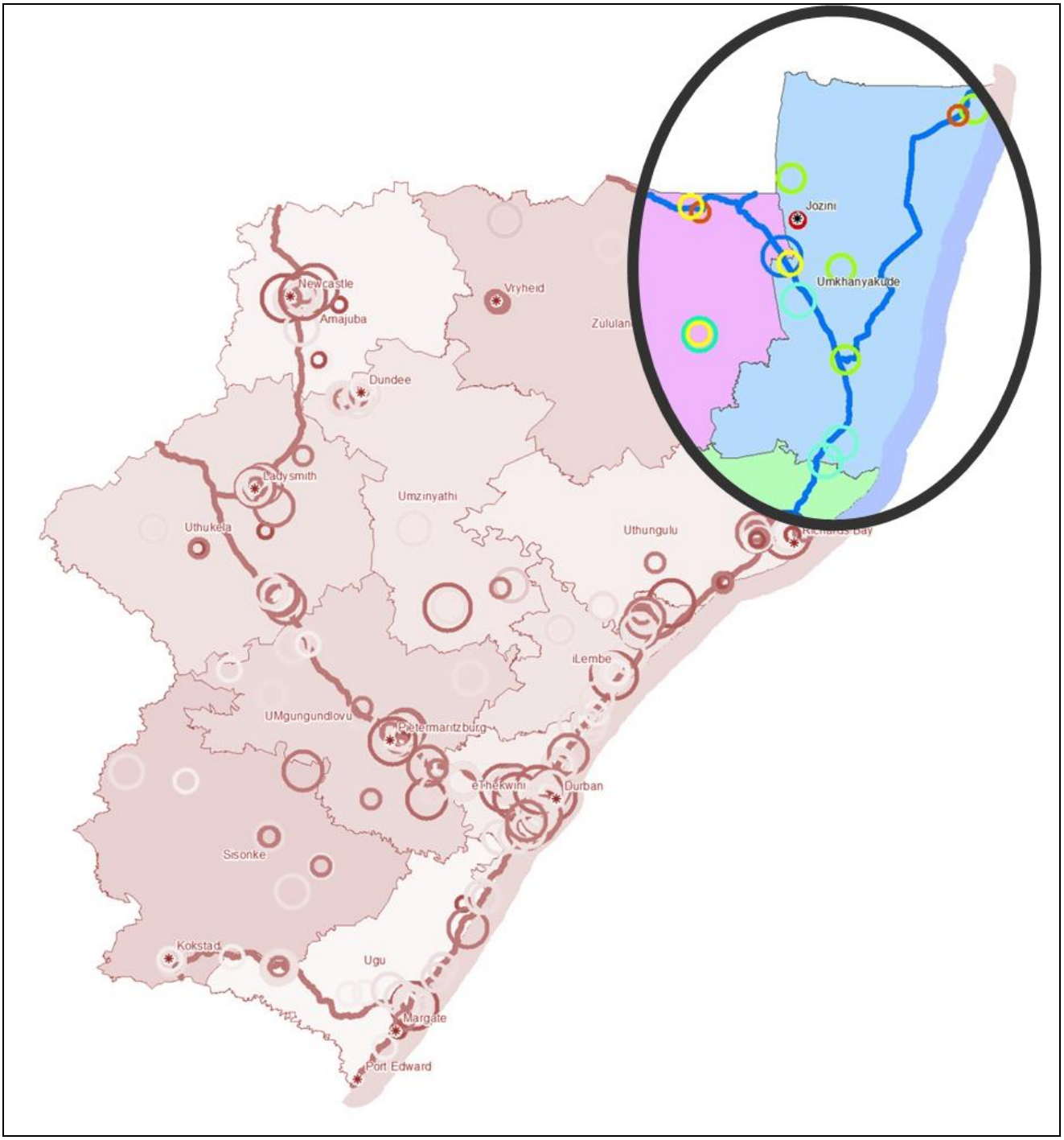
KZN PSEDS

PROFILING DISTRICT ECONOMIC DRIVERS



UMKHANYAKUDE DISTRICT MUNICIPALITY

A SPATIAL ECONOMIC OVERVIEW

MARCH 2012

KZN DEPARTMENT OF ECONOMIC DEVELOPMENT & TOURISM
PROFILING DISTRICT ECONOMIC DRIVERS

PHASE 5 – SPATIAL ECONOMIC OVERVIEW
UMKHANYAKUDE DISTRICT MUNICIPALITY

MARCH 2012

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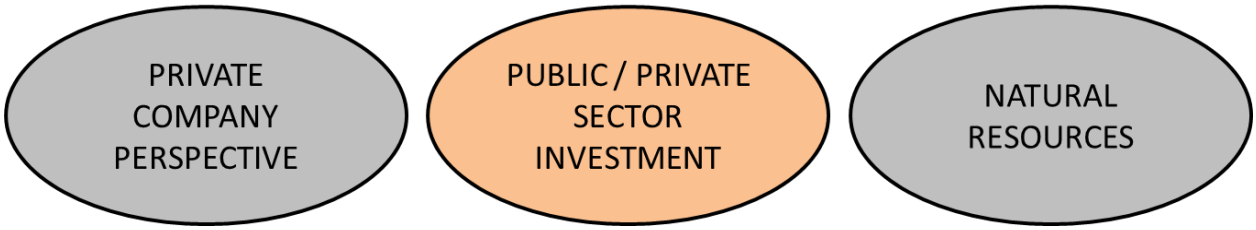
1. BACKGROUND AND APPROACH

1.1. OBJECTIVES FOR REPORT

The overall vision for this project is to provide reliable data at district municipal level to inform and update the provincial PSEDS as the basis for planning future economic development and growth in the province. The linkage between economic development, spatial development frameworks and natural resource availability is fundamental to future sustainable development.

The overarching objective of this project, as contained in the terms of reference for this brief, is "...to extensively profile the economic drivers and resource endowments (natural capital) of the ten KwaZulu-Natal Districts plus the eThekwini Metro". As noted above this will be undertaken with the view to updating the PSEDS and informing planning and decision making in government.

Economic drivers are considered from three perspectives:



1.2. APPROACHES TO COMPILING THE REPORT

The information in this report was compiled using different approaches:

For the Private Company perspective:

- The identification of companies viewed as drivers or potential drivers by stakeholders;
- The refinement of the list of major companies in the province;
- A survey that included a total of 510 firms identified; and
- The analysis of information from the survey (and location of companies on GIS).

For the Public / Private Sector Investment perspective:

- An assessment of the strategic planning of municipalities;
- A survey of municipalities to identify economic development challenges and significant historic, current and future initiatives; and
- A series of workshops with municipalities to share findings and obtain spatial planning inputs.

For the Natural Resources perspective:

- Using land use as a base an expert panel was requested to consider the potential of each land cover type to produce and/or deliver different categories of ecoservices and score this; and
- The assessment outcomes were considered specifically considering the recommendations emanating from other components of the assessment.

2. DISTRICT ECONOMIC OVERVIEW

2.1. INTRODUCTION

An initial overview of the district economy is provided in this section of the report. The aim is to provide a contrast within which the sample survey of companies was undertaken. The District economy is considered in terms of the following:

- Spatial Economic Features
- District Economic Contribution
- District Economic Structure

2.2. SPATIAL ECONOMIC FEATURES

Key spatial features of the Umkhanyakude District impacting on economic development include:

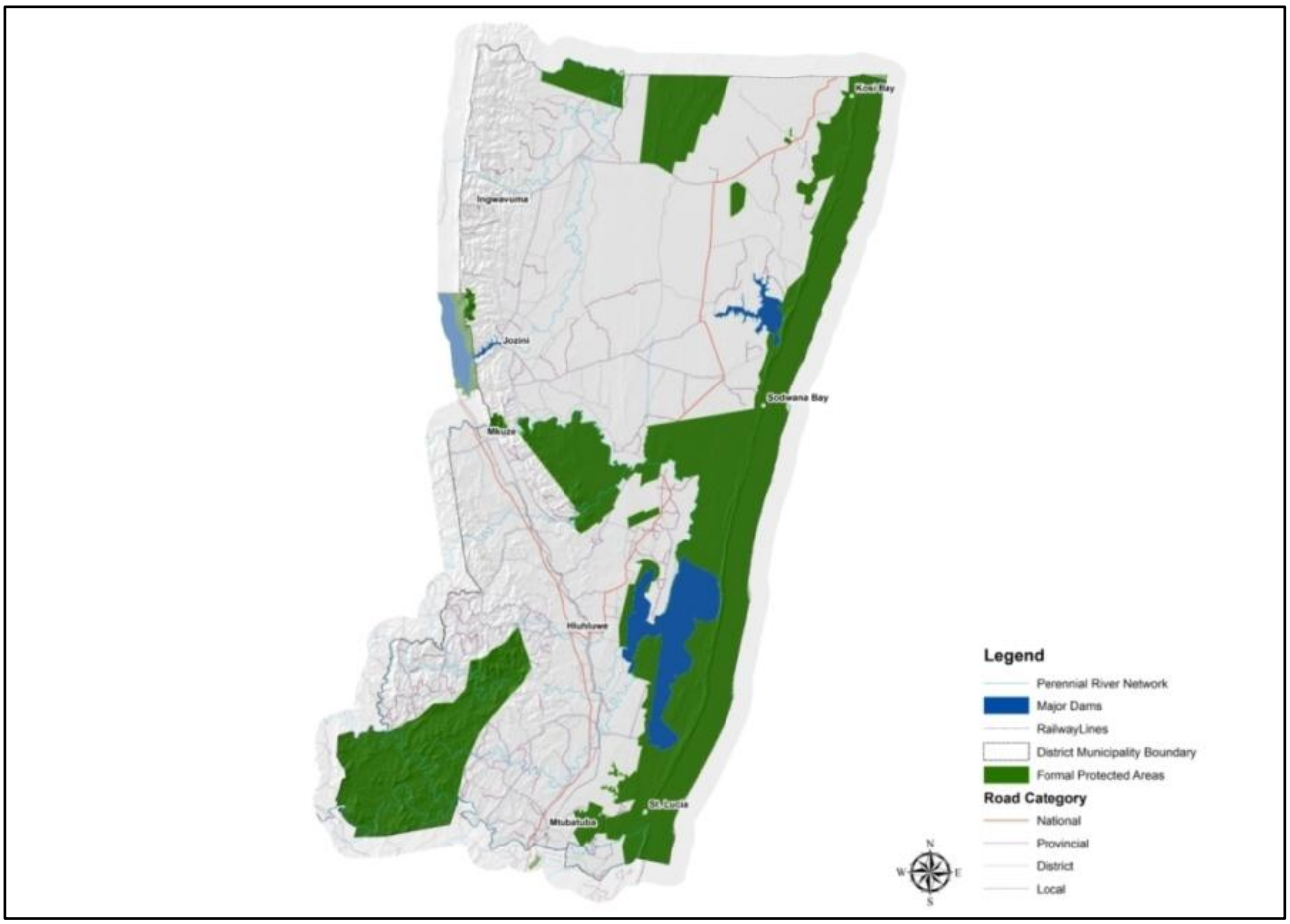
- The district shares international borders with two countries: Mozambique in the north and Swaziland along its north-western boundary.
- The N2 corridor from Mtubatuba in the south towards Mkuze and on to Pongola and Swaziland in the north is the major route in the region
- The Lubombo SDI corridor (MR439) was upgraded in the late 1990s to a tar road – extending from Hluhluwe through to Mbazwana to join the only other tar road in the region at Pelindaba, before heading north east through KwaNgwanase (Manguzi) to the Mozambique border at Farazel. This corridor has opened up an area which was previously only accessible on unsurfaced dirt roads.
- The road from the N2, up the pass over the Lebombo Mountains through Jozini and north to the T-junction (Bambanana) of the road from Ingwavuma to KwaNgwanase.
- The rail link running parallel to the N2 which comes from Durban, through the region to Swaziland.
- The dominant land tenure of the district is communal tenure under Ingonyama Trust lands. The only privately owned commercial farms lie in a narrow strip along the N2 from Mtubatuba to Mkuze.
- The district covers 12 848 km2 of which over 21% is under proclaimed conservation area – mostly under the auspices of Isimangaliso Wetlands Park, a World Heritage Site, with smaller reserves falling under the jurisdiction of Ezemvelo KZN Wildlife.
- The physical characteristics of the district play a major role in the location of economic activity. These characteristics include:
    - The vast coastal plain which is part of the Mozambique coastal plain, comprising largely sandy soils – part of which is known as the Makathini Flats.
    - The unique hydrology of the area with large coastal lake systems (St Lucia, Sibaya, Kosi), wetland systems (Muzi swamps, Mkuze riverine wetland swamp system, Pongola River floodplain pans and wetlands system as well as the wetland/riverine system feeding the Kosi Lakes).
    - The Pongola River which has been dammed at Jozini to form the vast Pongolapoort / Jozini dam which feeds a system of canals which form the Makathini Irrigation Scheme

- The ridge of mountains, the Lebombos, in the west of the district that rise relatively quickly from the coastal plain. In the north-west the Lebombo's form the border with Swaziland, and in the central part of the district, they dissect the district east of the N2.
- Because of the soils and topography of the district, there is a reliance on the riverine and wetland systems for water and agricultural production, with the exception of the Makathini irrigation scheme. The Lebombo's also create a rain shadow area along the commercial farming corridor along the N2.

- The historical development of the area lagged behind much of the rest of the Province with the only formal towns being Mtubatuba, Hluhluwe and Mkuze. In the last 10-15 years, this situation has changed with the improvement in roads, with centres such as Jozini, Mbazwana and KwaNgwanase growing fast, particularly in terms of commercial development
- The location of the district and its history has contributed to the relative lack of industrial development of any kind, and of large scale commercial development.
- There is also a greater reliance on the natural resources of the district for the majority of people due to employment opportunities being very limited in the district.

The map below reflects the location of major roads and transport infrastructure, as well as topographic and key natural features.

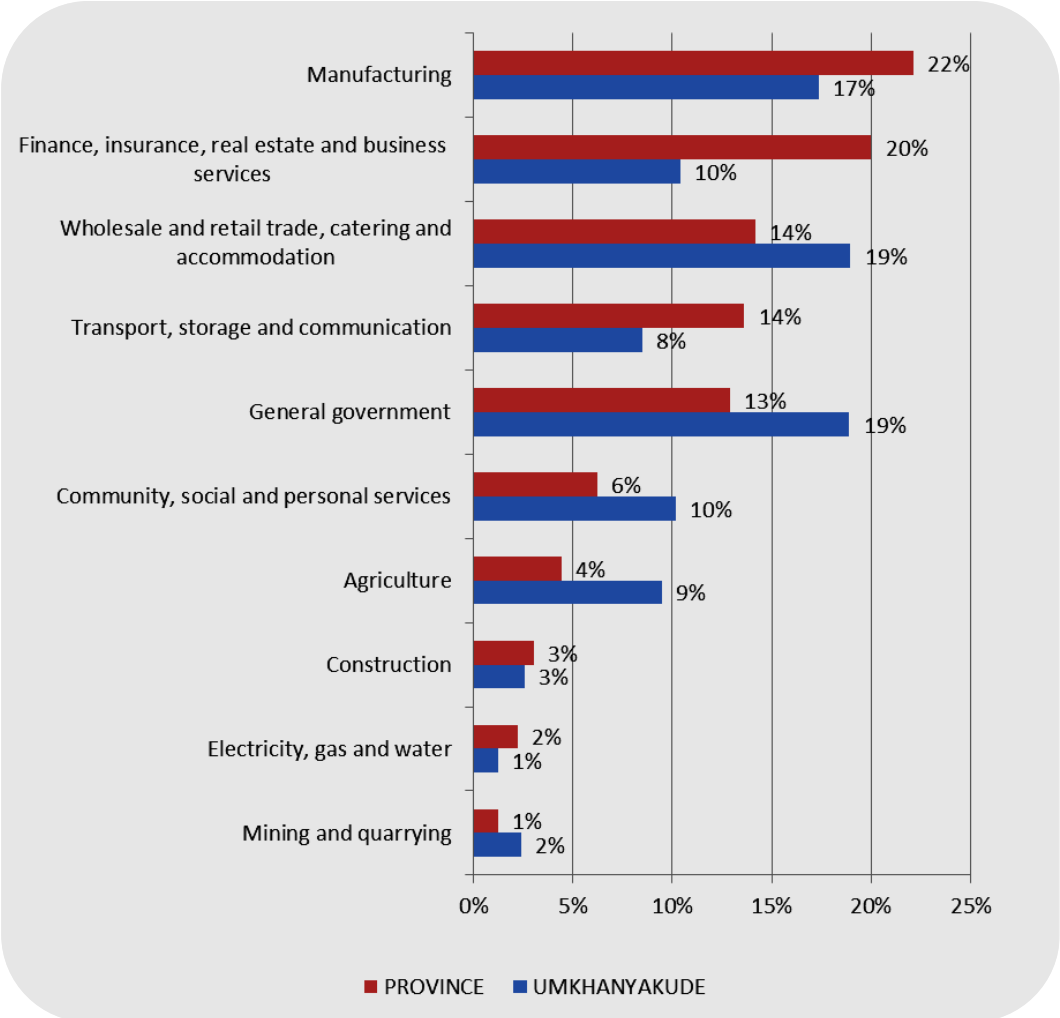
MAP 2.1: SPATIAL ECONOMIC FEATURES



2.3. DISTRICT ECONOMIC CONTRIBUTION

- In overall terms the Umkhanyakude District makes a limited contribution to the economy of KwaZulu-Natal, i.e. R6,452 billion of a total of R267 billion or 2.4% of the provincial economy.
- Based on the 2010 GVA figures there is no sector in the provincial economy in terms of which Umkhanyakude can be viewed as a provincial driver.
- The comparative figures suggest that government services and the wholesale and retail trade, catering and accommodation are the dominant contributors to the economy. This is reflected in the GVA figures and in the number of firms involved, for instance in the tourism/accommodation business. Manufacturing is the third highest contributor; this is primarily through the contribution of the sugar mill at Mtubatuba, rather than any robust manufacturing sector in the district.
- While agriculture is a critical sector in terms of food security, the commercial component to agriculture in the district is very small.

DIAGRAM 2.1: 2010 GROSS VALUE ADDED

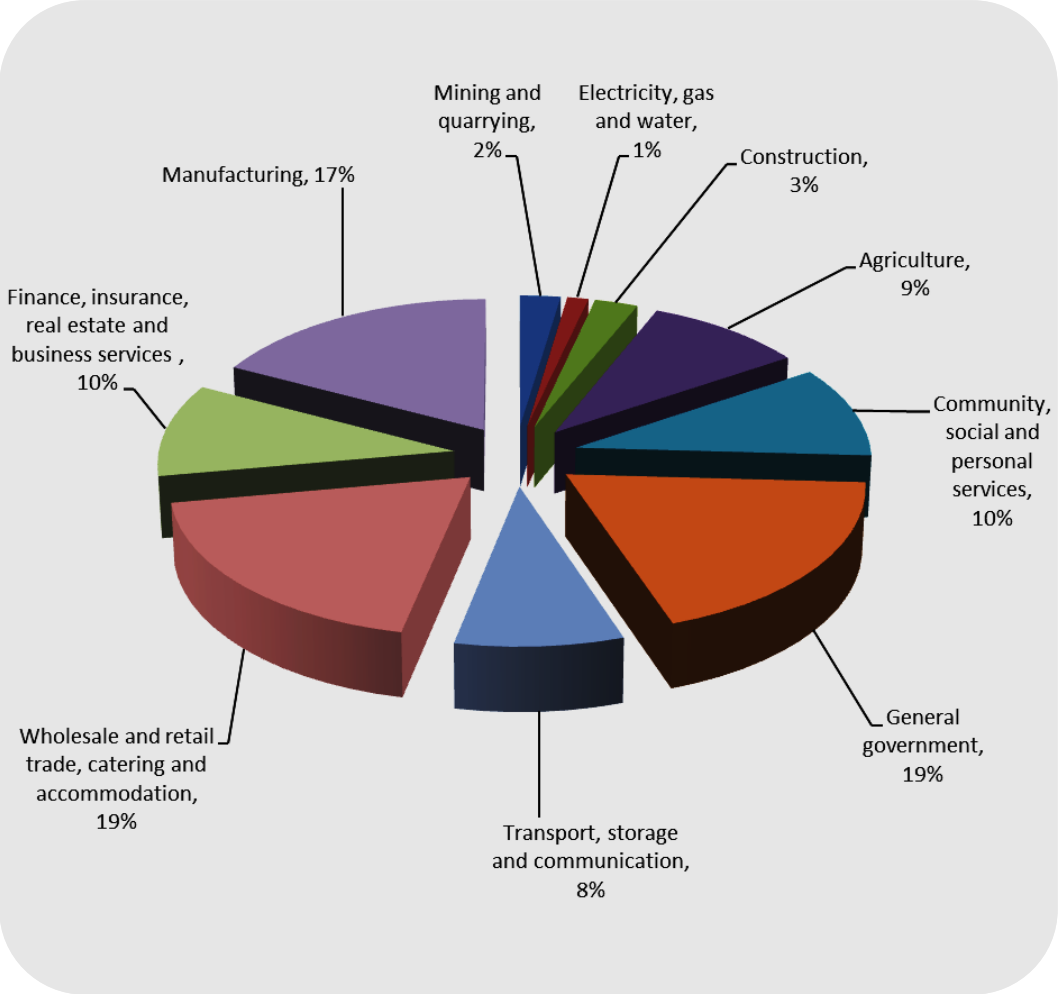


Source: Quantec 2010

2.4. DISTRICT ECONOMIC STRUCTURE

- The diagram reflects the economic structure of the Umkhanyakude District based on 2010 GVA figures.
- As reflected in the previous section the dominance of the government and wholesale and retail trade is evident.
- Once again, although manufacturing is also shown to contribute substantially to the GVA, it is stressed that this is from relatively small number of firms.
- It is important to note that of the two sectors generally viewed as the "drivers" of the economy, viz. tourism (included in wholesale and retail) and agriculture, the latter makes a significantly lower contribution to the economy when compared to the contributions of tourism / accommodation which is an important part of the wholesale/retail trade sector in the district.

DIAGRAM 2.2: 2010 GROSS VALUE ADDED TOTAL GVA OF R6 452 M



Source: Quantec 2010

It should be noted that the GVA data (above) does not necessarily have a bearing on companies in the sample which were identified as drivers. The criteria used to identify drivers was different to the method used to formulate the GVA. This must be born in mind when analysing key sectors and companies that drive the economy. For example, agriculture, and tourism companies dominate the "top companies" of the sample whilst manufacturing and services dominate the GVA sectors.

3. A MAJOR COMPANY OVERVIEW

3.1. INTRODUCTION

The basis of the major company interviews was a comprehensive questionnaire that extracted a range of information from companies deemed to be drivers, or companies belonging to sectors driving the economy. It must be noted that a number of companies perceived to be potential drivers chose not to participate in the survey. This District report reflects on the following information relating to major companies in order to provide a basis for future spatial economic development planning in the District:

- Companies Interviewed
- Sectors and Products
- Spatial Distribution of Companies
- Key Characteristics of Companies
- Major Companies
- Companies Exporting
- Infrastructure and Other Challenges
- Interviewee Comments
- Synthesis

Based on the above information a "major company perspective" of economic drivers is provided.

3.2. SECTORS AND PRODUCTS – A GENERAL PERSPECTIVE

3.2.1. MANUFACTURING SECTOR

- The manufacturing sector contributes 17% to the economy of the district. However, this level of contribution comes from a relatively small number of firms, dominated by the Umfolozi sugar mill at Mtubatuba. Apart from agricultural processing, there is very little in the way of manufacturing in the district

3.2.2. AGRICULTURAL SECTOR

- Agriculture is a critical component of the economy in terms of land use and food security, but contributes relatively little (only 9%) to the district economy. One of the reasons for this relatively low % is that the food security component of subsistence does not form part of the GVA determination process.
- The measurable commercial contribution largely comes from the narrow corridor of commercial farmland (sugar cane, timber in the south, and game farms) that runs along the N2
- It has the potential to contribute significantly more, given the presence of the Jozini Dam and the Makathini Irrigation Scheme. For various reasons, however, this irrigation scheme has been fraught with problems and has not lived up to expectations despite numerous plans and projects such as the very short lived operation of the cotton gin on the Flats. This is being addressed through the Makathini

Integrated Development Plan which was initiated through the MEC oversight committee for the Lebombo SDI and the Economic Cabinet Cluster.

- The irrigable area of the Makathini scheme is around 10 – 13 000 ha. However, the total area of what is generally known as the Makathini (in both Jozini and uMhlabuyalingana local municipalities) totals over 450 000 ha, which a recent study has shown to include just over 407 000 ha of grazing area and a possible area of about 33 000 ha which could produce rainfed crops (IDP Review, 2011-12, p.55)
- Subsistence / food-security agriculture is practiced throughout the region, but is concentrated most along the Pongola floodplain and in and around the coastal lake wetland systems. While this used to be a sustainable agricultural regime, the population pressure is now causing serious environmental problems to the Pongola floodplains and to the wetlands which, around Manguzi for example, have resulted in the drying up of some of the riverine systems feeding the lake. The clearing of swamp forest vegetation to make way for agriculture sets up a chain reaction in terms of environment with biodiversity decreasing and degradation increasing.

3.2.3. TOURISM SECTOR

- This forms part of the wholesale and retail trade sector which is second only to the government sector in terms of economic contribution to the district (19%)
- Given the large area under conservation management because of the uniqueness of the natural environment, this sector is likely to remain as a major player in the district economy, despite recent setbacks with the global recession and the decline in foreign visitors.

3.2.4. COMMERCIAL SECTOR

Note: The commercial sector in this context is used as a generic term for most businesses included the following sectors (as defined by the Standard Industrial Classification): (1) financial intermediation, insurance, real estate, and business services, (2) wholesale and retail trade (excl. Hotels and restaurants), (3) community, social and personal services.

- The commercial sector, underdeveloped for a long time, has grown fast over the past ten to fifteen years, with centres such as Jozini, Mbazwana, Manguzi and Mkuze more than tripling the number of businesses in all three towns.
- This is largely due to the establishment, by large scale developers, of shopping centre precincts with anchor tenants which has brought in, for the first time, national chain stores into these rural towns.
- While this has had positive downstream effects in that they bring more people into the towns due to the range of goods and services at relatively more competitive prices, it has also had a negative effect on the small, independent shop owners who cannot compete with the prices of the larger chain stores.
- To a certain extent, such development has created a ‘sameness’ in character throughout the small towns in the district, whereas before, there were distinct differences between these nodes.

3.2.5. GOVERNMENT SECTOR

- The government sector is the largest contributor to the district economy – just over 19%
- This has a negative and a positive side to it: it is never healthy to have an economy that is dominated by government service income rather than primary producing sectors such as agriculture and manufacturing. However, the positive aspect is that with the stated policy to bring government closer to the people, the number and range of government services (offices and personnel) in not just the main towns, but also in some of the smaller rural nodes, has brought income into the region that was not there before. This has contributed to the growth of the commercial sector across the district.
- However, the government sector does not offer opportunity for growth; in addition, while it has clearly contributed to the growth in commercial activity, many of the civil servants live elsewhere and go to their homes outside of the district on weekends. There is still not the kind of support services and infrastructure, particularly such things as schools and social facilities, to keep professional people in the area as permanent residents.

3.3. COMPANIES INTERVIEWED

A total of 17 companies were interviewed in the Umkhanyakude District in order to obtain a better understanding of the types of major firms, their characteristics and challenges faced by them. The list below reflects the name of the company interviewed, the annual turnover, employment, product/service delivered and the sector to which it relates (in terms of the Standard Industrial Classification [SIC]). This list should serve as a basis for the District to develop and maintain a major company database. The following categorisations were used:

- Company Turnover categorised in terms of: Small (less than R5m), Medium (R5m to R100m) and Large (R100m+);
- Company Employment categorised in terms of: Small (less than 20 people), Medium (21 to 100 people) and Large (100+ people).

TABLE 3.1: COMPANIES INTERVIEWED (SEE ANNEXURE A FOR DETAIL ON DISTRIBUTION OF SAMPLE IN LOCAL MUNICIPALITIES)

COMPANY NAME	2010 ANNUAL T/O (REVENUE OR SALES)	EMPLOYEES RANGE	PRODUCT CATEGORY
Agriculture, hunting, forestry and fishing			
Umfolozi Sugar Planters Ltd	Not provided	Large	Sugar and Related
Senekal Boerdery	Large	Large	Agricultural Commodities
Mjindi Farms	Small	Medium	Farming Services
Community, social and personal services			
Mkuze Game Reserve	Not provided	Medium	Tourism Accommodation +
Thanda Private Lodge	Not provided	Not confirmed	Tourism Accommodation +
Zululand Rhino Reserve	Small	Large	Wildlife Tourism
Financial intermediation, insurance, real estate and business services			
First National Bank Hluhluwe	Medium	Medium	Financial Services
Manufacturing			
Umfolozi Sugar Mill	Large	Large	Sugar and Related
Wholesale and retail trade; repair of motor vehicles, motor cycles and personal and household goods; hotels and restaurants			
Jock Morrison & Sons	Medium	Medium	Retail
Spar Kwangwanase	Medium	Medium	Retail
Jozini Tiger Lodge	Medium	Medium	Tourism Accommodation +
Maputaland Lodge	Small	Small	Tourism Accommodation +
Ghost Mountain Inn	Small	Medium	Tourism Accommodation +
Kosi Bay Lodge	Small	Medium	Tourism Accommodation +
Lala Lapa Lodge	Not provided	Small	Tourism Accommodation +
Mbazwana Inn	Not provided	Small	Tourism Accommodation +
Shemula Lodge	Not provided	Small	Tourism Accommodation +

3.4. SECTORS AND PRODUCTS – A SURVEYED COMPANY PERSPECTIVE

Considering the approach adopted in identifying major companies, i.e. through consultation with local level stakeholders, there is a high level of certainty that the majority of the larger companies in the District has been identified and interviewed. The table below indicates the number of companies identified per sector and sub-sector and then provides an indication of the extent of "clustering" that occurs in sub-sectors of the economy.

From the table below, and the more detailed information obtained through the questionnaire, it is suggested that based on an assessment of the surveyed companies the key sub-sectors driving the economy of the District are (highlighted in grey in the table below):

- Agriculture, hunting, forestry and fishing (specifically forestry and sugar)
- Manufacture of food products, beverages and tobacco products
- Manufacture of furniture; manufacturing n.e.c.; recycling
- Manufacture of wood and of products etc
- Manufacture of other non-metallic mineral products
- Manufacture of textiles, clothing and leather goods
- Hotels and restaurants

TABLE 3.2: STRUCTURE OF SAMPLE PER SECTOR AND SUB-SECTOR

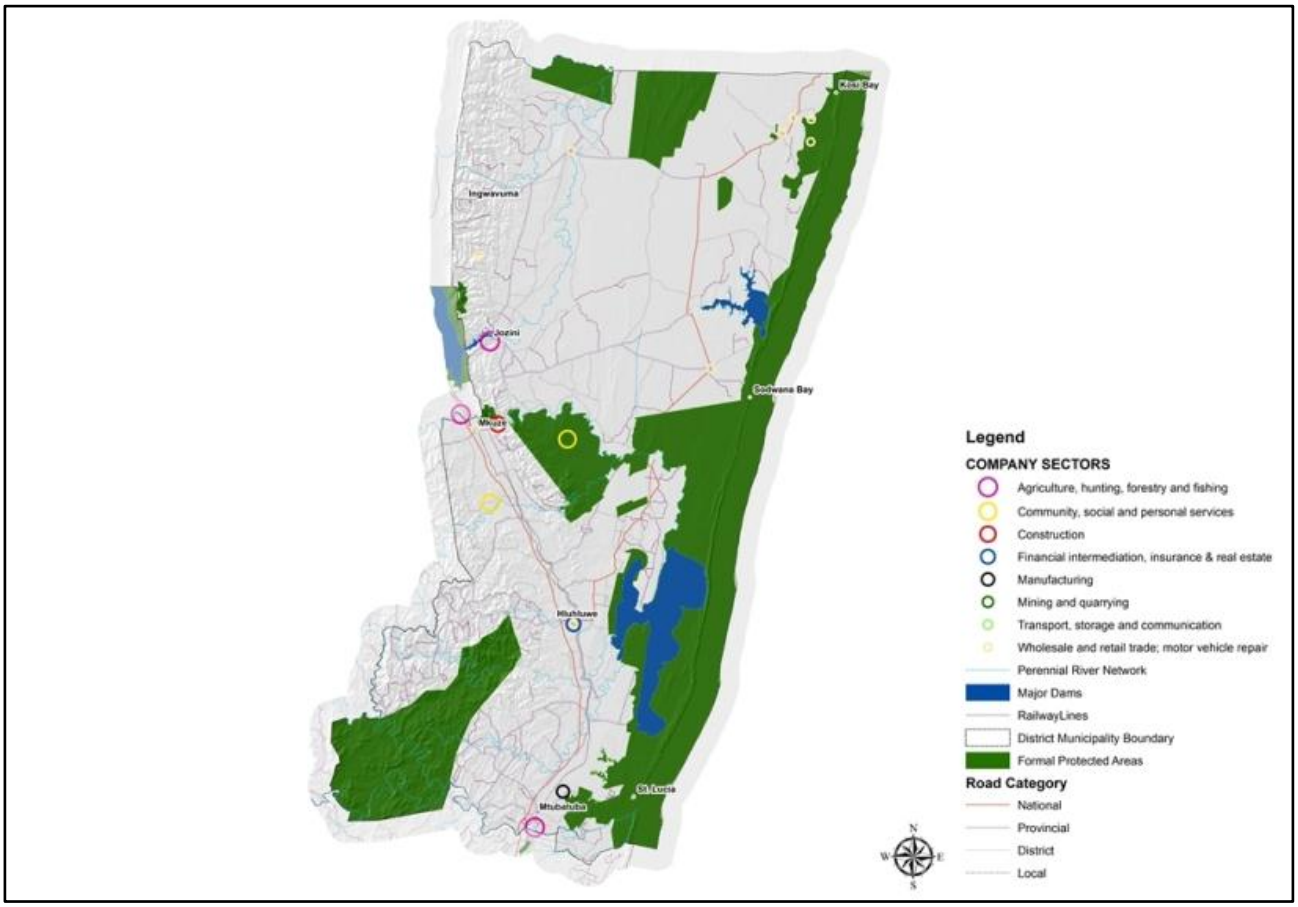
SECTOR AND SUB-SECTORS	NO. OF COMPANIES
Agriculture, hunting, forestry and fishing	**3**
Agriculture, hunting and related services	3
Community, social and personal services	**3**
Recreational, cultural and sporting activities	3
Financial intermediation, insurance, real estate and business services	**1**
Financial intermediation, except insurance and pension funding	1
Manufacturing	**1**
Manufacture of food products, beverages and tobacco products	1
Wholesale and retail trade; repair of motor vehicles, motor cycles and personal and household goods; hotels and restaurants	**9**
Hotels and restaurants	7
Retail trade, except of motor vehicles and motor cycles; repair of personal household goods	2
TOTAL	**17**

3.5. SPATIAL DISTRIBUTION OF SURVEYED COMPANIES

SECTORS

- The companies surveyed are scattered throughout the district as many are place dependent (tourism or agricultural assets), so are found in rural areas and not just the town nodes.
- Mtubatuba is the oldest commercial town and dominated the district in terms of institutional (municipal), commercial and industrial development.
- It is still the prime industrial location due to the presence of the Umfolozi Sugar Mill at Riverview; however, although still an important transport hub (bus and taxi, as well as rail), its commercial sector is no longer so dominant given the growth of Hluhluwe, Mkuze, Jozini, Mbazwana and KwaNgwanase.

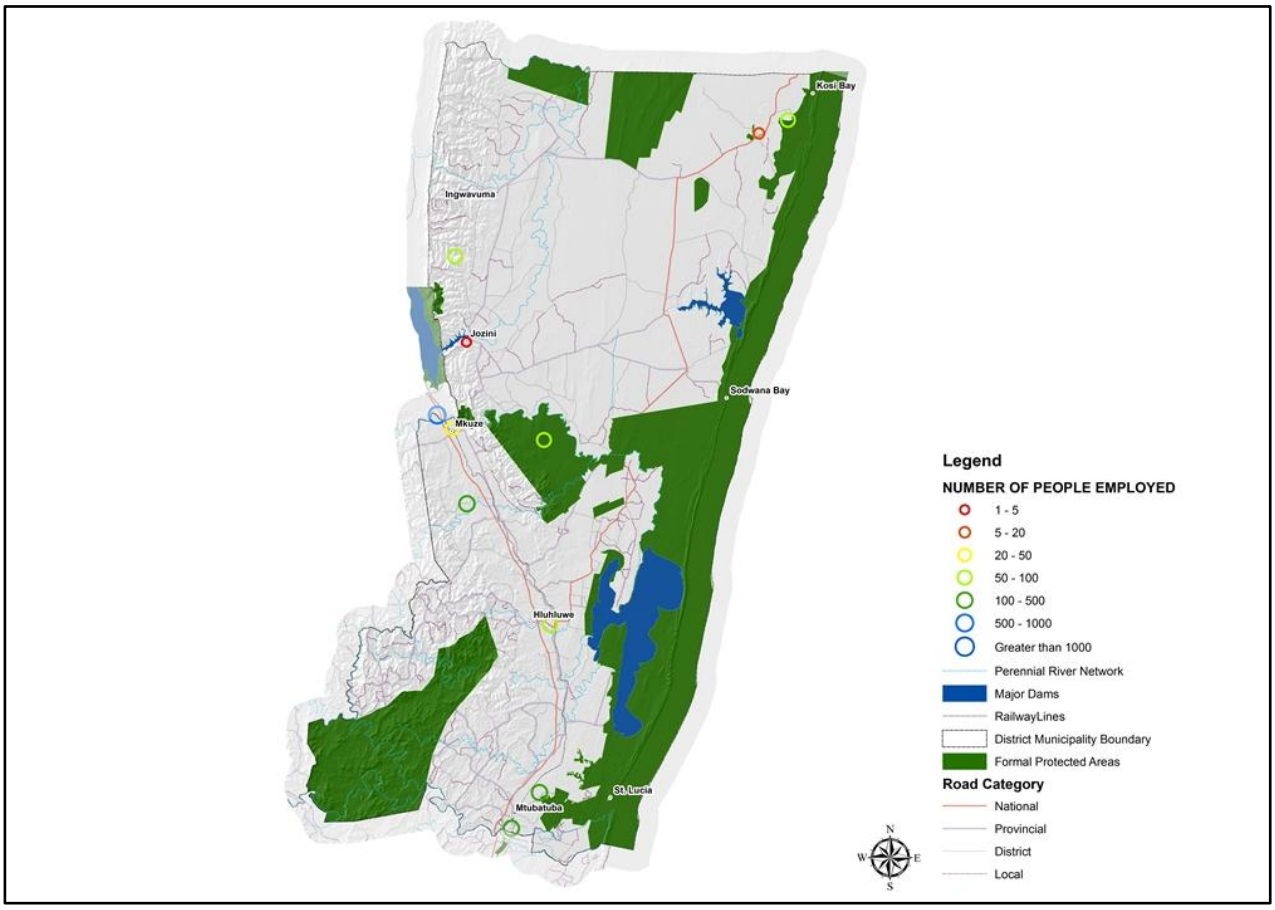
MAP 3.1: SPATIAL DISTRIBUTION OF SURVEYED COMPANIES BY ECONOMIC SECTORS



EMPLOYMENT

- The total number of people within the district is approximately 614 000 (Stats SA 2007 / IDP 2011-12)
- Employment in the district is low with only about 12.7% of the population in formal employment.
- More than 70% of the population lives on less than R 800 per month with 80% living below the poverty line.
- Sources of employment are: farming, trade, government, transport and tourism; however, employment is concentrated in the tertiary, services sector.
- The low level of agricultural and manufacturing employment indicates a low level of development and economic diversification.
- It should be noted, that from a demographic study undertaken as part of the Spatial Development Framework Review in 2009, the population trend in the district is a move from the deeper rural areas into the rural nodes (secondary and tertiary) and to the main towns. While this is to be expected, it is important to note that the demographic shift is not all outside the district with people going to the main cities such as Durban or the closer Richards Bay/Empangeni area; there is also a shift within Umkhanyakude as people choose to move, presumably to be able to access basic services and facilities and because of a greater possibility of employment.
- Considering a total estimated 2010 formal sector employment of 55 819 (Quantec 2010) people in the District, the 16 companies in the Umkhanyakude District that supplied the information on number of people employed (the sample), employs an estimated 2 106 people representing 3.8% of the formal employment of the District.

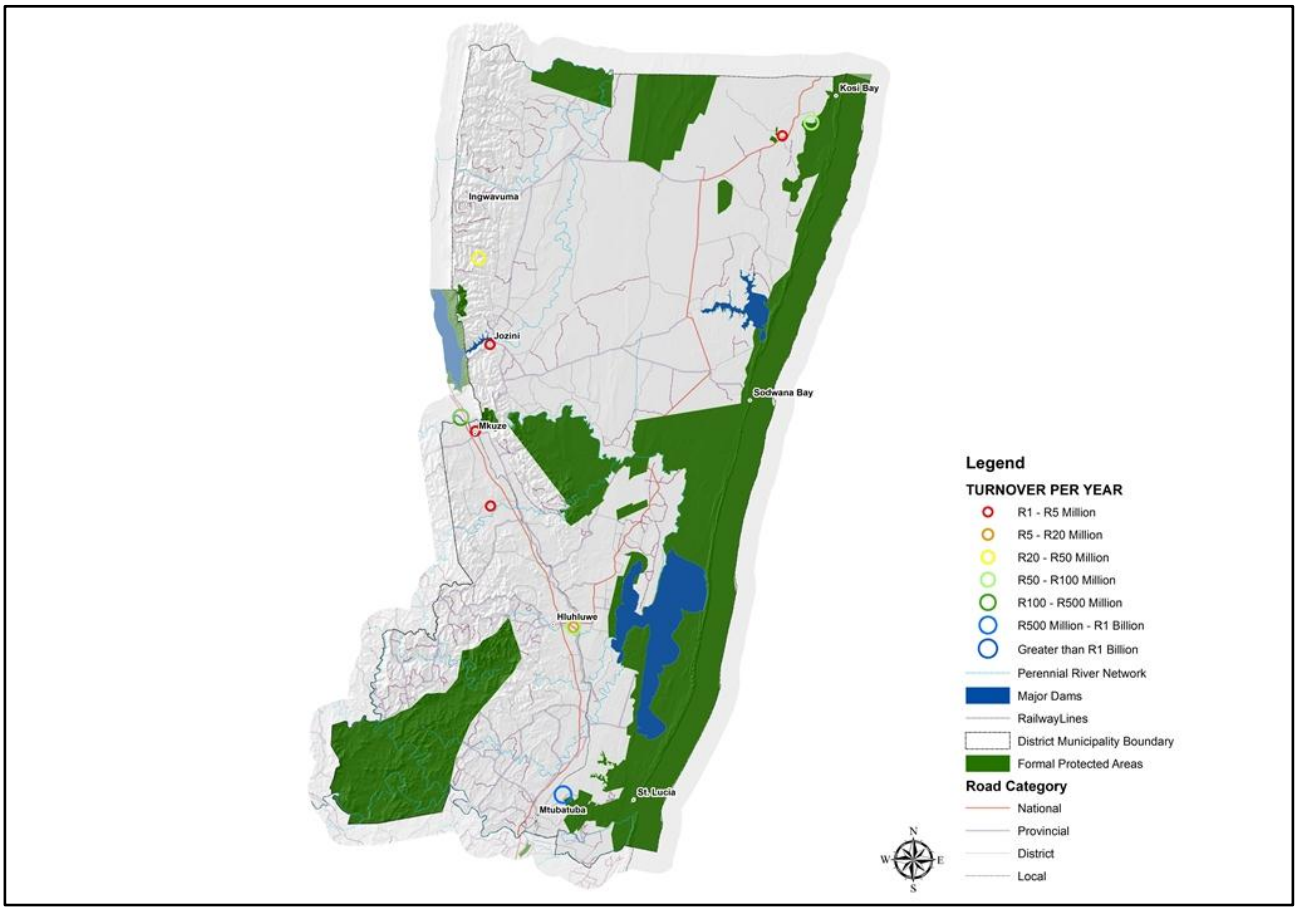
MAP 3.2: SPATIAL DISTRIBUTION OF SURVEYED COMPANIES BY NUMBER OF PEOPLE EMPLOYED



TURNOVER

- Those firms with a turnover of more than R100 million are related to commercial agriculture – the large Senekal Boerdery farming holdings and the Umfolozi Sugar Mill.
- The impact of the sugar industry on the District economy is confirmed through the turnover figures of the single sugar mill in the area and the singular contribution it makes to manufacturing in the district.
- On a provincial level the survey established that major retailers generally have a turnover of between R50 million and R100 million and employs between 50 and 100 people. Considering that most urban areas have a number of major retailers the wholesale and retail sector makes an important contribution to the District economy.
- 35% of the respondents did not reply to the question on turnover which formed the largest percentage of responses to the question.
- Of those that did provide information, 30% were in the R 1 – 5 million turnover category, with the next largest being in the R 50-100 million category comprising large-scale retailers in the district.

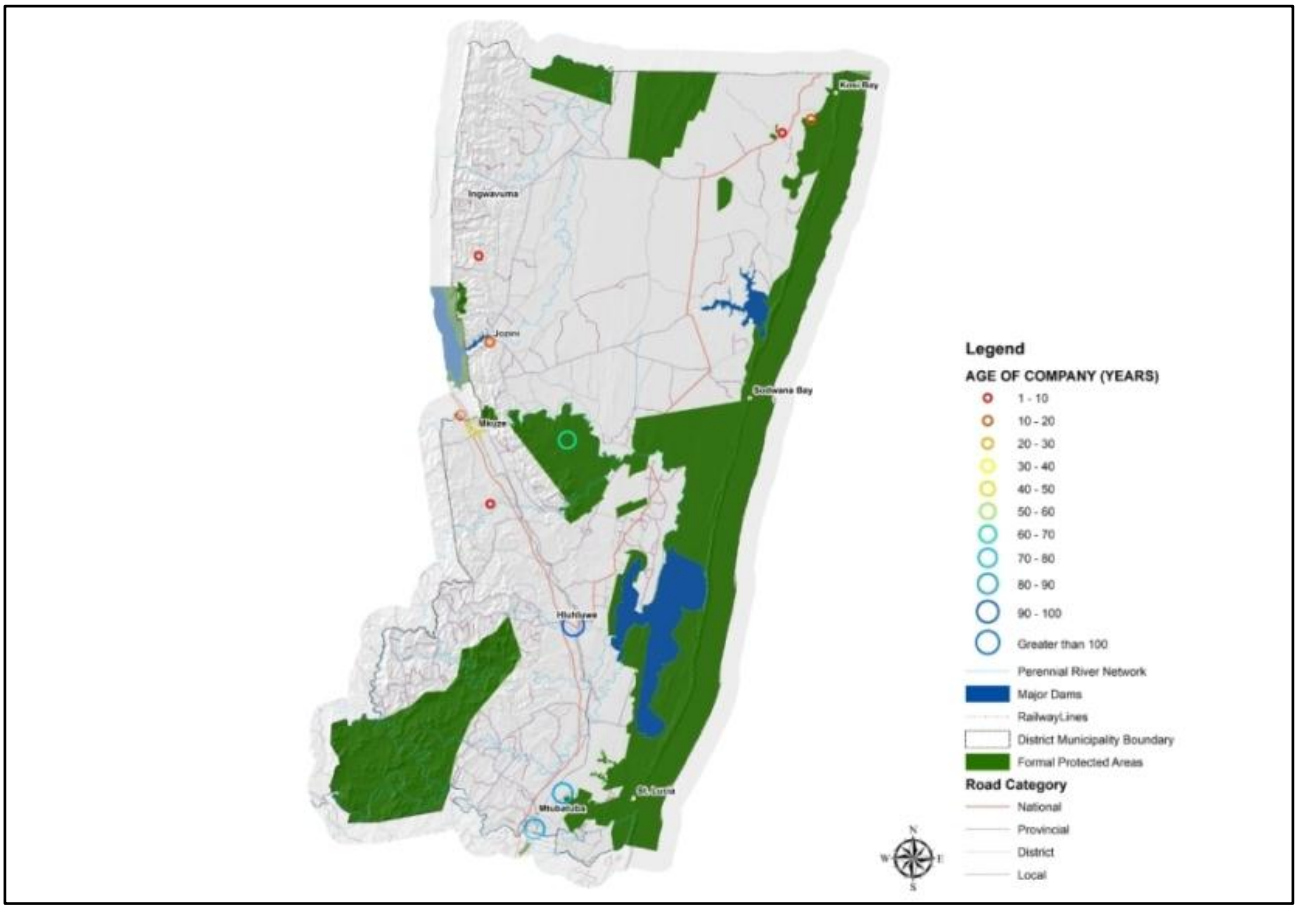
MAP 3.3: SPATIAL DISTRIBUTION OF SURVEYED COMPANIES BY TURNOVER PER YEAR



COMPANY AGE

- 5 out of the 17 companies did not respond to this question.
- Of the respondents, nearly 24% of the companies had been in operation for less than 10 years.
- Nearly 18% have a record of between 80 – 100 years in business.
- The next category is those businesses have been operating between 11 – 20 years.
- This suggests that there are a few companies who have managed to stay successful and keep going for decades; but the remainder are relatively new.

MAP 3.4: SPATIAL DISTRIBUTION OF SURVEYED COMPANIES BY AGE OF COMPANY (YEAR)

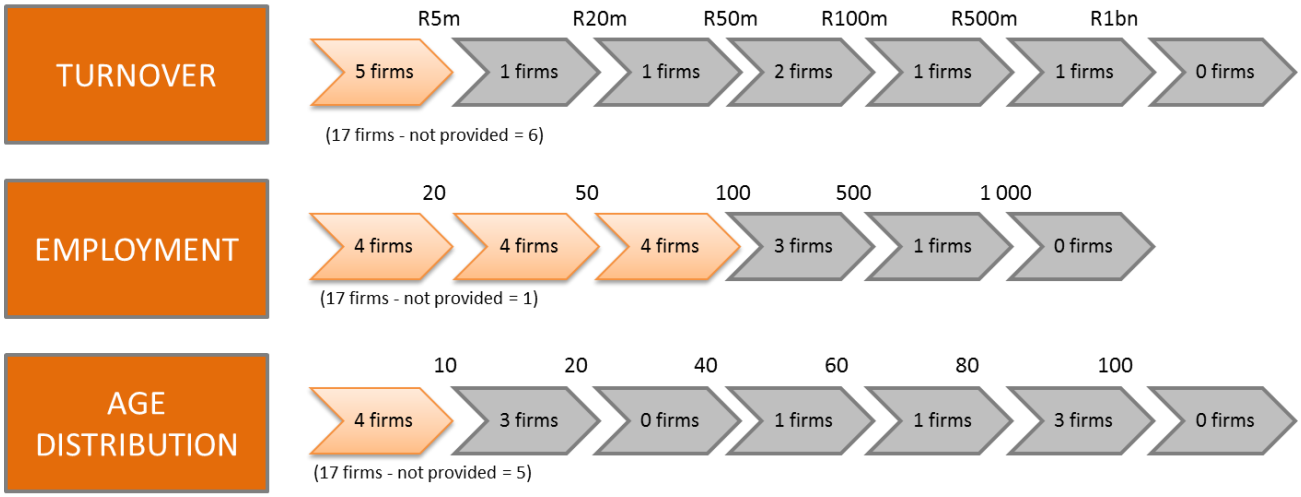


3.6. KEY CHARACTERISTICS OF INTERVIEWED COMPANIES

OBSERVATIONS:

- Major companies in Umkhanyakude supply a diverse range of products and services.
- Nearly 42% of the companies that provided annual turnover information fall within the under R50 million turnover category.
- The majority of major firms identified employ between 20 and 100 persons.

DIAGRAM 3.1: KEY CHARACTERISTICS OF INTERVIEWED COMPANIES



3.7. MAJOR COMPANIES SURVEYED

The table below lists the major companies in Umkhanyakude based primarily on number of people employed.

TABLE 3.3: MAJOR COMPANIES SURVEYED BASED ON NUMBER OF PEOPLE EMPLOYED

COMPANIES LISTED EMPLOY BETWEEN 1 000 AND 42 PEOPLE		
NO	**COMPANY**	**OVERVIEW**
1	Senekal Boerdery	The list of major employers relate to the agriculture, tourism / conservation and then the retail sector. Four of the 10 major employers are tourism / accommodation firms, the only KwaZulu-Natal District where this sector is dominant in terms of employment. Agriculture also features with major farms in the area employing in excess of a 1 000 people. The presence of retailers, the Kwangwanase Spar and Jock Morrison & Sons, suggest that this sector is a major employer in the District as each rural centre is home to multiple retailers serving the substantial rural population.
2	Zululand Rhino Reserve	
3	Umfolozi Sugar Mill	
4	Umfolozi Sugar Planters Ltd	
5	Spar Kwangwanase	
6	Jozini Tiger Lodge	
7	Jock Morrison & Sons	
8	Mkuze Game Reserve	
9	Ghost Mountain Inn	
10	Mjindi Farms	

3.8. UMKHANYAKUDE COMPANIES EXPORTING

PRODUCTS EXPORTED

Only one company indicated that it is exporting products – this is sugar and related products.

TABLE 3.4: UMKHANYAKUDE EXPORTS

DISTRICT	EXPORTERS	COMPANIES	% EXPORTERS
uMgungundlovu	21	63	33%
uMzinyathi	6	18	33%
uThukela	14	42	33%
Zululand	7	23	30%
uThungulu	11	38	29%
iLembe	13	45	20%
Amajuba	11	41	27%
eThekwini	29	119	24%
Ugu	4	48	8%
uMkhanyakude	1	17	6%
Sisonke	1	20	5%
KZN Province	**118**	**474**	**25%**

3.9. INFRASTRUCTURE CHALLENGES

UTILITY CHALLENGES

Including water, electricity, sanitation.

- 12 of 17 companies interviewed indicated that they are experiencing challenges with utility services
- Refuse removal and recycling is another service / utility that a number of firms mentioned as a challenge, particularly those involved in the tourism industry who would like to participate in recycling initiatives. With the area being largely rural, even refuse removal in the small towns is a problem. There are not the economies of scale to institute recycling. However, an extensive assessment was done with recommendations on waste removal, disposal and recycling for the District in 2004.
- Clearly, water supply challenges are the most frequently mentioned problems.

See utility challenges table overleaf.

TABLE 3.5: UTILITY CHALLENGES

UTILITY CHALLENGE	MENTIONS	%
Water supply	4	33%
Electricity	2	17%
Electricity erratic	2	17%
Solid waste removal	2	17%
Electricity connection delays	1	8%
Water	1	8%
TOTAL	**12**	**100%**

TRANSPORT CHALLENGES

Only 2 out of 17 companies mentioned transport challenges, suggesting that this is not a significant problem in Umkhanyakude.

The transport challenges mentioned related to:

- Fuel / transport costs.
- Road Maintenance.
- The issue of road access is a major one in the district, with relatively few surfaced roads, and even those are in a state of disrepair, or experience long periods of poor maintenance.
- Although the area is served by rail along the N2, some respondents indicated that they would like to have the option of rail transport. However, it is considered to be unreliable at the present time.

TABLE 3.6: TRANSPORT CHALLENGES

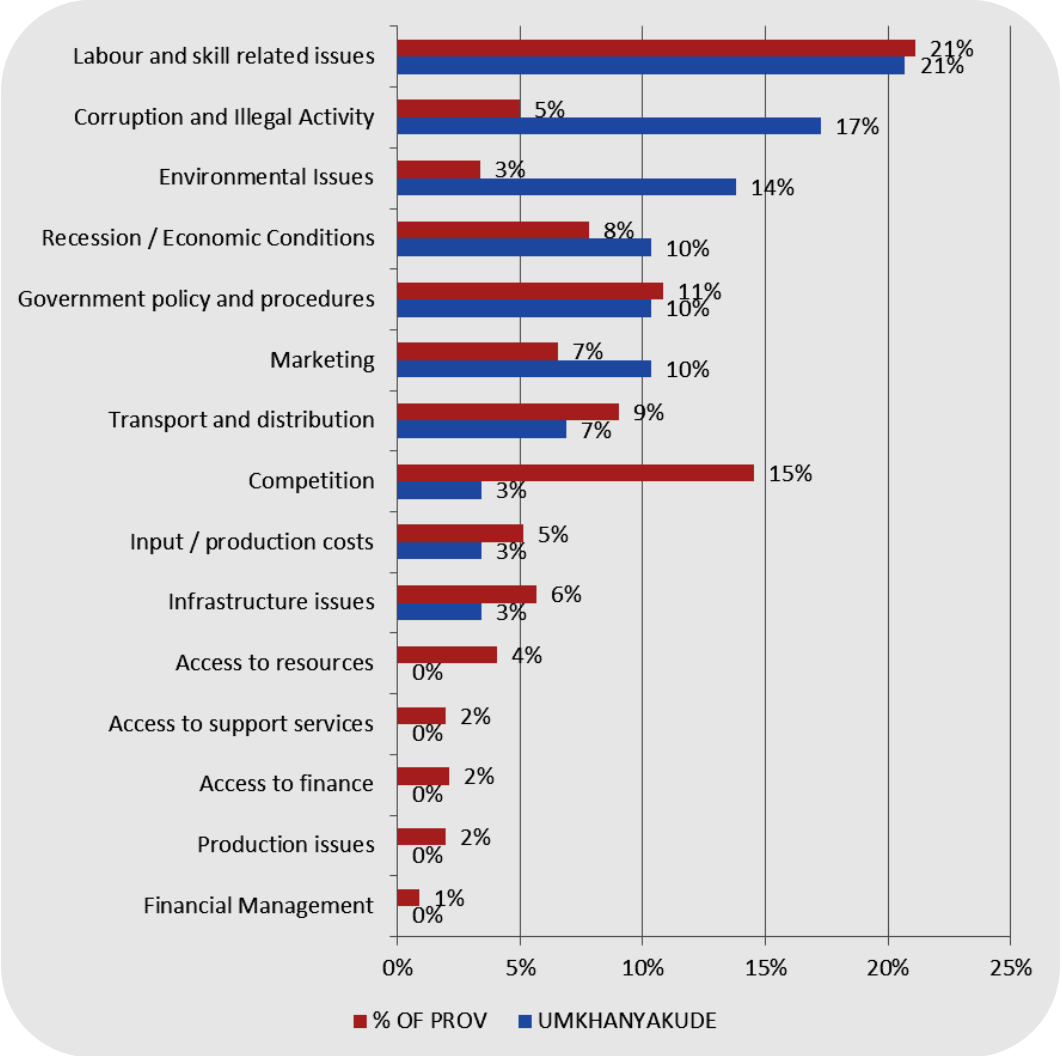
TRANSPORT CHALLENGES	MENTIONS	%
Road maintenance	1	50%
Rail unreliable	1	50%
TOTAL	**2**	**100%**

3.10. OTHER CHALLENGES

Other challenges that emerged out of the interviews were:

- Issues concerning labour and the availability of skills; one of the factors that contribute to the lack of skilled labour is the difficulty in retaining professional and skilled people in an area which is seen as relatively remote with limited services, particularly good schools and other social facilities. Many of the professional civil servants who work in the area do not consider it their home, but only stay for the working week and go to their homes elsewhere in the Province on the weekends.
- It is of concern that so many respondents mentioned corruption and illegal activity as being a factor.
- The high profile of the natural environment and the dependency of the major tourism sector on this environment place environmental issues high on the list of concerns.
- The recession, economic conditions and government policy and procedures all contribute to challenges in the district, as they do across KZN.

DIAGRAM 3.2: OTHER CHALLENGES



3.11. INTERVIEWEE COMMENTS

Some of the general observations made by respondents regarding the District economy included:

- Most respondents had problems with infrastructure and utilities.
- The poor skills base puts a brake on economic growth, with difficulty in attracting and retaining the kind of skills needed to help drive economic growth.
- There is unrealised potential in irrigated agriculture on the Makathini Flats.
- There is also underutilised potential in the game farming industry with venison and other game products.
- Development needs to take place around Hluhluwe to ensure future sustainable growth.
- The district economy is poor with relatively low diversity: farming, hunting and tourism are the main drivers of the economy, with farming or agriculture operating well below its potential.
- Linked to the above comment was one which stated that the town of Mkuze does not have the potential to expand if the agricultural sector does not expand. Money made in the agricultural sector would create more jobs and this would increase local income circulation. There is "huge potential on the Senekal farm and the Myeni tribal land which could potentially employ another 2000+ people in Mkuze directly".
- While this is not directly from interviewee's comments, the comment above concerning Mkuze could be repeated for Hluhluwe in terms of agricultural development, including looking at agricultural possibilities in the Makhasa / Mnqobokazi / Nibela areas. As mentioned throughout the report, the unrealised agricultural potential of the Makathini Flats could greatly increase local income circulation in the Jozini, Mbazwana, Bambanana, Mseleni and the Ubombo centres.
- A large number of people are subsistence farmers and find the current increases in basic foods and fuel very difficult to survive.
- There was criticism of the municipality in not being sufficiently effective in addressing infrastructure problems to help uplift the communities in the district.

3.12. A PERSPECTIVE OF ECONOMIC DRIVERS BASED ON COMPANY SURVEY

Based on the Quantec figures, and through the identification of major companies in the Umkhanyakude District, it is evident that the major sector driving the District economy is the government, wholesale and retail and manufacturing sectors. Tourism fulfils an important role in the local economy as part of the wholesale and retail and accommodation sector.

On the basis of the findings of this project, the following sectors have been identified as being the key economic drivers in the Umkhanyakude District. Following the categorisation of companies provided by McCarthy in the introduction to the provincial report on this project the following is noted:

- Older more established companies with a sizeable number of employees and annual turnover in the Umkhanyakude context. These companies are located in the following sectors:

- Agriculture:
  - Farming relating to various agricultural commodities
- Manufacturing :
  - Processing of agricultural products
- Tourism:
  - Established large scale tourism facilities
  - Many smaller tourism and accommodation facilities

- The newer smaller perhaps more dynamic companies creating a 'churn' effect in the district (i.e. having an impact) include those located in the following sectors:

  - Services:
    - Government
  - Trade:
    - Wholesale and retail
    - Tourism and hospitality

It is noted by McCarthy that companies in these sectors are important for the future economic growth of the economy of Umkhanyakude in that they are often recent entrants into the market outside of the 'traditional box'. In a sense they are therefore 'testing the economic waters' and if they succeed will be the forerunners of a range of new sectors in the district.

4. A MUNICIPAL CAPITAL INVESTMENT PERSPECTIVE

4.1. INTRODUCTION

In order to consider District drivers from the perspective of municipalities a questionnaire was issued to each municipality. The information gathered through these interviews and presented in this section includes:

- A Project Based Perspective
  - Historic and Current Projects
  - Future Projects
- Municipality Identified Challenges
- Addressing the Challenges
- A Public Sector Investment Perspective

4.2. CAPITAL INVESTMENT IN THE DISTRICT

For this initiative the focus was on identifying major (focus on R20m plus) capital investment projects in the District falling in the following categories:

- New nodes / developments: including tourism, commercial and industrial nodes.
- Bulk infrastructure supporting economic development: including bulk infrastructure (excluding reticulation) for water and electricity and other infrastructure related to solid waste.
- Link and major access infrastructure supporting economic development including roads, airports and taxi ranks amongst others.
- Facilities supporting economic development including sport stadiums, markets, trading centres and the like.

TABLE 4.1: HISTORIC, CURRENT AND FUTURE CAPITAL INVESTMENTS IN DISTRICT ECONOMIC DEVELOPMENT

LOCAL MUNICIPALITY	SECTOR	PROJECT NAME	PROJECT STATUS	FUNDING SOURCE(S)	BUDGET
Big Five False Bay	Bulk infrastructure	New bulk line in ward 1 (Makhasa, Mnaqobokazi and Nibela)	no info	0	no info
Big Five False Bay	Bulk infrastructure	R22 Lubombo Spatial Development	no info	0	no info
Big Five False Bay	Facilities supporting econ. dev.	Agritourism	no info	0	no info
Jozini	Tourism Node	Jozini Tiger Lodge	Historic	Private Sector	R80,000,000
0	Bulk infrastructure	Lebombo Rail Corridor	Current-assumed	IDC & Dep. of Environmental Affairs	R100,000
0	Facilities supporting econ. dev.	Funjwa Lodge/Mabaso Game Reserve	Current-assumed	Department of Environmental Affairs	R4,800,000
Hlabisa	Facilities supporting econ. dev.	Hluhluwe-Umfolozi Park Community Development	Current-assumed	Department of Environmental Affairs	R8,500,000
Umhlabuyalingana	Facilities supporting econ. dev.	Tshaneni Regional Airport Development	Current-assumed	Department of Environmental Affairs	R10,000,000
Umhlabuyalingana	Facilities supporting econ. dev.	Usuthu-Tembe Transfrontier Conservation Area Development	Current-assumed	Department of Environmental Affairs	R20,000,000
Jozini	Facilities supporting econ. dev.	Jozini Value Adding Centre	Current	Cogta (Corridor Fund)	R10,000,000
Jozini	Facilities supporting econ. dev.	Makhathini Fresh Produce Market (same project as Jozini Value Adding Centre)	Current	0	R24,000,000
Mtubatuba	Facilities supporting econ. dev.	Mtuba Tourism Facility Upgrading	Current	Cogta (Corridor Fund)	R9,000,000
Mtubatuba	Facilities supporting econ. dev.	Dukuduku Forest Initiatives	Current	Cogta	no info
	Tourism Node	Isimangoliso Wetland Park - Various lodge and business opportunities	Current / Future		no info
Jozini	Facilities supporting econ. dev.	Makhathini Sugar Cane Mill	Future		no info
Umhlabuyalingana	Facilities supporting econ. dev.	Mbangweni Corridor Development	Future		no info
Jozini	Tourism Node	Various Water Based PPPs on Pongolapoort Dam	Future		no info

4.3. MUNICIPALITY IDENTIFIED CHALLENGES

ECONOMIC DEVELOPMENT CHALLENGES IDENTIFIED BY MUNICIPAL SECTOR

- The LED practitioners interviewed in Umkhanyakude confirmed that the lack of appropriate infrastructure to support economic development was a major challenge. On a provincial level this challenge received the most mentions.
- Land issues were considered to be a problem particularly in relation to land claims (restitution).
- Current high levels of unemployment is one of the major challenges for economic development in this District.
- This problem is exacerbated by low education and skills levels.

TABLE 4.2: MUNICIPALITY IDENTIFIED CHALLENGES

CATEGORIES OF CHALLENGES	UMKHANYAKUDE		KWAZULU-NATAL	
	NO OF RESPONSE	% OF RESPONSES	NO OF RESPONSE	% OF KZN RESPONSES
INFRASTRUCTURE	3	30%	35	22%
LAND ISSUES	3	30%	17	11%
INSTITUTIONAL/ COMMUNICATION	1	10%	11	7%
EDUCATION	1	10%	8	5%
IMPLEMENTATION OF LED STRATEGY/ PLANS	1	10%	22	14%
UNEMPLOYMENT	1	10%	16	10%
SKILLS MIGRATION		0%	15	10%
PLANNING		0%	5	3%
OTHER		0%	11	7%
RATES AND SERVICES AVAILABILITY AND COST		0%	9	6%
LEGISLATION		0%	1	1%
HEALTH		0%	2	1%
RECESSION		0%	5	3%
TOTAL	**10**	**100%**	**157**	**100%**

4.4. ADDRESSING THE CHALLENGES

MUNICIPAL REQUIREMENTS FOR ADDRESSING THE CHALLENGES

In the responses as to how the challenges can be addressed the majority of respondents suggested that the establishment of relevant infrastructure, and support with the pro-active implementation and accessing funding for local economic development, are required. Of particular concern in Umkhanyakude is resolving various land and infrastructure issues which are seen to be holding back economic development in the district.

TABLE 4.3: ADDRESSING THE CHALLENGES

REQUIREMENTS FOR ADDRESSING THE CHALLENGES	UMKHANYAKUDE		KWAZULU-NATAL	
	NO OF RESPONSE	% OF RESPONSES	NO OF RESPONSE	% OF RESPONSES
Infrastructure/Utilities Required and Funding	3	30%	33	24%
Land Issues	3	30%	10	7%
Economic Opportunities	2	20%	7	5%
Institutional	1	10%	15	11%
Policy Support	1	10%	11	8%
LED and LED Funding		0%	33	24%
Capacity Building & Skills Development		0%	9	7%
Planning		0%	8	6%
Cost Of Services: Municipal Incentives		0%	5	4%
Communications, Coordination & Consultation		0%	6	4%
TOTAL	**10**	**100%**	**137**	**100%**

4.5. A PUBLIC SECTOR INVESTMENT PERSPECTIVE

For public sector investment, based on the comments and input from the interviews, the following needs to be considered:

- Increased investment in infrastructure: another surfaced link road running west-east connecting the Jozini – Bambanana road with the Mbazwana – Pelindaba road; improved rail link and rail service; more reliable water supplies; a practical waste disposal and recycling system.
- Investment in the Makathini Flats – this is a current initiative, which needs to be encouraged in order to increase agricultural production, provide employment and enhance food security. It also has the potential to provide sustainable agri-processing opportunities.
- The need to find a balance between investment in infrastructure and maintaining the integrity of the natural resource base, particularly in the buffer areas adjacent to the proclaimed parks.
- Resolving land rights issues, particularly in the urban nodes, so that the municipalities can begin to implement a rates base and generate much needed income. This formalisation of towns is a current initiative in places such as Jozini, KwaNgwanase and Mbazwana.

5. A NATURAL RESOURCES OVERVIEW

5.1. INTRODUCTION

There exists a strategic link between the state of the District's natural capital, its ability to deliver ecoservices and the extent to which this provides resilience to the economy and/or makes it vulnerable. The interviews with major companies in the district confirmed that certain of the companies sampled (economic drivers) were ignorant of this strategic link and that they are operating under the assumption that the natural resources upon which they depend, either directly or indirectly, are infinitely available. Also, it needs to be highlighted that many economic drivers are ignorant of the societal costs caused by the generation of environmental externalities for which they are not taking responsibility for. In addition to this, there are also opportunity costs as a result of lost opportunities, e.g. decline in the viability of the Pongola fisheries due to inconsistent flooding regime (29 below). Similarly the fisheries potential of the Kosi lakes system is under threat due to over – fishing from 'gill netting'.

With the above as background this section:

- Considers the quality of ecosystem goods and services in the District;
- Provides an overview of ecosystem resources (including allocating a value to the ecosystem resources);
- Illustrates the ecosystem resource linkages between this District and other Districts in KwaZulu-Natal; and
- Highlighting the range of economic opportunities and constraints emanating from the future utilisation of ecosystem resources.

5.2. CONDITION OF NATURAL CAPITAL AND THE QUALITY OF ECOSYSTEM SERVICES

The condition of natural capital in the Umkhanyakude District is reported on here with the aid of a number of tables and maps. The first of the tables presents a breakdown of the biodiversity value in real monetary terms in relation to the proportional contribution to the Provincial value and the surface area covered by the District. Thereafter summary tables showing the ecoservice and the land cover values are presented. These are followed by maps which illustrate this spatially with land cover being followed by the distribution of ecoservice score allocations.

Ezemvelo KZN Wildlife completed an exercise, reported on in detail in the Provincial report, which used the values derived for the ecoservices produced and delivered from a variety of natural habitat types in the Province (EKZNW, 2011). The outputs of this exercise were then used to extract the value for each of the Districts and these are presented in table format below (see table 5.1). This value for Umkhanyakude equates to 32.02% of the total value for the Province which must be considered in the context of the District making up 14.69% of the Province's surface area. It must be noted that these figures provide an indicative value for the District having been derived from figures at a Provincial scale. Any assumptions and related errors made at the Provincial scale are therefore somewhat greater at the District level. A more refined exercise would need to be done for each District in order to provide a more accurate picture. However, the fact that the value of natural capital is more than twice that of the proportional extent of the District is a very significant feature which implies that the basis for the economy of the district is stable and that there may be room for growth.

TABLE 5.1: THE REAL VALUE OF NATURAL CAPITAL PER SPECIFIC HABITAT TYPES IN THE UMKHANYAKUDE DISTRICT

HABITAT TYPE	ECOSERVICE VALUE
Coastal and dune vegetation	R 363 845 963
Coastal grassland and thickets	R 868 175 157
Estuaries and mangroves	R 8 801 667 400
Forests	R 692 958 101
Grasslands	R 23 177 316
Nearshore environments and reefs	R 754 986 393
Riparian and floodplain veg and swamp forests	R 8 216 894 713
Sand forests	R 308 409 844
Sandy beach, rocky shores and surf zone	R 84 947 379
Savannas	R 4 170 554 501
Wetlands	R 22 551 318 022
Rivers	R 1 086 786 107
TOTAL	**R 47 923 720 902**

Source: Ezemvelo KZN Wildlife

In addition to the information provided above, this discussion is supported by the two tables provided below and which illustrate the quantitative distribution of ecoservice score categories and land cover types respectively. The two maps that follow provide a spatial illustration of these values and features. These rand values for ecoservices are illustrative of the value that is being contributed to the district economy and more importantly what it would cost the economy of this and downstream municipalities if the natural capital of this area were to be further transformed.

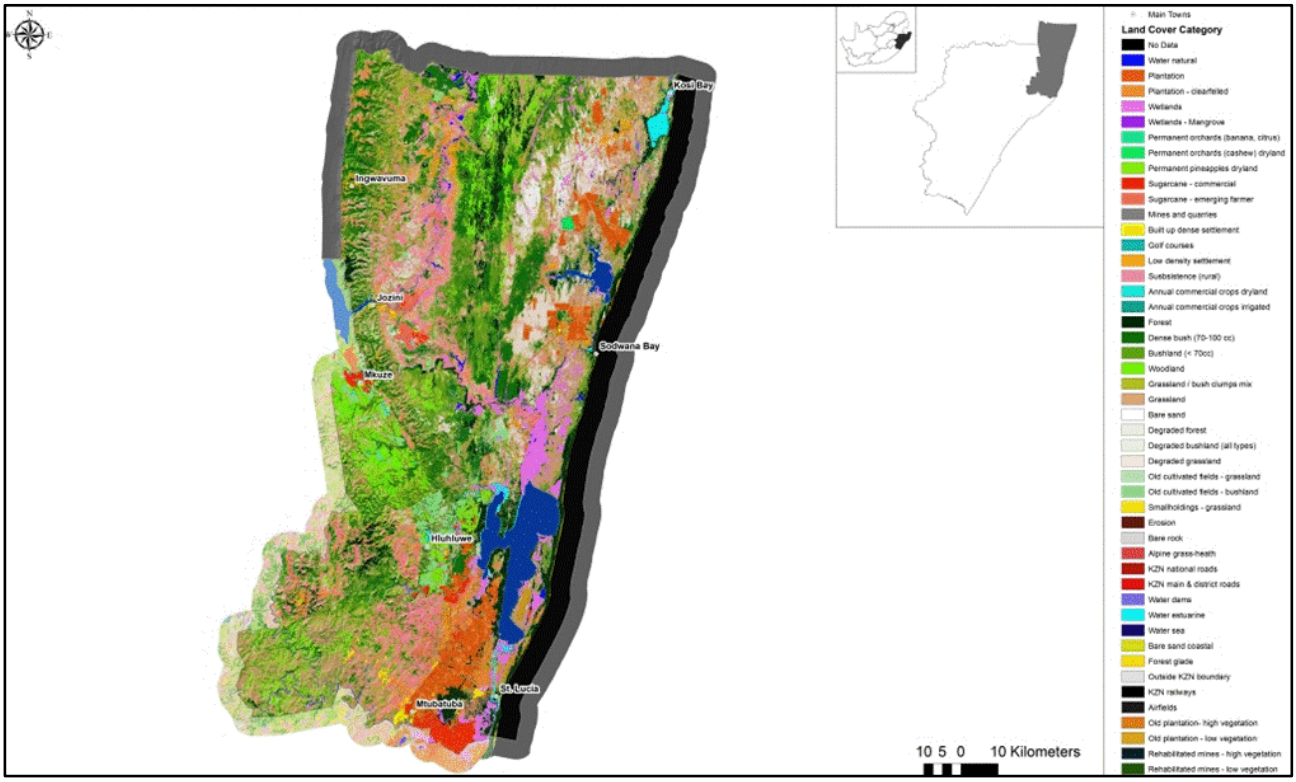
TABLE 5.2: THE PROPORTIONAL SPREAD OF ECOSERVICE SCORE CATEGORIES ACROSS UMKHANYAKUDE IN HECTARES AND PERCENTAGES

Extent of cover	ECOSERVICE CATEGORY SCORES									
	-3	-2	-1.5	-1	-0.5	0	1	1.5	2	3
Hectares	382	44952	16937	50	47627	103193	379367	192199	601437	0
%	0.03%	3.24%	1.22%	0.00%	3.44%	7.44%	27.37%	13.87%	43.39%	0.00%

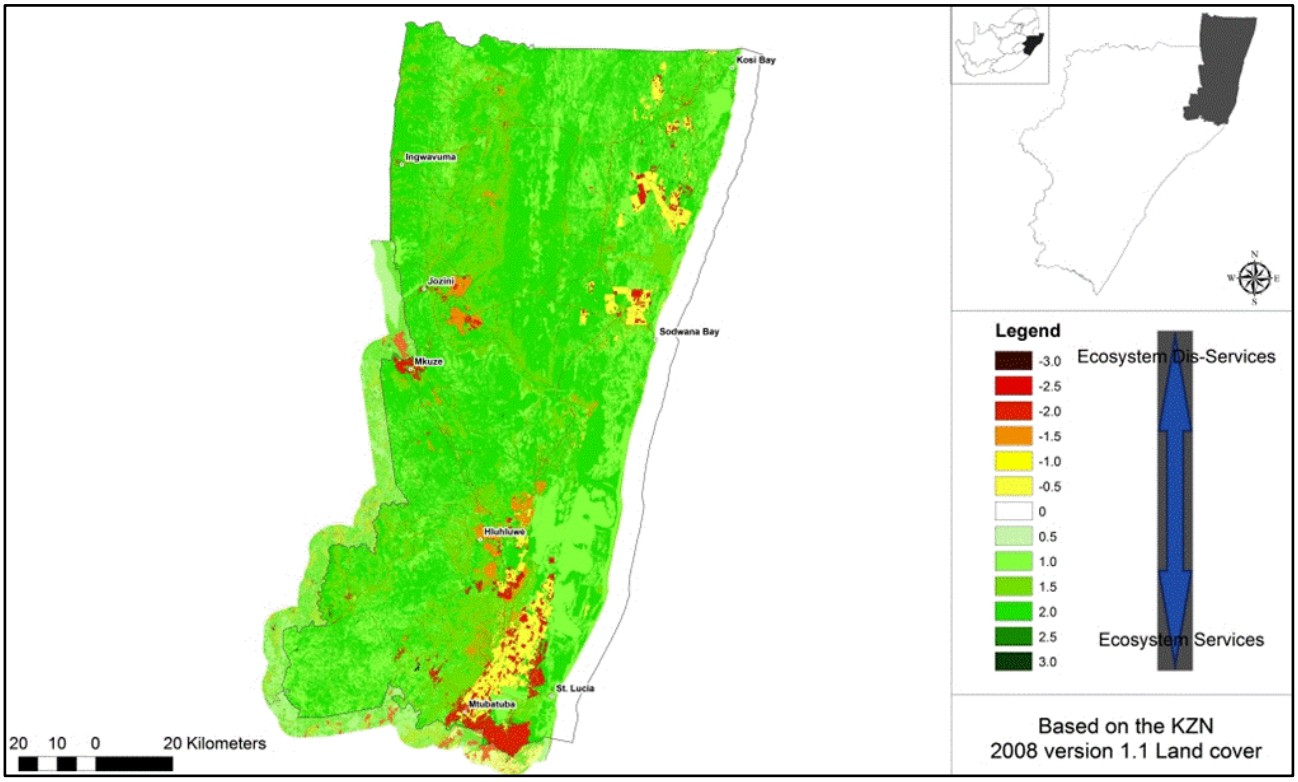
TABLE 5.3: THE PROPORTIONATE SPREAD OF BROAD LAND COVER TYPES THROUGH THE UMKHANYAKUDE DISTRICT EXPRESSED AS A PERCENTAGE OF TOTAL AREA

LAND COVER CATEGORY	% COVER
Natural - freshwater	5.33%
Natural - marine	2.99%
Natural terrestrial	58.28%
Natural terrestrial degraded	10.16%
Agriculture - active including commercial and subsistence	16.88%
Agriculture - fallow including commercial and subsistence	2.11%
Mining	0.02%
Settlement (including recreation and infrastructure)	4.23%

MAP 5.1: UMKHANYAKUDE DISTRICT LAND COVER



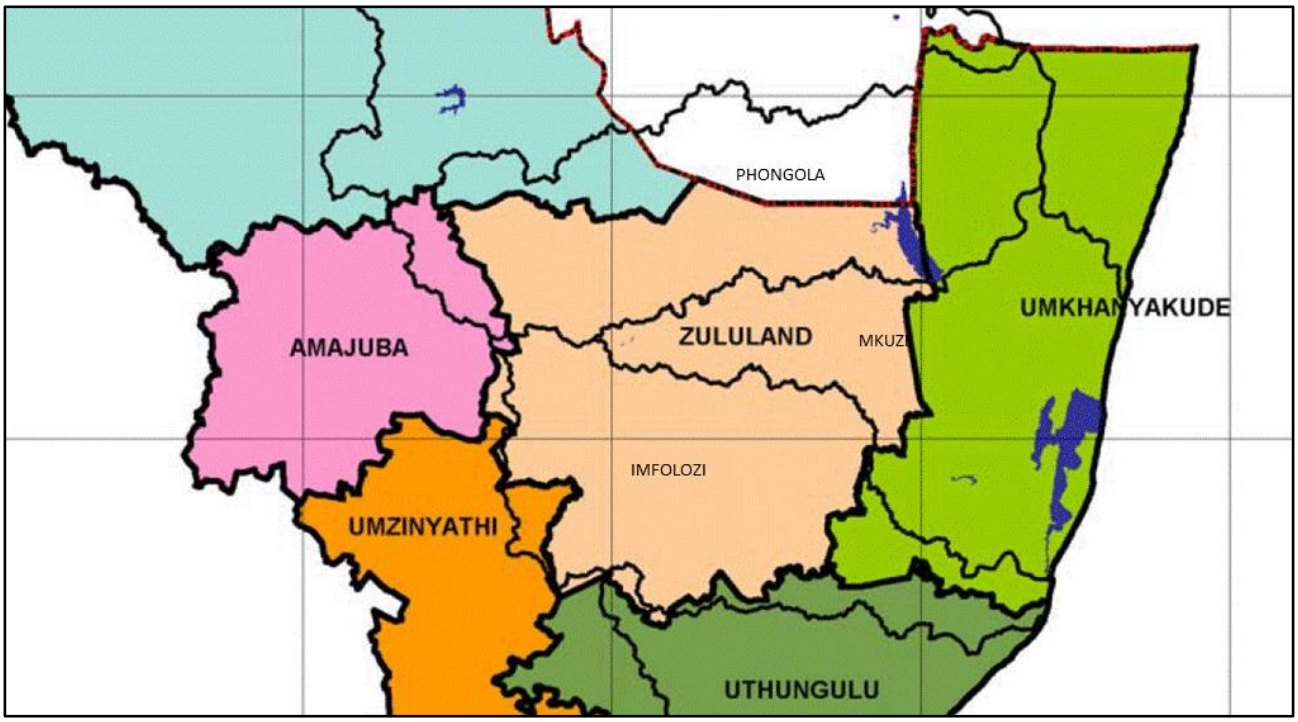
MAP 5.2: UMKHANYAKUDE DISTRICT POTENTIAL TO DELIVER ECOSYSTEM GOODS AND SERVICES



The relationship between those portions of the District that have land cover associated with positive ecoservice scores and those in the negative is 85% to 15% which is the second highest ratio in the Province. However, with closer scrutiny the spread of land proportions on the positive side of the scale are tending strongly to the lower side. The District has no land with the optimum potential to deliver ecoservices, even though it abounds with protected areas. Furthermore Umkhanyakude has the lowest proportion of land in the Province with a +2 ecoservice score allocation. It also has the greatest proportion of land with score allocations of +1.5 and +1 which supports the observation that loss of natural capital integrity is the trend.

It may be argued that with one World Heritage Site and five Wetlands of International Significance, this District has a strong natural capital base which gives great resilience and economic opportunities. However it is important to note that the District receives its ecoservices and dis-services from the neighbouring Zululand District with three major river systems draining from the latter and through uMkhanyakude into the Indian Ocean (see map 5.3). These systems are the Pongola, Mkuze and Mfolozi Rivers and they are all in highly compromised conditions. Of these three, the Pongola is the only one that has a positive water balance, i.e. where supply exceeds demand, although the figures provided to illustrate this are from the Usutu to Mhlathuze Water Management Area Internal Strategic Perspective (DWAF, 2004)

MAP 5.3: A MAP ILLUSTRATING THE PHONGOLA, MKUZE AND IMFOLOZI CATCHMENTS THAT DRAIN THE ZULULAND DISTRICT (PINK) AND FLOW INTO AND THROUGH THE UMKHANYAKUDE DISTRICT (BRIGHT GREEN)



Source: DWAF, 2004

Table 5.4Table 5.4: is also extracts from the DWAF (2004) report which shows that the Pongola system is in a relatively good condition if one considers the water balance alone which shows an excess of 102 million m3/annum out of a total of 654 million m3/annum. What needs to be considered however is the impact of the Pongolapoort Dam on the integrity of the system as it flows into the Pongola Floodplain and the Ndumo wetland system. Although detailed studies have determined the ecological requirements for flood releases in order to sustain natural capital and the ecoservices that underpin the subsistence livelihoods of the local

people, these regimes have not been followed. Flood releases are determined now by the virtue of crop selection and growing seasons and, together with other socio-economic dynamics, this has caused a significant deterioration in the quality of the natural capital and a decline in the system's ability to deliver ecoservices (Lankford et al, 2010).

TABLE 5.4: WATER BALANCE FIGURES FOR THE PHONGOLA, MKUZE AND IMFOLOZI RIVER SYSTEMS

Yield and Abstractions in m3/annum		River System		
		Pongola	Mkuze	iMfolozi
Available Water	Local yield	645	33	51
	Transfer in	0	33	0
	Total	645	66	51
Water requirements	Local requirements	255	78	80
	Transfer out	38	0	18
	Flood plain releases	250		
	Total	543	78	98
Balance		102	-12	-47

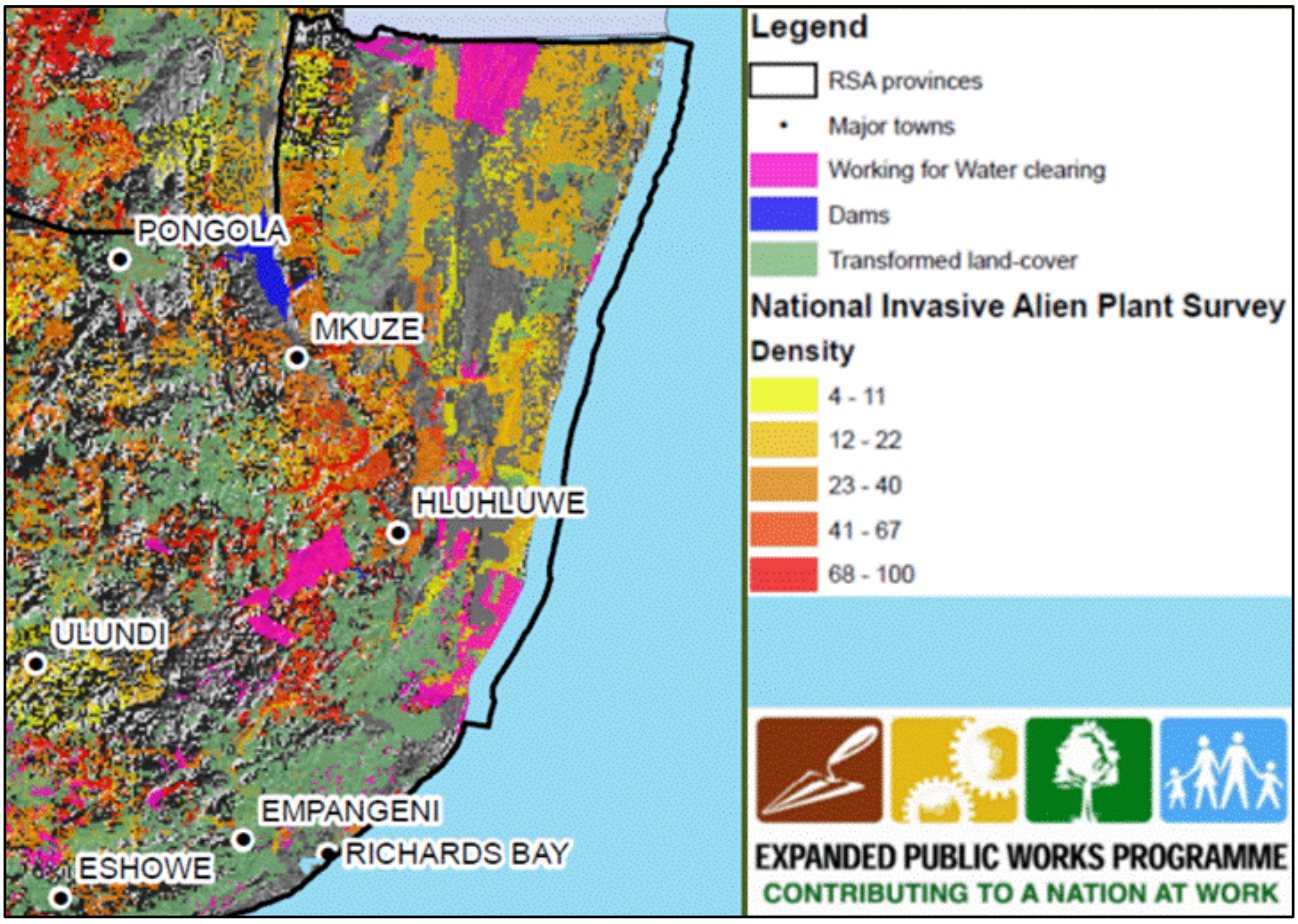
Source: DWAF, 2004

What the above table also shows is that the Mkuze and iMfolozi catchments are stressed in that they have a negative water balance. This implies that there are therefore significant natural capital constraints on the economy of these two areas within the District, and that it would be in the interest of the District to engage with DWA and upstream land and water users to turn this situation around. The possibilities exist that if alternative economic activities such as nature and culture-based tourism are maintained and even grown, increased income from these could be used to incentivise more sustainable land and water use upstream of these operations.

A very real illustration of the value of well managed natural capital is in the Hluhluwe Dam that is within the Hluhluwe/iMfolozi Game Reserve and which has the lowest sediment load of any dam in the country. This is as a direct result of the fact that much of the river above the dam flows through this protected area. The diminished levels of ecoservices emanating from the subsistence land use outside of the protected area are then absorbed by the intact natural capital in the protected area. At this point in time it is estimated that dredging costs are approximately R5 to R10/m^3 of silt, and if a comparison is made with similar impoundments elsewhere in the country, it will be possible to calculate the value of the saving that is being made. The relevance of this saving must also be seen in the light of the demand that is placed on this system through the concentration of commercial agricultural activities that exist below the dam and Lake St Lucia.

An added constraint that is related to the condition of natural capital in the District has to do with the spread of alien invasive plants as illustrated in map 5.4 below. Although the level of infestations is moderate, the extent is wide spread. Some of the alien invasive plant species that are part of these infestations are particularly vigorous in their ability to spread and the District needs to be active in efforts to eradicate these plants and win back valuable natural capital. Importantly this offers opportunities for employment as can be seen by the pink shaded areas which illustrate portions where alien plant clearing efforts have and are already in place.

MAP 5.4: AN EXTRACT FROM THE NATIONAL MAP ILLUSTRATING THE SPREAD OF ALIEN INVASIVE PLANTS, TRANSFORMED LAND COVER, AND AREAS WHERE JOBS HAVE BEEN CREATED



5.3. ECOSYSTEM RESOURCE LINKAGES

Much of the discussion above has covered the relevance of the ecosystem linkages relative to this District and its neighbours, as well as providing illustrations and figures to support the discussion. However much can still be and has been written on this topic, especially with regards to the vulnerability of the natural capital on the coast. As an example, Lake St Lucia and the Isimangaliso Wetland Park are valuable resources for the District and it is absolutely critical that the integrity of these systems be restored and maintained. A study was commissioned by the Isimangaliso Wetland Park to look towards reinstating the flow of the iMfolozi River back into the St Lucia system as this was previously manipulated into a canalised system. It is recommended that the District follow this up with the Isimangaliso Wetland Park Management Authority to assess the progress that has been made as currently significant amounts of money are being spent to artificially manage the system through dredging and mechanically opening the mouth, whereas if the iMfolozi system was reinstated, it is possible that this function would be provided naturally.

Together with the fact that this District is at the mercy of the land use decisions taken in the neighbouring Districts, it has links with Mozambique and Swaziland, with the former linkage being the most significant. International agreements are in place to ensure that a minimum amount of water is maintained in the Pongola and Usutu River systems as these flow through Mozambique and Swaziland respectively.

Umkhanyakude is in a position to be influenced by and to influence the ability of the Pongola River to deliver as per the international agreement. This international linkage is listed here as it illustrates the importance of the ecosystem linkages that literally flow through the District. It is important that these are noted and that they are factored into planning to sustain and possible grow the economy.

The fact that the District can boast the presence of a World Heritage Site and five wetlands of international significance, i.e. Lake St Lucia, Turtle Beaches/Coral Reefs of Tongaland, Lake Sibaya, Kosi Bay and Ndumo; as well as the Pongola River Floodplain with its associated wetlands and pans; makes this District a significant tourism destination. Each of these features are vulnerable to the ramifications of land use adjacent to and beyond their borders. These dynamics need to be well understood and managed to ensure that their negative impact on these features is brought under control and that the economic benefits they bring to the District are not compromised. The dynamics alluded to here have been discussed above, namely the negative water balance and the impact of impoundments, as well as the spread of alien invasive plants.

A further threat to the integrity of the natural capital of the district is the land use system where areas which should not be settled on developed have been occupied for a variety of social, economic and political reasons (eg. East bank Ndumo Game Reserve).

5.4. THE RESILIENCE OR VULNERABILITY OF ECONOMIC DRIVERS AND THE OPPORTUNITIES AND CONSTRAINTS TO GROWTH

According to Section 3.12 there are a number of economic drivers that are categorised according to those that are established and those that are emerging. The discussion in this Section will consider each of these in terms of how the current condition of natural capital and related ecoservices either presents opportunities and/or constraints per sector. The sectors that are considered are:

- Established:
    - Agriculture:
        - Farming relating to various agricultural commodities
    - Manufacturing :
        - Processing of agricultural products
    - Tourism:
        - Established large scale tourism facilities
        - Many smaller tourism and accommodation facilities
- Emerging:
    - Services:
        - Government
    - Trade:
        - Wholesale and retail
        - Tourism and hospitality

For more detail see Annexure B.

6. FINDINGS AND RECOMMENDATIONS

6.1. CORE FINDINGS

- From the interviews with major businesses and LED practitioners limited structural changes in the economy of the Umkhanyakude District over the past two decades could be identified (a structural change is defined as a "long-term widespread change of the fundamental structure (of an economy), rather than micro-scale or short-term output and employment").
- The health of the economy of the District is still dependent on industries established well over 100 years ago relating to the sugar industry.
- An encouraging sign is the emergence of smaller companies engaging in tertiary sector activities over the past 20 years, but this should not be viewed as a structural change.
- The primacy of the government sector in the district economy is not a healthy sign even though it has contributed to the emergence of a much more dynamic commercial sector in the rural towns.
- The natural capital of the District is largely intact, but is under increasing pressure in some places, particularly along the riverine and wetland areas. There is also increasing pressure around the coastal lakes and along the coast in the Isimangaliso Wetland Park where local communities still live and where there has been conflict over illegal tourism developments.

6.2. KEY SPATIAL ECONOMIC FEATURES

A number of key spatial economic features of the Umkhanyakude District must be acknowledged before recommendations are considered:

- The relatively limited major infrastructural features: there is the N2 with an associated underutilised and unreliable rail link, and the two secondary corridors through Jozini and Bambanana to KwaNgwanase and from Hluhluwe, through Mbazwana and Pelindaba to KwaNgwanase; the other major infrastructural facility is the almost unused Jozini Dam which has never realised even a fraction of its potential.
- The structure that is in place for the Makathini Irrigation Scheme which has never been used to anything close to its potential, despite having been in existence for over 40 years.
- The relatively intact natural capital of the district is a key economic resource for tourism and eco-tourism related activities.
- The relatively low levels of development with no real primary town.
- The dominance of Ingonyama Trust areas under communal tenure presents both opportunities and challenges.
- The Pongola River floodplain and the wetland and swamp systems associated with the coastal lakes and systems such as the Muzi swamps and Mkuze river wetland system, all present opportunity for agriculture with increasing encroachment into these sensitive features; all are therefore seen as an agricultural economic resource, as well as a tourism economic resource, while at the same time having an intrinsic environmental value in terms of the ecosystem goods and services they provide. Some of these areas are in danger of increasing degradation; if this is not managed, then those natural resources may not, in the future, be able to provide ANY of the economic or ecosystem values that they currently provide.

6.3. A CHANGING SPATIAL ECONOMIC DEVELOPMENT STRUCTURE

On a regional level some major initiatives have the potential to influence the spatial economic structuring of the Umkhanyakude District and potentially bring about structural changes, viz.

- The development of the Makathini Flats, if the Makathini Flats Integrated Development Plan or Master Plan is followed through.
- Reinforcing the work done under the auspices of the Lebombo Spatial Development Initiative which played a key role in opening up the eastern area of the district in terms of all-weather access as well as the Transfrontier Park initiative with both Mozambique and Swaziland.
- Realising the potential of the Isimangaliso Wetland Park in terms of both the tourism economy as well as ensuring that the natural asset value is not compromised, particularly given its World Heritage Status.
- The importance of the private conservation initiatives in the region which bring in much needed income to the economy; this includes the Phinda Reserve, the newly established Zululand Rhino Reserve and various game farms.

Each of the above will require specific spatial planning responses.

6.4. RECOMMENDATIONS ON GOVERNMENT INTERVENTIONS

6.4.1. SUPPORT CATALYTIC PROJECTS

Support the implementation of "catalytic" projects (or as a first step confirming the feasibility thereof). The currently identified catalytic projects are:

- **The Makathini Irrigation Scheme and dryland production**: In 2006, the KZN Department of Agriculture and Environment Affairs commissioned the Makathini Master Plan: Implementation Plan for the development of the agricultural areas in the two local municipalities of Jozini and uMhlabuyalingana in the Umkhanyakude District Municipal Area. The principal focus of the Master Plan was agriculture as "there is a strong interest in agriculture among … residents, and people have a vision where they are involved in crop and livestock production activities". Concern in not being able to reach this vision centred on the lack of capacity to support agricultural development, particularly in the fields of business management and marketing; as well as concerns over the loss of indigenous crops through extensive agricultural development in the area. The recommendations made were as follows:
- Establishment of up to 10 000 ha of land under irrigation for the production of crops, including cotton and winter rotation of vegetables as well as fruit trees.
- The development of rain-fed cropping systems, mainly on the eastern side of the study area in order to produce various vegetables at household scale.
- The establishment of livestock production cooperatives to develop the commercial livestock industry in the area, including slaughter and meat processing facilities and a meat marketing system.
- Establishment of development nodes at Jozini, Bambanana, Manguzi and Mbazwana which will support agricultural development in the region.

- Establishment of agri-villages at Makathini, ePhondweni and Ndumo to support local agricultural production.
- Development of a supporting infrastructure for agriculture in the region at a projected cost of R857 million. This includes:
- The strategic upgrade of roads to improve access to markets.
- The establishment of pack houses at the agri-villages and development nodes.
- The establishment of a fresh produce market at Makathini for marketing and distributing fresh produce.
- The establishment of a feedlot and improved pastures at KwaZamazama, south of ePhondweni.
- The establishment of an abattoir and meat-processing facilities near Bhambanana, and
- The implementation of a suitable transport system for moving agricultural produce to markets.

A production scenario was developed to assess the production potential of the area and the following figures emerged (2006 Makathini Master Plan): A total of R 1.1203 billion could be expected from agriculture (R 351 million from irrigated crops, R 712 million from rain-fed crops; R 16.6 million from aquaculture and R 39.8 million from livestock) **subject to a capital investment estimate is for development costs of R 857 million.** "It therefore appears that the full-scale implementation of agricultural production projects in the study area will be a strong motivation for stimulating economic growth in the region and consequently improving the livelihoods of people living there" (Executive Summary, pp 1 & 2). However, it is now 2012 and the Makathini scheme and projects did not feature in any of the business interview feedbacks. It is therefore clear that there must be other factors holding up the implementation of the plans. Before investing public funds in the proposed infrastructure, there needs to be a thorough understanding of what the issues are that have prevented this development from realising its potential at any time in the past 40 years, and what the key issues are that require addressing before millions are spent on project support infrastructure.

- Conservation - Isimangaliso Wetland Park and Transfrontier parks: this is another major catalytic project in the region – the establishment of Isimangaliso Wetland Park as a World Heritage Site and setting up internal plans for the park including use zones and rehabilitation of certain areas of the Park. This initiative needs to be supported and built on as does the Usuthu-Tembe transfrontier conservation initiative. These are the main attractions for the area.
- Lubombo Spatial Development Initiative: this SDI was launched (as a development catalyst) in the mid-1990s and was responsible for a number of things, most important of which was the upgrading and alignment of MR 439 into a main, all weather tarred access road from Hluhluwe to KwaNgwanase (Manguzi). This opened up the eastern areas and created a different dynamic in the region. The efforts and remaining plans or programmes from the LSDI need to be investigated and supported.
- Private sector initiatives: there should be liaison and cooperation between government and the private sector, particularly those large farming and conservation enterprises that contribute so much towards the GVA of the district. There are farmers who have offered their services in terms of providing certain infrastructure. This needs to be investigated further to understand what projects the government can support in a public-private partnership if they will enhance employment and income levels in the region.
- Formalisation of towns: this has been mentioned as a recommendation of the Makathini Master Plan, but deserves to be highlighted again. Through such formalisation, municipalities can begin to charge rates, which will help at least, to secure some local income for infrastructural development. The

message is therefore clear: there is a need to work with existing initiatives and not create any new institutional frameworks. Support needs to be given to enhance these major projects and programmes in the district.

- The Jozini Dam: although an essential water source for the realisation of the Makathini Master Plan, the dam has additional eco-tourism potential which is largely unexploited.
- Tshaneni Regional Airport at Mkuze: upgrading of the airport will provide an important link for tourism in the region and allied to that, to business - agriculture and commercial.

An attempt to better understand the potential impact of key initiatives on the District economy is presented overleaf in Diagram 6.1.

DIAGRAM 6.1: UMKHANYAKUDE ECONOMIC DRIVERS

	ECONOMIC DRIVERS	CERTAIN DRIVER	POSSIBLE DRIVER	UNCERTAIN
COMPANIES / SECTOR	Company			
	Sector/Sub-sector/Cluster	Eco-tourism Agriculture Wholesale and Retail Government		
DEVELOPMENTS	Strategic Developments	Usuthu-Tembe Conservation	Jozini Tiger Lodge Pongolapoort Dam PPPs	Mabaso Game Reserve Mbangweni Corridor Dev.
	Supporting Facility		Jozini Value Adding Centre Makhathini Sugar Mill	
INFRASTRUCTURE	Special Economic Zones	Isimangoliso Wetland Park		Dukuduku Forest Initiatives
	Link Infrastructure	R22 Lubombo Corridor Route Tshaneni Regional Airport		
	Other Infrastructure			

Key to text colours: Green = established / Orange = partially established / Red = Concept

Key to text colours: Green = established / Orange = partially established / Red = Concept

6.4.2. PLAN FOR LONG TERM GROWTH

Government should support planning for the long term growth of the economy of the area. This long term planning should include:

- Creating a better network of all-weather roads – particularly a central west-east route on the Makathini Flats;
- The upgrading of the rail link;
- The establishment of sustainable tourism opportunities in the rural areas linked to the many and varied existing tourism resources and the natural capital of the area;
- The identification and packaging of opportunities for future industrial development mainly based on agro-processing;
- The diversification and expansion of the agricultural sector in the District particularly on the Makathini Flats with its irrigation potential.
- Re-instantly the link between the Mfolosi River and the Isimangaliso Wetland Park.

6.4.3. ADDRESS THE CHALLENGES

The central challenge for the future of the District - and one that effects all plans, programmes and development projects - will be how to sustain and grow both the agricultural and tourism potential without destroying the natural resource base on which everybody depends. This district is fairly unique in that its natural resource base is relatively untouched (at least until about 20 years ago) and it is only recently that there has been ever increasing pressure on the resources with attendant problems of environmental stress and degradation (e.g. the drying up of feeder streams around the Kosi Lake System due to cultivation down into the wetland areas and up to river banks).

This district has probably experienced more research and planning than any other in KZN and yet remains poor and undeveloped, despite the considerable expenditure already on public infrastructure (the Jozini dam and associated irrigation infrastructure, the Jozini – Ndumo – KwaNgwanase tar road which was built in the early 1980s, the Lubombo SDI road – MR439 built in the late 1990's, the Isimangaliso Wetland Park infrastructure upgrades) as well as a substantial increase in private initiatives – game lodges, accommodation establishments etc.

It is critical that any development initiative spends sufficient time beforehand to understand the local dynamics so that projects can be designed to be appropriate to local conditions. The right balance must be reached between the desire for development and a better life for its residents, and destroying its main competitive advantage – its natural environment.

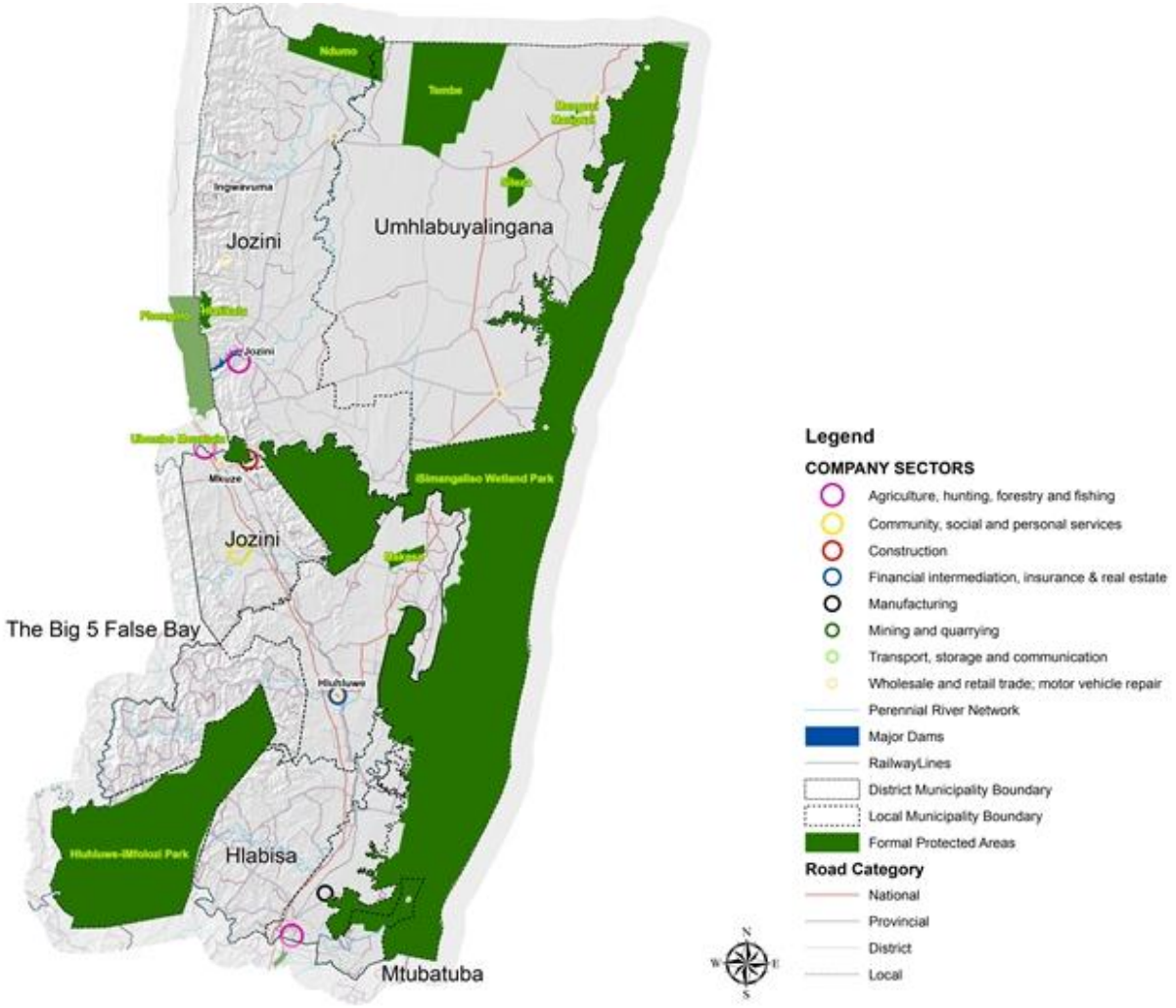
6.4.4. ADDRESS NATURAL RESOURCE CONSTRAINTS

The District has significant economic opportunities by virtue of the prevalence of protected areas and related tourism facilities and operations. However, all of these protected areas are threatened by the reduced integrity of natural capital on the basis of the management and manipulation of the river systems that flow into the District, with two of the three main systems already showing a negative water balance. In addition to this the presence of alien invasive plants is wide spread, and while this is creating job

opportunities, it is a dynamic that has the potential to significantly impact on the viability of nature-based tourism operations.

A substantial portion of the District is under subsistence agriculture and such land use practises tend to be linked with degradation of the natural capital upon which these livelihood strategies are based. Strong interventions are required to support subsistence based livelihoods and to ensure that they are sustainable.

ANNEXURE A: UMKHANYAKUDE DISTRICT - COMPANY DISTRIBUTION BY SECTOR IN LOCAL MUNICIPALITIES



LIST: COMPANY DISTRIBUTION IN LOCAL MUNICIPALITY

COMPANY NAME	LOCAL	PRODUCT CATEGORY
First National Bank Hluhluwe	Big Five False Bay	Financial Services
Jock Morrison & Sons	Big Five False Bay	Retail
Mkuze Game	Big Five False Bay	Tourism Accommodation +
Thanda Private Lodge	Big Five False Bay	Tourism Accommodation +
Ghost Mountain Inn	Jozini	Tourism Accommodation +
Jozini Tiger Lodge	Jozini	Tourism Accommodation +
Mjindi Farms	Jozini	Farming Services
Senekal Boerdery	Jozini	Agricultural Commodities
Zululand Rhino Res	Jozini	Wildlife Tourism
Umfolozi Sugar Mill	Mtubatuba	Sugar and Related
Kosi Bay Lodge	Umhlabuyalingana	Tourism Accommodation +
Lala Lapa Lodge	Umhlabuyalingana	Tourism Accommodation +
Maputaland Lodge	Umhlabuyalingana	Tourism Accommodation +
Mbazinana Inn	Umhlabuyalingana	Tourism Accommodation +
Spar Kwangwanase	Umhlabuyalingana	Retail
Shemula Lodge	Umkhanyakude	Tourism Accommodation +
Umfolozi Sugar Planters Ltd	Umkhanyakude	Sugar and Related

ANNEXURE B: ECONOMIC DRIVERS AND THE ENVIRONMENTAL OPPORTUNITIES AND CONSTRAINTS TO GROWTH

RETAILERS – OPPORTUNITIES AND CONSTRAINTS

OPPORTUNITIES	CONSTRAINTS

▪ Embrace the opportunities inherent in the 'green economy' in terms of;
  o Ensuring that their own operations are sustainable, and
  o Offering products and services that meet the objective of the development of a 'green economy'.
▪ Engage with agencies that promote sustainability and enhance operational efficiencies which will reduce operating costs while providing marketing benefits.
▪ Collectively put pressure on the relevant provincial government agencies to enhance the condition of the province's natural capital to increase resilience and decrease vulnerability.
	▪ Increasing operating costs based on the increasing costs of accessing potable water.
	▪ Infrastructure failure due to flood damage resulting in transportation limitations for the movement of stock as well as the inability of staff to get to work.
	▪ Increased staff sick leave due to increasing health problems related to water quality issues.
	▪ Increased costs of imports and exports through the Durban Harbour through increased costs associated with Transnet having to invest more in dredging sediments and managing water quality problems.
	▪ Limits to growth due to current levels of over-exploitation of natural capital and increased value of that which remains untransformed.

BANKING AND FINANCIAL SERVICES – OPPORTUNITIES AND CONSTRAINTS

OPPORTUNITIES	CONSTRAINTS

▪ Embrace the opportunities inherent in the 'green economy' in terms of;
  o Ensuring that their own operations are sustainable, and
  o Offering products and services that meet the objective of the development of a 'green economy'.
▪ Engage with agencies that promote sustainability and enhance operational efficiencies which will reduce operating costs while providing marketing benefits.
▪ Collectively put pressure on the relevant provincial government agencies to enhance the condition of the province's natural capital to increase resilience and decrease vulnerability.
▪ Ensure the integration of sustainability principles in to developments through insisting on full risk assessment and sustainable management in all development funding applications
	▪ Failure to understand the risk that depleted natural capital places on the sustainability of developments increases the risk associated with the financing of such.
	▪ Failure to embrace the need to engage with the 'green economy' will result in lost marketing benefits as well as increased operating costs.
	▪ Financing un-sustainable developments.

MANUFACTURING – OPPORTUNITIES AND CONSTRAINTS

OPPORTUNITIES	CONSTRAINTS
▪ Emergence of the green economy presents an abundance of new technology that can assist manufacturing plants to become more efficient and sustainable. ▪ Sustainable operations offer improved marketing profiles that provide a competitive advantage. ▪ Reduced operational footprint in terms of energy, water and waste will increase the lifespan of manufacturing operations.	▪ Declining access to water of an adequate quality. ▪ Reduced water quantity decreases systems ability to dilute manufacturing related effluents and increases the risk of liabilities. ▪ Reduced catchment integrity increases the risk of flooding for those manufacturing plants adjacent to large systems like the uThukela. ▪ Agri-processing plants are vulnerable to declining productivity associated with unsustainable farming practices. ▪ Movement of processed goods is dependent on the absence of flood damage to the many river crossings, either moving north to Richards Bay or south to eThekwini. The loss of catchment integrity in the inland sections of the District, as well as in uMgungundlovu and uMzinyathi, places this infrastructure at increased risk.

PETROLEUM COMPANIES – OPPORTUNITIES AND CONSTRAINTS

OPPORTUNITIES	CONSTRAINTS
▪ Off-set impacts emanating from the off-shore buoy on the marine and coastal environment by investing in conservation projects of equal or greater value than the damaged that has been caused in the past and that could be caused in the future. Such conservation projects should be directly related to the enhancement of natural capital capacity to deal with potential spillages from this facility. ▪ Invest in R&D associated with alternative and renewable energy generation. ▪ Invest in technologies that ensure that all externalities from the refining process are internalised.	▪ The predicted impacts of climate change, particularly the rise in sea level and an increased occurrence of extreme weather events increases the vulnerability of the off-shoe buoy and the position of the refineries. ▪ Road and rail routes are vulnerable to extreme weather events which have the potential of disrupting the distribution of petroleum products. To a certain extent, the NMPP may also be compromised if the crossing of drainage lines has not been sufficiently adequate to ensure no damage during times of flooding. ▪ Increased awareness of the environmental externalities associated with the production and use of petroleum products especially if this sector continues to drive 'business as usual'.

AGRI-PROCESSING – OPPORTUNITIES AND CONSTRAINTS

OPPORTUNITIES	CONSTRAINTS

▪ Embrace the opportunities inherent in the 'green economy' in terms of;
  ○ Ensuring that their own operations are sustainable, and
  ○ Offering products and services that meet the objective of the development of a 'green economy'.
▪ Engage with agencies that promote sustainability and enhance operational efficiencies which will reduce operating costs while providing marketing benefits.
▪ Collectively put pressure on the relevant provincial government agencies to enhance the condition of the province's natural capital to increase resilience and decrease vulnerability.
	▪ Increasing operating costs based on the increasing costs of accessing potable water.
	▪ Infrastructure failure due to flood damage resulting in transportation limitations for the movement of stock as well as the inability of staff to get to work.
	▪ Increased staff sick leave due to increasing health problems related to water quality issues.
	▪ Increased costs of imports and exports through the Durban Harbour through increased costs associated with Transnet having to invest more in dredging sediments and managing water quality problems.
	▪ Limits to growth due to current levels of over-exploitation of natural capital and increased value of that which remains untransformed.

AGRICULTURE – OPPORTUNITIES AND CONTRAINTS

OPPORTUNITIES	CONSTRAINTS
SUGAR	
▪ Job creation through natural capital restoration work, particularly regarding the eradication of alien invasive plants, reclamation of wetlands, and natural rehabilitation of soils, i.e. reinstating the organic matter content. ▪ The removal and rehabilitation of areas currently under unpermitted plantations. ▪ The release of water, previously consumed by plantations, to alternative uses (including the ecological reserve) downstream, especially estuaries. ▪ Through the introduction of more sustainable operations, agro-chemical loads leached into river systems will decline. ▪ Decreased production costs through the implementation of sustainable farming principles. ▪ Improved marketing opportunities through association and implementation of sustainable farming programmes.	▪ Unsustainable change to natural soil characteristics, e.g. loss of nutrients, loss of soil fauna, change in chemical composition and structure, leading to the loss of opportunities for alternative productive land use and rehabilitation potential. ▪ Upstream water reduction activities, i.e. timber and sugar plantations, are placing constraints on downstream capacity for economic expansion. ▪ Stream reduction decreases dilution capacity of river systems and therefore exacerbates downstream water quality issues which translates into increased health risks and treatment costs. ▪ Reduced water quantity limits downstream abstraction opportunities. ▪ Increased sediment loads from cleared compartments and road networks resulting in loss of natural capital integrity. ▪ No further land available for expansion of the industry.

OPPORTUNITIES	CONSTRAINTS
TIMBER	
▪ Job creation through natural capital restoration work, particularly regarding the eradication of alien invasive plants. ▪ The removal and rehabilitation of areas currently under unpermitted plantations. ▪ The release of water, previously consumed by plantations, to alternative uses (including the ecological reserve) downstream.	▪ Unsustainable change to natural soil characteristics by timber species, e.g. loss of nutrients, loss of soil fauna, change in chemical composition and structure, leading to the loss of opportunities for alternative productive land use and rehabilitation potential. ▪ Upstream water reduction activities, i.e. timber plantations, are placing constraints on downstream capacity for economic expansion. ▪ Stream reduction decreases dilution capacity of river systems and therefore exacerbates downstream water quality issues which translates into increased health risks and treatment costs. ▪ Reduced water quantity limits downstream abstraction opportunities. ▪ Increased sediment loads from cleared compartments and road networks resulting into loss of water storage capacity in downstream raw water storage and reticulation systems. ▪ No further land available for expansion of the industry – closed catchment.
LIVESTOCK (primarily cattle on extensive natural pastures)	
▪ Sustainability certification increasingly required by retail outlets provides livestock farmers with an opportunity to enhance the marketability of their products. ▪ Extensive livestock farming is the land use that is most compatible with biodiversity conservation which provides opportunities for recognition for sustainable practices through the KZN Stewardship Programme. ▪ Extensive livestock farming provides a landscape that is conducive to tourism and with many such farms being in close proximity to the uKhahlamba Drakensberg Park, favourable marketing opportunities are present. ▪ This land use has the least impact on the potential for the delivery of ecoservices and farmers can market these to consumers to substantially increase the revenue that can be earned from their land, e.g. sale of watershed services, carbon storage, access to genetic material, etc.	▪ The only constraints that are imposed on the livestock farmers are those created by themselves through the implementation of unsustainable land use practices such as overstocking and the injudicious use of fire as a management tool. ▪ Directly related to the above is a loss of land cover integrity which predisposes the land to alien plant infestations. ▪ However, even the best managed properties are impacted by alien invasive plants and collaborative efforts are required eradicate these.

OPPORTUNITIES	CONSTRAINTS
DAIRY	
▪ Generation of energy from waste, e.g. biogas. ▪ Rural nature of the operation lends itself to a diversification through the introduction of farm-based tourism opportunities. ▪ Enhanced operation efficiencies lend themselves to recognition and certification thus providing improved marketability and access to discerning and sustainable markets	▪ Reduced access to water for irrigation of pastures as well as for the milking process through the loss catchment integrity. ▪ Potential liability for impacts on water quality downstream of farm based on the leaching of agro-chemicals from irrigated pastures, as well as from the dairy operations themselves, i.e. eutrophication.
COMMERCIAL CROPS (Irrigated and dryland)	
▪ Job creation through natural capital restoration work, particularly regarding the eradication of alien invasive plants, reclamation of wetlands, and natural rehabilitation of soils, i.e. reinstating the organic matter content. ▪ The removal and rehabilitation of areas currently under unpermitted crops. ▪ The release of water, previously consumed by crops, to alternative uses (including the ecological reserve) downstream. ▪ Through the introduction of more sustainable operations, agro-chemical loads leached into river systems will decline. ▪ Decreased production costs through the implementation of sustainable farming principles.	▪ Access to water through reduced catchment integrity upstream of farms. ▪ Loss of arable land through accelerated erosion and the spread of alien invasive plants. ▪ Reduced soil fertility through excessive crop production leading to a reduction in productivity and increased operating costs. ▪ Reduced water holding capacity of the soil due to unsustainable farming practices
SUBSISTENCE AGRICULTURE	
▪ Carefully selected portions of Ingonyama Trust land which have the potential to support both subsistence and small holder commercial production. ▪ The high levels of unemployment need to be converted into high levels of occupation related to food production, processing and marketing. ▪ The enhancement of current communal land management systems by introducing value to different types of land use (PDA). ▪ Well managed communal lands will present an attractive landscape that has the potential to host a variety of tourism operations, e.g. the Umgano Project.	▪ Communal tenure and unplanned land allocation systems. ▪ Concentration of existing subsistence agriculture and settlement activities within inappropriate locations, e.g. wetlands and flood plains. ▪ Poor land use practices leading to accelerated soil loss, the spread of alien invasive plants and the loss of natural capital. ▪ The overriding cultural significance of the cultural value of livestock which prevents sustainable management thereof with resultant over-grazing and associated impacts.

TOURISM – OPPORTUNITIES AND CONSTRAINTS

OPPORTUNITIES	CONSTRAINTS
▪ Environmental accreditation programmes such as the 'Blue Flag Beach' programme offers significant benefits by acting as an added attraction to a market that is becoming increasingly aware of environmental issues and standards. ▪ Reinstate natural capital along the coastline such as dune, flood plain and estuarine vegetation to increase the diversity of attractions and the resilience of the coastline and associated infrastructure.	▪ The coastline has been significantly transformed by linear urban development and has lost much of natural features which cause the loss of appeal and well as increased vulnerability to extreme weather events. ▪ The concentration of industry, commerce and residential developments along the coast and rivers increases the threat of water quality issues and the loss of tourism revenues. ▪ Unchecked land transformation and degradation continues to impact on catchment integrity with resultant loss of watershed services and reduced viability for the maintenance of standards required to meet accreditation standards. ▪ Predicted climate change related impacts such as the rise in sea level and increased incidents of extreme weather events places significant constraints on both existing and potential new tourism infrastructure.

OPPORTUNITIES	CONSTRAINTS
▪ Proximity to the uKhahlamba Drakensberg Park World Heritage Site. ▪ Linkages with Lesotho through the Maloti Drakensberg Transfrontier Project and the Maloti Drakensberg Route. ▪ The bulk of the landscape still untransformed or hosting agricultural activities which lend themselves to an aesthetic appeal for a diversity of tourism attractions. ▪ Extreme topography, clean air and relatively clean water make the area attractive to major sporting events such as the Drak Challenge and the Sani2Sea. ▪ Cultural Heritage features such as the Reichenau Mission add to the diversity of attractions.	▪ Unsustainable land management outside of the uKhahlamba Drakensberg Park World Heritage Site quickly reduces the quality of natural capital and its ability to deliver ecoservices such as clean water. ▪ The virulent spread of alien invasive plants. ▪ Cross-border crime detracts from an enabling and attractive environment to accommodate tourism activities and operations.

GOVERNMENT – OPPORTUNITIES AND CONTRAINTS

OPPORTUNITIES	CONSTRAINTS
▪ The application of NRM and EPWP (Extended Public Work Programme) funds to address threats to natural capital integrity such as the eradication of alien invasive plants and the restoration of erosion gullies, thus generating 'green jobs'. ▪ The creation of an enabling environment for and facilitating the implementation of green technologies such as rain water harvesting and biogas generation for both disadvantaged communities as well as commercial operations. ▪ Increased ability to deliver basic services through improved condition of natural capital and the delivery of ecoservices such as clean water, increased winter base flows, reduced flood risk, access to medicinal plants natural building material and fuel wood. ▪ Decreased health risks through improved catchment integrity as discussed above, as well as improved air quality.	▪ Local government capacity in terms of natural capital management. ▪ Limited cooperative governance capacity required across local government boundaries, across Depts. as well as across sectors. ▪ The virulent spread of alien invasive plants. ▪ Unsustainable land use practices that dominate the District. ▪ Cross-border crime, primarily the theft of livestock places this land use in jeopardy and in danger of being replaced by more unsustainable options, as well as impacting on tourism and sound natural capital management.

MINING - OPPORTUNITIES AND CONTRAINTS

OPPORTUNITIES	CONSTRAINTS
IDWALA CARBONATES	
▪ The mine has the opportunity of engaging with upstream land owners and users with a view to improving catchment integrity that will increase winter base flow in both river systems and decrease potential liability from pollution caused by storm water runoff from their site.	▪ Loss of catchment integrity upstream from their operation makes them vulnerable to flooding considering their position immediately adjacent to and within the floodplain for the Umzimkulwana River. ▪ Close proximity to the mouth of the river system increases the risk of liability for water quality issues associated with their operations. ▪ The loss of riparian vegetation translates into the loss of an important buffer between their operations and the river.