The management of potable water supply: the case of Mkhwanazi Tribal Authority

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Mini-dissertation submitted in partial fulfilment of the requirements for the degree of Master of Development and Management at the Potchefstroom Campus of the North-West University

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DECLARATION

I declare that the mini-dissertation for the degree of Magister Artium in Development and Management at the Potchefstroom Campus of the North-West University hereby submitted, has not been submitted by me to this or another University, that it is my own work in execution and design, and that all material contained herein has been duly acknowledged.

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TABLE OF CONTENTS

LIST OF APPENDICES

LIST OF TABLES

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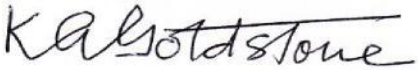

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LIST OF FIGURES

LIST OF ABBREVIATIONS

ANC African National Congress
FBW Free Basic Water
IDP Integrated Development Plan
MTA Mkhwanazi Tribal Authority
ULM UMhlathuze Local Municipality
RDP Reconstruction and Development Programme

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ABSTRACT

This mini-dissertation addresses the management of the potable water supply in the Mkhwanazi Tribal Authority's area of jurisdiction. The main objectives of the study were to determine the organisational structures and public policies governing the potable water supply in the uMhlathuze Local Municipality with a view to establishing the factors that hinder the provision of potable water to some parts of the Mkhwanazi Tribal Area and also determine how the present potable water situation is perceived by the MTA residents.

The Mkhwanazi Tribal Authority's area of jurisdiction is predominantly a residential area for the Zulu speaking people under the uMhlathuze Local Municipality's area of responsibility in the Province of KwaZulu-Natal. The organisational structures governing the potable water supply in the MTA identified in the study are the ULM comprising of the Municipal Council and the administrative; Integrated Development Plan; Water Services Provider; Water Committee; and the Mkhwanazi Tribal Council.

The provision of potable water in the MTA is regulated through the UMhlathuze Water Services By-Laws which are based on the standards of basic water and sanitation in terms of the White Paper on Reconstruction and Development Programme (RDP) (SA, 1994:17).

The study established that the challenges affecting the potable water supply are the lack of funds in the Municipality, rising water demand, human capacity and water loss.

The MTA residents appreciate the current potable water supply by the ULM but have a negative attitude towards paying for water services because they consider water as a natural resource that must be freely supplied to them by the Government. Therefore, the study recommended that water awareness campaigns be conducted regularly amongst the MTA community to raise the importance of having potable water in the community.

Key words

Management, potable water, public policies, tribal authority, local municipality, sustainable development, rural areas, water resource.

OPSOMMING

Hierdie mini-verhandeling fokus op die bestuur van die drinkbare water toevoer in die Mkhwanazi Stam Owerheid (MSO) se gebied van jurisdiksie. Die belangrikste doelwitte van die studie was om die organisatoriese strukture en openbarebeleid wat die voorsiening van drinkbare water in die uMhlathuze Plaaslike Munisipaliteit (UPM) beinvloed, te bepaal, en daardeur die faktore wat die voorsiening van drinkbare water aan sekere dele van die Mkhwanazi Stamgebied verhinder, vas te stel en ook te bepaal hoe die huidige drinkbare watersituasie waargeneem word deur die MTA inwoners.

Die Mkhwanazi Stam Owerheid se gebied van jurisdiksie is hoofsaaklik 'n woongebied vir die Zoeloe-sprekende mense onder die uMhlathuze plaaslike Munisipaliteit se verantwoordelikheid in die provinsie: KwaZulu-Natal. Die organisatoriese strukture wat die drinkbare water toevoer in die MSO bestuur wat in hierdie studie geïdentifiseer is, is die UPM wat bestaan uit die Munisipale Raad en Administrasie Geïntegreerde Ontwikkelingsplan, Water Dienste, Water Komitee, en die Mkhwanazi stamraad.

Die voorsiening van drinkbare water in die MSO word gereguleer deur uMhlathuze Water Dienste se verordeninge wat gebaseer is op die standaarde van die basiese water en sanitasie in terme van die Witskrif oor Heropbou-en Ontwikkelingsprogram (HOP) (SA, 1994:17).

Die studie het vasgestel dat die uitdagings wat die drinkbare water voorsiening beinvloed, is die gebrek aan fondse in die Munisipaliteit, stygende vraag na water, menslikekapasiteit en waterverlies.

Die MSO inwoners waardeer die huidige drinkbare water toevoer deur die UPM maar is negatief om vir water te betaal omdat hulle van mening is dat water 'n natuurlike hulpbron is wat vrylik aan hulle voorsien moet word deur die Regering. Die studie het aanbeveel dat die water bewusmakingsveldtogte gereeld gedoen word in die MSO-gemeenskap, om die belangrikheid van drinkbare water in die gemeenskap te kommunikeer.

Sleutel woorde

Bestuur, drinkbare water, openbare beleid, stamowerheid, Plaaslike Munisipaliteit, volhoubare-ontwikkeling, landelike gebiede, water hulpbron.

CHAPTER 1

RESEARCH GOALS AND OBJECTIVES

1.1 BACKGROUND AND ORIENTATION

Water is the basic requirement for the survival of humans, animals and plants and it is "a critical resource to all aspects of human development" as asserted by Tempelhoff (2005:2), but safe drinking water is not readily available to all the inhabitants of the world. According to Clarke and King (2004:23), more than one third of the world's population do not have sufficient water and the situation is getting worse. Most of the people affected by the lack of safe drinking water are the people living in Sub-Saharan Africa and in Asia (Clarke & King, 2004:22).

The unsustainable developmental features and activities such as rapid population growth, industrialisation, urbanisation and intensification of agriculture have caused a strain on the resources (Castelletti & Soncini-Sessa, 2007:3). Considering that the world's population is estimated to grow from 6 billion to 8.5 billion by the year 2025 (McConkey & Wilsenach, 2010:18), this makes population growth one of the critical aspects to consider for effective sustainable management of water resources.

The situation in South Africa (SA) is not different from that in the rest of the world, but there are specific factors like the inequality of people experienced during apartheid that have contributed to the lack of water supply amongst the black population. For example, at the beginning of the new democratic government in 1994, only 43% to 45% of the black population had piped water, while almost 100% of other races had access to piped water (Perret *et al.* 2006:55; Thompson, 2006:9). The majority of areas without a piped water supply are the rural areas where most of the black population live.

Therefore, to address problems of inequality, the Constitution of 1996 was formulated. As provided in the Constitution, the Government has an obligation to ensure, in terms of section 25(4)(a) of the Constitution (1996), that every person's fundamental right of access to sufficient water is fulfilled. This is also supported by the constitutional mandate relating to

water, which gives every person a fundamental right to an environment that is not harmful to his or her well-being (Thompson, 2006:1). To enforce the Constitution, two pieces of legislation pertaining to water were formulated, namely the Water Services Act of 1997 and the National Water Act 36 of 1998. This is in line with the suggestion quoted by Castelletti and Soncini-Sessa (2007:3) that development of proper legislation and policy is a key issue to ensure integration and participation, so as to meet public demands.

The African National Congress (ANC) government has set five major priorities in their commitment to rural development in the five years from 2009-2014, and this commitment is in accordance with the Millennium Development Goal's drinking water and sanitation target, which is a world pledge, to reduce by half the proportion of people without sustainable access to safe drinking water from 2005 to 2015 (ANC, 2009:6). It is, therefore, of interest to investigate how far the Government's commitment has been fulfilled since 1994.

This study investigates the management of potable water by the uMhlathuze Local Municipality in the Mkhwanazi Tribal Authority's area of jurisdiction that is also called Kwa-Dlangezwa, and is located in the KwaZulu-Natal Province under the uThungulu District Municipality (see Annexure A). The Mkhwanazi Tribal Authority's area of jurisdiction is divided by the national N2 road into the North Mkhwanazi Tribal Area and South Mkhwanazi Tribal Area (UMhlathuze Local Municipality, 2005:63) (see Annexure B).

The provision of water services in the Mkhwanazi Tribal Authority's area of jurisdiction is the responsibility of the uMhlathuze Local Municipality (ULM). The ULM is also the water services provider for the two urban areas, namely: Richards Bay and Empangeni, and the three neighbouring Traditional Tribal Authorities, namely Dube, Khoza and Zungu (see Annexure B). The primary source of potable water in the Mkhwanazi Tribal Authority's geographical area is Cubhu Lake (also see Annexure B).

The Mkhwanazi Tribal Area's municipal area is predominantly a residential area for the black, Zulu-speaking people. The population of the uMhlathuze Local Municipality's municipal area of jurisdiction was put at 332 156 in 2007 and more than 40% of the population reside in rural tribal areas (UMhlathuze Local Municipality, 2010b:25). These figures indicate that the rural tribal areas in the uMhlathuze Local Municipality are densely populated, while the overall female population is 51.6% and the male population is 48.4%.

During the 2007 census, the age breakdown showed a large proportion of the population falling within 15-34 years of age (Umhlathuze Local Municipality, 2010b:25). Most households live on subsistence farming and Government grants. A few people work as general workers at Empangeni, Richards Bay, Felixton and the University of Zululand.

The major land uses in the Mkhwanazi Traditional Authority's area of jurisdiction are commercial farming of sugar cane, woodlots or other forms of cultivation. Very little untransformed land exists as land is mainly used for the production of cane and timber (Moloi, 2007:76). All these land uses have a large bearing on the availability of potable water, thus making the provision of potable water a vital issue. Therefore, it is of interest in this study to investigate the provision of potable water in the Mkhwanazi Tribal Authority's area of jurisdiction. This will also determine how far the Constitutional mandate pertaining to effective potable water supply has been fulfilled by the uMhlathuze Local Municipality within the Mkhwanazi Tribal Authority's area of jurisdiction.

In SA, the majority of people live in rural and semi-rural areas, and these areas are characterised by the prevalence of water-borne diseases as a result of poor sanitation (Department of Water Affairs and Forestry, 2002:6). The area of study, Mkhwanazi Tribal Authority's municipal area, has a history of deaths caused by cholera, an epidemic associated with the lack of safe water and sanitation, and also for example the diarrhoeal outbreak observed at Kwa-Dlangezwa in the year 2000 (Bezuidenhout *et al.* 2002:285). There are a variety of problems related to potable water such as scarcity, contamination, conflict between consumers and users, economic prosperity and preservation of the ecosystem as stated by Thompson (2006:7).

The study also considers the impact on people's lives of not having safe drinking water, as well as the changes experienced by those who have received suitable potable water within the Mkhwanazi Tribal Authority's area of jurisdiction. This will help identify the gaps that still exist in the potable water service delivery by the ULM. Such information is important to capture as it will contribute to finding the solutions to the potable water supply challenge in the Mkhwanazi Tribal Authority's area of jurisdiction.

Moreover, the idea of investigating whether the uMhlathuze Local Municipality satisfies the domestic and commercial potable water needs of the Mkhwanazi Tribal Authority's residents

is important, as this will help in determining the feelings and anticipated opportunities of the residents about the progress made so far. Donahue and Johnston (1998:124) assert that any change brought about in the community can be positive in improving opportunities for a larger portion of the community, or negative in limiting the existing patterns of political and economic power to benefit only a few. Therefore, it is interesting to the study to determine how the availability or unavailability of a potable water supply has affected the entire subculture of the Mkhwanazi Tribal Authority's residents.

The underlying theoretical framework, on which the study is based, is sustainable development. Sustainable development was first defined by the Brundtland report in 1987 as *"development which meets the needs of the present without compromising the ability of the future generations to meet their needs"* (Clayton & Bass, 2002:12; McConkey & Wilsenach, 2010:17; Cronje, 2007:2). Development is interdependent amongst three subsystems, namely: the economic system, social system and biophysical system (Cronje, 2007:16); therefore, it must be done in a manner that will not jeopardise the natural environment. The rationale for using this framework is supported by the need for development that is cost effective whilst ensuring continuity even in future. Therefore, this framework is vital to be considered in any development programme as it allows the public decision makers to make informed plans.

Although progress has been made by some municipalities in SA, the problem of high demand for safe drinking water is far from over as a result of the extension of water provision services to rural areas. This demand for a safe drinking water supply is increasing locally and globally, but the availability of water is predicted to become one of the most pressing and contentious issues in the 21st century (Clayton & Bass, 2002:10).

According to Birkhead *et al.* (1997:27), the factors exacerbating the demand for potable water are high population growth, rapid industrialisation and economic development. South Africa's water supply demand increased after 1994 due to the fact that the former Bantustans were identified and recognised as new areas that were to be supplied with potable water.
The supply of potable water is affected by many factors in SA (Birkhead *et al.* 1997:27; Abrams 1996:on-line) such as:

- South Africa is a semi-arid country with low rainfall;

- High surface water run-off areas are far from areas of maximum demand;
- The country's soil is often of poor quality; and
- Surface water catchment areas are infested by invader vegetation which uses more water.

In light of the aforementioned factors affecting supply and demand of potable water, a critical balance is needed urgently since development relies heavily on the availability of water. Perret *et al.* (2006:55) describe how in South Africa water is seen as a fundamental tool for achieving social justice and pro-poor economic growth.

Availability of potable water in a country has much bearing on health, food security and development (Juana, 2008:9). It is for this reason that the sustainable management of potable water provision is important in the Mkhwanazi Tribal Authority's area of jurisdiction. This statement is consistent with the fact that irrigation contributes to poverty alleviation as pointed out by Hemson *et al.* (2008:8). The Department of Water Affairs (2009:32) also advocates that water is essential for social development and to economic growth, therefore integrated management of water by all role players and stakeholders is important to maintain a sustainable provision of potable water in the Mkhwanazi Tribal Authority's area of jurisdiction.

1.2 PROBLEM STATEMENT

The uMhlathuze Local Municipality started implementing the Intuthuko YamaShamase Water Project in the Mkhwanazi Tribal Area in 2001-2002 (UMhlathuze Local Municipality, 2001:49). Progress has been made by the uMhlathuze Local Municipality since then, but more than 4.4% of the population still do not have safe drinking water. They obtain drinking water from nearby rivers and streams which pose health risks (UMhlathuze Local Municipality, 2001:49; UMhlathuze Local Municipality, 2009b:38). The larger part of the 4.4% backlog is in the northern part of the Mkhwanazi Tribal Authority's area of responsibility, especially Mangeza Village. Considering that more than ten years have elapsed since the inception of the Intuthuko YamaShamase Water Project, it is regrettable that there are still households waiting for potable water in their yards.

As a result of the backlog in the provision of potable water, it is clear that the inhabitants of the northern part of the Mkhwanazi Tribal Authority's geographical area of responsibility are still vulnerable to poverty conditions including a lack of food and safe housing which also contribute to the general poor health conditions.

The delay in the provision of safe drinking water by uMhlathuze Local Municipality has placed much stress on the development of the Mkhwanazi Tribal Authority's area of jurisdiction. This is supported by the contention of McConkey and Wilsenach (2010:107) in stating that the provision of safe drinking water facilitates rural development. Since the water project in the area started 10 years back, it is important to investigate the problems associated with the delay in the completion of the project. The backlog in service delivery is a common problem with most rural municipalities. For example, in this regard, Perret *et al.* (2006:59) claim that the water service provision advocated by the Government has not even reached Sekhukhune in Limpopo.

The challenge of poor service delivery has many ties to the public decision makers. Transparency amongst these public decision makers can be the solution, Castelletti and Soncini-Sessa (2007:3) recommend that:

"*integrated water resource management and participatory approach would help to better control and accelerate the integration to make the decision making process more transparent and comparable across various river basins, and to increase confidence in an integrated model-based planning process*".

1.3 RESEARCH OBJECTIVES

1.3.1 General objective:

Since the responsibility for the water policy implementation lies with the local government, as mentioned by Perret *et al.* (2006:60), the main focus of this study is to investigate the provision of potable water, determine whether necessary policies are in place and seek insight into people's perceptions about the present status quo in the Mkhwanazi Tribal Authority's area of jurisdiction.

1.3.2 Specific objectives:

The specific objectives of this study are as follows:
To investigate the management of the potable water supply by the uMhlathuze Local Municipality, in order to determine the factors hindering the potable water supply in the Mkhwanazi Tribal Area's municipal area;

- To determine the background history of the potable water provision in the Mkhwanazi Tribal Authority's geographical area of responsibility since the beginning of the democratic government in 1994 as against the constitutional mandate of SA that every person has a right to sufficient water;
- To investigate whether the potable water needs of the community of Mkhwanazi Tribal Authority's geographical area of jurisdiction are being met by the uMhlathuze Local Municipality; and
- To make recommendations for improving the sustainable provision of a potable water supply in Mkhwanazi Tribal Authority's area of jurisdiction by the uMhlathuze Local Municipality.

1.4 RESEARCH QUESTIONS

With reference to the aforementioned objectives the following research questions were formulated:

- What are the public policies, structures and organisational procedures governing the water provision by the uMhlathuze Local Municipality as a potable water service provider in the Mkhwanazi Tribal Authority's area of jurisdiction?
- What has the water situation been like in the Mkhwanazi Tribal Authority's municipal area since 1994?
- How is the present status quo impacting on the livelihoods of its residents?
- What are the domestic potable water needs of residents of the Mkwanazi Tribal Authority's area of jurisdiction?
- What can be done to maintain a more sustainable potable water supply to the Mkhwanazi Tribal Area's municipal area by uMhlathuze Local Municipality?

1.5 CENTRAL THEORETICAL ARGUMENT

Having mentioned the significance of safe drinking water to life, and its scarcity in rural areas, the researcher is of the opinion that the uMhlathuze Local Municipality should promote a water conservation awareness campaign at the local schools, churches, clinics, and at all places of social gatherings. Water conservation is vital, since the water volume on the Earth's surface is fixed, that is, it can neither be increased nor decreased. Therefore, as population increases, less and less water becomes available per person (Clarke & King, 2006:19).

Another option that can be explored to assist in the provision of potable water is investigating the availability and sustainable use of groundwater where the geographical nature of the Mkhwanazi Tribal Authority's municipal area is challenging to the water pipe infrastructure. Such an alternative way of water provision can solve the problem of the physical nature of the Mkhwanazi Tribal Area's geographical area, as sometimes the households are scattered over hills and valleys which are difficult to penetrate with water pipe infrastructure. This challenge in rural areas is also described by McConkey and Wilsenach (2010:107) who point out that the main problem that delays water service delivery in rural areas is that the areas are far from urban areas, which makes the construction of water and wastewater reticulation economically unviable.

The researcher is of the opinion that the provision of safe water in the Mkhwanazi Tribal Authority's geographical area will improve the livelihoods of its residents. Brooks (2002:1) claims that the scarcity of safe drinking water among the poor counts as a deadly affliction as it breeds sickness, blocks development, and deepens inequalities in income and opportunity. . Therefore, a safe potable water supply is essential for advancing development in the rural area under discussion.

Efficient provision of water as the basic need for the holistic functioning of the environment on planet Earth is vital. Lundqvist and Gerick (1997:viii) maintain that "water integrates many aspects of life therefore it must be given prime consideration in the context of development".

To investigate the management of potable water, the study describes the organisational structures and public policies pertaining to potable water in place within the ULM. The study

identifies the source of potable water and the route transport of water until it reaches the Mkhwanazi Tribal Authority's area of jurisdiction.

The researcher is of the opinion that integrated management of water resources by all role-players and stakeholders is necessary to maintain sustainability of potable water provision. Brooks (2002:xi) also recommends community-based water management as an important tool in alleviating scarcity of water. Again this type of management allows those affected by public policies to have a say in decisions, which will then enforce ownership and commitment to care for the water. This is very critical, especially amongst the poorer communities, because some people have lived under poor conditions to such an extent that they do not care about the future or the next person. Public property to such people has no significance. Therefore, the researcher is of the opinion that education on environmental awareness is important to the inhabitants of Mkhwanazi Tribal Authority's municipal area.

Integrated management of water in South Africa is vital to preserve the little water that is available since the country is regarded as relatively dry, with scarce and limited water resources in global terms (Basson *et al*. 1997:5; Fisher, 2009:16; Thompson, 2006:7). This is caused by the uneven rainfall pattern which favours the eastern part of the country as stated in the Department of Water Affairs report (1986:13). Since water resource distribution in the country is uneven, it is important for those areas with plenty of water to manage their water properly so that they can be of assistance to the drier areas. This uneven rainfall distribution in South Africa conforms to that of the world, as Prasad (2003:4) points out that "A key characteristic of the world's freshwater resources is their uneven distribution in time and space."

1.6 RESEARCH METHODOLOGY

This is a descriptive study with the main focus on the extent of potable water supply and the challenges hindering the supply of potable water to the Mkhwanazi Tribal Area's geographical area of responsibility. It employs both qualitative and quantitative methods of research.

1.6.1 Research procedures/methods

Three research methods are used in this research, namely a document study, observations by the researcher and semi-structured interviews.

1.6.1.1 Document study/Literature study

In the document study the focus is on the impact of the lack of safe water supply in the Mkhwanazi Tribal Authority's area of jurisdiction. This takes into account what the uMhlathuze Local Municipality is doing to improve the situation, the aim being a content analysis in order to ascertain from theory the water problems and factors hindering efficient water provision to this rural area and the consequences of not having clean safe water for some of the residents in Mkhwanazi Tribal Authority's municipal area.

In order to meet the document study requirements, the following databases were consulted:

- Books;
- Internet; and
- Official documents.

1.6.1.2 Observations

The researcher conducted direct observations of everyday occurrences in the Mkhwanazi Tribal Authority's area of jurisdiction, concerning the provision of potable water. This is in line with De Vos *et al.* (2011:330) who state that participant observation studies the natural and everyday set-up in a particular community.

1.6.1.3 Semi-structured interviews

The interviews were conducted with the Department of Water of the uMhlathuze Local Municipality, traditional authorities, and ordinary members of the community. This is in line with critical parameters of choosing a sample as Denzin and Lincoln (1994:202) state that *"many qualitative researchers employ... purposive, and not random, sampling methods. They seek groups, settings and individuals where...the processes being studied are most likely to occur."*

Considering time and practical constraints, the research sample covered 20 households, the tribal chief, local municipal councillor, and the area manager in the uMhlathuze Local Municipality's Department of Water.

The qualitative approach assisted in obtaining information from rural communities who are illiterate. In collecting the information, it was necessary to adhere to Krefting's view (1991:215) that valid considerations need to be taken into account so as to increase the trustworthiness of qualitative research as follows:

- Truth value;
- Applicability;
- Consistency; and
- Neutrality.

These guidelines were followed strictly by the researcher in order to obtain authentic data and information.

1.6.2 Data collection

The research data was gathered by means of structured interviews with individuals, observations by the researcher, internet searches, journal articles and the study of official documents from the uMhlathuze Local Municipality.

To determine the extent of water supply by uMhlathuze Local Municipality, quantitative research data was gathered from the Municipality's Department of Water through structured interviews, in terms of areas covered by the Municipality and those still outstanding since the beginning of 1994.

1.6.3 Data analysis

The qualitative data analysis consisted of research data from interviews and observations that were audio-recorded, interpreted and documented. This information was then analysed using a conceptual method of analysis.

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Quantitative data from structured interviews was analysed statistically, using Microsoft Excel 2007 computer programme, and was illustrated in tables and graphs.

1.6.4 Ethical considerations

Ethical considerations formed the underlying foundation at all times during the data collection interactions with people in terms of the following, as stated by Yvonna *et al.* (2003:222):

- **Voluntary participation** (there must be an informed consent for participating in the inquiry project). Rubin and Babbie (2005:71) also reiterate that no one must be forced to participate in a project.
- **No harm to participants** (in the process of the research the accepted principle dictating that respondents should not be harmed or placed at risk including lawful harm was strictly adhered to by the researcher). Creswell (2003:64) also argues that the researcher has an ethical obligation to protect the participants from any form of discomfort.
- **Protection of privacy and confidentiality** (the researcher observed the general rule that individuals are entitled by law to privacy of their persons and confidentiality of information about themselves). De Vos *et al.* (2011:119) state that everyone has a right to decide when, where, to whom, and to what extent his or her opinions, beliefs and behaviour can be revealed.

1.7 CHAPTER DIVISION

This mini-dissertation consists of 5 chapters as indicated below.

Chapter 1 – The Research Proposal

The research proposal was adapted to form Chapter One of the mini-dissertation because it gives details of how the research was conducted. Thus, the following have been described and discussed: provision of potable water in the Mkwanazi Tribal Authority's area of jurisdiction as the problem being studied, the goal for undertaking the study, the locality of

the Mkhwanazi Tribal Authority's jurisdiction, and the methods for collection and analysis of data.

Chapter 2 – The Legislative Framework governing water in South Africa

This chapter gives a brief summary of the legislation framework governing potable water supply in South Africa. It also considers from the literature some challenges that are experienced by the water services providers in supplying water to the inhabitants of rural areas. This is done in order to present the historical background of the potable water situation in the Mkhwanazi Tribal Authority's area of jurisdiction since the beginning of the democratic government in 1994 up till now.

Chapter 3 – The Management of potable water supply in the Mkhwanazi Tribal Authority's area of jurisdiction

The management of potable water supply in the Mkhwanazi Tribal Authority's municipal area is described. This chapter investigates the public policies governing water and whether they are in place, the structuring and organisation of the Department of Water in the uMhlathuze Local Municipality, procedures and control measures for collecting revenue, efficiency of methods used to supply potable water and the challenges hindering the water provision to some parts of the Mkhwanazi Tribal Authority's municipal area. To obtain such information, interviews were conducted with the Department of Water in the uMhlathuze Local Municipality.

Chapter 4 – The potable water needs of residents of the Mkhwanazi Tribal Authority's area of jurisdiction

This chapter identifies the domestic potable water needs of the Mkhwanazi Tribal Authority's residents and investigates through semi-structured questionnaires whether these needs are being met by the uMhlathuze Local Municipality.

Chapter 5 – Summary of the findings and recommendations

This chapter consists of a summary of the findings and recommendations. It gives the following important information about the research, namely: results obtained from the study, criteria used to verify the findings, and the implications of the findings and recommendations for improving the sustainable provision of potable water in the Mkhwanazi Tribal Authority's area of jurisdiction.

The next chapter describes from the literature some challenges in the provision of potable water and sanitation services to rural areas and gives a brief summary of the legislative framework governing water in South Africa.

CHAPTER 2

THE LEGISLATIVE FRAMEWORK GOVERNING WATER IN SA

2.1 INTRODUCTION

This chapter describes from the literature some challenges in the provision of potable water and sanitation services to rural areas, gives a brief summary of the legislative framework governing water in SA and concludes by describing the organisation of water in SA. This will be done in order to provide a historical background to the potable water situation in the Mkhwanazi Tribal Authority's area of jurisdiction since the beginning of the democratic government in 1994 up till the present.

2.2 DEFINITION OF MANAGEMENT OF WATER SUPPLY

In SA one the priorities of government according to the Constitution of 1996 is to provide every citizen with a basic water supply and sanitation infrastructure, and to succeed the government will need the involvement of all the stakeholders. Cooperation among people working together for a common goal in an organisation is vital in achieving the goals of the organisation. This is supported by Rossouw *et al.* (2007:1) who assert that people working for an organisation must be part of decision making because that will encourage their innovation and motivate their sense of ownership.

The term management refers to Public Management and Administration and is defined by Vermeulen (2007:12.) as "the collection of functions performed by public officials within the state, provincial and municipal departments and within a particular society and environment, to formulate, implement, evaluate and modify government policy to meet community needs."

Therefore, the term management of water supply in this study refers to the operations of the municipal staff associated with reticulation, maintenance of water infrastructure, implementation of national policies, monitoring of water quality, collection of revenue and

attending to consumer affairs. This is in accordance with the Municipal Systems Act 32 of 2000 which amongst other things ensures universal access to essential services that are affordable to all. Water supply services, however, are experiencing a lot of challenges in rural areas. This is subsequently discussed in the next section.

2.3 WATER SUPPLY CHALLENGES IN SPECIFIC AREAS

There are a variety of challenges that hinder the supply of potable water in rural areas. McConkey and Wilsenach (2010:107) point out that the main problem that delays water service delivery in rural areas is that areas are far from the urban areas, which makes the construction of water and wastewater reticulation economically unviable. In most cases this challenge is accompanied by the physical environment such as geographic features, and homesteads being far apart.

In some cases water supply is hindered by poverty and the lack of skilled and experienced staff in the municipalities at local and district level (Perret *et al*. 2006:60). For example, Sekhukhune District Municipality in the Limpopo Province had 0.5 per cent experienced staff in 2004 (Perret *et al*. 2006:57). Therefore, the efficient performance capacity of provincial and local governments is of crucial importance in fulfilling the constitutional mandate to provide equitable access to safe drinking water.

The Mkhwanazi Tribal Authority's area of jurisdiction also had no access to potable water at the beginning of the new democratic government in 1994. The uMhlathuze Local Municipality started implementing the Intuthuko-YamaShamase Water Project in the Mkhwanazi Tribal Authority's area of jurisdiction in 2001 (UMhlathuze Local Municipality, 2002:48). The availability of a sufficient number of well-educated and trained staff is a common challenge with many municipalities. Moloi (2007:50) points out the low level of education and skills among the uMhlathuze Local Municipality's community.

The other challenge in the rural communities that contributes to the unsustainable development of water supply systems is the lack of economic development and non-attraction of investments to provide employment (Moloi, 2007:50; UMhlathuze Local Municipality,

2005:117). If people are employed they will have the means to pay for water services instead of relying on external subsidies from the government.

Another challenge identified by Heyns (1998:5) is that the rural communities regard water as a plentiful resource which the government must supply at no cost. This notion has bad financial implications for the municipalities and therefore the empowerment of people in terms of water awareness campaigns is necessary.

The increase in the population density of the Mkhwanazi Tribal Authority's area of jurisdiction is putting a strain on water resources as the municipality struggles to keep pace with the needs in the new homesteads (UMhlathuze Local Municipality, 2005:6). This emergence of population growth is accompanied by the already existing problem of unplanned, unserviced informal settlements which are associated with a number of social and biophysical impacts (UMhlathuze Local Municipality, 2010a:25).

The rapid population growth is a universal challenge as the world's population is estimated to grow from 6 billion to 8.5 billion by the year 2025 (McConkey & Wilsenach, 2010:18) and this does not exclude SA which has its own unique challenges. For example, the demand for the supply of potable water has increased tremendously in SA as a result of the extension of the water supply services to rural areas at the beginning of 1994.This is in line with the warning by Stein (2008:6) who points out that water demand is driven by population growth and rising consumption rates.

The other challenge faced by SA is that water is scarce and there is uneven distribution of rainfall over the country, with humid subtropical conditions in the east and dry desert conditions in the west (Conley & Van Niekerk 2000:131-149; National Water Act 36 of 1998). It is therefore, understandable, why some areas in SA have limited water resources and thus have challenges concerning the supply of freshwater to the communities. This trend of rainfall in SA conforms to that of the world at large, as Prasad (2003:4) reiterates that a key characteristic of the world's freshwater resources is their uneven distribution in time and space.

Therefore, the efficient management and functional organisation of water is vital in the country, as water is regarded as the lifeblood of the planet that will promote future social and

economic developments (Biswas *et al*. 2009:1). This is in line with Thompson (2006:136) who advocates that "there is a direct link between the quality of the environment and the health of people". Therefore, one part of the battles that must be won against AIDS, malaria, tuberculosis or any other infectious diseases in the developing world is the provision of clean safe water (Biswas *et al*. 2009:120). Prasad (2003: xiii) further stresses that water is life and access to it plays a critical role in food security and poverty alleviation, both at local and national levels.

The following discussion focuses on the legislative framework of water and sanitation in SA.

2.4 LEGISLATIVE FRAMEWORK OF WATER AND SANITATION IN SOUTH AFRICA

At the dawn of the democratic government in South Africa in 1994, only 43% to 45% of the black population had piped water, while almost 100% of other races had access to piped water (Perret *et al.* 2006:55; Thompson, 2006:9). This leaves about 12 to 14 million people without access to safe. As a result of that situation, one of the key programmes of the Reconstruction and Development Programme (RDP) was meeting the basic needs of people, namely: housing, water, electricity, telecommunications, transport, a clean and healthy environment, nutrition, health care and social welfare (ANC (RDP), 1994:7).

Therefore, to redress gender and racial discrimination inherited from the apartheid government, the newly elected government in 1994 formulated the Constitution (1996) containing the Bill of Basic Human Rights. The constitutional mandate relating to water gives every person a fundamental right to an environment that is not harmful to his or her wellbeing (Thompson, 2006:1). Thus, the government has an obligation to ensure, in terms of section 25(4)(a) of the Constitution of 1996, that every person's fundamental right of access to sufficient water is fulfilled.

To enforce the Constitution, two pieces of legislation pertaining to water were established by Act of Parliament, namely the Water Services Act (WSA) 108 of 1997 and the National Water Act (NWA) 36 of 1998.

The NWA is an example of an Act where the powers are vested in the Minister in the national sphere and other powers in the catchment management agencies (CMAs) by the same Act of Parliament. This Act provides the legislative framework for implementing the National Water Policy (NWP) (Thompson, 2006:198-199). Thus, the National Water Act 36 of 1998 provides guiding principles pertaining to water resources, seeking to ensure that they are protected, used, developed, conserved, managed and controlled in ways which take into account amongst other factors: the promoting of equitable access to water; redressing the results of past racial and gender discrimination; promoting the efficient, sustainable and beneficial use of water in the public interest; facilitating social and economic development; and protecting aquatic and associated ecosystems and their biological diversity (Thompson, 2006:199-200).

The Water Services Act (WSA) of 1997 is an example of an Act where certain powers are vested in a Minister in the national sphere and other powers in the Members of Executive Councils in the provincial sphere and in the different Municipal Councils (Thompson, 2006:193). The Water Services Act of 1997 contains a comprehensive legislative framework for the provision of water to households and industries (Thompson, 2006:205). This means all the guiding principles that exclusively regulate the provision of potable water and sanitation services by the local authorities are taken care of in this Act.

The NWA and the WSA are interdependent and complementary to one another. For example, the NWA provides the legislative framework that governs the nations' water resources and the WSA provides the legislative framework that guides the provision of water to the nation. The application of these Acts to water makes South Africa one of the countries in which water is seen as a tool for achieving social justice (Perret *et al*. 2006:55).

To achieve the domestic water targets of equitable access to safe drinking water, the government launched the Free Basic Water (FBW) policy in early 2000, that set the basic water needs as 25 litres per person per day from a tap no more than 200 metres from the homestead (Perret *et al*. 2006: 56). The primary target of the FBW policy is the poor and those that do not have access to potable water (Balfour *et al*. 2005:16). To implement the FBW policy is the responsibility of the local government as a provider of domestic water and sanitation services.

The importance that SA puts on water as tool for changing people's lives is revealed by the amount of progress that has been made by many municipalities in providing citizens with the basic water services as required by the Constitution of the country. This may be attributed to the adoption of the Free Basic Water policy (Balfour *et al*. 2005:14). In 1994 the backlog was enormous as only 43% of the 42 million people had access to piped water (Thompson, 2006:9). This figure has improved as Balfour *et al.* (2005:14) reiterate that the backlog in providing citizens with reliable water services has been reduced from 12 million in 1994 to 4 million currently.

The implementation of the water legislative framework resulted in the formation of the three tier organisational structure of water in SA which is discussed in the next section.

2.5 ORGANISATION OF WATER AND SANITATION IN SOUTH AFRICA

The organisational framework of water is very important as it determines the effectiveness of the policy's implementation (Thompson, 2006:215). In the Water Supply and Sanitation Policy White Paper (Abrams, 1996:4) it is stipulated that water and sanitation in South Africa are organised into three main tiers as follows:

1st tier	National government (Department of Water Affairs)	Water resource management, support to local government, setting of norms and standards, monitoring and administration of the Water Act.
2nd tier	Water Boards	Supply of bulk treated water on a commercial basis.
3rd tier	Local government	Supply of water and sanitation services to consumers.

These water tiers are linked to one another because they operate under the guidance of the same policy from the national government which is the custodian of water in South Africa. The national government through the Department of Water Affairs (DWAF) is responsible for the formulation and implementation of policies governing water. This means that DWAF is in charge of all policies for water resource management as well as water supply and

sanitation services. The Department of Water Affairs has outsourced bulk water bodies to different Water Boards but it remains the custodian of all water resources in the country.

The Water Boards are examples of "water service institutions" or "water services providers" as stated by Thompson (2006:734).The Water Boards are accountable to the Minister and they operate according to the guidelines given by the Minister of Water Affairs. As it is stated that the Water Boards are in charge of large water bodies like dams and lakes, their responsibility is to maintain the water supply infrastructure, retail infrastructure and some waste systems.

According to the White Paper (SA, 1994:13), the provincial governments clearly share the responsibility for assuring service provision, specifically through the promotion of effective local government. Thus, domestic water supplies lie in the hands of provincial and local government (Perret *et al.* 2006:56). The link between the municipalities and the Water Boards is that the municipalities buy water from the Water Boards and then provide it to their consumers at regulated tariffs.

In some instances a municipality may own and regulate a water resource. For example, the ULM is in charge of Lake Cubhu which is the raw water source for the Mkhwanazi Tribal Authority's area (UMhlathuze Local Municipality, 2009b:72)

2.6 CONCLUSION

This chapter managed to discuss one of the priorities of government in SA, which is to provide every citizen with basic water supply and sanitation infrastructure. The chapter took into consideration the water supply challenges in specific areas such as Sekhukhune District Municipality and the Mkhwanazi Tribal Authority's area of jurisdiction.

The Water Services Act (WSA) 108 of 1997 and the National Water Act (NWA) 36 of 1998 were discussed as the two legislations form the means by which the SA government reinforces its Constitution. The chapter also discusses that the implementation of the water legislative framework led to the organisation of water and sanitation into three tiers, namely the National government, Water Boards and Local government.

The next chapter will describe the management of potable water in the Mkwanazi Tribal Authority's area of responsibility through exploring the organisational structures and the public policies governing the supply of potable water.

CHAPTER 3

THE MANAGEMENT OF POTABLE WATER SUPPLY IN THE MKHWANAZI TRIBAL AREA: EMPIRICAL FINDINGS

3.1 INTRODUCTION

This chapter explores the management of potable water supply by the uMhlathuze Local Municipality (ULM) in the Mkhwanazi Tribal Authority's area of jurisdiction (MTA). This will be done by identifying existing structures in the ULM, describing the organisational processes of the integrated development planning and identifying the public policies governing the potable water supply in the MTA.

Structured questionnaires, interviews and the study of official documents from the ULM were used to collect data. The questionnaires were delivered by hand to four municipal officials who are referred in the chapter as municipality official 1, municipality official 2, municipality official 3 and municipality official 4. The researcher also managed to conduct verbal interviews with these municipality officials.

Identifying the organisational structures and procedures is necessary in order to establish whether the necessary structures that contribute to the progressive realisation of the fundamental rights contained in sections 24, 25, 26, 27 and 29 of the Constitution of 1996 are being implemented by the ULM as required by the Municipal Structures Act 117 of 1998 along with the Municipal Systems Act 32 of 2000.

The Mkhwanazi Tribal leadership as well as residents were interviewed in order to explore the relationship between traditional communities and the ULM. The municipality officials as well as traditional leaders were asked about the constituents and processes of the IDP at the ULM. This was done in order to establish whether there is coordination and cooperation between traditional communities and the ULM, in terms of section 41 of the Constitution of 1996 that provides for the principles of co-operative government and inter-governmental relations.

The chapter also compares the public policies governing the potable water supply in the MTA, to establish whether they are in line with the standards of basic water supply and sanitation in terms of the White Paper on Reconstruction and Development Programme (RDP) (SA, 1994:17) policy framework, that gives effect to the provision of clean and safe water to every person.

The following section discusses the organisational structure of uMhlathuze Local Municipality.

3.2 THE ORGANISATIONAL STRUCTURE OF UMHLATHUZE LOCAL MUNICIPALITY (ULM)

In South Africa the National Government through the Department of Water Affairs (DWA) is the custodian of water resources and it forms the highest level of water management in the country. Thus, DWA has a Constitutional obligation in terms of section 25(4)(a) of the Constitution of 1996 to ensure that everyone has access to clean water. The Provincial Government is a service provider and the actual task of providing water services to the communities is allocated to the Local Government as stipulated in the Municipal Systems Act 32 of 2000.

The Municipal Structures Act 117 of 1998 provides for the establishment of municipalities according to the category types of municipalities which are determined by the status of executive and legislative authority vested in that municipality. As a result of the Municipal Structures Act 117 of 1998, the uMhlathuze Local Municipality was established towards the end of the year 2000 (ULM, 2002:5). The ULM is a category B municipality in terms of section 155(1) (b) of the Constitution of 1996 as it shares municipal executive and legislative authority with uThungulu District Municipality.

From the study of documents offered by municipality 2 (2011), it was revealed that uMhlathuze Local Municipality also known as the City of UMhlathuze was formed from the merging of Empangeni Local Municipality and Richards Bay Local Municipality (UMhlathuze, 2002:5). It comprises urban settlements, rural settlements, rural areas, farms and nature reserves. The rural settlements and rural areas are under the Tribal Authorities,

namely: Mkhwanazi, Dube, Madlebe and Khoza (UMhlathuze Local Municipality, 2010b:62). The two main offices are in Empangeni and Richards Bay, with four smaller offices which are the extensions of the sector departments to the surrounding townships and rural settlements and which are located in Esikhawini, Ngwelezane, Nseleni and Vulindlela Townships respectively.

From the communication with municipality official 1 (2011), and the study of the Municipality's official documents, it was established that the organisational structure of the ULM comprises the Municipal Council Structure and the Administrative Structure. These two structures work together to implement development and to provide communities with municipal services in the ULM's area of jurisdiction. The municipality official 2 (2011), indicated that the integrated development plan (IDP) is the Municipality's framework plan that guides all the activities undertaken. The composition and responsibilities of the Municipal Council will be discussed firstly.

3.2.1 The municipal council structure (MCS)

According to the communication with the ward councillor (2011), the MCS in the uMhlathuze Local Municipality is the political component comprising 60 councillors who form the governing component of the ULM. Councillors are elected in terms of the Municipal Structures Act 117 of 1998 which provides that a municipality must have councillors determined by the Member of Executive Council (MEC).

The municipality official 2 (2011), the city civil engineer, confirmed that the ULM comprises 30 ward councillors and the other 30 councillors are proportional representatives. In terms of article 43(c) of the Constitution of 1996 the local sphere of government is vested in the Municipal Council, thus the MCS is the component that makes binding decisions on the Integrated Development Plan (IDP) of uMhlathuze Local Municipality.

The ward councillor (2011), pointed out that in order to address all the needs of the community, the Municipal Council structure is organised into different portfolio committees that meet twice a month. The main responsibility of the portfolio committees is to deliberate on issues pertaining to public policies and to give guidance towards prioritisation of items of

service delivery (ULM, 2010b:48). Therefore, the portfolio committees make recommendations to the Executive Council (EXCO) and the whole council.
From the study of the Municipality's official documents it was established that there are nine portfolio committees (ULM, 2010b:48), namely:

- Finances, Local Economic Development and IDP
- Corporate Services
- Community Services and Health
- Civil Engineering
- Management Services
- Parks, Sport and Recreation.
- Community Facilitation and Human Settlement
- Planning and Environmental Affairs
- Electrical Engineering.

According to the ward councillor (2011), the portfolio committees play an important role in influencing decisions of the EXCO, because they have first-hand knowledge about community issues. However, another important component that is of vital importance in the implementation of the decisions made by the MCS, is the administrative component which is responsible for assisting with the financial input to the MCS.

3.2.2 The administrative structure

From the communication with municipality official 1 (2011), it was established that the administrative structure in the ULM is responsible for giving technical support and for providing for the smooth running of all the municipal services such as collection of revenues from rate payers.

The administrative structure comprises the municipal manager, deputy municipal manager and five senior managers who are heads of the five sector departments. The five sector departments as stated in the ULM (2010b:50) are the corporate services, the financial services, the community services, infrastructure and technical services, as well as city development.

These administrative departments work together as a unit under the leadership of the municipal manager. The residents of the Mkhwanazi Tribal Area showed knowledge of the services offered by the administrative component as 8.7% indicated that they pay for water services at the municipal offices situated at Vulindlela or Esikhawini Townships.

Figure 3.1 below illustrates the administrative structure of the ULM as stated in the integrated development plan (ULM, 2009b:50):

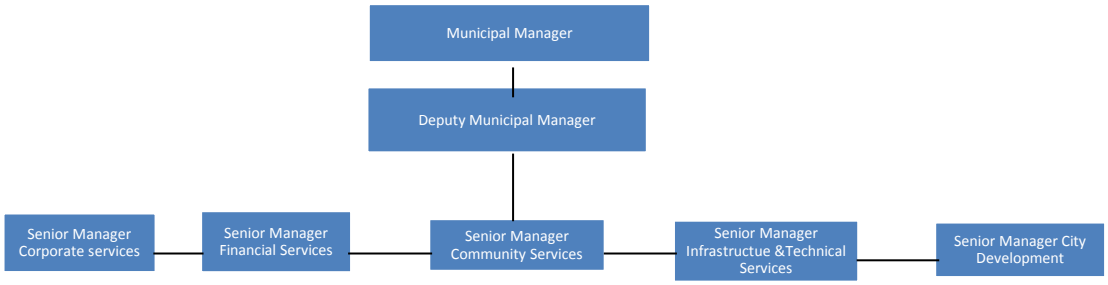

Figure 3.1: Administrative Structure of uMhlathuze Local Municipality. (Source:ULM, 2010b:50).

According to municipality official 1 (2011), the Municipal Council and the administrative structures play complementary roles to each other in the implementation of the public policies and the delivery of services to the communities. The municipality official 1 (2011), also mentioned that some pressures in the relationship between the political and the administrative components are obviously to be experienced as a result of the high expectations of the consumers. When asked how they manage pressures from the communities, the municipality official 1 (2011), pointed out that they try to keep the communities informed through the ward councillors.

It was established in responses that the ULM has a single master plan, the Integrated Development Plan (IDP) that guides all the actions taken in addressing the needs of the communities. In terms of the Municipal Systems Act 32 of 2000 every municipality has a responsibility to ensure that, within a prescribed period after the start of its elected term and after following a consultative process with the local communities within its area, it adopts a framework for integrated development planning in the area as a whole. Thus the structure and processes of the IDP at uMhlathuze Local Municipality were explored as the IDP is a tool directly involved in the potable water supply in the MTA.

3.3 THE INTEGRATED DEVELOPMENT PLAN (IDP)

According to the responses of the municipality officials and the community leader, the IDP forms the skeleton instrument used to guide the implementation of developmental activities by the ULM in its geographical area of responsibility. From the researcher's point of view, the IDP reveals the current situation regarding the level of development and what still needs to be done within a particular municipality. Integrated Development Planning (IDP) in terms of the Municipality Systems Act 32 of 2000 yields a plan that gives a comprehensive framework for all developmental activities of a municipality. It is a product of coordination between all the stakeholders such as those in authority and those affected by decisions taken.

The description of the IDP structure and processes would also reveal how the ULM abides by the principles of co-operative government, as required by section 41 of the Constitution of 1996 that the three spheres of government should work together and coordinate their efforts to provide citizens with service. Therefore, the government in South Africa recognises the involvement of all organs of state and all the stakeholders in the successful governing of the country. Thus the composition of the IDP will be explored first followed by its working procedures.

From the interview with municipality official 1 (2011), who is a member of the IDP Representative Forum at the ULM, it was established that the organisational structure of the IDP is made up of the Executive and the Committee Council, the Ward Councillors, the administration structure that is led by the Municipal Manager, IDP Representative Forum and the broad public.

The structure of the IDP was also confirmed by municipality official 2 (2011), who supplied the researcher with the uMhlathuze Local Municipality's official documents showing the different components of the IDP.

Thus the organisational levels of the IDP in the uMhlathuze Local Municipality are illustrated in Figure 3.2.

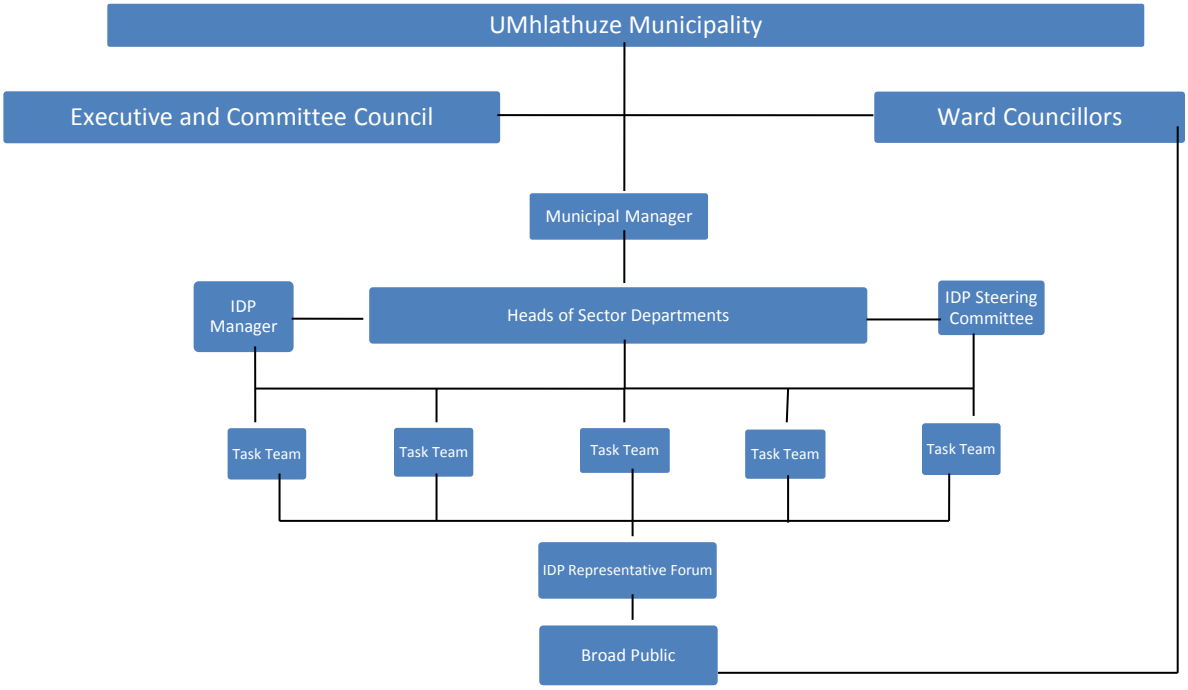

Figure 3.2: Structure of IDP at uMhlathuze Local Municipality (Source: ULM, 2009b:9)

The Executive and Committee Council is responsible for making binding decisions for the governance of the Municipality in its municipal area, while the Administrative structure is responsible for the running of all the administrative activities of the Municipality.

From the communication with municipality official 1 (2011), and the study of official documents given to the researcher, it was established that the IDP process in the Mkhwanazi Tribal Area is a bottom-up process that involves the broad community, tribal authorities and the Municipality at large. Therefore the IDP is a product of all the stakeholders thus mentioned. The ward councillor forms the main link between the EXCO and the local communities in his or her ward.

The processes as described by municipality official 3 (2011), require the ward councillor in collaboration with the tribal authorities to engage the broad community in identifying the developmental needs of the community. The involvement of the Mkhwanazi Tribal Council in the IDP was also confirmed by the community leader who pointed out that the land and the people belong to the Chief (inkosi) and not to political organisations; therefore the ULM must cooperate with the Mkhwanazi Tribal Council.

The level of support of the IDP programmes by the Mkhwanazi Tribal Authority was rated as satisfactory by municipality official 2 (2011), thus confirming the involvement of the Mkhwanazi Tribal Council. The involvement of traditional authorities is in line with the Traditional and Governance Framework Amendment Act 41 of 2003 which provides that the traditional authorities should support the municipalities in the identification of community needs, and facilitate the involvement of the traditional community in the development or amendment of the IDP of a municipality.

Once the community needs have been identified by the broad community, a smaller group called the IDP Representative Forum is formed so that it will represent the community needs in all the IDP meetings. The IDP Representative Forum comprises nominated councillors, nominated members of the executive, traditional leaders, ward committee chairpeople, NGOs, organised businesses, and interested and affected parties (ULM, 2009b:18).

The vast composition of the IDP Representative Forum was confirmed by 66% responses from the residents who indicated that they attend IDP meetings that are held at the Mkhwanazi Tribal Court on various occasions. The municipality official 3 (2011), and the ward councillor, also confirmed that the Mkhwanazi Tribal Court is used as a venue for holding IDP Representative Forum meetings.

After the deliberations of the IDP Representative Forum on the community needs, the items of need are then taken by the IDP steering committee, which is formed by all the departments in the administrative structure to allow integration and alignment of the Municipality's budget, to the IDP. The municipal sector departments assist with financial and technical input (ULM, 2009b:18). The whole process of the IDP is managed and coordinated by the IDP manager.

The study revealed that 85% of the responses of the 23 sampled households showed knowledge of the IDP and 15% indicated no knowledge at all. Quantitative data revealed that 66% of the sampled households attend IDP meetings. Many different reasons were given by respondents for not attending IDP meetings such as work related challenges, clashes with household or personal commitments, the fact that meetings are lengthy and do not make any difference.

The municipality official 1 (2011), pointed out that when prioritisation has been effected by the EXCO, the items of need are then forwarded to the relevant departments and the senior manager in a department becomes the project manager. For example, in the case of the potable water supply for the Mkhwanazi Tribal Authority; the matter was given to the Infrastructure and Technical Services Department. According to municipality official 2 (2011), the Esikhawini office is responsible for the potable water supply in the Mkhwanazi and Dube Tribal Areas. However, it was emphasised that this structure responsible for the potable water supply in the rural areas is not independent but merely an extension of the main department.

In the interview with municipality official 2 (2011), and municipality official 3 (2011), it was revealed that the water projects started in the year 2001 in the Mkhwanazi South area, and it took more than a year for the water to start reaching the first homesteads because much needed to be done to put the water storage infrastructure in place. This was confirmed by 8.7% of the responses of the homesteads located in villages next to Esikhawini Township, which indicated that they received potable water in the year 2002.

From the response of municipality official 2 (2011), it was established that the water installation project is a staggered but ongoing process due to a variety of factors. The factors mentioned include lack of funds, the outsourcing of the construction of tank infrastructures to private companies, which sometimes takes a little longer than expected because of the tender system procedures. Other delays indicated municipality official 1 (2011), are caused by the changes in the political leadership of the Municipality and the large number of homesteads in the area.

The staggered installation was revealed in the responses of the sampled households which indicated different periods of receiving the potable water supply. For example, 8.7% received their potable water supply in 2002 whilst 13 % started to use the communal stand pipe only in the year 2010. The evidence of delay in the provision of potable water is also revealed in the ULM's official documents that indicate that the construction of the U-tank for the Mkhwanazi North area with a capacity of 1270*kl* was only started in the year 2009 by a private company (ULM, 2009a:5).

According to municipality official 3 (2011), the maintenance of the water distribution system in the Mkhwanazi Tribal Authority is assigned to the Municipal Office situated at Esikhawini Township for reasons of convenience to the surrounding rural settlements in terms of distance.

3.4 THE WATER SERVICES PROVIDER FOR THE MTA

The communication with municipality official 2 and 3 (2011), took place at the Esikhawini Municipal Office, where the organisational structure managing water services in the MTA was described as comprising an assistant city engineer, the four senior plumbers, five handymen, 12 general workers and an administrative clerk. This confirmed that the potable water distribution to the Dube and the Mkhwanazi rural settlements is controlled at the Esikhawini Municipal Office.

The response of the community leader when asked to indicate to whom he reports emergencies pertaining to water problems, confirmed the functioning of the Municipality Office at Esikhawini as a place consulted when there are water leakages in the MTA.

Figure 3.3 illustrates the organisational structure of the Water Services Provision (WSP) responsible for the Mkhwanazi Tribal Area.

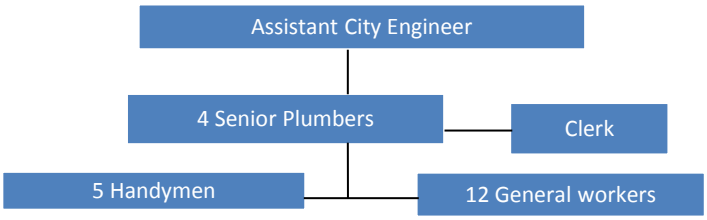

Figure 3.3: Structure of WSP for the MTA (Source: Original copy form kept by the researcher)

The responses from the semi-structured interviews with the residents of the MTA area on the question asking about whom they think should be in charge of their water supply revealed that all the residents in the sample of 23 households regard the ULM as the institution that should be responsible. However, about 56.6% of the sampled households added that the local

community structures should also be involved so that there are people in the community who can take the responsibility for the functioning and maintenance of the water supply system.

3.5 ROUTE OF POTABLE WATER

The identification of the source and the route of potable water until it reaches the Mkhwanazi Tribal Authority was vital in order to establish some of the challenges experienced in the transportation of water. Mr. A. Zaire (2011), was of great assistance in providing the researcher with information pertaining to the source and route of potable water.

The response of municipality official 2 (2011), when asked about the origin of potable water in the MTA, was that Lake Cubhu (see Figure 3.4) is a natural lake and it is the raw water source for the MTA. According to Martin *et al.* (1994:107), Lake Cubhu is located at $28^{0}55'S$ and $31^{0}57'E$ and has a catchment area of $82km^{2}$ while its depth is 3.5 metres above mean sea level. This information seems outdated but there are no recent studies that have been undertaken since 1994 as the Municipality Official 2 (2011), alluded.

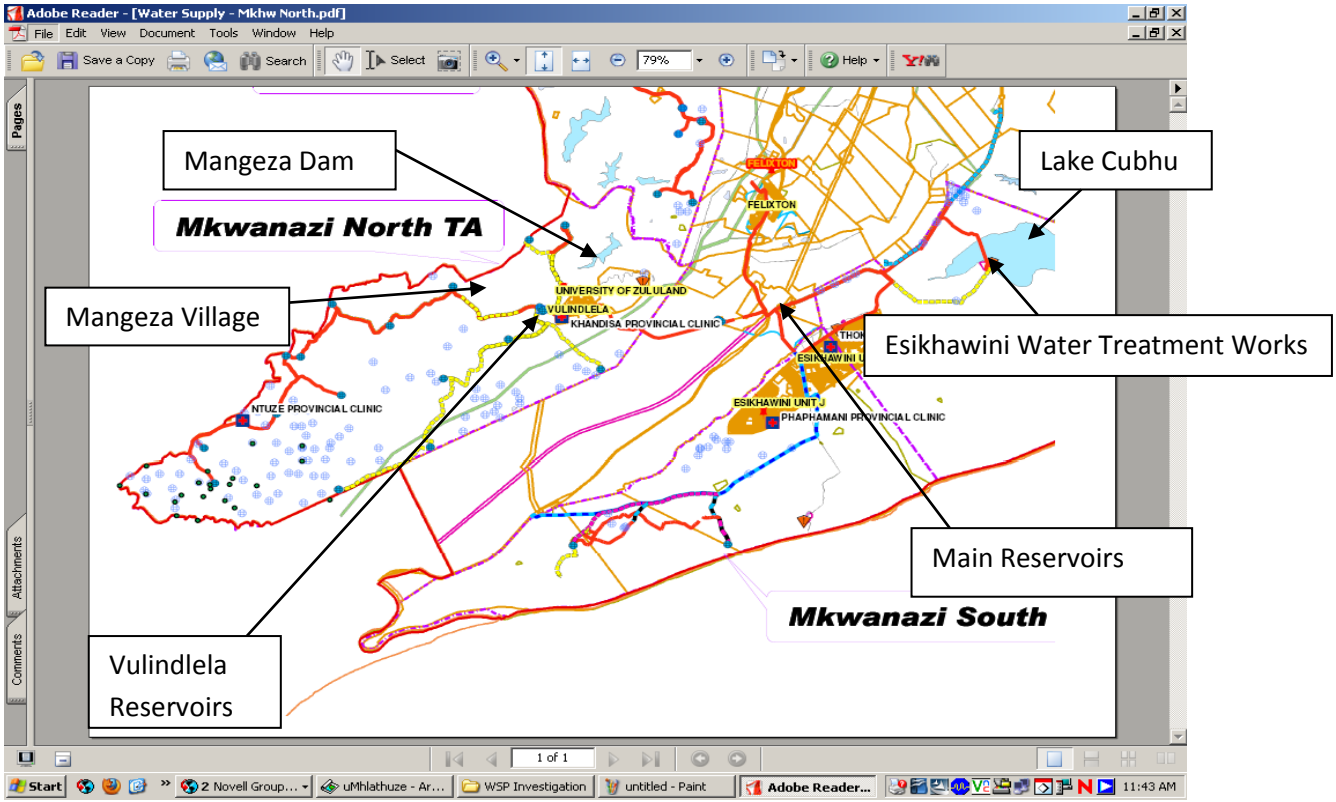

Figure 3.4: Map showing Water Supply in the MTA. Source: Received electronically by the researcher from municipality official (2011).

It was also established from the communication with municipality official 2 (2011), that the water from Lake Cubhu is also consumed by residents in Felixton, Mtunzini, and semi-urban areas such as Vulindlela and Esikhawini Townships, as well as Dube Tribal area.

Figure 3.5 Photo of Lake Cubhu. Source: Researcher's survey photos, 2011

The municipality official 2 (2011), explained that the raw water from Lake Cubhu (see Figure 3.4) is transported through gravitation to the Esikhawini Water Treatment Works, which is situated at about 30 metres from the lake and that the Water Treatment Plant is owned and managed directly by the ULM. The daily intake of water from the lake to the Water Treatment Plant is 30*Ml*.

The water from the treatment plant is pumped through pipes to the three main reservoirs of 20*Ml* each which have a total storage capacity of 60M*l*. The water from the main storage is then pumped to the reservoirs in eight different areas, namely Esikhawini Township, Dube Tribal Area, Mkhwanazi Tribal Area, Gobandlovu rural settlement, Madlankala rural settlement, Vulindlela Township, Port Dunford and Mtunzini.

Figure 3.6: Photo of the main 60M*l* storage reservoirs. Source: Researcher's survey photos.

In view of the focus of the study, only the route to the Vulindlela reservoirs that supply the Mkhwanazi Tribal Area was followed. The Vulindlela reservoirs (see Figure 3.4) consist of 2x1000*Kl* towers, and 1x500*Kl* tower and two pump stations. The municipality official 2 (2011), pointed out that 1200*Kl* from the Vulindlela reservoirs supplies Vulindlela Township and 1300*Kl* gravitates to the 13x100*Kl* rural reservoirs which are placed at strategic positions in order to ensure maximum access of the inhabitants. The potable water is then pumped to the communal standpipes and jojo tanks that are about 200m apart and that supply the Mkhwanazi residents directly.

Figure 3.7: Photo of a 100kl rural reservoir in the MTA. Source: Researcher's survey photos, 16/08/2011

The response of municipality official 2 (2011), to the question asking whether homesteads have water taps in their yards was that at present the Municipality's management provides potable water through the communal standpipes, due to the lack of funds. The present situation is that residents will collect water using containers from these communal stand pipes and jojo tanks. However, some residents do have water taps in their yards but they do so at

their own expense. Thus the route of water transport from the Lake Cubhu can be illustrated as follows:-

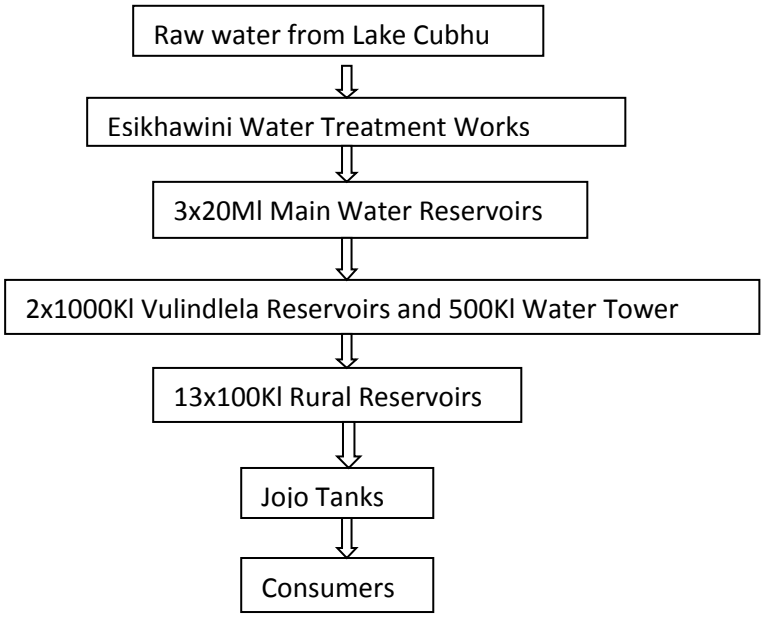

Figure 3.8: Route of water transport in Mkhwanazi Tribal Authority. (Source: Interview with municipality official 2 and 3 (2011).

3.6 WATER SUPPLY CHALLENGES IN THE MTA

In the interview with municipality official 2 (2011), it was revealed that there are challenges affecting the potable water supply to the rural parts of the ULM. Mr. P. the municipality official 2 (2011), reiterated that the challenges associated with the supply of potable water are related and overlap with one another. The summary of the challenges experienced by the ULM concerning the potable water supply in the Mkhwanazi Tribal Authority, as mentioned by municipality official 2 (2011), are a lack of funding, water demand is higher than the supply, organisational/departmental capacity and water loss. These challenges are subsequently discussed in the following section.

3.6.1 Lack of funding

In the communication with the municipality officials (2011), the lack of funding was revealed as the main cause delaying the potable water supply to all the parts of the Mkhwanazi Tribal Area; however, there are other challenges associated with the physical nature of the area

mentioned in the interview. To substantiate the lack of funds as the major constraint, the municipality official 2 (2011), mentioned that the construction of Q, R and U rural reservoirs was only initiated in 2009 and completed in 2010 by private service providers. These water projects are recorded as amounting to 19.5 million rand and 40.4 million rand respectively (ULM, 2009a:1). Although the ULM seems to be on the right track, the municipality official 2 (2011), pointed out that more water reservoirs are still needed in the deep northern region of the Mkhwanazi area.

Other challenges revealed in the communication with the municipality officials (2011), are the distribution of homesteads and the lack of road infrastructure especially in the Mangeza village. These challenges are a major constraint, making the area difficult to penetrate with reservoirs and pipe infrastructure, especially considering the present available funds. The researcher also observed that the geographical nature and the scattered distribution of homesteads on hills and valleys would require a lot of work from the Municipality.

3.6.2 Water demand higher than the supply

The municipality official 2 (2011), indicated that the high water demand in the Mkhwanazi Tribal area is caused by the heavy population density. The addition of the number of households in rural settlements next to Vulindlela Township was mentioned as an example. When asked if there are any measures taken by the municipality to prevent an influx of homesteads next to Vulindlela, the municipality official 2 (2011), pointed out that occupation of the land by residents is controlled by the Mkhwanazi Tribal Chief. Therefore, little can be done by the Municipality in terms of controlling the influx of homesteads.

The possible tool as pointed out by municipality official 2 (2011), which the Municipality is planning to use in order to control water loss that is not accounted for, is registering the homesteads next to Vulindlela Township in the Municipal's billing system. The researcher observed that there are households that have water meters next to Vulindlela Township, although they were not provided for every homestead.

When asked whether water is always available to the residents in the Mkhwanazi Tribal Authority, the municipality official 2 (2011), indicated that there are times when the Municipality regulates water cuts during the day, usually between 9am and 3pm but the

communities are always notified in advance through the community structures. The responses from the households concerning whether they are informed in advance if water is going to be cut was that sometimes they get the warning but usually they are not informed, which is why they store water in containers.

3.6.3 Organisational/Departmental capacity

Human capacity in this discussion refers to the skills that a person possesses in order to do the required work or refers to the ability to work. Organisational capacity as a challenge mentioned by the municipality officials was also observed by the researcher in the documents obtained from the Municipality, namely that there are only four senior plumbers on the municipal staff who are responsible for the maintenance of the water distribution facilities in the Dube and Mkhwanazi Tribal Areas. According to the UMhlathuze Local Municipality (2010b:49), the tribal areas have a high population density which makes the municipality staff be under stress when it comes to servicing the tribal areas.

Amongst the factors that contribute towards the shortage of human capital as mentioned by the municipality official 2 (2011), is the loss of people with specialised skills who leave for better opportunities. However, the municipality official 3 (2011), pointed out that the present staff are encouraged to undertake extra training courses which are organised at the UMfolozi F.E.T. College in the evenings. Those who are capacitated through in-service training courses are expected to reimburse the Municipality for the training costs. One employee confirmed to the researcher that he is glad he paid for his courses in full otherwise he would be paying back the Municipality.

3.6.4 Water loss

Water loss refers to water that is wasted from the Municipality's reticulation system for which they cannot account for, causing a challenge to the consumers as it reduces the volume of water available to individuals (Van Schalkwyk, 1996:59).

The municipality official 2 (2011), indicated that water loss is a common problem in their water distribution system as it takes place at any point between Lake Cubhu and the consumers. When asked whether the Mkhwanazi residents do report any leakages or damage

to the water supply facilities, the response was that the problem with Mkhwanazi Tribal residents is that they do not report in good time. As a result the Municipality usually starts to fix the problem after two or more days of the incident.

Van Schalkwyk (1996:59) points out that water loss is caused by poor maintenance of water distribution facilities and a disregard for the value and scarcity of water by communities or a household that has the benefit of excess water. From the communication with Mr. A. Zaire (2011), water loss in the Mkhwanazi Tribal Area can be attributed to a poor rate of reporting by the residents and the fact that 90% households having taps in their yards are not monitored through the metering system by the Municipality and, therefore, they benefit from excess water. The absence of monitoring and meters in the yards does not encourage owners to fix the leaking taps in time because they know there is no punishment involved.

Another factor contributing to the water loss pointed out by municipality official 2, is the lack of value attached to the potable water by the residents as a lot of water loss also occurs at the communal stand pipes. The researcher also observed that the communal taps are surrounded by small pools of water which shows that there is less care for communal water.

When asked to quantify the water loss into litres or monetary means, the municipality official 2 (2011), indicated that it is impossible to quantify the water loss due to the fact that less than 1% of the households that have taps in the MTA are registered in the Municipality's billing system. According to the municipality official 4 (2011), only a small number of households situated next to Vulindlela Township are currently on the billing system.

The next section discusses the relationship between Mkhwanazi Tribal Authorities and the ULM.

3.7 RELATIONSHIP BETWEEN MKHWANAZI TRIBAL AUTHORITIES AND THE ULM

The MTA community leader was asked whether the ward councillor observes traditional protocol in the MTA, and the response was that all meetings of the municipality with the community are reported to the Mkhwanazi Tribal Council. The ward councillor put it plainly

that tribal communities have been socialised in a special way that gives high regard to the Chief of the tribe, therefore, respecting the tribal leadership grants acceptance in the community. The community leader explained that if there is a meeting that needs to be conducted, the first step is to go and report to the Chief. Once the permission is granted, the Chief will then send the headman to be his eyes and ears at that meeting. The municipality official 4 (2011), further indicated that the presence of the headman or members of the Mkhwanazi Tribal Council at a meeting is taken as a sign of support from the side of the Municipality.

The existence of the IDP Representative Forum of which the Mkhwanazi Tribal Council are members was confirmed by the response of the community leader who pointed out that it was through the leadership of their Chief that the potable water provision was made a priority in the needs analysis of the community. The community leader reiterated that as a result of the leadership of the Mkhwanazi Chief, the provision of potable water in the Mkhwanazi Tribal Area was initiated in 2001 when the Intuthuko YamaShamase Water Project was first implemented by the ULM.

Although there is a working relationship between the ULM and the Mkhwanazi Tribal Council, it could be perceived from the responses of the community leader that there is competition for power and authority that needs to be handled with care.

The responses from both the ward councillor (2011), and a community member, revealed that there is recognition of traditional communities within the ULM and its municipal area as required by the Traditional Leadership Framework Amendment Act 41 of 2003. Again it can be concluded from the responses of municipality official 1(2011), that there is a link between the ULM and the Mkhwanazi Tribal Council as stated in the Municipal Structures Act 117 of 1998 that the ward councillor is responsible for informing the residents of the Integrated Development Plan (IDP) as well as encouraging and ensuring public participation.

3.8 COMMITTEES

The response of the MTA community leader pertaining to the committee structures at the community level was that there are committees that represent the interests of the community

in the IDP Representative Forum. The MTA community leader pointed out that the number of committees needed in the IDP Representative Forum is determined by the needs of the community. The following committees were mentioned by the community leader, namely the transport committee, the youth committee and the water committee.

The 23 sampled households were also asked in a questionnaire to indicate their knowledge of the committees, indicate whether they know a member of or they themselves are members of the committee, and if they are not members, indicate whether they support the committees by attending meetings when required to do so. Quantitative data from the 23 sampled households about the committees in the MTA are revealed in Table 3.1 below.

Table 3.1 Knowledge, membership and support of committees in the MTA

	Knowledge about existence of a committee	**No knowledge shown about committee**	**Membership of the committee**	**Support the committee**
Water committee	8	15	2	8
Transport committee	9	14	1	9
Youth committee	4	19	0	0

The quantitative data in Table 3.1 reveals that 34.7% of the sampled households support the water committee and 39.1% support the transport committee. A conclusion cannot be drawn about the youth committee considering that the data in Table 3.1 may have an element of age bias as they reflect the views of the household owners who might not have any interest in the youth issues.

The respondents were asked to indicate their expectations of the water committee and their answers revealed that the respondents expect the water committee to represent their interests in the IDP Representative Forum, to assist with reporting damage to the communal stand pipe and to warn them in advance if water is going to be cut off. One respondent who is a member of the water committee pointed out that her main task is to update the Mkhwanazi residents

about water issues and decisions taken in the IDP Representative Forum, for example people without potable water supply need answers about their situation.

About 34.7% responses indicated that water committees were formed in the year 2001 as they revealed that each household was supposed to pay R20 to the chairperson of the water committee towards installation of the potable water supply. The R20 from each household would then be paid at the Tribal court. One respondent revealed that the R20 was paid once and was discontinued but could not further explain in detail the purpose of R20. The researcher could not establish what the R20 was for because different reasons were given such as it was a monthly payment for water and/or an installation fee for the communal water system.

The community leader agreed that there was a flat rate fee of R20 to be paid by all residents on a monthly basis in the year 2001 but it was discontinued in the same year as it caused confusion to residents. The municipality officials, when asked about a flat rate of R20 to be paid by rural residents, also confirmed that there had been such an arrangement but could not clarify further because there were no records pertaining to such payments.

3.9 PUBLIC POLICIES GOVERNING POTABLE WATER SUPPLY IN THE ULM

The municipality official 2 (2011), was asked about the public policies governing water in the ULM, and the response was that the Municipality is guided by the UMhlathuze Water Services By-Laws that were published by the ULM. The researcher was given a copy of the Water Services By-Laws to study.

When asked whether all the homesteads in the MTA are getting the potable water supply, the municipality official 2 (2011), responded that the ULM has not yet managed to reach everyone; the ULM still has a backlog in the rural settlements. Responding to the question whether the homesteads have water taps in their yards the explanation was that the Municipality is supplying potable water at the communal water taps.

The municipality official 2 (2011), further responded that the RDP standard of basic water supply to provide water at a distance of not more than 200 metres is closely followed in the

MTA; however a small percentage of homesteads do walk more than 200 metres to the communal water point due to the unplanned distribution of homes in rural areas. Quantitative data confirmed that 21.7% of the sampled households travel more than 300 metres to the communal water points and 13% still use untreated water from the springs.

The municipality officials 2 and 3 (2011), indicated that the free basic water policy of 6*Kl* per 30 days or 25 litres per day per person is applicable in the MTA. However, households with taps in their yards use more than the 6*Kl* per month and get away with it because there are no water monitoring meters in place. As a result the Municipality cannot account for the loss of water. When asked about the exact points where water loss occurs, the response was that is difficult because water loss takes place anywhere along the pipes through unlawful connections and ordinary leakages.

From the study of the UMhlathuze Water Services By-Laws the researcher established that the ULM is exercising the responsibility provided in terms of section 156(2) of the Constitution of 1996 that a municipality may make and administer by-laws for effective administration of the matters which it has the right to administer.

From the study of the UMhlathuze Water Services By-Laws the researcher established that the By-Laws address matters pertaining to the general provision of water services, water supply services, sanitation services and enforcement and legal matters. A rural settlement such as the MTA is provided with water in accordance with the service level 1 of the Water Service By-Laws (ULM, 2010a:15-16) stated as follows:

(a) Service Level 1, which must satisfy the minimum standard for basic water services as required in terms of the Act and its applicable regulations, and must consist of -
(i) A water supply from communal water points which are not more than 200 metres from a household;
(ii) A ventilated improved pit latrine located on each site; and
(iii) Appropriate health and hygiene education or appropriate education in respect of effective water use at the basic services level.

After studying the UMhlathuze Water Services By-Laws the researcher established that the UMhlathuze By-Laws are based on the RDP standards of basic water supply in terms of the

White Paper on Water Supply and Sanitation (SA, 1994:15) which has the following guidelines:

- **"Quantity:** 25 litres per person per day. This is considered to be the minimum required for direct consumption, for the preparation of food and for personal hygiene. It is not considered to be adequate for a full, healthy and productive life which is why it is considered as a minimum.
- **Cartage:** The maximum distance which a person should have to cart water to their dwelling is 200 m. In steep terrain this distance may have to be reduced to take account of the extra effort required to cart water up steep slopes.
- **Availability:** The flow rate of water from the outlet should not be less than 10 litres a minute and the water should be available on a regular, daily basis.
- **Assurance of supply:** The supply should provide water security for the community. Two factors are important here. First, schemes for domestic water supply should ensure the availability of "raw" water for 98% of the time. This means that the service should not fail due to drought more than one year in fifty, on average. Second, the operation and maintenance of the system must be effective. The aim should be to have no more than one week's interruption in supply per year.
- **Quality:** Once the minimum quantity of water is available, its health-related quality is as important in achieving the goal of a water supply adequate for health. The quality of water provided as a basic service should be in accordance with currently accepted minimum standards with respect to health related chemical and microbial contaminants. It should also be acceptable to consumers in terms of its potability (taste, odour and appearance).
- **Upgradability:** The desire of many communities to upgrade a basic service to provide for household connections should be taken into account during planning. If this is not done the system could either fail due to illegal connections or have to be expensively upgraded when there is a demand for house connections. Any additional infrastructure required to provide upgraded services will not be considered as part of the basic needs infrastructure."

3.10 CONCLUSION

This chapter sought to identify and describe the organisational structures managing the potable water supply in the MTA. From the responses of the municipality officials, MTA community leader, 23 sampled households and the study of uMhlathuze municipal documents by the researcher a conclusion is reached in this study, that the ULM is practising principles of co-operative government in its municipal area because other organs of state such as traditional leadership are allowed to participate in the decisions of the Municipal Council.

This chapter also showed how the political component and the administrative component of the ULM work together in a coordinated way with the broad community of the Mkhwanazi Tribal Authority in the formulation of the IDP. The IDP structure of the ULM as an effective single plan in place for implementing development revealed that the management of potable water in the ULM is conducted in a participative and integrated manner.

Although the question of whether the management of the potable water supply in the ULM will be sustainable in the long run could not be easily answered in the discussion, there are indications of a direction towards sustainability because all the stakeholders are allowed to have an influence in the decisions. People tend to protect what belongs to them. Soncini-Sessa *et al.* (2007:14) also point out that management should instil human values such as a sense of belonging to the territory, and a love for the environment to encourage sustainability.

The public policies governing the potable water supply published in the UMhlathuze Water Service By-Laws were compared with the RDP standards of basic water and sanitation and the conclusion is drawn that the ULM is striving to live by the constitutional obligation in terms of article 27(1)(b) of the Constitution (1996) to provide everyone with sufficient water.

In the next chapter the water practices in 1994 and the present water utilisation pattern by the 23 sampled households of the MTA will be analysed.

CHAPTER 4

THE POTABLE WATER NEEDS OF RESIDENTS OF THE MKHWANAZI TRIBAL AREA: EMPIRICAL FINDINGS

4.1 INTRODUCTION

This chapter explores the background water situation of the MTA in 1994 and the present utilisation of potable water. The background water situation back in 1994 is vital in order to establish how the quality of life of the residents has been influenced by the introduction of the potable water supply by the ULM in the year 2002. Data were collected through structured questionnaires, observations by the researcher and interviews with the residents.

To achieve the objectives of this chapter, the residents were asked to indicate their previous sources of water in 1994, to estimate the distances they travelled to fetch water and to estimate the time spent fetching water from the source. The previous water situation in 1994 is then compared with the present water situation as experienced by the residents.

Quantitative data collection such as the number of people in a homestead, number of people employed or unemployed, number of school children and number of pensioners was done in order to determine the average amount of water used by each household. Finally, the amount of water used by each household was compared with the RDP standard of basic water supply and sanitation in terms of the White Paper (SA, 1994:17) to provide all households with a clean and safe water supply of 20-30 litres per capita per day within 200 metres.

The chapter concludes by exploring the values attached to water by the residents and the people's perceptions about the present potable water supply status quo. Qualitative data finding out about the attitudes and opinions of the residents towards saving water and their willingness to pay for water were collected through 23 semi-structured interviews with the residents.

4.2 WATER PRACTICES IN 1994

The study has established that back in 1994 the residents of the MTA used springs and rivers for their domestic water needs, and that these sources are still used by some households in view of the 4.4% backlog in potable water supply (ULM, 2010b:45). The responses from the questionnaires collected from the 23 sampled households revealed that the springs were used as potable water sources and the Mangeza River water was used for washing clothes, bathing, recreation, watering plants and drinking by animals.

To collect water from the springs, the residents indicated that containers of various sizes such as 15 litre steel or plastic buckets and 20 to 25 litre special plastic containers which have a small opening were used and they are still used in practice for hauling water. Water would then be carried on heads or by wheelbarrows to the households. Data revealed that the average number of containers per day per household was four to six containers. Using the 20*l* and 25*l* plastic containers the amount of water used per household per day is estimated to have been between 80 and 150 litres.

The estimation of distances to the springs from the 23 households that formed the sample of this study is illustrated in Figure 4.1 below

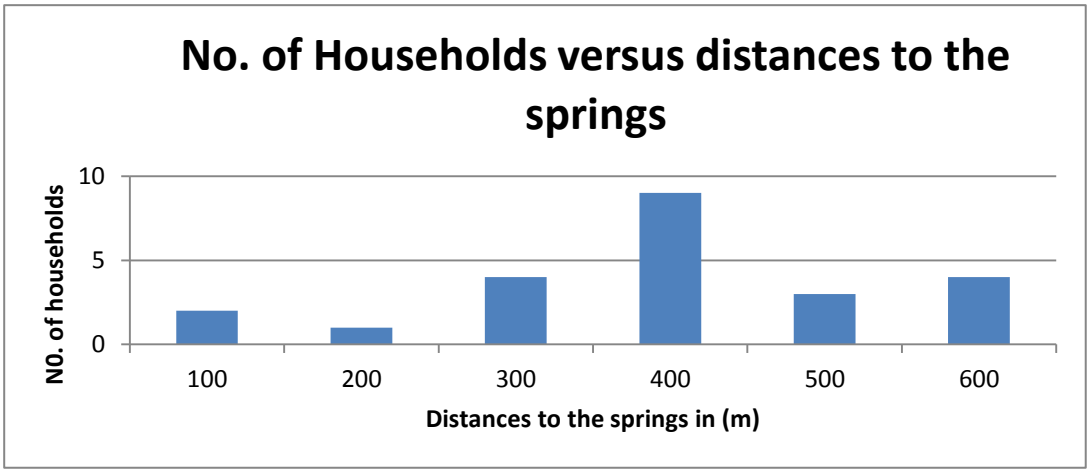

Figure 4.1: Sampled households versus distances to the springs. (Source: Researcher's survey data, 2011)

Table 4.1 reveals that the distances from the 23 households to the springs ranged from 100 metres to 600 metres. Data in Table 4.1 indicate that 86.9% of the sampled households are

located at distances ranging from 300 to 600 metres from the springs which is against the RDP standard of basic water supply of providing water within a radius of 200 metres in rural areas.

The respondents indicated that the time spent at a fountain depended on the time of day during which one chose to go to fetch water. For example, the responses showed that the time spent in the afternoons ranged from 45 minutes to 1 hour and 20 to 30 minutes in the mornings. Naturally, the fetching of water was done collectively in the late afternoon by two or more members of a household depending on the size of the family.

The responses showed that the mornings and any other time of day could be used to fetch water if there was a need in a household. The respondents indicated that the times for fetching water were influenced by the weather, for example people would avoid fetching water at midday as it is usually hot. One respondent indicated that the mornings were used for fetching water by those remaining at home while others would go to the fields and the children went to school. The researcher observed large fields of maize, vegetables, sweet potatoes, amadumbe and sugar cane in between the homesteads which indicate that subsistence farming is a norm for the residents of the Mkhwanazi Tribal Area.

About 47.8% of the sampled households indicated that fetching water from the spring was done strictly during the day, because when it is dark water will enter the homestead with evil spirits. However, 11 responses of the 23 sampled households indicated that if circumstances demanded that water be collected late in the evening they would still bring water home but would wait at the gate for someone from the household to come and drop a burning coal or a burning splint in the water to disperse the evil spirits before the water entered into the homestead.

About 73.5% of the respondents stated that the washing of clothes for the whole family was done over weekends at the river where there is plenty of water for rinsing, but small clothing like school uniforms and baby nappies would be done any day as required. About 26.1% of the responses indicated no specific day for washing clothes as they would use any day that was convenient to them. The amount of water used for washing clothes at the river could not be established because people would do the washing in large washing containers and then rinse using running water in the river.

The water from springs was mainly used as potable water by humans. The animals were prevented from going to the fountain as they spoil the water. Thus the cattle would be brought to the river to drink after grazing, and the watering of vegetable gardens was done with whichever was nearer to the garden, either the river or the fountain.

4.3 PRESENT WATER UTILISATION IN THE MKHWANAZI TRIBAL AUTHORITY

Socio-economic parameters, access to water, water availability and inhibitors are factors which are thought to influence water use (Van Schalkwyk, 1996:20). Therefore, in trying to estimate the potable water utilisation in the Mkhwanazi Tribal Authority's area of responsibility, the study sought to explore the number of people per household, the employment level within the sampled households and the access to potable water.

The term 'level of living' as used in this discussion refers to the economic status and value orientation of the community (Van Schalkwyk, 1996:13). From the study of the water demand in the Limpopo Province it was established that as the level of living of the community rises, water demand also increases (Van Schalkwyk, 1996:73). Therefore, the discussion on water utilisation will be concluded by indicating whether the level of living in the Mkhwanazi Tribal communities is affected by the present water situation.

4.3.1 The average household size

The sample of this study comprised 23 households. The factors determining the size of the sample was the willingness to participate and the time available. The quantitative data about the number of people in each household was gathered from the questionnaires that were hand delivered to the homesteads. The following table illustrates the number of homesteads against the number of people in each homestead.

Table 4.1: Number of people in each household (Source: Researcher's survey data, 2011)

No. of households	2	2	2	4	3	2	1	3	2	1	1
No. of people in each household	6	7	8	9	10	11	12	13	14	15	16

The total number of people residing in the 23 homesteads is 236 and the average number of people in each homestead is 10.3, calculated as follows:

$$\text{Average} = \frac{\text{Total number of people}}{\text{Number of homesteads}}$$

$$= \frac{236}{23}$$

$$= 10.3$$

According to the 2007 South Africa statistics, the population in the ULM's area of responsibility is 332 156 and the number of households is 75 000, reflecting a percentage of 4.4 persons per household, (ULM, 2009b:23). Although the sample of this study represents a small portion of the population, it is a useful tool to obtain the water utilisation patterns and practices of the residents of the Mkhwanazi Tribal Area.

4.3.2 Employment Level

The South Africa Statistics for 2001 reveal that only 8.45% of the population above 20years of age had higher education in the UMhlathuze Local Municipality. The education level of the community is considered an indicator of the potential to generate income and of getting better employment opportunities (Van Schalkwyk, 1996:26). Figure 4.2 illustrates the level of education in the ULM's area of responsibility in 2001.

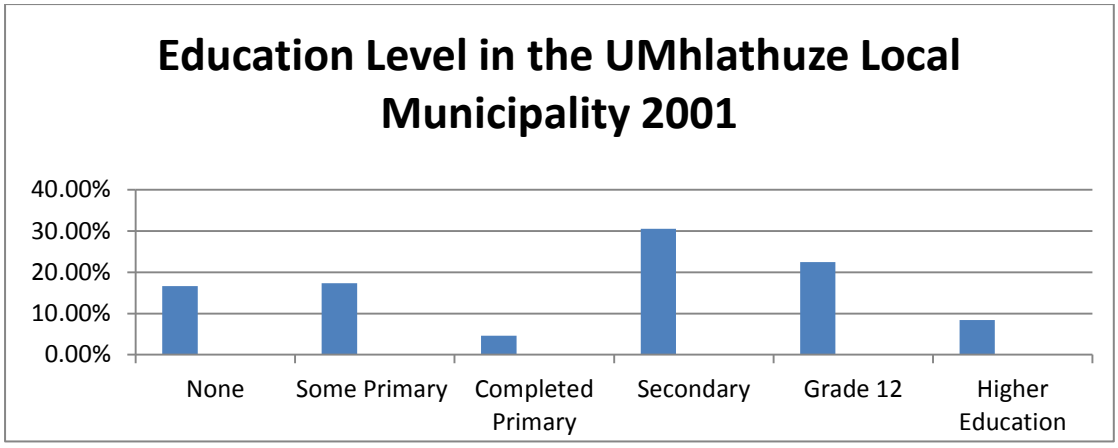

Figure 4.2: Source: Stats SA 2001 as quoted in uMhlathuze Local Municipality (2010b:27)

The education level in the whole Municipal area is generally low considering that less than 10% of people had higher education in the year 2001. The present level of unemployment for the whole UMhlathuze Local Municipality's area of jurisdiction is 36.28% whilst that of the Kwa-Zulu Natal province is 47.4% (ULM, 2010b:28).

From Table 4.2 it is shown that the unemployment level of the sampled households is 27.5%. Thus, the unemployment level in the sample is 8.62% smaller than 36.28% which is the unemployment level for the whole area of the ULM. There is a direct relationship between the low level of education of the ULM displayed in Figure 4.2 and the high unemployment level of the sample in Table 4.2. Therefore, the high level of unemployment in the Mkhwanazi Tribal Authority's area of responsibility is due to the low level of education in the area.

The respondents were asked to indicate the number of people in the homestead, employment status of members and the following table was derived from the responses. (This was done in order to estimate the amount of water needed for each homestead and also to verify the potential to pay for the water services).

Table 4.2: The employment level of the 23 sampled households. (Source: Researcher's survey data, 2011)

Criteria	**No. of people**	**Percentage**
Skilled/ Professionals	5	2.1%
General Workers	31	13.1%
School Learners	120	50.8%
Unemployed	65	27.5%
Pensioners	15	6.4%

Table 4.2 shows that the level of unemployment in the sampled households is higher than the combined percentages of the employed skilled and general workers. As reflected in the survey data only 2.1% of the 236 people are trained in the work they are doing and 13.1% are general workers. Thus the combined percentage of employed residents in this sample is 15.2% as against 27.5% of people that are unemployed. The low employment level in the Mkhwanazi Tribal Authority's area justifies the responses of the 60.9% of the households that use communal taps (see Table 4.1) and requested that the Municipality should assist with installing taps in the household yards as the residents cannot afford to do this privately.

4.3.3 Access to potable water sources

Prasad (2003: xiii) asserts that water is life, and access to it plays a critical role in food security and poverty alleviation, both at local and national levels. This statement indicates that the quality of life is affected by the access and availability of water. To explore the access to potable water supply, the sampled households were asked to identify their present water sources, and to estimate the distances they travel to fetch water from the sources.

A response by the community leader revealed that the potable water supply by the ULM has not yet reached all the residents in the Mkhwanazi Tribal Authority. The statement of the community leader is evidence that backs up the claim in the present IDP of the ULM that there is a water supply backlog of 4.4% (UMhlathuze Local Municipality, 2010b:45). This was also evident from quantitative data in Table 4.3 that 13% of the sampled households still obtain their domestic water from springs. Thus, the potable water sources used by the

residents in the sample are yard taps, communal taps and springs. Table 4.3 illustrates the number of homesteads against their sources of potable water.

Table 4.3: Water sources of the 23 sampled households. (Source: Survey data, 2011)

Water source	Yard taps	Communal tap	Spring	Communal tap and spring
Number of households	6	14	3	4
Percentages	26.1%	60.9%	13%	17.4%

The study of IDP documents from the ULM together with quantitative data in Table 4.3 above reveals that the ULM has made a lot of progress in providing more households with potable water in the MTA's area of responsibility. About 87% of the sampled homesteads are now receiving the supply of potable water.

Quantitative data reveal that 26.1% of the sampled households have taps in their yards and that the yard taps were installed privately by owners of households. Mr. A. Zaire (2011), indicated that there are municipal regulations in place for installing the water taps in the yard. For example, the household must fill out an application form and return the form with a deposit of R200. Thereafter the Municipality will connect a water meter in the household but the cost of connecting from the main water supply pipe to the household is the responsibility of the household concerned.

Currently, the installation of water taps in the MTA area is not monitored; the municipality official 2 (2011), confirmed that the ULM does not have records of all the households with water taps in their yards. At present a household member simply hires someone with a knowledge of plumbing and pays him an agreed amount of money to install the water tap in the yard.

The responses from households with yard taps confirmed that the installation of a water tap in the yard is totally dependent on affordability by the household members. The monetary figures recorded in the data indicate that the two families that installed water taps at the

beginning of the year 2009 paid R800 including the parts needed by the plumber. The other three respondents who installed water taps in the years 2010 and 2011 paid R1500 all inclusive. The researcher observed that the presence of a water tap in the yard is regarded as a sign of status to the household. The reasons given by residents for the installation of a water tap in their yards are that of convenience and security because one can get water without the effort of having to carry heavy containers.

The issue of affordability was confirmed by the responses from the municipality officials who indicated that currently the ULM's strategic plan is to supply the residents with potable water according to the basic water supply and basic sanitation standards as set out in terms of the Water Services Act 108 of 1997, due to the lack of funds. According to the municipality officials, the water supply system is at present open to abuse as it is not monitored through water meters. The water supply system allows households to use more than the 6*kl* per 30 days per family without having to pay for the excess water used.

The responses of municipality 2 and 3 (2011), to the question whether the water taps in the residents' yards of the MTA are connected according to the accepted standards of the ULM, was that it is not easy to tell since there is no formal monitoring done by the Municipality. The people with water taps were uneasy and suspicious about answering questions at the beginning of the interview because they thought it was a trap from the Municipality. The researcher observed that the people know that they should be paying for the excess water they are using.

The 60.9% who receive their water from the communal taps have ambitions of installing water taps in their yards to avoid travelling to the communal tap. One of the recommendations for improving the potable water supply suggested in the responses is that the ULM should assist with the installation of water taps in the homestead yards because the price of installing privately is not affordable to some of the residents.

Currently, the residents fetch water using mainly the 20*l* and 25*l* plastic containers known as izipakupaku by the residents. The plastic containers are carried by head to the homes but wheelbarrows are also used if available. The researcher observed two members of a homestead helping each other, one pulling the wheelbarrow with a rope and the other one

pushing. The two responded that it makes the effort of carrying water home a lot easier as their home is up the hill.

The responses revealed that the distances from households to the communal tap range from 100 metres to 500 metres. The people that travel more than 300m are the ones for whom the communal stand pipes are still being installed, but prefer to use treated water for cooking and drinking. These residents still make use of the river and fountain water for other domestic uses such as washing. The municipality official 4 (2011), indicated that the communal water taps are installed 200 meters apart but that there is always a possibility that some households travel a little more than 200 metres to the communal stand pipe because of the geographical factors and distribution of homesteads.

Figure 4.3 below represents the distances to the communal tap against number of homesteads.

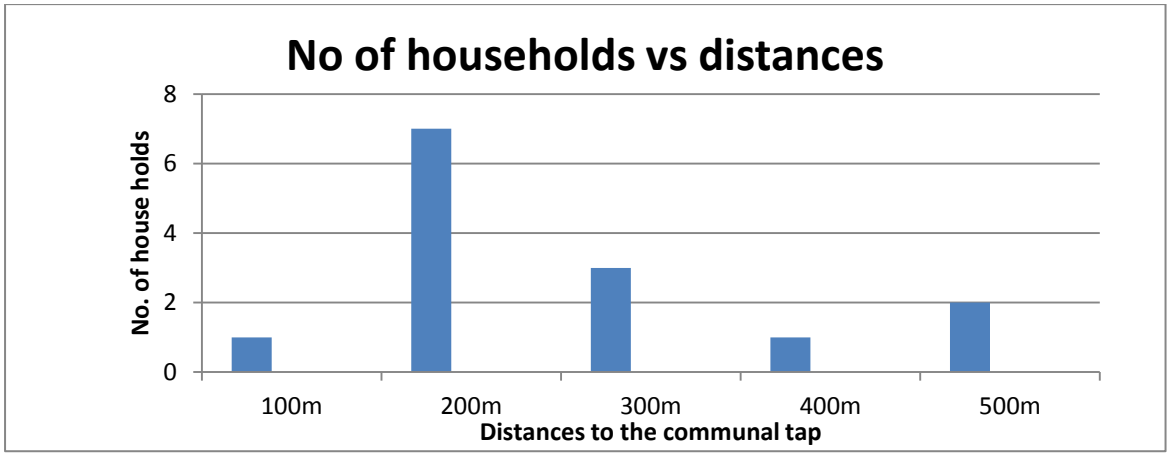

Figure 4.3 Distances to the communal tap (Source: Researcher's survey data, 2011)

The three households that are still using the spring as their source of potable water are residents of the Mangeza Village (see Figure 3.4). They get their drinking water from a spring called Odotsheni and use the Mangeza River for washing clothes and as drinking water for animals. There is one family out of these three families that has a herd of cattle. The cattle are usually allowed to drink water when they cross the river to and from the grazing fields on the other side of Mangeza River.

The spring is about 300 metres from two households and about 450 metres from the household keeping cattle. Quantitative data revealed that these families use about four to six

plastic containers which make the amount of water needed in a day to be about 100*l* to 150*l*, considering that the sizes of these plastic containers are either 20*l* or 25*l* respectively.

4.3.4 Domestic water uses

Van Schalkwyk (1996:20) points out that water demand in a household is a function of various factors such as household size, socio-economic status, availability, and inhibitors. The amount of water needed by each household per day was estimated on the basis of the daily chores such as cooking, drinking, personal hygiene and other uses. For each domestic chore, the residents were asked to estimate the amount of water they normally use. Table 4.4 illustrates the quantitative data collected:

Table 4.4: Average water utilisation per day (Source: Researcher's survey data, 2011)

Domestic uses of water	Average amount of water used per household	Average amount of water used per person per day
Cooking	17.5*l per day*	1.7*l*
Drinking	10.3*l per day*	1*l*
Washing dishes	15*l per day*	0.5*l*
Washing clothes	130*l per week*	1.8*l*
Scrubbing floors	10*l per week*	0.98*l*
Having a bath	180.3*l per day*	17.5*l*
Watering vegetables	100*l three times a week or* 42.85*l per day*	1.4*l*
Water for animals	80*l per day*	7.8*l*
Total	**485.65*l***	**32.68*l***

The total amount of water used per person per day from the survey of this study is 32.68 litres which is above the RDP standard of basic water supply of 25 litres per day per person. Therefore the findings reveal a high demand for water as pointed out by the municipality official 2 (2011), as one of the challenges experienced by the ULM in its area of jurisdiction.

4.3.4.1 Cooking and drinking

According to Van Schalkwyk (1996:66), the amount of water for cooking depends on cooking facilities, number of meals per day and the level of living of a household. The households having a low level of living are limited by their circumstances and therefore use 1*l* per person per day for cooking, and with improved living conditions the amount increases to 2*l* per person per day. Therefore the average amount of water for cooking per person per day is 1.5*l* calculated as follows:

$$\frac{2+1}{2} = 1.5l$$

The researcher observed that homesteads in the Mkhwanazi Tribal Area comprise separate stand-alone houses and the number of houses in each homestead varies, as they depend on the number of adults in the household. The types of houses found in each homestead are a combination of traditional thatched rondavels; two rooms usually zinc roofed and sometimes modernised western types with more rooms in them. It was interesting to note that even if a homestead has a big modernised house they would still build a rondavel in the yard. One spokesperson pointed out that a traditional rondavel is used for rituals or anything that has to do with ancestors because the people of old were not acquainted with big houses and therefore might not accept what is done in a big house. Each household has a pit latrine that was supplied by the ULM.

All the households visited in the research sample are connected with electricity according to the RDP basic standards of energy and electrification, in terms of the White Paper (SA, 1994:19) to provide electricity for all. The households use electricity for cooking, lighting and for playing their entertainment gadgets such as televisions and radios. It was established from the responses that the households do not have geysers. It was observed that residents cook their food on hot plates. Only two households in the sample had a four-plate stove with a single oven.

From observations by the researcher the residents of Mkhwanazi Tribal Area generally cook in the morning and in the evening. The morning meal is usually tea accompanied by any starch available such as bread, sweet potatoes (ubhatata), amadumbe or dry maize porridge

(uphuthu). During the day those at home and the children coming back from school might still drink tea or any type of juice and eat any food that is left over. In the evening they cook dry maize porridge (uphuthu) and vegetables or boil sweet potatoes or amadumbe during their seasons.

From the quantitative data in the questionnaire the amount of water used for cooking was seen to be influenced by the size of the family, the largest amount of water used for cooking recorded in the data is 25 litres per day and the smallest amount is 10 litres per day. Thus the average amount of water for cooking per household per day is 17.5 litres. The average was calculated as follows:

$$\frac{10l + 25l}{2} = 17.5l$$

The average number of people in a household in the sample of this study is 10.3 people per household. Therefore, the amount of water per person is 1.7*l*. The finding regarding water used for cooking per person per day is 1.7*l* which is higher than 1*l* of water used in communities having a low level of living but is also less than 2*l* used in communities with improved living conditions. Therefore, the amount of water used for cooking suggests that the standard of living in the Mkhwanazi Tribal Area is improving.

Data revealed that the average amount of water used for drinking in each homestead is 10.3 litres. There was a variety of answers to this question ranging from two glasses to six glasses. If one glass is 250ml, then two glasses would be 500ml and six glasses would be 1.5*l*. Thus the average amount of water used for drinking would be 1000 ml which is equal to 1 litre. The studies undertaken by Bourne *et al.* 1992 quoted by Schalkwyk (1996:66) to determine the water used for drinking, indicated that 1*l* to 2*l* per person per day is used, regardless of the level of living.

4.3.4.2 Dish washing

The quantitative data from the questionnaires showed that the average amount of water used for washing utensils is 15 litres per household per day. The smallest amount water per household per day for washing dishes is 10 litres and largest amount per household per day is 20 litres. Dishes are washed in big dishes of about 30cm in diameter. Since the household

average size is 10.3 persons, then the average amount of water used for dish washing will be given by 15 litres divided by 10.3 which gives 1.5 litres per person per day.

The amount of water used for dish washing in the sample is 1.5 litres per person per day which is the same as the amount used in the improved standard of living described by Schalkwyk (1996:67).

4.3.4.3 Cleaning the house

The frequency of scrubbing the floors and cleaning windows differs from household to household. Quantitative data revealed that 65.2% households do the cleaning of their houses once a week usually on Saturday mornings whilst 34.8% clean their houses twice a week. From the observation by the researcher the cleaning of the houses is a chore that is shared among the female members of the household. One spokesperson confirmed that during the week days they simply sweep the floors but over weekends they do the scrubbing of the floors. The average water used for cleaning a house is 7.5 litres.

The responses from households indicated that the amount of water for cleaning the house is insignificant as water from rinsing the clothes is naturally used for scrubbing the floor. To clean the windows, old newspapers dampened with water are used to remove dirt from the windows by rubbing. The types of houses as mentioned are mostly traditional with limited windows. Again an insignificant amount of water is reused that may be left from rinsing the clothes and about two to three litres of the rinsing water mixed with jeyes fluid is poured into the pit latrine to neutralise odours.

4.3.4.4 Personal hygiene

The study undertaken by Van Schalkwyk (1996:68) confirms that personal hygiene takes up the largest percentage of domestic water usage except where large gardens are maintained. Van Schalkwyk (1996:69) points out that water for personal hygiene at a low level of living is less than 14 litres per person per day while at a high level of living water used for bathing may increase to 90 litres per person per day.

For bathing the researcher observed that the people use big metal or plastic dishes and various places in the households are used for bathing, such as bedrooms or outside in a sheltered place especially made for this purpose. Washing the face and hands is sometimes done at the yard tap using running water and to clean the teeth a cup or glass of water together with toothpaste of choice is also used outside.

Naturally, bathing is done in the mornings and evenings. From the responses it was revealed that personal hygiene takes up a large portion of the water used by households in the Mkhwanazi Tribal Area. The largest quantity is 25 litres and the smallest amount is 10 litres, making the average of 17.5 litres per person per day. Thus, the average amount of water used for personal hygiene in a household with the average size of 10.3 people is 180.3 litres per day.

4.3.4.5 Water for clothes

The responses of the 23 sampled households showed that the frequency of washing a bundle of household clothes is once a week, usually over weekends by hand in corrugated iron dishes or plastic dishes that are used for bathing. The people that have taps in their yards do the washing of clothes next to the tap for convenient access to the water. One respondent indicated that she prefers washing clothes next to the communal tap, in order to avoid the effort of carrying a lot of water to the household. Large corrugated iron dishes that have two handles for easy carrying by two people are commonly used for carrying the clothes to and from the communal tap.

The responses to the questionnaires showed that various amounts of water ranging between 80 litres to 180 litres are used for washing clothes once a week. Therefore the average amount of water used is 130 litres per household per week. The amount of water used for clothes in this study is greater than the amount used in the Thabamoopo district of Lebowa which revealed that communities having low to moderate levels of living use about 120 litres per household per week (Van Schalkwyk, 1996:68).

Dividing 130 litres per household per week by 10.3, which is the average size of each household in this study, yields 12.6 litres of water used for washing per person per week. From the quantitative data the largest family was a household with 16 members, therefore

that particular family uses about 201.6 litres of water per week and the smallest family of six in the data uses 75.6 litres per week

4.3.4.6 Water for animals and plants

From the quantitative data 26.1% of the sampled households indicated using large volumes of water for animals. Five households which form 21.7% of the sample are keeping cattle but their response was that the cattle are always driven to the nearest point on the Mangeza River to drink water. A larger portion amounting to 52.2% of the sample does not keep animals. The researcher observed that the animals kept by households are cattle, chickens, dogs and cats. The dogs in some households were a real threat to the researcher as the first welcoming voice was the barking and charging of a vicious dog.

Data collected showed that the volume of water used for animals is determined by the number of animals kept, the largest volume of water used for animals per day being 100 litres and the smallest volume 1 litre. The animals are given water in large metal dishes, car tyres cut in half that are placed at several points within the yard of a homestead. Chickens also drink from the small pools of water formed by spillages next to taps.

The researcher observed a number of vegetable gardens inside the yards or sometimes at a walking distance from the homestead. The largest volume of water used in vegetable gardens is 60 litres and the smallest volume is 20 litres. Data revealed that the frequency for watering vegetables is three times a week.

Two households in the sample are small scale sugar-cane farmers. When asked how they irrigate the sugar cane, the responses indicated both farmers rely on the availability of rainfall. However, the second farmer has a 100m hose pipe that is used to irrigate one of his sugar cane fields that is situated next to the household; the volume of water used by this farmer could not be established.

The following section discusses the value attached to the potable water supply and the perceptions of the 23 sampled households regarding the present water situation.

4.4 VALUE OF WATER AND PEOPLE'S PERCEPTIONS ABOUT THE PRESENT WATER SITUATION

The value or the importance of potable water was determined by means of qualitative interviews with the residents of the Mkhwanazi Tribal Area.

The residents were asked whether they are paying for the water supply. The responses indicate that 8.7% of the households in the sample are paying for the water services to the Municipality and 30.4% showed a willingness to pay but indicated that they are not happy with the water-cuts that take place without any notification. About 60.9% of the responses indicated that water, as it is a natural resource, should be the responsibility of the Government which should provide them with clean water free of charge.

Questions on the residents' level of satisfaction about the quantity of water supplied were asked and the responses indicate that the potable water supply is appreciated and regarded as satisfactory. However, the common aspiration was that the ULM should assist with installing water taps in their yards because it is expensive. The evidence that installing taps in the yard is not affordable for other households is revealed by the 78.3% of homesteads in the sample which are using communal taps while only 21.7% of homesteads have managed to install the water taps.

People were asked whether they save water and 87.9% of the respondents do save water, whilst 12.1% were not sure. It was observed that reusing water from washing the clothes to clean the floors, windows and pit latrines is common to all the households. About 73.9% of the households that use the communal taps indicated that they collect rain water. Rain water is used in the same way as potable water from the communal taps.

Storing water in extra plastic containers was observed as a common habit of every household. When asked about the habit of storing water, the response was that it is for emergencies as there are usually unannounced water cuts made by the Municipality. The water cut-offs were confirmed by municipality official 2 (2011), pointing out that water cut-offs are unavoidable in the MTA as the Municipality's work of installing reservoirs and stand pipes is still going on, and that water cut-offs are sometimes done to control the water out-flow.

One respondent pointed out that the supply of potable water has made life easier because they have time to do other home chores rather than walking for long distances to fetch water and coming back tired. Quantitative data showed a high regard for personal hygiene as a large portion of the water is used for this purpose.

A level of expecting the Government to do more in improving the lives of people was observed as 39.1% of the sample indicated that they would like the Government to assist with flush toilets and solar geysers in the future.

4.5 CONCLUSION

The objective of the chapter was to compare the potable water usage in 1994 with the present water utilisation, 17 years later, of the Mkhwanazi Tribal Area's residents in order to establish how the quality of life has been affected by the present status quo of the potable water supply situation.

The study established that in 1994 all the rural residents were getting their domestic water from fountains and rivers. The average amount of water used per household per day was estimated to be between 80 litres and 150 litres. The people were travelling long distances ranging from 100 metres to 600 metres to fetch water. Dividing 150 litres by the present 10.3 which is the average size of each household, the amount of water per person per day was 14.6 litres which is less than the RDP standard of basic amount of 25 litres per person per day.

With the introduction of the potable water supply by the ULM the average amount of water used by each person per day is estimated to have risen to 32.68 litres per day. Distances travelled to fetch water have been reduced to a maximum of 200 metres. About 26.1% of the sampled households have managed to install water taps in their yards which confirms that more people are beginning to have water security in the Mkhwanazi Tribal Authority's area of responsibility.

Using the findings in the study by Van Schalkwyk of the water demand in the Limpopo Province that the water demand increases as the level of living rises, a conclusion can be drawn that the quality of life amongst the Mkhwanazi Tribal Area's residents is improving.

The employment level amongst the sampled households is low and that may affect the ability to pay for water services should the ULM enforce water tariffs especially for the excess volume of water that the residents are using over and above the 25 litres per day per person.

In the next chapter the findings of this study based on the objectives stated earlier together with recommendations will be summarised.

CHAPTER 5

SUMMARY OF THE FINDINGS AND RECOMMENDATIONS

5.1 INTRODUCTION

The aim for undertaking this study was to investigate the management of the potable water supply in the Mkhwanazi Tribal Authority (MTA) with a view to determining the challenges affecting the water supply and how the present water situation has impacted on the quality of life of the residents. The main objectives addressed throughout the study may be summarised as follows, namely to:

- Determine the organisational structures and public policies in place that govern the management of potable water.
- Identify the challenges that affect the potable water supply by the uMhlathuze Local Municipality (ULM) in the Mkhwanazi Tribal Authority's area of responsibility.
- Describe what the potable water situation was in 1994 at the start of the democratic government.
- Determine whether the potable water needs of the community are met by the UMhlathuze Local Municipality.

This chapter presents a summary of the findings of the study and the recommendations that can be implemented to assist in making potable water supply sustainable in the MTA.

5.2 THE MANAGEMENT OF POTABLE WATER SUPPLY IN THE MKHWANAZI TRIBAL AUTHORITY'S AREA OF RESPONSIBILITY

The aim of this study was to describe the management structures, public policies governing the potable water supply and challenges affecting the potable water supply in the Mkhwanazi Tribal Authority's area of jurisdiction. The structures identified in the study that are involved in the potable water supply are the uMhlathuze Local Municipality (ULM), the IDP structure, Water Services Provider and the Mkhwanazi Tribal Council. The conclusion is drawn in this

study that the structures required in terms of the Municipal Structures Act 117 of 1998 are indeed in place in the ULM.

The findings regarding the management of potable water in the MTA were that the ULM is in charge and that the management is done through the Municipal Council structure and the administrative structure that play complementary roles in the integrated developmental planning of the Municipality within its municipal area. The study established that the ULM is guided by the IDP which is the single most important framework plan that is used in the implementation of development services to its communities including the MTA. From the study of the ULM's official documents it was revealed that the IDP is a bottom-up process that involves all the stakeholders (see Figure 3.2).

The study revealed that the ULM complies with the co-operative government principles of giving recognition to other organs of state. For example, the Mkhwanazi Tribal Council plays a significant role as a constituent of the IDP Representative Forum that encourages the MTA residents to participate in the IDP processes. Thus, the organisational structures in the ULM allows for participative management of potable water supply by all the stakeholders. For example, participation of the MTA residents in the identification of community needs that resulted in the installation of the potable water supply in the area by the ULM was confirmed by the responses of the community leader.

The study established that there are indeed communication channels between the ULM and the Mkhwanazi Tribal Council, but it was perceived from the responses of the community leader that there is competition for power and authority that must be handled with care. For example, the fact that some parts of the MTA's area of responsibility are still waiting for the installation of potable water since the year 2001 was explained by the community leader with an element of doubt, although not stating precisely that the Municipality lacks the needed funding. Therefore, the study recommends that the ULM should always put the traditional leadership at the forefront in matters involving development in the rural areas such as the MTA in order to gain the support of the Chief of the Mkhwanazi tribe.

Another structure identified that is involved with the potable water matters in the MTA was the Water Committee. The water committee structure is meant to represent the interests of the

community in the IDP Representative Forum. The findings pertaining to the Water Committee are as follows:

5.2.1 Water committee

It was established from the responses in the questionnaires that a water committee does exist in the MTA (see section 3.8) but it is not fully utilised as only 34.8% of the sampled households knew about it.

Therefore, the ULM should empower the Water Committee through making it resourceful with information so that the residents can realise the benefits of having one and thus support it. For example, the water committee should have access to information pertaining to water-cuts so that they are answerable to the residents, thus winning the confidence of the residents. If the water committee is seen as resourceful, the level of support by the residents can increase to counteract the findings that a larger percentage of the sampled households had no knowledge about the existence of a Water Committee. Even the leakages and damages to the water distribution facilities can be attended to quicker if the residents know whom to contact in the absence of the ward councillor.

5.2.2 Route of potable water

The study established that Lake Cubhu is the source of potable water for the MTA and that the Lake is under the jurisdiction of the ULM. Thus, the purification of raw water from the Lake is done by the ULM at the nearby Esikhawini Water Treatment Works (see Figure 3.4). The potable water is then pumped through the pipe infrastructure to the three main reservoirs. From the main reservoirs potable water is pumped to different locations such as Mtunzini, Felixton, Vulindlela, Esikhawini, Dube and the Mkhwanazi Tribal Authority (see Figure 3.6).

The conclusion drawn from the results in the study is that currently Lake Cubhu is able to satisfy the domestic water needs of its consumers but the situation may change in the future as more households are added to the potable water supply system. For example, the study revealed that 13% of the sampled households in the MTA still use water from springs due to the lack of funds in the Municipality needed to construct more potable water reservoirs in Mangeza Village (see Figure 3.3).

5.2.3 Public policies governing water in the MTA

The study established that the ULM published the Water Services By-Laws in terms of section 156(2) of the Constitution (1996) which regulate the provision of potable water in its area of jurisdiction. The study also revealed that the Free Basic Water policy based on the RDP standards of basic water supply and sanitation in terms of the White Paper on Water Supply and Sanitation (SA, 1994:15) apply in the MTA. Thus, potable water is provided at a maximum distance of 200 metres at the communal taps and the free basic water volume of 6*Kl* per household per month is applicable in the MTA.

Although the free basic water policy of 6*Kl* is applicable, the study revealed that the volume of water used by households that have yard taps could not be quantified since there are no water meters installed in the households. The absence of water meters encourages residents to use large volumes of water without any fear of punitive measures; for example the study identified one sugar-cane farmer who irrigates with municipal water from the yard tap (see section 4.2.3.6). Only 8.7% of the sampled households that have yard taps indicated that they were paying for the water services provided by the ULM.

The study recommends that the ULM should install water meters in the households that have yard taps to instil a sense of accountability as residents will strive not to exceed the free volume of 6*Kl* per month if they know they will pay for the excess water. The collection of revenue from households that use excess water can also assist the Municipality to fund the installation of potable water for the remaining areas of the MTA.

5.2.4 Challenges affecting the management of the water supply

The main challenge established in the study that hinders the supply of potable water to all the parts of the Mkhwanazi Tribal Authority's area of jurisdiction is the lack of funding. It was revealed in the study that some parts of the MTA such as Mangeza Village (see Figure 3.3) are still waiting for the potable water supply. The lack of funds in the ULM can be alleviated if the MTA residents start paying for the water services provided by the Municipality. The study revealed that only 30% of the sampled households were willing to pay for the water services.

The reasons for not paying given by the residents in the sample were that:

- water is a natural resource that should be freely provided by the Government;
- it is their right to have water; and
- they do not have money as they are unemployed.

Considering these reasons the researcher recommends that the MTA residents need to be educated about the responsibilities that go along with the rights. For example, paying for the water services can sustain the residents' right to have water, because with enough funding the Municipality will be able to maintain the functionality of the water distribution facilities. The MTA residents also need to be educated about the costs incurred by the ULM in providing potable water to their households. To address the issue of non-payment the ULM can make use of the Mkhwanazi Tribal leadership as it was established in the study that the MTA residents have a high regard for the Chief.

The study also recommends that water awareness campaigns through displaying posters at public venues such as health clinics, shops and churches be undertaken by the ULM in order to instil the value of water in the community. The school learners can also be engaged by their teachers through projects, debates and competitions to promote the value of water amongst the residents as learners accord their teachers high authority, thus the value of saving water can infiltrate every household easily through children.

Other challenges indicated in the study are the rising demand for potable water as the installation of more communal taps is still continuing in the area and there is a loss of water through the damage of water facilities. The loss of water is exacerbated by the late reporting of leakages by the MTA residents. The study established that the challenge with reporting is that emergency telephone numbers are not readily known to everyone so that the matter can rotate for some time amongst the residents before reaching the ward councillor who is expected to report.

5.3 WATER PRACTICES IN 1994

Chapter 4 started by describing the MTA's water practices in 1994 before the installation of the communal taps which took place later in the year 2001. Then that chapter explored the present potable water utilisation patterns in the MTA. The purpose was to reveal how the quality of life of the residents has changed.

The study established that the distances walked to the spring to fetch water by the residents in 1994 were longer than 200 metres (see Figure 4.1) and that the average volume of water per day per household was 110*l* (see section 4.2). Thus, fetching water from the spring needed a lot of effort as residents would walk a long distance carrying heavy containers. The time spent at a spring ranged from 20 minutes to 1 hour depending on the queue found at the spring.

5.4 PRESENT WATER UTILISATION IN THE MTA

In trying to estimate the potable water utilisation in the Mkhwanazi Tribal Authority's area of responsibility, the study sought to explore the number of people per household, the employment level within the sampled households and the access to potable water.

The findings in the study indicated that the current average household size of the 23 sampled households is 10.3, and that school learners constitute 50.8% of this sample (see section 4.3.1). The education level in the whole Municipal area is generally low (see Figure 4.2) and there is a direct relationship between the low level of education of the ULM and the high unemployment level of the sample (see Table 4.2). The unemployment level of the sampled households is 27.5% (see Table 4.2). Therefore, the high level of unemployment in the Mkhwanazi Tribal Authority's area of responsibility is due to the low level of education in the area.

Pertaining access to potable water, the findings in the study indicated that the present potable water situation is regarded as better as the distances to the communal taps have been reduced to a maximum of 200 metres (see Figure 4.3). Therefore, the MTA residents have more time to attend to other activities that can improve the quality of their lives. For example, in the

morning, disciplined learners can arrive early at school because there is no time wasted walking a long distance to fetch water before going to school, and in the afternoon there is more time available to study which can improve school results if used effectively.

The average volume of water used per person per day has increased from 10.7*l* in 1994 to 32.68*l* (see Table 4.4) in the MTA with the installation of the potable water supply. Thus, using the finding by Van Schalkwyk regarding the water demand in the Limpopo Province that the water demand increases as the level of living rises, a conclusion can be drawn that the quality of life amongst the MTA residents is improving.

The present average volume of 32.68*l* per person per day in the MTA is higher than the Free Basic Water policy volume of 25*l* per person per day. A conclusion is drawn in this study that the MTA residents that have yard taps have an advantage of using excess water and get away with it considering the finding that they are not included in the ULM's billing system.

Table 4.4 confirms that more water is used for personal hygiene and washing clothes. The responses from the questionnaires revealed that the MTA residents appreciate the availability of water as it brings a sense of security and cleanliness boosts their confidence.

Although the MTA residents appreciate that the ULM is providing the potable water supply, data from questionnaires showed that the residents have a negative attitude towards paying for water services and that the water-cuts are a problem as the residents pointed out that the ULM usually does not inform them in advance.

5.5 VALUE OF WATER: PEOPLE'S PERCEPTIONS ABOUT THE PRESENT STATUS QUO

The value attached to water and people's perceptions were determined through qualitative questionnaires, asking the 23 sampled households about their willingness to pay for water services, whether they practise saving water and whether they are satisfied about the present status quo of the potable water supply.

The study revealed that the sampled households regard the potable water supply as valuable to their lives, as responses indicated in different ways that easy access to water has removed the burden of having to walk long distances to fetch water. Thus, activities such as washing clothes, cleaning the house, and watering plants are a lot easier since fetching water is no longer the challenging effort it used to be.

The study revealed that the MTA residents do save water. For example, the common practice of storing extra water in plastic containers for emergencies was observed in every household and it can be attributed to the value attached to water by the residents. Data from the questionnaires also revealed that 78.3% of the households collect rain water and they use it in the same way as potable water from the communal taps.

The responses to questionnaires also indicated that the MTA residents attribute the extinction of water-borne diseases such as diarrhoeal outbreaks amongst the community to the installation of potable water. Quantitative data from questionnaires showed that a large portion of water is used for washing clothes and bathing, and cleanliness can contribute to the general well-being of the MTA residents.

The MTA residents regard water as a natural resource that must be freely provided to everyone by the Government. Therefore, the residents indicated that it would be impossible to pay for water services because they are unemployed. Thus, a conclusion was drawn that there is a negative attitude towards paying for water services amongst the residents.

The 23 sampled households showed some level of satisfaction about the present status quo but more than 70% indicated that the Government should assist with the installation of taps in their yards as doing it privately is expensive and not affordable. A conclusion is made in this study that the MTA residents have high expectations of the Government as 39.1% of the sampled households expect the Government to assist with flush toilets and solar geysers.

Although the 23 sampled households showed appreciation for the potable water supply, the data from questionnaires revealed that the residents were not satisfied about the fact that they are not informed in advance by authorities about water-cuts.

5.6 RECOMMENDATIONS

The study established that the organisational structures and public policies that are necessary in order to contribute to the progressive realisation of the fundamental rights contained in sections 24, 25, 26, 27, and 29 of the Constitution of 1996 are in place in the ULM as required by the Municipal Structures Act 117 of 1998 along with the Municipal Systems Act 32 of 2000. However, the study recommends that the communication between the ULM and the Mkhwanazi Tribal Council be improved in order to maintain a good working relationship. For example, the Mkhwanazi Tribal Council must be kept up to date about the constraints in the Municipal's budget so that they, as leaders in the community, are able to account to the residents on behalf of the Municipality. Keeping the Mkhwanazi Tribal Council informed can minimise the competition for power that was observed by the researcher during the study.

In the same way the study recommends that the Water Committee be empowered with as much information as possible pertaining to the challenges retarding the installation of communal taps to the remaining areas still waiting for the potable water supply. The Water Committee can gain support and recognition if it is seen as resourceful by the MTA community. For example, the Water Committee must be able to access information pertaining to the water-cuts with ease from the Municipality. Thus, empowering the Water Committee can minimise the dissatisfaction shown by the MTA residents towards the ULM for not informing them in advance about the water-cuts.

The study also established that the ULM is hindered by the lack of funds in providing the remaining areas in the MTA with potable water. Although revenue collected from the MTA residents may not be much but it can assist the Municipality towards the installation of more communal taps. Therefore the study recommends that the MTA residents be encouraged to pay for water services especially the households that have taps in their yards. The ULM should start installing water meters in the households that have taps in their yards so that these households can pay for the excess water.

The study established that the MTA residents regard water as a natural resource that should be freely provided by the Government and therefore the MTA residents need to be educated about the costs incurred by the ULM in providing them with potable water so that they see the value of the potable water and consider paying for water services. The ULM should

explain the free basic volume of 6*Kl* per month per household, in practical terms to the MTA residents so that they are able to stay within the allowed volume in order to avoid paying for the excess water used. For example, the MTA residents must be educated that the 6*Kl* per month per household is equivalent to 8 plastic containers with a volume of 25 litres per day per household or 10 plastic containers with a volume of 20 litres per day.

Another organ of state that the ULM must use in order to motivate the residents to pay for the excess water is the Mkhwanazi Tribal Council. The study established that the MTA residents have a high regard for the Chief so that the ULM can benefit by making use of the authority that the Chief has over the MTA inhabitants, to motivate them to pay. The Chief must also take part in educating the residents about the fact that as much as they have the right to sufficient water, the right goes along with the responsibility to sustain the potable water supply for the future generations. Thus, paying for water services can be seen as one way of sustaining the existing water distribution facilities because with sufficient funding the Municipality will not struggle to do maintenance as it will have the capacity to employ more skilled workers.

The ULM should conduct water awareness campaigns regularly especially in schools so that the value of water and good practices of saving water can reach the maximum of households. Educating the children about the importance of having a potable water supply will help create an informed future generation, and can eventually contribute towards the sustainability of the potable water supply in the MTA. Thus, challenges such as water loss, non-payment for basic water services in the MTA can be holistically addressed by involving all the organisational structures governing the potable water supply in the water awareness campaigns in the MTA.

The installation of water meters for the households that have taps in their yards can also assist to counteract water loss through negligence by the MTA residents, because if the household members know that the Municipality will be able to charge them for excess water they will be forced to fix leakages quicker to their yard taps. With water meters installed, the Municipality will be able to quantify water loss in monetary terms.

5.7 CONCLUSION

The study succeeded in describing the organisational structures and public policies governing the potable water supply in the MTA. The study also identified the challenges that hinder the potable water supply to all the parts of the MTA's area of responsibility as well as exploring peoples' perceptions about the present status quo of the potable water supply.

Therefore, a conclusion is made in this study that the appropriate structures required in terms of the Municipality Structures Act 117 of 1998 are in place in the ULM and that the public policies published by the ULM are in line with the realisation of the fundamental rights contained in sections 24, 25, 26, 27, and 29 of the Constitution (1996). The study established that the ULM experiences various challenges such as a lack of funding and human capacity, as well as the absence of water meters in the MTA, water loss and a rise in the water demand that affect the management of the water supply in the MTA.

The study recommends that great effort from the leadership of the MTA is also needed to educate the MTA inhabitants about the value of water and the fact that the right to water goes along with the responsibility to be accountable and the need to pay for basic water services so that the achieved development in the area remains sustainable.

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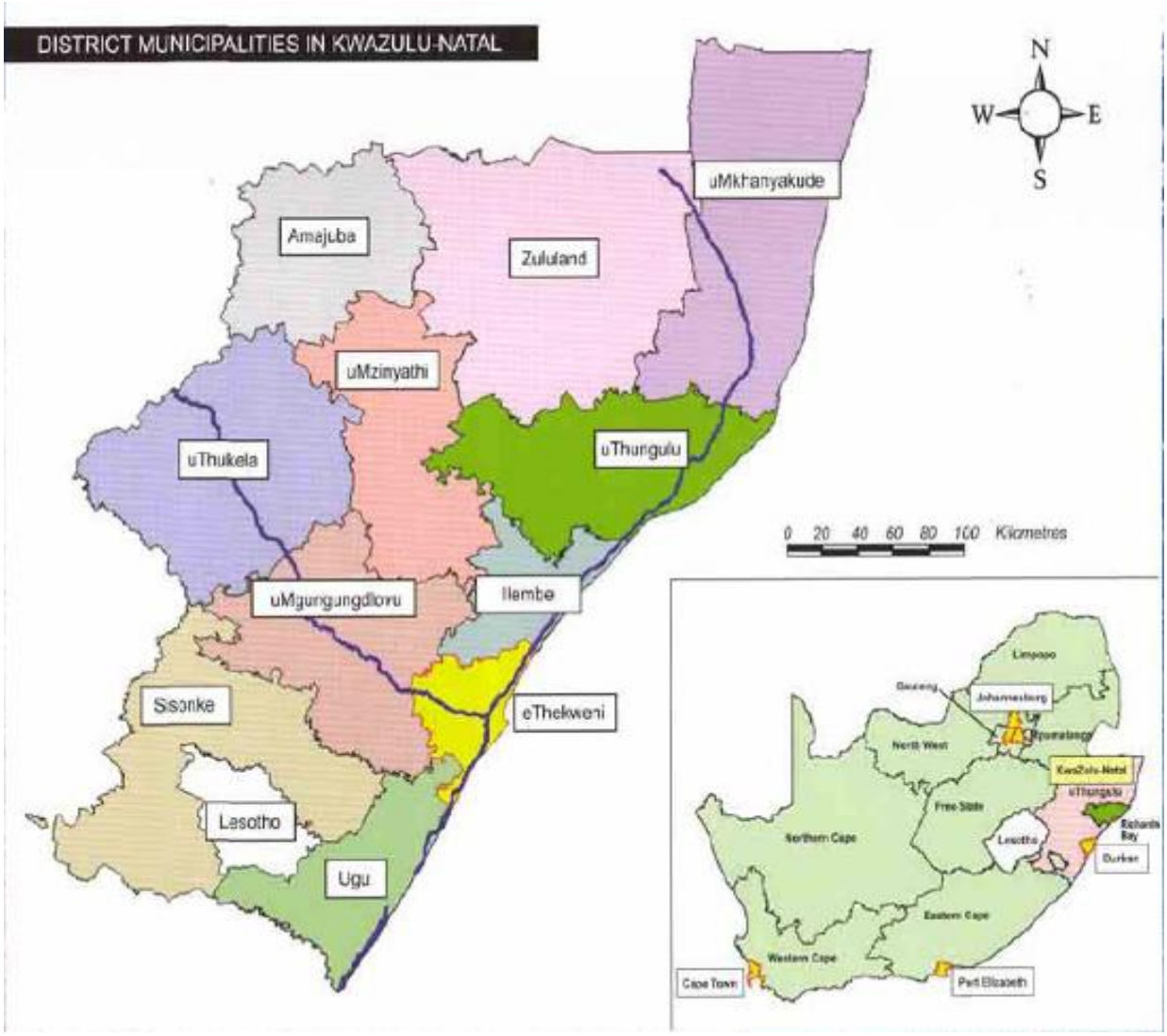
ANNEXURE A



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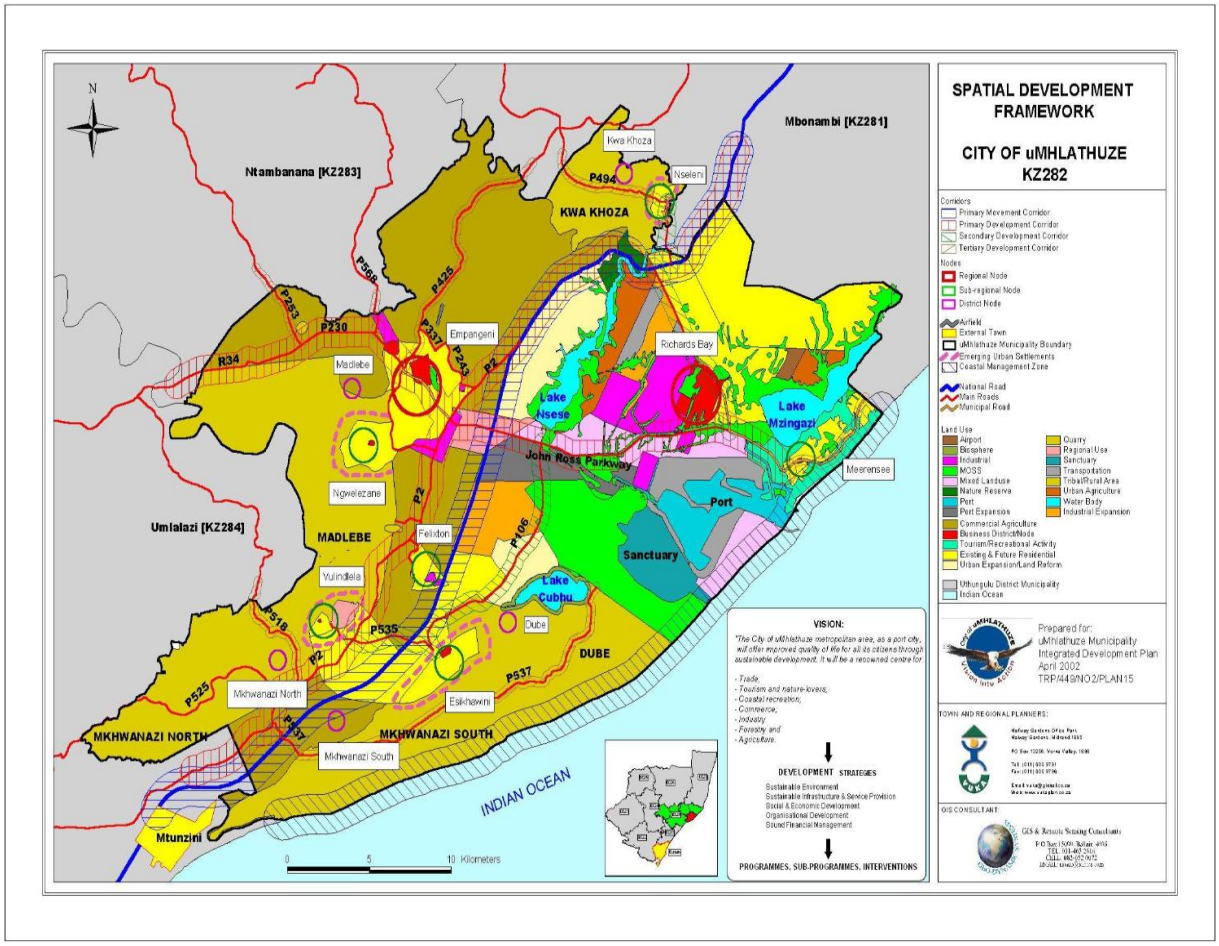
ANNEXURE B

Map of UMhlathuze Local Municipality



Source: Umhlathuze Local Municipality, 2005:63. Department of Director Planning and Sustainable Development. Retrieved from: http://www.richemp.org.za/TulipuMhlathuzeInternet/repository/IDP/IDP2005/343259-1.pdf. Date of access: 18 February 2011)

ANNEXURE D

QUESTIONNAIRE TO THE RESIDENTS OF MKHWANAZI TRIBAL AUTHORITY'S AREA OF RESPONSIBILITY

Introduction

This questionnaire has both structured and open ended questions. It was administered to the residents of the Mkhwanazi Tribal Authority's residents that were older than eighteen years of age. Twenty three households constituted the sample of this study. The respondents were encouraged to respond by writing down their answers but oral responses were also allowed. Verbal responses were audio-recorded and later transcribed.

Name of the Interviewer:_____

Date: _____ Time: _____

Name of residence: _____

1. What is your position in this home?

Grandmother	Mother	Daughter/granddaughter	Grandfather	Father	Son/grandson

2. Where do you obtain water?

Fountain	Communal stand pipe	Tap in the yard

3. Who installed the communal water tap or tap in the yard?

_____

4. Did you pay towards installation of the communal water tap?

_____

5. Was there any permission needed from authorities before installing the water tap in the yard?

_____

6. If so from which authority?

_____

7. What was needed?

_____

8. Who maintains the communal standpipe?

_____

9. How far is the communal water point?

100m	200m	300m	400m	500m

10. How long does it take to get to the communal water point?

5minutes	10 minutes	15 minutes	30 minutes	45 minutes

11. How many 20*l* or 25*l* containers do the family need per day?

20*l*	25*l*

12. Do you pay for water?

yes	no

13. If so how much do you pay per month?

_____

14. To whom do you pay?

_____

15. Do you know about the free basic water volume of 6*Kl* per month per household?

_____

16. Can you quantify how much water per day per household is 6*Kl*?

_____

17. In your opinion, is paying for water services a right thing to do?

_____

_____

18. Is water always available in the water tap?

_____

19. When water is going to be unavailable are you informed?

_____

20. Where do you get water if it is not available in the tap?

_____

21. How far is that water source?

100m	200m	300m	400m	500m

22. What do you do to save water?

Reuse water	Collect rainwater	Close the tap after use	Store water

23. If there is a water leakage somewhere to whom do you report?

_____

24. Is there a water committee in this village?

_____

25. Does the committee get support from the community?

_____

_____

26. In your opinion who should be in charge of your water?

Community groups	Municipality	National government	Tribal Authority

27. Please explain why?

_____

_____

_____

_____

28. How can this be done?

_____

_____

_____

_____

BACKGROUND SITUATION

29. Back in 1994, where were you getting water for cooking?

Fountain	River

30. What were the good times for going to the river or fountain?

Morning & Afternoon	Anytime during daylight	Day and Night

31. Explain, why is the time for fetching water important.

_____

_____

32. Is this the same water source in question 16? _____

33. What containers are used to fetch water?

_____

_____

_____

_____

34. Fetching water in the household is associated with whose work? Select from the following.

Women	
Men	
Children	
Girls	
Boys	

35. What were the problems associated with going to the fountain? In your opinion number the following starting with the most problematic.

Travelling long distance	
Path way not safe	
Lack of security	
Water containers too heavy	
Other (specify)	

36. Is there anything that you miss about going to the spring?

_____
_____
_____

37. How has your life changed since the installation of water taps?

_____
_____
_____
_____
_____
_____
_____
_____

USES

38. How many people stay in this home?

_____

39. Indicate number of skilled professionals, general workers, learners, unemployed and pensioners in the family.

Skilled/professionals	
General workers	
School learners	
Unemployed	
Pensioners	

40. In the following indicate the source and amount of water you use for each item in the list, also indicate the frequency per week for each item.

Domestic uses of water	Source of water Fountain River Tap water	Amount of water used	Frequency per week
Washing clothes			
Drinking			
Cooking			
Washing dishes			
Scrubbing floors			
Having a bath			
Watering plants			
Water for animals			
Healing purposes			

41. Is the supply of water enough for all domestic uses?

Not sufficient	Satisfactory	Sufficient

42. What can be done to improve the water situation in this area?

_____
_____
_____
_____
_____

ANNEXURE E

QUESTIONNAIRE TO THE MUNICIPALITY OFFICIALS AND COMMUNITY LEADERS

The data in this questionnaire was sourced from the uMhlathuze Local Municipality's officials.

Name of the Interviewer:_____
Date: _____ Time:_____

Position of the official: _____

1. What is the organisational structure of the IDP process in the Mhlathuze Local Municipality?

_____

2. What is the organisational structure of water supply management in the uMhlathuze Local Municipality's Department of Water? Please supply the interviewer with the copies of supporting documents if possible.

_____
_____
_____
_____

3. What are the public policies governing the potable water supply in the uMhlathuze Local Municipality? Please supply the interviewer with copies of these documents if possible.

_____
_____
_____

4. In your opinion where should the IDP process begins?

Top down process	Bottom up process

5. What is the acceptable way of reaching to the Mkhwanazi tribal community?

_____

6. Does the Mkhwanazi Tribal Authorities support the IDP processes of the municipality? Select applicable responses.

	Strongly agree	Agree	Sometimes	Never

Attending IDP meetings				
Encourage Public participation				

7. Which committees, organisations have you interacted with in this area?

Water committee	
Development committee	
Church organisations	
Youth committee	
Schools	
Transport committee	
Housing committee	

8. Which of these committees above get the most support of the community?

_____

9. Do the residents reports or complain on the following?

Leakages of communal stand pipes	
Shortage of water	
Water cuts at the communal stand pipes	

10. What is the potable water source for the Mkhwanazi Tribal area?

_____

11. What is the route path followed by water from the source to the homes source in the Mkhwanazi Tribal Authority's area of jurisdiction?

_____

12. Do all the homesteads have access to potable water?

_____

13. Does the supply the supply system reach every homestead, for example a water tap in every homestead?

_____

14. If the water is not supplied directly to homesteads, how far is the radius to the point of supply from their homes?

_____

_____

15. When was the potable water supply started for the Mkhwanazi Tribal Authority's area?

16.What are the challenges that hinder the supply of water from reaching some of the areas?

17. Where the geographical structure of the area gives problems to penetrate with pipes, what is the Municipality doing to make sure that water do reach such areas?

18. Do the inhabitants of the Mkhwanazi Tribal Authority's area of jurisdiction pay towards potable water supply?

Yes	No

19. Is the 6*Kl* per 30days per household Free Basic Water policy applicable in the Mkhwanazi Tribal Area?

Yes	No

20. In your opinion will the present potable water supply system be sustainable in the long run?

21. What can be done to help the residents see the value or the importance of the clean water supply to their homes?

22. What can be done to improve the potable water supply situation in the Mkhwanazi Tribal Authority's area of jurisdiction?