ZULULAND DISTRICT MUNICIPALITY

DISASTER MANAGEMENT PLAN

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December

2021

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1 INTRODUCTION AND BACKGROUND

This document presents a Status Quo Report for the preparation of a Municipal Disaster Management Framework and Plan for the Zululand District. It opens with a brief introduction outlining the need and the basis for the project, and focuses mainly on the review of applicable legislation and policy (mandate for disaster management); municipal profile; asssessment of common distasters in the district; and existing capacity to repond, mitigate and prevent such occurances. It concludes with an outline of citical distaster manageent issues facing the district. The plan will be prepared in accordance with the requirements of the Disaster Management Act, Act No. 57 of 2002 and the National Disaster Management Centre's Guidelines: Development and Structure of Distaster Management Plan, April 2017.

1.1 THE ZULULAND DISTRICT MUNICIPALITY

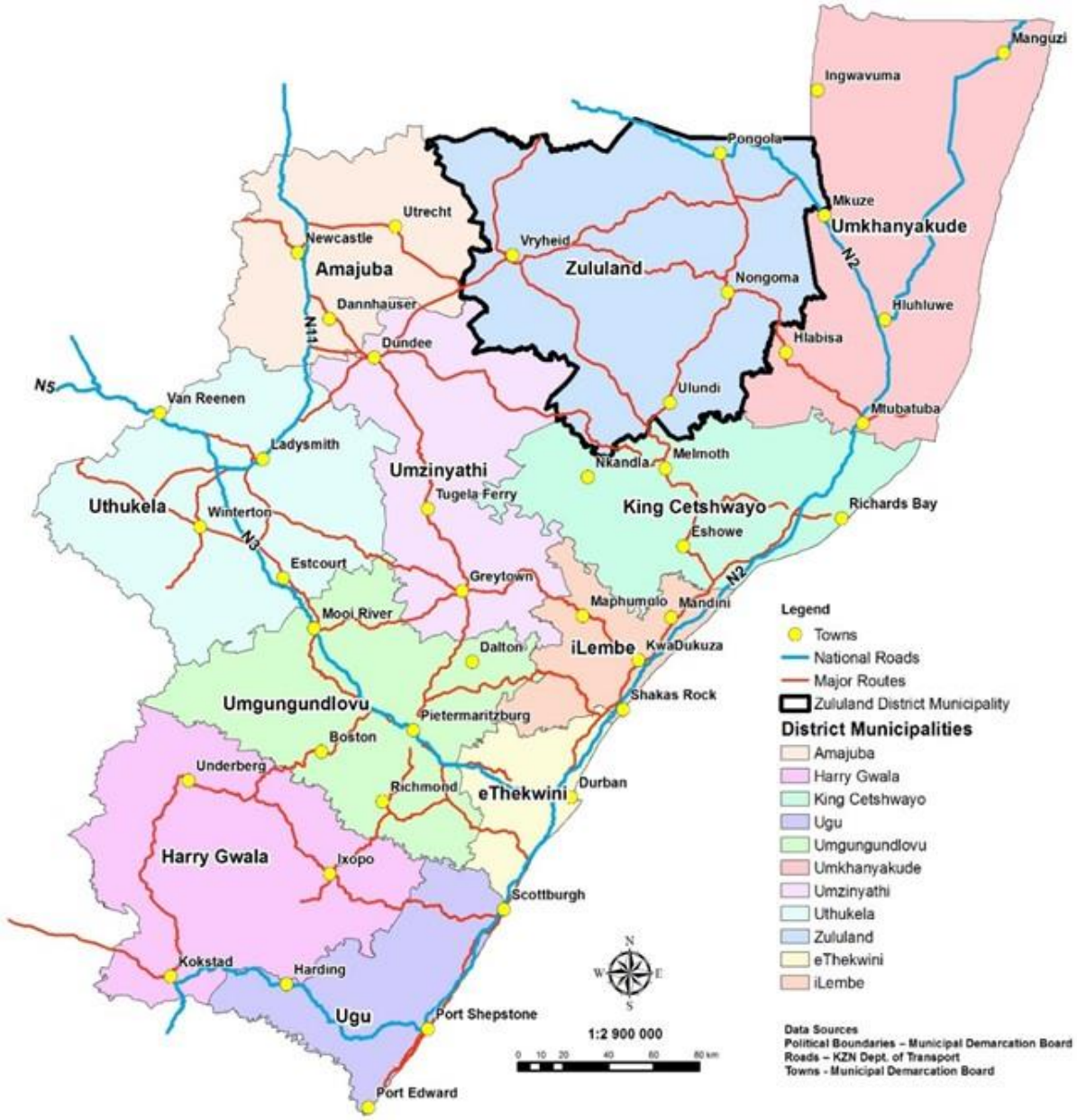
The Zululand District Municipality (ZDM) is one of the ten district municipalities in the KwaZulu-Natal. It is located to the north-west of the province approximately 250 kilometres north of the eThekwini Metropolitan Municipality along the border with the Kingdom of Eswatini (See map 1). The ZDM shares a border 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.Access to the ZDM occures through a network of regional roads including R66 linking the ZDM with The King Cetshwayo District to the south. The N2 national and provincial corridor runs along the nothern boundary of the ZDM and provides direct access to uPhongolo Municipality.

The ZDM has a population of approximately 803 576 people in 2011 (Census 2011) and in 2016, the municipality had approximately 892 310 (Community Survey 2016). It covers approximately 1 479 900 hectares and has a population density of around 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.).

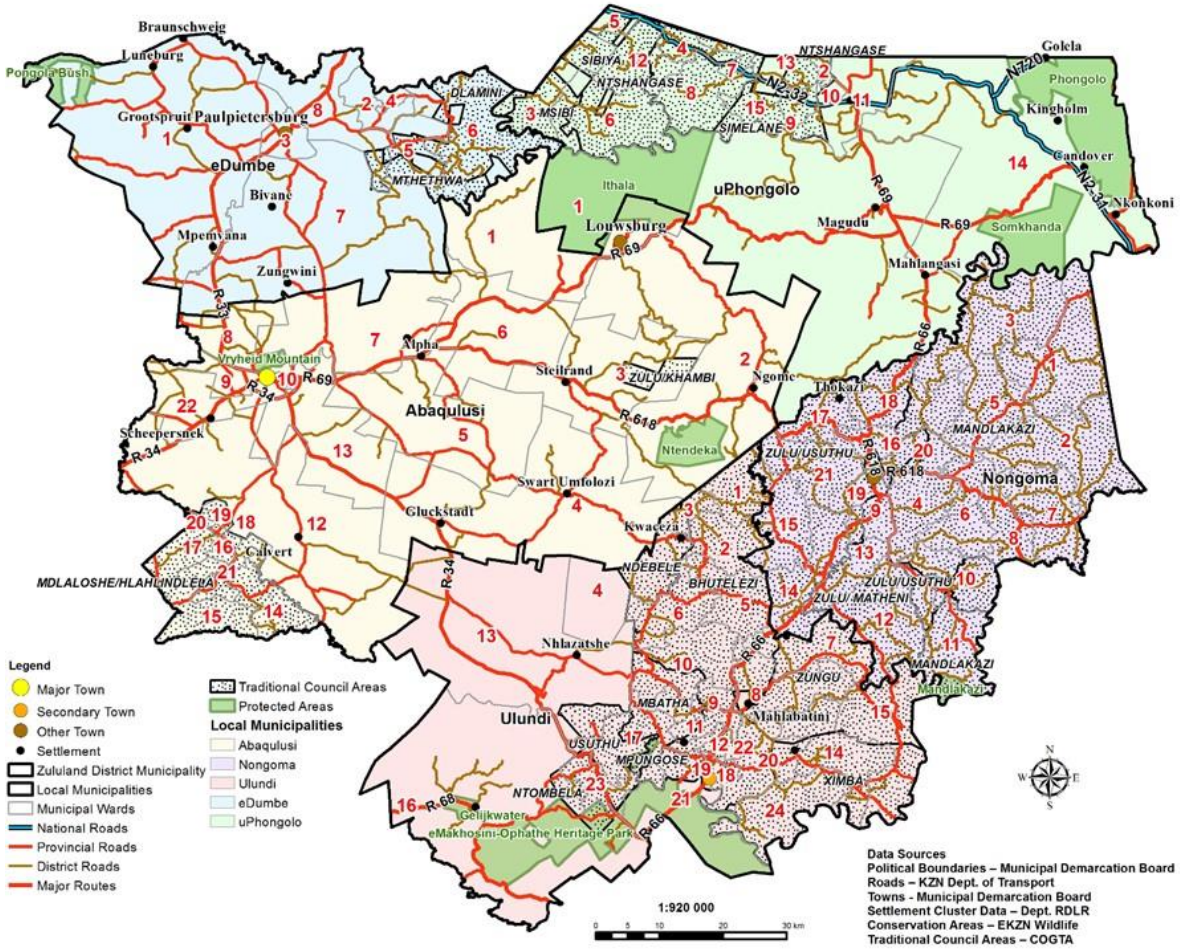
The main nodes such as Vryheid and Ulundi have more detailed and diverse land uses however, large tracts of commercial farmland are located in the north-western part of the Municipal area and the area between Vryheid and Paulpietersburg. Other commercial farmlands are evident south of Enyathi. Scattered rural settlement is evident within the eastern half of Ulundi LM, the whole of the Nongoma LM and north-eastern parts of Edumbe LM. These areas coincide with the Ingonyama Trust land. Denser settlements are evident around the towns of Ulundi, Emondlo, Edumbe and Vryheid. Subsistence agriculture is very evident in the Nongoma LM.

The distribution of various settlement types indicates the sparse and spread out nature of a small settlements traversing the district landscape. The vast majority of rural settlements are located within the traditional council areas and mainly situated along the south eastern regions of the district and the northern region of the district. Settlement densities tend to pick up a little bit along the access routes and within certain settlements.

Map 1: Zululand District Location in KZN



Map 2: Zululand District Municipality



Local municipalities located within the Zululand District Municipality are eDumbe, uPhongolo, Nongoma and Abaqulusi. The eDumbe Municipality is located on the north-western part of ZDM and forms part of the northern border of KwaZulu Natal Province and Mpumalanga Province. The municipality covers an area of approximately 3 239 km2 and is a predominantly rural municipality with forestry and agriculture constituting the main economic activities. The population of 82 053 people (census 2011) lives mostly in the rural areas with only 35% (28 718) living in the urban area. There are 52 settlements made up of 48 dispersed rural settlements, 3 urban areas and one major town, Paulpietersburg, also referred to as Dumbe Town. The municipality is the smallest under ZDM with the population constituting 10.2% of the entire population within ZDM.

1.2 Need For The Project

The Disaster Management Act, 2002 (Act No. 57 of 2002) (DMA) places a legal obligation[4] on all organs of state and other institutional role-players involved in disaster management to develop, regularly review, update, coordinate, share and implement disaster management

plans. A DMP must be structured on the one hand to show alignment with the concepts articulated by the NDMF whilst on the other hand guarantee legislative compliance with Sections 25, 38, 39, 52 and 53 of the DMA.

The Zululand District municipality is exposed to a wide range of natural and human-induced hazards that can cause widespread hardship and devastation. The Zululand Disaster Management Centre (UDMC) has observed that seasonal incidents occur in their extreme and this may be attributed to the effects of climate change. Over the past few seasons, the district has experienced:

- Heavy rainfall which caused flooding in a number of areas. Higher rainfall occurring during November to January summer season period causes floods in low lying areas and erosion of land has become a regular feature in the district. The district has in the past witnessed worst form of disasters caused by floods and landslides rendering normal life paralyzed by way of disruption of means of communications caused due to damage of roads and bridges and also blockage of roads.
- Severe drought that causes serious shortage of water for both domestic and livestock use. According to recent data received from the SA Weather Service, most of these areas have been constantly receiving less than average rain fall in the past five years. As a result of the reduction in rainfall, there has been a constant reduction in crops yielded by farmers as well as a steady decline in water reserve sources.
- Runaway veld fires that have ravaged the district and destroyed a lot of property, livestock, grazing lands and even claimed innocent people's lives. Veld fires have been a persistent problem in Zululand District Municipality area and this situation has worsened over the past several years, the district experienced devastating veld and structural fires across. Those veld fires that resulted from strong winds and extremely dry winter conditions, damaged to land. Plant and animal communities in particular are at greater risk of extinction because their traditional habitats are irreversibly being modified by severe fires. Other notable adverse effects have been loss of livestock, agricultural crops and power outages.
- Fatal lightning strike incidents during the summer seasons.

1.3 Aims And Objectives Of The ZDM Disaster Management Plan

The overall objective of developing a District Level Disaster Management Plan is the establishment of a uniform approach to assessing and monitoring disaster risks, implementation of integrated disaster risk management plans and risk reduction programmes and effective and appropriate disaster response and recovery to inform disaster risk management planning and disaster risk reduction.

Its objectives are as follows:

- To document the institutional arrangements for disaster risk management planning which includes the assignment of primary and secondary responsibilities for priority disaster risks posing a threat in the ZDM.
- To provide the broad framework within which the disaster risk management planning requirements of the Act will be implemented by the departments and other entities included in the organisational structure of the ZDM.
- To establish the operational procedures for disaster risk reduction planning as well as the emergency procedures to be implemented in the event of a disaster occurring or threatening to occur in council's area.
- To facilitate an integrated and coordinated approach to disaster risk management in the municipality which will ensure that the ZDM achieves its vision for disaster risk management which is to build a resilient people in the ZDM who alert are, informed and self-reliant by establishing risk reduction and resilience building as core principles and developing adequate capabilities for readiness; and effective and rapid, response and recovery.
- Lastly the plan will be established contingency measures in the form of specific and generic contingency plans in line with the indicative risk profile of the municipality and to ensure a coordinated approach to disaster response.

1.4 Definition Of Concepts Related To Disasters

Hazards: A hazard refers to the potential occurrence, in a specific time and geographic area, of a natural phenomenon that may adversely affect human life, property or activity to the extent of causing a disaster. A hazard occurrence (earthquake, flood, cyclone, etc.) becomes a disaster when it results in injuries, loss of life and livelihood, displacement, and homelessness and/or destruction and damage to infrastructure and property.

Risk: Risk is defined as the expected damage or loss caused by any hazard.

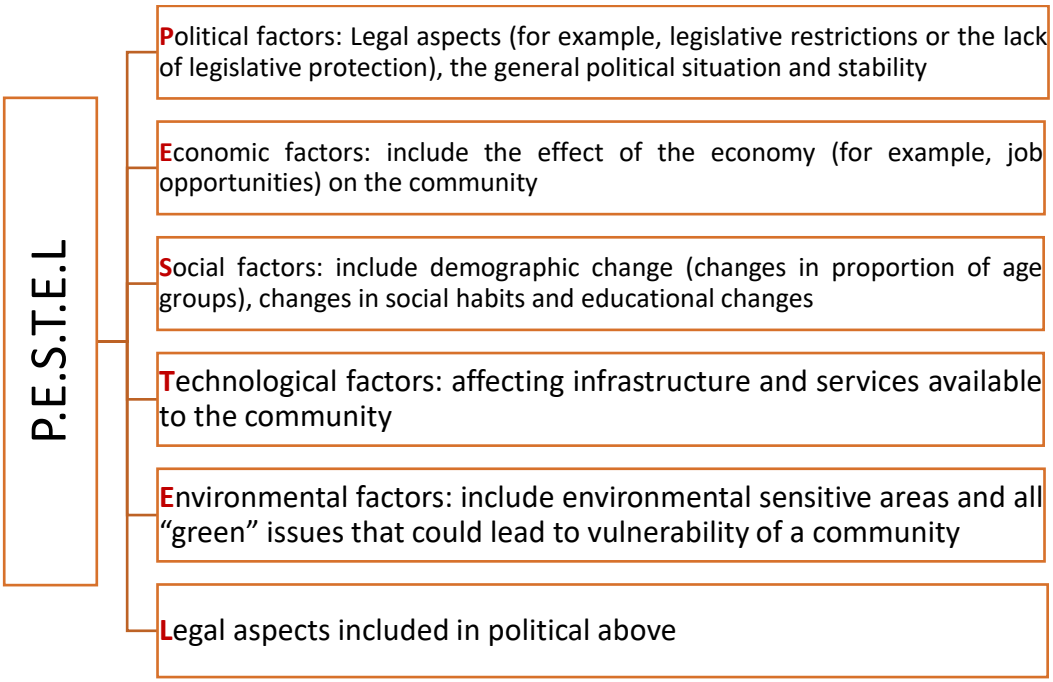
Disaster risk reduction is defined as the concept and practice of reducing disaster risks through systematic efforts to analyse and manage the casual factors of disasters, including through reduced exposure to hazards, lessened vulnerability of people and property, wise management of land and

environment, and improved preparedness of adverse effects. Disaster risk reduction concerns activities more focussed on a strategic level of management, whereas disaster risk management is the tactical and operational implementation of disaster risk reduction.

Incident: a relatively minor occurrence or event, that might lead to a public crisis.

Disaster risk management is defined as the systematic process of using administrative directives, organisations, and operational skills and capacities to implement strategies, policies and improved coping capacities in order to lessen the adverse impacts of hazards and their possibility of disasters.

Vulnerability: is defined as the degree to which an individual, family or community region is at risk of experiencing misfortune following extreme events. Conditions of vulnerability to the impact of hazards are determined by political, economic, social, physical/technological, environmental, and legal factors or processes (PESTEL):



VULNERABILITY + HAZARD = DISASTER

VULNERABILITY: people living in areas prone to disasters

HAZARD: Hazards caused by extremes in natural processes are exacerbated if they occur in areas where the vulnerability and risk to such events is high.

DISASTER: When vulnerability is high and an extreme event occur then, depending on management and preparation for such an event, a disaster may result.

$$\text{Disaster risk} = \text{Hazard} \times \frac{\text{Vulnerability}}{\text{Capacity}}$$

Structural or physical vulnerability is the extent to which a structure is likely to be damaged or disrupted by a hazard event.

Human vulnerability is the lack of capacity of a person or community to anticipate, cope with, resist and recover from the impact of a hazard. Factors that increase human vulnerability to disasters include rapid urbanisation, population growth, and lack of knowledge about how to effectively resist the effects of disasters and poverty.

Capacity is defined as the ability of an element at risk, e.g., community, to cope with hazards and their impacts. Capacity may include physical, institutional, social, and economic means as well as skilled personnel or collective attribute such as leadership and management.

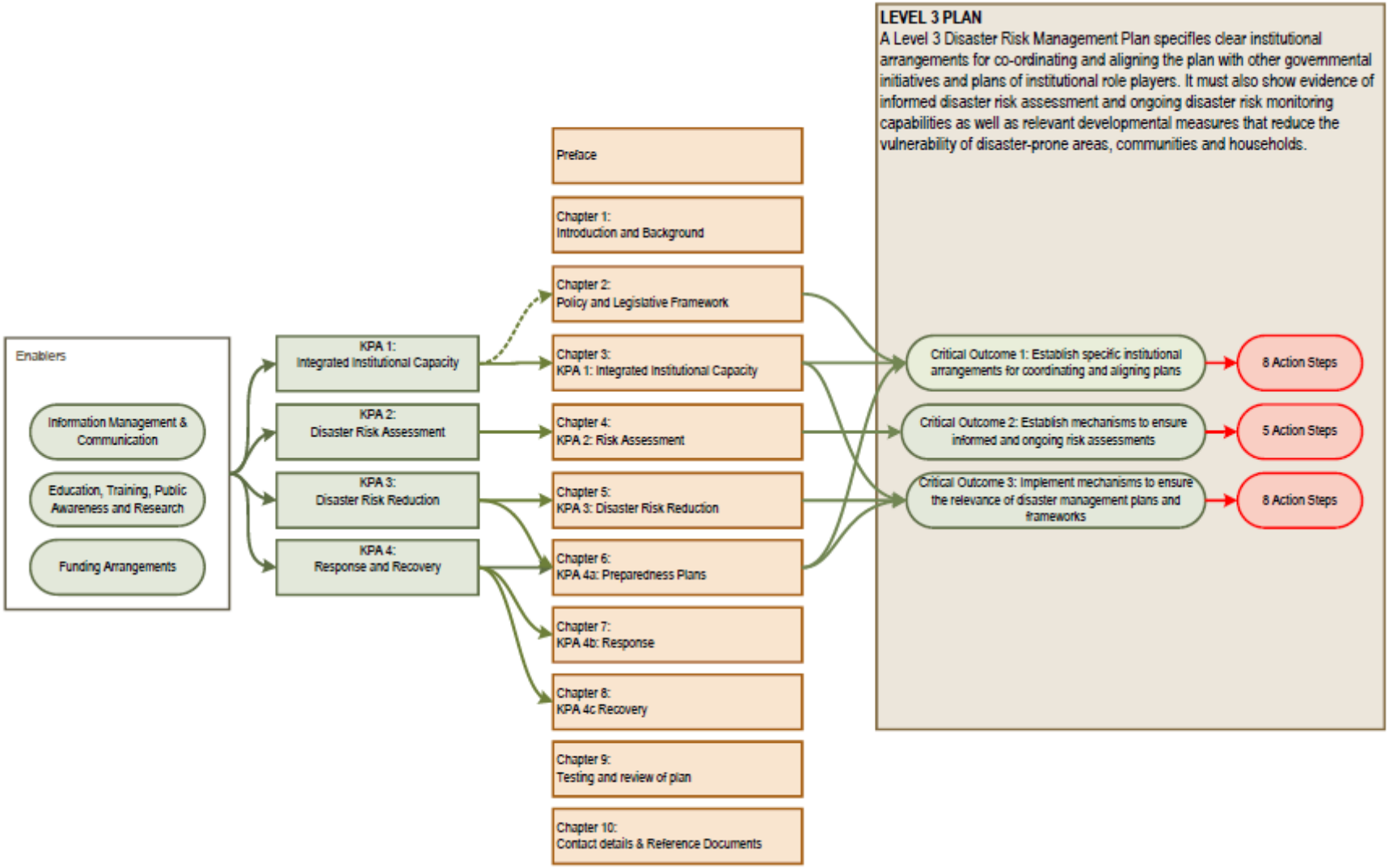
Resilience is the capacity of a community or society potentially exposed or vulnerable to hazards to adapt by resisting or changing to reach and maintain an acceptable level of functioning and structure. This is determined by the degree to which the community or society can organise itself to increase this capacity for learning from past disasters for better future protection and to improve disaster risk reduction measures.

Emergency is a sudden and usually unforeseen event that calls for immediate measures to minimise its adverse consequences or potential threat to health and safety, the environment, or property.

Disaster risk: the National Disaster Management Framework defines disaster risk as the probability of harmful consequences or expected losses (death, injuries, property, livelihoods, disrupted economic activity or environmental damage) resulting from interactions between natural or human-induced hazards and vulnerable conditions.

1.5 SCOPE OF THE ZDM DMP

The ZDM DMP forms part of systems and procedures that enable a municipality to perform on its Constitutional developmental mandate including the addressing natural and man-made disasters. The ZDM DMP will include the following components.


LEVEL 3 PLAN
A Level 3 Disaster Risk Management Plan specifies clear institutional arrangements for co-ordinating and aligning the plan with other governmental initiatives and plans of institutional role players. It must also show evidence of informed disaster risk assessment and ongoing disaster risk monitoring capabilities as well as relevant developmental measures that reduce the vulnerability of disaster-prone areas, communities and households.
Enablers
Information Management & Communication
Education, Training, Public Awareness and Research
Funding Arrangements
KPA 1: Integrated Institutional Capacity
KPA 2: Disaster Risk Assessment
KPA 3: Disaster Risk Reduction
KPA 4: Response and Recovery
Preface
Chapter 1: Introduction and Background
Chapter 2: Policy and Legislative Framework
Chapter 3: KPA 1: Integrated Institutional Capacity
Chapter 4: KPA 2: Risk Assessment
Chapter 5: KPA 3: Disaster Risk Reduction
Chapter 6: KPA 4a: Preparedness Plans
Chapter 7: KPA 4b: Response
Chapter 8: KPA 4c Recovery
Chapter 9: Testing and review of plan
Chapter 10: Contact details & Reference Documents
Critical Outcome 1: Establish specific institutional arrangements for coordinating and aligning plans
8 Action Steps
Critical Outcome 2: Establish mechanisms to ensure informed and ongoing risk assessments
5 Action Steps
Critical Outcome 3: Implement mechanisms to ensure the relevance of disaster management plans and frameworks
8 Action Steps

1.6 District Demographic Profile

1.6.1 Demographic Profile

1.6.1.1 Population Size By Local Municipality

The total population of the ZDM was 803 576 in 2011. It increased by 2,38% per annum to 892 310 in 2011. However, this growth was spread unevenly among the five local municipalities with the uPhongolo Municipality having the highest growth rate at 3,04% followed closely by Abaqulusi at 2,89%. Despite the rural character of the district, none of the local municipalities experienced net population decline during this period.

Table 1: Population by Local Municipality

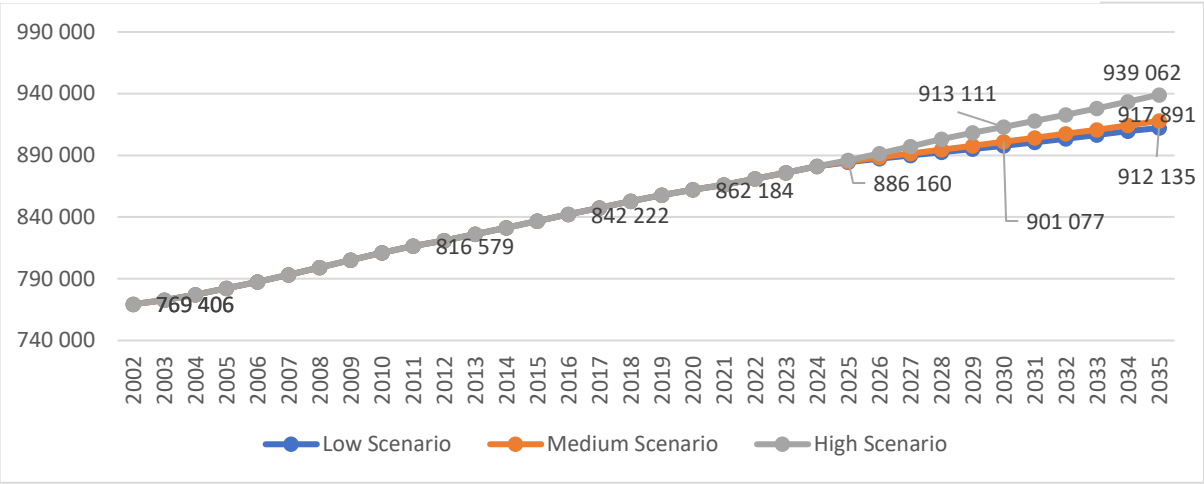
MUNICIPALITY	POPULATION 2011	POPULATION 2016	POPULATION GROWTH (% P.A.) 2011-2016
Abaqulusi LM	214,714	243,795	**2.89%**
eDumbe LM	82,053	89,614	**2.00%**
Nongoma LM	194,908	211,892	**1.90%**
Ulundi LM	188,317	205,762	**2.01%**
uPhongolo LM	123,584	141,247	**3.04%**
Zululand District	**803,576**	**892,310**	**2.38%**

Source: Statistics South Africa, Census 2011 & Community Survey 2016

Population distribution by local municipality reveals a high population concentration in the Abaqulusi Municipality with 243 795 people (27% of the ZDM population) and the Nongoma Municipality with 211 892 people (24%). The eDumbe Municipality has the smallest population in the district, with 89 614 people, which is 10% of the total district population (refer to figure 2 below).

1.6.1.2 Population Growth Rate

Figure 1: Population Growth Projection



According to the 2016 Community Survey (StatSA, 2016), the ZDM has a population of 892 310 people with an average growth of 2.37% between 2011 and 2016. This is above the provincial average of 1,7% per annum and suggests that the Zululand District experienced the highest population growth rate in the province during this period.

1.6.1.3 Number Of Households by Municipality

According to Census 2011 and the community survey 2016 all the municipalities experienced a household increase over the period of 5 years with the average household size ranging between 4.1-5.0. The table below illustrates the number of households for Zululand DM and its local municipalities.

Table 2: Household by Municipality

Municipality	Household Number 2011	Household Number 2016	Average Household Size
Abaqulusi LM	43 478	51 910	4.7
eDumbe LM	16 138	17 415	5.1
Nongoma LM	34 341	36 409	5.8
Ulundi LM	35 198	38 553	5.3
uPhongolo LM	28 287	34 228	4.1
Zululand DM	**157 748**	**178 516**	**5.0**

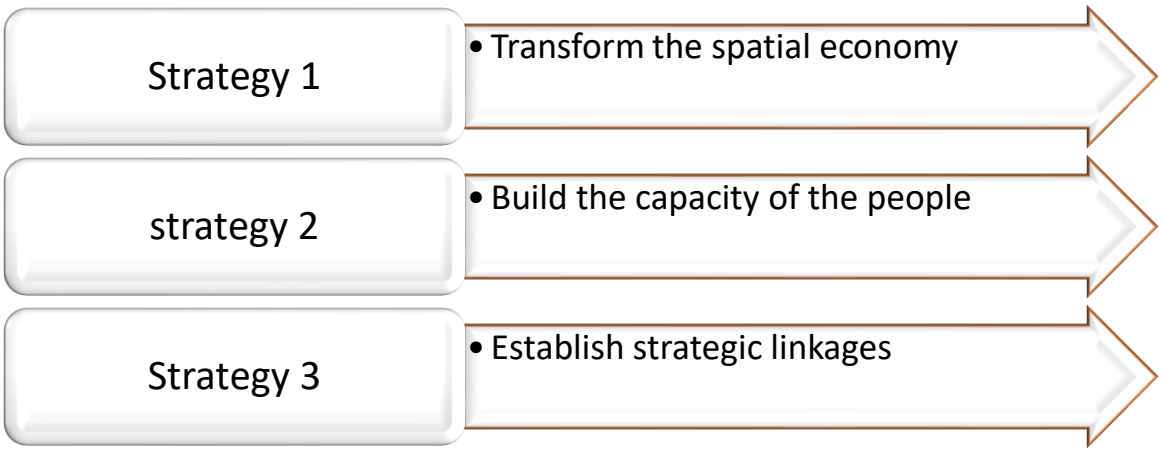
Source: Statistics South Africa, Census 2011 & Community Survey 2016

1.6.2 District Economy

1.6.2.1 Led Function

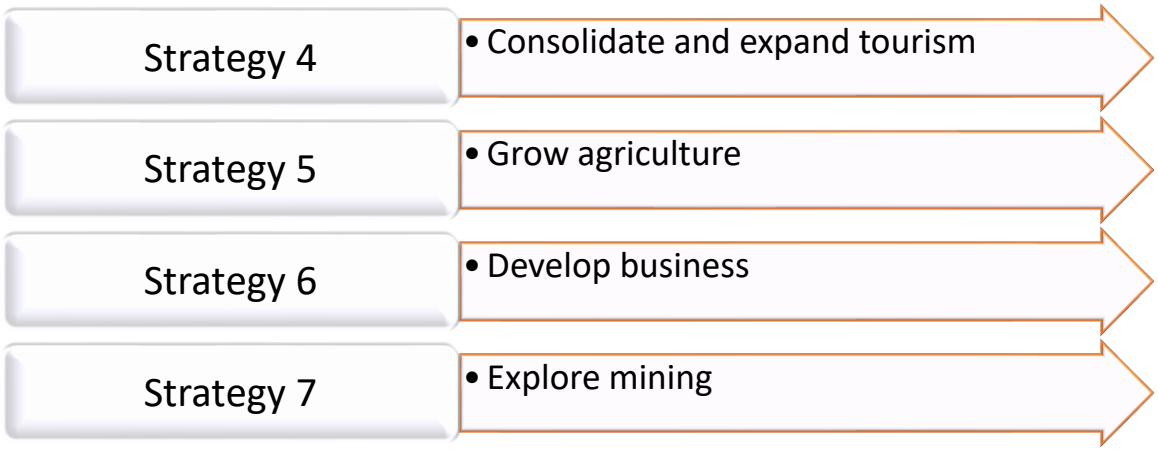
The Zululand District Municipality developed a Sethembe Local Economic Development Strategy (2015) which aims to **Tansform** and **Build** the Zululand economy. The strategy includes the identification of new catalytic projects and preparation of conceptual business plans for priority projects. The LED plan (2015) identifies stakeholders and clarifies their roles and responsibilities; identifies tourism, agriculture, and business as key economic activities in the district; and outlines a strategy for economic development.

The goal aimed at transforming the environment in which future economic development will be achieved through implementing three strategies:



Source: ZDM Zethembe LED Strategy Implementation Plan, 2015

The goal aimed at building the economy will be attained through the following strategies:



Source: ZDM Zethembe LED Strategy Implementation Plan, 2015

It also stated that the ZDM's capacity to plan and manage the execution of a wide range of LED programs is severely limited, and that it lacks expertise in areas such as agriculture, capacity building,

and the informal economy. As a result, it supports the creation of the District Development Agency as a municipal organization tasked with putting catalytic LED initiatives into practice as part of the Sethembe program.

1.6.2.2 ZDM Growth and Development Strategy

A District Growth and Development Strategy has also been established by the ZDM (DGDS). It situates the PGDS within the ZDM and guarantees its proper deployment. The DGDS supports, among other things, inclusive economic growth with an emphasis on agriculture, trade and commerce, tourism, and structured support for Small and Medium Businesses (SMMEs).

1.6.2.3 Size And Structure of The ZDM Economy

1.6.2.4 Spatial Economy

According to the ZDM Growth and Development Plan, Zululand is one of the poorest districts in the country. Due to its location in relation to provincial and national corridors and nodes – such as eThekwini and Johannesburg/Gauteng – Zululand is largely isolated from the national economy. While commercial agriculture takes up a large portion of the district's territory, other economic activity such as industry, commerce, and manufacturing are concentrated around the district's major urban nodes such as Vryheid and Pongola. Nongoma, Ulundi, and Paul Pietersburg are all bustling with activity (eDumbe). The Zululand district is predominantly rural, with most households concentrated in small rural villages. Basic raw supplies, skilled labor, and infrastructure are scarce in these places.

1.6.2.5 Gross Value Added (GVA)

The Zululand district contributes 2.7% of KZN's GDP making it the seventh largest provincial contributor out of the 11 districts. Figure 28 shows the contribution to Zululand's GDP by its respective local municipalities. The largest contributor to Zululand's GDP is Abaqulusi at 42.2%, followed by Ulundi at 21.5%, Nongoma at 15.6%, uPhongolo at 11.2% and eDumbe at 19.5%, respectively. As stated previously, Vryheid is the major economic hub of the region and is based within the Abaqulusi local municipality, hence this municipality constitute the largest portion of the district's GDP. In contrast, eDumbe is mainly a rural municipality, hence it contributes the lowest portion of GDP to the Zululand District.

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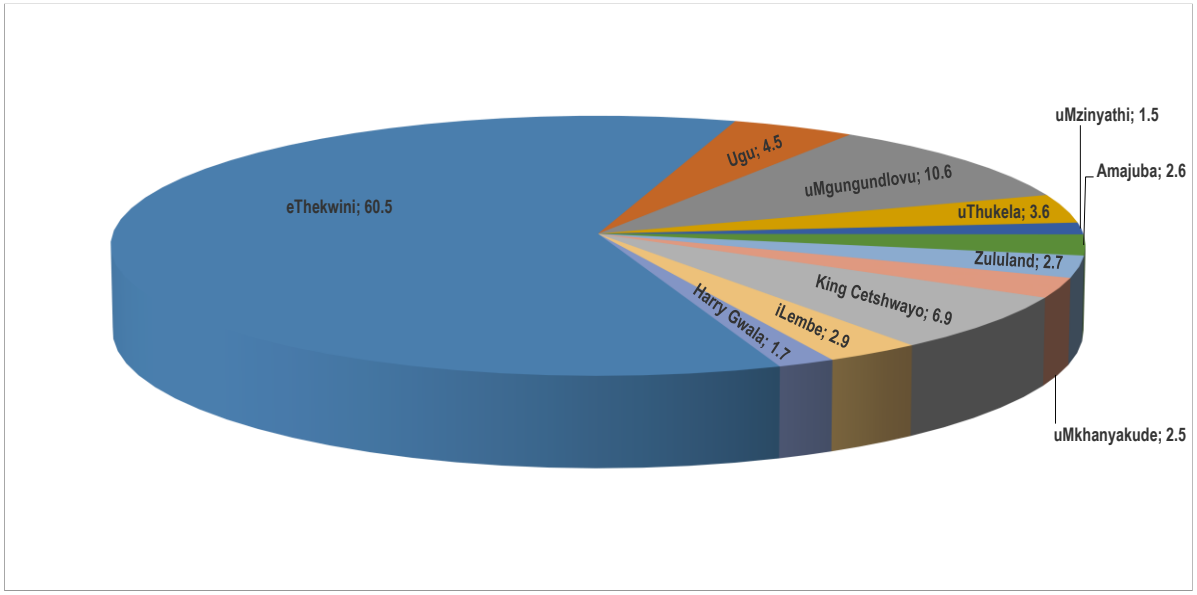
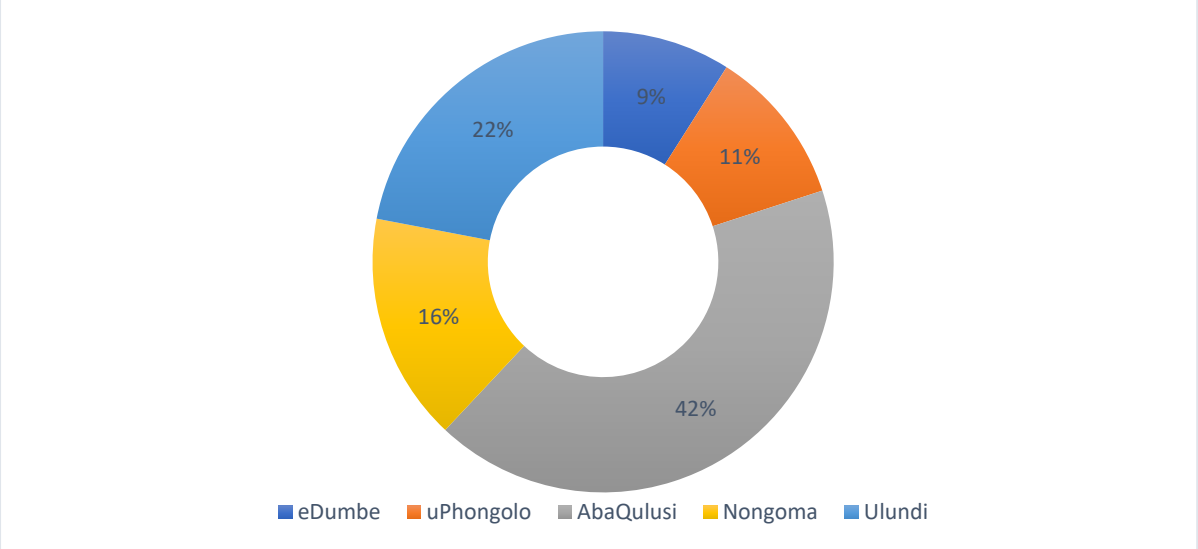
Figure 2: Contribution to KZN Provincial GDP By District Municipalities, 2018



Source: IHS Markit, 2019

Figure 3: Contribution To Zululand GDP By Local Municipalities, 2018



Source: IHS Markit, 2019

1.6.2.6 Sector Contribution to GDP

An economy's structure is naturally divided into primary, secondary, and tertiary sectors. The primary and secondary sectors, which are the key catalysts for export and employment prospects, should ideally drive economic performance. The district's economy, like that of the country and province, is driven by the service sector. In real terms, the tertiary sector accounted for 67.6% of total district GDP-R in 2008. Table 33 shows Zululand's performance in the industry from 2009 to 2018.

Table 3: Sector performance analysis, 2009 to 2018

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Primary Sector	**19**	**19.3**	**18.7**	**17.9**	**18.2**	**18.3**	**16.2**	**16.5**	**16.8**	**16.2**
Agriculture	10.3	9.4	8.8	7.7	7.5	7.3	7.1	7.4	7.7	7
Mining	8.7	9.9	9.9	10.2	10.7	11	9.1	9.1	9.1	9.2
Secondary Sector	**10.3**	**9.9**	**9.5**	**9.1**	**9.2**	**9.5**	**9.6**	**9.4**	**9.3**	**9.1**
Manufacturing	6.2	6	5.5	5.5	5.5	5.7	5.8	5.9	5.8	5.7
Construction	4.1	3.9	4	3.6	3.7	3.8	3.8	3.5	3.5	3.4
Tertiary Sector	**66.7**	**66.1**	**66**	**66.4**	**65.9**	**65.8**	**67.3**	**67.4**	**67**	**67.6**
Trade	12	11.8	12.1	12	11.5	11.2	11.5	11.7	11.6	11.5
Transport	9.3	8.7	9.1	9.7	10.2	10.3	10.3	9.9	9.7	9.6
Finance	14.4	13.9	13.5	13.8	13.5	13.3	13.6	13.4	13.4	13.3
Community Service	31	31.7	31.3	30.9	30.7	31	31.9	32.4	32.3	33.2

Source: IHS Markit, 2019

The Tertiary Sector, which includes Trade, Transportation, Finance, and Community Services, is the key driver of growth in the Zululand District. From 2009 to 2018, this sector contributed an average of 66.6 percent to GDP-R. Trade and Government services were the key contributors to GDP-R in this sector over the respective time, with the former's contribution being attributable to a combination of retail and tourism attractions. The yearly contribution to GDP-R from the primary sector, which includes agriculture and mining, averaged 17.7% over a ten-year period.

1.6.2.7 Employment by Sectors

According to the Quarterly Employment Statistics (QES), all four sectors experienced job losses in the first quarter of 2019, with the Formal sector losing 126 000 jobs and the Informal sector losing 68 000. Between the fourth quarter of 2018 and the first quarter of 2019, the number of discouraged job seekers and people who were not economically active for reasons other than discouragement increased by 156 000 and 169 000, respectively, resulting in a net increase of 325 000 in the not economically active population (Stats SA, 2019).

The table below illustrates that in 2018, the province's employment was focused mostly in the community services sector, accounting for 25% of total employment. Trade and Finance come in second and third, with 17.5 and 16 percent, respectively. As a result, the tertiary sector is the province's largest employer, accounting for around 74.4 percent of all jobs. This trend is undesirable in a developing country like South Africa, which is attempting to meet the demands of an expanding labor force. Rather, the secondary sector, which includes more labour-intensive industries like manufacturing and construction, should be the main employer.

Table 4: Employment by industry

	KZN	Zululand	eDumbe	uPhongolo	Abaqulusi	Nongoma	Ulundi
Primary Sector	**6.5**	**9.3**	**24.5**	**25.8**	**5.1**	**5.3**	**4.1**
Agriculture	6.0	8.4	22.9	25.4	4.6	4.3	2.8
Mining	0.5	0.9	1.6	0.4	0.5	1.0	1.3
Secondary Sector	**19.2**	**13.8**	**13.5**	**11.0**	**18.0**	**12.0**	**8.7**
Manufacturing	13.1	7.5	8.5	4.1	11.5	4.1	3.8
Electricity	0.4	0.5	0.1	0.9	0.4	0.8	0.3
Construction	5.7	5.8	4.9	6.0	6.1	7.1	4.6
Tertiary Sector	**74.4**	**77.0**	**61.9**	**63.3**	**76.8**	**82.6**	**87.1**
Trade	17.5	15.9	10.5	13.7	17.9	17.2	14.7
Transport	5.2	4.0	3.7	3.0	4.7	3.5	3.4
Finance	16.0	14.9	10.2	8.2	18.4	12.6	15.5
Community services	25.0	32.5	21.8	23.7	26.4	43.7	45.7
Households	10.7	9.7	15.7	14.7	9.4	5.6	7.8

Source: IHS Markit, 2019

1.6.3 Land Use Pattern

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

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

1.6.3.1 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.

1.6.3.2 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.

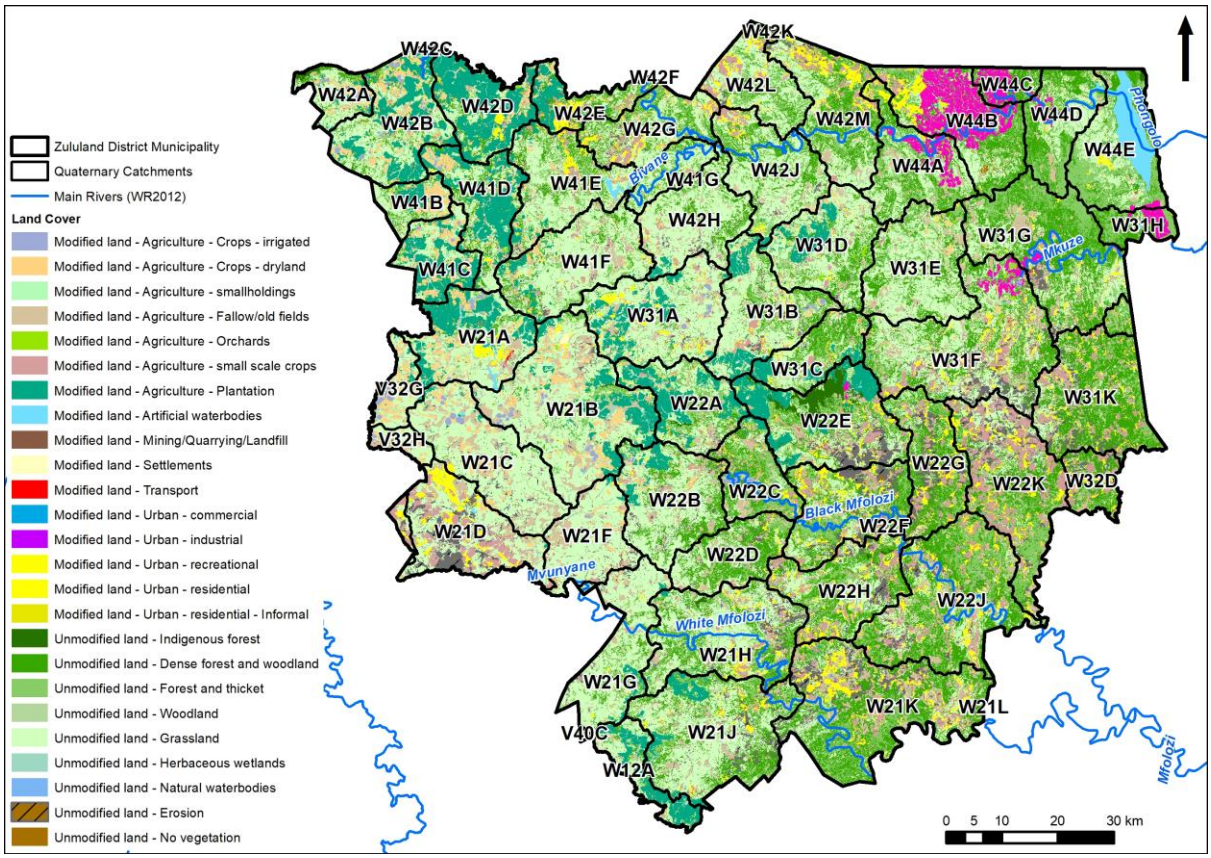
There are approximately 1269 rural settlements in the ZDM with the majority being in Nongoma and Ulundi Local Municipalities. Rural settlements under traditional leadership developed because of traditional land allocation system which is implemented by izinduna without any pre-determined spatial structure 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.

1.6.3.3 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.

Map 3: Land Cover



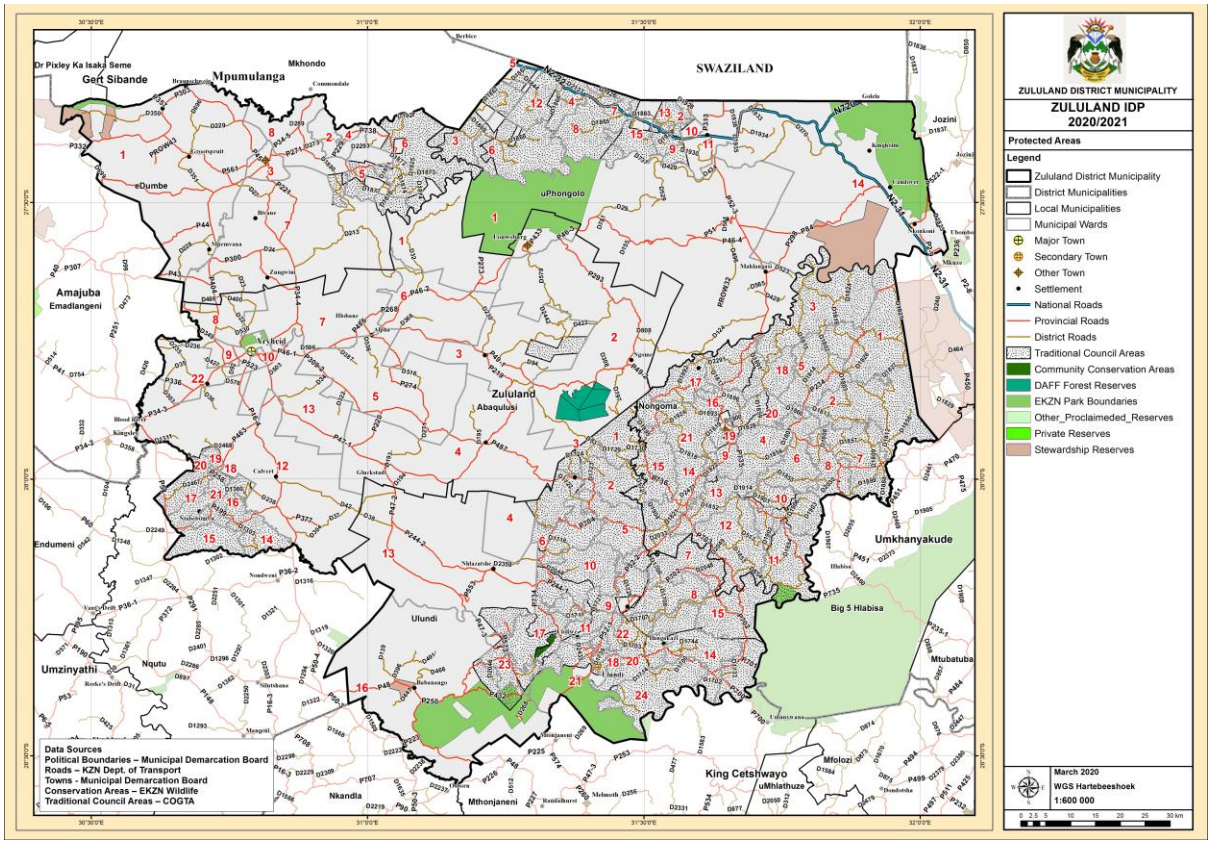
1.6.3.4 Conservation and Protected Areas

The Zululand District Municipality contains 11 proclaimed protected areas, 2 areas still awaiting proclamation and 3 community run nature reserves. In addition, the National Protected Areas Expansion Strategy 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).

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 Pongola River. Other nature reserves of significant importance include the Vryheid 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).

Map 4: Protected Areas



2 POLICY AND LEGISLATIVE FRAMEWORK

2.1 MUNICIPAL DISASTER MANAGEMENT MANDATE

2.1.1 THE CONSTITUTION OF THE REPUBLIC OF SOUTH AFRICA, ACT 108 OF 1996

The constitution of the Republic of South Africa (Act 108 of 1996) is the overarching framework for the execution of legislative obligations, institutional mandates and policy directives for disaster management across the three spheres of government and other relevant stakeholders in the country. Although the Constitution only refers directly to disasters in section 37 under the state of emergency, it assigns local government with a responsibility of facilitating safe and healthy environments. Section 152 (1) lists the promotion of a safe and healthy environment as one of the objects of local government. Section 153 further obligates municipalities to structure and manage their administration, budgeting and planning processes to prioritise the basic needs of the community. In additon, section 41(b) requires all spheres of governments to secure the well- being of its citizens and

in section 7(2) it requires the state to respect, promote and fulfil the rights enshrined in the Bill of Rights. These include right to:

- an environment that is not harmful to health or wellbeing; and
- have the environment protected, for the benefit of present and future generations.

Therefore, Zululand District Municipality and the five local municipalities within its boundary (i.e. Abaqulusi; eDumbe; Nongoma; Ulundi and uPhongolo Local Municipalities) have a constitutional responsibility to provide disaster management, (among other services) working in cooperation with the other spheres of government within the intergovernmental relations (IGR) framework.

2.1.2 Disaster Management Act, (Act 57 Of 2002)

Further to the Constitution, the Disaster Management Act (Act 57 of 2002) governs and regulates disaster management in the country and across the spheres of government. The Act dedicates chapter 3 and 5 to national and provincial disaster management, while chapter 5 deals specifically with disaster management at a municipal level. However, the Act requires close collaboration among the spheres of government. This places disaster management at the centre of cooperative governance and establishes it as a critical intergovernmental (IGR) relations issue.

Section 42 of the DMA requires each metropolitan and district municipality to establish and implement a framework for disaster management to ensure an integrated and uniform approach to disaster management. The framework will coordinate the activities of public and private sector disaster management initiatives within the municipality and mobilise stakeholders in pursuit of a common agenda. The act makes it mandatory for the municipality to involve all stakeholders in the formulation of the framework; and to formulate the framework within the context of the provincial and national frameworks.

Secondly, Section 43 of the DMA requires the district municipality to establish in consultation with and operate a Disaster Management Centre (MDC) for its area of jurisdiction in partnership with the local municipalities. It assigns the following responsibilities to the DMC (section 44(1) and (2):

- Specialise in issues concerning disaster management in the municipality.
- Promote integrated and coordinated approach to disaster management with special emphasis on prevention and mitigation.
- Act as a depository of and a conduit for information concerning disasters, impending disasters, and disaster management in the municipality.

- Act as advisory and consultative body on issues concerning disasters and disaster management in the municipal area.
- Make recommendations regarding the funding of disaster management in the municipality; and initiate and facilitate efforts to make such funding available.
- Make recommendations to any relevant organ of state or statutory functionary on draft legislation affecting the DMA and the associated disaster management frameworks; alignment of municipal legislation with this act; and declaration of local state of disaster.
- Promote recruitment, training, and participation of volunteers in disaster management.
- Promote disaster management capacity building, training and education including in schools in the municipal area.
- Promote research in all aspects of disaster management.
- Give advice and guidance by disseminating information regarding disaster management in the municipality, especially to communities that are vulnerable to disasters.

Section 51 of the DMA provides for the establishment of a Municipal Disaster Management Advisory Forum (MDMAF) to coordinate the activities and initiatives of different stakeholders on disaster management. The forum must have representation from different stakeholders including organised business and labour; community-based organisations (CBO); traditional leaders; insurance industry; agriculture; religious and welfare organisations; medical fraternity; and any other strategic organisations that can provide advice and support.

Section 53 (1) of the Act provides for the preparation of a Disaster Management Plan for a municipal area in accordance with the circumstances that prevail in the area and coordinate and align implementation disaster management activities. A DMP is a component of the Integrated Development Plan (IDP). It should position the municipality to respond efficiently and effectively to disaster situations and place greater emphasis on the prevention of such occurrences. It must identify areas and communities that are at risk; identify potential risks; and provide appropriate prevention and mitigation measures.

Section 7 (2), (k) of this Act requires the national disaster management framework to provide a framework for organs of state to fund disaster management with specific emphasis on preventing or reducing the risk of disasters, including grants to contribute to post-disaster recovery and rehabilitation and payment to victims of disasters and their dependants.

2.1.3 Fire Brigade Services Act No. 99 Of 1987

It provides for the establishment, maintenance, employment, co-ordination, and standardization of fire brigade services; and for matters connected therewith.

2.1.4 National Veld And Forest Fires Act, Act No. 101 Of 1998

The Act provides for reform the law on veld and forest fires and emphasizes the formation of Fire Protection Associations for the purpose of predicting, preventing, managing, and extinguishing veld fires.

2.1.5 By-Laws, Regulations, Minimum Standards On Disaster Management

Section 55 (2) of the Disaster Management Act, (Act No. 57 of 2002) provides that if a local state of disaster has been declared, the municipal council concerned may, make by-laws or issue directions, or authorise the issue of directions to deal with the disaster.

2.1.6 Municipal Finance Management Act (MFMA), Act No. 56 Of 2003

Section 29 (1) of this Act provides for the mayor of a municipality to authorise unforeseeable and unavoidable expenditure for which no provision was made in an approved budget emergency or other exceptional circumstances for which no provision was made in an approved budget provided that such expenditure:

- must be in accordance with any framework that may be prescribed;
- may not exceed a prescribed percentage of the approved annual budget;
- must be reported by the mayor to the municipal council at its next meeting and
- must be appropriated in an adjustments budget.

2.1.7 Municipal Systems Act, Act No. 32 Of 2000

Section 26 (g) of the Municipal Systems Act requires that the municipality's Integrated Development Plan must include its Disaster Management Plan, which is consistent with Section 53 (2)(a) of the Disaster Management Act which requires that a Disaster Management Plan for a municipal area must form an integral part of the municipality's Integrated Development Plan.

2.1.8 National Environmental Management Act, 1998 (Act 107 Of 1998) And Environmental Impact Assessment Regulations: Listing Notice 1 Of 2014

This Act together with the Environmental Impact Assessment Regulations seek to promote co-operative governance in environmental management through environmental planning

principles and regulations in development management by organs of state. These pieces of legislation are critical in spatial planning and land development as they assist in disaster brisk mitigation or prevention by either directing development away or imposing regulations for development.

2.1.9 Spatial Planning And Land Use Management Act (Act 16 Of 2013)

The Spatial Planning and Land Use Management Act, 2013 (SPLUMA) (Act No. 16 of 2013) is a national legislation to regulate spatial planning and land use management in the country. Some principles relevant to Disaster management include the following:

- Spatial Justice: redressing the past spatial imbalances through improved access to and use of land by disadvantaged communities and persons;
- Spatial Resilience: The principle of spatial resilience calls for the evolution of settlements and land use patterns that is able to withstand natural shocks including the impact of climate change and the concomitant natural catastrophes.
- Spatial Sustainability: spatial planning and land use management systems must promote the principles of socio-economic and environmental sustainability;
- Good Administration: all spheres of government must adopt an integrated approach to land use and land development.

2.1.10 Public Finance Management Act (PFMA), Act No. 11 Of 1999

The PFMA provides for use of funds in emergency situations as follows:

- Section of the 16 (1) – the minister may authorise the use of funds from the National Revenue Fund to defray expenditure of an exceptional nature which is currently not provided for and which cannot, without serious prejudice to the public interest, be postponed to a future parliamentary appropriation of funds.
- Section 25 (1) - the MEC for finance in a province may authorise the use of funds from that province's Provincial Revenue Fund to defray expenditure of an exceptional nature which is currently not provided for and which cannot, without serious prejudice to the public interest in the province, be postponed to a future appropriation by the provincial legislature.
- Section 57 of the Act outlines factors which may be taken into account when a municipality or a province requests the national government to financially contribute to post disaster recovery and rehabilitation in the event of a local or provincial disaster.

2.1.11 Municipal Finance Management Act, Act No. 56 Of 2003

The Municipal Finance Management Act provides for budgeting to fund municipal services in its annual budget and for reviewing the municipality's integrated development plan and

budget-related policies to ensure that the tabled budget and any revisions of the integrated development plan and budget-related policies are mutually consistent and credible.

Section 29. (1) of this Act provides for the mayor of a municipality to authorise unforeseeable and unavoidable expenditure for which no provision was made in an approved budget emergency or other exceptional circumstances.

2.1.12 Municipal Systems Act, Act No. 32 Of 2000

Section 26 (g) of the Municipal Systems Act requires that the municipality's Integrated Development Plan must include its Disaster Management Plan which is consistent with Section 53 (2) (a) of the Disaster Management Act which requires that a Disaster Management Plan for a municipal area must form an integral part of the municipality's Integrated Development Plan.

2.2 National Policy

2.2.1 National Development Plan

The National Development Plan (Chapter 5) envisions an environmentally sustainable and climate change resilient country by ensuring improved disaster risk reduction and disaster preparedness for extreme climate events by 2030. In order to respond effectively to climate change adaptation, the NDP proposes intervention and policy imperatives one of which is that the National Disaster Management Centre must include climate change risks in the National Disaster Management Plan and in its communication strategies.

2.2.2 National Disaster Management Framework (2005)

Sections 6 and 7 of the Disaster Management Act (2002) require the minister to prescribe a National Disaster Management to provide a coherent, transparent and inclusive policy on disaster management appropriate for the republic as a whole. The National Disaster Management Framework (2005) comprises four key performance areas (KPAs) as follows:

- Key performance area 1: establishes the necessary institutional arrangements for implementing disaster risk management within the national, provincial and municipal spheres of government and all stakeholders through the principle of co-operative governance and the involvement of all stakeholders. It further establishes co-operative arrangements with international role players and countries within southern Africa.
- Key performance area 2: addresses the need for disaster risk assessment and monitoring to set priorities, guide risk reduction action and monitor the effectiveness of our efforts. It further

outlines the requirements for implementing disaster risk assessment and monitoring by organs of state within all spheres of government.

- Key performance area 3: introduces disaster risk management planning and implementation to inform developmentally oriented approaches, plans, programmes and projects that reduce disaster risks. It outlines requirements for the alignment of disaster management frameworks and planning within all spheres of government by emphasizing planning for and integration of the core risk reduction principles of prevention and mitigation into ongoing programmes and initiatives/projects.
- Key performance area 4: presents implementing priorities concerned with disaster response and recovery and rehabilitation by addressing requirements in the Disaster Management Act for an integrated and co-ordinated policy that focuses on rapid and effective response to disasters and post-disaster recovery. It further describes measures to ensure effective disaster response, recovery, and rehabilitation planning.

The three enablers are as follows:

Performance Enabler 1: Information management and communication;

Performance Enabler 2: Education, training, public awareness and research (knowledge management);

Performance Enabler 3: Funding arrangements for disaster risk management.

2.3 Provincial Policy

2.3.1 Disaster Risk Management Policy Framework For Kwa Zulu Natal, 2010

In compliance with Section 28 of the Disaster Management Act, Act No. 57 of 2002, the KZN Provincial Disaster Management Centre prepared the Policy Framework for Disaster Risk Management in the Province of KwaZulu-Natal (2010) The framework seeks to an integrated and uniform approach to disaster management in the province by all provincial organs of state, provincial statutory functionaries, non-governmental organisations involved in disaster management in the province and by the private sector.

2.3.2 KwaZulu-Natal Provincial Growth And Development Strategy (KZN PGDS), 2016

Strategic Objective 5.3 of the KZN PGDS Adapt and Respond to Climate Change is aligned with the NDP in terms of inclusion of climate change risks in disaster management plans and for the plans to consider the scientific evidence for increased storm intensity and changes in

weather patterns, causing flooding or droughts, and prioritising more vulnerable communities. The main considerations being:

- the mainstreaming of climate change adaptations strategies in local planning, such as Integrated Development Plan reporting and Sector Plans.
- mapping of vulnerability and reducing vulnerability to risks and early warning systems. Strategies to address both the immediate and longer term threats to the health and well-being of communities.
- areas more vulnerable to effects of climate change need to be highlighted in policy and programs, both in terms of disaster management responses and means of increasing resilience in these areas.
- disaster management planning and interventions must consider the latest provincial vulnerability assessments and climate change modelling.

2.3.3 Provincial Growth And Development Strategy (KZN PGDS), 2021

The KZN PGDS (2021 Review currently underway) incorporates the elements of the NDPD and the KZN PGDS, 2016 and emphasizes the need to manage and mitigate climate change to ensure environmental and socio-economic resilience. It highlights envisaged Spatial and Land Use Management outcomes which seeks to make Kwa Zulu Natal a resilient province where communities are both increasingly self-reliant and have an ability to withstand stress, survive, adapt, and bounce back from a crisis or disaster and rapidly recover from potential of future economic, social and environmental shock events at a regional and localised scale. It also highlights the need for the incorporation of of disaster prevention and mitigation measures within all spatial planning and land use management.

2.4 Local Policy

2.4.1 Zululand District Growth And Development Plan 'Vision 2030'

The Zululand District Growth and Development Plan policy and strategy seeks to ensure that national, provincial and local initiatives and programmes are integrated and sustainable to maximize the growth and employment impact of economic and social development projects and programmes of which disaster management is a part. Specifically, socio-economic development projects and programmes need to into account two critical environmental challenges, namely the effects of climate change, as well as the environmental degradation. There is a need for the plan to incorporate strategies for responsiveness to climate change some of which are projected through disaster management plans and implementation strategies

2.4.2 Zululand District And Local Municipality Integrated Development Plans (IDPs)

It is required in terms of Section 25 of the Local Government: Municipal Systems Act, 2000 (Act 32 of 2000), for each municipality, after the start of its elected term, adopt a single, inclusive and strategic plan (Integrated Development Plan or IDP) for the development of the municipality which links, integrates and coordinates plans and takes into account proposals for the development of the municipality, as well as align the resources and capacity of the municipality with the implementation of the said plan.

2.4.3 Zululand District And Local Municipality Spatial Development Frameworks (SDFs)

Section 26 (e) of the Municipal Systems Act requires a municipality to include as part of its IDP, a spatial development framework which must include the provision of basic guidelines for a land use management system for the municipality. The ZDM SDF assists in integrating, coordinating, aligning and expressing development policies and plans emanating from the various sectors of the spheres of government as they apply within the municipal area. Elements of ZDM disaster risk management and ZDM spatial development planning policies should be interactive and interdependent.

2.4.4 Zululand District Environmental Management Framework

According to the ZDM IDP, the Zululand Environmental Management Framework seeks to identify areas of potential conflict between development proposals and critical or sensitive environments proactively. It provides a framework of spatially represented elements such as ecology, hydrology, infrastructure, and services. It serves to proactively identify areas of potential conflict between development proposals and critical/sensitive environments. The EMF is an important component of cooperative decision-making in integrated development planning (including disaster management) to ensure environmental planning considerations are taken into account in the development of the district.

3 INTEGRATED INSTITUTIONAL CAPACITY

3.1 MUNICIPAL DISASTER MANAGEMENT CENTRE

The disaster risk management function and Disaster Management Centre (DMC) in the municipality fall under the Corporate Services Department of the Zululand District Municipality. Zululand District Municipality Disaster Management Centre was established in 2006 and is fully operational. It is located at the Prince Mangosuthu Buthelezi Airport in Ulundi. It operates for 24hours seven days a week.

3.2 OPERATIONAL FUNCTION

The Zululand Disaster Management Committee is part of the Health and Safety Portfolio Committee, which makes decisions and provides recommendations to the Council. The Chairperson for the said committee is the councillor responsible for Disaster Management and the other councillors from other Local Municipalities who are responsible for Disaster Management who also participate in the District Disaster Management Advisory Forum.

3.3 MUNICIPAL INSTITUTIONAL CAPACITY

The Corporate Services Department oversees the ZDM catastrophe risk management role and Disaster Management Centre (DMC). Municipal Disaster Offices are part of Corporate Services' Protection Services Departments. A District Disaster Manager and Disaster Management Officers are assigned to each Local Municipality by the Disaster Management Centre.

3.4 ZULULAND DISTRICT DISASTER ADVISORY COMMITTEE (DDMAC)

Zululand District Disaster Advisory Committee is fully functionally and was formed in terms of the Disaster Management Act No. 57 of 2002, Section 51 coupled to section 42, which requires the Municipality to establish a multi – disciplined structure consisting of representatives from the District Municipality, all category B Municipalities within the District, Provincial Departments who have a role play in the Disaster Management and have District offices within the area, Senior Representatives of the National Departments within the area and all role players i.e. All NGO'S in the district.

3.5 MUNICIPAL DISASTER MANAGEMENT INTER-DEPARTMENTAL COMMITTEE

The Zululand District Municipality has established a municipal Disaster Management Inter-Departmental Committee comprising of the following departments:

- Disaster Management Unit
- Mayor's Office
- Technical Services Department
- Corporate Services Department

3.6 Disaster Management Advisory Forum

The Zululand District Disaster Risk Management Advisory Forum was established in 2009. According to subsection (1) a forum is a body in which the municipality and other key stakeholders consult one another and co-ordinate their actions on matters relating to disaster management in areas under their jurisdiction. The Zululand District municipality advisory forum is made up of all relevant stakeholders within the district who may be involved in issues related to disaster management. One of the challenges faced by the forum is nonattendance of key stakeholders at the meetings, the forum meets quarterly. In addition:

- Local Municipal Disaster Management Committees: Local Municipalities have established local offices to manage and or discus disasters and response to local disasters.
- District Technical Advisory Committee: This committee was established at the District level and comprises of local and district political and administrative officials and identified sector departments.
- Municipal Inter-Departmental Disaster Risk Management Committee: This committee is to be established.

Ward Structures: Ward Structures are a key community awareness and important communication and information link between the municipality and the communities on the ground. Ward structures are operational in all the municipalities.

3.7 Resources and Vehicles

The table below illustrates the resources for each municipality, the personnel responsible and the equipment available.

Municipality	Vehicles	Personnel	Equipment
Zululand DM	3X Land Cruiser 4X4 with fitted rescue equipment; 2X S/Cab Bakkie; 2X Disaster utility Trucks (3 in 1) and 1X fire engine.	There are 9 personnel, who comprise of: ○ 1X Head of Disaster ○ 1X Centre Manager ○ 1X Admin Officer ○ 6X Fire Fighters	3X sets of jaws of life; 2X Prisma lights and fire Rescue
Abaqulusi LM	1X Bakkie; 2X Fire Engine 1X rescue, 1X Tanker	1X Acting Disaster Management Assistant Manager and 1X Acting Disaster Officer	1X Jaws of Life and Fire Equipment
eDumbe LM	1X Truck; 1X Bakkie Sakkie; 1X Tanker	○ 1X Head of Disaster	1X Jaws of Life and Fire and 15X Fire Beaters

		○ 1X Centre Manager ○ 2X Fire Fighters	
uPhongolo LM	1X Utility vehicle, 1X Skud Unit	○ 1X Head of Department ○ 1X Unit Head of Fire ○ 3X Disaster Officer ○ 1X Utility Driver ○ 7X Fire Fighters	None
Nongoma LM	1X Truck; 1X Bakkie; 1X Skud Unit	○ 1X Head of Department ○ 1X Disaster Officer ○ 6X Fire Fighters	15X Fire Beaters and 6X Back pumps
Ulundi LM	1X Bakkie; 2X Skud unit	○ 1X Head of Department ○ 1X Disaster Officer ○ 1X Admin Officer ○ 9X Fire Fighters	23X Fire Beaters

4 RISK IDENFICIATION AND ASSESSMENT

Risk assessment aims to establish a uniform approach to assessing and monitoring disaster risks that will inform disaster risk management planning and disaster risk reduction undertaken by organs of state and other role players. Disaster risk assessment is essential for:

- Effective disaster risk management and risk reduction planning
- Identifying potential threats that can undermine development success and sustainability, making it possible for appropriate disaster risk reduction measures to be incorporated into the project design prior to implementation
- Shaping focused disaster risk reduction
- Identifying high risk periods and conditions
- Activating preparedness and response actions

Disaster risk assessment must be carried out under the following circumstances

- Prior to any municipal disaster risk reduction, preparedness, and recovery programme
- As part of the planning phase for large –scale housing, infrastructure, or commercial/industrial developments of national significance
- As an integral part of the planning phase for significant initiatives that affect the environment

- When social, economic, infrastructural, environment climatic and other indicators suggest changing patterns of risk that increase the likelihood of significant disaster impacts.

Disaster risk assessment process determines the level of risk by:

- Identifying and analysing potential hazards and/or threats
- Assessing the conditions of vulnerability that increases the chance of loss for a particular element at risk (environmental, human, infrastructural, agricultural, economic, etc.)
- Determining the level of risk for different situations and conditions
- Helping to set out priorities for action

Disaster risk assessment must be undertaken to anticipate and plan for known hazards or disasters to prevent losses and limit endangering impacts. Disaster risk assessment, as a process it is generally agreed that it includes:

- Identifying the nature, location, intensity and probability of a threat (hazard);
- Determining the existence and degree of vulnerability and exposure to those threats

(hazards);

- Identifying the capabilities and resources available to address or manage threats; and
- Determining acceptable levels of risk

4.1.1 DISASTER RISK ASSESSMENT MODEL

Disaster risk (hazard; vulnerability & capacity) assessments provide a piece of reality from a subjective perspective. No risk assessment model can be designed to be conducted once and then discarded. It must lead to action and must be followed by regular review and revision to allow continuous changes in the environment and continuous improvements.

The Zululand District Disaster Advisory Committee adopted the disaster risk assessment model designed by Disaster Management Solution Model (DMS). The DMS Model was used during the preparations for the Zululand Disaster Management Plan in 2009.

4.1.1.1 Hazard Analysis

When performing the hazard analysis, the following factors are vital in determining the nature of a hazard:

- Likelihood/probability
- Frequency in which the hazard is occurring
- Predictability: ability to the event
- Most likely magnitude of the event if it occurs

The hazard criteria are scored as per the table below:

	Probability	Frequency	Predictability	Magnitude
1	No Chance	Once in 20 years	100% predictable	Affected a very small area e.g Village
2	Slight Possibility	Once every 5 years	Fairly accurate to predict	Affect an area like a ward
3	50/50 chance	Once a year	50/50 chance to predict	Affect an area like a municipality
4	Very good chance	Once a month	Slight chance to predict	Affect multiple municipalities
5	100% certain	Once a week	Cannot predict	Affect a large area like a province

4.1.1.2 Vulnerability Analysis

When performing the vulnerability analysis, the following factors were vital in determining the level of vulnerability:

- Political factors
- Economic factors
- Social factors
- Technological factors
- Environmental factors

The vulnerability criteria were scored as per the table below:

Vulnerability Analysis	
Political	**Economical**
very stable political situation	no financial impact
limited cooperartion between all political parties conducive to development	very low financial and economical impact
limited political instability leading to uncertainity in local community	limited financial and economical impact to a number of families
disruptive political activities negatively influencing the community life	serious financial and economical impact on the total community
Dysfunctional political strucutres could result in civil unrest	very serious and catastrophic economical and financial impact

Social/Human	Technological
no social impact	no impact or destruction of settlement, infrastructure and services
slight injuries and/or discomfort to individuals	very little damage on settlement, infrastructure and services
multiple injuries and/or displacement of a small number of families	limited damage on settlement, infrastructure and services
fatal injuries and multiple injuries and/or displacement of a large number of families	serious damage on settlement, infrastructure and services
multiple fatalities and multiple injuries and/or permanent displacememtn of the total community	total destruction of settlement, infrastructure and disruption of services

Environment
no impact
little impact
limited impact on a small area or ecosystem
serious impact on a small area or ecosystem
serious impact on a large area or ecosystem

4.1.2 Stages of Assessing Disaster Risk Includes the Following:

Stage 1: This initial stage involves identifying the specific disaster risk to be assessed.

Identify and describe the hazard with respect to its frequency, magnitude, speed of onset, affected area and duration. Describe and quantify vulnerability to determine susceptibilities and capacities.

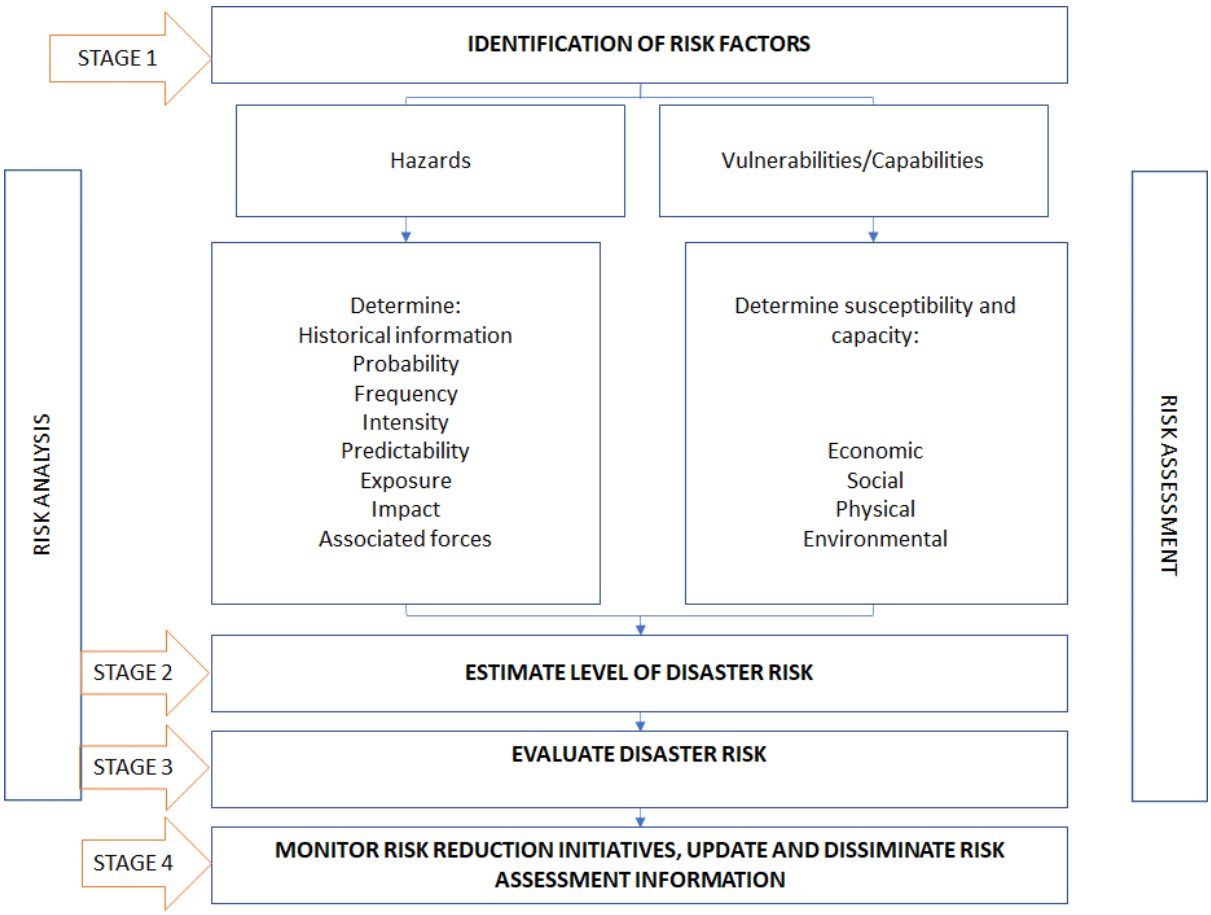
Stage 2: The second stage involves analyzing the disaster risk concerned.

Estimate the level of risk associated with a specific threat to determine whether the resulting risk is a priority or not.

Stage 3: The third stage requires an evaluation of the disaster risk being assessed - usually in relation to other risks. It involves undertaking much more comprehensive assessments of specific threats and establishes priorities or action.

Stage 4: The fourth stage is required to inform ongoing disaster risk assessment and planning. It involves monitoring disaster risks and the effectiveness of risk reduction initiatives. It also involves updating disaster risk assessment information and disseminating this information to all stakeholders.

The basic stages of a disaster risk assessment are illustrated in the diagram below:



4.1.3 Levels of Risk Ratings

A simple way of defining the vulnerability levels for a specific geographical area or zone is by using the categories of very high, high, medium, low, or no, as shown in the table below:

Rating Levels	Characteristics
No	No risk or threats to life. The hazard is not applicable in this instance.
Low	A particular hazard/threat is generally recognized. The affected population is aware of its characteristics and possible occurrence during a particular period of time. There is a high level of both organizational preparedness and response capacity for a possible disaster.
Medium	Although threats are not easily identified, there is some level of awareness of the risk, coupled with weak organizational and response capacities. Management responsibility must be specified. Action should be prioritized in medium term.
High	Those exposed to hazards/threats may know of them but pay them little or no attention. They are unaware of which warning and preparedness actions to implement. Senior Management attention needed. Action required. Budget to be allocated
Very High	Those exposed to a particular hazard/threat have insufficient response capacity or resilience. Catastrophe imminent. Senior Management attention needed. Urgent action required. Discretionary budget to be allocated.

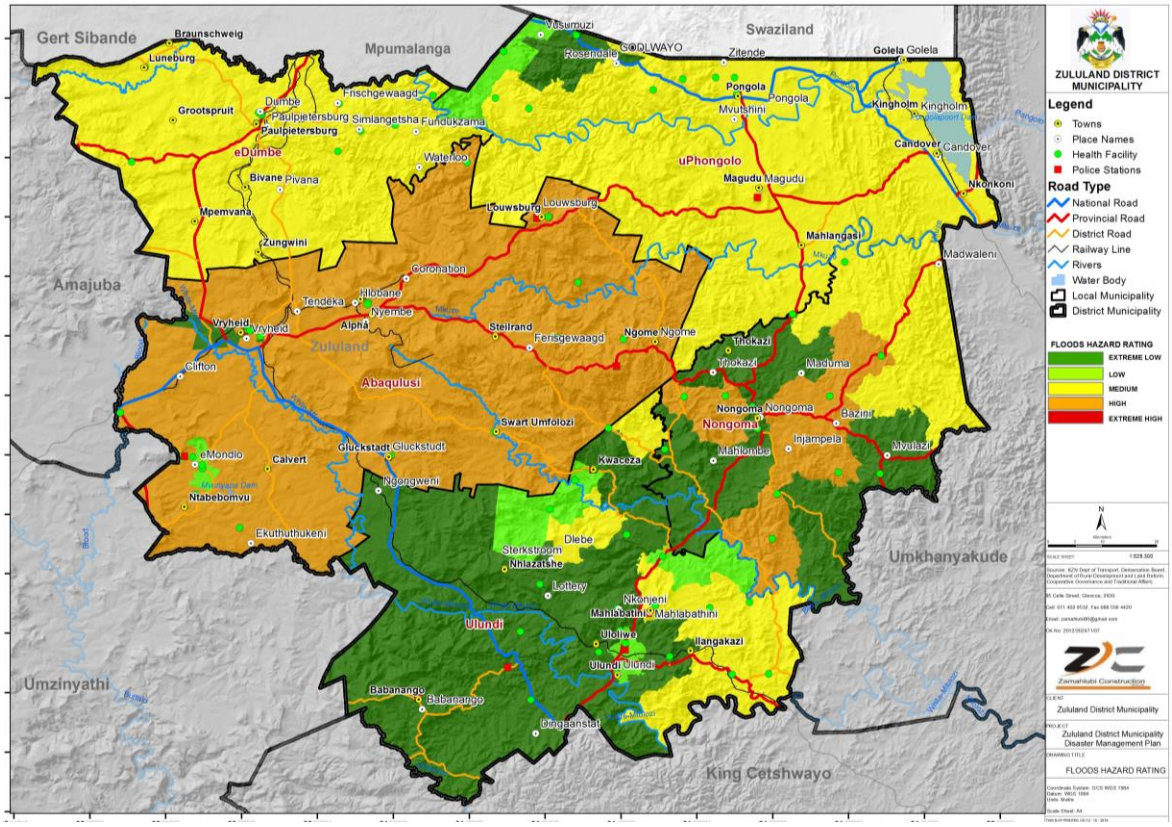
4.1.4 ZULULAND DISTRICT MUNICIPALITY RISK ASSESSMENT

The Zululand District municipality is exposed to a wide range of natural and human-induced hazards that can cause widespread hardship and devastation. The Zululand Disaster Management Centre (UDMC) has observed that seasonal incidents occur in their extreme and this may be attributed to the effects of climate change. Over the past few seasons, the district has experienced:

4.1.4.1 Floods

Heavy rainfall which caused flooding in several areas. Higher rainfall occurring during November to January summer season period causes floods in low lying areas and erosion of land has become a regular feature in the district. The district has in the past witnessed worst form of disasters caused by floods and landslides rendering normal life paralyzed by way of disruption of means of communications caused due to damage of roads and bridges and blockage of roads. The district witnessed a tropical cyclone (Eliose) which hit some parts of the district in January 2021.

Map 5: Flood Hazard Risk Rating

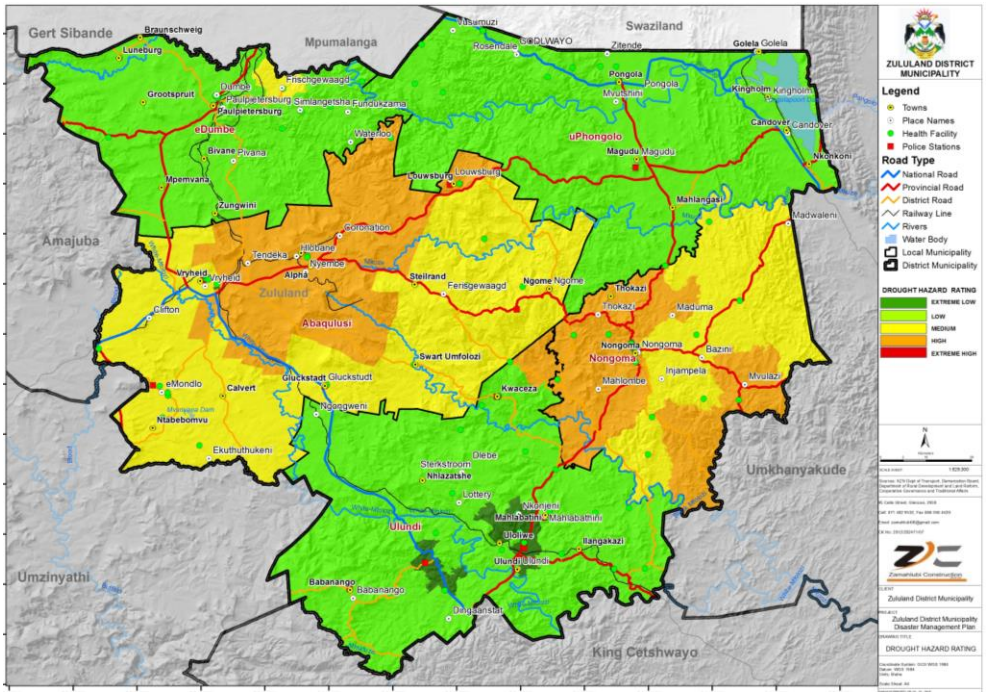


The northern boundary of the district depicts medium risk ratings. This includes uPhongolo and eDumbe municipalities. Abaqulusi and some parts of Nongoma municipality are prone to floods, while Ulundi municipality experiences extremely low flood risk.

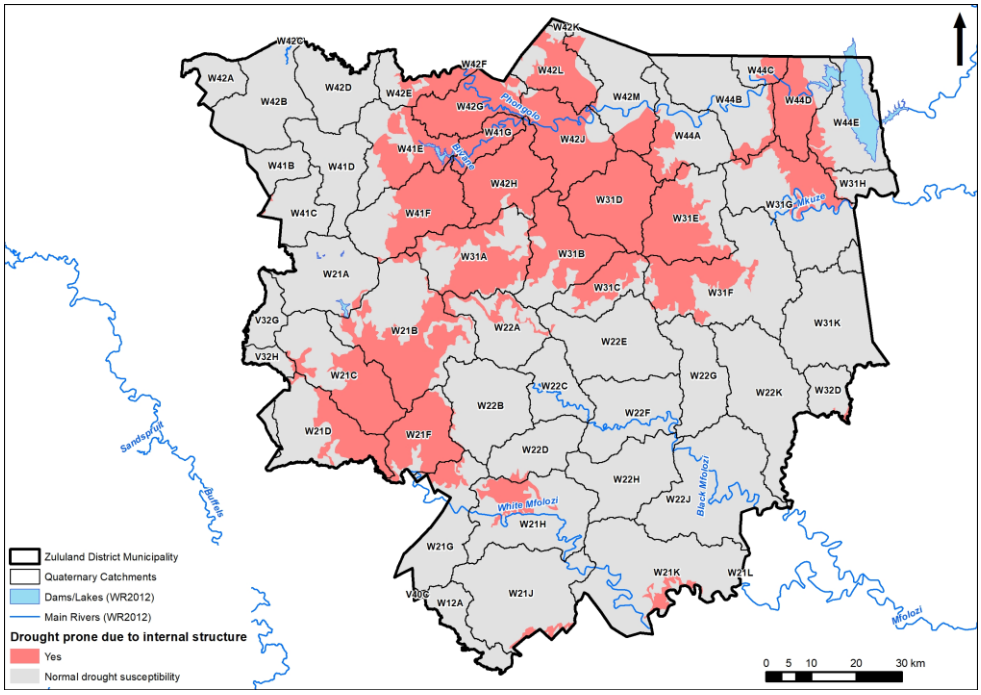
4.1.4.2 Drought

Severe drought that causes serious shortage of water for both domestic and livestock use. According to recent data received from the SA Weather Service, most of these areas have been constantly receiving less than average rain fall in the past five years. As a result of the reduction in rainfall, there has been a constant reduction in crops yielded by farmers as well as a steady decline in water reserve sources.

Map 6: Drought Hazard Risk Rating



Map 7: Drought due to Internal Structure

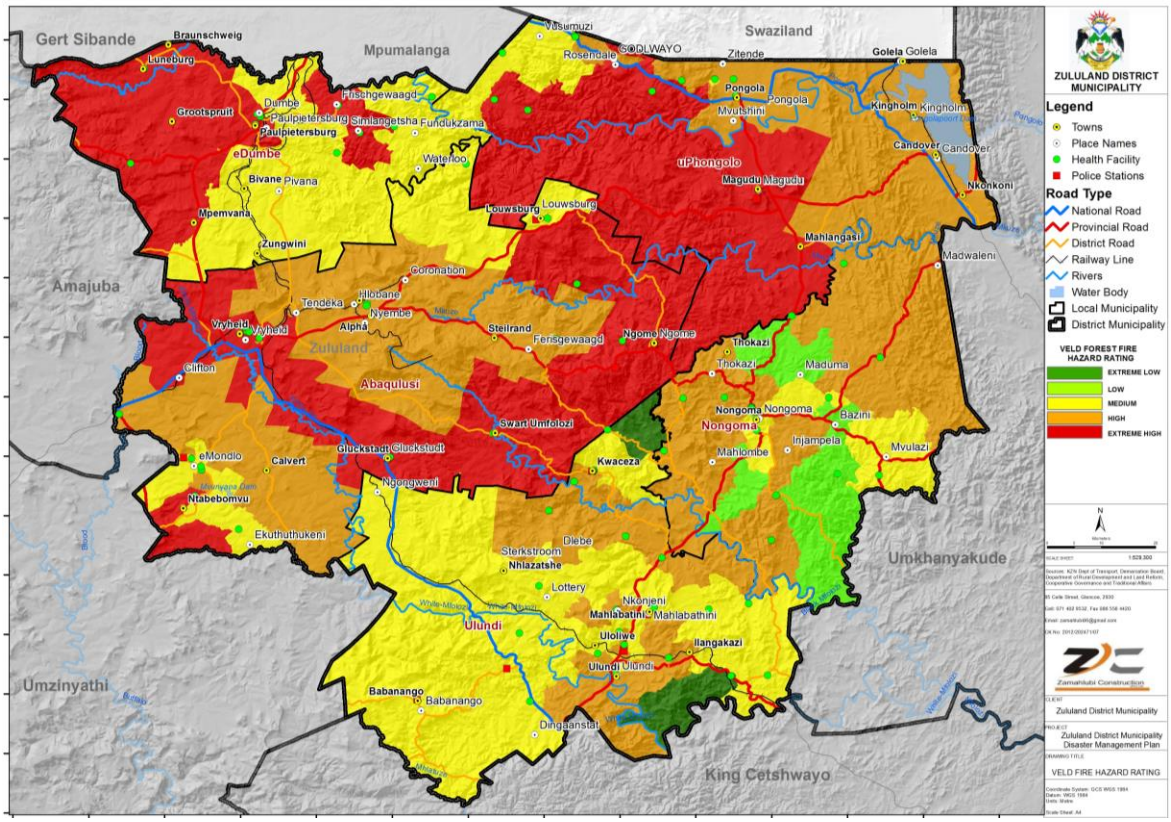


4.1.4.3 Fire Veld

Runaway veld fires that have ravaged the district and destroyed a lot of property, livestock, grazing lands and even claimed innocent people's lives. Veld fires have been a persistent problem in Zululand District Municipality area and this situation has worsened over the past several years, the district experienced devastating veld and structural fires across. Those veld fires that resulted from strong winds and extremely dry winter conditions, damaged to land. Plant and animal communities are at greater risk of extinction because their traditional habitats are irreversibly being modified by severe fires. Other notable adverse effects have been loss of livestock, agricultural crops, and power outages.

uPhongolo and Abaqulusi municipalities experience high to extreme high levels of veld fires.

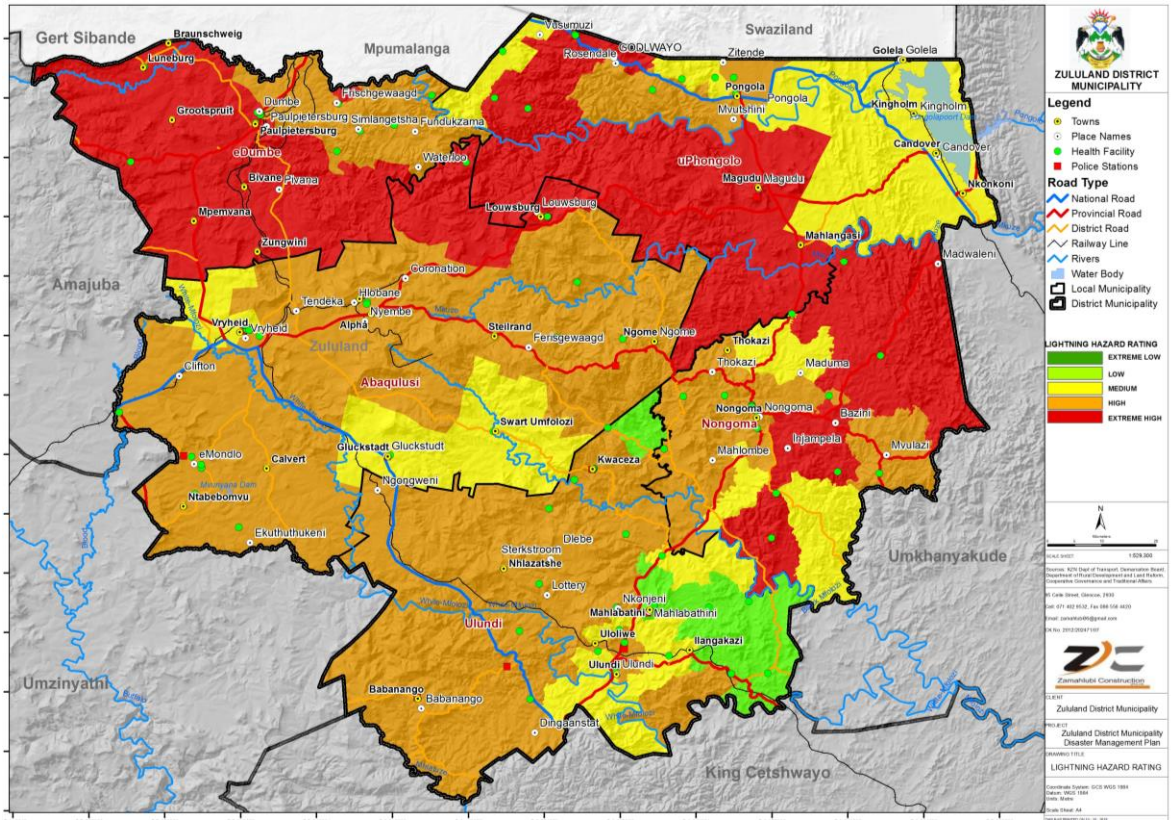
Map 8: Fire Veld Hazard Risk Rating



4.1.4.4 Lightning

Fatal lightning strike incidents during the summer seasons. The northern region of the municipality, constituting of uPhongolo and eDumbe municipalities experience extremely high levels of lightning hazard. Abaqulusi, Nongoma and Ulundi municipalities experience high risk ratings

Map 9: Lightning Hazard Risk Rating



4.1.4.5 Covid 19 Pandemic

Covid 19 is an infectious disease caused by a newly discovered coronavirus. The pandemic has resulted in severe global, social, and economic disruption. The pandemic has affected the entire world including the Zululand District.

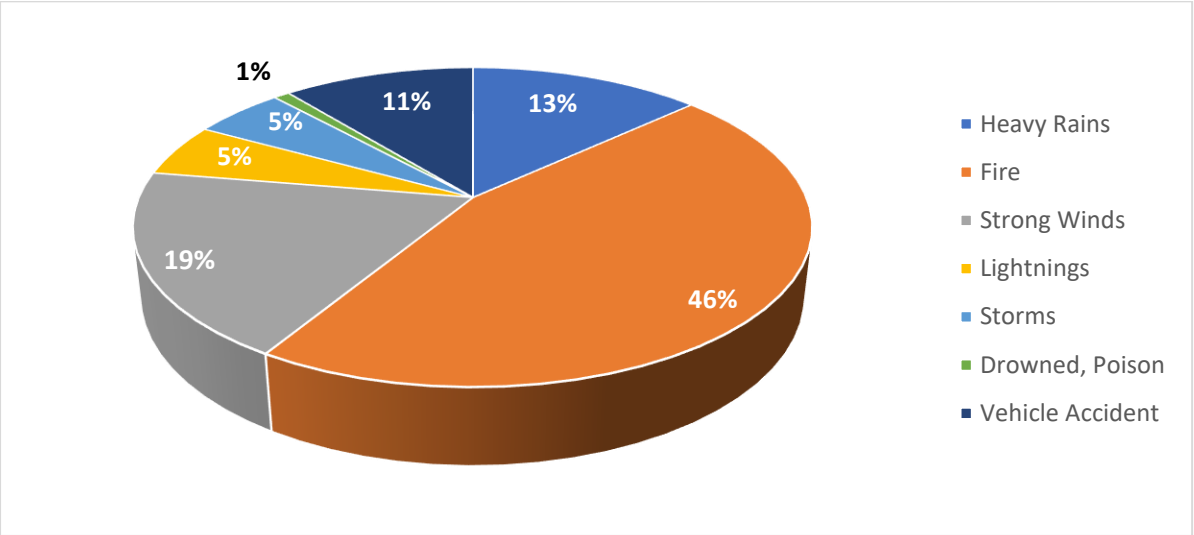
Table 5: Zululand Risk Ratings

Hazard Name	Risk
Hydro-meteorological Hazards- Severe Storms (Lighting)	**Higher Priority**
Hydro-meteorological Hazards- Severe Storms (Heavy Rainfall)	
Hydro-meteorological Hazards- Floods (River)	
Fire Hazards- Veld/Forest Fires	
Hydro-meteorological Hazards- Severe Storms (Wind, Hail)	
Fire Hazards- Formal & Informal Settlements/ Urban Area	
Hydro-meteorological Hazards- Severe Storms (Snow)	
Transport Hazards- Road Transportation	
Geological Hazards- Rock-fall	
Hydro-meteorological-Drought	
Pollution- Air Pollution	
Transport Hazards- Air Transportation	
Transport Hazards- Rail Transportation	
Environmental Degradation-Erosion	
Pollution- Water Pollution	
Disease/Health- Disease: Health	
Hazardous Material- Hazmat: Spill/Release/Fire/Explosion (Storage & Transportation)	
Pollution- land pollution	
Environmental Degradation	
Geological Hazards- Earthquake	
Structural Failure- Dam Failure	
Infrastructure Failure/ Service Delivery Failure- Information Technology	
Major Events Hazards (Cultural, Religious, Political, Recreational, Commercial, Sport)	
Disease/ Health- Disease: Plants	
Civil Unrest- Terrorism	
Civil Unrest- Xenophobic Violence	
Hydro-meteorological Hazards: Extreme Temperatures	
Civil Unrest- Refugees/ Displaced People	

According to the Zululand DM Disaster Incident Report (2021), the district witnessed several man-made and natural disasters. These include heavy rains which were due to the tropical cyclone (eliose), fire, strong winds, lightning, storms, drowning, and vehicular accidents.

MUNICIPALITY	HEAVY RAINS	FIRE	STRONG WINDS	LIGHTNINGS	STORMS	DROWNED; POISON	VEHICLE ACCIDENT	TOTAL NO OF INCIDENTS OCCURRED
Abaqulusi	20	50	24	6	5	2	0	107
Edumbe	4	13	6	8	3	1	0	35
uPhongolo	13	28	13	0	1	0	34	89
Nongoma	3	51	18	3	8	0	1	84
Ulundi	6	17	5	2	1	0	3	34
TOTAL	**46**	**159**	**66**	**19**	**18**	**3**	**38**	**349**

Figure 4:Types Of Incidents In ZDM



Source: ZDM Disaster Incident Report (2021)

4.2 Municipal Risk Assessment

The Municipal Disaster Management Sector Plan is intended to provide a framework for implementing the Disaster Management Act No. 57 of 2002, the Disaster Risk Management Policy Framework of 2005, and the associated requirements of the Municipal Systems Act No. 32 of 2000.

This section will assess the disaster risk for each municipality within the Zululand District municipality.

4.2.1.1 uPhongolo Municipality

The uPhongolo Local Municipality, like every other municipality in the province, is vulnerable to a variety of natural and man-made disasters. Vulnerability varies, and it is primarily determined by socioeconomic level as well as the degree to which a given household or community has been exposed to a specific hazard.

The global pandemic outbreak of Covid 19 has affected all the countries and their economies worldwide. It has serious health implications which have had negative effects on the national, provincial, and local governments as well as all sectors of business.

Most areas of northern KZN including uPhongolo Local municipality are affected by hydrological drought situation due to depressed water resource levels. Due to the rural nature of the municipality, such areas lack the reserves needed to adequately cope with the serious disruption that a drought brings.

According to the South African Weather Service Drought Bulletin (2021), uPhongolo LM received below normal precipitation between March 2021-May 2021. According to the Standardized Precipitation Index, uPhongolo is recorded to be moderately dry between March 2021-May 2021.

4.2.1.2 Abaqulusi Municipality

Abaqulusi Municipality has experienced 8 incidents of heavy rainfall as a result of Eliose tropical cyclone, fire, strong winds and heavy rainfalls which has affected 1493 people and 279 households.

4.2.1.3 Nongoma Municipality

Nongoma municipal area is vulnerable to lightning and strong winds. Severe storms can cause damage and disruption, especially to areas where a large percentage of community members make use of informal housing. Nongoma municipal area is vulnerable to structural fires and veld fires. According to the ZDM Disaster Incident Report (2021), these disasters have affected 255 people and destroyed 15 households.

4.2.1.4 eDumbe Municipality

According to the ZDM Disaster Incident Report (2021), eDumbe municipality experienced 5 incidents of heavy rainfall due to Eliose tropical cyclone, followed by fire, lightning and strong winds. These disasters have affected 33 households and 160 people.

4.2.1.5 Ulundi Municipality

According to the ZDM Disaster Incident Report (2021), Ulundi municipality experienced heavy rainfalls in January 2021. This is due to Eliose tropical cyclone which affected the Zululand District Municipality.

The figure below indicates the disasters/hazards prone to the local municipalities within the Zululand District Municipality.

Figure 5: Priority Risk and Disasters For Zululand Local Municipalities

UPHONGOLO MUNICIPALITY	
Hazard/ Disaster	**Risk**
Human Diseases (Covid 19, HIV/AIDS)	
Drought	
Road Accident	
House Fires	
Severe Storm (Lightning)	
Severe Storms (Strong Winds)	
Lack of (adequate) water	
Lack of (adequate) sanitation	
Civil Strikes	

ABAQULUSI MUNICIPALITY	
Hazard/ Disaster	**Risk**
Fire	
Strong Winds	
Heavy Rains	
Lightning	
Storms	

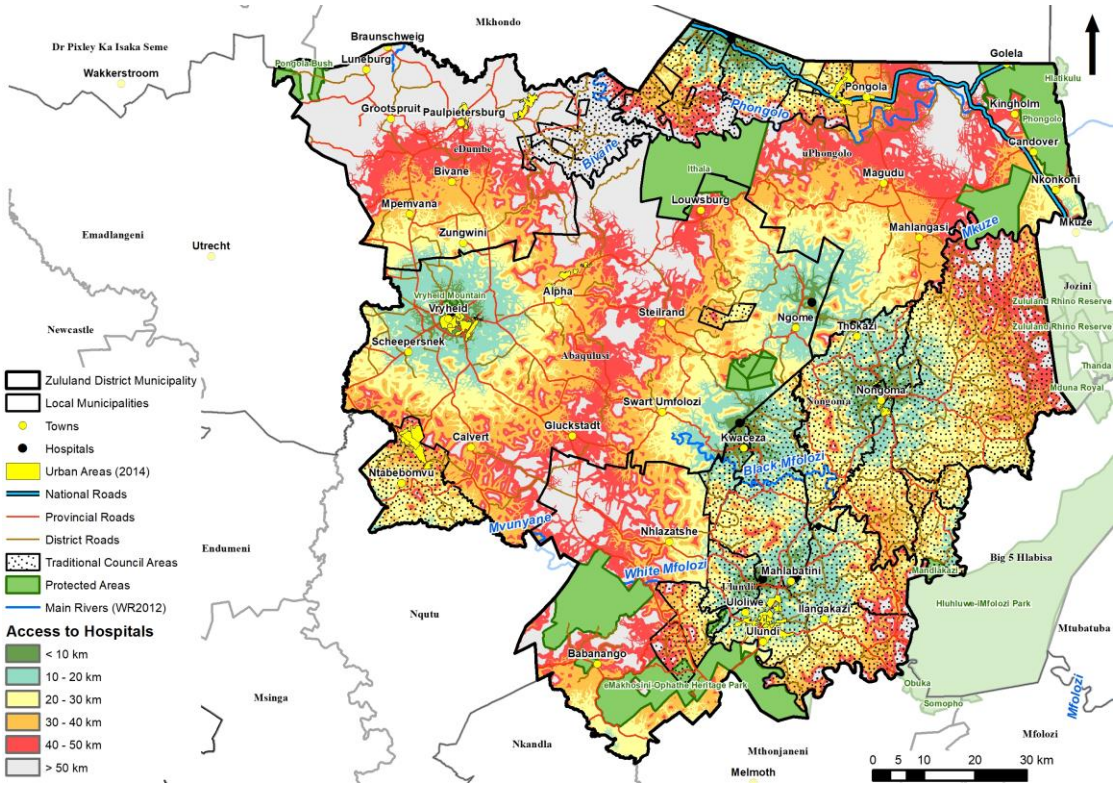
NONGOMA MUNICIPALITY	
Hazard/ Disaster	**Risk**
Drought	
Lightning	
Strong Winds	
Heavy Rainfall	
Animal Disease	
Structural Fires	
Veld Fires	
Plant disease	
Floods	
Hailstorm	
Hazard material- Hazmat: Spill/Release	
Drownings	

EDUMBE MUNICIPALITY	
Hazard/ Disaster	**Risk**
Fire	
Lightning	
Strong winds	
Heavy Rains	

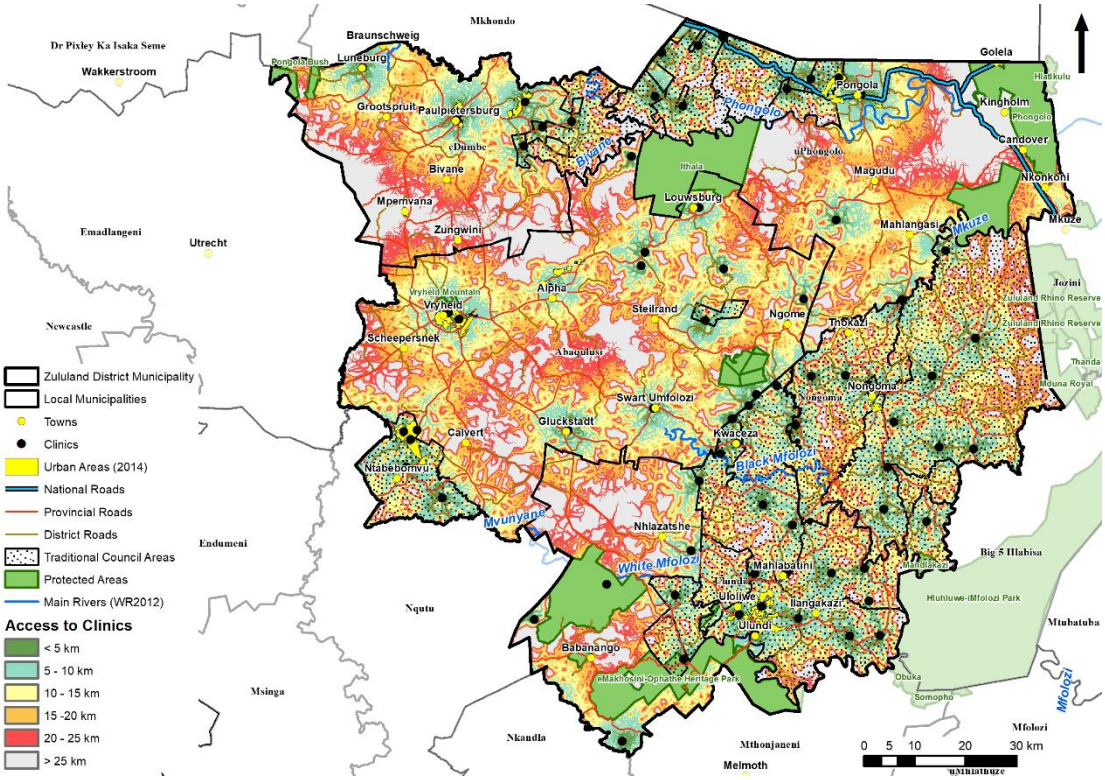
ULUNDI MUNICIPALITY	
Hazard/ Disaster	**Risk**
Human Diseases (Covid 19, HIV/AIDS)	
Severe Weather	
Fire	
Drought	
Lightning	
Environmental	
Vehicular Accidents	
Service Disruption	
Violence	

4.2.2 TRAVELLING DISTANCE TO EMERGENCY CENTRES

Map 10: Access to Hospitals



Map 11: Access to Clinics



The maps above illustrate the distance to access hospitals and clinics. There are a few hospitals in the district, this results in communities travelling 10-50km to access this facility. However, there are several clinics unevenly scattered in the district. The travelling distance to access this facility between 5-20km.

5 DISASTER RISK REDUCTION

The district's residents' vulnerability to natural catastrophes poses a significant challenge to government machinery and emphasizes the necessity for a comprehensive disaster preparedness and mitigation plan. While natural hazards are beyond our control, we can lessen our vulnerability to them by taking proactive mitigation and preparedness steps. There must be a deliberate effort to reduce the community's vulnerability to disasters.

Taking into consideration the value of development gains which are wiped out through disasters and the huge quantum of funds required for post disaster relief and rehabilitation, any investment in disaster mitigation will yield a higher rate of return than any other development project. In addition, because disasters wipe out developmental achievements, all development schemes/projects will need to include disaster assessment and vulnerability reduction as important components for the development process to be sustainable. As a result, a paradigm change has occurred with the shift in focus from reactive to proactive, i.e., from disaster relief to disaster prevention and mitigation.

Efforts should be taken to ensure that the identified risk reduction initiatives are approved and integrated into the IDP for them to be funded. To ensure improved service delivery, these plans should be incorporated into sector plans / strategic plans.

Improved municipal capacity will result in a more effective and coordinated response to fire occurrences. Because most of these occurrences are caused by a lack of understanding or neglect, raising awareness among vulnerable communities is critical.

Structural (or passive) fire protection techniques offer built-in fire protection. Building inspections will guarantee that fire safety is included into the design of all new and refurbished commercial buildings, with an emphasis on fire prevention and protection. Passive fire protection keeps a building's structure stable during a fire and keeps escape routes safe, giving people enough time to get out and fire officers enough time to go in.

To avoid or lessen the likelihood of a fire that could result in death, injury, or property damage, structural measures such as a fire hydrant improvement program will be implemented, as well as to reduce the damage caused by a fire.

Disaster reduction and recovery will rely heavily on training, capacity building, and public awareness initiatives. Volunteer Units are not a legally enforced requirement. Volunteer Units serve as a vital link between municipalities and the public. The lack of Volunteer Units therefore limits the cooperation between the Municipalities and the Communities in terms of Disaster Management. An adequate

number of trained staff in needed to realize the objectives put forth by the disaster management legislation.

The following are the skills to be improved in the District:

The disaster risk management structures require adequate equipment and facilities to carry out their legal mandate. This includes motor vehicles, emergency response equipment, recovery equipment, technological devices, and administrative equipment to fulfil the primary needs.

Below is the equipment necessary for disaster risk management functions to be carried out effectively in District:

CATEGORY	EQUIPMENT/ PROGRAMME
Vehicles	Firefighting trucks/fire engines
	Water trucks
	Off road vehicles
	Caravans
Technology	Two-way radio
	Information and Communication system
	Early warning system
	Call centre equipment

	Digital cameras
	Multimedia unit
	Lightning conductors
Emergency equipment	Backup generators
	Fire extinguishers
	Jaws of life
Recovery	Tents
	Mattresses
	Blankets
	Relief packs
Administrative	Storage space
	Access to emergency funds to purchase food for victims
	Office space
	Office equipment (faxes and laptops)
	Training: Disaster Management and Fire Service staff
	Planting of trees
	Disaster awareness campaigns
	Purchase Disaster Management relief material

5.1 Early Warning Strategy

The first component of the Disaster Preparedness Plan is to implement an innovative, cost-effective, practical early warning project, or projects, for a specific risk. The primary purpose of such a project, or projects, is to implement practical measures that will provide the agencies responsible for responding to a specific risk with sufficient warning of an imminent hazard occurrence, that they have the time to properly implement their Disaster Response Plan.

The district Disaster Management Centre uses a bulk SMS system to send out early severe weather alerts obtained from the South African Weather Services (SAWS). When a severe weather warning is issued, it is sent to all relevant stakeholders through bulk SMS. All local governments and participants

of the advisory forum are considered stakeholders. The goal is for local governments to ensure that these warnings are distributed to the public via ward councillors and ward committees.

5.2 Capacity Building Programmes

Sections 15 and 20(2) of the Disaster Risk Management Act (Act 57 of 2002) specifies the promotion of education and training, the encouragement of a broad-based culture of risk avoidance, and the promotion of research into all aspects of disaster risk management.

Everyone who lives in a hazard-prone area should understand hazards as a fact of life. Information about hazards should be part of the standard curriculum of children at school and be part of everyday information source to create awareness.

The Zululand District Municipality is vulnerable to a variety of natural and human-caused risks that can result in widespread hardship and death. Natural catastrophes are typically terrifying and difficult to comprehend because the community has no influence over when or where they occur. What can be regulated, however, is the amount of readiness among communities, state entities, and civil society organizations to deal with the threats posed by natural disasters.

During this summer and winter season, several incidents have been reported with severe damage to both people's lives and property. Common major incidents in the district include:

- Runaway veldfires that affect the entire district, especially the rural black communities.
- The severe storms and strong winds claimed many lives and damages to property and agricultural commodities.
- Severe flash floods that usually affect communities that have informal houses next to the rivers or small river basins

5.3 Public Awareness

In line with the provisions of the Disaster Management Act 57 of 2002, this Community Awareness Campaign is a corner stone of ensuring that:

Communities understand the hazards in their localities
Communties are acutely aware of the effects of those hazards
Communities are capacitated to deal with identified hazards

In this regard, communities need to be made aware and educated on the risks in their areas, and what to do when the disaster strikes. The District Disaster Management Centre has therefore developed

this Community Awareness, Educational Programme, Capacity Building and Workshops to create resilient communities on disaster management. One of the fundamental aims of this campaign is to ensure the visibility of District Disaster Management Centre (DDMC) at local level.

DDMC in consultation with other stakeholders in the rolling out of the campaign that will be in the form of Community Awareness, Educational Programme, Capacity Building and Workshops, where locals will play a huge role in identifying proper venues and mobilising local communities, amongst other things. During the programme itself, all messages will be based on the district risk profiles for those areas.

The target audience would be communities, community leaders, Operation Sukhumasakhe, school children and stakeholders. These programmes commenced in the 2017/2018 financial year.

6 PREPAREDNESS PLANNING

Disaster preparedness is a broad term that refers to a range of strategies for reducing the negative consequences of a disaster, such as loss of life and property, as well as disruption of livelihoods.

Preparedness activities will comprise all activities that should be done to meet the response and immediate relief requirements in the event of a disaster. Preparedness actions may include:

- Training, mock drills, pre-positioning of relief materials, etc
- Hazard, risk and vulnerability assessments
- Planning for seasonal threats, such as heavy rainfall, flooding, strong winds, veld fires and house fires.
- Defining in advance clear communication processes and protocols for different emergency situations.
- Specifying evacuation procedures, routes and sites in advance of expected emergencies
- Information management
- Establishing clear information dissemination processes to alert communities at risk of an impending seasonal threat, such as cholera during the rainy season
- Resource mobilisation
- Community-based disaster preparedness

All planning and implementation of disaster preparedness measures should be based on an assessment and prioritization of the hazards and risks that people face, as well as their ability or inability to cope with and withstand the effects of those hazards. Some of the benefits of preparedness planning include:

- Systematic arrangement and deployment of resources to reduce the impact of disaster;

- Vulnerable communities to get access to crucial information, such as timely flood forecasts and warnings;
- The provision of basic needs, such as shelter and medical care, clean water, sanitation and food during disasters such as floods;
- Continued access to livelihoods to minimise disruption of economic activities;
- Effective coordination among disaster management agencies to ensure efficient emergency response during floods;
- Urgent restoration of critical infrastructure.

Disaster Preparedness focuses on addressing the risks to which communities are exposed, by facilitating maximum emergency preparedness for these risks, including:

- **Early Warning:** The identification and implementation of early warning measures that will allow various role-players enough time to warn their communities about an approaching hazard and initiate activities that will protect people and structures, reduce disaster response and recovery costs, and minimise community or regional disruption following a hazard occurrence.
- **Response / Contingency Plans:** The development of contingency plans and emergency procedures that:

  (a) Allocates responsibilities within certain time frames to the various role-players.

  (b) Defines a co-ordinating structure for the carrying out of those responsibilities.

  (c) Establish the strategic communication links for the carrying out of those responsibilities.
- **Disaster Relief**: Develop disaster relief methods that address the speedy procurement of critical products and services to mitigate the harm caused by a hazard.

7 DISASTER RESPONSE AND RECOVERY

Disaster management plans for municipal districts are addressed under Section 53 of the Disaster Management Act (Act 57 of 2002). A disaster management plan must include contingency plans and emergency procedures in the case of a disaster, ensuring fast disaster response and relief, as well as the procurement of critical products and services, according to Section 53 (1) (k) of the Act.

The aim of emergency response is to provide immediate assistance to maintain life, improve health and support the morale of the affected population. Such assistance may range from providing specific but limited aid, such as assisting refugees with transport, temporary shelter, and food, to establishing semi-permanent settlement in camps and other locations. It also may involve initial repairs to damaged infrastructure. The focus in the response phase is on meeting the basic needs of the people until more permanent and sustainable solutions can be found. Humanitarian organizations are often strongly present in this phase of the disaster management cycle.

7.1 RESPONSE

When disaster strike:

- Follow established emergency procedures for raising the alarm, evacuating personnel, and making the disaster site safe
- Contact the leader of the disaster response team to direct and brief the trained salvage personnel
- When permission is given to re-enter the site, make a preliminary assessment of the extent of the damage, and the equipment, supplies and services required.
- Stabilize the environment to prevent the growth of mould.
- Photograph damaged materials for insurance claim purposes.
- Set up an area for recording and packing material which requires freezing, and an area for airdrying slightly wet material and other minor treatment.
- Transport water-damaged items to the nearest available freezing facility.

7.2 RECOVERY

To get back to normal, there's a need to:

- Establish a programme to restore both the disaster site and the damaged materials to a stable and usable condition.
- Determine priorities for restoration work and seek the advice of a conservator as to the best methods and options and obtain cost estimates.
- Develop a phased conservation programme where large quantities of material are involved.
- Discard items not worth retaining and replace or re-bind items not justifying special conservation treatment.
- Contact insurers.
- Clean and rehabilitate the disaster site.
- Replace treated material in the refurbished site.
- Analyse the disaster and improve the plan in the light of experience.

The Departments should have detailed response plan in place for each type of disaster. The actions to be taken at different times and the responsible person within the district should be identified in the response plan. The response actions for such disasters that can be forewarned (e.g., flood) will start from 72 hours before the occurrence. The response actions for such disasters that cannot be forewarned (e.g., Earthquake) will start immediately after the occurrence of the disaster. The response planning should be prepared for each type of disaster.

8 TESTING AND REVIEW OF PLAN

8.1 SIMULATION AND MODELLING OF THE DISASTER MANAGEMENT

Simulation is used to mimic and present situations created by occurrence of a disaster event to human training subjects with the intent to improve their capabilities for emergency response. These tools extend from those targeted at decision makers to those targeted at first responders. The simulation tools for training decision makers present the overall scenario and evaluate decisions makers approach for making high level decisions such as units of first responders to be deployed in different areas impacted by the disaster. The tools at this level typically use one or more computer monitors to graphically display the simulated unfolding of disaster event and the response actions. It should be noted that simulation tools may differ for each municipal area, ward or location depending on the disaster each area is prone to. Therefore, it is pivotal that Zululand District and its local municipalities identify the relevant implementable simulation tools.

Systems Testing

The systems testing application will include tools that allow testing of systems and equipment used for emergency response. These may include applications that allow hardware emulation and software simulation to create a scenario where part is simulated in software while remaining is simulated in real live exercise. It will allow testing of systems such as those for tracking emergency response vehicles and those that provide information to emergency operations centres. It will also allow testing of hardware such as communication devices in emergency response situation with severe overloading of bandwidth. Examples of systems testing applications include:

- Testing of emergency operations command and control systems
- Testing of remotely operated search and rescue devices.

8.2 MONITORING AND EVALUATION

Monitoring and evaluation involves setting up systems to consistently review how the emergency communication response is progressing, what needs to be improved and whether the program goals are being met.

Monitoring is a continuous process that entails the regular collection and analysis of data to assist timely decision making, check whether activities are being executed according to plan, ensure accountability and provide the basis for evaluation and learning.

Evaluation assesses the degree of success obtained and determines to what extent the anticipated outcomes are produced it measures whether the behavioral communication objectives have been achieved through specific intervention activities. Evaluation also provides insights into lessons learnt and promising practices.

Monitoring and evaluation allows you to:

- Track progress of activities against indicators
- Adapt the strategy as needed against program goals and objective
- Provide accountability to the audiences, partners and donors
- Assess and the success of communication activities
- Identify lessons leaned and best practices
- Inform future emergency communication response.

The table below highlights some of the essential M&E steps in relation to each of the emergency phases:

Pre-Crisis	Preparedness	○ Engage partners and stakeholders ○ Define roles and responsibilities in case of an emergency ○ Define reporting structures and feedback loops ○ Determine basic output level indicators that can be used to monitor initial communication response ○ Establish basic preemptive M&E plan
Initial Crisis	Initial Monitoring	○ Conduct systematic collection of output-level data ○ Conduct monitoring to check quality of communication response ○ Activate feedback loops ○ Hold regular review meetings ○ Communicate results

		○ Make changes to activities as per monitoring results
Maintenance Resolution	Formal M&E System	○ Develop formal M&E Plan ○ Conduct systematic collection of output-level data ○ Conduct monitoring activities to check quality of communication response ○ ·Review and adjust activities as per monitoring results ○ Hold regular review meetings ○ Communicate results and adjustments to activities.
Evaluation	Evaluation	○ Conduct post-emergency evaluation ○ Gather lessons learned and best practices Share findings ○ Use findings to inform future activities to prevent future crisis

9 CONTACT DETAILS

NAME	ORGANISATION	CONTACT DETAILS	MOBILE NUMBER	EMAIL ADDRESS
His Worship The Honourable Mayor Cllr TD Buthelezi	Zululand District Municipality	Tel: 035-874-5502 Fax: 035-874-5589/91	078 500 7000	dsmhlongo@zululand.org.za
The Municipal Manager Mr ZW Mcineka	Zululand District Municipality	Tel: 035-874 5503 Fax: 035-874 5589/91	078 804 2860	fbuthelezi@zululand.org.za
The Secretary Municipal Manager Mrs F Zondi	Zululand District Municipality	Tel: 035-874 5503 Fax: 035-874 5589/91	073 266 0281	fbuthelezi@zululand.org.za
The General Manager: Community Services: Mr SP Mosia	Zululand District Municipality	Tel: 0358745510 Fax: 0358745589/91	083 363 6916	smosia@zululand.org.za
The Secretary GM Community Services: Vacant	Zululand District Municipality	Tel: 0358745626 Fax: 0358745589/91	078 571 8496	nlurwengu@zululand.org.za
The Disaster Centre Manager: Mr WM Dhlamini	Zululand District Municipality	Tel: 035-874 5590 Fax:035-874 5589/91	082 813 2925	wdlamini@zululand.org.za
The Admin Officer Disaster Section: Mrs BN Mshengu	Zululand District Municipality	Tel: 0358701132 Fax: 0358745589/91	079 511 0555	bmbatha@zululand.org.za
The Acting General Manager	Zululand District Municipality	Tel: 035-874 5509 Fax: 035-874 5589/91	083 793 8093	gkunene@zululand.org.za

NAME	ORGANISATION	CONTACT DETAILS	MOBILE NUMBER	EMAIL ADDRESS
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The General Manager Planning: Mr BP Mnguni	Zululand District Municipality	Tel: 035-874-5618 Fax: 035-874-5589/91	073 148 3715	bmnguni@zululand.org.za
The General Manager Corporate Services: Mr PM Manqele	Zululand District Municipality	Tel: 0358745510 Fax: 0358745589/91	079 259 8891	pmanqele@zululand.org.za
The Deputy Director Airport Services: Ms T Hadebe	Zululand District Municipality	Tel: 0358701128 Fax:0358745589/91	082 902 6029	thadebe@zululand.org.za
The Fire Protection Officer: Mr Tony Robert	Fire Protection Association	Tel: 035-580-4713 Fax: 035-580-4713	083 631 9076	zfpa@kwn.coza
The Operation Manager: Mr Simon Thomas	Zululand Fire Protection	Tel: 033-330 8421 Fax: 033-330 8424	082 902 6029	simon@firestop.co.za
The FPA Manager: Mr Johan Le Rouxe	Vryheid Fire Protection	Tel: 034-982-1882 Fax: 034-982-1884	083 570 0084	nnfpa@lantic.co.za
The Municipal Manger: Prince NG Zulu	Ulundi Municipality	Tel: 035-874 5100 Fax: 035-870 1105	073 470 7095	nmathe@ulundi.gov.za
His Worship The Honourable Mayor Cllr: Mr WM Ntshangase	Ulundi Municipality	Tel: 035-874 5100 Fax: 035-870 1105	073 239 3541	nhkhumalo@ulundi.gov.za

NAME	ORGANISATION	CONTACT DETAILS	MOBILE NUMBER	EMAIL ADDRESS
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The Municipal Manager: Mr MB Mnguni	Nongoma Municipality	Tel: 035-831 7500 Fax: 035-831 3152	083 307 8970	mbmnguni@nongoma.gov.za
The Honourable Mayor Cllr: MA Mncwango	Nongoma Municipality	Tel:035-831 3152 Fax: 035-831 3152/ 086 592 3920	083 448 4896	mayor@nongoma.org.za / khumalosebeh@gmail.com
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The Manager Protection Services: Prince P Zulu	Nongoma Municipality	Tel: 035-831 7500 Fax: 035-831 3152	072 311 8561	philaz@nongoma.org.za
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