Service Delivery and Equitable Distribution of Water and Sanitation Services in the Newcastle Local Municipality

BY

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Submitted in partial fulfilment of the requirements for the Magister Degree

In

Governance and Political Transformation

At the
University of the Free State
Bloemfontein

June 2016

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DECLARATION

I, Themba Cecil Madi, hereby declare that this extensive mini-dissertation for the Masters Programme in Governance and Political Transformation, at the University of the Free State (Bloemfontein), is my own original work and has not been submitted by me or any other individual at this or any other university. I also declare that all reference material used for this study has been acknowledged.

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Acknowledgements

“Praise the Lord my soul. All my being praise His Holy name. Praise the Lord my soul, and do not forget how kind He is. He keeps me from the grave and blesses me with love and mercy. He fills my life with good things so that I can stay young and strong like an eagle” (Psalms, 103: 1-5).

With these psalms from the Holy Bible, I wish to extend my gratitude to all the people who God brought into my life and who contributed to make this dissertation a possibility.

- I thank God, the Almighty who ushered His grace and power upon me towards completing this project. I believe He charted my path by availing wonderful people who guided and nourished me towards achieving this dissertation.

- I extend my deepest gratitude to my wife Gamelisha and son Khwezi who had to endure living with the husband and a father who had to spend less time with them and more with his books. Without your support guys, this work would have never seen the light of the day. Thank you for your understanding.

- To my loving parents (Dumisani and Feziwe Madi), I will always be grateful to be your son.

- To Doctor Nola Redelinghuys, my supervisor, I extend my gratitude for guiding and enriching me through to the completion of this work. Doctor, working under your guidance was an eye opener.

- To Doctor Tania Coetzee, the Director of Governance and Political transformation at the University of the Free State, I say thank you for affording me with an opportunity to explore my academic potential**.**

List of Acronyms and Abbreviations

ANC	African National Congress
DWA	Department of Water Affairs
DWAF	Department of Water Affairs and Forestry
DWS	Department of Water and Sanitation
IDP	Integrated Development Plan
ICPD	International Conference on Population and Development
MDG	Millennium Development Goals
MSA	Municipal Systems Act
NLM	Newcastle Local Municipality
SAHRC	South African Human Rights Commission
SALGA	South African Local Government Association
UN	United Nations
UNCED	United Nations Conference on Environment and Development
UNICEF	United Nations Children Education Fund
WHO	World Health Organisation
WSA	Water Service Authority
WSDP	Water Service Development Plan
WSP	Water Service Provider
WSSD	World Summit on Sustainable Development

Abstract

The slogan by the department of water and sanitation declares that “water is life” and “sanitation is dignity”. This slogan stresses the importance these services have to the daily lives of people. The study about access to clean drinking water and improved sanitation reveals the intricate link that these services have. It also reveals the detrimental effects to human can have to humanity if not well managed, on the one hand, and the benefits they can bring to economic and social developmental opportunities to a country and its populace. The perils and the benefits associated with provision of both clean drinking water and improved sanitation demands that governments pay particular attention in assisting its communities to access these services.

Various global conferences have made great strides in alerting world communities about challenges caused by the lack access to clean drinking water and improved sanitation as well as in encouraging world governments these basic needs to their people. This study analyses access to clean drinking water and improved sanitation services delivery, within the Newcastle Local Municipality (NLM). It starts by investigating the work undertaken by global communities in revealing the importance of water and sanitation in fighting poverty and diseases and in encouraging global governments to provide clean drinking water and proper sanitation to their people.

The study further analysis the impact the global conferences have had in shaping the policies direction relating to water and sanitation in South Africa. It then investigates progress that has been made by the NLM in providing clean drinking water and proper sanitation to its communities. While the study is undertaken, cognisance is taken of the previous inequality that characterized the populace of South Africa. In investigating progress made in the NLM, the study compares the previously disadvantaged communities with the previously advantaged communities with respect to the provision of clean drinking water and improved sanitation. The study concludes by making recommendations as to what the NLM can do to maximize its rollout of water and sanitation services to its people.

Definition of terms

This section defines terms that feature during the study discussion with the aim to clarify the context in which they are used in the study.

Sanitation services

In South Africa, Sanitation services means the collection, removal, disposal or treatment of human excreta and domestic wastewater, and the collection, treatment and disposal of industrial wastewater where this is done by, or on behalf of, a water services authority. This includes all the organisational arrangements necessary to ensure its provision including, amongst others, appropriate health, hygiene and water resource-use education, the measurement of consumption and the associated billing, collection of revenue and consumer care (DWAF, 2001: 6).

Basic sanitation service

A basic sanitation service is a minimum acceptable sanitation service that people are required to receive. In South Africa basic sanitation service entails the provision of appropriate health and hygiene education and a toilet which is acceptable to the users; safe, reliable, environmentally sound, easy to keep clean, private, protected against the weather, well-ventilated, and which keeps smells to the minimum and prevents the exit of flies and other disease carrying pests (DWAF, 2002: 11).

Basic minimum water supply

A basic water supply is defined as a minimum acceptable amount of water service that people are required to receive. In South Africa people are required to receive the minimum quantity of 25 litres of potable water per person per day (or 6 000 litres per household per month) within 200 metres of a household, which is not interrupted for more than seven days in any year; and with a minimum flow of 10 litres per minute in the case of communal water points (DWAF, 2002: 6 & DWA: 2014: 5).

Clean Drinking Water

Clean drinking water (potable water) is defined as water that is safe to drink and to cook with, as it does not impose a health risk, according to the country's quality standards. (DWAF, 2002: 6).

De-slugde

Sucking/Removing sanitation contents usually from Ventilated Improved Pit latrines (VIPs), septic tanks or conservancy tanks to prevent from overflowing.

Good Governance

Good governance relates to a regulatory system that shows qualities of accountability, transparency, legitimacy, public participation, justice, efficiency, the rule of law, and an absence of corruption (Pahl-Wostl *et al.*, 2008: 423).

Water governance

In the area of water more specifically, governance has been defined as "the range of political, social, economic and administrative systems that are in place to develop and manage water resources, and the delivery of water services, at different levels of society" (Rogers & Hall, 2003 in Biswas & Tortajada, 2008: 132).

Sustainability

Sustainability is based on the principle that everything we need for our survival and wellbeing depends, either directly or indirectly, on our natural environment. Sustainability creates and maintains the conditions under which humans and nature can exist in productive harmony and permits fulfilling the social, economic and other requirements of present and future generations. Sustainability is important to making sure that we have and will continue to have, the water, materials, and resources to protect human health and our environment (UNICEF & WHO, 2012: 6).

Sustainable development

Sustainable Development is development that meets the needs of the present, without compromising the ability of future generations to meet their own needs. It is an approach to development that looks to balance different, and often competing, needs against an awareness of the environmental, social and economic limitations we face as a society (Sustainable Development Commission March 2011).

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1. Chapter 1

1.1 Introduction and background

South Africa is a water scarce country. Crafford, Hassan, King, Damon, de Wit, Bekker, Rapholo and Olbrich (2004: 17) and Hemson, Kassim, Kulindwa, Lewis and Mascarenhas (2008: 5) stated that South Africa will face absolute water scarcity between the years 2020 and 2030. The statement by Crafford, *et al*. (2008: 17) and Hemson, et al. (2008: 5) was collaborated by the deputy minister of the Department of Water Affairs (DWA), Minister Mabudafhasi, when she stated that "South Africa is a water scarce country that needs to ensure that it conserves water, especially at local municipality level to meet its development plans. We are faced with the challenge of water loss through leaks from households and public places, to name but a few; pollution of rivers and people without water amongst others, hence our commitment to prioritise water conservation and support local government" (DWA, 2013: 2). Gosh (2011: 283) summarised water scarcity in South Africa as a result of the interplay between water availability; consumption patterns and (miss)-management of resource. Thus he considers access to water as not only linked to water shortages in the physical sense, but also to issues of water governance.

South Africa as a developing country is also faced with an urgent challenge to provide adequate access to clean drinking water and improved sanitation to all its population (Feldman, 2012: 8). Under the previous political dispensation, most South Africans were excluded from participation in government and suffered due to a lack of access to basic services, such as clean water and sanitation. The first democratic elections on 27 April 1994 provided opportunity for all South Africans to participate in the government of the country, and a hope to have equal access to basic services was created (DWAF, 2001: 4). The constitution adopted in 1996 also provided hope to the people that their lives will transform for better (Tapela, 2014: n. p.).

Enshrined in the constitution is the right of all people to have access to basic clean drinking water and sanitation (DWA, 2013: 2). However, for many people, it appears that this constitutional right is not upheld by the current state of affairs in many areas of the country. The hopes that were raised during the first years of democracy are slowly fading and are being replaced by mounting frustration as the promise of a better life for all

seemed to have become a distant myth. Tension over access to clean drinking water and improved sanitation, as a result of the inequitable provision of these service infrastructures at the household level has however started have to manifest itself through violent service delivery protests (Tapela, 2014: n. p.). People in different communities are taking to the streets demanding better and urgent services delivery (Mouton, 2013: 12).

Violent service delivery protests have become a common occurrence in most municipalities in South Africa in recent years. The reasons for the protests are largely attributed to unfulfilled expectations with regard to service delivery at local government level, with housing, electricity and water featuring as prominent issues in these protests. According to Turton (2008: 1), violent service delivery protests are driven by poor governance and the lack of service delivery capacity, fuelling perception of an uncaring and corrupt government. This observation by Turton (2008: 1) reinforced by one protester reported, during a protest on 22 February 2010, to have declared, “We demand service delivery! We want clean water, running toilets, sewage, roads and electricity” (Serero & Mathebula, 2010: 1).

Water and sanitation services featured prominently among the grievances of the protesters in Siyahlala-la (2008), Makhaza (2009), Blaaubosch (2010), Ficksburg (2012); Sasolburg (2012), Parys (2012), Mandela Bay (2012); Malamulele (2013), Roodepoort (2014); Mothutlung (2014); Brokonspruit (2014) and in many other areas of South Africa (Tapela, 2014: n. p). The frustrations of the protesters over water and sanitation delivery problems, emanate from taps running dry of water, total lack of access to clean drinking water and constant water cuts, which constrain people’s daily activities and impact on their health and wellbeing (Muller, 2011: 3). These problems pose a serious threat to health, as people are forced to rely on dirty water sources, which at times they share with their domestic animals (Mouton, 2013: 12). In Inquthu, northern KwaZulu Natal, for example, some sections of the local hospital had to be closed in March 2014, due to water shortages while in the South Coast municipality, people had to endure nine days without water (Naicker, 2014: 4 & Ukhozi FM, 2014: n. p.).

The delivery of clean drinking water, particularly to previously un-serviced and underserviced areas, has been made the hallmark of transformation by the post-apartheid government and is regarded as a mechanism to fight unemployment, inequality and

poverty (Abrams, 2003: 4; DWAF, 2003: 5 & Hemson, *et al.,* 2008: 145). Access to clean water and improved sanitation is seen as a catalyst for development (DWAF, 2003: 5) and as an enabler of and a bedrock for, all future planning and development (DWAF, 2003: 1). In fact, no socio-economic development can take place without access to clean water and improved sanitation (Crafford, *et al.,* 2004:17 & Kapfudzaruwa & Sowman, 2009: 683).

Access to clean water and improved sanitation is regarded as a key to winning the battle against triple challenge of unemployment, inequality and poverty, while the lack of access to both clean water and improved sanitation, could be a limiting factor to growth in South Africa (Abrams, 2003: 4). It therefore becomes important that the municipalities distribute water and sanitation resources equitably and without fail within their communities, if the goals of the national government are to be achieved.

1.2 Motivation

The following five water and sanitation facts provided by the Water Organisation (UNICEF & WHO, 2012: 6) motivated this study:

- More than 34 million people die each year from water, sanitation and hygiene related causes. Nearly all of these people (99%) live in developing countries.

- Of the 60 million people added to world's urban population towns and cities every year, most move into informal settlements (i.e. slums) with no sanitation facilities.

- Approximately one in nine people lack access to improved water resources.
- Approximately 1.2 billion people on our planet have no facilities to ensure hygienic separation of humans from their excreta.

- Diarrhoea is the second leading cause of death among children under five years in the world. It kills more children more that malaria, AIDS, and measles combined and it can be prevented by improved sanitation and good hygiene.

South Africa in general and Newcastle Local Municipality (NLM) in particular, have some similar characteristics as those mentioned above. These common factors include aspects

such as lack of proper sanitation, shortage of water supply, water related diseases, high rural urban migration, informal settlements and mostly people without access to improved water resources, to mention but a few (Naicker, 2014: 4).

This study is conducted against the background of the numerous other violent protests experienced in most municipalities throughout South Africa since 2008, which threaten the country's consolidation of its democracy (Turton, 2008: 2). As noted by Uys (2010: 3) and Tapela (2014, n. p.), the incidences of protest action are increasing and are becoming even more violent over time. Between the May 2009 general elections and March 2010, for example, 100 service delivery protests were reported nationally- totalling as many as were held during the previous four years altogether (Hoffman, 2010). The study is further motivated by the protest that took place in Siyahlala-la, Blaaubosch village and Soul City under the NLM in 2010, (Memela, 2010: n. p.). These services delivery protests have an impact on the ability of all spheres of government to sustain political stability, should the trend escalate (Hoffman, 2010; Uys, 2010).

This research, in light of the dissatisfaction displayed through these protests, endeavours to investigate the factors contributing to the dissatisfaction over water and sanitation service delivery in NLM and to investigate the progress made and challenges encountered, by the NLM in identifying and supplying its inhabitants with water and sanitation in their living spaces.

1.3 The area under study.

Source: Department of Agriculture and Environment Affairs (2014: 2)

The Newcastle Local Municipality falls within the Amajuba District Municipality (DC 25), along with the Dannhauser and Emadlangeni municipalities. It is located in the North West corner of KwaZulu-Natal province and is the biggest of the three local municipalities within the Amajuba District. The NLM forms the border of KZN, with Phumelela in the Free State to the west and Pixley ka Seme in Mpumalanga to the north as its neighbouring municipal

districts. The area covers an area of 1855 kilometre square and is made up of 31 wards. It is the third largest urban area within KZN (IDP, 2010: 4 & WSDP, 2009: 3).

According to the Newcastle Integrated Development Plan (IDP) (2014: 70), NLM was previously regarded as a growth point in the Natal region. Its population is steadily growing due to employment opportunities presented by industries (heavy and textile), coal mining and businesses. The 2011 census estimated the population of Newcastle Local Municipality was calculated at 363 236 people, an increase of 0.87% per annum, compared to 334 001 people in 2001 (IDP, 2014: 70).

The profile of the NLM still reflects a historical racial composition with the majority of the Black population 80% living in the eastern part and a population that is more mixed in terms of racial categorisation, in the western parts. The NLM is composed of White, Indian and Coloured settlements to the west and Madadeni and Osizweni location, Johnston Blaaubosch and Charlestown villages (JBC), and vast rural areas that fall under Ubuhlebomzinyathi (under chief Khathide) and AmaHlubi (under Chief Hadebe) tribal authority to the east, where the population is predominantly black (IDP, 2014: 71). The majority of people in the eastern part are unemployed and are serviced in terms of water and sanitation services (IDP, 2010: 3).

The provision of the water and sanitation infrastructure in NLM varies between areas reflecting the impact of separate development and urban bias of the past's planning and development practices. The Newcastle town and its suburbs are generally well provided with water, while a few households in the former townships of Madadeni and Osizweni are experiencing shortages in this regard. Severe backlogs have been reported in the rural wards of JBC, Ubuhlebomzinyathi and the AmaHlubi area, where the level of backlog is high (IDP, 2012: 10 & WSDP, 2009: 2).

The IDP (2014: 69) indicates an improvement in the provision of clean drinking water and improved sanitation between 2001 and 2011 in the area under its jurisdiction. A review of the 2011 census data reveals that 50% of the population have water inside their dwelling units (IDP, 2014: 69). However, a significant number of people (more than 35%) still obtain water beyond a 200m radius of communal stand pipes. People who do not have access to piped water account for only 4% of the total population. These people rely on unprotected

water sources such as rivers, lakes and dams (IDP 2013: 76). The NLM, in line with National Policy on FBW, makes budgetary provisions for 6000 litres per month per household for indigent families (IDP, 2014: 69).

The NLM western suburban area faces the challenge of an aging water and sanitation infrastructure. Aging infrastructure results in water leaks and sanitation overflow which, in turn, requires high maintenance costs. The NLM report on the water use efficiency conveyed a high water loss, mainly from onsite leaks that results in a loss of at least 26ml a day in Madadeni and Osizweni alone. The eastern parts of the NLM also face the challenge of backlogs in the water and sanitation infrastructure. What aggravates matters is the uncontrolled increase of informal settlements which are locations unprepared for the increase in human settlements (IDP, 2012: 13).

Improvements are also reported on the provision of sanitation services within the NLM. The IDP reported that 63% of the total population of the NLM have access to improved sanitation, but also indicated the fluctuation in the numbers of people with and without improved sanitation, due to rural-urban migration, increasing informal settlements and general population increase (IDP, 2013: 78). There has been an increase of 9.5% of people who use flush toilets between 1996 and 2011. Eighteen percent (18 %) of households were reported to have shifted to utilising flush septic tanks, chemical toilets and VIPs in 2011, whereas there existed none who used these services in 1996. The use of pit latrines has been reduced by 13% between 1996 and 2011. The number of households without access to improved sanitation has however increased by 37% between 1996 and 2011, an increase attributed to the influx of people to urban areas which in turn result in their locating of settlements in unplanned and subserviced areas (IDP, 2014: 73).

The NLM faces a number of challenges with regard to sanitation. While most households in the western suburbs have adequate water and sanitation facilities, there are a large number of households that do not have access to water and sanitation in the eastern parts. The major sanitation backlogs are concentrated mostly in the peri-urban areas in the east and in rural areas, with the JBC and rural settlements of Ubuhlebomzinyathi and AmaHlubi communities totally lacking sewerage reticulation (IDP, 2013: 74).

One of the main problems facing the NLM is the need for a sewer master plan, which will enable the municipality to plan for future developments, including addressing the backlogs in basic sanitation services (IDP, 2013: 74). Madadeni has water and sanitation for 15,000 households, but 5,000 of these households' sanitation systems are dilapidated and flush into an old conservancy tank system with the overflow of the tank attached to the sewer connection. In many cases the contents of the tank are exposed and a health hazard (IDP, 2014: 69).

Another concern is the lack of adequate sewer systems for 13 481 households that do not have water and sanitation in the NLM. The need is especially evident in the informal settlements of Madadeni and Osizweni; Siyahlala-la, H39, the JBC area and the rural areas of Ubuhlebomzinyathi and Amahlubi (IDP, 2010: 48). The households in the informal settlements of Siyahlala-la and in H 39 utilise unimproved pit latrines as their sanitation facilities. Some of the residents in the peri-urban and in rural areas rely on the Ventilated Improved Pit (VIP) latrines, with the rest of these households utilising unimproved pit latrines. Most of the VIPs need to be dislodged on monthly bases, which is costly and inconsistently done. Of more concern are 688 households that are said to still rely on the bucket system. Only few households utilise septic tanks (IDP, 2014: 76).

The study drew its population sample from the NLM as a whole, with the aim of determining the level water and sanitation service delivery.

1.4 Problem statement

The study will explore service delivery, concentrating on water resources and sanitation in the NLM. With the increasing economic development and the equally increasing population in the NLM, there has been a resultant increased demand for clean water and sanitation which at times outstrips its supply (Muller, 2011: 1). A huge backlog in the delivery of public services has been identified as one of the key issues facing NLM (IDP, 2010: 10).

According to IDP (2012: 10) the water supply and sanitation infrastructure in NLM varies between areas reflecting the impact of separate development and urban bias of the past planning and development practices. While the western part of NLM have historically

enjoyed clean drinking water and proper sanitation that is provided by the municipality, some parts of Madadeni, Osizweni, the JBC villages and vast rural areas that fall under Ubuhlebomzinyathi and amaHlubi tribal authority, to the east, still lag far behind in service provision, especially water and proper sanitation (IDP, 2013: 65).

A review of the 2011 census data reveals that 50% of the NLM population has water inside their dwelling units. However, a significant number of people (more than 35%) still obtain water beyond a 200m radius of communal stand pipes. Households without access to piped water accounted for 4% of the total population (IDP, 2012: 10). The sanitation situation is even more serious. The areas of JBC and the rural areas of Ubuhlebomzinyathi and amaHlubi tribal authority are characterized by high sanitation provision backlogs. Most communities of these rural areas rely on pit latrines, while others (688 households) were reported to be still using bucket system in the 2011 census (IDP, 2014: 71).

The violent service delivery protests that have engulfed South Africa in recent years, point to the ineffectiveness of the municipalities to deliver water and sanitation services to its people. Service delivery failures become evident when there are shortages of water from taps or water cuts or when dirty water comes out of the taps (Mouton, 2013: 12). At this point in time there is a need to investigate the extent to which the NLM has been able to deliver water and sanitation during the past twenty years in the un-served communities. Delivering the 2014 provincial budget speech, Ina Cronje, the MEC for finance in KwaZulu Natal, emphasised the importance of improving the water and sanitation infrastructure, especially in rural areas (Naicker, 2014: 4). The MEC, Ina Cronje, said if the infrastructure improvement is not done, rural areas will not be able to create jobs and therefore the objectives of government to fight poverty would be meaningless (Naicker, 2014: 4).

Unver (2008: 1) states that in some instances it is the coalescence of mismanagement, aging infrastructure and the indifference about water conservation that precipitate the poor state of water access. Unver (2008: 1) maintains that when properly planned and implemented, governance instruments can affect water drivers and uses, to improve efficiency, equity and sustainability. The study will therefore investigate and analyse the state of access to clean drinking water and improved sanitation services in the NLM.

1.5 The Aim and Objectives of the study

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- The study aims to study and analyse access to clean drinking water and improved sanitation services delivery, within the NLM, from the perspective of the municipality and community. Flowing from this aim the following objectives are set:

- To determine the perceptions of people in the NLM with regards to the delivery of water and sanitation services by the municipality.

- To investigate the current strategies employed by the municipality in the endeavour to supply good quality water and sanitation to people in the municipality.

- To investigate and establish the attitudes and the influence of the politicians in the transformation and the governance support of service delivery, with regards to water and sanitation in this municipality.

- To explore the challenges that the NLM face in the delivery of water and sanitation services to previously un-serviced areas.

1.6 Study Layout

Chapter 1

Chapter one introduces the research topic and defines the problem statement. It further outlines the aim and objectives of the study.

Chapter 2

Chapter two investigates literature on access to clean water and improved sanitation from a global perspective. It further reviews important legislative frameworks that underpin the provision of both water and sanitation to people in South Africa. It concludes by investigating the literature on the strides the NLM has made in providing access to water and sanitation to its citizens.

Chapter 3

Chapter three focuses on the methodology followed in the study.

Chapter 4

Chapter four provides an in-depth discussion on the findings of the study.

Chapter 5

Chapter five concludes the study and makes recommendations that can be implemented to improve the state of the water and sanitation provision in the NLM. It looks at salient points of the study and evaluates the information obtained during the research.

Chapter 2: Literature Review

2.1 Introduction

Since the dawn of the South African democracy in 1994, the government has committed itself to provide equal access to safe drinking water and improved sanitation, with the aim to improve the lives of all its citizens. This commitment emanates from the unequal provision of these resources under the Apartheid government, as well as from international development trends that includes an emphasis on the eradication of poverty and disease (Gombert, 2003: 1). South Africa has joined other countries of the world in ensuring sustainable human development by making efforts to conserve the environment and by increasing access to water resources and to improved sanitation provision to its people (RSA, 1994: 3).

The global developmental conferences, to which South Africa is a signatory, frequently highlights the need to provide people with access to safe drinking water and improved sanitation, with the aim of contributing to human development (UNICEF & WHO, 2012: 66). The United Nation's (UN) General Assembly acknowledges clean drinking water and improved sanitation as basic human rights to which all people in the world should have equal access to. The General Assembly further acknowledges that poor people across the world are denied access to these basic human rights (UNICEF, 2014: 2). The agreements, strategies and commitments made in global conferences have shaped the direction South Africa followed in formulating its laws and policies regarding water and sanitation.

This chapter will look at various developments made, at different conferences held, by the international community, under the umbrella of the United Nations, with the aim of bringing about sustainable human development. The chapter will further focus on the importance placed on access to safe drinking water and improved sanitation in the pursuit of sustainable human development and elaborate on South Africa's progress in this regard, specifically as it pertains to the provision of clean drinking water and improved sanitation.

2.2 The importance of clean drinking water and improved sanitation: The global perspective

Water and sanitation have a symbiotic relationship and should both be given attention if development is to occur and be sustainable (UNICEF & WHO, 2012: 66). The lack of clean drinking water and improved sanitation brings misery, hardship and retards the development of people subjected to it (Hemson, *et al.* 2008: 3). Water is central to development and essential to all forms of life. It is therefore vital that South Africa's limited water resources are managed and used to assure the eradication of poverty and to promote sustainable economic and social development.

Water is essential for people's physical survival and is needed for basic personal hygiene, household uses and many other uses. The lack of clean drinking water prohibits the practice of good hygiene and limits people's abilities to kill or prevent germs, thus creating a fertile ground for the development of diseases (WHO, 2012: 25). Water also sustains the natural environment which is why it is not only the quantity of water available which is critical, but also its quality (DWAF, 2002: 1).

In a similar manner, basic sanitation services are required to ensure personal and public health. Many communities desire and demand the convenience and comfort which higher levels of sanitation services can provide. Sanitation has an impact on the availability of clean water as a resource and for other related activities (Smits, 2005: 2). Poor sanitation facilities promote faecal matter to end up in water sources, contaminating and turning it into a breeding ground for diseases which later threatens people's health. For this reasons, sanitation services must be controlled so that it does not pollute water and render it unfit for use (RSA, 1994: 4).

The importance of access to safe drinking water and improved sanitation became evident during the landmark international events held under the umbrella of the UN, which were aimed at reducing poverty and bringing about human development to the world population (SIWI, 2005: 9). The agreements reached at these international events were to later influence the direction of water and sanitation development, globally. Listed below are conferences that made a significant contribution to water and sanitation development in particular. The conferences include:

- The United Nations Conference on Water – Mar del Plata – 1977;
- The International Conference on Water and Environment (ICWE) - Dublin 1992;
- The United Nations Conference on Environment and Development (UNCED) - 1992;
- The International Conference on Population and Development (ICPD) -1994;
- The Millennium Development Summit (MDGs 2000) and;
- The World Summit on Sustainable Development (WSSD) of 2002.

2.2.1 The United Nations Conference on Water (Mar del Plata)-1977.

Held at, Mar del Plata, Argentina in 1977, this UN Conference was the first internationally coordinated approach to International Water Resource Management (IWRM). Its goals were to assess the status of water resources; to ensure that an adequate supply of quality water was available to meet the planet's socio-economic needs; to increase water use efficiency; and to promote preparedness, nationally and internationally, so as to avoid a water crisis of global dimensions before the end of twentieth century (Rahaman & Varis, 2005:16).

The conference approved the Mar del Plata Action Plan, which is a set of recommendations that covered all the essential components of water management, and twelve resolutions on a wide range of specific subject areas. It discussed assessment of water use and efficiency; natural hazards, environment, health and pollution control; policy, planning and management; public information, education, training and research; and regional and international cooperation (Biswas, *et al*. 2004: 66).

The Mar del Plata conference was a success, in part due to the active participation of the developing world and the discussions on various aspects of water management, specifically the country and region specific analyses. The conference considered water management on a holistic and comprehensive basis, an approach recognized as one of the key IWRM issues in the 1990s. To provide portable water and sanitation facilities to all,

and to accelerate political will and investment in the water sector, the conference recommended the period 1980 to 1990 as the International Water Supply and Sanitation Decade. The Mar del Plata conference was undoubtedly a major milestone in the history of water resource development for the 20th century. Viewed from any direction, the conference has become an important yardstick in water resource management. (Biswas, *et al*., 2004: 69).

2.2.2 The International Conference on Water and Environment (ICWE) - Dublin 1992

The International Conference on Water and the Environment (ICWE), which was held in Dublin, Ireland in 1992, dealt mainly with water issues and was expected to formulate sustainable water policies and an action programme to be considered later that year, by the UNCED in Rio de Janeiro. The conference reports set out the recommendations for action at local, national, and international level, based on the following four guiding principles (Rahaman & Varis, 2005: 16) that:

- recognized fresh water as a finite, vulnerable, and essential resource, and suggested that water should be managed in an integrated manner.
- suggested a participatory approach, involving users, planners, and policymakers, at all levels of water development and management.
- recognized women's central role in the provision, management, and safe guarding of water.
- suggested that water should be considered as an economic good.

These principles became known as the Dublin principles and have served as guiding principles for water policy for years after this conference. The main success of the Dublin conference was that it focused on the necessity of integrated water management and on active participations of all stakeholders, from the highest levels of government to the smallest communities, and highlighted the special role of women in water management. The Dublin conference recommendations were later consolidated into chapter eighteen of Agenda 21 at the UNCED conference in Rio de Janeiro, 1992 (Rahaman & Varis, 2005: 17).

2.2.3 The United Nations Conference on Environment and Development (UNCED) 1992: (The Earth Summit)

UNCED took place in 1992 in Rio de Janeiro, Brazil. The aim of the conference was to discuss global problems such as poverty, wars and the growing gap between the developed and the developing countries, with the aim of devising solutions that can help improve overall human development. The conference recognised that the only way to have long-term, social and economic progress, is to link it with environmental protection and to establish equitable global partnerships between governments and the key actors of the civil society and the business sector (UNCED, 1992:1).

The UNCED adopted Agenda 21, which is the international plan of action that outlines key policies for achieving sustainable human development and for meeting the needs of the poor. Agenda 21 committed governments in ensuring environmental protection and responsible development. The agenda focuses, among other things, on the conservation and management of resources; atmosphere; land; forests; biodiversity; oceans; fresh water; toxic chemicals; and solid waste and sewage (Biswas, *et al*., 2004: 23 & UNCED, 1992:4).

The conservation and management of water resources have a particular significance in ensuring that people are provided with safe water and improved sanitation, which in turn reduces the burden of seeking clean water and promotes development reliant on clean water such as farming. Agenda 21 has thus become a blueprint for sustainability and forms a basis for strategies that can be used to address poor human development (Kubiszewski & Cleveland, 2007: n. p).

2.2.4 The International Conference on Population and Development (ICPD) - 1994

Held in Cairo, Egypt in 1994, the ICDP re-affirms the application of universally recognised human rights' standards in all aspects of population programmes (Biswas, *et al*., 2004: 59). This conference was a milestone in the history of population development, as well as in the history of women's rights. The conference put human beings at the centre of sustainable development and emphasised that every person is born free and equal in

dignity and rights and therefore has the right to life, liberty and security (UNFP, 2009: n. p.).

The conference also stressed humans' right to an adequate standard of living, including food, housing, water and sanitation. The conference further identified the prevalence of widespread poverty among nations, as closely related to the unsustainable use and inequitable distribution of such natural resources as land and water and to serious environmental degradation (Biswas, *et al*., 2004: 59 & ICPD, 1994: 13-14).

2.2.5 The Millennium Development Summit (MDG-Summit) - 2000

The MDG-Summit took place in New York, USA, in the year 2000. Member states met to reflect on their common destiny. This summit also identified poverty as the major challenge to human development efforts. According to the summit, poverty is closely related to inappropriate spatial distribution of population, unsustainable use and inequitable distribution of natural resources, such as land and water, and to serious environmental degradation (Turpie, 2014: 2).

The summit adopted the quantifiable Millennium Development Goals (MDG) as measurement tools for addressing extreme human deprivation in its many dimensions. Among the goals set in this conference was to halve, by the year 2015, the proportion of people without access to safe drinking water and improved sanitation (Rahaman & Varies, 2005: 15).

2.2.6 The World Summit on Sustainable Development (WSSD) - 2002

Held in Johannesburg, South Africa, in 2002, the WSSD, also known as Rio +10 conference, identified poverty as the greatest challenge facing the world and as an indispensible requirement for sustainable human development. The summit focused the world's attention on the need to provide clean drinking water and improved sanitation to people (Hemson, *et al*., 2008: 13 & UN, 2002: 3). The WSSD further confirmed its commitment to halve, by the year 2015, the proportion of people who are unable to reach or to afford clean drinking water and access to basic sanitation, as outlined in the Millennium Declaration (UN, 2002: 3).

In relation to water and sanitation, the WSSD proposed the following plan of action:

(a) Develop and implement efficient household sanitation systems;
(b) Improve sanitation in public institutions, especially schools;[1]
(c) Promote safe hygiene practices;
(d) Promote education and outreach focus on children, as agents of behavioural change;
(e) Promote affordable and socially and culturally acceptable technologies and practices;
(f) Integrate sanitation into water resource management strategies (Hemson, 2008: 13 & UN, 2013: 5).

The importance placed on clean drinking water and improved sanitation in all the above mentioned conferences, necessitates the need to probe the importance of ensuring equal access to both clean drinking water and improved sanitation in the fight against poverty and in the pursuit of sustainable human development.

2.2.7 Sustainable Development Goals – 2016 - 2030

The Sustainable Development Goals (SDGS), also known as the New Agenda, came into effect on 1 January 2016. It builds on the Millennium Development Goals (MDG's) and seeks to complete what the MDG's did not achieve, particularly in reaching the most vulnerable people (UN, 2015: 36). The SDG's and targets will guide the decisions taken by participating members over the next 15 years (UNDP, 2015: n. p.). It consists of 17 Sustainable Development Goals with 169 associated targets which are integrated and indivisible. The SDG's recognizes that eradicating poverty in all its forms and dimensions, combating inequality within and among countries, preserving the planet, creating sustained, inclusive and sustainable economic growth and fostering social inclusion are linked to each other and are interdependent UN, 2015: 8).

Goal 6 of the SDG requires that member countries ensure availability and sustainable management of water and sanitation for all. It further sets the following targets and timeframes by which they should be met:

6.1 By 2030, achieve universal and equitable access to safe and affordable drinking water for all

[1]**The MDGs were evaluated earlier this year (2015) and the new Global Goals came into effect.**

6.2 By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations

6.3 By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally

6.4 By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity

6.5 By 2030, implement integrated water resources management at all levels, including through trans-boundary cooperation as appropriate

6.6 By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes

6.a By 2030, expand international cooperation and capacity-building support to developing countries in water- and sanitation-related activities and programmes, including water harvesting, desalination, water efficiency, wastewater treatment, recycling and reuse technologies

6.b Support and strengthen the participation of local communities in improving water and sanitation management (UN, 2015: 18)

2.3 The importance of access to clean drinking water and improved sanitation in achieving sustainable human development

The struggle for access to clean drinking water and improved sanitation is both a human rights issue and a development challenge that impacts negatively on health, socio-economic productivity, education opportunities for people, as well as social stability and wellbeing (RSA, 1994: 4 & Schreiner, 2014: 415). UNICEF and WHO (2012: 66) classified drinking water into two categories, namely improved and unimproved sources.

The improved sources of drinking water include the use of piped water into dwelling, yard or plot; public tap or standby pipe; tubewell or borehole; protected spring and rainwater collection. Unprotected sources are divided into surface water sources and other unprotected sources. Surface sources include water extracted directly from the rivers, dams, lakes, ponds, canals and irrigation channels. Other unimproved water sources

include unprotected dug wells and unprotected springs (UNICEF & WHO, 2012: 66 UNICEF & WHO, 2014: 16).

The WHO (2008: 23) further classified sanitation into two categories, namely improved and unimproved types of sanitation. Improved sanitation includes the use of flush or pour-flush toilet systems, connected to a piped sewer system or septic tank; a Ventilated Improved Pit (VIP) latrine; pit latrine with a slab and a composting toilet. Unimproved sanitation includes the use of flush or pour flush (not connected to piped sewer system or septic tank or pit latrine); a pit latrine without a slab, or an open pit; a bucket system; a hanging toilet or a hanging latrine, a shared or public facilities of any type and or no facilities, bush or field (open defecation, which is considered most dangerous). Unimproved sanitation is thought to be the cause of most diseases and the United Nations hopes to change this into improved types by 2015 (UNICEF & WHO, 2012: 67).

A lack of access to adequate clean drinking water, improved sanitation and good hygiene, constitutes a range of pollution risks to the environment and in turn threatens human life. Large amounts of pollution, some of which is as a result of inadequate sanitation, can cause water quality to deteriorate to the extent that water cannot be utilised (Feldman, 2012: 10 & WHO, 2005: 21).

2.3.1 Health consequences

Polluted water causes a variety of communicable diseases in humans when consumed unimproved. Diseases in turn produce an unhealthy population who are unable to work and contribute to their development, due to illnesses and a weakened physical state (Feldman, 2012: 10). Improvements in people's health can best be achieved through a combination of clean drinking water and improved sanitation. In areas where there is poor provision of clean drinking water and inadequate sanitation, there are high rates of mortality from preventable water-related diseases (Gleick, 2001: 1).

The WHO (2008: 15) reports that 1,1billion people in the world lack access to clean drinking water and 3 billion people lack access to improved sanitation. As a result, water-related diseases remain a major problem, especially in developing countries. For example, diarrhoeal diseases are the second most common cause of deaths in children under the

age of five in the developing countries, contributing about 90 percent of deaths of children. About 20 percent of deaths in Africa occur as a result of water-borne diseases (WHO, 2005: 11 & WHO, 2008: 16).

When someone is ill with diarrhoea, especially if he or she is elderly or is highly debilitated, as in the case of AIDS, it is very difficult to nurse the patient when there is no clean drinking water or adequate sanitation in the vicinity of the household. Such difficulties commonly confront most households that rely on communal taps or other unimproved water sources or on communal toilets (Tissington, 2011: 13). Inadequate communal clean drinking water, inadequate sanitation facilities, inadequate disposal of waste and other poor sanitation practices result in loss of privacy and dignity, exposure and increased risks to personal safety. It is especially women and the elderly who are the most inconvenienced since they are the ones who usually bare the obligation of ensuring water provision and the maintenance of health to their households (Hemson, *et al*. 2008: 148 & Schreiner, 2014: 415).

Inadequate disposal of waste and other poor sanitation practices, pose a major challenge to people's lives. The contents of bucket-latrines and pits, even of sewers, are often emptied into the streets and in the fields, and end up in the water sources. Open defecation is responsible for intestinal worms (helminths) which enter feet from faecal matter lying around on the ground in filthy or 'unimproved' toilet facilities. Inadequate clean drinking water and improved sanitation can cause hookworm, which is a frequent cause of anaemia (WHO, 2005: 48).

Chronic colitis caused by trichuris and common in toddlers, is also caused by poor drinking water and inadequate sanitation. Chronic colitis often persists for so long that mothers may think it is normal and fail to seek medical help. Children in poor environments often carry 1,000 parasitic worms in their bodies at a time. When at school, such children may be listless, sleepy and unable to concentrate (Gleick, 2001: 3).

2.3.2 Socio-economic consequences

Access to clean drinking water and improved sanitation has a vital role to play in responding to the socio-economic development of a country and in fighting poverty. Most

poor countries show a pattern of inadequate access to clean drinking water and inadequate improved sanitation. Emphasising the importance of water and sanitation as important tools for development, Biswas *et al.,* (2004: 59) states that people without access to clean drinking water and improved sanitation have a low life expectancy. These authors state that there is a powerful link between sustainable human development and access to clean drinking water, adequate sanitation and hygiene. Exposure to both poor drinking water and unimproved sanitation creates a fertile ground for the spread of communicable diseases which in turn reduce the vitality and economic productivity of people in developing countries as compared to developed countries (Hemson, *et al*., 2008: 4 & SIWI, 2005: 7).

Investing in water and sanitation provision contributes to reduced morbidity and mortality and increased life expectancy; savings in health care costs; reduced time caring for those that fall sick as a result of water-borne disease; reduced days off work due to sickness; yields higher worker productivity; better learning capacities of school children; increased school attendance, especially by girls; strengthened tourism and national pride; direct economic value of high quality water such as irrigation water for crops; and reduced water treatment costs (UNICEF & WHO, 2013: 37).

In 1991, Peru suffered an epidemic of cholera which cost the national economy an estimated US$1 billion a year in health and production costs (WHO, 2008: 24). The cholera outbreak in KwaZulu Natal in the year 2000 was as a result of contaminated drinking water and could have otherwise been avoided through the provision of adequate clean water and adequate improved sanitation. While the economic costs of providing clean drinking water and improved sanitation can be quantifiable, the economic costs of inadequate access to clean drinking water and improved sanitation on the health of the community and on the environment, cannot be easily quantified (Turpie, 2014: 2).

In some countries people spend most of their time collecting drinking water, while in some countries considerable time is spent queuing for public toilets or finding a safe place to defecate. In overcrowded villages that are without household sanitation facilities, people are forced to walk long distances in search of places of convenience. This results in lost time, time that could be spent on a host of activities such as child care, harvesting and other productive work (SIWI, 2005: 14 & UNICEF & WHO, 2014: 11).

Water resources and improved sanitation are important productive assets. Agriculture, fish production, energy production, large-scale industrial processes, small scale industry, transports and recreation also suffer economic harm from increased treatment costs, due to water pollution by faecal contamination (UN-Water, 2008: 2). Investment companies prefer to invest in countries where there is a sustainable supply of safe drinking water and improved sanitation than in those where these services are inadequate. This is because national economies that have clean drinking water storage capacities become more resilient to rainfall variabilities, such as droughts, and their economic production is not as easily disrupted as compared to those without improved water storages (UNICEF& WHO: 2012: 30).

Health, safety and aesthetic considerations heavily influence people's choice of holiday destinations. Clean drinking water and improved sanitation is therefore a pre-requisite for a thriving tourism sector (Henemann, 2006: 79). Furthermore, among the world's poor countries, it is those with access to clean drinking water and improved sanitation services that experience greater economic growth, as people are likely to visit these areas as tourists. Investing in clean drinking water and improved sanitation is therefore critical in the development of the country in its entirety, as it provides competitive advantages and attracts business opportunities (Turpie, 2014: 2).

2.3.3 Consequences for educational attainment

Education is one of the most important means of empowering people with knowledge, skills and the self-confidence, necessary to participate in development (ICDP, 1994: 24). The lack of access to clean drinking water and improved sanitation, common in developing countries, has a negative impact on the education of children and their social standing later in life. According to Biswas, *et al*., (2004: 68) there is a link between higher literacy levels and access to clean drinking water and improved sanitation. When these services are absent in schools, children are exposed to diseases that impede their performance and development.

The lack of access to clean drinking water and improved sanitation exposes female students to illiteracy, as parents are unwilling to allow their girl children to attend schools

that do not separate boy toilets from girl toilets, especially when they start menstruating and need somewhere discreet to dispose of used cloth (SIWI, 2005: 14). DWAF (2001:18) states that although the school attendance of girls in South Africa is high compared to other developing countries, poor sanitation facilities in schools is one of the main reasons for girls to drop out of school early.

According to the report by the South African Human Rights Council (SAHRC), most children in public schools have no access to water or toilets, or are being confronted with toilets that are unusable due to being blocked, filthy, broken and overcrowded. Most of the toilets have no toilet papers or hand washing facilities, which are important in hygiene promotion. This infringes on the learners' rights to education, equality and human dignity. Poor learning environments like these are linked to low levels of teacher moral, poor learner performance, high-rates of absenteeism by girls during menstruation and high drop-out rates (SAHRC, 2014: n. p.).

The lack of clean drinking water and improved sanitation is regarded as one of the contributing factors to female illiteracy. With the burden of collecting water from far distances, the duty that usually falls primarily on the girls in most households, the education of children, especially of female children, become less of a priority. This has a long term impact on the lives of woman, as they are left behind in their education activities. They end up leaving school early and thus do not obtain an adequate education or develop skills needed, to get decent employment and thus win the fight against poverty (Biswas, *et al*., 2004: 69).

Diseases such as Hookworm, Trichurias and Ascariasis, which are caused by poor water quality and poor sanitation, lead to severe consequences such as cognitive impairment and massive dysentery or anaemia (UN-Water, 2008: 2). These diseases affect children's cognitive development and impair their performance at school. A case study conducted in Tanzania found that water-related diseases from intestinal parasites, such as hookworm and schimastosomiasis, were important impediments to child development and school performance and therefore impacted on their ability to escape poverty. Another study conducted in Jamaica found that absenteeism was more frequent among learners infected with water related disease (WHO, 2008: 14). These studies are a testimony to the importance of providing safe drinking water and improved sanitation to people.

With the provision of clean drinking water and improved sanitation the rate of illnesses drop, malnutrition in children is reduced, children's concentration in school work improves, absenteeism decreases, while more children attend school and learn better, and women's safety and dignity are improved (WHO, 2012: 31). By reducing diarrhoeal infections, children also get more time to attend school. Healthy children learn more than those that suffer from worm infections, which sap them of nutrients and lead to listlessness and trouble with concentrating (Biswas, *et al*., 2004: 69).

Investing in water and sanitation management and services, provides people with an opportunity to spend more time in schools and to study more effectively. According to the WHO (2012: 34), the provision of clean drinking water and improved basic sanitation can afford children with better health, strengthen their cognitive abilities and provide them with better chances to develop numerical, and literacy skills which can later assist them to participate effectively in political processes and in higher levels of societal organisations (ICPD, 1994: 26).

2.3.4 Consequences for agriculture and food security

The management of water resources and sanitation is important for economic growth and increased productivity in the agricultural sector. The agriculture and food sector demands sustainable improved water availability and sustainable protection of farmers, ranchers and fisheries, from rainfall variability, water contamination by faecal matter and extreme events, such as floods and droughts (Henemann, 2006: 78).

Agriculture is the largest user of water and the agriculture and food sector is the most important sector of employment. Any poverty-reduction strategy must therefore consider food production, together with water and sanitation management, if it has to be effective. To increase the yield from the land already under cultivation, will require that irrigation be more effective in meeting the food demands. This will require significant investment in clean water resource storages (SIWI, 2005: 16).

Household income in most developing countries depends largely on the agricultural and food production sector of the economy. Without access to improved water resources and improved sanitation, the livelihoods of people could be threatened, economic development

stagnates or decline and the GDP of affected countries lowered. Food insecurity that may result can negatively, affect human development and health and perpetuate the cycle of poverty (Henemann, 2006: 78).

Unimproved sanitation facilities place water resources at risk of contamination and, in this way, disturb agricultural practices. For some countries, fisheries in fresh water are an important source of income. The degeneration of the ecosystems, through leaking sanitation pollution to freshwater sources and the mismanagement of water in general, poses a threat to the livelihoods of millions of people (Henemann, 2006: 79).

Commercial fish farmers who depend on trade for their livelihoods can be put out of business by eutrophication, due to mismanagement of water and sanitation, while valuable agricultural nutrients, contained in excreta, is lost (Henemann, 2006: 79). Human waste can be utilized as fertilizer that assist in improving agricultural production while its safe disposal can promote environmental cleanliness, protects streams, rivers, lakes and underground aquifers from pollution (Hemson, 2008: 3 & UNICEF & WHO, 2013: 48).

The struggle to ensure access to clean drinking water and adequate sanitation by all people in the world is not a struggle that only South Africa is faced with, as attested to by numerous conferences that have attempted to address these issues. South Africa has taken the cue from these global conferences and from the general benefits of having clean and adequate drinking water and improved sanitation and utilised it during the formulation of its water and sanitation policy frameworks.

South Africa's policies contain clear and mutually compatible policy statements, regarding water and sanitation. They give guidance and confidence to all agencies working in the sector, to determine their own policies and plans and to advance their activities as well as they can (Muller, 2002: 7). The following discussion reviews some of the policies that are shaping water and sanitation provision in South Africa.

2.4. Review of the legislative and policy framework pertaining to water and sanitation in South Africa

The resolutions taken in global conferences, such as the United Nations Conference on Water; the International Conference on Water and Environment (ICWE); the United Nations Conference on Environment and Development (UNCED); the International Conference on Population and Development (ICPD); the Millennium Development Summit; and the World Summit on Sustainable Development, had a profound impact on the path South Africa follow in fighting poverty and ensuring human development. The importance of these conferences to South Africa reflects on the way it has developed its water and sanitation policies, as well as in its use of the Millennium Development Goals as its measure to development milestone.

The South African government is undertaking the responsibility of assuring that all South Africans have access to adequate clean drinking water and improved sanitation services (DWA, 2014: 32). The importance of accessing these services on an equitable basis has formed part of the political debate since the development of the Freedom Charter in 1956. The Constitution of South Africa contains sections on water and sanitation, as well as the Bill of Rights, that must be considered during the promulgation and implementation of every policy and strategy developments (Mosili, 2011: 5). The following discussion reviews important legislations, policies and strategies pertaining to water and sanitation provision, starting with the constitution.

2.4.1 The Freedom Charter.

The freedom Charter represented a crucial historical moment in establishing the new order based on the will of people for the people of South Africa. The Congress of the People met in Kliptown near Johannesburg on the 25th and 26th June 1955 (ANC, 2013: n. p.). The delegates in the congress declared that South Africa belongs to all who live in it and that no government can justly claim authority unless it is based on the will of all the people; that South Africa will never be prosperous or free until all its people live in brotherhood, enjoying equal rights and opportunities; that only a democratic state, based on the will of all the people, can secure to all their birthright without distinction of colour, race, sex or belief (O' Malley, 2016: n. p.).

The delegates declared: that People shall govern; that all national groups shall have equal rights; that all people shall share in the country's wealth; that the land shall be shared among those who work it; that all shall be equal before the law; that all shall enjoy equal human rights; that there shall be work and security; the doors of learning and of culture shall be opened; there shall be houses, security and comfort; that there shall be peace and friendship. The delegates pledge to strive together, sparing neither strength nor courage, until the democratic changes set out in the congress have been won (ANC, 2013: n. p.).

The declarations, “all shall enjoy human rights” and “people shall share in the country’s wealth can be considered to be inclusive of the right to access safe drinking water and to have a proper sanitation facilities which enables people to preserve human dignity. The slogan “water is life” and sanitation is dignity seem to be linked to the belief that both water and sanitation are human rights.

2.4.2 The Constitution of the Republic of South Africa (No 108 of 1996)

The Constitution of South Africa, adopted in 1996, is the supreme law of the country to which every piece of legislation proposal has to comply (RSA, 1996a: n. p.). The Constitution contains a number of clauses that deal with the rights people have in relation to water and basic sanitation. Section 11 of the Constitution guarantees everyone the right to life. Section 9 (2) in the Constitution of South Africa prohibits the state from unfairly discriminating and thus calls for the equal distribution of resources, including water to all the citizens of South Africa (Tissington, 2011: 2-3). Section 27 (1) (b) states that everyone has the right to have access to sufficient clean water. The Constitution (RSA, 1996a: n. p) further states that water should be provided on the basis of fairness and equality. It obliges the state to “take reasonable legislative and other measures, within its available resources, to achieve the progressive realisation” of everyone’s right of access to sufficient water (DWA, 2014: 7).

While sanitation is not named as a right in the Constitution, water and sanitation are closely linked. Section 10 of the Constitution of South Africa provides that everyone has inherent dignity and the right to have their dignity respected and protected. Without water, many sanitation facilities cannot function and people struggle to maintain dignity and the

hygiene standards essential to preventing ill health and the spread of diseases (LHR-DBSA, 2009: 13).

Section 24 (a) of the Constitution states that “everyone has a right to an environment that is not harmful to their health or well-being and to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that prevent pollution and ecological degradation.” This clause also highlights the interdependence between water and sanitation and can be interpreted as implying a right to basic sanitation for all (Tissington, 2011: 20). When faecal matter or other waste emanating from inadequate sanitation, finds its way to water sources, they contaminate water and expose people to faecal related diseases (De Coning and Sherwill, 2004: 10).

Following from the Constitution, different legislations, policies and strategies have been put in place to regulate water and sanitation provision in South Africa.

2.4.3 The Water Supply and Sanitation Policy – White Paper (November 1994)

By acknowledging that access to clean drinking water and improved sanitation provision is central to development; that these services must form part of a coherent development strategy and that there was a lack of policy on these basic services, the government was prompted to formulate the White Paper on Water Supply and Sanitation Policy in 1994 (RSA, 1994: 1).

The Water Supply and Sanitation Policy was premised on the objectives and targets of the Government’s Reconstruction and Development Programme (RDP) that envisioned all South Africans having access to basic water supply and improved sanitation services (Tissington, 2011: 21). This policy further placed the regulation and coordination of both water and sanitation provision under the supervision of the national ministry of Water Affairs and Forestry (DWAF) (Mjoli, Sykes & Jooste, 2009: 13).

The Water Supply and Sanitation Policy outlines the institutional framework for water and sanitation provision, which was subsequently legislated in the Water Services Act in 1997 (RSA, 1997: 4). Water resources and sanitation service is currently the competency of the National Government under the DWA (DWA, 2013: 9). The duty to administer and deliver

water service to the people is imposed on local municipalities, with the national and provincial government having the authority to regulate local government in terms of water and sanitation services (DWA, 2013: 2 & SALGA, 2006: 4).

The national and provincial governments have the obligation to support and strengthen the capacity of local government to provide these services. The Water Supply and Sanitation Policy further proposes that poor communities who are not able to afford clean drinking water and improved sanitation services, be subsidised to meet minimum services through government grants (Tissington, 2011: 21).

2.4.4 The National Sanitation Policy (October 1996)

Arising from the proposal to afford access to clean drinking water to all communities, irrespective of their financial standing, the National Sanitation Policy was produced in 1996. The major aim of the National Sanitation Policy is to contribute to improving the health and quality of life of the whole population. According to the policy, improved sanitation facilities will reduce the incidence of disease, but only if there is improved hygiene practice and behaviour as well (RSA, 1996b: 6 & Tissington, 2011: 22).

The policy highlights the interdependence between clean drinking water and improved sanitation service provision. Unimproved sanitation systems pose the worst risks to water supplies in rivers, dams and underground, with the potential of causing serious health problems. The proper operation of sanitation systems is essential to protect the environment, and therefore the health of people dependent on the environment (Tissington, 2011: 22).

The policy gives onus to water institutions to enable access to sanitation services (De Coning and Sherwill, 2004: 10). The policy also lists the main types of sanitation systems used in South Africa and identifies sanitation technologies that do not meet policy criteria. Among those identified as not meeting the policy criteria for adequate sanitation are traditional unimproved pits, the bucket system and portable chemical toilets. The policy gives the task of developing an overall sanitation implementation strategy to the National Task Team (NTT) (RSA, 1996b: 9 & Tissington, 2011: 23).

2.4.5 The Water Services Act (No. 108 of 1997)

The Water Services Act (108 of 1997) prescribes the legislative duties of municipalities as Water Service Authorities (WSA) to supply sufficient water and an environment not harmful to human health. According to Water Services Act every Water Service Institution (WSI) must take reasonable measures to realise that water and sanitation services are accessible to all (AMCOW, 2002: 3 & RSA, 1997).

The Act establishes and clarifies the institutional arrangements for water services provision, with local government at the centre. It regulates Water Boards as important water service providers, who have to ensure that there is access to both clean drinking water and improved sanitation services (Tissington, 2011: 20). The Water Services Act compels the Minister of the Department of Water Affairs (DWA) to maintain a National Water Services Information System and to monitor the performance of all water services institutions and to develop a policy to regulate and oversee the provision of sanitation (DWA, 2013: 6).

To ensure that sanitation reaches households in an effective manner, the Water Services Act proposes that water and sanitation planning, implementation and monitoring are co-ordinated on national, provincial and local levels, through dedicated and co-ordination forums. It also emphasises the importance of educating communities about managing water and sanitation properly so as to prevent its contamination (Lagardien and Cousins, 2004: 22).

2.4.6 The National Water Act (No 36 of 1998)

The National Water Act (NWA) seeks to ensure that the country’s water resources are protected, used, developed, conserved, managed and controlled in a sustainable and equitable manner for the benefit of all people. The NWA assigns the national government as the public trustee of the water resources and empowers the Minister to regulate the allocation, use, flow and control of all water in the Republic (DWA, 2013: 2).

To achieve its objective the NWA promises to ensure that the nation's water resources are developed and used in a sustainable manner; all discriminatory laws and practices of the

past are repealed and prevented in favour of equal access to water and sanitation and water is protected against all forms of pollution (De Coning and Sherwill, 2004: 28 & Tissington, 2011: 23).

2.4.7 The Municipal Systems Act (No 32 of 2000)

The aim of the Municipal Systems Act (MSA) is to provide for the core principles, mechanisms and processes that are necessary to enable municipalities to move progressively towards social and economic upliftment of local communities and to ensure universal access to essential services that are affordable to all (Mosili, 2011: 21). The Municipal Systems Act seeks to empower the poor and ensure that municipalities establish service tariffs and credit control policies that take their needs into account (RSA, 2000a: n. p.).

The Municipality Systems Act proclaims that the municipalities must develop an indigent policy that assists the poor households to access basic municipal services, such as safe drinking water and adequate sanitation (RSA, 2000a: n. p. & Tissington, 2011: 6). The indigent policy has since afforded every household to have access to 25 litres of safe drinking water per person per day or 6000 litres per household of eight people per month for free (DWAF, 2002: 8 & LHR-DBSA, 2009: 14).

The Municipal Systems Act complements other pieces of legislation by regulating key municipal organisational, planning, participatory and service delivery systems. Together with other pieces of legislation, it provides a framework for a democratic, accountable and developmental local government system, as envisaged by the Constitution (RSA, 2000b: 7).

The Act empowers municipalities to exercise executive and legislative authority within its boundaries. Municipalities can develop and adopt policies, plans, strategies and programmes; promote and undertake development projects; set targets for delivery; provide municipal services or regulate the provision of municipal services; implement national and provincial legislation and its own by-laws; prepare, approve and implement budgets; set and collect service charges and other fees; and so on (RSA, 2000a: n. p. & Tissington, 2011: 32-33).

According to the Municipal Systems Act, each municipality must adopt an inclusive and strategic plan for the development of the Municipality, called the Integrated Development Plan (IDP), that will link, integrate and co-ordinate all the municipality's plans and also take into account any proposals on the table for the development of the local area (IDP, 2012: 21). To achieve their aim of providing clean drinking water and improved sanitation services equally among people, the IDP must be aligned with the resources and capacity of the municipality (IDP, 2012: 21 & LHR-DBSA, 2009: 14).

The IDP must form the policy framework and general basis, on which annual municipal budgets are based. Finally the municipalities are required to participate in national and provincial development programmes, and must include these programmes in their planning processes (RSA, 2000b: 14).

2.4.8 The Basic Household Sanitation Policy (1 November 2001)

The purpose of the Basic Household Sanitation Policy (BHS) of 2001, is to meet the government's responsibility of ensuring that all South Africans have access to adequate sanitation (RSA, 2001: n. p.). The 2001 BHS policy sets out the framework for the provision of sustainable sanitation in South Africa, particularly to those households who have not had sanitation services in the past. It focuses on the provision of a level of basic household sanitation to communities in low density rural areas, and in informal settlements, which it identified as the areas with the greatest need. It also paved the way for the establishment of the National Sanitation Programme under the control of the DWA (DWA, 2013: 25).

The BHS addresses the problems associated with inadequate sanitation by proposing that IDPs must prioritise and coordinate the service delivery so as to address the sanitation backlog and ensure any new sanitation intervention will be sustainable in the long term (DWAF, 2001: n. p. & Tissington, 2011: 33). The policy acknowledges that sanitation is a process of sustained environment and health improvement and that it is the obligation of the government to create an enabling environment in which all South Africans can gain access to basic sanitation services. It assigns the local government the duty and responsibility to provide sanitation services to its community, supported by the provincial and the national government (DWA, 2012: 10).

The policy also states that priority must be focused on areas with the greatest risk to health, due to the lack of access to water and inadequate sanitation services. In providing sanitation services, the policy emphasises that equality must be the guiding principle, with particular focus being according to population, level of development and the risk to health of not supporting sanitation services (Tissington, 2011: 8).

The provision of sanitation must take into account the growing scarcity of good quality water in South Africa and sanitation must be sustainable in terms of capital costs and recurrent costs. Lastly the environment must be protected from the potentially negative impacts of developing and operating sanitation systems (DWA, 2013: 27)

2.4.9 The Strategic Framework for Water Services (2003)

The strategic framework for water services was adopted in 2003 and is a national umbrella framework for the water service sector, which was developed in consultation with the South African Local Government Association (SALGA) and other key stakeholders. The strategic framework acknowledges that “Water is Life, Sanitation is Dignity” (RSA, 2013: 8 & SAHRC, 2014: 28). The 2003 strategic framework reaffirms the national government’s constitutional responsibility to provide regulatory support for local government, to ensure effective performance of its available water supply and sanitation duties through development of legislation governing the provision of water and sanitation services (RSA, 2013: 8).

The strategic framework provides a comprehensive review of policies, legislation and strategies, with respect to the provision of water services in South Africa, seeking to align them and outline the changes in the approach needed to achieve policy goals. It introduced the ground-breaking policy of free basic water, which makes provision for the right of all of South Africa to a basic amount of water and a basic sanitation service that is affordable (SAHRC, 2014: 27).

The Strategic Framework for Water Services defines basic supply facilities as the infrastructure necessary to supply 25 litres of potable water per person per day, supplied within 200 metres of a household and with a minimum flow of 10 litres a minute of portable

water supply per formal connection, per month. The water should be available on a regular basis (RSA, 2013: 13-14).

The strategic framework further outlines the roles and responsibilities for Water Services Authorities (WSAs) and Water Services Providers (WSPs) and different government departments, as well as other stakeholders. It specifically sets out the future role of the national department as the national water sector regulator. The strategic framework provides the vision for water and sanitation services provision in the country and outlines the framework that will enable this vision to be achieved (DWA, 2013: 3).

2.4.10 The National Sanitation Strategy (2005)

The National Sanitation Strategy was adopted in 2005, in order to take into consideration the developments around sanitation and to provide a coherent approach to sanitation services delivery in South Africa. Its objective was to facilitate the elimination of the sanitation backlog by 2010, and discusses *inter alia,* the roles and responsibilities in sanitation delivery, planning for sanitation, funding sanitation, implementation approaches, regulating the sanitation sector, monitoring and evaluation (DWA, 2011: 38).

The National Sanitation Strategy prohibits the use of communal facilities and chemical toilets, as a solution to sanitation problems and proposes that people should be provided with viable and sustainable sanitation facilities (DWA, 2011: 38 & Tissington, 2011: 5).

2.5 The institutional arrangement for water and sanitation service delivery at municipality level

The Constitution envisages a democratic, accountable and developmental local municipal council that promotes a safe, healthy environment and ensures the provision of services to communities in a sustainable manner (RSA, 1997: 8). According to the Municipality Structures Act (No 117 of 1998) and the Water Services Act (No 108 of 1997), the responsibility for the provision of water and sanitation services lies with Water Services Authorities (WSA). In many cases, the district municipalities are water services authorities. Usually municipalities provide water and sanitation services directly through a municipal

department. The provision of water supply and sanitation at local level is therefore the competency of the local government. (RSA, 2013: 8)

According to The Basic Household Sanitation Policy of 2001, it is the municipality who is, in the first instance, accountable for the provision of sanitation services, promoting health and hygiene awareness and to monitor the health of its communities. The municipalities also have a responsibility for ensuring an environmentally safe approach to sanitation and for monitoring the impact of sanitation processes on the environment (RSA, 2011a: 17). Through its by-laws, the municipality must take responsibility for driving the process set out in this policy at local level, for creating an enabling regulatory environment and for taking responsible decisions at the levels of service to ensure that they are both safe and affordable (RSA, 2011b: 81).

The service delivery protests that emanated from the lack of service delivery, including the provision of safe drinking water and improved sanitation services, that has engulfed many municipalities in the recent past, raises the need to evaluate the progress that has been made on water and sanitation provision in South Africa, since 1994.

2.6 The Water Research Commission

The role of Water Research Commission (WRC) is to establish the needs and priorities, stimulating and funding research, promoting the transfer of information and technology, and enhancing knowledge and capacity building in the water sector. It also focuses on water resources management, water- linked ecosystems, water use and waste management, and water use in agriculture (WRC, 2013: n. p.).

The WRC established an accredited “Water SA” scientific journal which contains original research articles and review articles on all aspects of water science, technology, engineering and policy in 1975. The aim was to provide a platform to establish their work (Water SA (Online), 2012: n. p.). The *Water SA* includes articles from both local and international authors. It is published quarterly (RSA, 2014: n. p.).

The journal publishes refereed, original work in all branches of water science, technology, engineering and policy. This includes water resource development; the hydrological cycle; surface hydrology; geohydrology and hydrometeorology; limnology; salinisation; treatment

and management of municipal and industrial water and wastewater; treatment and disposal of sewage sludge; environmental pollution control; water quality and treatment; aquaculture in terms of its impact on the water resource; agricultural water; water policy; water economics; water as a social good; etc (WRC, 2013: n. p.).

2.7 The National Development Plan (NDP)

The National Development Plan (NDP) is a decisive action plan with which the government aims at effecting economic transformation and democratic consolidation critical both to improve the quality of life of all South Africans and to promote nation building and social cohesion (GCIS, 2013: p 12). The NDP provides a platform for a united action by all South Africans to eradicate poverty, create full employment and reduce inequality as critical building blocks towards a truly united, non-racial, non-sexist, democratic and prosperous society by 2030 (KPMG, 2012: n. p.).

Among the core elements identified by NDP to ensure a decent standard of living is the provision of housing, water, electricity and sanitation to people (KPMG, 2012: n. p.). The NDP proposes that several of South Africa's challenges relating to water shortages can be addressed through regional cooperation. South Africa can benefit from neighbouring countries which have abundant supply of water (GCIS, 2013: 22). Among other targets of the NDP is to:

- Ensure that all people have access to clean, potable water and that there is enough water for agriculture and industry, recognising the trade-offs in the use of water.
- Reduce water demand in urban areas to 15 percent below the business-as-usual scenario by 2030 (GCIS, 2013: 55).

2.8 The state of clean drinking water and improved sanitation in the South African context

When the democratic government took over control of South Africa in 1994, it introduced the Reconstruction and Development Programme (RDP) as the vehicle with which to redress the inequalities of the past. The RDP is the programme designed to unite all South

Africans, to build a country free of poverty and misery, and its objectives are to be achieved in an integrated and principled manner (SAHRC, 2014: 7).

The provision of infrastructure for water supply and sanitation services was identified as key elements of the RDP. Furthermore, water provision was made a cornerstone on which future development would be based and a tool to fight the triple challenge of poverty, inequality and unemployment, while sanitation improvement was highlighted as a way to fight disease and bringing about human dignity (RSA, 1994: 1).

In April 1994, the country's population was just over 40 million people. About 58% of people had access to clean drinking water in 1994 and the majority of those were found in urban areas and were mostly white. By 2012 about 94.8 percent of the South African population had access to clean drinking water (DWA, 2013: 1 & UNICEF, 2014: 8). Access to an improved sanitation infrastructure also improved from 34 percent in 1994 to 76 percent in 2012 (DWA, 2012: 32)

The great progress reported in the provision of clean drinking water and improved sanitation in South Africa is the result of sound policies and strategies, formulated by the Department of Water, which was previously the Department of Water Affairs and Forestry. It is unfortunate that many areas in the country are still underserviced. According to Tapela (2014, n. p.), the underserviced areas tend to be working class urban and peri-urban areas that are characterized by high levels of poverty, unemployment, inequality and relative deprivation.

Tapela (2014: n. p.) and DWA (2014: 33) states that 15,2 million people are without access to clean drinking water and 12 million of these are from rural areas, while 3,2 million are from the peri-urban areas. DWA (2014: 33) further asserts that around 21 million people are still without access to improved sanitation facilities. About 31% of these people live in urban areas, with 2 million still relying on the bucket system. An estimated 14.1 million people have never had proper sanitation.

From the statistics provided by the DWA (2014: 33), it is not surprising then that service delivery protests continue even in the presence of reports of progress being made towards the delivery of clean drinking water and improved sanitation services in South Africa.

Among the notable service delivery protests where water and sanitation issues featured prominently, were those of Siyahlala-la (2008), Makhaza (2009), Blaaubosch (2010), Ficksburg (2012) and Malamulele (2013). In 2014, some of the protests that occurred, included, but were not limited, to those in Mothutlung, Brokonspruit, Madadeni and Bloemhof, where three children died due to drinking dirty water and in Lekwa, where residents were complaining of uncollected waste and sewerage flowing towards their dwellings (Collette, 2014: n. p. & Ukhozi FM, 2014). These protests signal communities that are dissatisfied about the manner in which they are provided with services.

The benefits of the good policy framework in clean drinking water and adequate sanitation provision in South Africa are blemished by the incessant service delivery protests that relate, amongst others, to the lack of drinking water and poorly built sanitation facilities in some communities (DWA, 2013: 17). Such protests are constantly reported about in the media and affect most municipalities, including the NLM. Among the media reports that alarmed the nation was the provision of poor quality of water which resulted in the death of three babies due to diarrhoea after drinking contaminated water in the Bloemhof in the Free State province in 2014 (SABC News, 2014: n. p). Another case related to poor built sanitation facilities where a primary school child drowned in the pit latrine in the Limpopo Province died in a pit latrine in 2014 (Matthews, 2015: 12).

The protests, some of which go unnoticed and unreported, especially in smaller municipalities, cast doubt on the real progress made to transform people's lives on the ground (Naicker, 2014: 4). The prevalence of these service delivery protests signals the poor implementation of the policy guidelines by those tasked to do so; the lack of coordination between different departments who should be working together in delivering services to people and the lack of communication between service development planning at municipality, national and water use at local household level. Such inactivity in the provision of services condemns poor people's lives to perpetual poverty and frustration, as their aspirations are not met and thus create a fertile ground for violent service delivery protests (DWA, 2013: 17 & Tapela, 2014: n. p.).

Tapela (2014: n. p.) correctly observed that the majority of service delivery protests, associated with water and sanitation, tend to occur in working class and peri-urban communities characterised by high levels of poverty, unemployment, rapid population

growth, inequality, relative deprivation, marginalisation, injustice, indignity and a history of struggle activism by predominantly black residents, coalesce with unmet expectations for water and related services. Coupled with perceptions that there seems to be no effective measures to deal with municipal councillors and officials who are perceived to be corrupt, incompetent, negligent and not downwardly accountable, these communities' perceptions easily ferment into anger and possibly protest action

Such an observation by Tapela (2014: n. p.) seems to be definitive of service delivery protests that took place at Siyahlala-la (2008), Blaaubosch (2010), and Soul City (2014) in the NLM. It is noticeable that most of the service delivery protests have been concentrated in the east, the part of NLM which is mostly inhabited by the black, unemployed, and previously neglected people who have the history of struggle activism against racial discrimination.

2.9 Managing water quality and wastewater

To ensure compliance with minimum water quality norms and standards, the DWA established the annual Blue/Green Drop initiative in 2008. The Blue/Green Drop initiative is a certification programme administered to improve water quality provided by water and local authorities in South Africa. The system aims at awarding water and local authority water providers and services with Blue and/or Green Drop Status if they comply with drinking water and wastewater legislation (DWS, 2014: 440).

This incentive-driven regulatory approach is a first in South Africa, and is internationally regarded as unique in the water regulatory domain. The Blue Drop Certification Programme aims to see that local government organs achieve what has become popularly known as the Blue Drop Status. The status is indicative that the drinking water supplied is of excellent quality and safe for human consumption (Rautenbach, 2016: n. p.). The Green Drop and Blue Drop programmes take place every second year, alternating with each other. (DWS, 2014: 440).

2.9.1 Blue Drop Programme

The department has set a target of 99% compliance with drinking-water quality standards. In 2014 South Africa's drinking-water quality matched the best international practice and follows the guidelines set out by the World Health Organisation. It achieved benchmark score of 95%, and was credited with Blue Drop certification in recognition of its exceptional drinking-water quality (DWS, 2014: 440).

2.9.2 Green Drop Certification

The department has set a target of 80% compliance with waste-water effluent standards The Green Drop certification measures the performance of waste-water treatment works. The 2013 Green Drop Report indicated that 41% of the 914 water supply systems assessed require attention. The report also identified 55% (or 821) waste- water treatment works that require serious, critical and urgent refurbishment in 2013. The report concluded by stating that, on-site sanitation systems provided in mostly rural areas have been found to be relatively robust, with inadequate provision for pit emptying (DWS, 2014: 441).

2.10 Conclusion

The legislations, policies and strategies that the government has formulated on water and sanitation provision, show the government's commitment to transform the lives of its people for the better. Important undertakings by global communities at different global development conferences, act as a reference in which water and sanitation provision, in South Africa should follow, if the idea of the universal human development is to be achieved. In South Africa the Constitution sets the tone from which all other pieces of legislation have to follow.

Different policy frameworks and strategies provide clear guidelines from which different institutions, dealing with water and sanitation provision, including the municipalities, have to follow to achieve the overall objectives of the government. These policy frameworks and strategies are legally binding documents that all institutions related to the provision of water and sanitation has to abide with.

These policies and strategies are the mechanisms from which the local municipalities should rely on in dispensing its duties of providing both water and sanitation services equally among its inhabitants. They should also form the basis from which the service providers would refer to account for the services they dispatch to people.

The following chapter deals with the methodology that was used to gauge people's feelings about water and sanitation delivery on the grassroots level.

Chapter 3: Research design and Methodology

3.1 Introduction

For a research study to be both valid and reliable, it is important that it collects data that is relevant towards achieving its aim (McMillan and Schumacher, 2006: 45). The choice of a research design and methodology is therefore the first important step in achieving this goal. Babbie and Mouton (2001: 641) define methodology as the methods, techniques and procedures that are employed in the process of implementing the research design or research plan, as well as the underlying principles and assumptions that underlie their use.

According to Babbie and Mouton (2001: 52), the qualitative research paradigm refers to an approach in social science, according to which research takes its departure point as an insider's perspective on social action. The goal of qualitative research is to describe and understand, rather than to explain and predict human behaviour- but qualitative research can be used for both (Babbie and Mouton, 2001: 52). This study aims to explore the delivery of water and sanitation services in the NLM from the perspective of the municipality and the community.

To achieve this aim, the study employed the qualitative research design. According to qualitative research paradigm the researcher attempts to understand people in terms of their own definition of their world (insider perspective). It focuses on the subjective experiences of individuals as it works from the natural settings (Coetzee, 2014: 42). The study consisted of a literature review and a field study, which will be explained in the following paragraphs.

3.2 Literature Review

The researcher, firstly, consulted sources that feature information that is relevant to the research question (McMillan and Schumacher, 2006). The literature study was done through reviewing books, newspapers articles, journals, internet search, sources and research reports that contained the information about water and sanitation issues in general and in the NLM in particular. Some of the literature studied, consisted of policies

by the DWA and the documents containing information about water and sanitation service delivery in the NLM.

This study also used literature to explore the challenges that the NLM experience in the delivery of water and sanitation services, to the previously un-serviced areas by means of secondary data sources that was triangulated with primary data collected from sources in the municipality itself. Furthermore, the NLM's water provision framework and other related literature, were studied to investigate the strategies that the municipality employed in its endeavour to supply good quality water amongst people.

3.3 Research Design: Case Study

3.3.1 Field study

The researcher has undertaken a field study that comprised of interviews with municipal officials, community leaders and community members. The population, sampling and data collection methods, are discussed below.

3.3.2 Population

The study drew its research participants from two groups of key informants. The first group of key informants consisted of municipal officials and the second group consisted of members and leaders from the community. The sampling of these key informants is explained in the following paragraphs.

3.3.3 Sampling

The researcher used purposive sampling for this study. Neuman (2011: 267) defines purposive sampling as a non-random sampling technique in which the researcher uses a wide range of methods to locate all possible cases of a highly specific and difficult to reach population. Purposive sampling allows the researcher to select a sample on the basis of his or her own knowledge of the population (Babbie and Mouton, 2001: 167). Purposive sampling is appropriate to select unique cases that are informative and for in-depth

investigation. Cases selected in purposive sampling therefore rarely represent the entire population (Neuman, 2011: 267).

Firstly, the community informants were sampled for the purpose of conducting individual interviews, as well as conducting focus group interviews. From the community, two groups of informants were interviewed, that is: the community leaders and ordinary individual members of the community. In the community, community leaders such as a chief from Ubuhlebomzinyathi, a chief of AmaHlubi, a councillor from JBC villages, two councillors from the east and two councillors from the west, were identified as representatives of the community to be interviewed.

These key informers, with leadership positions in their communities, were interviewed because they are at the forefront of development in their own localities and because sanitation services and water quality programmes, operate under their control. The selected informants interviewed, were also important to the study as they were the ones whose task it is to ensure that the lives of people under their leadership change for the better.

The ordinary members of the community interviewed were important because they are the ones whose lives should improve through the provision of clean drinking water and an improved sanitation service. The study interviewed three participants in each of the five communities selected under the urban west, east townships, informal settlements and JBC villages and three participants from two tribal authorities in this municipality. In total, 29 ordinary community members were interviewed. In addition to these community members, a number of participants were selected, based on their economic activities being dependent on adequate water supplies. This included small scale crop farmers, chicken farmers, block and brick manufactures, owners of saloons and, shop owners. Two focus groups were selected, consisting of participants from the western suburbs, the rural areas and the townships. Five community leaders and three municipal officials were also interviewed.

The focus groups were also gathered and interviewed with the view to gauge their perception on the delivery of clean drinking water and an improved sanitation service by the municipality. Focus groups provided insight on how access to water and sanitation

services in the NLM impact on their business activities, as they depend on the availability of these services for survival. Participants in each focus group consisted of people of similar economic and social backgrounds. The focus group interviews were conducted as such that they allow for free participation of people and encouraged free expression of ideas and opinions. Babbie and Mouton (2001: 294) advise against using a large number of focus groups, as they seldom give different information than a few groups. The study included three focus groups from three different communities, structured according to economic sector.

Secondly, key informants from the municipality were purposively selected. Four people interviewed in the municipality included: the community liaison officer, the water service provider, the infrastructure manager and the planning and development manager. The four municipality informants were chosen for the following reasons: The community liaison manager, because he or she mediates between the needs and the concerns of the municipality and the community. The community liaison manager has vast knowledge about the feelings of people on the ground, relating to service delivery. The water service provider (WSP) manager manages the provision of water within the NLM.

The WSP manager also deals with the challenges encountered during water and sanitation service provision. The successes and failures made by NLM should also be known to him or her office. The infrastructure manager ensures the maintenance of the water and sanitation infrastructure on a daily basis and therefore should know areas that are affected by water and sanitation service delivery. The planning and development manager becomes involved in drafting and implementing the budget aimed at improving water and sanitation to different communities under NLM. Such a population will provide information on the progress made, challenges and the strategies in the pipeline from the side of the municipality.

3.4 Data collection instruments

In ensuring the validity of the instruments, the researcher has to ask whether the instruments collected the desired data (Woolfolk, 2004: 498). The use of multiple data sources to examine the same dimension of a research problem, enhances the validation

process by ensuring that weaknesses inherent in one approach are counterbalanced by strengths in another (Leedy and Ormrod, 2005: 127).

The interview schedules used in the interviews with individual community informants, the focus groups and the municipality informants, were all semi-structured. Participants in each group were given a set of questions that allowed their freedom in answering them in the manner they chose (Coetzee, 2014: 59). Interview questions prepared for the municipality participants and community leaders differed in content, compared to that of the community participants, due to different information required from these key participants. For more information on the instruments used to gather information from the community participants and the municipal officials, refer to Appendix A-C.
Interviews and focus groups were recorded using an audio recorder and through note taking. All recordings were transcribed verbatim.

3.5 Data analysis

Ultimately all fieldwork culminates in the analysis and interpretation of data. The aim of analysis is to understand various constitutive elements of one's data through the inspection of the relationships between concepts, constructs or variables, and to see whether there are any patterns or trends that can be identified or isolated to establish themes in data (Mouton, 2009: 108).

When the researcher completed the data collection, data was analysed qualitatively with a focus on identifying common elements and variations in the data (Mouton, 2009: 108). By triangulating information from the literature study, focus groups, municipal officials and the community, connections were made about the state of water and sanitation provision in the NLM.

Data was presented in the form of words, statements in accordance with the principles of the qualitative data analysis. Mouton (2009:109) states that the analysis is complete when the researcher feels that he/she can share with others his or her interpretations and findings.

3.6 Ethical Issues

The research study was conducted in a scientific way and as such has conformed to the generally accepted scientific research norms and values. The ultimate goal of all scientific researches is the search for truth. Neuman (2011: 239) refers to “epistemic imperative” which he defines as the moral commitment that scientists are required to make in the search for truth and knowledge. Epistemic imperative implies that a kind of moral contract has been entered into between the interviewer and the interview participants. It acts as a regulative principle that guides the conduct of scientists.

This study adhered to epistemic imperative by striving to maintain objectivity and integrity in its conduct of scientific research. The study did not change data or observations with the aim to falsify or fabricate data. The researcher explained the aims of his study to the participants and sought their permission to use the written information collected from them in public. Through concealing the participant’s identity, the researcher kept the identity anonymous and confidential from public and for their protection. This study rejects plagiarism by acknowledging the sources of information it used.

Chapter 4: Findings

4.1. Introduction

This chapter discusses data collected and analysed for the purpose of meeting the aim and objectives of the study. Data collected and collated in this chapter was informed by the opinions of ordinary NLM community members, whose lives are directly affected by the delivery of these services, the community leaders who represent the plight of people to the NLM, and the municipal officials, who are at the forefront in the implementation of water and sanitation programmes and strategies in the NLM. Literature was also used to support the findings of the study.

4.2 Water Service Delivery

4.2.1 The state of clean drinking water service delivery in the NLM

The research participants from the community were asked to explain where they obtain the water they use for drinking, cooking and bathing. According to WHO, each citizen should be entitled to access 20 litres of water per day (SAHRC, 2014: 26). The DWA stipulates that each citizen should have access to clean drinking water in a minimum quantity of 25 litres of clean drinking water per person per day (or 6 000 litres per household per month), within 200 metres of a household (DWAF, 2002: 6). According to both the municipal officials and community leaders interviewed, and in compliance with the requirements of the Strategic Framework for Water Services, as adopted in 2003 (DWA, 2013: 13-14), communal taps like the one depicted in image 4.1 below, should be located within 200 metres from the households they are meant to serve.

Image 4.1: Communal standpipe at Siyahlala-la informal settlement.

There is a general improvement in the access to clean drinking water by households nationally. Muller (2002: 1) for example, states that access to clean piped water by South Africa's households in 1994 was slightly above 50%. By 2011, the number of households with access to clean drinking water had increased to 85%. Muller's assertion differ slightly with that of the DWA (2011: 313), which places a figure of households with access to clean drinking water at (62%) for 1994 and at (89.5%) for 2011. The Department of Water and Sanitation (DWS) (2015, n. p.) estimates the number of households benefitting from clean drinking water to be at an average of 88% in 2015. What is common in the statistics above is that there is progress in the provision of clean drinking water nationally.

At the municipal level, the IDP (2014: 69) shows an improvement in the provision of clean drinking water to households in the NLM. The municipality has successfully surpassed the target of halving the proportion of people without access to clean drinking water as set in the MDGs. A review of the 2011census data revealed that 50% of households in the NLM had access to piped water inside their dwelling at that time. Some 42% of the households still obtain piped water either inside their yards or on communal stand pipes located within a 200 metre radius, while 2% of households receive their water beyond a 200 metre radius. Households who did not have access to piped water account for only 4% of the

total population, while the remaining 2% was uncounted for, in as far as to where it receives its water (IDP, 2014: 69).

The interviewed participants from the community stated that they receive their domestic water from the municipality. For some households, especially in the western suburbs, the old established townships and the newly established urban residential suburbs, water is connected to individual yards. Improvements can also be observed in rural and informal settlements where the majority of people no longer collect drinking water from distant unprotected sources, such as in dams, rivers and in boreholes. These communities collect clean drinking water in communal taps closer (200 metres) to their households at present.

The community participants from the western suburbs indicated that communities in the western suburban areas are satisfied with the way the municipality is providing them with water. The interviewed participants from the community stated that the households that receive their water from communal taps, which are located 200 metres from their households, are predominantly the rural households and the informal settlements. Some community members in the eastern communities are not satisfied with the criteria the municipality utilises to provide them with water.

According to the interviewed participants from the community, the community leadership and the municipal officials, the communities that receive their water from the communal taps are provided with water, free of charge. The communities that obtain water from communal taps are located, mostly, in the east of the NLM. Most of these communities feel that the municipality should improve the way they access water. They feel that they should access their water inside the yard like other communities in the western suburbs and the old townships.

Some of the households from the H39 area receive their water from water tanks supplied by the municipality and located along the streets, 200 metres from the households they are meant to serve. Water in these water tanks is supplied by the municipality through water trucks. The community of Soul City receives their water from water trucks from the municipality. For some communities, the change in the way they access water has been minimal though. Observing how the communities in Blaaubosch, Soul City, Siyahlala-la and other rural communities access water, one noticed that people in these communities

are still burdened with collecting water through the use of water containers, which they transport using wheelbarrows, the same system they utilised before 1994. The only difference is that the distance that they now have to travel has been shortened. Each household has to have containers which it uses to collect water from water trucks and communal taps, as can be observed from image 4.1 above. Household members in these communities also waste valuable time standing in long queues to access domestic water.

There are however some rural communities who still extract drinking water from unprotected water sources, such as rivers, dams and other unidentified sources. For some 4% households, the thought of obtaining clean drinking water remains an elusive dream as they remain uncertain as to where they obtain their drinking water from (IDP, 2012: 67). No plans have been made as yet to provide these households with clean drinking water. UNICEF and WHO (2012: 66) classify open water sources, like those on rivers and dams, as unprotected and a threat to human health, should it be consumed without being treated.

The interviewed participants from the community stated that some household members have connected water illegally from the municipality pipes to their own yards. According to community participants, illegal connections are performed by households who feel entitled to have water inside their yards. Illegal connections are also performed by business establishments operating on the streets. The participants from the community leadership believe that businesses that connect illegally are informal and want to avoid the responsibility of paying for water. Business owners interviewed, confirmed that they connect water illegally, because they do not make enough money to pay for water rates.

The community participants reasoned that some households connect water illegally, because they want to avoid the inconvenience of collecting water from the communal taps which they feel is located far from their households. They cited that they need water inside their yards, as it happens in the western suburbs and in the townships. They prefer to have water inside their yards, so as to connect things like sinks, washing machines and other water related items. Connecting such items is impossible if they still obtain their water from communal taps.

While it is illegal to connect water from the municipal pipes without permission, all the interviewed participants agree that the municipality have knowledge of illegal connections taking place, but is doing nothing to discourage the practice. Responding to the no-action of the municipality to quell illegal water connections, the interviewed municipal officials agreed that the municipality is aware of illegal water connection happening in some communities. They stated that the municipality is still pre-occupied with reticulating all areas with water and will implement and enforce the by-laws, which will be aimed at controlling the use of water, after dealing with the issue of water service provision first.

4.2.2 The challenges that the NLM face in delivering water services to previously un-serviced areas

The participants from the community and the municipal officials were asked to explain in detail the challenges that they normally experience in relation to the delivery of water service and how these challenges affect their daily lives, and the delivery of water in the previously un-serviced areas.

The municipality officials stated that the municipality faces a challenge of unpaid water services by most households in the eastern NLM. While communities in the western suburbs pay for their water, both the municipal officials and the community leaders stated that most households located in the east, with access to clean piped water inside their dwellings or inside their yards, are required to pay, but neglect their responsibility. According to the municipal officials and the community leaders, households in these communities have been fitted with water usage reading metres in each yard, which details the amount of water the household utilises each month.

The interviewed participants from the western suburbs complained that their water charges are expensive. While households in these communities are satisfied with the way they are provided with water, they are unhappy about expensive water rates charged by the municipality. They feel that the municipality is unfairly over charging them as they are the only households paying for water in the municipality. They further feel that the money they pay is not commensurate with water they utilise on a monthly basis, but is standardised so as to subsidize the non-paying communities in the eastern parts. They feel that they are treated unfairly, as some members in the western suburbs are employed

by the same employers than those in the eastern parts and earn the same salary as the non-paying members in the eastern parts.

The municipality officials and the community leaders agreed that the municipality does send invoices to all relevant households that inform them about the amount of water they have utilized and the amount of money they have to pay, but most of these communities still do not pay for water services. These participants further highlighted that nothing more is being done to encourage these communities to pay.

According to community leaders, while some community members in the eastern parts attribute their non-payment of services to their being unemployed, some members do not feel obliged to pay for these services. The municipal officials maintain that the non-payment of services is one of many challenges facing the municipality in its attempt to deliver services to its communities. The municipal officials are of the opinion that the non-payment of water services robs the municipality funds that should be utilised in developing the communities.

According to community leaders some households that do not pay for water services, benefit from the government's indigent policy. While the Free Basic Water Policy provides for the provision of 6kl per household a day for indigent households, the NLM provides 12kl of water per household per day (IDP, 2014: 69 and Tissington, 2011: 25). The members of the community that benefit from the indigent policy, include the elderly, the orphaned and the families, headed by disabled persons. By providing free and clean drinking water through the indigent policy, the municipality is attempting to extend access to clean water to all, whilst also complying with the requirements of the Policy Free Basic Water and the Framework for Sanitation in South Africa (Tissington, 2011: 25).

The participants from the community leadership and the municipal officials stated that increased water demand, puts pressure on the municipality's ability to supply this service to communities. Both the participants from the community leadership and the municipal officials alluded to the fact that water cuts, impact mostly the communities east of the NLM. According to the municipal officials, among the causes of water cuts are an increase in the number of households that need to be supplied with water; the inadequate reservoirs and water treatment plants; water disturbances caused by illegally connected

pipes and water leaks. Illegal water connections are mostly associated with leaks that ultimately result in water losses and therefore the water cuts.

Wegelin and Jacobs (2013: 415) remarked that water leaks are a challenge that affects South Africa as a whole. In the 2010 State of the Nation Address, president Zuma remarked on the state of water in South Africa (Wegelin and Jacobs, 2013: 415). He stated that South Africa is not a water rich country, yet it loses a lot of water through leaking pipes and an inadequate infrastructure The challenge of water losses was also alluded to by the Minister of Water and Sanitation Affairs, Nomvula Mokonyane, who added that her department is fully aware of the inability by the municipalities of dealing with issues of operation and maintenance, which results in the loss and compromise of quality water. The minister encouraged communities to report leaking water to the municipalities with the aim of saving it (DWS, 2015: n. p.).

According to the IDP (2012: 18) the municipality loses a lot of water due to leaks. The municipal officials stated that in the western suburbs, water loss due to leaks, result mostly from an ageing water infrastructure, but this problem is minimal. The municipal officials stated that high water losses are recorded in the area east of the NLM, which coincides with the high prevalence of illegal water connections and water services backlogs (IDP, 2013: 8). Individuals who perform illegal water connections intercept the main water pipes which supply water to different households and channel water into their households. As these connections are performed by unqualified people who also utilises improper materials, water leaks are common in the point of connection.

According to participants from the community leadership, water leaks are also common where water pipes are damaged and communal taps broken. As can be seen from the image 4.1 above, water in most of the communal taps always spill to all directions irrespective of whether a tap is opened or closed. The areas where communal taps are located have developed into ponds of stagnant water and in some instances water flows directly to the neighbouring households, thus creating countless problems for them.
Gleick (2001: 3) states that stagnant water attracts mosquitoes, which in turn carry diseases that threaten the lives of people. Inhabitants in households located close to communal taps are the most vulnerable of developing water related diseases, as they

have to contend with mosquitoes and other water related disease carrying insects on daily basis.

In an attempt to curb water spills from the leaking or damaged taps, community members use inappropriate materials to mend the leaking pipes. As can observed in the image 4.1 above, unhealthy material such as cloths and garbage plastics are utilized in an attempt to stop leaks and in directing water to the community water containers. This compromises the health of consumers who drink water from these taps.

The community participants highlighted the disadvantage of being served with water from communal taps. They stated that this system fails them most of the times and it needs reviewing. The community participants alluded to the fact that other communal taps have been closed, instead of being fixed, due to water leaks. They explained that communities that relied on taps that has been closed to obtain their water, are forced to travel longer distances to collect their domestic water. The community of ward 26 in Blaaubosch, is an example of a failing system of providing water through communal taps. Some of the communal taps in this ward are permanently closed due to vandalism and water leaks. Households in this ward are forced to collect water outside the 200 metre radius, which is beyond the maximum distance prescribed by the government.

Water cuts and the resultant water shortages sometimes force people to consume water from unreliable sources which in turn exposes them to water related diseases. Constant water cuts have sometimes compelled the communities under Ubuhlebomzinyathi tribal authority to drink water from the tanks that were provided to them for gardening and other use. These tanks collect and store water from rooftops during rainy days. The cleanliness of water in these tanks cannot be guaranteed as they are open on top and therefore prone to the entry of foreign materials.

The situation is worse for the community of Soul City where no communal taps were provided. The community of ward 31 collects water from far distances. The community participants stated that the community members in Soul City have the duty of collecting water from far away distances. What frustrate the members from this community most is the inability of the municipality to commit to providing them with water within their vicinity in the near future. It is without surprise that the communities of ward 26 and ward 31

engaged in service delivery protests in 2010 and 2015 respectively. The community participants are of the opinion that the municipality has failed to provide basic water and sanitation services to these communities.

Contrary to the pronouncement by the municipal officials interviewed, who stated that the communities are notified if water cuts are to be effected, the interviewed community participants and their leadership from the eastern parts, stated that water cuts are usually implemented without the communities being notified. While the community participants from the western suburbs acknowledge that they are alerted of impending water cuts and water trucks are sometimes dispatched to provide water to the affected communities, the community participants from the eastern parts insisted that they are not alerted of water cuts and no alternative source of water is provided by the municipality to communities when water cuts are effected. This leaves communities without water, frustrated and their activities disturbed. Business and schools are sometimes forced to close during these water disturbances.

Illegal households[2] bordering the H39 informal settlements have been identified by the municipal officials as a cause of constant water shortages in H39. The number of these illegal invaders in this community is unknown. As some parts in H39 receive water from the reservoirs located along the streets, the municipal officials stated that these illegal occupants also extract water from the reservoirs. According to the municipal officials, illegal households were not catered for when planning for the number of households to benefit from water provided in the reservoirs. When they utilise water meant for the community of H39, water in the reservoir gets finished and the community of H39 end up facing water shortages. The municipal officials concluded by declaring that the illegal households' invaded private land and the municipality will never provide them with clean drinking water and improved sanitation facilities ,since they will need to vacate the land they are on.

The community participants stated that as a result of water cuts, women are compelled to spend time seeking and collecting water for their households. The community participants and its leadership stated that the failure by the NLM to meet its daily challenge of

[2]Illegal household: Households erected illegally on privately owned land and which will definitely be removed by the municipality.

constantly providing clean drinking water to its steady increasing citizens disrupts the normal functioning of people's daily activities. People's lives are affected economically as they have to close their businesses early; socially and educationally as learners have to cut learning time short if there is no water in schools. Tissington (2011: 13) states that inconveniences and hardships caused by the shortage of water, fall especially to women and the infirm.

According to community participants, as well as in corroboration with the literature study, water shortages force schools to close down, thus disrupting the education of learners. The interviewed participants from the business community confirmed that small businesses, like carwashes and saloons, are forced to close down during water shortages, with the resultant loss in profits. Other important services, such as clinics, also face challenges as their operations depend on water. The participants from the community stated that a clinic at Mdozo under Ubuhlebomzinyathi tribal authority, have been fitted with a reservoir in case of water shortages, resulting from water cuts. Such a reservoir is small and nurses are compelled to refer patients to clinics that have water in times of severe water cuts in that area. Water cuts can therefore compromise the lives of people.

Both the municipal officials and community leadership interviewed, attributed some of the water cuts to insufficient reservoirs and water treatment plants. They stated that when more water is extracted from reservoirs, water prepared for human consumption, is reduced drastically. This contention was supported by the municipal officials who further alluded to the fact that it is the same number of water treatment plants and reservoirs with the same treatment and storage capacity that were utilized only for few households in the past that are now utilized to supply extended households with clean drinking water in the NLM. According to the municipal officials, water supply to communities is cut to allow water treatment plants and reservoirs to accumulate enough prepared water before being served to communities.

Another challenge facing the municipality is of aging water pipes, which occasionally bursts, forcing the implementation of water cuts. The municipal officials stated that water pipes installed in the western suburbs, were installed around 1969 and have now aged. These water pipes, made of asbestos, burst and collapse throughout the town and suburban area and require complete removal as the government regulations no longer

approve of the use of asbestos. The major challenge facing the municipality in this regard is to replace the old pipes with new ones which require huge sums of money.

The shortage of skilled staff in the municipality has negative effects in the provision of services to the communities. This is evidenced by the time period it took to replace bulk water from a supply pipe recently, from Hilldrop reservoir in the western suburbs. The municipality had predicted that the connection of the pipe would take only 12 hours, but it ended up taking two days (48hrs). The absence of water caused untold suffering to households in the affected area. While the municipality tried to alleviate the problem by supplying water through water trucks to the affected households, such intervention was not helpful as most households did not have containers to collect enough water for their daily needs.

Asked to state how has draught affected access to clean drinking water and improved sanitation by the communities in the NLM, the municipal officials stated that draught will provide a major challenge to the whole of South Africa. The officials alluded to the fact that the NLM has been a bit lucky since it has not been affected much by draught in 2015, like other municipalities but also they also pointed out that water levels in the NLM dams are dangerously low, even during the present rain season. These officials stated that they are working with the DWS to devise strategies to mitigate the impact of draught on people. They stated that they have already started to alert people about the eminent shortages in water and are encouraging them to assist by saving water as much as possible. They further stated that among the strategies that they will utilise is to implement water cuts and fine people who do not accede to their call of saving water.

The municipal officials are also concerned about the financial impact the draught might have in the delivery of services to its communities. The municipal officials pointed to the fact that a small number of households are paying for water and sanitation services. With the impending drought the municipal officials are anticipating further reduction of households paying for their services. They state that the reduced financial collected from households combined with the probable need to supply water to some communities through water trucks, the municipality finances might be under severely strained. The municipal official concluded by stating that the financial limitations may negatively affect the delivery of water and sanitation services in the municipality

The participants interviewed from rural communities stated that they felt the impact of draught in the months of November, December 2015 and January 2016. They stated that these were the driest months in which they lost their livestock. According them, livestock could not graze as the grass was dry and it was not easy to find fodder. They stated that water cuts instituted by the municipality during these months made it difficult to access water. According to the community participants, the municipality used to open water in the evenings and close it in the morning during these months. They sounded their anxiety about the looming winter season, stating that they anticipate losing more of their livestock since the rains have been little in February and March. To compound their problems is that most dams which they rely on for their livestock drinking especially dung the winter months are dry.

The representatives from the communities in the townships and informal settlements stated that they are being negatively affected by the impact of draught already. They pointed to the fact that water cuts, which are a common phenomenon in the east, are putting them out of business and thus subjecting them to the lives of poverty. The most negatively affected businesses are the saloons, vegetable gardens and brick manufacturing. Draught also affects school attendance by learners. While some learners make every effort to attend school, educators, especially in the townships, are forced to allow learners to live early from schools due to water shortages, said the community representative.

The community representatives from the west stated that water cuts are a rare phenomenon in their communities. They stated that the municipality has alerted them of the draught problem and pleaded with them to restrict water wastages. They however stated that they have not yet been affected by draught to such an extent that they are without water from their taps. These communities further stated that they have heeded to the call by the municipality and cut on activities that waste water in an attempt to reduce the impact of draught.

4.2.3 The attitudes and influence of politicians in the transformation and governance support of service delivery

Asked about the attitude and influence of politicians towards transforming their lives to be better with regard to water, the interviewed participants from the community of Soul City (a peri-urban area next to Madadeni) voiced their unhappiness about the way they obtain water. The community participants from Soul City stated that their community is not provided with communal taps like other rural communities, in their neighbourhood. They refuted the statements by the municipality, through its IDP, that they were provided with four communal taps. These participants only agree with the municipality in that they obtain their water from the municipality trucks.

The interviewed community participants from Soul City cited that the delivery of water by municipal trucks is erratic and they sometimes have to spend days without being serviced with drinking water. They further stated that they are sometimes served with dirty water by the water trucks. In the absence of water trucks, they stated that community members are compelled to solicit water from neighbouring households, who have been provided with piped water in their yards or to travel distances as long as a kilometre or more, to collect water from communal taps belonging to other communities.

The interviewed participants from Soul City voiced their unhappiness about the non–caring attitude displayed by their councillor towards transforming their lives through the provision of water services in their community, as is the case in their neighbouring communities. The IDP stipulates that councillors should formulate and work together with the ward committee members. The ward members should assist in identifying challenges in the communities and bring them to the attention of the councillor for resolution. According to both the municipal officials and the community members, some of the councillors ignore electing ward committees or completely ignore working with them, thus frustrating community members as they have nowhere to report their needs. The community of Soul City has shown their dissatisfaction about their lack of access to water and inability to work with their councillors, by engaging in service delivery protests in 2014 and in 2015.

While it is noted that most households access water within a 200 radius of their households, as required by the Strategic Framework for Water Services of 2003 (DWA,

2013 :13:14), it is the remaining few households, like those in Soul City, that are still not served with clean water who are a cause for concern. The failure by the municipality to serve these communities with water violates their fundamental basic human rights of being treated equally to other community members and it impacts negatively on rights such as the right to education and health. Girls and women, in these communities, spend their valuable time collecting water in far places instead of spending their time in education and other worthy activities. The lives of sick people are compromised when they cannot practice hygiene due to insufficient water (SAHRC, 2014: 36).

4.3 Sanitation Service Delivery

4.3.1 The state of sanitation delivery in the NLM

According to the Strategic Framework for Water Services (2003), basic sanitation service entails a sanitation facility (that is appropriate to the settlement conditions), which is easily accessible to a household, the sustainable operation and maintenance of the facility, including the safe removal of human waste and waste water from the premises where this is appropriate and necessary, and the communication of good sanitation, hygiene and related practices (to users). It further means a toilet which is safe, reliable, environmentally sound, easy to keep clean, provides privacy and protection against the weather, well ventilated, keeps smells to a minimum and prevents the entry and exit of flies and other disease carrying pests.

According to the DWA, South Africa has made important strides in addressing sanitation backlogs since 1994. In 1994 about 49% of households in South Africa had access to sanitation facilities, the number of households with access to sanitation grew to 71.4% in 2011. The country achieved the MDG targets of halving the number of people without access to sanitation in its jurisdiction in 2008 (DWA, 2012: 12). South Africa further set itself a target of achieving universal access to a sanitation service by 2014 (DWA, 2014: 40). This new set target has eluded the government though. According to DWS (2015: no page), the number of households with access to sanitation had only increased to 78% by May 2015. It is notable though that the country has not been able to achieve its set universal access to sanitation services.

While there seems to be commitment to sanitation service delivery by the South African national government to its people, there also seems to be much that still needs to be done to ensure universal access at the local level. In the NLM for example, the interviewed municipal officials estimated the households with access to improved sanitation to have improved to approximately 74%. This is an improvement from 67% households that had access to improved sanitation as recorded in 2001, but also a slight decrease from the 76.6% recorded in 2010 (IDP, 2014: 13). According to the municipal officials, the decrease in estimated households with access to sanitation facilities is due to an increase in the number of households without the equivalent increase in provision of improved sanitation facilities.

Asked about the type of sanitation facility they use every day, and where these facilities are located, the responses from the interviewed participants indicated that the communities in the NLM utilise waterborne sanitation, VIPs, unimproved pit latrines, septic tanks and open fields at times. The participants from the community at large and its leadership are of the opinion that access to adequate sanitation is far from being achieved. While some of the households in the western suburbs are satisfied with regard to access to sanitation, most communities in the eastern parts are unsatisfied with the sanitation facilities they have. Almost all communities in the western suburbs have access to the much desired waterborne sanitation facilities fitted inside their dwellings, the eastern parts utilises a variety of sanitation facilities. While the township households access waterborne and VIP sanitation facilities, some of the households in the informal settlements and rural communities still rely on VIPs and unimproved pit latrines.

Asked to suggest the type of sanitation they would ideally like to be provided with and why, the participants from the community provided different desires of their preferred sanitation services. For example, the participants from rural areas would prefer to be provided with VIP sanitation facilities, despite its de-sludging challenges. They feel that VIP facilities are better than pit latrines in promoting health. They are of the opinion that they could connect their own pipes from inside their households to the VIP sanitation facilities and direct all grey water to the facility. The fact that the VIPs are de-sludged is an added advantage, as it gives their sanitation facilities a longer time span as compared to pit latrines.

Other participants from the community in rural areas and informal settlements related their preference to have their households connected to waterborne sewage. These participants are of the opinion that waterborne sanitation is efficient in that it is easy to maintain, has less smell and it allows households to practise good hygiene. They believe that such a sanitation facility could help solve the challenges relating to de-sludging, which is a cause for concern for some households currently utilizing VIPS.

The municipal officials were asked the extent to which they think the provision of water and sanitation services to all households in the NLM have improved and will be improved in the near future (within the next five to ten years) and to explain further, giving examples of successful implementation of current and past projects.

Progress in the provision of improved sanitation is most visible in parts of Madadeni and Osizweni townships and in rural areas where these services were lacking. The municipal officials, the participants from the community and their leadership participants, stated that section seven in Madadeni is being reticulated with the aim of being integrated to the waterborne sewage. The reticulation and integration process in section seven at Madadeni is 70% complete at present. The replacement of VIP toilets with waterborne sewage in sections E and F in Osizweni is in progress. Here the municipal officials claim that 90% of the households have been integrated into the main sewage system. The municipal officials stated that the idea was to replace the VIPs with waterborne sanitation facilities by the end of 2015 in these sections.

Siyahlala-la and H39 rely on unimproved pit latrines and shared VIP sanitation facilities respectively. These communities have not been provided with the improved sanitation facility, but the municipality is in the process of providing them with waterborne sewage facilities. The municipal officials and the community leadership cited that the housing development project started in the third quarter of 2014 and is presently in progress in Siyahlala-la. According to them, the houses that would be developed in the area will have both clean drinking water and waterborne sanitation facilities inside the dwellings.

According to municipal officials the initial idea was to erect shared VIPs for the community of H39, but that idea was scrapped, due to reasons of safety and hygiene in favour of each individual household encouraged digging its own unimproved pit latrines. They

further explained that a few households in H39 still have VIPs that were initially meant to be shared by different households, but those VIPs are now utilised only by the households in whose yards they are located.

Asked why they encouraged households in H39 to stop utilising shared VIPs in preference of the unimproved pit latrines, the municipal officials stated that they preferred unimproved pit latrines because the sites in H39 are large enough to accommodate these sanitation facilities for each household. They further elaborated that the government place shared sanitation in the same category as unimproved sanitation facility. They further stated that shared VIPs are difficult to maintain, unsafe to users and are an inconvenience especially to women and the elderly and at night.

For the municipality to encourage households in H39 to change to unimproved sanitation facilities is a discouraging surprise that contradicts the objectives of eradicating the unimproved pit latrines which is shared by both the DWA and the NLM. Above the fact that unimproved sanitation facilities are deemed unhygienic and a probable source of diseases to people, the municipal officials alluded to the fact that the municipality aims to eradicate unimproved pit latrines due to the high levels of water tables in the NLM which it is feared might be contaminated by sanitation matter.

The use of unimproved pit latrines by households in H39 seems not able to cater for the needs of the whole family, though. According to the community participants and through observation, sometimes children utilise the fields to relieve themselves rather than to utilise pit latrines in their homes. The use of open fields by children is promoted by parents who feel that pit latrines are unreliable and who fear that children might fall inside them. The use of open field as a sanitation facility is discouraged by the government and the global community at large, as it can be washed into open water sources, leading to the spread of diseases or negatively affecting tourism, and other business and interests in a country (DWA, 2013: 16 & WHO, 2008: 37)

Image 4.3: A pit latrine in H39 informal settlement

As can be viewed from the image above, the state of some sanitation facilities currently utilised by some households in communities, such as H39, Siyahlala-la and others, fall far short from that which is described by DWA as adequate. These facilities are a far cry from being safe, reliable, environmentally sound and easy to keep clean, providing privacy and protection against all weather, keeping smells to a minimum and preventing the entry and exit of flies and other disease-carrying pests. This sanitation facility is in direct violation of the prescripts of the constitution of South Africa, that requires that human dignity be respected and protected during the utilization of a sanitation facility (RSA, 1996b: 1249). To declare that households in this community have sanitation facilities contrasts sharply with the declaration of the ruling party's assertion that they bring better life for all.

4.3.2 The challenges that the NLM face in delivering sanitation services to previously un-serviced areas

Asked about the challenges experienced with regards to sanitation provision in their areas and how these challenges affect communities in the NLM, the municipal officials mentioned an ageing sanitation infrastructure that constantly burst and blocks as a major challenge in the western suburbs. According to the municipal officials, supported by

literature study (IDP, 2012: 92), replacing and upgrading the ageing sewage infrastructure is a necessity that requires huge financial costs. Some community leaders and some interviewed members of the community are of the opinion that spending money upgrading the ageing infrastructure will delay the provision of sanitation facilities to communities that never had access to sanitation in the first place.

The municipal officials and the participants from the community leaderships mentioned that most challenges that face the municipality in providing sanitation are found in the east of the NLM. The main challenge mentioned was that of the huge backlogs in the provision of basic sanitation in this part of NLM. Corroborating the literature study (IDP, 2014: 76), the municipal officials mentioned a lack of a sewerage master plan as an impediment in planning future development of settlement that are linked to waterborne sewage and in addressing sanitation backlogs.

The participants from the community leadership lamented the use of unimproved pit latrines by some communities, due to slow delivery of VIP sanitation facilities. They stated that pit latrines are unhygienic, produces bad odour which attract disease-carrying pests, and thus increases the potential for a spread of faecal related diseases to people. They further stated that it is during rainfall seasons that pit latrines poses the most danger as they collapse or become a threat to people utilizing them.

The participants from the community leadership mentioned the slow delivery of VIP facilities as a cause of frustration, particularly by the un-served communities who have been waiting to be served such facilities for years. They stated that slow delivery has sometimes resulted in communities engaging in service delivery protests in the NLM as has happened in Blaaubosch, section seven and in Soul City in the past, between 2010 and 2015.

The de-sludging of VIP sanitation facilities was cited by both the participants from the community and their leadership, as another challenge in the NLM. De-sludging of VIPs is performed by the municipality at fixed time intervals. Since some households direct more of their waste matter, such as washing machine and bath tubs water, to VIPs facilities, the increased volume of matter deposited into the VIPs mean they fill up much quicker now, compared to the past. The municipality’s de-sludging time intervals has not changed to

cope with this changing community behaviour. The community participants are of the opinion that de-sludging of VIPs should occur as soon as the household report that its VIP facilities is full, because if not they tend to overflow thus exposing their families to risks of diseases.

The municipality officials further recounted the difficulty of providing the areas of Jakkalaspan, Blaaubosch and Carvan (JBC) with waterborne sanitation facilities. Most areas in JBC are privately own. According to the municipal official, providing these areas with waterborne sewage requires that the municipality buy land from the landowners before putting in a sanitation infrastructure and connecting each household to waterborne sewage sanitation. Furthermore the municipal official was of the opinion that some of the households would need to be destructed to allow for the laying of underground sewage pipes. The municipal official indicated that such an activity would be costly.

The municipal officials stated that sewage blockages are caused mostly by the introduction of foreign matter to the sewerage pipes and is common in the industrial area, while water leaks result from an aging infrastructure. The municipal officials promised that these challenges are receiving municipal attention. They stated that the municipality is preparing by-laws, among other solutions, to deal with blockages, while it also awaits funding to solve the challenge of an ageing infrastructure.

The increasing population and number of households pose a challenge with regard to the provision of water and sanitation as it leads to an increase in backlogs in both the provision of clean drinking water and improved sanitation services in the NLM. The statistics of households with access to both clean drinking water and improved sanitation fluctuates and sometimes shows the regress in the number of households accessing these services. This happens when new settlements are created without being catered for with a water and sanitation services infrastructure as has happened in the area behind section H39.

Anticipating increased loads of sanitation matter, resulting from the increasing households, the municipal official stated that the municipality has expanded the sewage treatment works with the aim of increasing handling capacities. According to the municipal officials, the construction of sewage treatment works in KwaMathukusa, Madadeni and Osizweni

have been completed and are currently ready to handle increased sanitation loads. The western suburbs have the challenge of sewerage blockages and water and sewage leaks.

Most challenges in the eastern parts of the NLM seem to be as a result of poor planning from the municipality. The eastern NLM is where most urbanisation is currently taking place. Evidence of poor planning can be seen in H39, where settlements were located without being provided with clean water and adequate sanitation prior to their settlement. The area is incorrectly referred to as an “informal settlement” however; it has been planned as a settlement area by the municipality. The imminent development that is meant to improve service provision comes after seven years since communities were located without basic services in this area. More damage could already have been done at this time due to the lack of these basic essential services.

The poor state of sanitation facilities in schools was also mentioned to be disrupting education. According to community participants, sanitation facilities in schools are in a terrible state. The participants from the community in the eastern part stated that most of the sanitation facilities in schools are blocked, leaking, broken, and filthy and in most cases are without water. This information was verified by the interviewer through direct observation.

Mvilisi (2013: n. p.) stated that the poor sanitation infrastructure provided in many public schools in South Africa, undermines learners’ right to basic education and also poses a threat to personal hygiene and safety and may affect learners’ ability to concentrate. Poor sanitation is responsible for a high rate of absenteeism by girls during menstruation periods. Most toilet facilities in most school in the eastern parts of the NLM, especially those that have access to waterborne sanitation, are in a poor state of disrepair. Most toilets are not working and have water all over the floor. Most learners prefer holding themselves in until they use facilities at their homes rather than utilising school facilities. The community participants collaborated the Mvilisi report of a high rate of absenteeism, especially by girls due to poor sanitation facilities in the NLM schools.

4.3.3 The attitudes and influence of politicians in the transformation and governance support of service delivery

Asked about the attitude of politicians towards transforming communities through providing them with access to improved sanitation facilities, the interviewed participants from the community and the municipal officials alleged that some of the politicians are stumbling blocks in the delivery of improved sanitation services to households. They were supported by the municipal officials who attested that through neglecting their duties, some politicians, especially the councillors on the municipality level, sometimes fuel the frustration of communities with regard to the delivery of services.

The assertion of both the community participants and the municipal officials was alluded to by Tapela (2014: n. p.) who observed that the majority of service delivery protests, associated with water and sanitation, tend to occur in localities characterised by high levels of poverty, unemployment, rapid population growth, inequality, and erupt due to unmet expectations for water and related services. Coupled with perceptions that there seems to be no effective measures to deal with municipal councillors and officials who are perceived to be corrupt, incompetent, negligent and not downwardly accountable, such perceptions easily develop into anger and possibly protest action (Tapela, 2014: n. p.).

The municipal officials highlighted the water and sanitation service delivery related protests that engulfed some pockets of the NLM communities between 2010 and 2015, resulting from the lack of communication between the communities and the municipality. The municipal officials are of the opinion that service delivery protests resulted from failure by councillors to hold meetings at ward levels, a perceived act of negligence and lack of accountability. The municipal officials are further contended that the councillors did not hold ward meetings with its ward members as required by the municipal policy.

Explaining the role of councillors, the municipal officials pronounced that councillors have a responsibility to convey the needs of the communities to the municipality, as well as plans of the municipality to communities. They pointed out that ward meetings are a platform where the plans of the municipality are explained and the needs of the community are conveyed to decision-makers in the municipality. By failing to hold ward meetings with communities the communities are denied an opportunity to feed their needs and demands

to the municipality and therefore the municipality cannot satisfy the needs it has not been alerted about.

The participants from the community and the municipal officials are of the opinion that it is sometimes as a result of corruption and ineptitude that services delivery protests result. The municipal officials quoted the incident that took place in Soul City in 2014 as an example of corruption fuelled protest. In this ward, community members protested about the de-sludging of VIP facilities which they complained that they are performed for few households while other households were neglected. The community members indicated that the community households whose VIPs were de-sludged were either the friends or relatives of their ward councillor. They are of the opinion that for a community household to obtain a speedy service, the councillor had to get something in return, the statement perceived to imply bribery.

The representatives from the community stated that it was this inequality in the provision of services to community members by councillors, which was responsible for service delivery protest. The municipal officials blame the failure by councillors to hold meetings with community members to be the cause of frustration which ultimately erupts into public service protests by community members. According to the municipality officials, service delivery protests in the NLM usually subside once the municipality meet with and listens to the needs of the communities and also explain its plans to the community members. In the VIP de-sludging protest mentioned above, the municipal officials hinted that they called a meeting to listen to the cause for protest. Through performing de-sludging of overflowing VIPs and explaining the timeframes in which the municipality de-sludge their sanitation facilities, the protest was resolved.

The participants from the community lamented the poor commitment of some of the politicians who they perceive to be interested in their own gain during the construction of VIP sanitation facilities. According to them, the politicians award tenders to construction companies to building sanitation facilities for the communities. The construction companies awarded tenders are sometimes ill-equipped to perform such construction work. Poor quality work is produced by these construction companies in their bid to hurriedly complete their assigned duties. According to community participants, no follow up monitoring is done to verify the quality of the performed constructions. The process of

building poor sanitation facilities is counterproductive as they affect households in the queue to wait longer periods for their facilities.

According to the participants from community leadership the municipality also has to reconstruct the poorly constructed VIPs anew, thus delaying their distribution to other households that have not received them yet. The poor workmanship and the lack of monitoring, associated with the construction of sanitation facilities, is cited as evidence of poor commitment by politicians.

The provision of clean drinking water and improved sanitation facilities in the NLM also indicates unequal treatment of citizens within the municipality. The access to clean drinking water and sanitation still reflects a strong bias towards urban areas and areas historically occupied by white people. Backlogs in both clean drinking water and improved sanitation are subsequently concentrated in the eastern part of the NLM, which is predominantly inhabited by black people. When backlogs are in the western parts of the NLM, they are also concentrated in the areas mostly inhabited by the black population as is the case in the informal settlements of Siyahlala-la.

It is in communities inhabited by black people where challenges such as obtaining water from communal taps, having taps that do not dispense water, obtaining water from unreliable water trucks, water cuts that emanate from leaking taps or water pipes, using unimproved pit latrines and using shared sanitation facilities, abound. All the historically white neighbourhoods are adequately serviced with both clean water and sanitation.

The provision of improved sanitation facilities has not been as successful as the provision of water has, though. Maybe the notion that “water is for community and sanitation for a household”, sums up the challenge of providing each household with an improved sanitation facility (DWS, 2015: n. p.). The slow progress with which sanitation facilities are provided to households, frustrates community members and sometimes feed that perception that those that obtain them utilise corrupt methods.

4.4 Suggested strategies by community members to improve current levels of water and sanitation delivery in the NLM

Asked about the strategies they would recommend to the municipality to improve current levels of service delivery with regard to water and sanitation provision in their communities, the participants provided a range of differing responses. Participants from the rural communities stated that their livelihoods could improve if the municipality provide a water tap and the VIP facility inside the yard of each household. They feel that VIP sanitation facilities are safer and better manageable than the unimproved pit latrines which they currently utilize. They did however emphasise the need to de-sludge VIPs on a regular basis and that the municipality should be responsible for this.

The interviewed participants from the community and their leadership further stated that the municipality must improve the regularity with which water is supplied as their communities are subjected to constant water cuts, especially in townships, informal settlements and in rural areas. They believe that by installing water pipes in each household the wastage of water through leaks, can be lessened. The participants from the community and its leadership participants are of the opinion that by providing water to each household, water wastage, which is associated with the vandalising of community taps and neglected leakages, can be drastically reduced.

The participants from the community leadership called on the municipality to increase the number of reservoirs so as to avoid water shortages. According to the municipal officials, two water reservoirs are being constructed to augment water provision to the NLM communities and thus solve the problem of water shortages. The municipal officials corroborated that two reservoirs are currently under construction and are expected to be operational in the near future.

The interviewed participants from the community leadership, together with the municipal officials, further suggested that the municipality should employ more people with relevant skills in both sanitation and water supply services. They claim the number of employees working to provide these services to the NLM community is inadequate and some have limited skills. The municipal officials claim that it is due to limited staff numbers, that it

sometimes takes long periods to respond to the problems reported to the communities - by the municipalities.

The municipal officials and the participants from community leadership also suggested that the municipality must educate the public on the effects of dumping foreign matter has in the sewer pipelines. The participants from the community in western suburbs stated that they would appreciate it if the municipality replaced both the old water and sewerage infrastructure with new ones.

Asked to what extent have the provisions of water and sanitation services in the NLM improved and will improve in the near future? All the interviewed participants indicated that visible improvement has occurred towards providing access to water and sanitation to NLM communities. Improvements can be observed as one moves within different communities as his/her attention is captured by households with access to clean drinking water either in the streets or inside their yards, as well as the increase in numbers of households with access to waterborne or VIP sanitation facilities.

The municipal official stated that the municipality has responded to the challenge of inadequate water and sanitation infrastructure by constructing and revamping the bulk water treatment plant and water reservoir with the aim of increasing access to water by all its inhabitants. The municipality has also upgraded and extended sewerage plants so as to handle the increased sewerage load, resulting from the increased households connected to the municipal sewage.

While not all communities are served with clean drinking water and improved sanitation, the municipal official insisted that progress is being made in transforming Newcastle communities for better. The municipal officials cited the conversion of VIPs and the installation of water to each household in section E and F, Osizweni and section 7 at Madadeni, as an indication of progress being made to transform the lives of ordinary people for better. Such positive development was confirmed by people in these communities who were visibly happy about the services they have received from the municipality.

The participants from the community leadership and the municipal officials drew attention to the fact that all rural households will be provided with VIP sanitation facilities in due course until every household have access to VIP facilities in these communities. They emphasised that the municipality aims to eradicate all unimproved pit latrines and replace them with improved sanitation facilities. They pointed out that while the municipality plans to provide each household with access to an improved sanitation facility, it can only afford to provide a certain percentage of VIP facilities to households annually because of financial limitations.

Looking at the provision of sanitation facilities in the rural communities, it was encouraging to note the visible progress that has been achieved in supplying most households with VIP sanitation facilities. The municipal officials estimated that more than 70% of the rural communities have access to improved VIP sanitation facilities currently, which the participants from the community cited are de-sludged by the municipality. It was in particular, the rural areas under Ubuhlebomzinyathi tribal authority, which is the second largest rural community after Blaaubosch in the NLM, where major progress is visible in the provision of VIP sanitation facilities. What became a challenge was to identify households that have not yet been provided with VIP facilities and the community without communal taps along the street.

The most notable positive development was to witness the construction of VIP sanitation facilities before new houses are constructed in rural communities, under this tribal authority. Such observation is uncommon in rural areas, but encouraging. It is also in this tribal authority where communities were provided with water tanks to harvest rainfall which should be used for irrigating crops. Progress in this tribal authority far outshines that found under AmaHlubi tribal authority households and other rural communities under the NLM. The dissatisfaction which sometimes degenerates to service protests, among some community members in the NLM, seems to stem from their comparison of the level of service delivery between their communities and those under Ubuhlebomzinyathi tribal authority.

According to the municipal officials, the municipality plans to reticulate the area of Blaaubosch with water and sewage infrastructure. The feasibility study with regard to clean drinking water pipe reticulation, sewage reticulation and housing construction, has

been undertaken in this community and the development plans are in the stages of being approved. The municipal officials concluded by citing that the commencement of developments in Blaaubosch will depend on the successful purchase of land from land owners by the municipality.

Housing construction began in 2014 in Siyahlala-la informal settlements. The houses that will be built for the communities in this area will be fitted with water and waterborne sanitation inside. Again, in H39, housing development commenced as from April 2015. Construction companies are, presently, laying the water and sewerage infrastructure underground and will follow with the commencement of housing construction in these settlements. Municipal officials indicated that the houses to be constructed in H39 will also include water and waterborne sanitation facilities inside the dwellings.

It is noteworthy that the NLM has been doing exceptionally well in complying with South Africa's national water quality standards. Becoming number two in the Blue Drop Awards in KZN in 2012 the municipality has consistently maintained a good record of supplying quality water to its people. Afri-forum confirmed that NLM has continued to provide clean water in 2013,2014 and 2015 respectively that surpasses the required minimum national quality standards (Juan, 2015: n. p.).

It is in the wastewater management standard that the NLM is found wanting. South Africa's national water quality standards make allowance for 1 000 units of E. coli per 100 ml of water in treated sewage. In 2015 the municipality failed to meet the Green Drop quality standards. The waste water had an Ecoli count of 10 000 units per 100ml and therefore was not compliant green Drop quality standard. The statistics for 2012, 2013 and 2014 was unavailable (Juan, 2015: n. p. & Rautenbach, 2016: n. p.). It is imperative that the NLM improve its handling of wastewater.

4.5 Conclusion

The information collected from the informants relates a promising, yet daunting story about the advances made by the NLM in providing clean drinking water and an improved sanitation service to its people. The increased number of households served with clean drinking water and improved sanitation since 1994, signals the improvement and the

commitment that the NLM is making towards transforming the lives of its communities for the better. The pace of delivery of these services to communities however, reveals the challenges that still lie ahead. Comparing the east and the west part of the NLM, it becomes evident that more still need to be done if the idea of providing equal access to clean water and sanitation is to succeed.

The municipality aims at meeting the objectives of the national government of providing people with basic water and improved sanitation services. From the interviews with the participants from the community and its leadership it became clear that it is mostly the communities in the eastern parts on the NLM that are most frustrated with the level of service delivery they are provided with. Among the causes of frustration are location of communal standpipes outside their yards and its associated problems of leaks and vandalism. Some community members feel the communal taps are inconvenient and are associated with water cuts. They cite the distance they still need to travel to collect water as limiting them in performing all the functions they would if water was to be inside their yards or dwellings. They also cited the challenge they normally face if VIP are not de-sludged in time.

From the findings in of this study, it is also evident that NLM needs a well-coordinated and pro-active governance and management of clean water and adequate sanitation if it was to successfully and equally provide universal clean drinking water and improved sanitation services to its people. Such governance requires that all stakeholders commit themselves towards transforming communities for the better. Proper and effective management could be helpful in ensuring that the scarce resources needed to transform communities, are utilised judiciously for the equal benefit of all in the NLM. It would further require skilful and insightful personnel in the municipality to successfully drive the vehicle of sustainable service delivery. The following chapter will focus on the conclusion and the recommendations that can be implemented to achieve equal excess to water and improved sanitation in the NLM.

Chapter 5: Conclusion and Recommendations

5.1 Introduction

The previous chapter dealt with the findings deduced from the field study, conducted in the NLM. Analysis was conducted with the aim of highlighting the state of clean drinking water and improved sanitation service delivery within the NLM, from the perspective of the municipality and community.

The study set to achieve the following objectives: to determine the perception of people in the NLM with regards to the delivery of water and sanitation services by the municipality; to investigate the current strategies employed by the municipality in the endeavour to supply good quality water and sanitation to the people in the municipality; to investigate and establish the attitudes and the influence of the politicians in the transformation and the governance support of service delivery with regards to water and sanitation in this municipality; and to explore the challenges that the NLM face in the delivery of water and sanitation services to previously un-serviced areas.

5.2 The delivery of clean drinking water and improved sanitation services are still highly unequal in the NLM

The study results reveal improved access to water and sanitation resources by the people in the NLM. While improvements have reportedly been achieved in the provision of services, the study results also reveals that there is inequality in the access of both clean drinking water and improved sanitation in the NLM. There is better access to both clean drinking water and improved sanitation services to the communities in the western suburbs, compared to the communities in the east. Such inequality became evident when one considers that, water cuts, communal taps with its associated water leaks and unimproved pit latrines, are common in the eastern NLM compared to the western suburbs, where communities receive water inside dwellings and utilise waterborne sanitation facilities.

5.3 Historically un-serviced communities suffer from backlogs in services.

The study also revealed that there are huge clean drinking water and improved sanitation backlogs in the eastern parts of the NLM compared to the western suburbs. What became evident is that the historically un-serviced areas still suffer from both clean drinking water and improved sanitation backlogs. There is a shortage of bulk water and sanitation infrastructure in the NLM. This shortage has resulted that most of the areas in the eastern parts are not reticulated, either with clean drinking water or sanitation infrastructure. In the western parts it is in areas such as Siyahlala-la where backlogs exist. Most communities with water and sanitation service backlogs are still confined into utilising communal taps and unimproved pit latrines or VIP sanitation, whereas most would prefer to utilise waterborne sanitation facilities.

5.4 Perceptions about water and sanitation delivery differ in the NLM.

The upgrading of the bulk water and sanitation infrastructure is a positive development on the side of the municipality. Water cuts, which are common in the township and rural areas, and inadequate sanitation facilities, have been blamed on the insufficient bulk water and sewage infrastructure. The upgrading of water treatment plants and reservoirs, as well as the expansion of the sewer treatment plants, indicate that the municipality intends on providing access to water and sanitation services to its communities. Such upgrades will help relieve the demand placed by increasing households who now have to access water and sanitation services from the NLM.

The communities in the western suburbs are mostly satisfied with the delivery of both water and sanitation services. This is in spite of the occasional water cuts, due to a burst or leaking infrastructure. A feeling of satisfaction is also be felt among the communities of section seven in Madadeni and parts of section E and F in Osizweni, who feel that positive strides are being made in the provision of clean water and improved sanitation facilities in their communities. Today, most of the households in these sections no longer spend hours collecting water or extracting water from unprotected sources, as they access water and waterborne sanitation facilities inside their yards. The provision of water and sanitation facilities provided people in these communities with an opportunity to undertake other productive activities such as attending school, caring for children or doing business;

activities that could help develop themselves. All households in these sections are provided with water within the yards, while only a few households remain un-served with waterborne sanitation.

Some of the communities are however dissatisfied with the methods that are used to deliver water and sanitation to them. The provision of water through communal taps was initially welcomed as a positive development by the communities in rural and informal settlements. The challenges associated with water disruptions, which usually lead to water cuts, deprive these communities of access to water. Water disruptions, are mostly as a result of leaks and burst pipes. The situation is compounded by the inability by the municipality to maintain water and sanitation infrastructure. Broken taps sometimes end up being permanently closed which, in turn, compels community members to travel more than 200m to collect their household water.

Collecting water from far distances places a burden on households, especially the sick and elderly. The use of unimproved sanitation facilities and communal taps in some of the communities remains a blemish in the promising image of service delivery in the NLM. Illegal water connections and service delivery protests are strategies by which some household members express their desire to have water inside their dwellings, like other served communities.

5.5 Communities perceive politicians to not be in touch with their plight

Poor communication between the councillors and community members is a challenge that breeds frustration on the side of community members. The failure by some councillors to consult and explain methods that the NLM will follow in delivering services, such as VIPs and other services to communities, result in communities feeling neglected, frustrated and eventually forced to embark on protest action.

The construction and de-sludging of VIP poses a challenge to user communities and to the municipality's attempt to eradicate unimproved sanitation facilities. Poor constructed VIPs waste the municipality's finances when collapsing VIPs has to be rebuilt. Poor households are also robbed of the opportunity to access improved sanitation facilities, as they have to wait longer periods to be provided with these facilities. The time periods it

takes to de-sludge the VIP sanitation facilities does not take into consideration the increased volume being deposited into these facilities overtime.

The shortage of skilled water and sanitation engineers impacts negatively on the provision of these services to people. The shortage of skilled personnel needed to repair and maintain the water and sewage infrastructure, delays the provision of these services to the intended recipients thus increasing the opportunities of service delivery protests by people who feel their needs are ignored.

5.6 The attitude of communities towards services rendered is counterproductive to effective service delivery

The attitude of different community members towards the caring and the maintenance of the water infrastructure meant for their benefit, is counter-productive at the least. Some of the hardships encountered in the eastern parts of NLM are the consequences of irresponsible actions on the part of the community. The unwillingness to pay for water and sanitation services, a practice undertaken even by those who can afford to pay, robs the municipality of funds it should be utilising to improve the provision of water and sanitation in the municipality. Illegal connections, the use of inappropriate materials to connect water and the inability to repair leaking pipes and taps, result in water cuts and ultimately lack of access to water by these households.

5.7 The municipality is challenged by a lack of employees with technical skills in the water and sanitation sector

There also seem to be a shortage of skilled personnel to operate, manage and maintain the water and sanitation infrastructure which, in turn, poses a challenge in the provision of water and sanitation services in the NLM. The insufficient number of people employed to maintain the water and sanitation infrastructure result in a slow pace in fixing burst or broken taps and blocked sanitation facilities. Blocked and damaged sewerage pipes overflow on the streets, posing health risks to people and contaminates potable water in streams. Due to the shortage of employees with technical skills, communal taps leak for weeks with the possibility of getting permanently closed rather than fixed. Water leaks

sometimes result in households down the end of the line, having no access to clean drinking water.

5.8 Recommendations

- ❖ Develop and maintain the water and sanitation infrastructure with the community's needs in mind.

- ➢ The municipality should replace the deteriorating infrastructure with the new one in the western suburbs. This will assist in saving water and preventing unnecessary water cuts and the spending of money on hiring water trucks.

- ➢ The politicians, in consultation with the town planners from the municipality, must ensure that the water and sanitation infrastructure is laid in the places where settlements are planned to be located.

- ➢ The municipality must also increase water treatment plants and reservoirs so as to increase water production capacity and storage of treated water in order to thus reduce water cuts.

- ➢ The municipality must try and provide clean drinking water inside each yard that utilises communal taps. This can assist with reducing water leaks and the vandalizing of taps, thereby consequently reducing water cuts.

- ❖ **Obtain and retain critical technical skills**

- ➢ The municipality must employ and train enough people to operate, manage and maintain the water and sanitation infrastructure. Such personnel must deal with water leaks and burst pipes in the communities in order to minimise water wastage and ensure the smooth access of water by communities. It must also monitor the construction projects, thus ensuring quality and durable work.

- ❖ **Improve the management of municipal revenue**

- ➢ The municipality must collect revenue from the community for using services such as water and sanitation every month. The implementation of smart metres that

automatically switches off when the specified amount of water has been exhausted can be utilised to compel people to hold users accountable and liable for the amount of water they utilise.

- The municipality must update and implement the by-laws that will hold households accountable for the services they use. By-laws should assist in averting the challenges of illegal connection of water and blocked sanitation sewages due to illegal dumping of foreign matter to sewage pipes.

❖ **Improve communication between the NLM and the community it serve**

- Communities where services will be improved must be consulted regularly and education about the maintenance of the water and sanitation infrastructure must be performed so as to reduce the incidences of infrastructure vandalism and blockages caused by depositing foreign matter in them.

- IDP processes must be fully consultative. This requires that meaningful community consultation be done on existing and new IDPs to ensure that planning is responsive and community-specific.

- The municipality must revisit the time frames with which it de-sludges the VIP sanitation facilities. De-sludging VIP sanitation facilities must be done frequently since households have increased the load that they deposit into them.

5.9 Conclusion

This chapter consolidated the findings of the study conducted, with the aim of determining the gaps that exist between water and sanitation policies and what is actually happening in the NLM with regards to the delivery of water and sanitation services. It analysed the perception different stakeholders have with the provision of these services South Africa in general and in the NLM in particular.

The influence of global community is evident in water and sanitation policies in South Africa. The slogan “water is life, sanitation is dignity” indicates the seriousness with which the government views access to water and sanitation services. This slogan can be traced

in the Universal Declaration of Human Rights. Human rights feature prominently in the provision of water and sanitation services in South Africa. From the global perspective, it is also encouraging to note that South Africa subscribes to the undertakings and timeframes set by global communities in delivering water and sanitation services to its people. The targets set in the MDG of halving the proportion of people with access to water and sanitation services by 2015 have long been met by the country. There is however still a long way to go in providing access to improved sanitation to all in South Africa. It is also encouraging to learn that South Africa set itself targets outside that of MDG to ensure access to improved sanitation facilities and to quality water supply to all its people even before 2015.

It is without doubt that since the democratically elected government came into power, the number of people who accessed clean drinking water and improved sanitation, increased. At the national level, the literature paints the promising picture of the increased access to both clean drinking water and improved sanitation services. Literature also paints a glossy picture of service delivery by communities within the NLM jurisdiction.

What has been observed at different communities, however, put the constant upheavals related to access to water and sanitation to perspective. Observations in some parts of the NLM, like in Soul City, where communities struggle to access clean drinking water and in most rural areas where people have no access to improved sanitation displays a gloomy state of water and sanitation delivery. It shows the distance the municipalities have to cover before the service delivery protests ceases. The journey towards equal access to water and sanitation services requires that the municipalities always consider the benefits access to both clean drinking water and improved sanitation have on people and in the country and remain committed towards providing both these services to people in their entirety. It is also of utmost importance that the government not only assume that the infrastructure laid on the ground benefits all people, but to ensure that it actually benefits people it is meant to benefit.

Moreover, in delivering water to communities the government, both locally and nationally, should take into cognisance that water is required for more than mere drinking or domestic purposes. In providing water to its communities, the municipality should remember that water sustains different aspects of life, including food production, tourism and therefore

the alleviation of poverty might be rested on how willing is it to deliver those services to people. The government should also remember the interdependence that exists between water and sanitation. By providing sanitation to communities the government should know that it also protect water resources.

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Participants A. Municipal Officials. Interviewed from 26 to 8 September 2014.

Participants B. Community participants. Interviewed from 23 September to 28 November 2014.

Appendix A

Community Interview Schedules

Water and Sanitation Service Delivery

Water

Where does the water you use for drinking, cooking and bathing (domestic use) come from? If this source is not the municipal tap inside the dwelling, where is this source located? Explain distance from the household/inside the yard, etc.

_____
_____
_____
_____
_____

Most municipalities charge a fee for water service to its community members. Is water services generally paid for by the community members such as yourself and why do people not pay for water services. How do those people who do not pay access water services?

_____
_____
_____
_____

What challenges do you normally experience in relation to water services in your area and how do these challenges affect your life? Explain in detail.

_____
_____
_____
_____

Sanitation

What type of sanitation facility do you use every day? Where is this facility located?

_____
_____
_____
_____

How widespread is access to adequate access to sanitation? In other words, how many of the households in your community do you think have adequate access to sanitation? Do you think this is adequate? Explain why you say this.

_____
_____
_____
_____

What challenges do you experience with regard to sanitation provision in your area and how does it affect your community?

_____
_____
_____
_____

Suggest what type of sanitation would you ideally like to be provided with and why?

_____
_____
_____
_____

What strategy would you recommend to the municipality to improve their current level of service delivery with regard to water and sanitation provision in the community?

_____
_____

Appendix B

Municipal Officials Interview Schedule

Water

1. In looking at the areas under the NLM with regards to clean water and sanitation – which areas would you regard as underserviced and why?

   _____
   _____
   _____
   _____

2. What are the challenges with providing those communities without adequate access to clean water?

   _____
   _____
   _____
   _____

3. In your experience, how do communities without adequate water inside their yards receive water?

   _____
   _____
   _____
   _____

4. People protested about water and sanitation service delivery at Madadeni, Blaaubosch and Siyahlalala. In your view, what were the causes of dissatisfaction within these communities? How were their sources of dissatisfaction addressed after protests?

   _____
   _____
   _____

Sanitation

1. In your experience, to what extent are households under the NLM serviced with regard to proper sanitation facilities? Which areas, in your view, still have room for improvement in their sanitation access in the NLM and why do you think so?

_____
_____
_____
_____
_____

2. In your view, those households that do not have access to adequate sanitation, how do they manage without this service in their day to day lives? What options do they generally employ with regard to sanitation?

_____
_____
_____
_____

3. What challenges does the NLM experience in providing sanitation facilities to its communities?

_____
_____
_____
_____

4. To what extent do you think that the provision of water and sanitation services to all households in the NLM have improved and will be improved in the near future (within the next five to ten years)? Explain further, giving examples of successful implementation and planned projects?

_____
_____
_____

Appendix C

OFFICE OF THE MUNICIPAL MANAGER

REFERENCE : MM 13/16/2
ENQUIRIES : H MANQELE
EXTENSION : 7753
DATE : 26/08/2014

TO: SED TECHNICAL SERVICES
NEWCASTLE MUNICIPALITY

memorandum

AUTHORISATION TO CONDUCT RESEARCH

Please find two (2) requestst from Mr Madi and Ms Shezi to conduct research in your department. They are enrolled with different institutions for Masters programme.

Kindly give them permission, in writing, to conduct their studies and to interview personnel in your department who can be of assistance, when it is convenient. Authorization should be valid from the time they commence with data collection until their studies are completed or a written notice is received. On completion, the findings of their studies should be made available to the municipality.

Attached hereto please find the requests and letters from the institutions.

Your cooperation in this regard is highly valued.

.....
K. MASANGE
MUNICIPAL MANAGER