



water affairs

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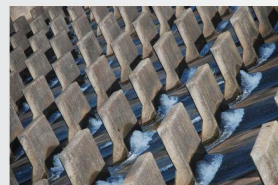
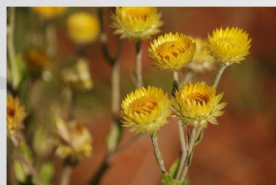
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The uMkhomazi Water Project Phase 1: Module 1: Technical Feasibility Study: Raw Water

**DETAILED SOCIO-ECONOMIC
BASELINE STUDY OF THE
UMGENI WATER SUPPLY AREA**

FINAL

NOVEMBER 2015



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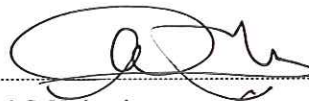
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The uMkhomazi Water Project Phase 1

LIST OF REPORTS

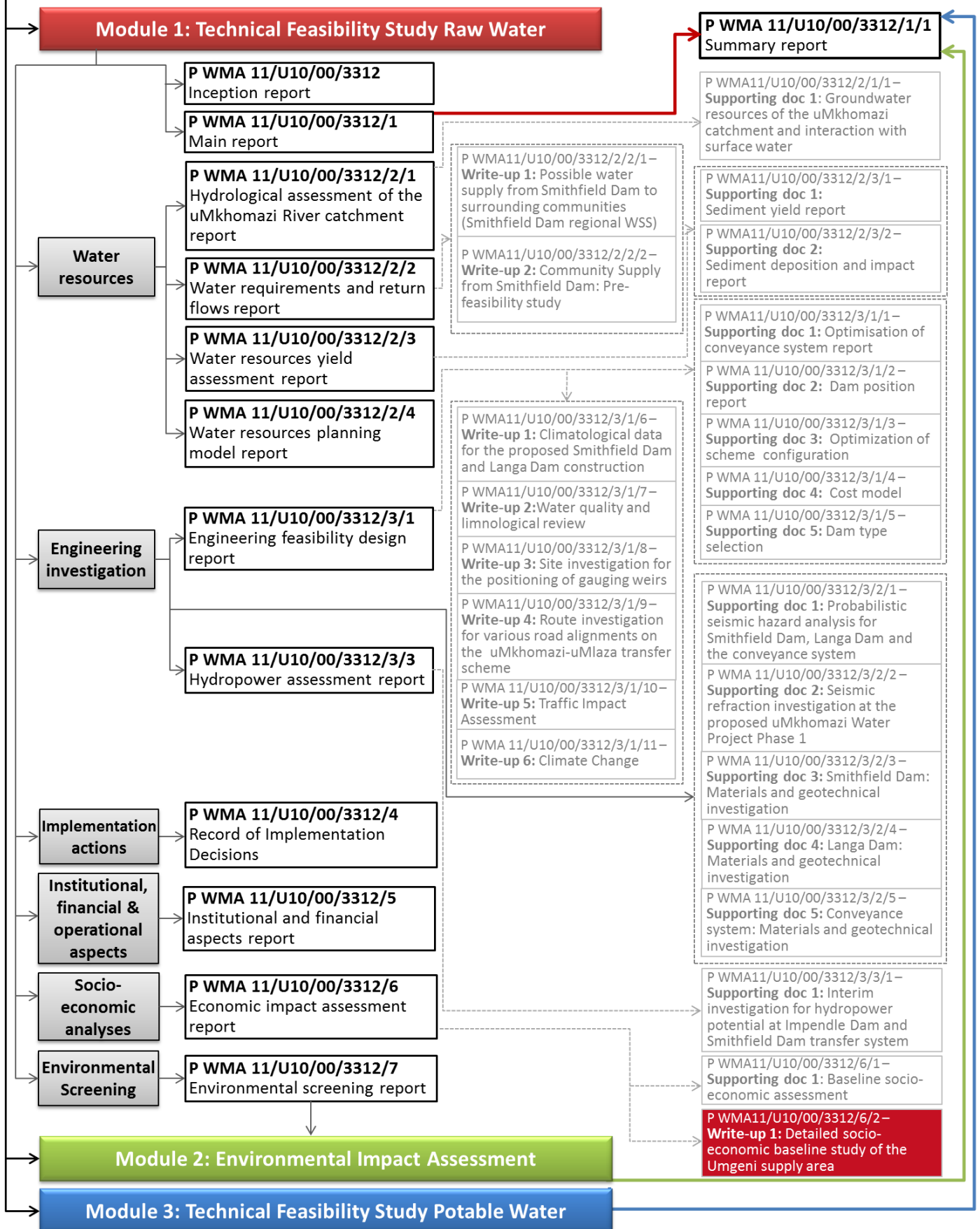


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LIST OF ABBREVIATIONS

BKS	BKS (Pty) Ltd (now AECOM)
DWA	Department of Water Affairs
UW	Umgeni Water
VIP	Pit latrines with ventilation
WSS	Water Supply System

1 INTRODUCTION

This document provides a baseline socio-economic assessment of the status quo within the Umgeni Water (UW) supply area footprint and the Mgeni Water Supply System (WSS).

1.1 DESCRIPTION OF THE STUDY AREA

The study area covers 5 district municipalities and 17 local municipalities within KwaZulu-Natal. The municipalities are indicated in the following table and the map that follows:

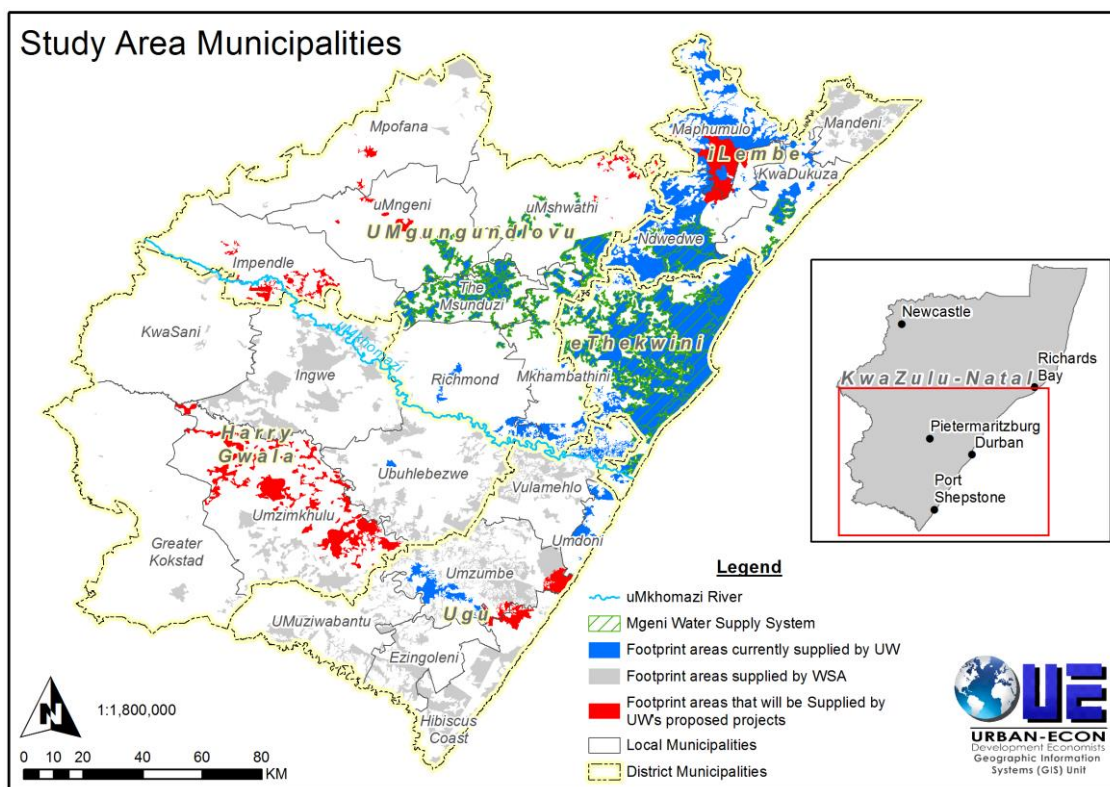
Table A-1: Study area municipalities

District Municipality	Local Municipality
eThekwini	eThekwini Metropolitan Municipality
Harry Gwala ¹	Ubuhlebezwe Local Municipality
	Umzimkhulu Local Municipality
iLembe	KwaDukuza Local Municipality
	Maphumulo Local Municipality
	Ndwedwe Local Municipality
Ugu	Hibiscus Coast Local Municipality
	Umdoni Local Municipality
	Umzumbe Local Municipality
	Vulamehlo Local Municipality
uMgungundlovu	Impendle Local Municipality
	Mkhambathini Local Municipality
	Mpofana Local Municipality
	Richmond Local Municipality
	The Msunduzi Local Municipality
	uMngeni Local Municipality
	uMshwati Local Municipality

The study area covers the areas currently supplied by UW (blue on **Map 1** below) as well as the areas that will be supplied by UW's proposed projects (red on the map below). Collectively these two areas are referred to as the UW supply area footprint within the rest of the report. The Mgeni WSS (green on the map below),

¹ Previously Sisonke District Municipality.

the area mainly within the uMngeni River catchment and supplied by UW, also falls within the study area.



Map 1.1: Study area municipalities, UW supply area and Mgeni WSS

The following subsection provides an overview of the major social facilities and geographic characteristics of the study area.

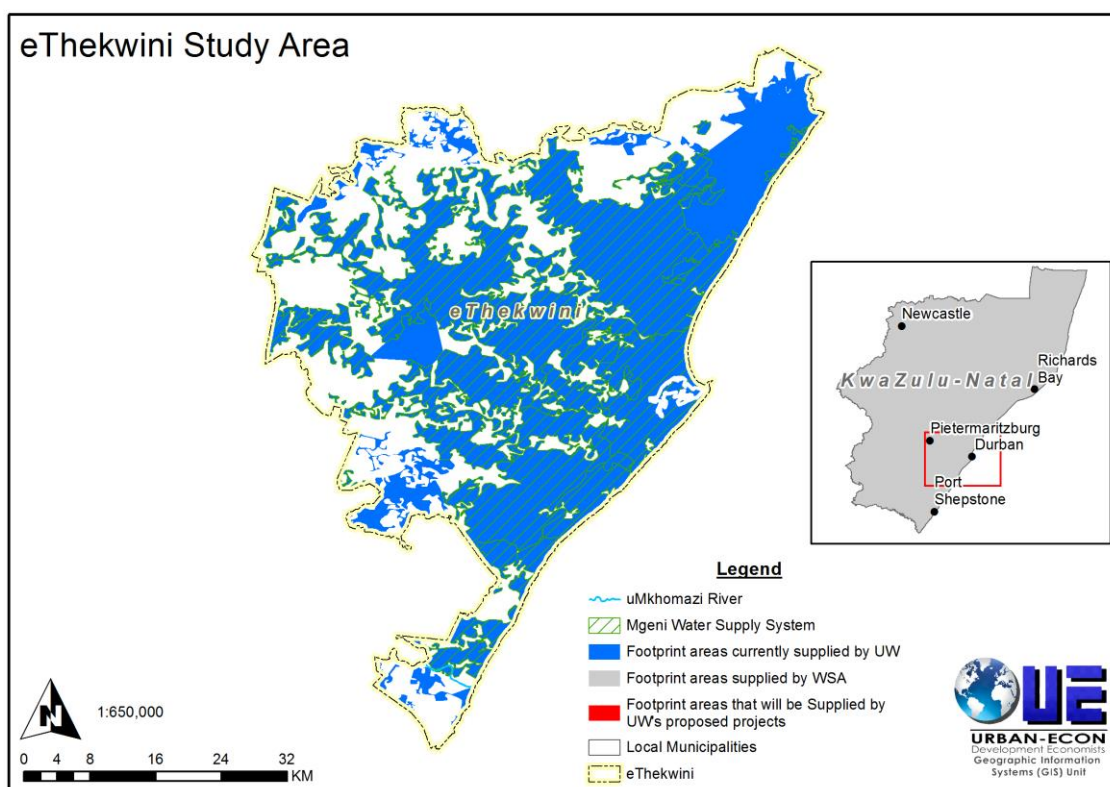
1.2 eTHEKWINI METROPOLITAN MUNICIPALITY

The following table contains key aspects of eThekwini Metropolitan Municipality:

Table A-1: Major characteristics of eThekwini Metropolitan Municipality

eThekwini Metropolitan Municipality	Total	Within UW supply area	Within Mgeni WSS
Major towns	Durban	Durban	Durban
Geographical area	2 292 km ²	1 784 km ²	1 155 km ²
Health Facilities	146	144	135
Number of Schools	1 018	996	927

Source: (Health Information Systems Programme, 2015), (Department of Basic Education, 2014), (South African Police Service, 2015)



Map 1.2: eThekweni study area

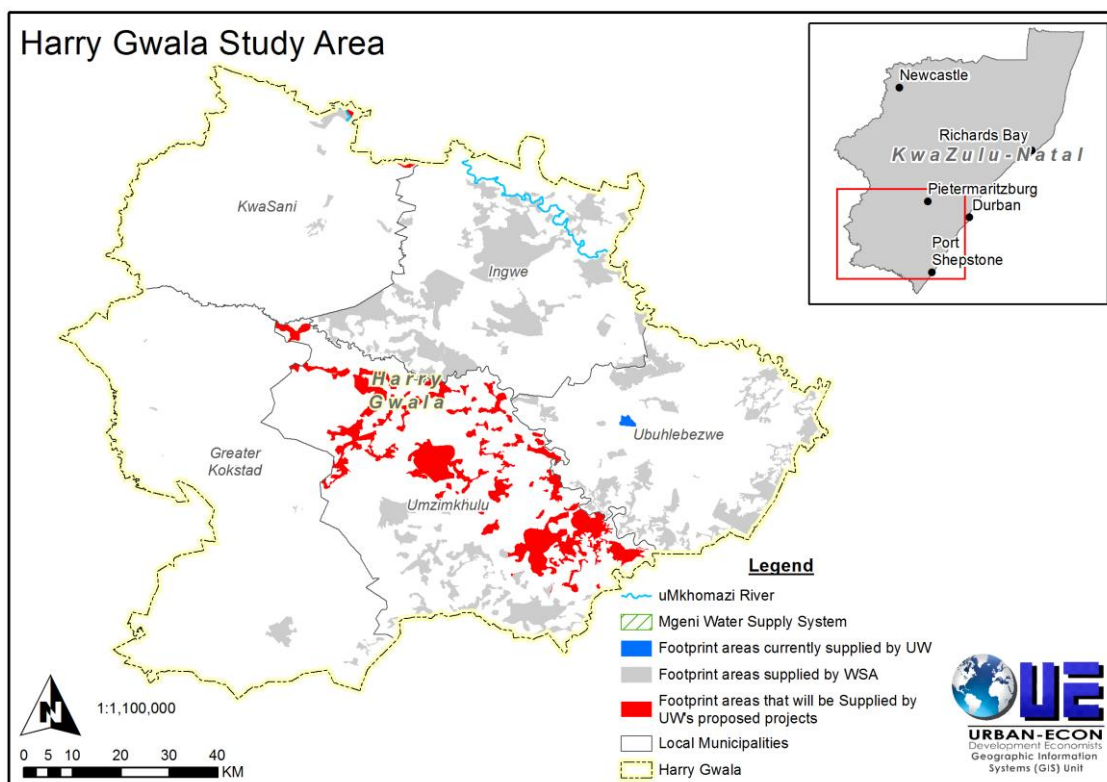
1.3 HARRY GWALA DISTRICT MUNICIPALITY

The following table contain key aspects of the Harry Gwala District Municipality:

Table A-1: Major characteristics of Harry Gwala District Municipality

Harry Gwala District Municipality	Total	Within UW supply area	Within Mgeni WSS
Major towns	Creighton, Ixopo, Kokstad, Umzimkulu, Underberg	Ixopo, Umzimkulu	
Geographical area	10 566 km ²	496 km ²	0.7 km ²
Medical Facilities	40	11	0
Number of Schools	451	114	1

Source: (Health Information Systems Programme, 2015), (Department of Basic Education, 2014), (South African Police Service, 2015)



Map 1.3: Harry Gwala study area

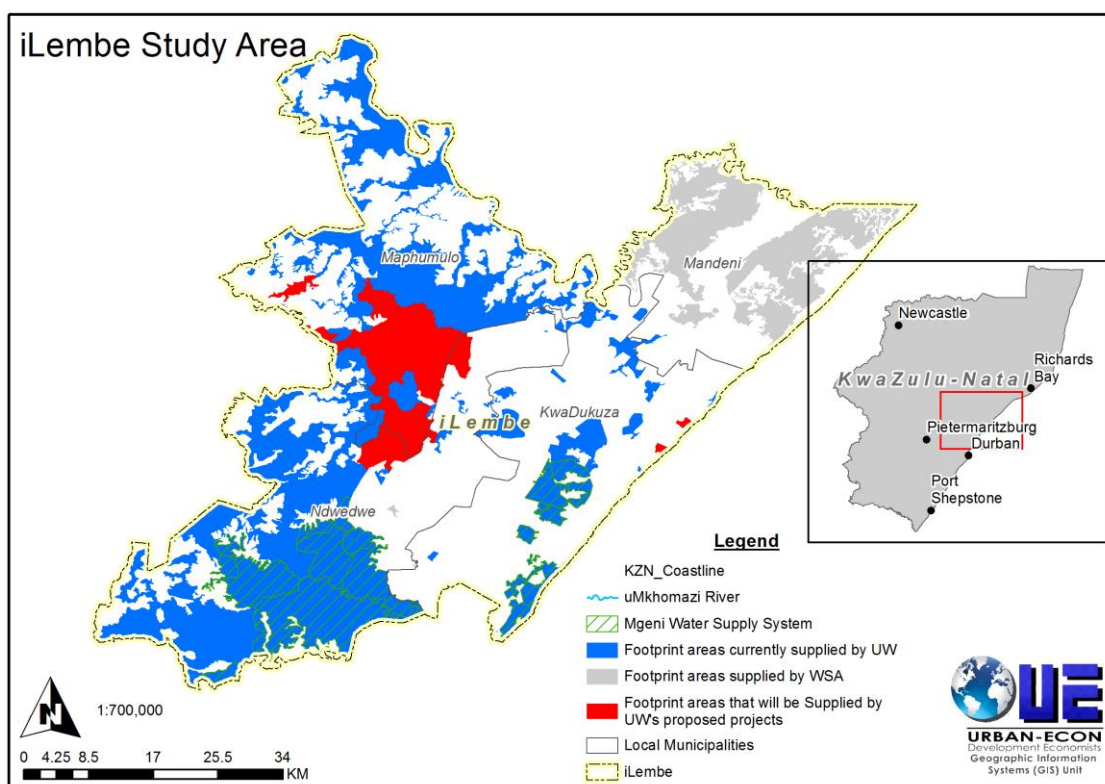
1.4 ILEMBE DISTRICT MUNICIPALITY

The following tables contain key aspects of the iLembe District Municipality:

Table A-1: Major characteristics of iLembe District Municipality

iLembe District Municipality	Total	Within UW supply area	Within Mgeni WSS
Major towns	Ballito, KwaDukuza	Ballito, KwaDukuza	Ballito, KwaDukuza
Geographical area	3 269 km ²	1 775 km ²	303 km ²
Medical Facilities	36	24	4
Number of Schools	415	322	79

Source: (Health Information Systems Programme, 2015), (Department of Basic Education, 2014), (South African Police Service, 2015)



Map 1.4: iLembe study area

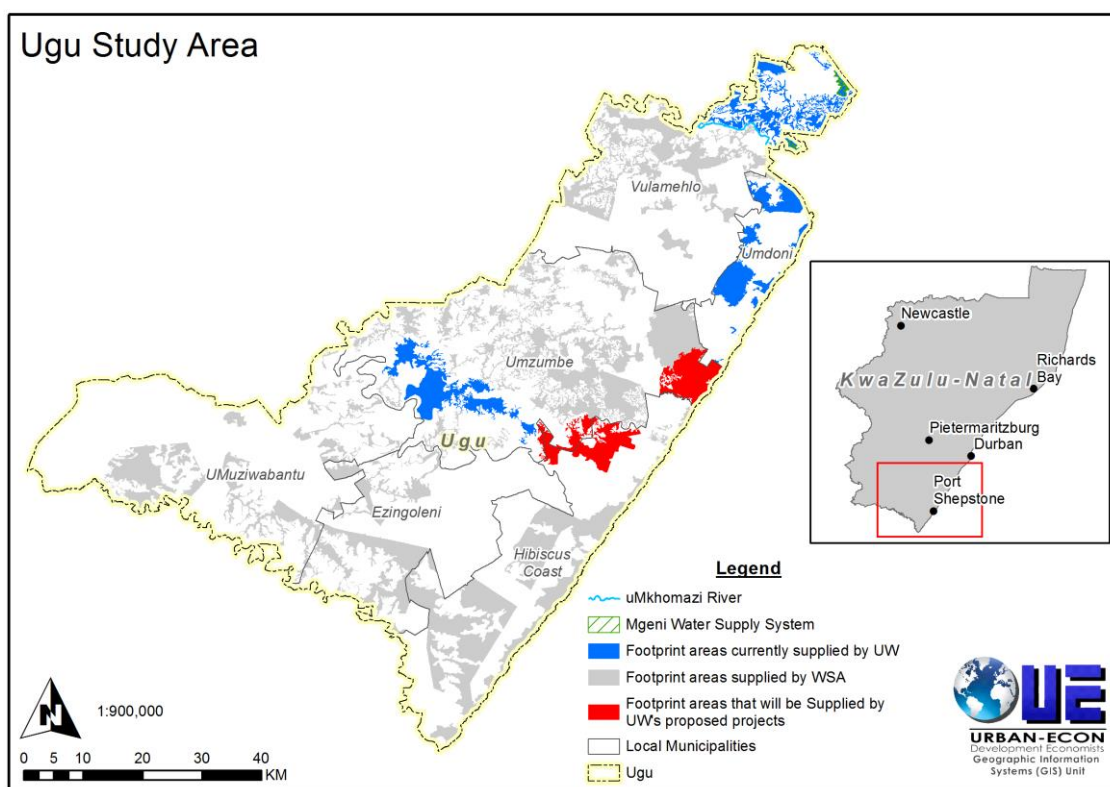
1.5 UGU DISTRICT MUNICIPALITY

The following tables contain key aspects of the Ugu District Municipality:

Table A-1: Major characteristics of Ugu District Municipality

Ugu District Municipality	Total	Within UW supply area	Within Mgeni WSS
Major towns	Harding, Margate, Port Edward, Port Shepstone, Scottburgh	Scottburgh	
Geographical area	5 051 km ²	569 km ²	14 km ²
Medical Facilities	65	17	0
Number of Schools	465	110	3

Source: (Health Information Systems Programme, 2015), (Department of Basic Education, 2014), (South African Police Service, 2015)



Map 1.5: Ugu study area

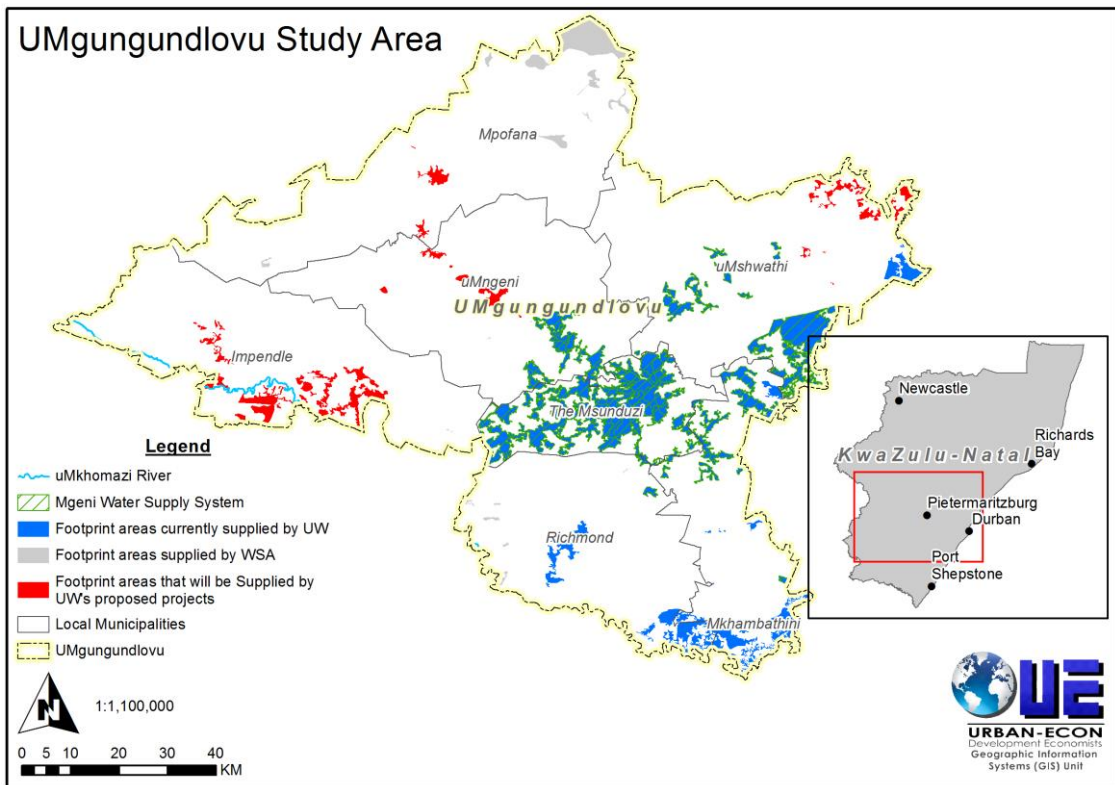
1.6 uMGUNGUNDOLOVU DISTRICT MUNICIPALITY

The following tables contain key aspects of the uMgungundlovu District Municipality:

Table A-1: Major characteristics of uMgungundlovu District Municipality

uMgungundlovu District Municipality	Total	Within UW supply area	Within Mgeni WSS
Major towns	Mooi River, Pietermaritzburg, Richmond	Mooi River, Pietermaritzburg, Richmond	Pietermaritzburg
Geographical area	9 523 km ²	1 170 km ²	530 km ²
Medical Facilities	68	66	48
Number of Schools	541	438	305

Source: (Health Information Systems Programme, 2015), (Department of Basic Education, 2014), (South African Police Service, 2015)



Map 1.6: uMgungundlovu study area

2 POPULATION DISTRIBUTION

2.1 POPULATION

Table A-1 indicates the estimated population and number of households in the UW supply area footprint as well as in the Mgeni WSS in 2015.

Table A-1: Demographics

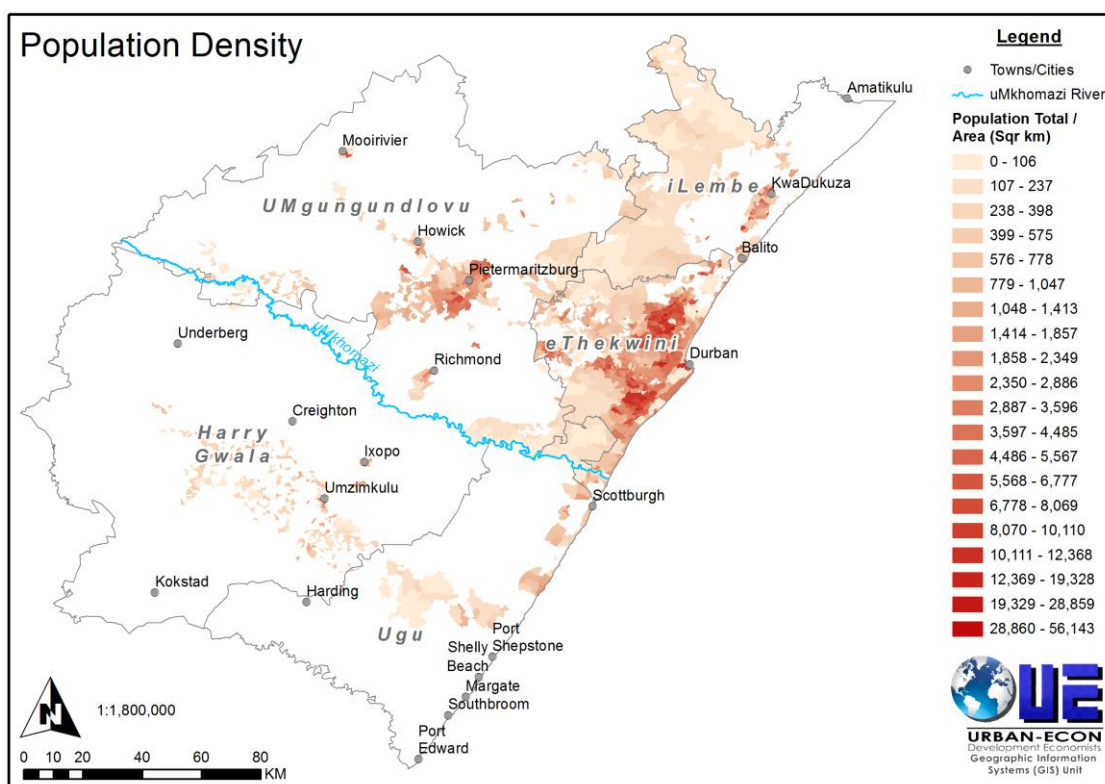
Estimated 2015	UW supply area	Mgeni WSS
Population total	5 388 804	4 951 222
Households total	1 449 894	1 348 912
Household size (average)	3.7	3.7
Population density (People per km ²)	885	1 157
Household density (Households per km ²)	238	315

Source: (Quantec, 2015), (Urban-Econ calculations, 2015)

Based on population growth projections made for the UW supply area footprint and for the Mgeni WSS, the following estimated population sizes and households can be highlighted:

- ◆ A total of 5 388 804 people and 1 449 894 households reside in the UW supply area footprint, while a total of 4 951 222 people and 1 348 912 households reside in the Mgeni WSS;
- ◆ The average household size is 3.7 persons per household.

The following map gives an indication of the population density within the UW supply area.



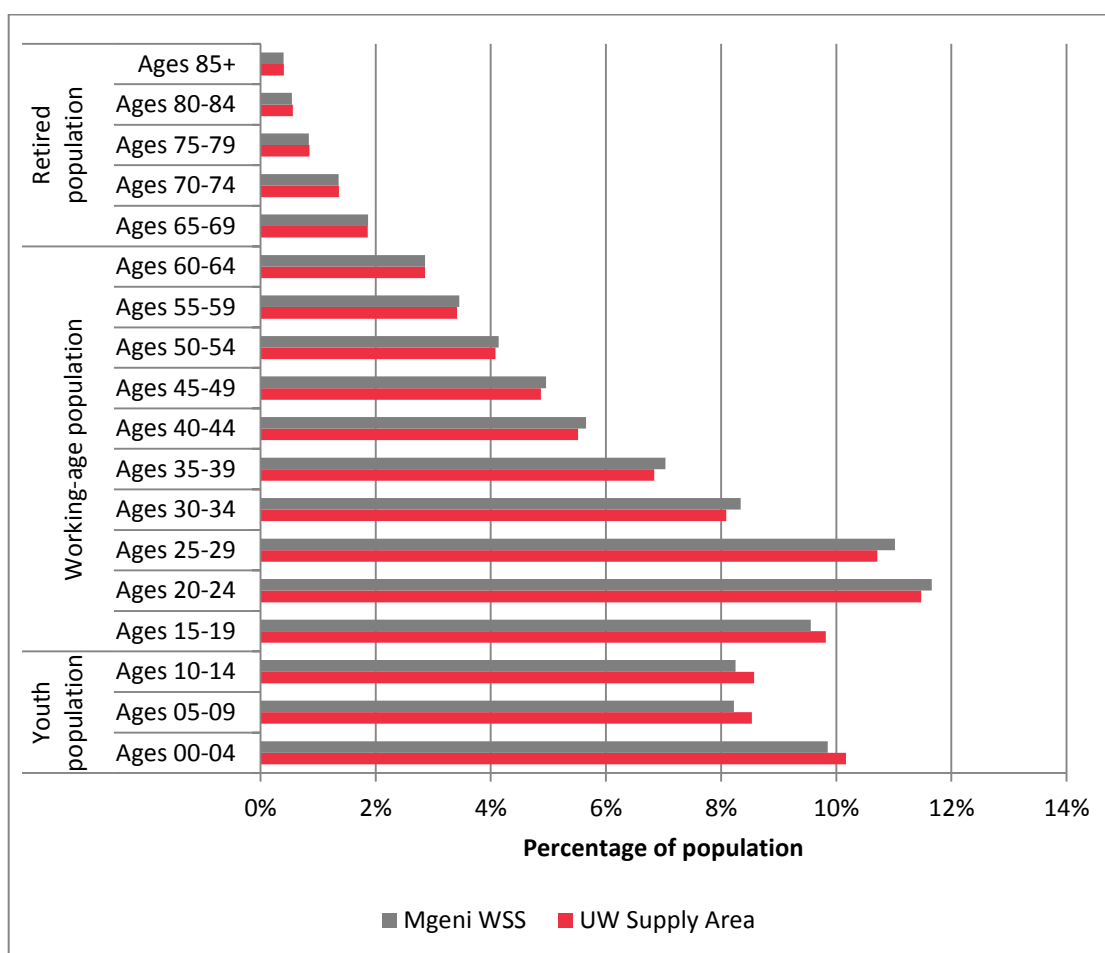
Map 2.1: Population density

2.2 GENDER

48.2% of the population within the UW supply area footprint is male and 51.8% of the population is female. 48.4% of the population within the Mgeni WSS is male and 51.6% of the population is female.

2.3 AGE PROFILE

Figure 2.1 describes the age profile for the UW supply area footprint and the Mgeni WSS. The potentially economically active population of a specific population is defined as the component of the local population that has the potential to perform labour. This definition excludes individuals below the age of 15 and over the age of 65.



Source: (Quantec, 2015)

Figure 2.1: Age profile

Based on the preceding figure and definition, the following main findings can be highlighted:

- ◆ 27.3% of the population in the UW supply area is younger than 15 years and 26.3% of the population in the Mgeni WSS is younger than 15 years;
- ◆ 46.9% of the population falls within the age group of between 15 to 39 years in the UW supply area, while 47.6% of the population falls within this age group within the Mgeni WSS;
- ◆ 67.7% of the population forms part of the potentially economically active population in the UW supply area, while this is 68.7% of the population within the Mgeni WSS;
- ◆ 20.7% of the population falls within the age group of between 40 to 64 years in the UW supply area and 21.1% of the population falls within this age group in the Mgeni WSS; and
- ◆ 5.0% of the population in both the UW supply area and the Mgeni WSS are older than 65 years old.

3 EMPLOYMENT AND SOURCES OF INCOME

3.1 EMPLOYMENT

The unemployment and employment levels within the UW supply area footprint are important to investigate, as it is indicative of the ability of residents to earn household income (generated from economic activities and which are employed to purchase goods and services) and ultimately the *ability to pay for water services* received.

Unemployment is expressed as a percentage of the labour force. However, it should be noted that the definition of the expanded unemployment rate includes discouraged work-seekers in the labour force. **Table A-1** indicates the expanded employment profile for the UW supply area footprint as well as the Mgeni WSS.

Table A-1: Employment profile

Employment Profile		UW supply area	Mgeni WSS
Labour force	Employed	61.2%	63.0%
	Unemployed	28.5%	28.3%
	Discouraged work-seeker	10.3%	8.7%
Labour force participation rate*		60.8%	62.0%
Labour absorption rate [#]		37.8%	39.1%
*Labour force as a percentage of the working age population			
[#] Employed persons as a percentage of the working age population			

Source: (Quantec, 2015)

The following main finding can be highlighted:

- ◆ The unemployment rate for the UW supply area is 28.5% and the unemployment rate for the Mgeni WSS is 28.3%.

The following tables show the number of households within the UW supply area and the Mgeni WSS with an annual income of either above or below R 38 400, expressing it as a percentage of the total number of 2015 households.

Table A-2: Income profile of 2015 households in the UW Supply Area Footprint

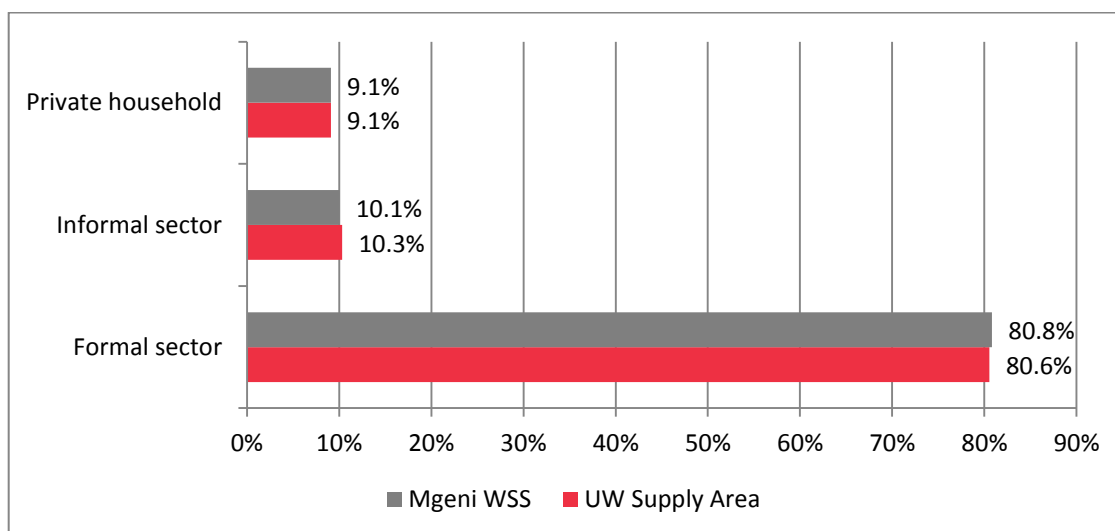
Local Municipality	Total households apportioned to the UW Supply Area Footprint (2015)		Households with annual household income below and equal to R 38 400 per annum		Households with annual household income above R 38 400 per annum	
	Number	Percentage	Number	Percentage	Number	Percentage
Ugu	48,948	100%	35,966	73.5%	12,981	26.5%
uMgungundlovu	251,544	100%	160,381	63.8%	91,162	36.2%
iLembe	114,403	100%	83,933	73.4%	30,470	26.6%
Harry Gwala	37,857	100%	31,760	83.9%	6,097	16.1%
eThekwini	997,143	100%	584,161	58.6%	412,982	41.4%
Total	1,449,894	100%	896,201	61.8%	553,693	38.2%

Table A-3: Income profile of 2015 households in the Mgeni WSS

Local Municipality	Total households apportioned to the Mgeni WSS Area (2015)		Households with annual household income below and equal to R 38 400 per annum		Households with annual household income above R 38 400 per annum	
	Number	Percentage	Number	Percentage	Number	Percentage
Ugu	31,370	100%	22,439	71.5%	8,930	28.5%
uMgungundlovu	232,752	100%	145,865	62.7%	86,887	37.3%
iLembe	82,581	100%	58,036	70.3%	24,545	29.7%
Harry Gwala	4,867	100%	3,570	73.4%	1,297	26.6%
eThekwini	997,342	100%	584,277	58.6%	413,065	41.4%
Total	1,348,912	100%	814,188	60.4%	534,724	39.6%

3.2 EMPLOYMENT SECTOR

The following figure shows the employment per sector within the UW supply area and the Mgeni WSS.



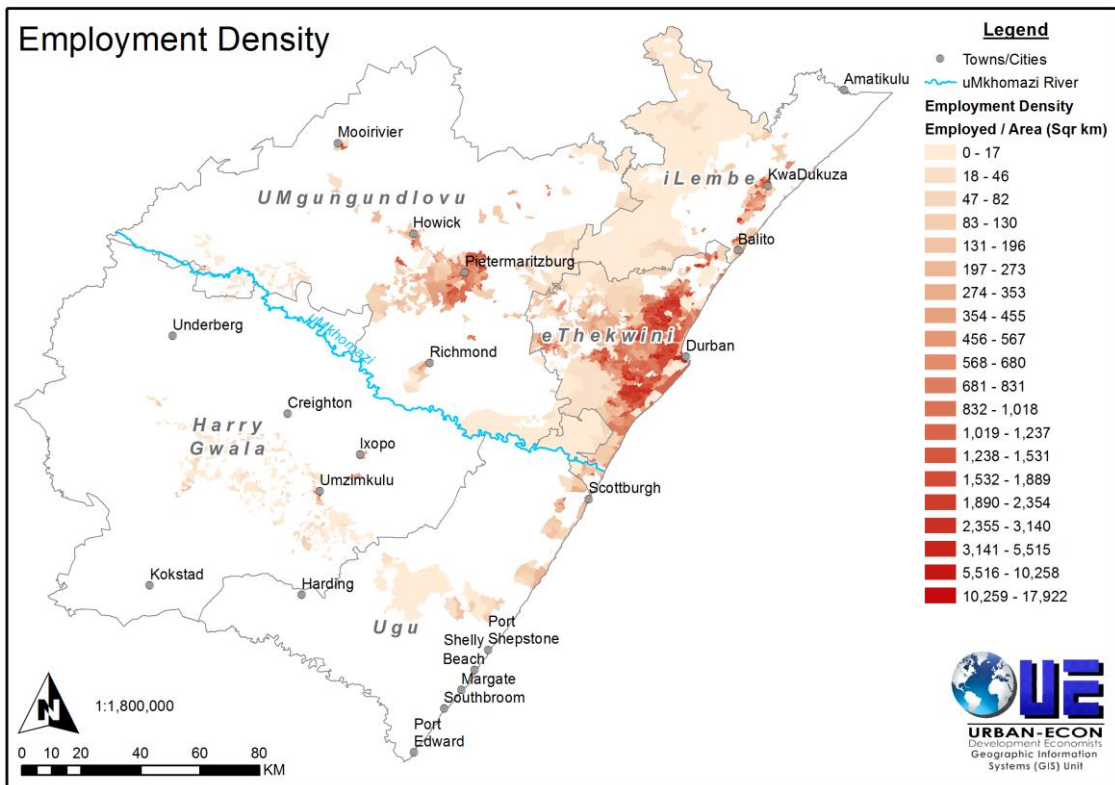
Source: (Quantec, 2015)

Figure 3.1: Sources of employment

The following main findings can be highlighted:

- ◆ The majority of people (80.6%) are employed within the formal employment sector in the UW supply area and this is 80.8% of people in the Mgeni WSS;
- ◆ In the UW supply area, 10.3% of the people are employed within the informal sector, while this is 10.1% in the Mgeni WSS; and
- ◆ 9.1% of people are employed in private households in both areas.

Map 3.1 indicates the employment density within the UW supply area footprint. It indicates the number of employed persons per square kilometre. It is evident that eThekweni has the highest employment density and is the economic hub of the KwaZulu-Natal province. eThekweni also drives economic growth in the province and will require additional water in order to sustain this economic growth.



Map 3.1: Employment density

4 LAND USE

The following table indicates the land use of the enumeration areas during the 2011 census that falls within the UW supply area footprint and the Mgeni WSS.

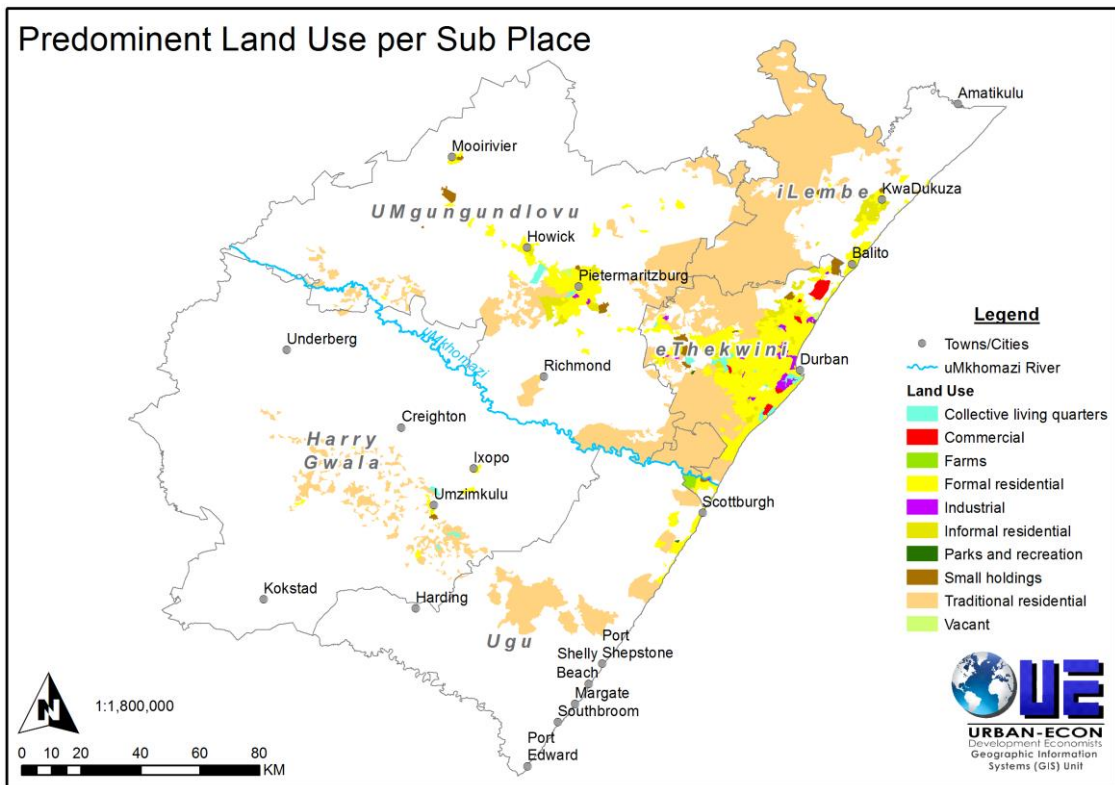
Table A-1: Land use

Land Use	UW Supply Area	Mgeni WSS
Formal residential	58.5%	62.6%
Informal residential	12.7%	13.7%
Traditional residential	26.8%	21.6%
Farms	0.0%	0.0%
Parks and recreation	0.0%	0.0%
Collective living quarters	0.8%	0.8%
Industrial	0.3%	0.3%
Small holdings	0.3%	0.3%
Vacant	0.0%	0.0%
Commercial	0.5%	0.5%

Source: (Quantec, 2015)

The land use within the UW supply area footprint and the Mgeni WSS is mainly characterized by formal, informal and traditional residential areas which account for 98.0% of all the land uses in both areas.

Map 4.1 gives an indication of the predominant land uses within the UW supply area footprint.



Map 4.1: Predominant land uses per sub place

5 HOUSING AND ASSOCIATED INFRASTRUCTURE

The purpose of this section is to give an indication of the types of dwellings, types of toilets and access to drinking water that households have within the UW supply area footprint and the Mgeni WSS.

5.1 TYPES OF DWELLINGS

The table below gives an indication of the types of dwellings for the households within the UW supply area footprint and the Mgeni WSS.

Table A-1: Types of dwellings

Type of Dwelling	UW Supply Area	Mgeni WSS
House or brick structure on a separate stand	59.9%	61.1%
Traditional dwelling/ hut/ structure	11.2%	8.6%
Flat or apartment in a block of flats	8.2%	8.6%
Cluster house in complex	1.5%	1.6%
Townhouse (semi-detached house in a complex)	1.0%	1.1%
Semi-detached house	1.5%	1.6%
House/ flat/ room in backyard	1.8%	1.9%
Informal dwelling (in backyard)	3.5%	3.6%
Informal dwelling (in an informal settlement or on a farm)	9.4%	10.0%
Other	1.9%	1.9%

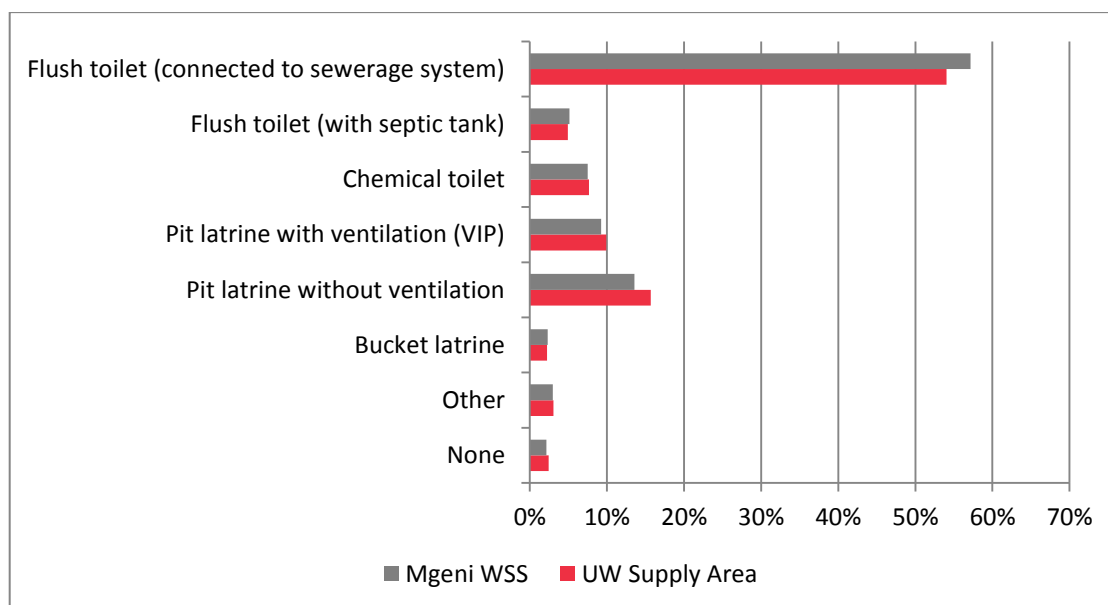
Source: (Quantec, 2015)

The following main findings can be highlighted:

- ◆ The majority of households reside in a house or brick structure on a separate stand within both areas;
- ◆ 11.2% of households reside in traditional dwellings or huts made of traditional materials in the UW supply area, while this represents 8.6% of the households in the Mgeni WSS; and
- ◆ 9.4% of households in the UW supply area and 10.0% of households in the Mgeni WSS reside in informal dwellings either in an informal settlement or on a farm.

5.2 TYPES OF TOILETS

Figure 5.1 gives an indication of the types of toilets used by the households within the UW supply area footprint and the Mgeni WSS.



Source: (Quantec, 2015)

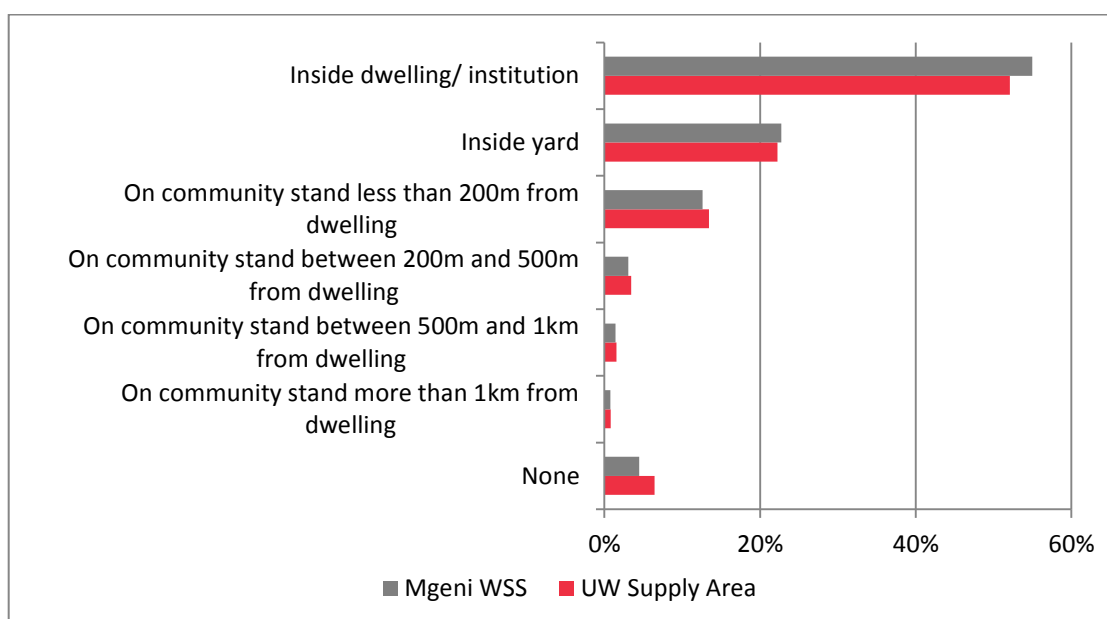
Figure 5.1: Types of toilets

The following main findings can be highlighted:

- ◆ The majority of households in both areas have access to a flush toilet and most of those are connected to a sewerage system;
- ◆ The percentage of households that use pit latrines in the UW supply area are 25.6% and the percentage for the Mgeni WSS is 22.8%. The majority of those are pit latrines without ventilation in both areas;
- ◆ A total of 2.4% of the households have no access to a toilet in the UW supply area and 2.1% for the Mgeni WSS.

5.3 ACCESS TO WATER

Figure 5.2 gives an indication of the households' access to water within the UW supply area footprint and the Mgeni WSS. A more detailed description of the water service levels and residential water requirements are contained in **Appendix A**.



Source: (Quantec, 2015)

Figure 5.2: Access to water

The following main findings can be highlighted:

- ◆ The majority of households in both areas have access to piped water either inside their dwellings or inside their yard;
- ◆ The percentage of households with access to piped water on a community stand less than 200m from their dwelling is 13.4% for the UW supply area and 12.6% for the Mgeni WSS;
- ◆ 6.4% of the households have no access to water in the UW supply area and 4.5% have no access in the Mgeni WSS.

6 HEALTH FACILITIES

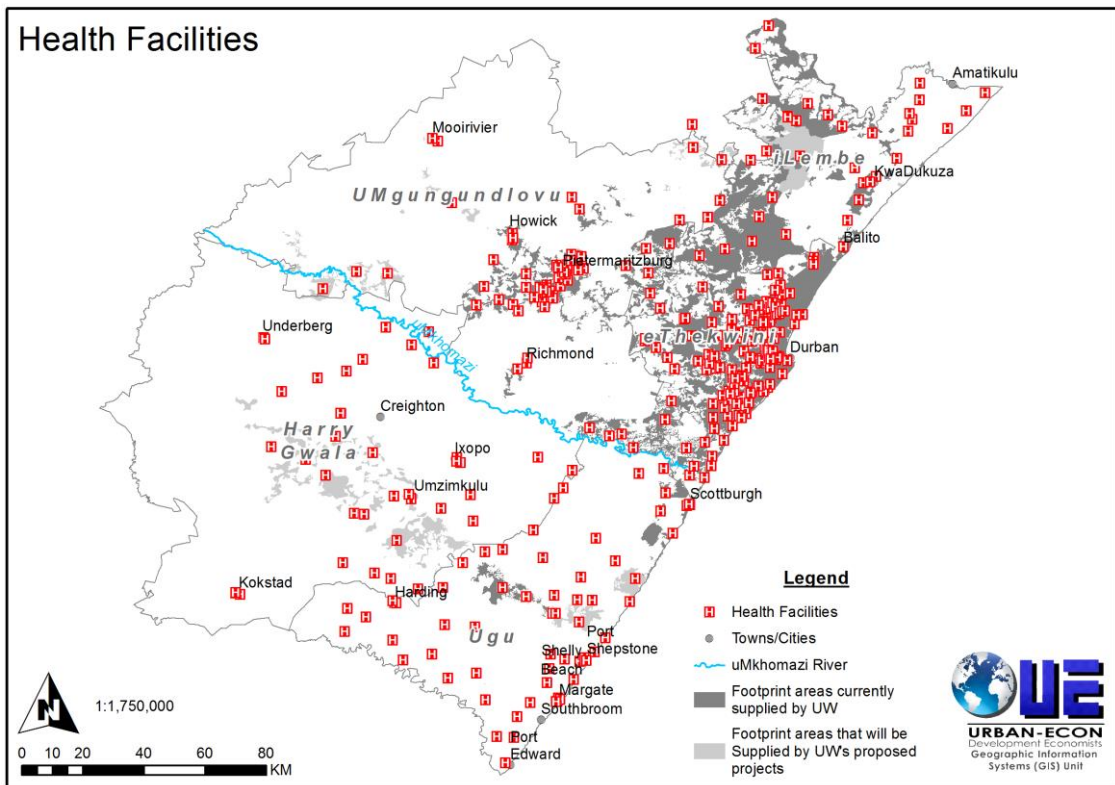
The following table provides a summary of the health facilities within each municipality. The facilities listed include, *inter alia*, clinics, community health centres and hospitals.

Table A-1: Health facilities

District Municipality	Local Municipality	Total Facilities in Municipality	Facilities in UW supply area	Facilities in Mgeni WSS
eThekwini	eThekwini Metropolitan Municipality	148	146	136
Harry Gwala	Ubuhlebezwe Local Municipality	10	2	0
	Umzimkhulu Local Municipality	15	8	0
iLembe	KwaDukuza Local Municipality	8	7	2
	Maphumulo Local Municipality	12	10	0
	Ndwedwe Local Municipality	9	6	2
Ugu	Hibiscus Coast Local Municipality	22	2	0
	Umdoni Local Municipality	6	6	0
	Umzumbe Local Municipality	15	5	0
	Vulamehlo Local Municipality	6	3	0
uMgungundlovu	Impendle Local Municipality	2	2	0
	Mkhambathini Local Municipality	5	5	1
	Mpofana Local Municipality	2	2	0
	Richmond Local Municipality	4	4	0
	The Msunduzi Local Municipality	39	39	39
	uMngeni Local Municipality	5	5	4
	uMshwati Local Municipality	10	8	3

Source: (Health Information Systems Programme, 2015), (KZN Department of Health, 2015)

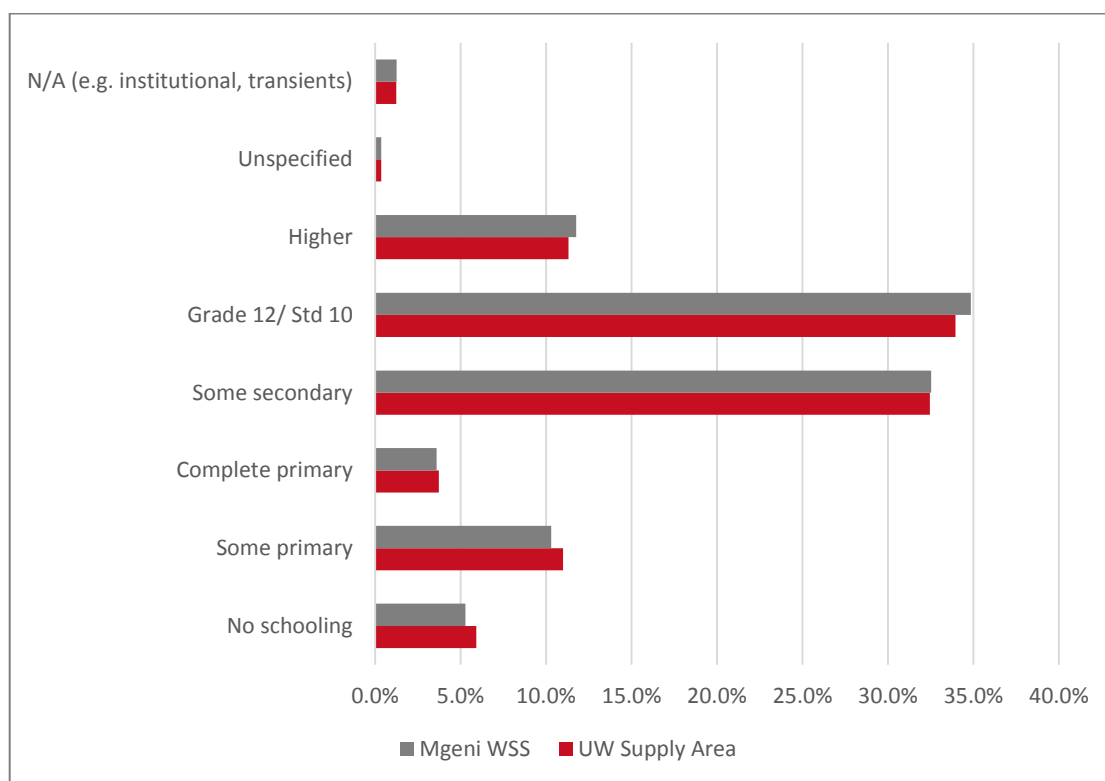
Map 6.1 shows the health facilities within the study area.



Map 6.1: Health facilities

7 EDUCATIONAL FACILITIES

Figure 7.1 gives an indication of the level of education within the UW supply area footprint and the Mgeni WSS.



Source: (Quantec, 2015)

Figure 7.1: Education

The following main findings can be highlighted:

- ◆ The majority of the population has completed grade 12 in both areas;
- ◆ 32.5% of the population has some secondary schooling in both areas;
- ◆ 11.3% of the population has a higher education qualification in the UW supply area and 11.8% in the Mgeni WSS; and
- ◆ 5.9% of the population has no schooling in the UW supply area and 5.3% in the Mgeni WSS.

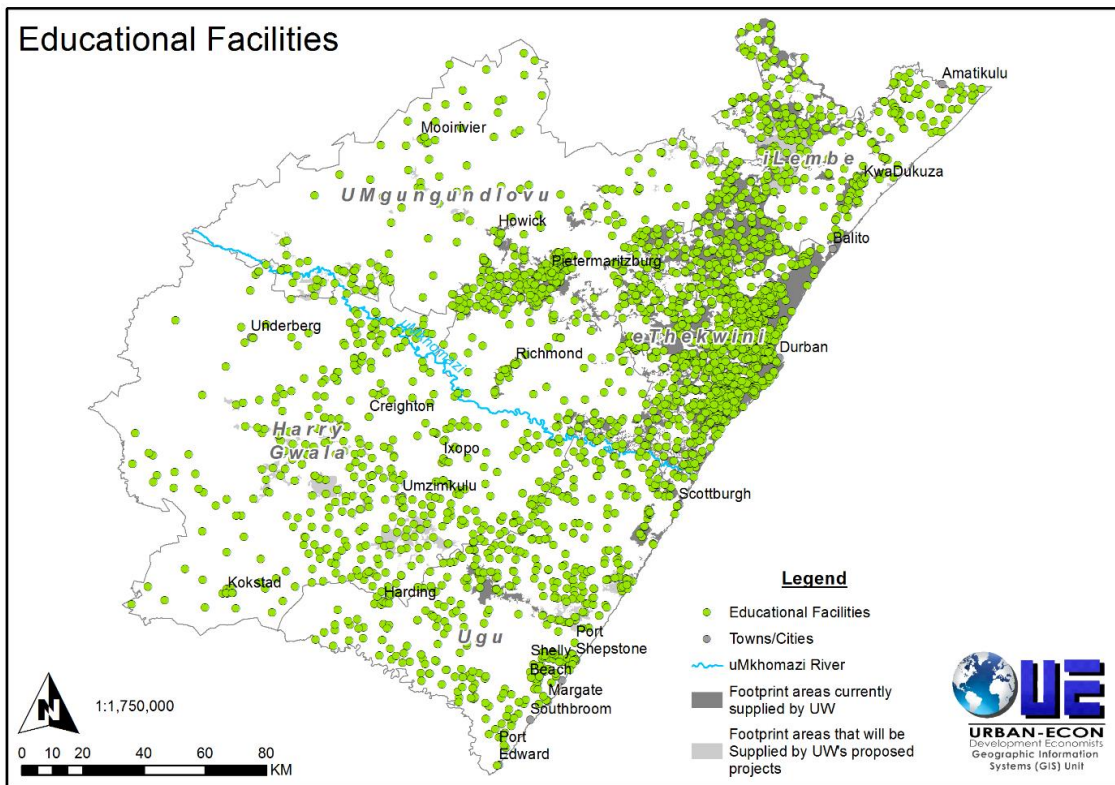
Table A-1 provides a summary of the schools within each municipality.

Table A-1: Schools

District Municipality	Local Municipality	Total Facilities in Municipality	Facilities in UW supply area	Facilities in Mgeni WSS
eThekweni	eThekweni Metropolitan Municipality	1,010	988	919
Harry Gwala	Ubuhlebezwe Local Municipality	120	8	0
	Umzimkhulu Local Municipality	166	107	0
iLembe	KwaDukuza Local Municipality	59	49	18
	Maphumulo Local Municipality	115	113	0
	Ndwedwe Local Municipality	170	156	62
Ugu	Hibiscus Coast Local Municipality	96	9	0
	Umdoni Local Municipality	33	29	0
	Umzumbe Local Municipality	145	38	0
	Vulamehlo Local Municipality	94	31	3
uMgungundlovu	Impendle Local Municipality	39	34	2
	Mkhambathini Local Municipality	59	46	19
	Mpofana Local Municipality	38	10	4
	Richmond Local Municipality	57	39	6
	The Msunduzi Local Municipality	212	209	208
	uMngeni Local Municipality	47	30	22
	uMshwati Local Municipality	83	66	44

Source: (Department of Basic Education, 2014)

Map 7.1 shows the schools within the study area.



Map 7.1: Schools

8 NATURE RESERVES AND PROTECTED AREAS

Provincial nature reserves and protected areas are listed in the table below:

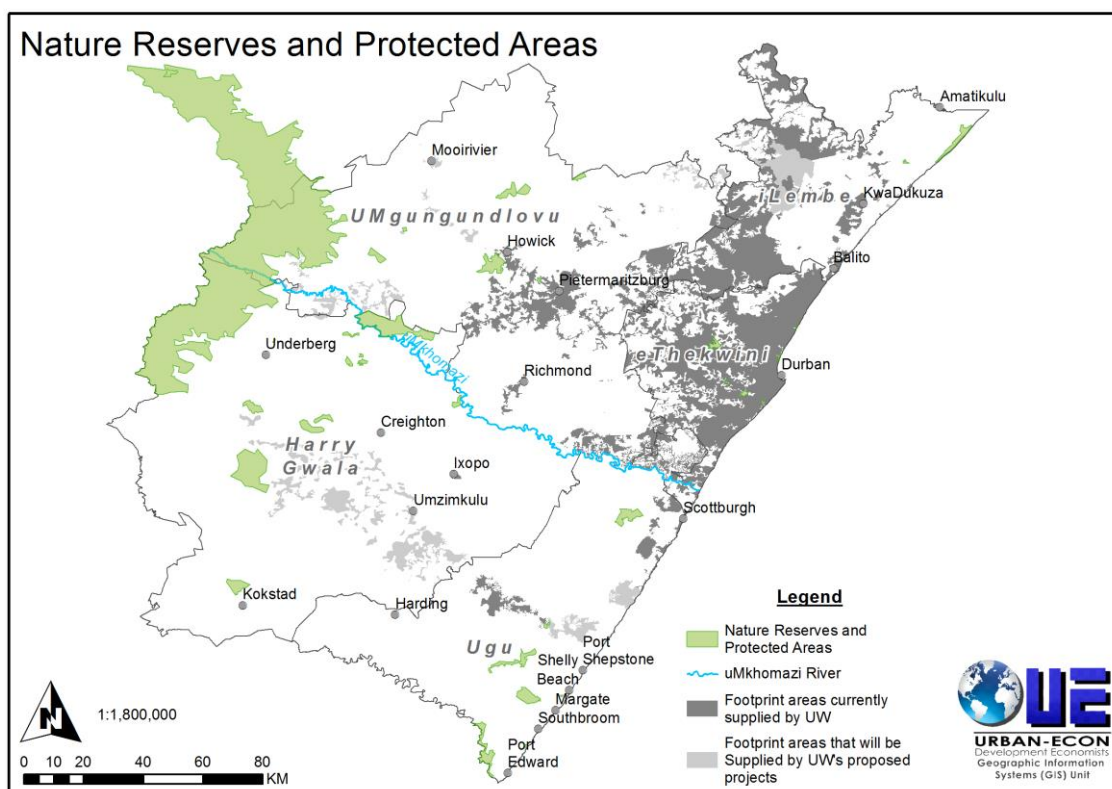
Table A-1: Nature reserves

District Municipality	Local Municipality	Nature Reserve or Protected Area	Located within UW supply area	Located within Mgeni WSS
eThekweni	eThekweni	Beachwood Mangroves Nature Reserve	Partly	Partly
		Bluff Nature Reserve	No	No
		Kenneth Stainbank Nature Reserve	No	No
		Krantzkloof Nature Reserve	Partly	Partly
		Krantzkloof Nature Reserve	Partly	Partly
		North Park Nature Reserve	Partly	Partly
		Umhlanga Lagoon Nature Reserve	Partly	Partly
Harry Gwala	Greater Kokstad	Mount Currie Nature Reserve	No	No
	Ingwe	Igxalingenwa Nature Reserve	No	No
		Impendle Nature Reserve	No	No
		Indhloveni Nature Reserve	No	No
		Ingelabantwana Nature Reserve	No	No
		Kwa Yili Nature Reserve	No	No
		Marutswa Nature Reserve	No	No
		Marwaqa Nature Reserve	No	No
		Soada Forest Nature Reserve	No	No
		Xotsheyake Nature Reserve	No	No
	KwaSani	Coleford Nature Reserve	No	No
		Himeville Nature Reserve	No	No
	Umzimkhulu	Ntsikeni Wildlife Reserve	No	No
iLembe	Mandeni	Amatikulu Nature Reserve	No	No
		Harold Johnson Nature Reserve	No	No
Ugu	Ezingoleni	Oribi Gorge Nature Reserve	No	No
	Hibiscus Coast	Mbumbazi Nature Reserve	No	No
		Mpenjati Nature Reserve	No	No
		Skyline Nature Reserve	No	No
		Umtamvuna Nature Reserve	No	No
	Umzumbe	Mehlomnyama Nature Reserve	No	No
	Vulamehlo	Vernon Crookes Nature Reserve	No	No
uMgungundlovu	Impendle	Umgeni Vlei Nature Reserve	No	No
	The Msunduzi	Queen Elizabeth Park Nature Reserve	Partly	Partly
	uMngeni	Doreen Clark Nature Reserve	Partly	Partly

District Municipality	Local Municipality	Nature Reserve or Protected Area	Located within UW supply area	Located within Mgeni WSS
		Fort Nottingham Nature Reserve	No	No
		Midmar Nature Reserve	Partly	Partly
	uMshwathi	Blinkwater Nature Reserve	No	No
	Various	Karkloof Nature Reserve	No	No
Various	Various	Ukhahlamba Drakensberg Park	No	No

Source: (South African National Biodiversity Institute, 2008)

The following map indicates the nature reserves and protected areas within the study area.



Map 8.1: Nature reserves and protected areas

9 PLANNED HOUSING PROJECTS

A number of housing projects are planned within each of the district municipalities. The tables below gives an indication of the housing projects as indicated within the Integrated Development Plans (IDPs) of each municipality. These housing projects are not necessarily located within the UW supply area footprint. The information available for these projects is very limited.

Table A-1: Housing projects within eThekweni

eThekwini Metropolitan Municipality
eThekwini aims to build 8,500 new serviced low income houses in 2014/2015 and totalling approximately 32,000 houses by 2016/2017.
The largest housing project in eThekwini is the Cornubia development. This is a national priority project and will consist of 10,000 affordable/middle income units, 15,000 low income units, 2.5 million square metres of commercial/industrial bulk as well as social facilities.

Source: (eThekwini Metropolitan Municipality, 2014)

Table A-2: Housing projects within Harry Gwala

Uzinkhulu Municipality	uBuhlebezwe Municipality	
Clydesdale (900 units)	eMadungeni (1,000 units)	Mahehle Ph.2 (500 units)
Ibisi (636 units)	Highflats (500 units)	Ixopo Slums (1,000 units)
Khiliva (300 units)	KwaThathani (500 units)	Mziki (300 units)
Mabandla (500 units)	Mfulomubi (500 units)	Sangcwaba (205 units)
Mfulamuhle (500 units)	Fairview (736 units)	Sponya (700 units)
Riverside Ph.1 (500 units)	Mariathal Mission (92 units)	Ibhobhobho (500 units)
	Ithubalethu (384 units)	

Source: (Harry Gwala District Municipality, 2014)

Table A-3: Housing projects within iLembe

Project	Stage	Project	Stage
KwaDukuza Municipality		Maphumulo Municipality	
Steve Biko Ph 2	implementation	Mkhonto	Planning
Etete Phase 4	implementation	Embo	Planning
Driefontein	implementation	Qadi	Planning
Nyathikazi	Planning	KwaMaqumbi	Planning
Groutville Priority 1 (Chris	Planning	Nombokojwana	Planning

Project	Stage	Project	Stage
Hani)			
Groutville Priority 1 (Llyods)	Planning	Kwahlongwa	Construction
Groutville Priority 1 (Ntshawini)	Planning	Mthandeni	Construction
Hyde Park	Planning	Amangcolosi	Construction
Groutville Priority 2	Construction	Amambedu	Construction
Groutville Priority 5	Construction	Ndwedwe Municipality	
Rocky Park Integrated Dev	Construction		
Sokesimbone	Construction	Project	Stage
Sakhankanya	Construction	Mavela Phase 2	Planning
Mbozamo Rectification	Construction	Gcwensa	Construction
Aldinville	Construction	Mlamula	Construction
Albert Luthuli	Construction	Nkumbanyuswa	Construction
Ethafeni	Construction	Emalangeni, Woyisane, Cibane	Construction
Charlottedale	Feasibility	Kwashangase	Construction
Sihle Phakathi	Feasibility	Qadi	Identified
Madundube	Packaging	Luthuli	Identified
Mgigimbe	Packaging	Cele-Nhlangwini/ Glendale	Identified
Mellowood Park	Packaging	Qwabe/Waterfall	Identified
Greater Driefontein	Packaging	Magwaza/Waterfall	Identified
		Nkumbanyuswa Phase 2	Identified
		Chili/Khumalo/Ngcolosi	Identified
		Mangangeni/Hlophe	Identified
		Nodwengu Phase 2	Identified
		Gcwensa Phase 2	Identified
		Mlamula Phase 2	Identified
		Ndwedwe Village	Identified
		Bhamshela	Identified
		Glendale Farm/Trust	Identified

Source: (iLembe District Municipality, 2015)

Table A-4: Housing projects within Ugu

Hibiscus Coast Municipality	Umdoni Municipality	
Lot 7 Albersville (40 units)	Malangeni Rural (2,000 units)	
Bhobhoyi Ph.2 (1,098 units)	Kwa Cele Ph.2 (1,000 units)	
Merlewood (412 units)	Mandawe Rural Ph.3 (1,000 units)	
Oshabeni (1,000 units)	Umzinto Slums Ph.2 (1,000 units)	
KwaMadlala (1,000 units)	Vulamehlo Municipality	
KwaMavundla (100 units)		
Gamalakhe (2,000 units)	Vulindlela Rural (1,000 units)	
KwaNzimakwe (1,000 units)	Vulamehlo Wards 5 & 7 (2,000 units)	
KwaXolo ward 5, 8 & 29 (1,000 units)	Vulamehlo Wards 8 & 9 Rural (1,500 units)	

KwaNdwalane Deep Rural (1,000 units)	Thoyane Rural (1,500 units)
KwaNdwalane Peri-Urban (1,000 units)	Dududu Wards 6 Ph.2 (1,500 units)
Umzombe Municipality	Mjundwini/Dlangezwa (1,500 units)
	Smahla Ph.2 (1,500 units)
Cluster A Rural (2,000 units)	Vulindlela Ph.2 (1,500 units)
Cluster B Rural (2,000 units)	Vulamehlo Wards 8 & 9 Ph.2 (1,500 units)
Cluster C Rural (2,000 units)	
Cluster D Rural (500 units)	
Assisi Children Shelter (60 units)	

Source: (Ugu District Municipality, 2014)

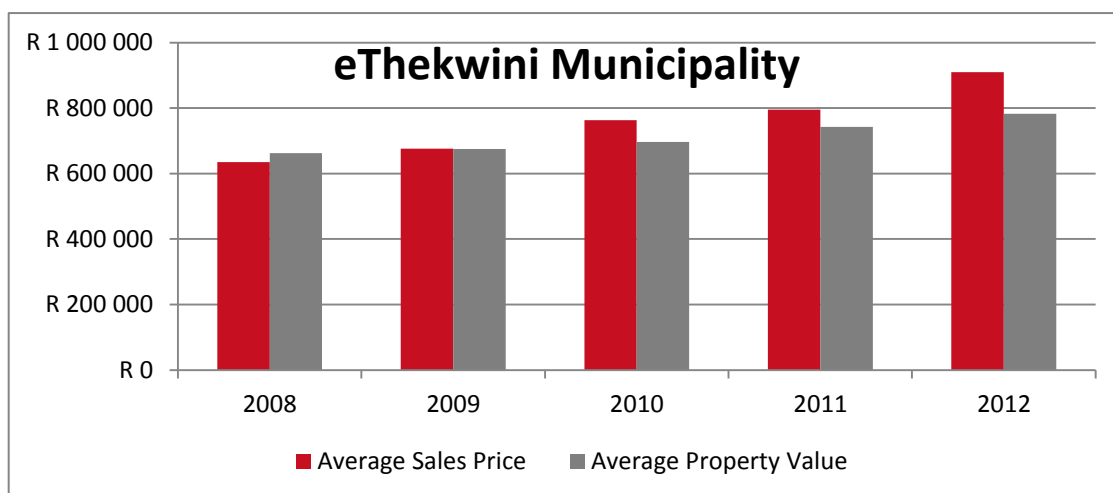
Table A-5: Housing projects within uMgungundlovu

uMgungundlovu Municipality	
Kwa-Mahleka	KwaNxamalala
Phumlas	Edendale S Ext 8
Rosetta	Jika Joe
Inhlazuka	Vulindlela Rural Housing
Khayalisha (Boston Road Corridor)	

Source: (uMgungundlovu District Municipality, 2015)

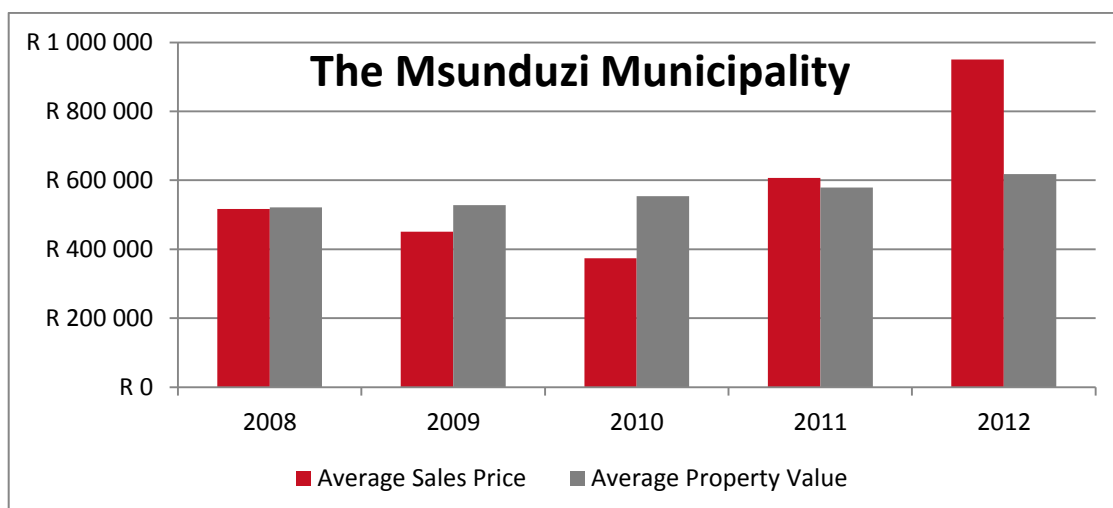
10 PROPERTY VALUES

The following figures indicate the average property value and the average sales price for properties in eThekweni Metropolitan Municipality as well as The Msunduzi Local Municipality between 2008 and 2012.



Source: (Centre for Affordable Housing Finance in Africa, 2015)

Figure 10.1: Average property value and average sales price for properties in eThekweni Metropolitan Municipality, 2008 - 2012



Source: (Centre for Affordable Housing Finance in Africa, 2015)

Figure 10.2: Average property value and average sales price for properties in The Msunduzi Local Municipality, 2008 - 2012

The table below gives an indication of the median property values within some of the non-metropolitan nodes within the UW supply area footprint.

Table A-1: Property values for typical sites

Towns	Vacant Land	House/Townhouse	Farm/Small Holding	Commercial
Ballito	R 950 000	R 2 247 500	R 3 990 000	R 2 812 950
Howick	R 410 000	R 966 688	R 3 900 000	R 5 800 000
Ixopo	-	R 1 650 000	R 3 500 000	-
KwaDukuza	R 492 500	R 1 175 000	R 5 100 000	R 3 000 000
Margate	R 260 000	R 629 885	R 3 650 000	R 1 700 000
Mooi River	R 474 500	R 865 000	R 3 300 000	R 5 000 000
Port Edward	R 300 000	R 631 333	R 2 750 000	R 4 775 000
Port Shepstone	R 450 000	R 1 400 000	R 4 320 000	R 3 988 000
Richmond	R 145 000	R 872 000	R 2 450 000	R 1 400 000
Scottburgh	R 920 000	R 1 080 000	R 2 725 000	R 825 000

Source: (Private Property, 2015), (Property 24, 2015)

11 SAFETY AND SECURITY

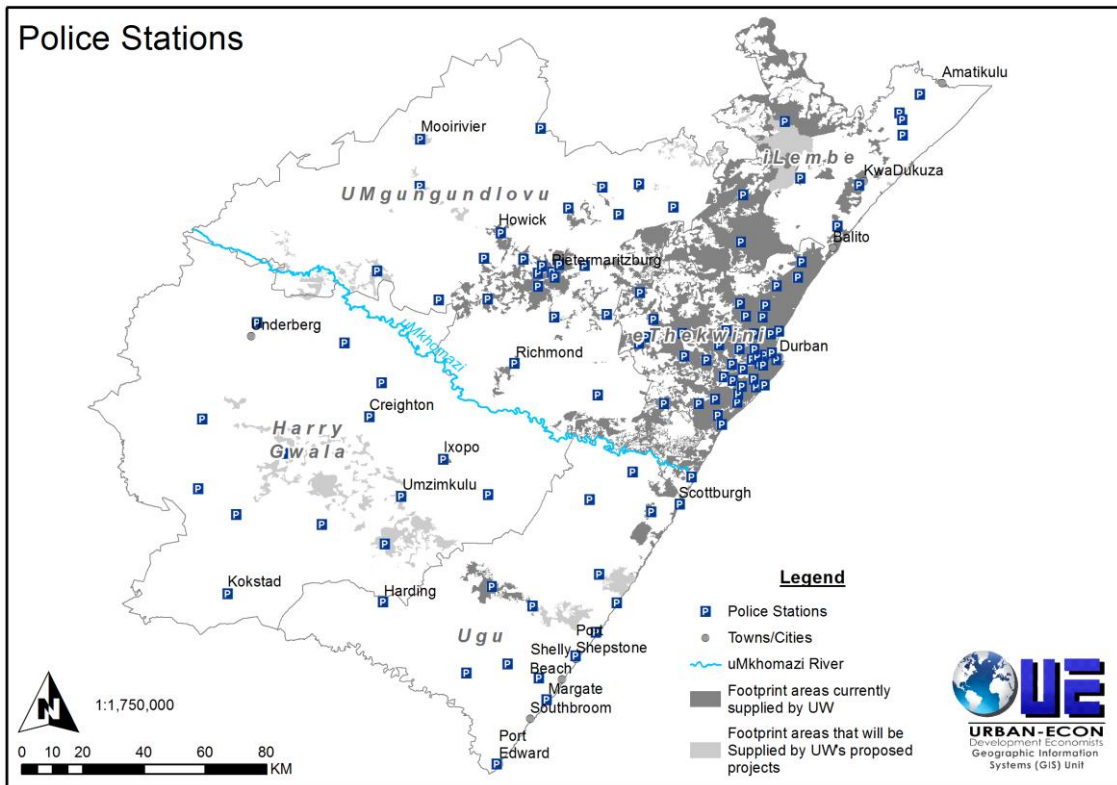
The following table provides a summary of the police stations within each municipality.

Table A-1: Police stations

District Municipality	Local Municipality	Total Facilities in Municipality	Facilities in UW supply area	Facilities in Mgeni WSS
eThekweni	eThekweni Metropolitan Municipality	44	43	38
Harry Gwala	Ubuhlebezwe Local Municipality	2	0	0
	Umzimkhulu Local Municipality	4	3	0
iLembe	KwaDukuza Local Municipality	2	2	1
	Maphumulo Local Municipality	1	1	0
	Ndwedwe Local Municipality	3	3	1
Ugu	Hibiscus Coast Local Municipality	6	0	0
	Umdoni Local Municipality	2	2	0
	Umzumbe Local Municipality	3	2	0
	Vulamehlo Local Municipality	2	0	0
uMgungundlovu	Impendle Local Municipality	2	1	0
	Mkhambathini Local Municipality	2	2	1
	Mpofana Local Municipality	1	1	0
	Richmond Local Municipality	2	2	1
	The Msunduzi Local Municipality	7	7	7
	uMngeni Local Municipality	4	4	3
	uMshwati Local Municipality	7	5	4

Source: (South African Police Service, 2015)

The following map shows the police stations within the study area.



Map 11.1: Police stations

12 CONCLUSION

The following socio-economic findings of the UW supply area footprint and the Mgeni WSS can be highlighted:

- ◆ A total of 5 388 804 people and 1 449 894 households reside in the UW supply area footprint, while a total of 4 951 222 people and 1 348 912 households reside in the Mgeni WSS;
- ◆ The average household size is 3.7 persons per household;
- ◆ 48.2% of the population within the UW supply area footprint is male and 51.8% of the population is female. 48.4% of the population within the Mgeni WSS is male and 51.6% of the population is female;
- ◆ 67.7% of the population forms part of the potentially economically active population in the UW supply area, while this is 68.7% of the population within the Mgeni WSS;
- ◆ The unemployment rate for the UW supply area is 28.5% and the unemployment rate for the Mgeni WSS is 28.3%;
- ◆ The land use within the UW supply area footprint and the Mgeni WSS is mainly characterized by formal, informal and traditional residential areas which account for 98.0% of all the land uses in both areas;
- ◆ The majority of households reside in a house or brick structure on a separate stand within both areas;
- ◆ The majority of households in both areas have access to a flush toilet and most of those are connected to a sewerage system;
- ◆ The majority of households in both areas have access to piped water either inside their dwellings or inside their yard;
- ◆ There are 260 health facilities located within the UW supply area footprint and 187 facilities within the Mgeni WSS;
- ◆ The majority of the population has completed grade 12 in both areas;
- ◆ There are 1 962 schools located within the UW supply area footprint and 1 307 schools within the Mgeni WSS;
- ◆ There are 78 police stations located within the UW supply area footprint and 56 police stations within the Mgeni WSS.

Appendix A

Water Service Levels and Residential Water Requirements

Table A-1: Water service levels in the Umgeni WSA and uMkhomazi WSS

Service Level 2011	Umgeni Water Supply Area Footprint		Mkomazi Water Supply System	
	Number	Percentage	Number	Percentage
Inside dwelling/ institution	722,565	52.1%	708,979	55.0%
Inside yard	308,320	22.2%	292,932	22.7%
On community stand more than 200m from dwelling	186,358	13.4%	162,567	12.6%
On community stand between 200m and 500m from dwelling	47,602	3.4%	39,792	3.1%
On community stand between 500m and 1km from dwelling	21,469	1.5%	18,382	1.4%
On community stand more than 1km from dwelling	11,067	0.8%	9,573	0.7%
No access to piped water	89,247	6.4%	57,576	4.5%
Total	1,386,628	100.0%	1,289,801	100.0%

Table A-2: Residential water requirements for the Umgeni WSA and uMkhomazi WSS

Year	Indicator	Umgeni Water Supply Area Footprint				Mkomazi Water Supply System			
		Inside dwelling/ institution	Inside yard	On community stand	Total	Inside dwelling/ institution	Inside yard	On community stand	Total
2015	Planning population	2,877,388	1,207,288	957,261	5,041,937	2,797,460	1,136,410	796,330	4,730,199
	Level of service	57.1%	23.9%	19.0%	100.0%	59.1%	24.0%	16.8%	100.0%
	Consumption rate (ℓ/c/d)	200	80	30		200	80	30	
	Total consumption (kℓ/d)	575,478	96,583	28,718	700,779	559,492	90,913	23,890	674,295
	Provision for water losses: 25%	143,869	24,146	7,179	175,195	139,873	22,728	5,972	168,574
	Provision for peak supply: 20%	115,096	19,317	5,744	140,156	111,898	18,183	4,778	134,859
	Total residential requirement (kℓ/d)	834,443	140,045	41,641	1,016,129	811,263	131,824	34,640	977,727
2020	Annual population growth rate (%)				1.2%				1.2%
	Planning population	3,110,226	1,286,776	943,174	5,340,176	3,033,144	1,214,840	764,423	5,012,407
	Level of service	58.2%	24.1%	17.7%	100.0%	60.5%	24.2%	15.3%	100.0%
	Consumption rate (ℓ/c/d)	200	80	35		200	80	35	
	Total consumption (kℓ/d)	622,045	102,942	33,011	757,998	606,629	97,187	26,755	730,571
	Provision for water losses: 20%	124,409	20,588	6,602	151,600	121,326	19,437	5,351	146,114
	Provision for peak supply: 20%	124,409	20,588	6,602	151,600	121,326	19,437	5,351	146,114
Total residential requirement (kℓ/d)	870,863	144,119	46,216	1,061,198	849,280	136,062	37,457	1,022,799	
2030	Annual population growth rate (%)				1.2%				1.2%
	Planning population	3,361,905	1,371,497	922,655	5,656,057	3,288,685	1,298,684	724,083	5,311,452

Year	Indicator	Umgeni Water Supply Area Footprint				Mkomazi Water Supply System			
		Inside dwelling/ institution	Inside yard	On community stand	Total	Inside dwelling/ institution	Inside yard	On community stand	Total
	Level of service	59.4%	24.2%	16.3%	100.0%	61.9%	24.5%	13.6%	100.0%
	Consumption rate (ℓ/c/d)	200	90	40		200	90	40	
	Total consumption (kℓ/d)	672,381	123,435	36,906	832,722	657,737	116,882	28,963	803,582
	Provision for water losses: 18%	121,029	22,218	6,643	149,890	118,393	21,039	5,213	144,645
	Provision for peak supply: 20%	134,476	24,687	7,381	166,544	131,547	23,376	5,793	160,716
	Total residential requirement (kℓ/d)	927,886	170,340	50,931	1,149,156	907,677	161,297	39,969	1,108,943
2040	Annual population growth rate (%)				1.2%				1.2%
	Planning population	3,633,951	1,461,796	894,877	5,990,623	3,565,755	1,388,314	674,270	5,628,339
	Level of service	60.7%	24.4%	14.9%	100.0%	63.4%	24.7%	12.0%	100.0%
	Consumption rate (ℓ/c/d)	200	90	50		200	90	50	
	Total consumption (kℓ/d)	726,790	131,562	44,744	903,096	713,151	124,948	33,713	871,813
	Provision for water losses: 15%	109,019	19,734	6,712	135,464	106,973	18,742	5,057	130,772
	Provision for peak supply: 20%	145,358	26,312	8,949	180,619	142,630	24,990	6,743	174,363
Total residential requirement (kℓ/d)	981,167	177,608	60,404	1,219,179	962,754	168,680	45,513	1,176,947	