodiversity areas that is not addressed in the SDF process.	**Avoidance:** Ongoing risk **Mitigation:** Ongoing **Continual improvement:** • Improve district and municipal policies and planning approval protocols. Consultation should occur with EKZNW on a regular basis. • Strengthening and enforcement of policies regarding unauthorised developments and developments outside of the planning framework is required. • Development planning approvals should carefully consider potential impacts to Threatened Ecosystems. This would require decision-making to occur on a case-by-case site basis.
6	**High potential agricultural land** Have areas of High potential agricultural land been identified and have the potential impacts of existing and proposed settlement patterns on this scarce commodity been evaluated to inform strategies?	**Positive/Negative:** Both **Neutral/No Impact:** N/A **Direct/Indirect:** Both **Scale of Effect:** Marginal to significant **Timing of Effect:** Short to long-term **Geographical Scale:** Municipal, district and provincial influence **Rural/Urban:** Both **Cumulative Effects:** Yes **Notes:** The Status Quo report and spatial mapping and proposals note that the ZDM is endowed	**Sustainability:** 3 **Trend Towards Sustainability:** 2	• Sub-division of agricultural land to sub-economic zones. • Land reform with more than 70% of agricultural land in the ZDM being subject to either land restitution or labour tenants applications.	**Avoidance:** Ongoing risk **Mitigation:** Ongoing **Continual improvement:** • Improve district and municipal policies and planning approval protocols. • A high value should be placed on the district's agricultural assets. Agricultural land once disturbed, altered, or destroyed is difficult to rehabilitate, and can never fully be returned to its prior productive state. • Anticipated pressure points include 'urban sprawl' areas on the outskirts

REF.	CRITERION	EVALUATION	SCORES	KEY RISKS	RECOMMENDATIONS
		with vast tracts of high potential agricultural land (comprising of mostly sugarcane, forestry, annual crops, irrigated vegetables, irrigated pastures, and natural grassland for cattle grazing) to the north and south, categorised mostly as 'irreplaceable' and 'threatened' agricultural land.	**Sustainability Targets:** 2		of towns, nodal areas and along transportation corridors. • The SDF should endeavour to enhance measures for promoting food security in the district as ongoing policy and continuous improvement. Policy should be focused not just on large-scale agricultural production, but also on small-scale growers and subsistence agriculture. This would apply to both urban and rural areas.
7	**Terrain susceptibility to erosion and Land degradation** Have areas of terrain susceptibility to erosion been identified and have the impacts of existing and future settlement patterns on land degradation been evaluated to inform strategies?	**Positive/Negative:** Negative **Neutral/No Impact:** N/A **Direct/Indirect:** Both **Scale of Effect:** Marginal to significant **Timing of Effect:** Short to long-term **Geographical Scale:** Local and municipal influence **Rural/Urban:** Both **Cumulative Effects:** Yes	**Sustainability:** 3 **Trend Towards Sustainability:** 2 **Sustainability Targets:** 2	The land cover change mapping is at a broad level. No soil erosion maps have been provided.	**Avoidance:** Ongoing risk **Mitigation:** Ongoing **Continual improvement:** • Soil erosion mapping could be undertaken in the future. • Proposed development sites should be evaluated at a site-specific level for potential erosion risks.
8	**Service infrastructure** Has an assessment of the availability, capacity and upgrading cost of service infrastructure	**Positive/Negative:** Negative **Neutral/No Impact:** N/A **Direct/Indirect:** Both **Scale of Effect:** Marginal to significant **Timing of Effect:** Short to long-term	**Sustainability:** 3 **Trend Towards Sustainability:** 2	• The water resources in ZDM are under intense pressure. For this reason, waterless and alternative sanitation solutions are suggested in the SDF.	**Avoidance:** Ongoing risk **Mitigation:** Ongoing **Continual improvement:** Alternative Nature-based solutions should be sought and promoted.

REF.	CRITERION	EVALUATION	SCORES	KEY RISKS	RECOMMENDATIONS
	been undertaken to ensure that there is sufficient infrastructure to mitigate potential adverse effects on natural resource quality (particularly water quality)?	**Geographical Scale:** Provincial, district and municipal influence. **Rural/Urban:** Both **Cumulative Effects:** Yes **Notes:** The Status Quo report and spatial proposals and mapping have included an assessment of electricity and energy supply, public facilities, as well as bulk water and sanitation. Emphasis has been placed on the prevention of pollution and contamination of the environment. Re-use strategies are further suggested. Service delivery needs have been evaluated.	**Sustainability Targets:** 2	• This will be an ongoing concern that will require continual attention.	
9	**Open space systems and Critical ecological infrastructure** Have Open Space Systems and Critical Ecological Infrastructure been identified and the impacts of existing and proposed settlement patterns on these areas been evaluated to inform strategies?	**Positive/Negative:** Both **Neutral/No Impact:** N/A **Direct/Indirect:** Both **Scale of Effect:** Marginal to significant **Timing of Effect:** Short to long-term **Geographical Scale:** Provincial, district and municipal influence. **Rural/Urban:** Both **Cumulative Effects:** Yes **Notes:** The Consolidated SDF map has included open space systems and critical infrastructure.	**Sustainability:** 2 **Trend Towards Sustainability:** 2 **Sustainability Targets:** 1	• Provision has been made for the inclusion of open space systems and critical ecological infrastructure in the SDF. • Policies should be strengthened to ensure that these areas are protected and that ecological corridors remain functional and viable.	**Avoidance:** Ongoing risk **Mitigation:** Ongoing **Continual improvement:** Development approval policies and procedures should continuously be strengthened.

REF.	CRITERION	EVALUATION	SCORES	KEY RISKS	RECOMMENDATIONS
10	**Green economy** Have socio-economic opportunities for the green economy been identified and have strategies to promote the green economy been used to inform existing and proposed socio-economic development?	**Positive/Negative:** Positive **Neutral/No Impact:** N/A **Direct/Indirect:** Both **Scale of Effect:** Marginal to significant **Timing of Effect:** Short to long-term **Geographical Scale:** Provincial, district and municipal influence. **Rural/Urban:** Both **Cumulative Effects:** Yes **Notes**: Green economy issues are discussed in the spatial proposals at a broad level.	**Sustainability:** 3 **Trend Towards Sustainability:** 3 **Sustainability Targets:** 2	The green economy is often overlooked in favour of basic development needs.	**Avoidance:** Ongoing risk **Mitigation:** Ongoing **Continual improvement:** Green economy polices should continuously be promoted. Key catalyst projects should be promoted.
11	**Climate change related impacts and risks** Have climate-related impacts and risks on existing and proposed settlement patterns been identified and evaluated to inform strategies?	**Positive/Negative:** Negative **Neutral/No Impact:** N/A **Direct/Indirect:** Both **Scale of Effect:** Marginal to significant **Timing of Effect:** Short to long-term **Geographical Scale:** Provincial, district and municipal influence. **Rural/Urban:** Both **Cumulative Effects:** Yes **Notes:** Climate change has been discussed in the spatial proposals at a broad level.	**Sustainability:** 3 **Trend Towards Sustainability:** 3 **Sustainability Targets:** 2	More specific climate adaptation policies strategies are required for the district.	**Avoidance:** Ongoing risk **Mitigation:** Ongoing **Continual improvement:** Climate change adaptation strategies should continuously be included in policies.

7.4 Monitoring and Evaluation Framework

Monitoring, evaluation, reporting, and adaptive management are widely recognised as fundamental components for effective municipal planning. This often takes the form of a Performance Management System (PMS) and forms an integral part of the IDP. Similarly, monitoring and evaluation of the impact of the SDF should not be considered as a once-off and separate exercise, but a continuous and iterative process that forms part of the overall assessment of the performance of the municipality. It helps to identify aspects or components of the SDF that need to be amended or strengthened, and thus keeps the SDF relevant to the strategic spatial agenda of the municipality.

Table 15: Monitoring Framework

NO.	STRATEGIC OBJECTIVE	NO.	SPATIAL DEVELOPMENT INDICATOR	OUTCOME	SOURCE OF MEASUREMENT
STRATEGIC GOAL 1: Spatial integration and inclusive development.					
1.1.	Create an integrated and functional spatial structure.	1.1.1.	Development occurring within urban or settlement edges.	Effective spatial transformation.	Spatial depiction of the location of projects.
		1.1.2.	Infill developments / densification projects in development nodes.	Spatial integration.	Scheme registers.
		1.1.3.	ZDM Region Development Plan developed.	Improved integration of the core nodal areas and the urban complex in the district.	Council resolution adopting the plan
1.2.	Identify a hierarchical system of investment points (nodes) in the district.	1.2.1.	Amount of capital spent on regional and municipal development nodes.	Improved access to opportunities and service delivery.	IDP Budgets of District and Local Municipalities
		1.2.2.	Investment in community development nodes and tourism development nodes.	Improved access to opportunities and service delivery.	IDP Budgets of District and Local Municipalities
			Number of provincial priority housing projects in the regional development node.	Increased densification and transformation of the spatial form.	DHS (PHSHDA projects)
		1.2.3	Investment in satellite investment development nodes.	Improved access to opportunities.	IDP Budgets of District and Local Municipalities
1.3	Identify a hierarchy of development corridors that	1.3.1	Number of implemented N2 upgrades as part of the SIP1 (focussing on certain interchanges identified).	Improved and maintained district and provincial transportation networks.	SANRAL

NO.	STRATEGIC OBJECTIVE	NO.	SPATIAL DEVELOPMENT INDICATOR	OUTCOME	SOURCE OF MEASUREMENT
	ensure efficient accessibility, movement, and linkages.	1.3.2	Number of development opportunities at strategic nodal points / intersections.	Enhanced economic opportunities.	Scheme registers
		1.3.3	Infrastructure upgrades to ensure infrastructure capacity at these intersections.	Infrastructure upgraded to promote economic opportunities.	District IDP Budget
		1.3.4	Number of upgraded tourism routes.	Improved access to existing and new tourism products.	IDP, Department of Transport projects
1.4	Spatially integrate nodal and the surrounding rural peripheral areas in a functional and systematic manner.	1.4.1	Number of upgraded regional roads.	Improved access to rural areas.	
		1.4.2	Number and location of settlements that are receiving land tenure upgrading.	Recognised land tenure rights.	DALRRD
		1.4.3	Number of landowners benefiting from title adjustment.	Recognised land tenure rights.	DALRRD
STRATEGIC GOAL 2: Creating and maintaining a critical balance between nature conservation and development					
2.1	Protect the inherent value of the natural environmental resources and ecological infrastructure.	2.1.1	Protection of environmentally sensitive areas that are not currently protected.	Biodiversity loss halted.	ZDM EMF
		2.1.2	Number of new Biodiversity Stewardship programmes	Securing critical biodiversity on private land.	KZN Wildlife
		2.1.3	Management of bio-diversity corridors.	Indigenous and threatened habitats promoted.	KZN Wildlife
		2.1.4	% Decrease in the Provincial Land Degradation index for the district.	Degraded land restored and degradation halted.	National Land Care Programme, DARD, DFFE
		2.1.5	Hectares of land rehabilitated annually.	Degraded land restored and degradation halted.	National Land Care Programme, DARD, DFFE
2.2	Manage and protect water resources.	2.2.1	Municipal water loss %.	Water demand management results in minimised water loss and optimised water conservation.	ZDM Infrastructure Services
		2.2.2	Catchment and river management policies and guidelines integrated into land use and development planning.	Improved catchment and river management integrated into spatial planning.	Council resolution adopting water management policies.

NO.	STRATEGIC OBJECTIVE	NO.	SPATIAL DEVELOPMENT INDICATOR	OUTCOME	SOURCE OF MEASUREMENT
		2.2.3	Number of water treatment works complying to Blue Drop Regulatory requirements	Improved compliance of water treatment works.	Department of Water and Sanitation (DWS)
		2.2.4	Number of Wastewater treatment works complying to Green Drop Regulatory requirements.	Improved compliance of wastewater treatment works. Improved water quality for safe reuse.	Department of Water and Sanitation (DWS)
2.3	Provide for sustainable waste-water solutions.	2.3.1	Number of alternative waste-water solutions implemented.	Wastewater and greywater re-use strategies must be investigated and implemented to reduce the pressure on the potable water resources.	ZDM IDP and ZDM Infrastructure Services
2.4	Protect high value agricultural land.	2.4.1	% Land transformation of high potential agricultural land to non-agricultural uses.	Protected Agricultural Areas (PAAs) identified and gazetted.	Land Categories dataset and the Land Use Regulatory Unit (DARD). National land cover data base. CSIR.
		2.4.2	Scheme clauses designed to protect very high potential agricultural land.	Efficient land use management.	LMs Land Use Schemes
2.5	Create sustainable settlements through more effective settlement planning.	2.5.1	Number of Rural Settlement Layout Plans.	Efficient land use management.	Local Municipal SDF/ housing projects
		2. 5.2	Units of energy produced through alternative energy generation.	Increased use of renewable and sustainable energy sources.	Eskom
		2. 5.3	No. of informal settlements formalised/ upgraded.	Improved spatial planning and land use management.	Local Municipal Human Settlements Sector Plans; DHS
		2. 5.4	Delineated and observed wetland buffers in settlement planning.	Communities vulnerable to environmental risk are identified and strategies are in place to minimise these risks.	ZDM Development Planning
		2. 5.5	Observed flood lines in settlement planning.		
		2. 5.6	Number of housing projects using rainwater harvesting.	Improved sustainability and resilience of settlements.	DHS

NO.	STRATEGIC OBJECTIVE	NO.	SPATIAL DEVELOPMENT INDICATOR	OUTCOME	SOURCE OF MEASUREMENT
		2. 5.7	Number of housing projects with alternative sanitation options.	Improved sustainability and resilience of settlements.	DHS
STRATEGIC GOAL 3: Sustainable Urban and Rural Human Settlements					
3.1.	Improve accessibility to public facilities and services.	3.1.1.	Percentage of households within 5km of a primary health care facility.	Enhanced access to services.	Stats SA
		3.1.2.	Number and location of new health facilities.	Enhanced access to services.	Zululand District Health
		3.1.3	Percentage of households with access to educational facilities (primary and secondary).	Enhanced access to services.	Department of Education Stats SA
		3.1.3.	Percentage of legally registered landfill sites that are fully compliant.	Enhanced basic service delivery.	EDTEA
3.2	Ensure equitable access to basic services and bulk infrastructure.	3.2.1	Percentage of households with access to a basic level of Ventilated Improved Pit Latrine (VIP).	Adequate access to bulk water. Enhanced basic service delivery.	Stats SA WSDP
		3.2.2	Percentage households with access to potable drinking water, within 200m of the dwelling.	Enhanced basic service delivery.	Stats SA WSDP
		3.2.3	Percentage of households with access to 75 litres of water per person per day.	Enhanced basic service delivery.	Stats SA WSDP
		3.2.4	Percentage of households with yard water connections.	Enhanced basic service delivery.	Stats SA WSDP
		3.2.5	Percentage of households receiving reliable and affordable electricity supply.	Enhanced basic service delivery.	Stats SA Eskom
		3.2.6	Percentage increase in the number of households in scattered rural settlements receiving alternative forms of power.	Quality, reliable, sustainable, and resilient infrastructure.	Eskom
		3.2.7	Percentage increase in the number of households within the dense rural settlements that are connected to the grid.	Enhanced basic service delivery.	Eskom
		3.2.8	Percentage of households living in formal dwellings	Enhanced basic service delivery.	Stats SA and Municipal Human Settlement Sector Plans

NO.	STRATEGIC OBJECTIVE	NO.	SPATIAL DEVELOPMENT INDICATOR	OUTCOME	SOURCE OF MEASUREMENT
		3.2.8	Percentage of positive rating of service delivery at district and local levels, measured through the KZN Citizens Satisfaction Surveys.	Enhanced basic service delivery.	Citizen Satisfaction Survey (STATS SA)
3.3	Incorporate disaster risk reduction and climate change adaptation responses within all spatial planning and land use management	3.3.2	Percentage of Municipal IDP's incorporating strategies for adaptation and mitigation of climate change.	Climate change measures incorporated into strategies and planning.	ZDM IDP and ZDM Climate Change Mitigation and Adaption Plan
		3.3.3	Construction of climate proof-built infrastructure and shelter in rural communities.	Building more resilient settlements.	ZDM IDP, EMF, SDF
		3.3.4	Units of energy saved through energy efficient interventions.	Transitioning to renewable and sustainable energy options.	ESKOM
STRATEGIC GOAL 4: Regional Economic Development and Growth					
4.1.	Create a spatial environment that promotes and facilitates economic development and diversification.	4.1.1.	Extent of (m^2) of appropriately zoned and serviced industrial land available.	Enhanced economic opportunities.	Local Municipal Land Use Schemes.
		4.1.2.	Extent of (m^2) of appropriately zoned and serviced commercial land available.	Enhanced economic opportunities.	Local Municipal Land Use Schemes.
4.2	Guide investment to the most appropriate areas in support of the municipal spatial development vision.	4.2.1	Location and extent of land reserved for agriculture only.	Protected high value agricultural land.	Local Municipal Land Use Schemes and SDFs.
4.3	Stimulate and regenerate small towns in the district.	4.3.1	Number of towns that benefitted from funding programmes.	Regenerated and functional small towns.	COGTA
4.4	Support and diversify tourism in the district.	4.4.1	Number of new tourism facilities and products.	Growing tourism sector.	Tourism statistics, ZDM Economic and Development Planning: Economic Development
4.5		4.5.1	Percentage of approved land reform projects provided with post settlement support.	Sustainable land reform initiatives where land is acquired for	DALRRD Reports

NO.	STRATEGIC OBJECTIVE	NO.	SPATIAL DEVELOPMENT INDICATOR	OUTCOME	SOURCE OF MEASUREMENT
	Promote agrarian reform towards food security and agricultural production.			redistribution, restitution, and tenure reform.	
		4.5.2	Number of FPSU (Farmer Production Support Units) functional.	Improved agricultural value chain.	DALRRD Reports DARD Reports
		4.5.3	Hectares (Ha) of Land redistributed or acquired and or allocated for agrarian transformation, industrial parks, and rural development.	Improved access to resources.	DALRRD Reports
4.6	Facilitate improved Information and Communications Technology (ICT).	4.6.1	Number of kilometres of backbone Fibre Optic cables rolled out.	Increased access to information and communications technology.	OTP database and reports
		4.6.2	Percentage of local municipalities with good established access networks.		SITA and COGTA
		4.6.3	Level of increase in mobile broadband coverage in the district.		Telkom, Cell C, MTN, Vodacom, Virgin Mobile database, and reports
		4.6.4	Percentage of households with access to the internet.		Stats SA- Census
		4.6.5	Number of WIFI-hot spots in rural centres.		District Local Municipalities reports
STRATEGIC GOAL 5: Good Administration and Governance.					
5.1	Capacitate and support local municipalities in the implementation of the SPLUMA.	5.1.1	Number of municipalities meeting minimum hierarchy of plans standards.	Enhanced spatial planning tools	ZDM Development Planning Shared Services and LMs planning units
		5.1.2	Number of local municipalities with adopted land use schemes (in terms of SPLUMA).	Integrated planning and land use management system.	Local municipal LUS status
		5.1.3	Review of local municipalities' MSDF and development of Land Use Scheme as per the requirements of SPLUMA	Integrated planning and land use management system.	Council resolutions adopting Land Use Schemes and MSDFs
		5.1.4	Number of municipalities with functional municipal planning units.	Capacitated municipal authorities to implement spatial development priorities.	Local municipal IDPs

NO.	STRATEGIC OBJECTIVE	NO.	SPATIAL DEVELOPMENT INDICATOR	OUTCOME	SOURCE OF MEASUREMENT
		5.1.5	Implemented E-Lodgement system in LMs to fast-track planning approvals.	Appropriate and consistent land use management which enables the implementation of spatial strategies and priorities.	Shared Services and LMs planning units
		5.1.6	Number of JMPT meetings per annum.	Effective land use management in the district.	ZDM Development Planning
		5.1.7	Approved and established District Informal Settlement and Land Invasion Forum.	Functioning institutional structures and resources in place to manage and plan for the proliferation of the informal and irregular settlements within the district.	ZDM Development Planning
		5.1.8	District Informal Settlement and Land Invasion policy and guidelines.	Prepared and adopted District Informal Settlement and Land Invasion policy and guidelines.	ZDM Development Planning
5.2.	Facilitate meaningful public participation in planning processes.	5.2.1	Citizen awareness of District and Local SDFs.	Well informed, and meaningful participation of communities in spatial planning and land use management.	Citizen Satisfaction Survey (Stats SA)
5..3	Develop a district GIS database and user interface that integrates all spatial planning and EMF data.	5.3.1	Functional user interface, integrating spatial planning and EMF data.	Efficient spatial and environmental planning tools.	ZDM IDP
5.4	Guide spatial planning in the District Development Model initiative.	5.4.1	Percentage of District Development Model (DDM) aligned to the ZDM SDF target areas.	Improved integrated planning and governance.	ZDM IDP DDM