

UNIVERSITY OF KWAZULU-NATAL

**AN ASSESSMENT OF REVENUE MANAGEMENT OF WATER AND
SANITATION: A CASE OF HARRY GWALA DISTRICT MUNICIPALITY**

by

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ABSTRACT

Rural municipalities in South Africa are beset by poor revenue collection and management and the Harry Gwala District Municipality is no exception. In this regard, public finance is a decisive and overriding factor in determining the financial viability of municipalities. Failure to collect revenues properly compromises the quality of service delivery including the provision of water and sanitation. In general, financial viability of urban and rural municipalities differs respectively. This claim is based on the fact that some municipalities are self-sufficient while others remain dependent on national revenue for survival and the revenue base in most rural municipalities, including the Harry Gwala District Municipality, is weak and unsustainable rendering service delivery ineffective and unsatisfactory. Arguably, the transition to democracy has instilled a culture of non-payment and a culture of entitlement even though households are able to pay for service charges. However, 22 years later the government is still providing free services to such individuals. The study intended to assess the revenue management of water and sanitation in the Harry Gwala District Municipality. The study explored the communication challenges being experienced by this municipality in the provision of metered services in water and sanitation service delivery. The study assessed the challenges relating to the billing system and to the management of the revenue collection for water and sanitation in the Harry Gwala District Municipality. Data collection methods were interviews as the primary data collection strategy. The researcher interviewed 4 focus groups. The instrument that was used was interview guides. Based on the empirical data collected and analysed, the study was able to determine the financial standpoint for the municipality along with the recommendations. The study recommends how best the local authorities or Water Services Authorities can improve water and sanitation revenue inflows to ensure availability and sustainability of revenue sources in order to operate, maintain and refurbish the existing infrastructure.

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ACRONYMS

ANC	African National Congress
ASGISA	Accelerated and Shared Growth Initiative for SA
CAPEX	Capital Expenditure
CBOs	Community Based Organizations
CMA	Catchment Management Agency
DORA	Division of Revenue Act
GEAR	Growth Economic Accelerated Redistribution
HGDM	The Harry Gwala District Municipality
LED	Local Economic Development
LM	Local Municipality
MDGs	Millennium Development Goals
MIIU	Municipal Infrastructure Investment Unit
MTREF	Medium Term Revenue and Expenditure Framework
NDP	National Development Plan
NGO	Non-Governmental Organization
NRW	Non- Revenue Water
RDP	Reconstruction Development Programme
SANS	South African National Standard
SARPA	South African Revenue Protection Association
SDG	Sustainable Development Goals
SOEs	State-owned Enterprises
UKZN	University of KwaZulu-Natal
USAID	United States Agency for International Development
WC/WDM	Water Conservation and Water Demand Management
WSA	Water Services Authority
WSDP	Water Services Development Plan

CHAPTER ONE

INTRODUCTION AND BACKGROUND OF THE STUDY

1.1 INTRODUCTION

The main purpose of the study was to assess revenue management of water and sanitation services in the Harry Gwala District Municipality in KwaZulu-Natal. Finance is usually considered as the overriding factor in determining financial viability of local government, without sound financial management, local government operations will become unviable (Kanyane, 2011). According to Mazibuko and Fourie (2013) municipal finance refers to municipal government's revenue collection and expenditure decisions. In support of Kanyane (2011), Mazibuko and Fourie (2013) argue that municipalities cannot deliver services to the citizens if they do not have sufficient municipal finances generated from taxes, levies, rates and service charges paid by the consumers for municipal services. According to Mazibuko and Fourie (2013) the national and provincial transfers are not a substitute for the municipality's own revenue. Households, business institution and other institutions that can afford to pay, in all Municipalities, should pay rates and the full cost of the services they receive except the free basic water which is 6kl as per the Harry Gwala Water and Sanitation Municipal bylaws. *The Constitution of the Republic of South Africa of 1996* states that national transfers may not compensate municipalities that fail to generate their own revenues in line with their fiscal capacity. Most municipalities are becoming increasingly dependent on National transfers (e.g. Municipal Infrastructure Grant) to fund their capital projects, which is not a trend that is sustainable, because this means that the municipal services are not covering the infrastructure costs. The fiscal capacity of municipalities depends on their fiscal efforts to employ an effective revenue collection and management model.

Service provision to the citizenry requires financial sustainability to enable local government institutions to fulfil their constitutional and legislative mandates. In essence, the sources of revenue for municipalities are the following key sources, namely: equitable share, grants and locally generated revenue. The state is a driver and facilitator of socio-economic development. The state then as a driver and facilitator of socio-economic development should have fiscal capacity and ability to generate revenue and further identify other sources of revenue to fulfil its constitutional mandate. This development incorporates the provision of basic adequate municipal services. Drawing on Asmah-Andoh's (2009) work, Motsoeneng and Hanyane (2013) argue that development seeks to improve the quality of the lives of

citizens and to promote their well-being. This involves the provision of improved equitable access of citizens to the distribution of public resources. Local government should deepen local democracy and socio-economic development of a particular society. The notion of developmental local government in South Africa is hypothesised on the basis of a developmental state which emphasises popular consultation of citizens in government affairs (Motsoeneng & Hanyane, 2013).

The constitutional framework of South Africa has created three different spheres of government; national, provincial and local. All these spheres are interdependent and interrelated (Nealer, 2014). However, each of the spheres is distinct in nature and has executive and legislative autonomy as enshrined in the Constitution. The system of government in South Africa is not federal, but it is a unitary decentralised system of government. There is a very clear distinction between political power and administrative accountability. Local governments in South Africa partially depend on the fiscal transfers from the national sphere of government to render other public goods and services and they have fiscal power to raise property taxes and user charges from those consumers who are eligible to pay for such taxes (USAID, n.d).

The unitary decentralised system of government in South Africa should enhance efficiency and promote responsive and accountable local government. However, the capacity of local government to produce positive results within its fiscal power to achieve this has limitations in all developing countries (USAID, n.d). The municipalities in South Africa are beset by poor revenue collection and the Harry Gwala District Municipality is no exception. In this regard, public finance is a decisive and overriding factor in determining the financial viability of municipalities. The failure to collect revenues systematically compromises the quality of service delivery, which includes the provision of quality water services and adequate sanitation to the communities. Over the last two decades there have been drastic changes in government operations which resulted in innovations both in organisational structures and systems of government aimed at improving public service delivery. Hence, during the transition from the apartheid era to a democratic South Africa, the adoption of the *Constitution of the Republic of South Africa of 1996* aimed at creating and developing decentralised structures consisting of separate, but interrelated and interdependent government spheres at the National, Provincial and Local Government levels. South Africa also witnessed large racially segregated municipalities, which added up to 800 in total, being merged into 278 municipalities (Nealer, 2014). The merger of municipalities was done in

order to redistribute resources more equitably between rich white municipalities and poor black municipalities. This move served to alleviate the plight of under-funded and poor municipalities whose residents were incapable of paying rates due to poverty created by Apartheid policies. Kumar, Moodley and Reddy (2003) contextualise statutory reform in local government financing as the process whereby all the spheres of government experienced change and reappraisal. They further make the point that the apartheid systems did not reflect the needs of the broad mass of the South African people, hence parliament reviewed local government legislation to improve systems and processes to ensure effective, efficient and economic service delivery.

Financial resource is a crucial aspect in government as the driver of quality service delivery. In the decentralised country like South Africa, the local government has been mandated to provide basic needs to the communities within its area of jurisdiction. Hence section 152 of the *Constitution of the Republic of South Africa of 1996* clearly describes the objects of local government which includes the injunction to municipalities to adopt, within their financial capacity, an excellent financial management system. In this regard Nkuma (2011) views public finance as an essential instrument used for allocation, mobilisation and utilisation of resources in a cost-effective manner to reach the development objectives. This should accelerate high levels of social development and economic growth.

From the previous discussion it is clear that public finance forms a key factor in development. However, it is important to note that, for the government to embrace developmental objectives; adequate sources of revenue become a prerequisite. From a local government point of view, there are various sources that are in place to fund the mandate of the local sphere of government such as service charges. Ngwakwe (2012) points out that local government has a bigger fiscal capacity as opposed to the provincial government. Furthermore; municipalities generate revenues through property tax and turnover regional levies imposed on business as well as user charges on the usage of water and sanitation and electricity. As such, the municipalities have their own direct collection agency and capacity to collect their own municipal revenue.

Sing (2003) as cited in Reddy, Sing and Moodley (2003) makes the point that local government financing for capital and infrastructural development is almost entirely funded by the national government through both conditional and unconditional grants and the funds are distributed to local government departments through the national transfer system. Sing further states that a conditional grant is the allocation of funds that are transferred from one

department of government to be distributed to local departments subject to the fulfilment or delivery of a service. These conditional grants are administered by different departments like the Department of Water Affairs, Forestry, and Treasury, Provincial and Co-operative government (Sing, 2003).

As promulgated in the *Intergovernmental Fiscal Review (2000)* municipalities are required to apply for financial support for infrastructural projects which they identify to be priorities in their localities. The National Treasury will consider the application and if they are satisfied with the application, the national transfer of a local support grant will be actioned and the municipal project will be fully funded. The management of the fund disbursements, however, will be undertaken by the Treasury Department (Sing, 2003). It is clear that conditional grants are a type of discretionary fund that are disbursed to local municipalities on the basis of some kind of merit claimed by the municipality.

Then there is the unconditional grant which is a kind of a constitutional imperative under the principle of equitable share of national revenue (Reddy & Yorke, 2003). Reddy and Yorke (2003) pointed out that there are no prescribed criteria on how the unconditional grants should be utilised but the expectation is that the funds should be used for the provision of basic services mainly to indigents and to municipally assigned duties. Though there is no prescription on how the unconditional grants are to be used, there are rigorous accountability systems put in place by treasury to minimise abuse of the funds. Sing (2003) argues that the formula for allocating funding to municipalities has two major components i.e. the **I** grant which supports municipalities with limited capacity like for example those with existing infrastructural and developmental backlogs and the **S** grant which is mainly for supporting all municipalities in their provision of basic services.

From the above discussion, one can conclude that funding for municipalities is mainly from two sources which are: internal sources arising from those generated by municipalities through revenue collections of rates and levies and funding from the Treasury Department. The latter is the major provider of local government finance and is used mainly for infrastructural development projects, operations and maintenance of municipal infrastructure.

1.2 CREATIVITY AND INNOVATIVENESS RELATIVE TO NEW SOURCES OF LOCAL GOVERNMENT REVENUE

Section 195(1) of the *Constitution of the Republic of South Africa* provides for a creative and innovative local government through the setting out of the fundamentals of a development-oriented Local Economic Development (LED) scheme (Sing, 2003). Local government institutions are now expected to be innovative in finding ways to stimulate economic development using their powers. The move to increase economic growth in municipalities will bring in additional revenue through increased investments, productivity and so on. This effectively means that the onus of stimulating economic growth and promoting investment is no longer the prerogative of national and provincial government. The innovativeness must encompass the involvement of community stakeholders like members of the business community, residents of respective municipalities with a view to harnessing of ideas that prompt investment opportunities that will result in employment-creation and the uplifting of living standards of the citizens.

Local government innovativeness and creativity should revolve around creating business opportunities by making available affordable land for setting up of businesses. This innovation can act as a form of job creation opportunity and, in this way, address the triple challenges of unemployment, inequality and poverty that the country is faced with.

The effective way to promote innovativeness and creativity is for municipal departments to identify and formulate projects that are sustainable and viable business projects that will create investment opportunities. Once these projects have been identified, the municipality should draw up a detailed business plan that comprises project specifications, description, project duration, sustainability, the management structure of the project, and present and future financial needs of the project (Sing, 2003). Should the Municipal Infrastructure Investment Unit (MIIU) approve of the project, funding should be disbursed for the commencement of the project. Thus municipal authorities are now required to think outside the box and to identify, adopt, and implement investment projects that create development and employment opportunities in their domains. But the department of local government emphasises the need to partner with private sector organisations if the projects are to be sustainable. Also, as part of this partnership, the private sector can be made to finance municipal debt, and to build, design and manage certain projects (Sing, 2003).

Apart from creating and designing viable and sustainable projects in their domains, Sing (2003) makes the point that municipalities should undertake a paradigm shift in accounting by adopting generally accepted municipal accounting practices in preparing their financial statements, as opposed to the continued use of old fashioned provincial ordinances. This issue is complex. As a result the use of the *Municipal Handbook of Accounting*, which has all the statutory guidelines of the generally accepted accounting practices, is recommended. In addition to the above, local government institutions should undertake budgetary reforms that will result in the reduction of adverse variances in income and expenditure. Budgetary reforms should encompass tight monitoring of expenditure and the, adoption of best practices in budget formulation and implementation.

Innovativeness and creativity can further generate additional revenue for local authorities through adopting some new public management principles which have been widely adopted in most developed countries. Keraudren and Mierlo (2007) point out that the new public management principles encapsulate the works of many authors who include Pollitt (1990), Hood (1990), and Wash (1995) as pointed out in Pollitt & Bouckaert, (2000). The main propositions of this theory are that public institutions can improve revenue generation through the following policy decisions (Keraudren & Mierlo, 2007):

- Commercialise municipal-owned assets. This entails running municipal institutions and providing services along private sector lines which can bring in additional revenue to the municipalities;
- Privatised certain local government institutions and services which will bring in additional revenues; and
- Expand and enforce the user-pay principle.

Introducing competition in the provision of services so as to bid down prices, save costs and money which local government institutions can then channel to other high priority projects should be undertaken together with the outsourcing of certain services to private companies and individuals who can provide them more economically and efficiently. If outsourcing is done to providers who can supply these services at a better rate then this becomes a de facto source of revenue in that the savings become new revenue available for use on other projects (Keraudren & Mierlo, 2007).

The municipalities must take a proactive approach to formulating policies that make it easier for people to start and to run income-generating projects without asking them to undertake

costly and time-consuming bureaucratic procedures which often lead to people getting frustrated and giving up on their dreams. To alleviate poverty the municipality must find the means of helping the indigent population to access affordable loans to start projects like small-scale poultry projects, flower cultivation, carpentry, shoe making and many others. People should be encouraged to become self-sufficient entrepreneurs, rather than solely expecting central government to fund municipalities (Keraudren & Mierlo, 2007). As more and more people are assisted to become entrepreneurs, poverty is reduced and many people become eligible to pay for water and sanitation services which in turn will capacitate municipalities to improve service delivery due to increased revenue inflows.

The second approach according to Keraudren and Mierlo (2007) involves taking a calculated move to go on an education campaign to inculcate a culture of paying for municipal services. Without this culture municipalities are going to have a hard time collecting water and sanitation revenue from income earning residents who in some cases lack patriotism. This strategy must be accompanied by an image building exercise centred on integrity, accountability, excellent performance, honesty and 'corruption-busting' strategies so as to persuade reluctant residents to pay for water and sanitation services. The rationale behind this strategy is the fact that residents complain that they are being forced to pay for poor quality water and sanitation services. Thus excellent water and sanitation service provision will go a long way towards convincing income earning residents to pay. This increase in the municipality's income-earning capacity will have a positive effect on water and sanitation service delivery.

1.3 THE HARRY GWALA DISTRICT MUNICIPALITY

The Harry Gwala District Municipality falls under the bracket of those municipalities that partially benefited from the merger of municipalities. The Harry Gwala District Municipality is composed of five local municipalities under its area of jurisdiction, and is located in the South of the province of KwaZulu-Natal. It is a Category C municipality which is responsible for water and sanitation services. The Harry Gwala District Municipality has Water Service Authority status as stipulated in the *Municipal Structures Act* or the *Municipal Authorisation*. This means that the Harry Gwala District Municipality is responsible for the provision of potable water and adequate sanitation services to its consumers and customers. The municipalities that were being serviced by Harry Gwala District municipality are Ubuhlebezwe, Umzimkhulu, Ingwe, Greater Kokstad and KwaSani. However, Ingwe and KwaSani have recently amalgamated in order to form one municipality called Nkosazana

Dlamini-Zuma, now there are only four local municipalities in the Harry Gwala District (*Daily News*, 22 January, 2016).

Figure 1.1: Location of the Harry Gwala DM (Sisonke DM) in KwaZulu-Natal Province



Source: Integrated Development Plan (2014/15)

The municipalities are diverse and operate in distinctive social, demographic and economic spaces. These unique characteristics have a very important impact on municipal performance and the successive strategies required to ensure a well-functioning local government structure. Within the province of KwaZulu-Natal there are both economically vibrant urban municipalities and sparsely populated rural municipalities.

The Metropolitan Municipalities (Category A) and District Municipalities (Category C) are responsible for water services as stipulated in the *Municipal Structures Act* or the ministerial authorisations made in terms of the *Municipal Structures Act*. This means that District Municipalities are responsible for the provision of potable water and sanitation services to its consumers and customers. Since the study is in the Harry Gwala District Municipality, the research will specifically look at the revenue management on service delivery of Water and Sanitation services in the municipalities which fall under this District.

In South Africa, Section 153 of the Constitution makes provision for the establishment of municipal structures and further obligates the municipalities to provide clean water and adequate sanitation to its citizens. In order to achieve this objective, the *Water Services Act*,

(Act 108 of 1997) was promulgated to legislate that the municipal functions include ensuring water supply and sanitation services to all South Africans. The local government therefore has an obligation to ensure that people within its area of jurisdiction have access to healthy and safe drinking water and good sanitation. The Constitution further states that local government should be democratic and accountable to its citizens by ensuring that the rights and dignity of citizens are respected and protected. The Constitution also makes provision for allocation and collection of revenue.

In essence, there are services that are provided by government departments and public institutions to the communities/public in a direct exchange relationship (Gildenhuis, 2010). The relationship is between the government as the provider of services and the consumer or service user as the buyer. The consumer pays for such services through consumer tariffs, user charges and levies (Gildenhuis, 2010). However there are common characteristics between the consumer tariffs and user charges because the payment in both models is done on a benefit-received principle (Gildenhuis, 2010). The focus of this research will be on service charges since the Harry Gwala District Municipality's core function is the provision of good quality drinking water and suitable sanitation services guided by the *Water Services Act* and the *Municipal Systems Act*.

According to the legislative framework outlined in the *Municipal Finance Management Act* and in the *Municipal Systems Act*, a municipality, whether it is rural or urban, must be able to generate its own revenue. The collection of revenue is pivotal and necessary in order to ensure financial sustainability of the municipality.

1.4. RATIONALE OF THE STUDY/PROBLEM STATEMENT

The rationale is based on the fact that some municipalities are self-sufficient while others remain dependant on National transfers for survival in particular to finance basic water and sanitation services. Urban and rural municipalities differ in terms of financial viability in general. In this case, the revenue base in most rural municipalities including the Harry Gwala District Municipality is weak and unsustainable. Thus, water and sanitation service delivery continues to be ineffective and unsatisfactory. It becomes difficult for those municipalities that are not self-sufficient, to fast-track basic water and sanitation service delivery in order to fulfil their constitutional mandate. According to Kanyane (2011), seventeen (17) rural municipalities in KwaZulu-Natal are faced with a challenge of weak revenue sources and are failing to provide basic water and sanitation services to the communities of their areas of

jurisdiction. Kanyane (2011) further argues that local government municipalities should be able to generate revenues in order to fund public services.

The Municipal Infrastructure Grant and equitable share should be understood as additional funding (Kanyane, 2011). It is well known that the transition from apartheid government to democracy has instilled a culture dependency syndrome even though some households/consumers are able to pay for water and sanitation service charges/user charges.

Water balance report revealed that less than 30 per cent of the total billing per month for the billed authorised consumers including both domestic and non-domestic is collected in Harry Gwala District Municipality for water and sanitation services. The report clearly indicates that there are very few community members who pay for water and sanitation services; there is a decline in revenue performance. From the time the author started to work for the Harry Gwala District Municipality, she had noticed that there is no indigent register in place and she is convinced that the indigent policy needs to be reviewed.

There is a need to explore the reasons behind the poor performance of rural municipalities. Zivanai et al (2014) highlights the need for a theoretical framework and possible practical solution for cost recovery in service delivery with specific reference to revenue collection or service charges. Chikosha and Chiunye (2015) make a claim that the municipalities should revisit financial strategies so that they can improve their operations. Furthermore, they argue that the local government municipalities should capacitate their employees, so that they can tap into all the potential sources of revenue, consult all the role players in the planning and implementation of projects and programmes and improve debtors and creditors management including the management of cash flow activities e.g. investment and financing activities (Chiunye & Chikosha, 2015). Drawing on Gordhan's (2012) work, Hanyane and Motsoeneng (2012) state that the culture of non-payment for municipal services contributes negatively to public service delivery sustainability. The current research seeks to explore possible ways in which the Harry Gwala District Municipality can improve its revenue base in water and sanitation provision. As a Water Service Authority (WSA) it must have a sound revenue base in order to be effective and efficient in service delivery with specific reference to water and sanitation services.

1.5. OBJECTIVES OF THE STUDY

The objectives of the study were:

- To explore the communication challenges being experienced by the Harry Gwala District Municipality in water and sanitation service delivery;
- To investigate challenges to the provision of metered services in water and sanitation service delivery in the Harry Gwala District Municipality;
- To assess the challenges in accurately billing for water and sanitation services in the Harry Gwala District Municipality; and
- To determine the management of the revenue collection challenges in the Harry Gwala District Municipality in order to improve water and sanitation service delivery

1.6. KEY RESEARCH QUESTIONS

The study attempted to answer the following key questions:

- What communication challenges are being experienced by the Harry Gwala District Municipality in water and sanitation service delivery?
- What are the challenges in the provision of metered services in water and sanitation service delivery in the Harry Gwala District Municipality?
- What are the challenges in accurately billing for water and sanitation services in the Harry Gwala District Municipality?
- How does the management of revenue collection in the Harry Gwala District Municipality contribute to improved water and sanitation service delivery?

1.7 SIGNIFICANCE OF THE STUDY

The recommendations of the study should assist the Harry Gwala District Municipality to improve its revenue collection strategies for water and sanitation services. The research findings may produce theory which can be used by the Harry Gwala District Municipality to develop water and sanitation revenue policies as the Water Services Authority, in order to improve revenue enhancement strategies rather than relying on National and Provincial Government for grants. This study will reinforce existing theories, and enable the role players and stakeholders in the water and sanitation business and any other civil society organisations, like Ward Committees, Amakhosi/Traditional Leaders, Community Water and Sanitation forums, Community-Based Organisations (CBOs) and Non-Governmental Organisations (NGOs) and the general public to benefit from this research.

1.8 CLARIFICATION OF KEY CONCEPTS

The aim of this section is to provide a definition of key terms that will be used in the research paper for clarification purpose.

Basic sanitation services - This refers to the provision of a basic adequate sanitation facility that is accessible to a household, including removal of human waste and waste water from the vicinity as well as the promotion of health and hygiene practices (Department of Water Affairs & Forestry, 2005).

Basic water supply service - This means the provision of basic water supply facility/ infrastructure to the consumers for 365days per year and not interrupted for longer than 48 consecutive hours, including awareness campaigns on water conservation, health and hygiene practices (Department of Water Affairs & Forestry, 2005)

Billed Authorised consumption - Refers to those components of water consumption that are billed and thereafter produce revenue. This is also known as revenue water (Department of Water Affairs, 2010).

Conditional Grants - are fungible grants transferred from the Provincial or national government to the municipality for a specific purpose or specific expenditure (UN HABITAT, 2009).

Consumers – Are the users of government services provided at a fee by any government institution (Gildenhuys, 2010).

Cost recovery -- This is a process whereby the consumers are being charged a total or subsidised amount for the services rendered like water, refuse removal or electricity as an initiative to persuade citizens to pay for service charges (McDonald & Pape, 2002) .

Customer - Anyone who buys goods and pays for services provided by the local government institution is the customer or a stakeholder in an organisation. They are the ones who provide payment for services rendered (Fen & Lian, 2007).

Customer Loyalty - refers to the allegiance of the customers (Mosahab et al., 2010).

Customer Satisfaction -- This is defined as the difference between expectation and performance which is a key factor in customers desire for future purchase or willingness to pay (Mosahab et al., 2010)

Equitable Share- refers to the revenue that has been raised nationally for local government municipalities in order to enable them to provide basic services and to perform other constitutional mandates (Local Government Equitable Share Formula Review, 2012).

Free Riders -- This refers to those people who seem to be able to pay for municipal services but opt for non-compliance (Fjeldstad, 2004).

Indigent - Refers to the consumers or households that cannot afford to pay for service charges who receive free basic services from government, protected by indigence policies that have been introduced in South Africa (Fourie & Opperman, 2012).

Intergovernmental transfers - This refers to the source of infrastructure financing (UN HABITAT, 2009).

Municipal Borrowing -- This refers to the monies that the municipalities borrow from the financial institutions to undertake capital expenditure (UN HABITAT, 2009).

Municipal Consumer Debt – This refers to the monies due to the municipality for non-payment of service charges or user fees rendered by the municipality which emanate from households, business or government departments (Fourie & Opperman, 2012).

Municipal finance - This refers to revenue and expenditure decisions by municipal governments. It also incorporates the sources of revenue of the municipality e.g. user fees and intergovernmental transfers (UN HABITAT, 2009) .

Municipal operating revenue – This is composed of several components which include government grants, service charges, and any other revenue sources (Revenue, 2012/2013).

Municipal Services - refers to the provision of public services to the consumers by the local government institution or municipality within the area of jurisdiction (USAID, n.d)

Non-Revenue Water (NRW) - Refers to those components of system input that are not billed by the Water Service Authority and do not produce revenue (Department of Water Affairs, 2010).

Own municipal revenue – This is revenue generated by the municipality from service charges, property tax and any other revenue sources (Fourie & Opperman, 2012).

Public-private partnerships - this refers to the partnerships between government institutions and the private sector in service delivery initiatives (UN HABITAT, 2009).

Rate payers – are the individuals and households in the communities that are charged for the use of public facilities or for consumption of services provided by the municipality (Visser & Erasmus, 2015).

Revenue collection – This is a government function that is employed to collect monies from service charges as one of the sources of revenue (Siddle & Koelble, 2012).

Service Quality- refers to output technical quality, service performance and organisational image (Mosahab et al., 2010)

Tariff - A charge prescribed and approved by the Water services Authority for water and sanitation services (McDonald & Pape, 2002).

Transfers - are grants transferred from the Provincial or National Government either for general or specific purposes (UN HABITAT, 2009).

Unconditional Grants - are grants transferred from either provincial or national government to the municipality for general purpose usage (UN HABITAT, 2009).

User charges - these are levies imposed onto individuals or households for services rendered by the municipality (Botes, et al., 1992).

Water Losses - refers to the difference between system input and authorised consumption. They can either be the total volume for the whole system or partial systems in the transmission and distribution of water (Department of Water Affairs, 2010).

1.9 HYPOTHESIS

The hypothesis is as follows: Local government has its own revenue base but in most cases rural municipalities rely on grants from the Provincial and National government for their operations. As a result, municipalities lack revenue-generating strategies and such non-collection and the dependency syndrome on the National and Provincial government inhibits water and sanitation service delivery as expected by the citizens. The municipalities, in particular the Water Services Authorities, cannot meet all the community needs and expectations of rendering quality drinking water and suitable sanitation services to the citizens.

1.10 LIMITATIONS OF THE STUDY

The main limitation of the study is that it involves collection of primary qualitative data. The research findings of the qualitative approach cannot be generalised to larger populations. Some of the participants in the focus groups will not be able to communicate in English but although my interview guide is written in English, the researcher will be able to communicate with them in the appropriate African indigenous language.

1.11 STRUCTURE OF THE DISSERTATION/CHAPTER OUTLINE

The research paper consists of six chapters as structured below:

Chapter 1

Chapter one has provided the introduction, the rationale of the study, the background and context of the study Creativity and innovation relative to new sources of local government revenue was discussed together with the problem statement, research objectives, research questions, significance of the study, clarification of key concepts, hypothesis and limitations of the study as well as the chapter outline.

Chapter 2

This chapter will assess revenue management of water and sanitation in the Harry Gwala District Municipality as the Water Service Authority responsible for providing quality drinking water and adequate sanitation services to its citizenry. This chapter intends to review literature on revenue management. The chapter will first discuss legislative framework and the role of water sector institutions in the water and sanitation business cycle. Secondly, the chapter will discuss cost recovery in the Water and Sanitation business cycle in South Africa. Thirdly this chapter will discuss Cost Recovery in South Africa in order to reflect on the initiatives introduced by the post-apartheid unitary decentralised government system in trying to urge residents who are eligible to pay for government services to do so. Fourthly, the chapter will discuss revenue management principles, provide a critical discussion on revenue management in general and further look at the sources of government revenue as well as attempts that have been made by local government municipalities to raise revenues from service charges in Southern Africa with specific reference to water and sanitation services. Fifthly, the chapter will present a discussion on benefit taxes and the user fees theoretical framework. Sixthly, the chapter will present a discussion on a guide to enhancing municipal

revenue and further critique their revenue enhancement model that was developed by the *Municipal Investment Unit* (MIU) which was funded by USAID, and reflect on the financial sustainability model. The chapter will further present a discussion on service quality and customer satisfaction looking at Disconfirmation & Gap as well as SERVQUAL models. The chapter will discuss the structural alignment of the National Development Plan and other legislative framework in relation to water and sanitation service delivery including the Outcomes Approach to Performance Management in the Public Sector.

Chapter 3

This chapter will explore research methodology, and research design that will be used to accomplish the research objectives.

Chapter 4

This chapter will discuss Data presentation, interpretation and analysis.

Chapter 5

Analysis of the findings will be discussed in this chapter.

Chapter 6

Conclusions and recommendations of the study will be presented in this chapter.

1.12 CONCLUSION

This chapter has discussed the need for the study, objectives, key research questions, study site, problem statement, rationale and significance of the study, hypothesis, and the structure of the dissertation. The next chapter discusses the literature review.

CHAPTER TWO

REVENUE MANAGEMENT LITERATURE REVIEW AND THEORETICAL FRAMEWORK

2.1 INTRODUCTION

This chapter will review current literature on revenue management. The chapter will first discuss relevant legislation on revenue management of water and sanitation services in South Africa. The paper will further discuss Cost recovery in South Africa in order to reflect on the initiatives introduced by the post-apartheid government in South Africa to try and urge residents to pay for government services. Secondly; the chapter will discuss revenue management principles which will unpack relevant legislative requirements for revenue management. Thirdly; this chapter will provide a critical discussion on revenue management in general in order to review the literature on how different scholars defined it, and how they discussed the basic principles of the effectiveness of revenue management. Fourthly; the chapter will discuss sources of government revenue and it will further examine the attempts that have been made by local government municipalities to raise revenue from service charges in Southern Africa with specific reference to water and sanitation services. Fifthly; the chapter will discuss the *Benefit taxes and User Fees Theoretical framework* that was developed by David Duff, *A guide to enhancing Municipal Revenue Model*, the *Financial Sustainability Model*, the *Service Quality and Customer Satisfaction focusing on Disconfirmation and Gap Model* as well as the SERVQUAL Model. The chapter will also discuss the structural alignment of the National Development Plan and other legislative framework in relation to water and sanitation service delivery including the *Outcomes Approach to Performance Management in the Public Sector*.

2.2 LEGISLATIVE FRAMEWORK

The South African government has introduced a comprehensive legal framework in relation to revenue management of water and sanitation services. The next section will briefly discuss the Constitution of the Republic of South Africa of 1996, the White Paper on the Transformation of Public Service Delivery of 1997, the Division of Revenue Act, Intergovernmental Fiscal Relations Act of 1997, the Municipal Finance Management Act of 2003, the Municipal Systems Act of 2000, the Water Services Act of 1997, and the National Water Act of 1998.

2.2.1 The Constitution of the Republic of South Africa of 1996

In terms of the *Constitution of the Republic of South Africa of 1996*, local government is an independent sphere of government given a status and role to promote constitutional democracy and social economic development. The *White Paper on Local Government (1998)* established the basis for a new developmental government system, the sphere closest to the communities responsible for eradicating the imbalances of the past. The mandate sanctioned by the constitution urges the municipalities to focus on realising developmental outcomes in order to rebuild local communities and environments as the basis for an integrated and democratic society.

The Constitution (section 153) imposes developmental duties on the municipalities, in both the planning and budgeting processes. The constitution further makes provision for prioritising the basic needs of the communities and for the promotion of social and economic development, e.g. for the provision of clean potable water and suitable.

2.2.2 The White Paper on the Transformation of Public Service Delivery of 1997

The foundations of customer care are based on the eight *Batho Pele* principles as enshrined in the white paper on the *Transformation of the Public Service Act* and the *KwaZulu-Natal citizens Charter 2009/14*. These principles are: consultation, service standards, access, courtesy, information, openness and transparency, redress, value for money, encouraging innovation and rewarding excellence, service delivery impact and leadership and strategic direction

2.2.3 The Division of Revenue Act (DORA)

As enshrined in the *Constitution of the Republic of South Africa of 1996*, Section 152(1) states that local government is entitled to an equitable share of revenue generated by Central or National government. The equitable share is allocated to enable local government to fulfil its constitutional mandate of providing basic services to the communities. These transfers are affected in terms of the *Division of Revenue Act* reviewed annually. *The Division of Revenue Act* explains the basis for the transfer of such revenue which is provided equitably amongst National, Provincial and Local Government entities.

2.2.4 Intergovernmental Fiscal Relations Act, No 97 of 1997

This Act promotes cooperation between the three spheres of government in relation to financial, fiscal and budgetary matters and it prescribes how to determine the equitable sharing and revenue allocation.

2.2.5 The Local Government Municipal Finance Management Act, No 56 of 2003

This Act establishes municipal practices that are rooted in a culture of performance and regular reporting which modernises the way in which municipal finances are managed. The Municipal Finance Management Act makes provision for a performance-based system focusing on outputs and measurable objectives that empower municipalities to maximise their capacity for service delivery. There are five underlying principles underpinning the Municipal Finance Management Act:

- It promotes sound financial governance by clarifying roles;
- It advocates a strategic approach to budgeting;
- It recommends modernisation of financial management;
- It encourages corporate governance; and
- It promotes sustainability.

2.2.6 The Local Government: Municipal Systems Act 32 of 2000

This is aimed at establishing core principles, mechanisms and processes in order for the municipalities to function and give meaning to developmental local government. The Act makes provision for the manner in which the municipal powers and functions are performed and exercised in order to promote community participation, planning and performance management. The Act further makes provision for a framework for local public administration and human resource development, service tariffs, credit control and debt policies.

2.2.7 The Water Supply and Sanitation Policy White Paper of 1994

This White Paper sets out the policies for Water and Sanitation services aiming at explaining the developmental approach that guides policy formulation. The White Paper puts forward basic policy principles. It also provides historical background in relation to water supply and sanitation services in South Africa. The White Paper unpacks the institutional framework that has been proposed for water supply and sanitation services. The White Paper makes provision for the standards and guidelines for basic service delivery and it outlines immediate initiatives which the government is busy implementing.

The policy principles are as follows:

- Development should be demand-driven and should be community-based;
- Basic services are human rights;
- Equitable regional allocation of developmental resources;
- Water has economic value;
- The user pays;
- Integrated development; and
- Environmental integrity.

2.2.8 The Water Services Act 108 of 1997

This makes provision for significant policies to be implemented with respect to institutional framework. The main objectives of the Act are to ensure:

- Right of access to basic water supply and basic sanitation;
- A regulatory framework for water services institutions;
- Monitoring of water supply and sanitation;
- Accountability for water services and promotion of effective water resource management and conservation; and
- Financial assistance to water service institutions.

2.2.9 The National Water Act, 36 of 1998

This deals with the water resources i.e. dams, rivers, streams and ground water. It sets out the principles to be adhered to concerning the environmental impact of the waste water and pollution.

2.2.10 The South African National Standards (SANS) 241 of 2011

This sets out the national norms and standards of the water quality and the requirements regarding personnel working in the water purification plants or Water Treatment Plants. The objectives of these standards are to protect public health and to ensure that people are provided with good quality drinking water that is of an accepted standard for human consumption.

2.2.11 Overview of the South African Water sector and Strategic overview of the water regulatory framework in South Africa

Water service provision has a social component as enshrined in the *Constitution of the Republic of South Africa of 1996* under the Bill of Rights. However, South Africa is a semi-arid water-stressed country with an average rainfall of about 450mm which is below the world average of 860mm per year. The surface water available in South Africa is 49 200million m³ per year, and about 4800 million m³ per year originates from Lesotho. Recent studies reveal that by 2025 nearly 50 percent of the world's population will face water scarcity.

Based on current usage trends it is estimated that in South Africa, , water demand will exceed availability of economically utilisable fresh water resources by 2025 unless stringent measure can be employed to address the situation. The strategic overview of the South African water sector seeks to intensify the regulations regarding water supply and sanitation services in South Africa. The regulatory process will ensure sustainable management of the natural environment, social and economic growth and development of the country. The overview of the water sector in South Africa highlighted the following challenges: poverty, access to water, impact of the economy on water, reuse of water, water demand management, allocation strategies, impact of water quality, and public participation.

Recent reports reveal that one of the biggest dams in KwaZulu-Natal is sitting at 32 percent and this then means that there is a need for development of water conservation and demand management interventions, initiatives and programmes that seek to address the water shortage challenges.

However, there are various policies that have been developed to address the socio-economic challenges. The RDP was one of the first comprehensive development programmes which the democratic government introduced in 1994. The second policy was the GEAR which was developed in 1996 aimed at creating sustainable growth (Mamobolo, 2014). The government also introduced ASGISA to implement infrastructure programmes, sector investment strategies and skills development (Mamobolo, 2014).

2.3 THE ROLE OF THE WATER SECTOR INSTITUTIONS

The Water Services Act and *National Water Act* make a provision for different types of institutions in the Water Sector (Department of Water Affairs & Forestry, 2005). *The Water Services Act* makes provision for the water services institutions. On the other hand; the *National Water Act* makes provision for the water management institutions (Department of Water Affairs & Forestry, 2005).

As already discussed, a *Water Services Authority* is a municipality that in terms of the *Municipal Structures Act* or the *Municipal Authorization* made in terms of the Act, has executive authority over water services within its area of jurisdiction (Department of Water Affairs & Forestry, 2005). This means that the municipality is responsible for providing quality drinking water and adequate sanitation services to its citizenry (Department of Water Affairs & Forestry, 2005). A Water Service Authority may carry out the function of water service provider or may enter into a service delivery agreement with another water service provider e.g. a Water Board (Department of Water Affairs & Forestry, 2005).

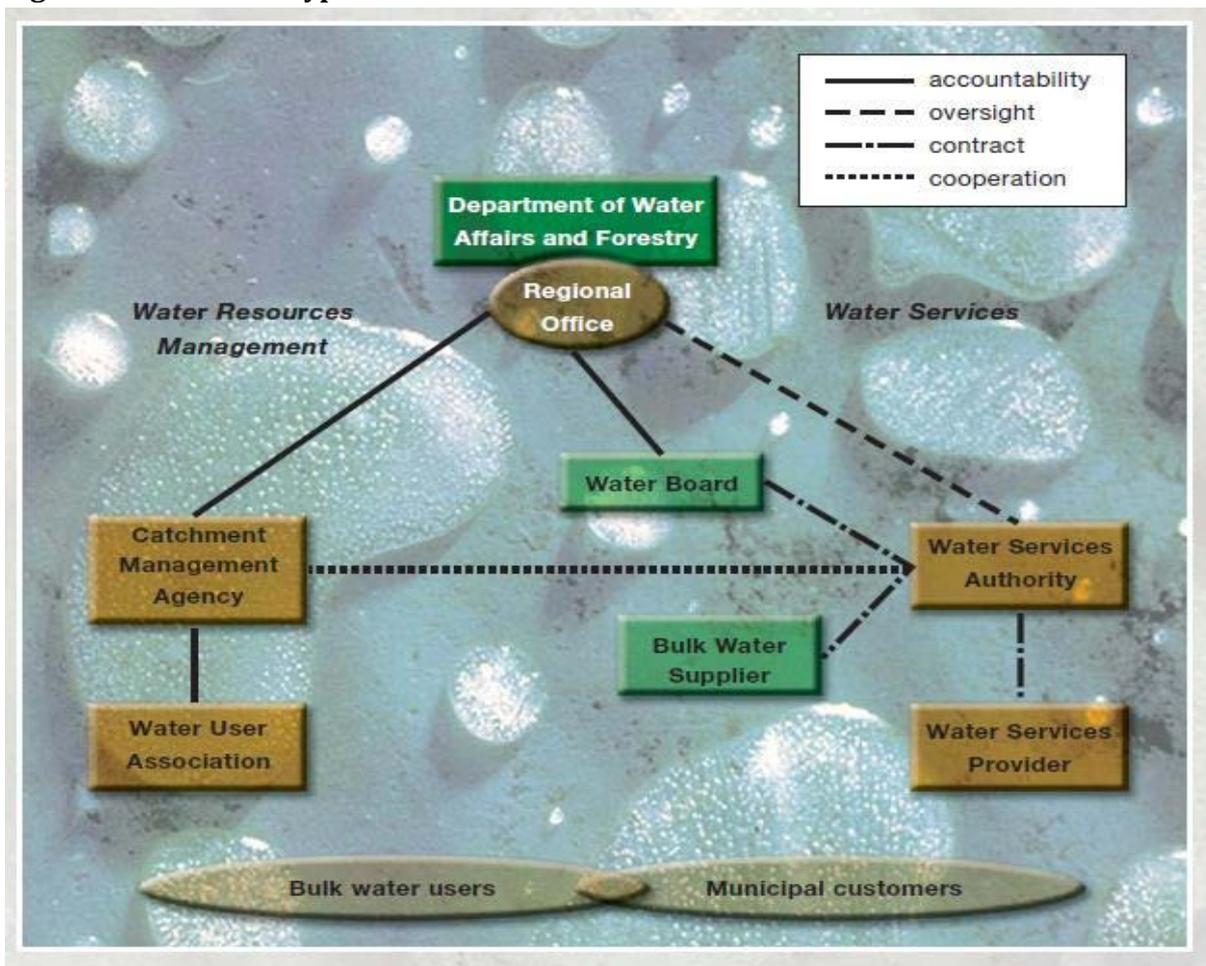
The water service provider is responsible for good quality water supply and adequate sanitation services to consumers under a service delivery agreement with the Water Service Authority (Department of Water Affairs & Forestry, 2005). The water service provision function may be performed by the Municipality or any other public or private body e.g. a water board, a non-governmental organization, a community-based organization, or a Private Sector Company that is contracted by the Water Service Authority (Department of Water Affairs & Forestry, 2005). A Water Board is established by the Minister of Water and Sanitation to provide water services to other water service institutions e.g. Water Services Authority (Department of Water Affairs & Forestry, 2005).

The Catchment Management Agency (CMA) is the institution that is more relevant to Water Services Authorities. Since the National Government is the public trustee of the water resources, *Catchment Management Agencies* are established by the National government to be responsible for water resource management and to ensure the involvement of the communities in such activity (Department of Water Affairs & Forestry, 2005).

Water Use Associations are water users who undertake water-related activities for their communal benefit (Department of Water Affairs & Forestry, 2005). Water use associations operate within a limited localized area and are tailored for the management of local water

resources specifically for agricultural activities and other rural use (Department of Water Affairs & Forestry, 2005). The role of the water use associations is to operate infrastructure for their members and they may provide bulk water services on behalf of the Water Service Authority in order to fulfil the function of a bulk water service provider if the association does have the capacity to do so (Department of Water Affairs & Forestry, 2005).

Figure 2.1: Different Types of Water Sector Institutions



Source: Department of Water and Forestry Government Publication (2005:10-13)

2.3.1 The Role of Water sector institutions in the Water and Sanitation Business Cycle

The *Department of Water and Sanitation* in conjunction with the *Catchment Management Agency* are responsible for the protection, development and control of the use of raw water, inclusive of both ground water and surface water (Department of Water Affairs & Forestry, 2005). This includes development, management and conservation as well as control of abstraction from the water resource and to control the return of effluent including the disposal of waste to the water resource (Department of Water Affairs & Forestry, 2005).

These institutions are monitored by the Minister of Water and Sanitation as the custodian of the National Water resource strategy that sets the national objectives for protecting the water resource (Department of Water Affairs & Forestry, 2005).

The main aim of protecting water resources is to:

- Maintain the surface quality and ground water so that it can be used in a sustainable way;
- Prevention of degradation of the rivers; and
- Rehabilitate the rivers (Department of Water Affairs & Forestry, 2005).

The Department of Water and Sanitation develops, maintains and operates the inner- basin transfer schemes and the storage dams for raw water (Department of Water Affairs & Forestry, 2005). However, any institution may construct and operate a storage dam if it meets all the requirements e.g. has a licence or authorisation to do such activity (Department of Water Affairs & Forestry, 2005).

Bulk water service providers and the *Water Board* are responsible for developing; maintaining and operating abstraction and bulk potable infrastructure e.g. water treatment plants and pump stations, reservoirs and distribution pipelines/ reticulation infrastructure for potable water for the Water Service Authority reservoirs (Department of Water Affairs & Forestry, 2005).

The Water Services Authority has both governance and provision functions. The governance function incorporates ensuring access to water and sanitation services, regulating municipal by laws, creating a *Water Services Development Plan (WSDP)* and deciding on water services provider mechanisms. On the other hand, the provision function only relates to Water service provision to the consumers which is a direct delivery. The Water service Authority is also responsible to ensure that the municipal infrastructure is developed, operated and maintained (Department of Water Affairs & Forestry, 2005). However, a Water Service Authority may perform the functions of the Water Service Provider on its own. The Water Services Authority is further responsible for revenue collection, customer relations, and promotion of water conservation, health and hygiene awareness campaigns itself (Department of Water Affairs & Forestry, 2005). Nonetheless, the Water Service Authority may be in a service delivery agreement with a Water Service Provider to carry out all these functions on behalf of the Water Services Authority (Department of Water Affairs & Forestry, 2005). Lastly, the

Water Services Authority is responsible for collection and treatment of sewage, waste water and effluent and may appoint a service provider to carry out these functions on behalf of the Water Services Authority (Department of Water Affairs & Forestry, 2005).

2.3.2 Progress made to date in relation to water and sanitation service provision

There have been tremendous strides made in relation to water and sanitation service delivery. In South Africa water is considered as human life and sanitation as human dignity. Chapter 13 of the *National Development Plan (NDP)* requires government to build a capable developmental state. Chapter 13 stipulates that it is in the interest of all spheres of government that everyone should have access to high quality basic services (National Development Plan, 2012). There is a high probability that South Africa has achieved the Millennium Development goal target for this indicator. The Millennium Development Goal Report (2014) makes the point that in 2012; the proportion of the world's population with access to quality drinking water was 89 per cent increasing from 76 per cent (Pillay & Barron, 2014). The target of halving the proportion of people without access to an improved source had already been achieved in 2010, five years ahead of schedule.

There are over a billion people who have gained access to an improved source of drinking water between 1990 and 2012, out of which there were 1.6 billion people who had gained access to a piped drinking water supply on the premises (Millennium Development Goals, 2013). Since the adoption of Millennium Development Goals, local government has been able to announce some progress made in environmental sustainability. Key developments have been recorded through addressing poverty and inequality by devoted service delivery programmes that targeted basic service delivery of water and sanitation services to the poor (Millennium Development Goal Report, 2014).

However, people in rural areas, the poorest of the poor have less access to both improved water and sanitation. There were 748 million people still relying on unsafe drinking water sources in 2012, of which 173 million obtained their drinking water straight from the rivers, streams or ponds (Pillay & Barron, 2014). Nonetheless, the Department of Water and Sanitation in partnership with Statistics South Africa are in the process of developing a monitoring and Evaluation system to track this indicator.

The researcher is aware that there is a post-2015 developmental agenda which is the *Sustainable Development Goals (SDGs)* aimed at informing a new global development

agenda after the Millennium Development Goals come to an end in 2015. These goals will be localised to all spheres of government in particular local government as a sphere closest to the people and to direct service provision or oversight of private provision of water supply and sanitation services.

2.3.3 Cost-Recovery in the Water and Sanitation Business Cycle

There are costs associated with the protection, development, management and control of use of raw water that the catchment management agency incurs in particular when the agency evaluates and issues the licences, monitoring water resource quality, detection and protection of the unlawful use, promotion of water conservation and demand management (Department of Water Affairs & Forestry, 2005) The water resource management charge is then recovered by the catchment management agency from the users that abstract raw water from the river or those users that discharge waste water or treated effluent back into the river (Department of Water Affairs & Forestry, 2005).

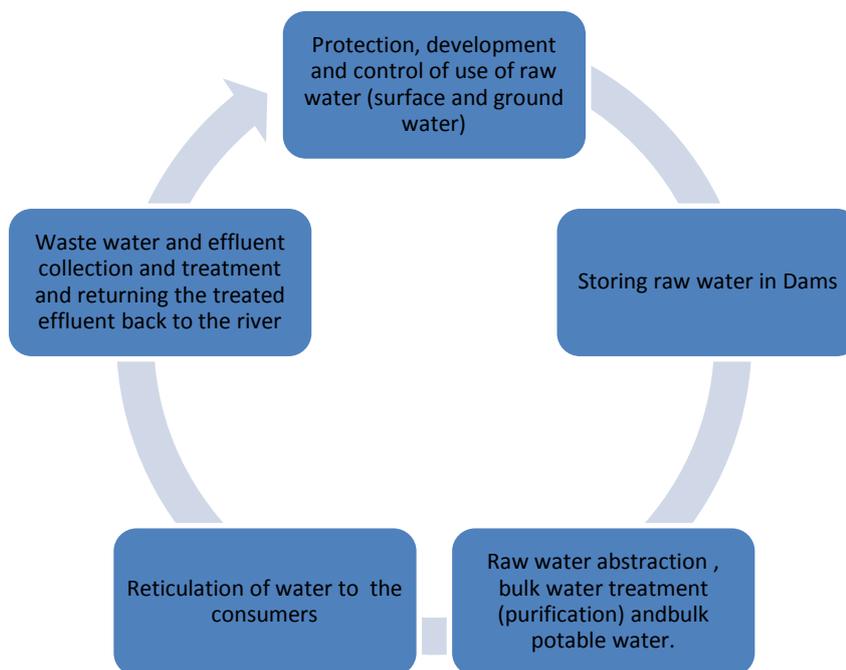
In the water and sanitation business there are other costs associated with the raw water supply called Raw water tariff that include the construction of dams and other infrastructure that is necessary to store and supply raw water from the source, refurbishment, operations and maintenance as well as paying back the loans from the financial institution (Department of Water Affairs & Forestry, 2005).

One of the costs in the water and sanitation business cycle is Bulk potable water tariff that is recovered from the Water Services Authority by the Water Service Provider or Water Boards involved mainly in the construction of the abstraction works, operation and maintenance, bulk water treatment plants, reservoirs, pump stations and pipelines for abstracting and purifying raw water in order for water to be ready for human consumption and distributed to the municipal reservoirs (Department of Water Affairs & Forestry, 2005).

Other costs in the water and sanitation business cycle that are associated with municipal water supply are the Municipal water tariff which includes reticulation of water to the consumers, purchasing of bulk potable water from the institution responsible for abstraction, construction of the municipal water supply infrastructure, paying back the loans to the financial institution, operation and maintenance, as well as billing and meter-reading (Department of Water Affairs & Forestry, 2005). The municipal water tariff which includes the bulk water tariff is recovered from the consumer by the Water Services Authority (Department of Water Affairs & Forestry, 2005).

Moreover, there are costs associated with municipal sewage collection and treatment in the water and sanitation business cycle (Department of Water Affairs & Forestry, 2005). These costs are mainly for construction of the sewerage collection and treatment infrastructure, paying for the water resource management charge associated with discharging treated effluent back into the river, emptying of septic tanks and treating effluent, operation, maintenance and refurbishment of the waste water treatment plants, promotion of health and hygiene awareness, monitoring health impacts and evaluation of the effectiveness of the sanitation promotion, and creating an enabling environment for the construction of households and public toilet facilities (Department of Water Affairs & Forestry, 2005) . This cost is called the municipal sanitation tariff that is recovered by the Water Services Authority from the consumer which includes the water resource management charge applicable for discharging effluent. In other municipalities this tariff is usually included in the municipal water tariff (Department of Water Affairs & Forestry, 2005).

Figure 2.2: Water and Sanitation Business Cycle



Source: Department of Water and Forestry-Government Publication (2005: 14)

2.4 Cost recovery in South Africa

There are several initiatives that have been launched urging residents to pay for municipal services and various studies have been conducted on why rural municipalities have a weak

revenue base or are not financially viable (Kanyane, 2011). The Masakhane campaign became the first cost-recovery initiative introduced by government during the democratic dispensation. Its objective was to urge the communities to pay for service charges. It is unfortunate that the campaign did not produce positive outcomes since there was a decline in the payment for municipal services.

It is important to note that the non-payment for service charges is not a new phenomenon. This culture originated from the call by the African National Congress (ANC) during the apartheid era to make the country ungovernable by mobilising the mass democratic movements to boycott user fees (McDonald & Pape, 2002). The ANC mobilised the mass, democratic movements and civic society to rebel against the apartheid government by boycotting payment for service charges which then resulted in subsidisation of municipal services (McDonald & Pape, 2002).

McDonald and Pape (2002) believed that cost recovery has a negative impact on the poor communities and the image of the democratic South Africa. McDonald and Pape's arguments resonate well with this study that in the end will recommend a distinguishing between those who can pay and those who cannot. My study acknowledges the importance of indigence policies which have been introduced in South Africa with the aim of protecting the poorest of the poor households.

The cost recovery in relation to revenue management of water and sanitation is imperative because it ensures effective and efficient water and sanitation service delivery as well as sustainable financial viability. According to McDonald and Pape (2002) cost recovery is a process whereby the consumers are being charged a total or a subsidised fee for the services rendered by the government institutions. Those services are water, refuse removal or electricity as an initiative to persuade citizens to pay for service charges that was introduced in the democratic dispensation in South Africa for operating and maintenance costs. Cost recovery in this sense presents itself as a mechanism to root out the subsidised practices for municipal water and sanitation services to the consumers that are eligible to pay for such service charges. It ensures the recovery if not of all, at least a certain portion, of the costs associated with water and sanitation service rendered by the local government municipality. Diverging from the long-standing situation of the state subsidising services, the consumers in South Africa are now expected to pay in full for service charges (McDonald & Pape, 2002).

McDonald and Pape (2002) makes the point that, for cost recovery to be effective, volumetric terms should be applied to measure the consumption and a flat rate should be applied where

there is no device to measure the consumption, for example in non-metered areas where the municipality provides water and a water-borne sewerage system. Cost recovery may be achieved by charging the end users the production costs and long-term operating and maintenance costs of water and sanitation services rendered. The other aspect raised by McDonald and Pape (2002) focused on the introduction of in-house connections and prepaid meters as cost recovery mechanisms whether it is for water or electricity provision whereby the consumer pays prior to consumption. However, block tariffs have been introduced in many countries and in South Africa as a determination to make consumption more affordable, or even free to those who cannot afford to pay for service charges e.g. those who are indigent.

McDonald and Pape (2002) acknowledge the need for the cost recovery to be effective by highlighting the necessity of recording and reporting on debt in order to determine the amount of total debt owed to the state, the amount paid and the bad debt being written-off. In terms of the fiscal arguments, the single most significant reason given for cost recovery is the need to balance the books and it is also a matter of good fiscal practice. Further, McDonald and Pape (2002), argue that South Africans pay less for water provision per kilo litre than many other countries. However, many low-income households find themselves in arrears for service charges like water and electricity (McDonald & Pape, 2002). This means that there is a need to make essential services like water and sanitation more affordable to the working class in order to address the culture of non-payment crisis in South Africa especially in rural municipalities.

For the cost recovery policy to be effective, it is imperative for the service provider e.g. Water Services Authority or government institution to measure the consumption of a service rendered in every household on a regular basis and accurately, and it must be able to collect monies due. For services that can be measured in volumetric terms like water and water borne sewerage system provision, the measurement is easy with the use of sophisticated volumetric devices like meters that measure the number of litres consumed by individual household (McDonald & Pape, 2002).

According to Gildenhuis (2010) there is no logic in imposing tax of which the net revenue, after collection cost, is more or less zero. It is therefore reasonable that the water and sanitation revenue collection cost should be kept as low as possible. Gildenhuis (2010) claims that effective administration is important in cost recovery which should include an effective postal and payment system as well as stringent measures to persuade consumers to pay for service charges or bills. Municipal water and sanitation levies and service charges are

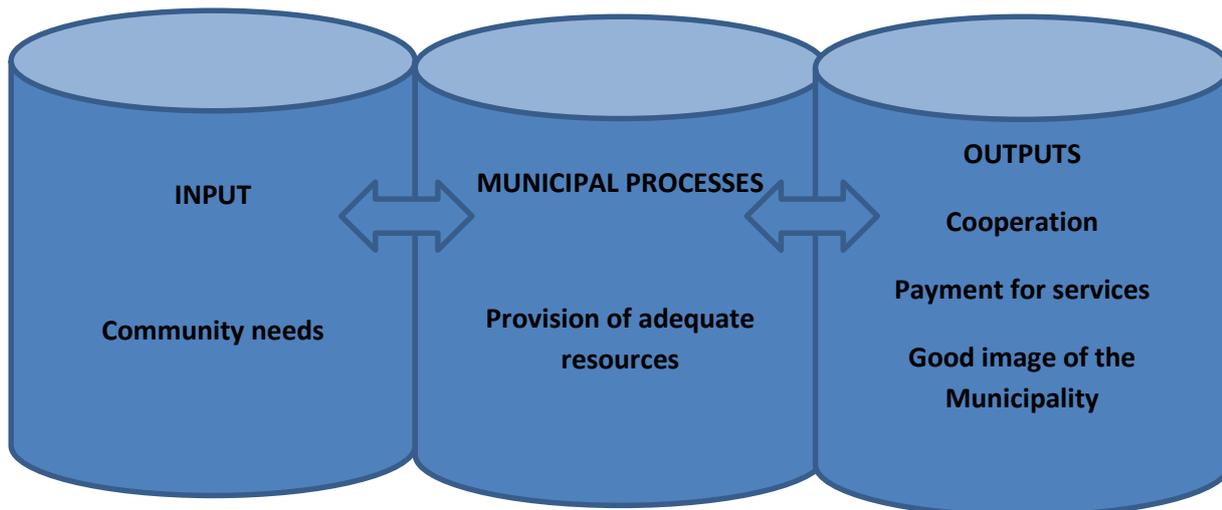
impacted by municipal billing mechanisms since they are related to the metering data captured into the system. For the effective and efficient billing system the data captured should be free from errors to ensure that once the bill has been received by the customers, there would be fewer or no grievances at all against such bills.

According to the National Treasury (2011), all municipalities are required to recover monies for the services that have been provided to the citizens. The common forms of enforcement are service cut offs, including disconnections and restriction, and evictions. Another form of enforcement is penalties for overdue payment of water and sanitation service charges that have a potential to motivate customers to adhere to the culture of obeying democratic laws, credit control policies and deadlines. These stringent measures are politically sensitive and may be expensive, which is why the government has introduced the prepaid meter system. This involves a device that does not only measure the consumption; it also obligates the consumer to pay for services in advance (McDonald & Pape, 2002). A pre-paid meter system is a decisive cost recovery mechanism that can be employed as an effective and efficient revenue management model for water and sanitation charges since it allows for the payment of services in advance and does not allow any form of default by the consumers, however; this model is prone to vandalism. Furthermore the prepaid meter system requires no overt stringent measures to apply in order to enforce payment of water and sanitation service charges.

Cost recovery for municipal services has not always been a policy for both central and local government in South Africa (McDonald & Pape, 2002). During the democratic dispensation in the mid-1990s, cost recovery had been an overt policy objective. However; the rural municipalities are still far from meeting this policy objective due to their inability to raise their own revenues and consequently the grants from National and Provincial Government will be understood to be additional packages. Rural municipalities are highly dependent on equitable share from National and Provincial government (Kanyane, 2011).

Cost recovery theory is supposed to be an open system input-output model where there is a degree of openness and interaction with the environment. This is a process whereby the needs of the community are taken care of by the government authorities. The government should be able to provide the communities with adequate resources like the provision of quality drinking water and adequate sanitation services; in return the communities will cooperate and pay for local government municipal services which will then result in the good image of the municipality and customer satisfaction.

Figure 2.3: Open system input-output model



Source: Author's own construction

2.5 Recent trends in municipal finance

Local government institutions are required to pay for expenditure in order to meet demands of the local citizens for service delivery initiatives and infrastructure. There are other new trends in financial management that incorporate accountability and transparency at local government level. However, one of the most significant trends in municipal finance is fiscal decentralisation aimed at complementing local government finance by transferring fiscal responsibility from central government to local government to finance developmental programmes and services (UN HABITAT, 2009).

Since the year 1980, 75 countries implemented decentralisation policies to ensure effective and efficient service delivery and to address poverty and inequality (Ingram & Hong, 2008). In many Countries, decentralisation meant that national and provincial governments have transferred responsibilities into local government institutions.

The whole idea is to establish an overall fiscal decentralisation whereby the provincial or national government passes budgetary authority to local government institutions in order to be able to make taxing and spending decisions. The main purpose is to speed up service delivery and to ensure the provision of services in an effective and efficient manner. According to UN HABITAT (2009) taxing is not part of decentralisation. Ebel and Vaillancourt (2001) make the point that the aim is to shift debt burden onto municipalities by reducing transfers and directing responsibilities to local government institutions by the central government (Ebel & Vaillancourt, 2001).

The unfunded mandates require local government to provide public services and it puts more pressure on the finances of the municipality. The one-size-fits-all approach when it comes to financing of water and sanitation services and infrastructure by local government doesn't work. There is a need for the central government to treat municipalities differently because metropolitan and urban municipalities have greater fiscal capacity than rural municipalities. It is also imperative for local government institutions to raise their own revenue from water and sanitation services and to engage in a prudent and transparent financial management processes.

2.5.1 Revenue management principles

The Constitution of 1996 grants municipalities' considerable income-generating powers but subjects these powers to national legislation and regulation. According to Fourie and Opperman (2012) the most important policy principles that should guide the municipalities in drafting their tariff policies are: payment in proportion to the amount consumed, full payment of service costs, affordability, ability to pay, fairness and transparency, local determination of tariff levels, consistent tariff enforcement, ensuring local economies are competitive (Fourie & Opperman, 2012). Municipal revenue has its origins in municipal administration and the local governance system in as far as municipal water and sanitation services are concerned. In order to create an excellent model of taxation, it is necessary for the authorities to establish principles of taxation and little attention has been paid to this by the local government authorities. Fourie and Opperman (2012) have tabled key policy principles that should guide the municipalities in the design of tariff policies and taxation models but very few of these have been implemented so far.

Municipal taxation powers are also limited in that they may not unreasonable prejudice national economic policies and activities (Fourie & Opperman, 2012). Fourie and Opperman (2012) further emphasize that the systems of municipal finance must be based on the following principles in order to meet the objectives of the local government as set out in Chapter Seven of the constitution namely: revenue adequacy and certainty, sustainability, effective and efficient resource use, accountability, transparency and good governance, equity and distribution, development and investment, and macroeconomic management (Fourie & Opperman, 2012). According to the *Municipal Systems Act, Section 11 of 2000*, the municipality should exercise legislative or executive authority by imposing and recovering rates, taxes, levies, duties, service fees, and surcharges on fees. This should include setting or developing and implementing water and sanitation tariff, rates and taxes, indigent support,

customer care as well as debt collection policies. *Section 74 of the Municipal Systems Act* further makes provision for service charges, stating that a municipality should adopt and implement tariff policy on the levying of fees for the services provided by the municipality. As enshrined in the *Municipal Systems Act, section 75 of 2000*, the municipal council should adopt the municipal by-laws to give effect to the implementation and enforcement of its tariff policy.

The National Treasury pointed out that Revenue management and sound revenue enhancement strategies are critical functions of the Chief financial officer to ensure effective systems for efficient collection of municipal monies due in respect of own revenue e.g. service charges (Fourie & Opperman, 2012).

2.4.2 Cash management and revenue collection

Visser and Erasmus (2015) define revenue collection as one of the terms to describe cash management procedures and practices within the public sector environment. Drawing on Allan's (1993) views, Visser and Erasmus (2015), claim that revenue collection administration entails improved revenue flow, improved cash management, greater interest earnings on investment, equal treatment of taxpayers, greater budgetary control and the ability to complete projects timeously, improved credit worthiness and reduction in borrowing costs and increased compliance with local tax and revenue laws (Visser & Erasmus, 2015) In support of Erasmus, Siddle and Koelble (2012) looked at revenue collection from a different angle. Siddle and Koelble (2012) pointed out that revenue collection is a fiscal decentralisation process whereby revenues of the national government and the power to raise revenues from local sources are transferred to subnational governments. Siddle and Koelble (2012) further highlighted two dimensions of decentralisation namely: the authority to raise revenues and revenue sharing. Revenue management is one of the key factors and components of public financial management. According to Ngwenya and Majam (2011), public financial management entails a decision-making process on key areas where the financial resources are needed for the fulfilment of government programmes, identification of revenue collection strategies, the collection, safeguarding and utilisation of those resources as well as the control of all financial management processes within a given time-frame. Ngwenya and Majam (2011) further state that the National Treasury provides a subsidy in the form of grants during the annual financial budget in order for the municipalities to be able to fulfil their constitutional mandates of providing adequate services to the citizens.

2.4.3 Public financial management and revenue collection

Ngwenya and Majam (2011) maintain that public financial management involves the government generating and allocating resources based on the priorities and utilisation of such resources effectively and efficiency to meet the needs and demands of the citizens. Moeti (2014) reminds us that local governments are required through their constitutional establishment to render service to citizens residing within their own municipal boundaries and jurisdiction and that substantial amounts of financial resources are required in one form or another (own revenue, equitable grants etc.). Drawing on Jones and Pendlebury's (1992) ideas, Chiunye and Chikosa (2015) point out that local authorities should provide goods and services to the citizens and those services should be charged for. Moeti (2014) further makes the claim that local government unlike other spheres of government is expected to raise over 90 percent of its own revenue in order to render the required services. Moeti (2014) pointed out that public financial management deals with the management of the money of the citizens, assigned to government through taxation.

Substantial funds are derived from service charges paid by consumers for public goods and services provided, such as water and sanitation. The municipalities should be self-sufficient and should be able to generate their own revenue to be able to provide uninterrupted services rather than to depend on national and provincial government subsidy. However, the economic status of the urban municipalities might differ from the rural municipalities. The effective way to ensure that municipalities maintain healthy cash inflow and outflow is to have sound revenue enhancement strategies that seeks to ensure that all service users or consumers of public services do pay for public services in particular water and sanitation services.

2.4.4 Challenges that the African Countries are faced with in relation to revenue collection

According to Zivanai et al. (2014) there is a need for a sound revenue collection system for proper running of the local government. The challenges that the African countries are faced with, include: inefficient revenue collection systems where large amounts are left uncollected whilst those that are collected are sometimes inappropriately managed (Zivanai, et al., 2014). Ramphele (2008) in support of Zivanai pointed out that municipalities should have sustainable revenue sources in order to be financial sustainable (Ramphele, 2008). According to Ramphele (2008) as cited in Chiunye and Chikosha (2015) financial viability refers to the

municipalities ability to generate sufficient income in order to meet operating expenses, allowing growth while maintaining service delivery levels and debt commitments.

According to Denhere et al. (2012) the municipalities should be financially independent, meaning that they should be able to generate their revenue from taxes and service charges in order to be responsive to the needs of the residents. Residents should be responsible for paying for services rendered by the Municipalities. Denhere et al. (2012) suggests that revenue for local authorities can be improved by employing a sound communication strategy, provision of metered services and fixing of faulty meters; accurate billing, debt and credit management and that the more services are improved, and made affordable, the more residents will be willing to pay for services rendered by the Municipalities.

2.4.5 Factors that impact negatively on revenue management

Kanyane (2011) highlights some of the factors that impact negatively on revenue management. The obstacles are: poor quality of service delivery, poor perception of government systems and inadequate capitalization which has greatly affected the revenue management in local government authorities. The revenue base is faced with a culture of non-payment for service charges, manipulation of supply chain processes and the authorities' failure to be accountable to the citizens

Ali, Fjedlsted and Sjursen (2014) make the claim that there is a huge variance that exists between and within poor communities that has a negative impact on revenue collection and management. On the contrary, Fjedlsted (2004) argues that reluctance or non-compliance to pay for service charges is not related to inability to pay. It emanates from the way the citizens perceive the authorities. Along the same line of thought Kibassa (2011) argues that willingness to pay is associated with the quality of services provided to ensure community-managed cost recovery. Kibassa (2011) further claims that the service efficiency is the direct outcome of appropriate management and institutionalised management that networks with different stakeholders and considers their ability and willingness to take responsibility.

2.4.6 Level of injustice in the enforcement of revenue policies

Margreet and Boelens (2014) investigated the level of injustices and inequalities that emanates from enforcement of revenue policies. Boelens and Margreet (2014) make the case

that there is a need to re-evaluate water user groups and communities targeted; incorporated or excluded by the dominant water policies and governance cultures which may result in popular participation and decision-making through user platforms negotiations as well as by granting autonomy to user groups. The autonomy granted to user groups allows these groups to devise and apply their own water rules which address a form of cultural recognition of all sectors in the community as legitimate water actors which will result in redressing historical injustices and inequalities (Margreet & Boelens, 2014).

It has been pointed out that injustices in water-related matters may sometimes produce very open conflicts with people who feel treated unjustly and who actively protest to demonstrate their frustration and anger. For instance this can be seen in the cases of resistance against the introduction of water privatization policies. On the other hand some injustices never produce open disputes but instead they involve silent suffering (Margreet & Boelens, 2014).

It is important to note that sometimes the officials of the municipalities fail to consult the communities during the development, adoption and implementation stages of water policies and by laws. The communities are expected only to rubber stamp policies that have been developed by bureaucracies and authorities which then results in frustration, anger and resistance which then causes water injustices. The researcher has found Water injustices to be extremely relevant to the study since it specifically focuses on revenue management in service delivery related to Water and Sanitation Services bearing in mind that the Harry Gwala District Municipality is a Water Services Authority.

The major difference between the current study and other related studies that have been conducted, is that other studies looked at cost recovery in general but this study will employ User Fees theory to examine cost recovery specifically in water and sanitation services in the Harry Gwala District Municipality where the core function is the provision of good quality drinking water and suitable sanitation services.

If the inability to collect sufficient revenue can be addressed it should have a positive impact in terms of economic viability of the Harry Gwala District Municipality. The revenue can be generated by recovering operating and maintenance costs of water and sanitation services which will enable the maintaining and refurbishing the existing infrastructure. This will further result in improved water and sanitation service delivery in the entire Harry Gwala District. The Harry Gwala District Municipality could have strong sustainable revenue sources and if this is forthcoming it will be able to eliminate water and sanitation backlogs and provide services to those citizens who cannot access basic water and sanitation services.

2.5 Sources of government revenue

The analysis of the sources of government revenue is central to this study and it will be imperative to analyse the performance of the various sources of the municipal revenue. According to Dirie (2005) the municipal revenue management is fundamental in the running of the municipal finances and in sustainability. Local taxation goes beyond generating revenue to fund local services since it is of profound constitutional importance in its devolution of autonomy from the centre (Kingdom, 1991). According to Botes et al. (1992) there are various but limited sources of local government revenue due to diverse needs of the inhabitants of the area. The local authorities do not have enough money to meet all the citizen's needs.

In essence, the communities understand their needs as well as the services that they would like the municipalities to render in their respective areas. All the financial transactions need to be accountable to the citizens so as to ensure transparency and to strengthen accountability in local government that is then required to exercise its power by imposing taxes in order to secure revenue to enable the municipality to meet the costs involved in water and sanitation service delivery mechanisms. In most developing countries autonomous revenue collection has become a popular reform employed to improve revenue inflows. The Harry Gwala Municipality also needs to explore alternative own revenue collection strategies to generate income from service charges in particular for water and sanitation services as a Water Services Authority.

Siddle and Koelble (2012) argue that it is essential for the municipalities to optimise their revenue collection processes in order to perform their functions. Siddle and Koelble (2012) further argue that most municipalities are perceived to be hard-pressed for revenue due to the inability and unwillingness of the municipalities to collect revenues. Siddle and Koelble (2012) make the claim that in 2007 the municipalities were owed a total of R56.2 billion, and in 2009 this figure reached R62.3 billion, which was supposed to have been collected from rates and service charges.

The Municipal Systems Act (Section 74 & 96) requires that each and every municipality should adopt and implement a tariff policy on levying the consumers for municipal services and they should adopt, maintain and implement a credit control and debt collection policy. *The Municipal Systems Act (Section 75)* makes provision for the municipal council to adopt bylaws in order to give effect to the implementation and enforcement of the tariff policy. The

Municipal Systems Act (section 98) states that the municipal council must adopt bylaws in order to give effect to credit policy and debt collection policy including implementation and enforcement.

On the other hand according to the *Analysis of Local Government Revenue and Expenditure (2012/13)* local government in South Africa is commonly self-financing with 73.4 per cent operational revenues obtained from own revenue collection during the year 2003/04 to 2008/9 respectively and intergovernmental fiscal transfers contributed 26.6 per cent. However due to socio-economic challenges across the country, other municipalities have limited or weak revenue sources which then makes them dependant on intergovernmental transfers that bridge those gaps by ensuring that all municipalities are well financed to meet their service delivery obligations (Revenue, 2012/13).

Siddle and Koelble (2012) argue that South African local government is often known to be largely self-financing. This is due to the fact that the bulk of municipal financial resources are raised from own revenue sources such as taxes and service charges. According to Siddle and Koelble (2012) imbalances between available revenue sources and expenditure needs require that municipalities' own sources of revenue should be supplemented by intergovernmental transfers. Siddle and Koelble (2012) further argue that fiscal transfers will continue to play a significant role in the redistribution of resources.

Drawing on Falleti's (2005) work, Siddle and Koelble (2012) makes the point that the delegating taxing authority to subnational governments which lack the capacity to collect taxes can result in serious constraints and results in increased dependency of local government on transfers from central government.

However, in South Africa the *National Fiscal Framework* is designed to raise municipalities' accountability to residents. Hence the municipalities in collecting their substantial revenues from service charges and property rates, they should ensure that the service users are satisfied with the kind of service they receive from the municipalities. Excellent water and sanitation service quality may result in willingness to pay for water and sanitation service charges by the consumers and customers.

Gildenhuys (2010) argues that the Power Authority Theory confirms the democratic principle that the ultimate power over taxation rests with the registered voters- cum tax payers to pay tax and the ultimate authority to impose tax rests with the legislature. According to Moeti (2014), government must develop a sound revenue strategy and must be able to raise revenue

in order to fulfil its constitutional mandate to provide goods and services to its citizens. Moeti (2014) further pointed out that municipalities are dependent on effective revenue collection and debt collection practices to sustain expenditure associated with institutional functioning and service delivery. Tax is a common source of revenue for government to generate income in order to provide goods and services to its citizens. According to Nsingo (2014), tax is a due or levy paid to the state by citizens and business organisations in order to facilitate the work of government.

According to Smith as cited in Nsingo (2014), there are three fundamental principles of taxation namely: efficiency, equity and simplicity and low administration cost. Nsingo defines efficient characteristics as a tax system designed to minimize cost or losses to the paying individual. Those affected should endure the least possible loss. The system should seek to achieve economic improvement where it is possible to make at least one person better off without making anyone else worse off (Nsingo, 2014). According to Pauw et al. (2014) there are various types of tax namely: income tax; consumption tax; property tax; user charges; nominal levies; consumer tariffs; sundry charges; bilateral and multilateral aid; and donor agencies.

For the purpose of this study the focus is on user charges since the research topic assesses revenue management in the Harry Gwala District Municipality with specific reference to water and sanitation services. According to Moeti (2014) user charges have direct quid pro quo, these are charges imposed on individuals in communities for the use of public facilities or for the consumption of goods and services rendered by the state and levied on the basis of the cost of providing a service that may amount to the total cost, or part of the cost.

According to Bird and Slack (1993) cited in UN HABITAT (2009) a user fee is a charge per unit of the output (UN HABITAT, 2009). Subsequently; Bird and Tsiopoulos (1997) make the point that charges lead to efficiency in two ways: they provides the public sector with the information on how much service users are willing to pay and enable the citizens to value the services from the public sector (Bird & Tsiopoulos, 1997) The Authors further argue that under-pricing for a service may result in overconsumption of such a service.

Fourie and Opperman (2012) makes the claim that service charges (user charges) are charges directly related to the provision of electricity, water and sanitation services or

sewerage services, as well as refuse removal and that service charges constitute the largest portion of the municipalities gross revenue.

Moeti (2014) makes the claim that user charges are amounts of monies imposed on individuals for the use of specific public services, but those services in the process should not be exhausted but remain available to be used by other users on the payment of the prescribed user charge. Gildenhuis (2010) further reiterated that these services should not disappear in the consumption and that, it is imperative that such public services are properly maintained in order to always be available to any individual who wants to make use of such services and they should not, in any event, be completely depleted.

2.6 REFLECTION ON THE ATTEMPTS BY LOCAL GOVERNMENT MUNICIPALITIES TO RAISE REVENUE FROM SERVICE CHARGES IN SOUTHERN AFRICA

According to Fjeldstad and Heggstad (2011), Cost recovery charging systems are the best mechanism for matching supply and demand of public services, where there is a connection between the amount that has been charged and the consumption of public goods and services rendered to the citizens. Service charges should play a pivotal role in Local government finance. Drawing on Fjeldstad *et al.* (2005), and Bahl and Smoke (2005), Fjeldstad and Heggstad (2012) make the point that, service charges for water and sewerage are the major sources of revenue in urban areas in Southern Africa particular in Namibia and South Africa. However, service charges can impose a burden to lower income consumers of public goods and services. Service charges can also prevent access to public services by the poor communities (Fjeldstad & Heggstad, 2012) (McDonald & Pape, 2002)).

On the other hand, Fjeldstad (2011), and McDonald and Pape (2002) make the claim that exempted service users may over-consume public services and it may sometimes be difficult to identify consumers who qualify for free services based on their inability to pay. Fjeldstad (2011) further reiterated that improved service delivery is a priority for most governments in Africa especially in the poorest of the countries.

In South Africa, the policy obliges the municipalities to provide all water consumers 6000 litres of water free of charge, although middle and high income households may benefit more from this dispensation compared to the low income households. In Namibia tariffs are not determined by the approved tariff policy. These experiences shows that there are constraints

on service charges and cost recovery since in most rural areas there are no prepaid water meters and the municipalities have not yet upgraded the water schemes and still use communal standpipes (Fjeldstad & Heggstad, 2012)

Fjeldstad and Heggstad (2012) highlight three dimensions of trust which affect revenue collection mechanism in Southern Africa which are major constraints on service charges and cost recovery: “Trust in local government to use revenues to provide expected services”, “Trust in local government to establish fair procedures for revenue collection” and “Trust in other citizens to pay their share”.

2.7 BENEFIT TAXATION AND USER FEES THEORY

This section intends to discuss critically, the theoretical framework of the study which is based on the Benefit Taxes and User Fees theory. It is important to point out that the study will specifically concentrate on the latter (User fees). The user fees will be employed because the study will be assessing revenue management of water and sanitation in the Harry Gwala District Municipality in order to improve revenue management and to enable the Municipality to finance the operation and maintenance of infrastructure that supplies water and sanitation services. The author has found Duff’s Benefit Taxes and User Fees (2004) theory more relevant and employable in this study than other theories because it outlines various categories of government levies and the application of this theory is exemplified in how the Ontario Government employs this theory to enhance revenue management of water and sanitation.

It is also important to note that the writer is aware that there are several theories of taxation in public economics. These theories of taxation can be traced back to the 18th and 19th century and are associated with prominent names like John Stuart Mills (1871), Knut Wicksell (1896) and Erick Lindahl (1919). The *Benefit*-based theory was developed by Mills and Purely whilst an *Ability*-based theory was developed by Wicksell and Lindahl (Weinzierl, 2014). Later in 2014, Luis Razo developed another theory of taxation called the Voluntary-based theory of taxation (Razo, 2014). The writer acknowledges that there might possibly be other theories of taxation apart from the ones which are mentioned here but she chooses to adopt Duff’s Benefit Taxes and User Fees taxation theory as indicated above. Since this theory was developed recently there is a high possibility that Duff might have developed it from the preceding theories.

The section will first present a discussion on the Benefit Taxes and User Fees theoretical framework drawing largely on the experience of Ontario in Canada. Secondly; the section will summarize the different types of taxation followed by the traditional goals of tax policy. Thirdly, the section will provide a discussion of factors and elements that should be considered in the design of a Benefit Taxes and User Fees framework. The section will conclude by providing reflections on the municipal government expenditure in the Canadian example and offer a critique of the model that is employed in Canada.

2.7.1 Benefit taxes and User fees theoretical framework

According to David Duff (2004) benefit taxes and user fees are mandatory levies imposed on individuals and households who benefit from public goods and services. To distinguish between the benefit taxes and user fees, the former (benefit taxes) is a compulsory levy imposed on individuals or institutions who benefit from government services while the latter (user fees) is a levy imposed on individuals and households based on the consumption of government goods and services rendered (Duff, 2004). Consequently, Duff (2004) argues that both benefit taxes and user fees are forms of benefit taxation but the difference is that the latter (user fees) can be measured.

The following section will distinguish between various classifications of government levies: general taxes, tax benefit and user fees as propounded by David Duff.

2.8 DIFFERENT TYPES OF TAXATION

General taxes: refers to the provincial taxes on income, retail sales, and corporation.

Benefit taxes: refers to levies imposed on assets e.g. on municipal property and property development(real estate) as well as on gasoline and diesel, the revenue generated from gasoline and diesel is used to operate, refurbish and maintain roads and highways.

User Fees: refers to service charges for water and sewerage services, collection and disposal of solid waste, the fees are based on volumetric rates or consumption. The ‘user fees’, as opposed to general benefit taxes are more relevant to my study as described in my introduction.

2.8.1 Relevance of the Theoretical Framework

Despite the fact that Duff’s theory is derived from a completely different context most of its prescriptions are relevant to the context of the Harry Gwala Municipality. Duff’s theory is particularly relevant and employable in my study because it outlines various categories of

government/municipal levies which enhance revenue collection. The preceding statement attests to the fact that at present there is not sufficient revenue income to maintain and refurbish existing infrastructure in the Harry Gwala Municipality. Hence, the research seeks to assess revenue collection of water and sanitation in the Harry Gwala District Municipality in a bid to explore ways of generating or collecting more revenue from service charges or user fees.

Duff employed both Benefit taxes and User Fees theory but for the purpose of this study the researcher will employ User Fees theory because the research will focus on revenue management with specific reference to water supply and collection and treatment of sewerage or sanitation services.

2.9 ADVANTAGES OF BENEFIT TAXES AND USER FEES

Duff (2004) further outlines the advantages of Benefit Taxes and User Fees as follows:

Benefit taxes and User fees advance economic efficiency by ensuring that scarce resources are allocated to their most highly valued uses in both the public and private sectors. Benefit Taxes and User Fees are a more efficient way to raise government revenues than general taxes. These levies also enhance the accountability of the public sector, making it more responsive to differing preferences and changes in the demand public goods and services. That these taxes embody a basic principle of fairness, since tax payers pay only for those publicly provided goods and services that they use (Duff, 2004).

2.10 IMPOSITION OF BURDEN BY USER FEES

User fees can impose more of a burden on the less wealthy individuals and households than on the wealthiest individuals and households. The policy-makers should consider heterogeneity in terms of affluence in tax imposition to ensure that it does not compromise the principle of fairness. Furthermore, the policy makers should involve rate payers in price determination and tariff's development to ensure a rational decision-making process. Accountability cannot be effective and efficient if this is not taken into cognisance and can result in jeopardising transparency which is one of the eight *Batho Pele* principles as enshrined in the *White paper on the Transformation of Public Service Delivery of 1997*.

2.11 TRADITIONAL GOALS OF TAX POLICY

Duff (2004) outlined eight traditional goals of tax policy that can be employed and which impact positively on government revenue. For the purpose of this research, the researcher discussed only six goals which the researcher thought were more relevant to this study.

The context in which Duff argues for these goals is based on modern market economy and the emphasis is on allocation and distribution (not provision of public goods and services) of economic resources. Economic theory suggests that “Public provision financed by compulsory taxation is essential for efficiency reasons to prevent the undersupply that would result, under private provision from free riders who could enjoy the goods or service without contributing to its cost” and “where the characteristics of the goods or services suggest that its distribution should be according to right, need or merit rather than willingness to pay as in the case of primary education and health care” (Duff, 2004)

Duff (2004) states that Benefit Taxes and User Fees may impose a burden on the less affluent individuals and that this would contradict the purpose of public provision. However, this statement is not relevant to my study because the Harry Gwala Municipality already has a provision which protects the less affluent.

2.11.1 Economic efficiency

According to Duff, (2004) economic efficiency is one of the fundamental traditional goals of tax policy. In order to measure the value of this principle one has to determine the basis of happiness which then results in willingness to pay by the consumers of public goods and services. Duff further reiterated that if the levies imposed on consumers are priced properly, such levies can promote economic efficiency (Duff, 2004).

A contrary view is that this traditional goal emphasises a psychological dimension as a prerequisite of economic efficiency. This is Psycho- Economic efficiency since it has both a psychological and an economical component. The economic efficiency is measured on the bases of happiness by consumers of public goods and services which enhance willingness to pay due to the quality of services being provided by the government which results in customer satisfaction. Customer satisfaction for services and goods provided informs the customer or consumer’s willingness to pay for such services rendered and levies collected which would promote economic efficiency.

2.11.2 Accountability

Benefit Tax and User Fees promote participatory decision-making by both the citizens and legislative representatives. The authorities and administrators are obliged to adhere to these decisions and this further promotes consumer satisfaction (Duff, 2004). Bird and Tsiopoulos as cited in Duff (2004), point out that individual responses to Benefit Taxes and User Fees

can provide public managers with vital information about what they should be doing and how. Duff (2004) argues that these levies should result in client-responsive management.

Likewise Duff (2004), Gildenhuis, (2010) and Moeti (2014) argue that public responsibility and accountability is a requirement for democratic financial management. The elected political representatives are directly accountable to the public and should be held responsible for the collection, safeguarding and effective and efficient spending of the public monies. Even if the executive is directly responsible for the mismanagement of public funds, the legislature has an oversight role to play and is obliged to account to the public for any maladministration that might occur (Gildenhuis, 2010; Moeti 2014).

Duff agrees with Gildenhuis because in democratic countries like South Africa, accountability is one of the traditional cornerstones of democracy and consultation is paramount in service delivery. Popular participation in decision-making occurs when the voters/ citizens and the legislative representatives are involved jointly in the decision-making process. The citizens are asked what they really expect from government and how best the public institutions can live up to or exceed their expectations. Accountability, transparency and consultation are the pillars of democracy that promote ownership by the rate payers and citizens in general for any decision that affects them.

2.11.3 Fairness

Fairness is one of the traditional goals of tax policy. According to Duff, (2004), fairness represents horizontal equity determined by income, consumption or wealth, meaning that tax payers with similar levels of economic wellbeing and consumption are obliged to pay similar tax. Duff further argues that taxes should be designed to maximise utility.

The idea of fairness in taxation was also supported by Gildenhuis in his theory of taxation. According to Gildenhuis (2010), fairness is conceived as horizontal equity which is also called justice which emphasises equal treatment for tax payers in equal economic circumstances. Equal tax should not be arbitrary in nature or discriminatory in practical application (Gildenhuis, 2010). In essence, tax payers in identical economic circumstances should be taxed the same amount; tax should reflect the ability to pay for those who bear its burden or the tax burden should be matched by the benefits that taxpayers enjoy. Moreover Gildenhuis (2010) argues that in general, taxes that take a higher effective percentage are unfair.

2.11.4 Budgetary Flexibility

According to Duff (2004), relying on earmarked Benefit Taxes and User Fees can result in limited scope of fiscal policy for stabilization purposes. When the revenues from Benefit Taxes and User Fees are earmarked for service delivery expenditures from which they are derived, this may limit the flexibility in terms of government expenditure decisions.

In essence, this argument on earmarking resonates very well with this study and the situation in the Harry Gwala District Municipality makes me agree with Duff (2004) who argues that if the authorities earmark the revenues that will be collected from Benefit Taxes and User Fees to fund specific programmes, this can result in limited scope for the implementation of fiscal policy with regard to stabilisation. Earmarking may greatly affect the municipalities that have a weak revenue base and that are affected by the culture of non-payment like the Harry Gwala District Municipality that collects less than 30 per cent of revenue compared to what is expected to be collected after billing for water and sanitation services.

2.11.5 Revenue

According to Duff (2004), increased reliance on Benefit Taxes and User Fees has reduced transfers from national and provincial government to the municipalities in Ontario since they are able to generate their revenue and have become financially independent (Duff, 2004). It is imperative for the Water Services Authorities to increase their reliance on User Fees from water and sanitation in order to root out a dependency syndrome on the National and Provincial government.

2.11.6 Political viability

According to Duff (2004) employing Bird and Tsiopoulos's ideas, there may be challenges if the authorities want to introduce new or increased Benefit Taxes and User Fees especially in cases where the goods and services were formerly provided without charge. These levies may be seen as 'just another tax'.

It is imperative for the authorities to ensure that communities are consulted during the development of water and sanitation tariff policies, adoption, amendment and implementation stages Revenue policies should be formulated in collegiality with communities not by forcing them to rubber stamp what has been developed by bureaucrats. Taking communities for granted normally results in frustration, anger and resistance which can be viewed as a form of injustice since new levies or increase in levies may impose financial strain on the less affluent households or individuals compared to the more affluent households or individuals (Margreet & Boelens, 2014).

2.12 FACTORS TO CONSIDER WHEN DESIGNING BENEFIT TAXES AND USER FEES

2.12.1 Feasibility

Feasibility of Benefit Tax and User Fees depends upon two factors. Firstly, the policy makers should be able to identify beneficiaries of the public goods and services where these taxes should be imposed (Duff, 2004) and secondly, there must be an assessment of the affluence of those beneficiaries to see if it is possible to charge them.

This argument resonates well with this study since it can apply to the revenue management of water and sanitation in the Harry Gwala District Municipality. One of the additional objectives of the study is to assess the capacity of the municipality to collect revenue, and the availability of revenue policies and an indigent register/ policy so as to ensure that there is no form of injustice inflicted on the less affluent individuals and households.

2.12.2 Suitability

Suitability is one of the factors that the policy makers should look at when imposing Benefit Taxes and User Fees on specific beneficiaries of the public goods and services (Duff, 2004). If the public good does not have private characteristics and only entails public characteristics, then only the beneficiaries that can afford to pay for public goods and services should be charged without depriving those beneficiaries who cannot afford to pay for public services.

This factor reflects the essential element of this study; the Harry Gwala Municipality database reveals that there are individuals that are unable to pay for municipal services because of unemployment and poverty. The study caters for the indigent and will also take into cognisance indigent management and support. This move will ensure that these individuals and households are not deprived of access to municipal services in the Harry Gwala District Municipality particular with regard to water and sanitation. As far as the legislative requirements for indigent support is concerned, *Section 74(2) of the Municipal Systems Act* makes a provision for the tariff policy to reflect that poor households must have access to at least basic services through direct or indirect methods of subsidisation of tariff for poor households.

2.13 CRUCIAL ELEMENTS TO CONSIDER IN THE DESIGN OF BENEFIT TAXES AND USER FEES

Billing, Quality of service and Communication have been identified by Duff (2004) as crucial elements that should be considered in the design and implementation of the Benefit Taxes and User Fees. Within these elements there are also sub-elements namely: feasibility, suitability and appropriateness.

2.13.1 Billing, Quality of services and Communication

According to Duff, (2004) for Benefit Taxes and User Fees to be effective it is crucial to consider the feasibility, and suitability of these levies and their appropriateness. Similarly, USAID (2006) suggests that revenue for local authorities can be improved and be made sustainable by improving communication with the consumers, providing metered services and fixing of faulty meters; accurate billing, debt and credit management and the provision of quality and affordable services, then more residents will be willing to pay for services rendered by the municipalities (Denhere, et al., 2011).

2.14 Reflections of the municipal government expenditure with particular reference to water and sanitation services in Canada.

The Canadian government programmes and projects rely on Benefit Taxes and User Fees. Based on this notion, it is imperative for government to consider specific goods and services that are provided by different spheres of government as well as to consider how those services will be financed. Water and sanitation service provision is the responsibility of the local government in Canada and in South Africa.

The government in Canada invests substantial amounts of municipal government income on water and sewerage services. Benefit Taxes and User Fees play a pivotal role in municipal public finance in Canada since local government is able to generate substantial revenues from these levies.

The Canadian government ensures efficiency and effectiveness in the design and application of Benefit Taxes and User Fees. The policy makers and authorities employ a multi-part tariff structure for supplying water for both domestic and commercial users. Multi-part tariffs include access fees or connection fees, kilolitres consumed by the water user and the distance from the water source or water scheme to the location of the user which will finance the operation and maintenance or refurbishment as well as the expansion or upgrading of the water and sewerage scheme.

As far as the sewerage system is concerned, the multi-part tariff system is employed in the collection and treatment of sewerage for both domestic and commercial users. This lump sum includes connection fee, collection costs, and the monthly fee billed to the consumer of such service which will be used to finance operating and maintenance fees and pollution and effluent fees applied to the commercial/ industrial users.

However, less affluent or low-income households are exempted or subsidised by government to ensure that they are not deprived of their right to access water and sanitation services due to their inability to pay.

Duff (2004) recalls that a study that was conducted in 1996 revealed that 56 per cent of the Canadian and 40 per cent of the Ontario Municipalities employ separate flat rates for service charges instead of charging the consumers based on consumption. Likewise, with the sewerage system, 70 per cent of the Canadian and 60 per cent of Ontario Municipalities employ separate flat rates. It has been proven that the flat rate model has resulted in underpricing of water and sewerage which is very common in developed countries; however the general trend is towards volumetric pricing and full cost recovery.

In order to bridge the gap of water under-pricing, as a mitigation measure, the developed countries have introduced seasonal rates which gained popularity in United States and Australia in the 1960s but the reforms are moving towards full cost recovery.

In a highly diverse country like South Africa which is a Third World country faced with high levels of poverty and unemployment; some of the revenue enhancement strategies that are employed in developed countries would not be feasible in South Africa. The municipality cannot simply withhold municipal services from those members of the society that cannot pay for services in South Africa and in the Harry Gwala Municipality, In terms of the *Constitution of the Republic of South Africa*, all citizens have a right to have their dignity protected and respected. Revenue enhancement strategies and execution of debt collection practices should take into account the rights and dignity of citizens. However the general trend should be towards volumetric pricing and full cost recovery for middle-income and high-income households without withdrawing access to public services for the low income households. Moreover, it is imperative for the policy makers and public servants to take into account the rights as enshrined in the Constitution as well as other relevant legislation when designing revenue policies. The municipalities in South Africa are faced with a culture of non-payment for municipal services even the consumers who can afford to pay do not comply and seasonal rates may not be suitable and feasible in the Harry Gwala Municipality since it is a rural municipality faced with high levels of poverty and unemployment.

2.15 A guide to enhancing municipal revenue- municipal revenue management model

This guide was funded by the United Nations States Agency for International Development. It was developed by the Municipal Infrastructure Investment Unit with the assistance of

Planning and Development Collaborative International Company (PADCO) as well as Public Service Utilities International (PSU).

The authors claim that the guide presents tools that are well-tested and developed through direct experience in South African municipalities (USAID, n.d). The authors further make the claim that this guide reflects on cost cutting measures in the reduction of water losses. The authors also emphasize that the guide is not a substitute for revenue management competencies and skills but it intends to supplement competency and to demonstrate innovative mechanisms (USAID, n.d).

The next section will provide a brief overview of the Revenue management process as presented by the guide to enhancing municipal revenue that was developed by Municipal Infrastructure Investment Unit (MIIU), the section will further discuss the packaged programmes for revenue management processes namely: communication, data extraction and analysis model, debt collection, credit control, indigent management, customer information audit, data cleaning, customer care and reduction of water losses. This section will present critical factors for success and crucial learning experiences extracted from intervention on the ground in South African municipalities.

2.15.1 Overview of the revenue Management Process

It is well known that many municipalities have become unsustainable as they are beset by poor revenue collection/ uncollectable consumer debt and service delivery backlogs (USAID, n.d). The *Municipal Viability Indaba* held in Durban in 2008 resolved that municipalities should employ feasible revenue enhancement turnaround strategies in order to address poor revenue collection which will eventually reduce uncollected consumer debt.

According to USAID, the effective methodology for reducing uncollected consumer debt is proper planning and implementation of effective and integrated revenue enhancement strategies (USAID, n.d). The guide defined revenue enhancement as a process that focusses on a model for holistic improvement of municipal business.

2.15.2 Packaged Programmes for the Revenue Management Processes

The following are the packaged programmes for Revenue Management processes:

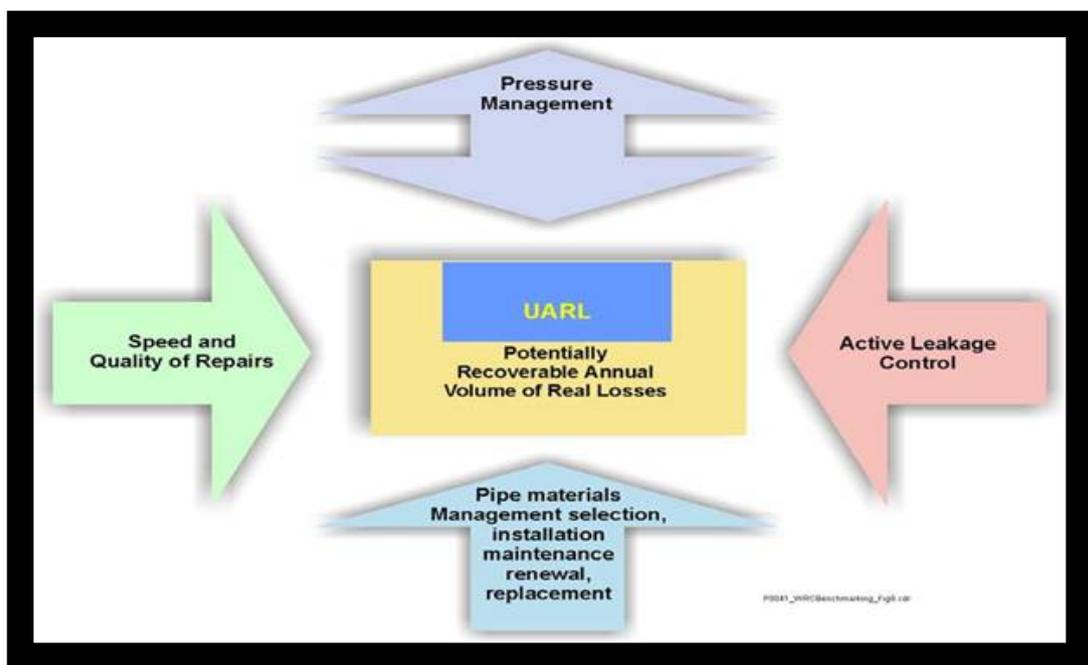
- Communication: The Constitution of 1996 makes provision for communication with the citizens in their development. This has been given a legal basis in the *Municipal Systems Act*. In order to implement an effective revenue enhancement strategy it is imperative to communicate this to the consumers of municipal services for ownership and buy-in. The municipalities should design effective communication strategies that will impact positively on the revenue enhancement programmes and initiatives;
- Data extraction and analysis model: Municipalities should from time-to-time conduct data extraction and analysis to do a comprehensive overview of the consumer/customer data as well as financial performance. This process does not only provide customer information, services and indication of debt levels but it has the ability to reveal underlying systematic causes of increased debt and it provides indicators for strategic interventions;
- Debt collection: The main aim of debt collection is to enable the municipalities to collect revenue that is due to them and to rehabilitate the debtor and to ensure that this benefits cash flow. The challenge that most municipalities are faced with is poor data that hinders effective debt collection mechanisms. The municipalities should ensure that the customer information is correct, and that the account information is correct. Municipalities should apply the appropriate tariff structure and produce accurate meter readings, Existence of the customer should be verified, and the socio-economic status of the customer established in order to implement an effective debt collection model;
- Credit control: In South Africa the municipalities source of own revenue is from service charges. Debt burden is a challenge in most municipalities in South Africa which hinders effective credit control. Effective control is aimed at enabling the municipalities to obtain payment for services rendered. In terms of *Section 78 of the Municipal Finance Management Act*, the municipalities should adopt, maintain and implement credit control and debt collection policies that do not conflict with the rates and tariff policy;
- Indigent management: The main aim of indigent management is to enable the consumers who are indigent (unable to pay for municipal services) to be exempted from the relevant taxes and fees. In terms of the *Municipal Systems Act* all municipal

councils should adopt and implement a tariff policy and take into account the subsidisation of poor households. In order to do so there should be an indigent grant support policy in place and an indigent register;

- Customer information audit: Customer information audits enable the municipalities to discover who the exact municipal customers are and to establish what they are entitled to in terms of the service delivery commitment of the municipality. This has been supported by the legislation in South Africa. The *Municipal Systems Act* requires that the municipalities should establish a customer management system. The *Water Services Act* provides for the determination of tariffs for water and sanitation services and further stipulates that consumers should pay reasonable fees. On the other hand the *Municipal Finance Management Act* requires the establishment and the maintenance of a management and information system that records revenue raised and accounts for debtors and receipts;
- Data cleansing: This process ensures that the information on the municipal billing system is accurate and up to date. Data cleansing is imperative in the municipality to ensure financial well-being and municipal viability. The main aim is to prevent losses due to incorrect and inadequate information. The data cleansing process has three stages: desk top data cleansing, returned mail cleansing and physical field audit surveys;
- Customer care: Customer care is the legislative requirement that all municipalities should adhere to. The *White Paper on Transforming Public Service Delivery of 1997* adopted eight *Batho Pele* principles that require all public servants to put people first. The municipalities should have customer relations management strategies and customer services charters in place to ensure effective implementation of a revenue enhancement strategy; and
- Reduction of water losses: The *National Development Plan* calls for a dedicated *National Water Conservation and Water Demand Management programme* by 2012, with clear national and local targets for 2017 and 2020. The *National Water Resource Strategy* emphasizes that *Water Conservation and Water Demand Management* (WC/WDM) should be one of the priorities, and measures to reconcile demand and supply in order to provide a better life for all through job creation and economic

growth. The Department of Water and Sanitation in South Africa has developed follow-up programmes, and actions by the Water Services Authorities to sustain the Water Conservation and Water Demand Management work and to reduce water losses and non-revenue water supply. The Water Service Authorities should implement these actions and programmes in order to contribute to the effective implementation of the revenue enhancement strategy. These programmes and activities will contribute to water use efficiency programmes, to make water services affordable, to ensure that Water Service Authorities remain viable and to the provision of sustainable access to water services for all.

Figure 2.4: Non-revenue water reduction framework



Source: The Harry Gwala Non-Revenue water Strategy (2015: 85)

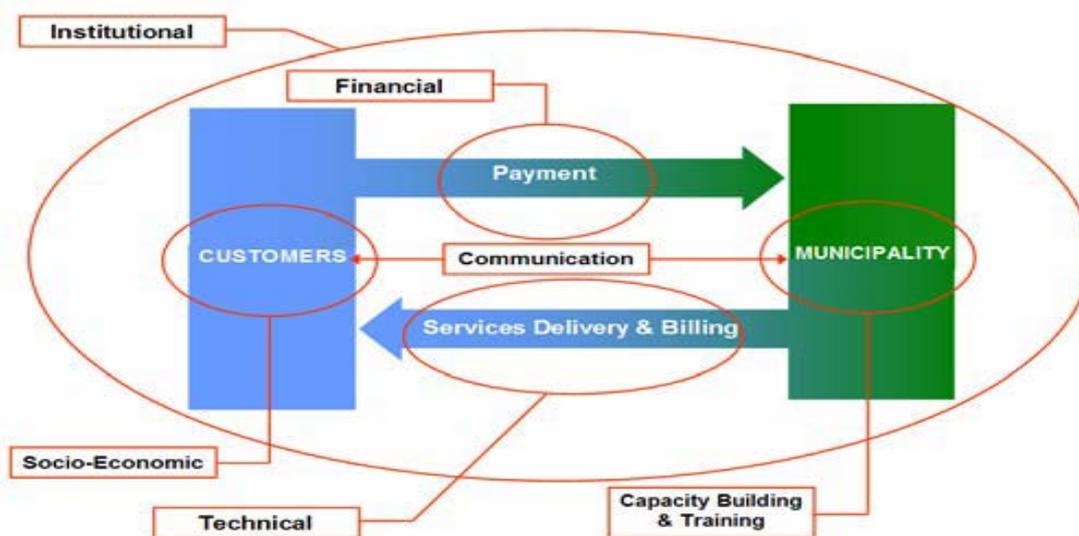
2.15.3 Municipal Revenue Management Business Model and Revenue Enhancement Process

The guide to enhancing municipal revenue makes the claim that in order to improve the existing municipal business model, the municipalities should identify critical elements/root causes that affect municipal revenue performance.

The guide highlighted the following critical elements for municipal sustainability: Communication Strategy, Provision of metered services, Accurate billing, and Revenue Collection (Debt and Credit Management).

According to USAID, for the ideal municipality that intends to maximise revenue collection and reduce inefficiency and cost as well as to reduce uncollected debt, requires the following holistic approach to local government sustainability. However, the above- mentioned elements should be considered for the model to be efficient. The authors make the claim that the following model is simple but has been proved to be difficult for municipalities to implement due to diversity, political nature and economic status of municipal consumers. It has been proven that some people do not pay for municipal services due to administrative reasons and socio- economic reasons (USAID, n.d).

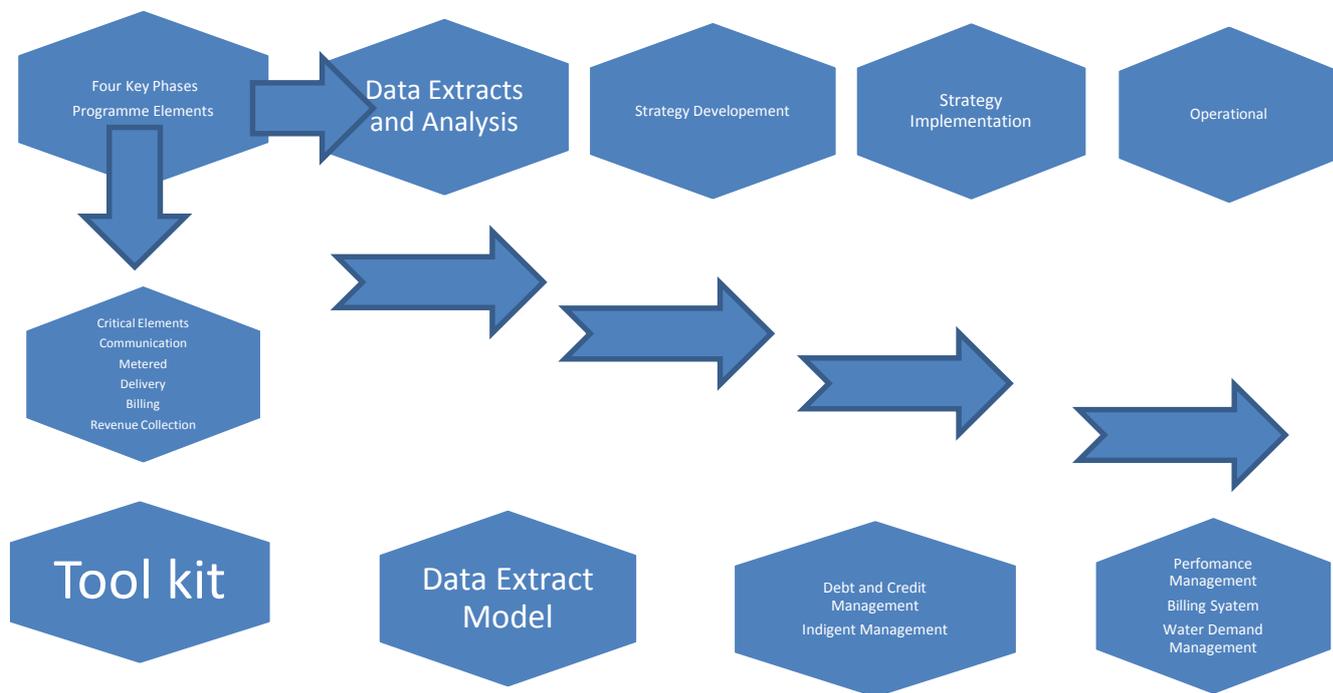
Figure 2.5: Revenue Management Business Model



Source: Adopted from USAID (n.d) *A guide to enhancing municipal revenue* (PAGE 3)

Since this study is assessing revenue management of water and sanitation services in the Harry Gwala District Municipality, the researcher found this Revenue Management Business Model employable including the Revenue enhancement Implementation process that has been developed by Municipal Infrastructure Investment Unit namely: Phase 1- Data Extraction and Analysis, Phase 2- Strategy Development, Phase 3- Strategy Implementation, and Phase 4- Operational (USAID, n.d).

Figure 2.6: Revenue enhancement implementation process



Source: USAID (n.d) – *A Guide to Enhancing Municipal Revenue*, (PAGE 5)

2.15.4 The impact of the billing system on revenue collection performance

It is well known that debt collection and service delivery are the greatest challenges that local government municipalities are faced with in South Africa and in Africa. There is an alarming level of consumer debt and the figure is increasing. It is not only the domestic users that owe the government monies but also the commercial users that are in arrears which then proves that our debt collection practices are inadequate and the consequences of non-payment are not clearly understood or implemented.

According to Rao (2012) billing processes play a crucial role in revenue collection for the municipalities and public sector institutions (Rao, 2012). USAID (2005) makes the claim that for an effective billing system that has a positive impact on revenue collection, such a billing system should be based on consumption to be paid for by consumers (USAID, n.d). USAID (2005) further mentioned that in service delivery, billing is the mechanism that drives cash flow and the source of customer information (USAID, n.d). In support of USAID, Rao(2012)

points out that a billing system energises cash flow and that it is the key source of customer information for those who are consumers of such services (Rao, 2012).

Rao (2012) argues that many Countries that have reformed billing processes coupled with strengthened revenue collection processes now enjoy improved revenue performance. Most Countries, in particular with regard to the water and sanitation sectors, have proven billing to have performed a key role in revenue collection (Rao, 2012). According to Agrawal (2008) when billing is improved as well as revenue collection, this will result in a swift positive impact on revenue inflows for the institution that provides such services.

Misra and Kingdom (2012) make the claim that meter reading and billing errors should be eliminated by limiting the human handling of consumer data (Misra & Kingdom, 2012). Agrawal (2008) argues that universal adoption of the metering system and spot billing will impact positively on revenue performance (Agrawal, 2008). Babel and Rivas(2012) make the point that the *Metropolitan Water Works Authority* in Bangkok employed new billing systems and collection practices through the installation of meter reading devices with portable printers which resulted in improved revenue inflows and overall financial performance to a sustainable level (Babel & Rivas, 2012). In support of Babel and Rivas (2012) Agrawal (2008) makes the point that improved billing and collection mechanisms have a positive impact on revenue inflows for the institution and may encourage commercial and operational competences for aiding the expansion and delivery of improved, stable and sustainable services (Agrawal, 2008).

Agrawal (2008) highlighted key elements that affect billing and revenue collection:

- Routine exercise - Water service providers in many countries consider billing and revenue collection as a routine exercise and they lack a proactive attitude regarding such practices. The focus of the water service providers/ Water Services Authority is mainly on water services as an engineering task and they tend to ignore finances, billing and collection practices. In the water sector, revenue enhancement through reformed strategies should target full cost recovery and financial sustainability to enable water service providers to improve quality of services and to eradicate the backlog
- Revenue inadequacy, Poor cost recovery and Poor Services – A poor billing system and revenue collection practices prevent Water Service Providers/Water Services Authority from recovering costs for operation and maintenance of the infrastructure to

ensure that adequate services are provided to the consumers. Some of the factors are inaccurate billing for every unit of water that has been produced, inadequate customer records, inadequate systems and processes, and unwillingness to pay for services by the customers due to the quality of services that are rendered by the water service provider/ Water Services Authority.

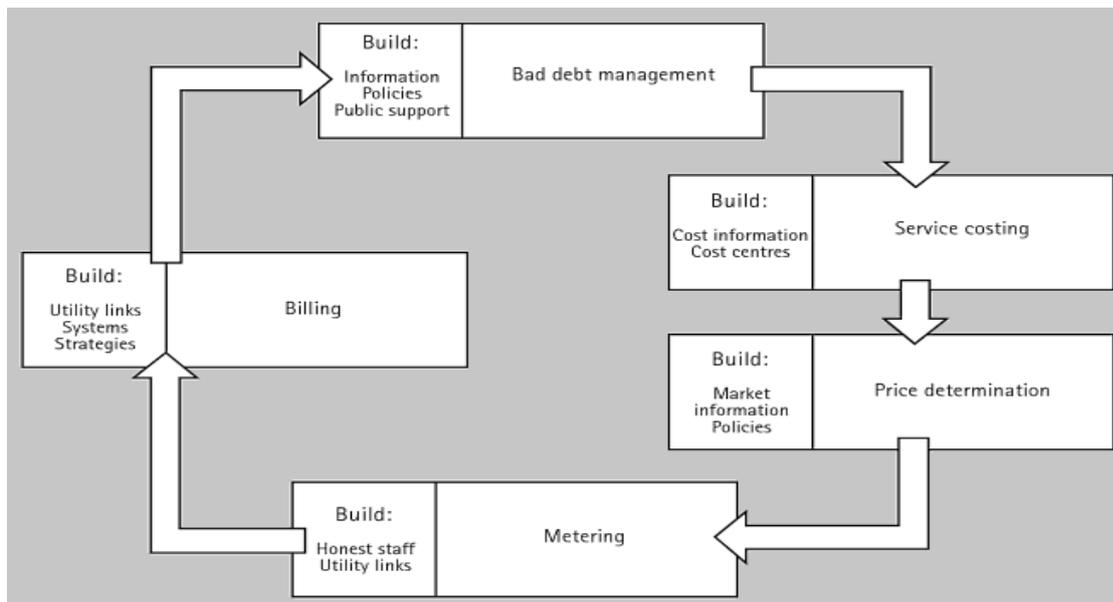
- **Cost Inefficiencies** - Ineffective billing and collection practices results in operational inefficiencies. The water service provider/Water Services Authority is expected to spend resources and time on billing and revenue collection practices, if one of the two functions or initiatives is ineffective it will automatically result in cost inefficiencies.
- **Credit worthiness and Bankability** - Poor billing and revenue collection practices that result in operating inefficiency and commercial losses hurts creditworthiness and 'bankability' of the water service provider who should be aware that delivery of quality services and meeting the demands of urbanization, should reduce their dependence on provincial and national government grants. It should be understood that grants cannot be sufficient to cover all costs of improving quality of services to the consumers.
- **Consumer Accountability** - Billing inefficiencies are the origin of inaccurate bills that are delivered to the consumers for water consumption or to the wrong addresses. Such inaccurate bills result in lack of willingness to pay for services by the consumers because they lose trust in and loyalty to the service provider. These inaccuracies incur cost on the side of the service provider due to the rectifying processes that require more resources and to the consumer that spent resources lodging a complaint in the first place. The former loses credibility and the latter resorts to complaint mechanisms against the water service provider or Water Services Authority.

It has been reported in South Africa that water loss in municipal systems was in the region of 28.8 percent in 2007 of the total municipal system input volume of 4 (four) billion m³ per annum (Department of Water Affairs, 2010). The total annual non-revenue water was estimated at 1.43 billion m³ accounting for 35.8 percent of the total municipal system input volume excluding free basic water (Department of Water Affairs, 2010). Subsequently; Kingdom et al., (2006) makes the claim that developing countries are faced with a challenge of non-revenue water (NRW) due to huge volumes of water lost through water leaks or not

being invoiced to the consumers which impacts negatively on revenue collection (Kingdom , et al., 2006). According to Kingdom et al., (2006) non-revenue water consists of three components: physical or real losses, commercial losses or apparent losses and unbilled authorised consumption which include water used by the service provider for operational purpose, firefighting and water provided free to the consumers (Kingdom , et al., 2006).

It is well known that non-revenue water in developing countries is high, and there is no data in place regarding the actual figures in the literature due to inadequate monitoring systems, and the lack of a national reporting system for assessing water losses performance by the water service providers. In some cases those institutions that comply, estimate volumes in such a way as to conceal the extent of their own inefficiency. In the Harry Gwala Municipality proactive interventions could take the form of the adoption of the metering billing system either as a prepaid system or not. In terms of water and sanitation service provision, a successful billing system should ensure that accurate customer billing statements are issued on a monthly basis based on volumetric assessments.

Figure 2.7: Revenue Management Cycle



Source: Adopted from Rao (2012) *GSDRC Helpdesk Research Report* (PAGE 4)

2.16 Financial sustainability model

The financial sustainability model is one of the initiatives developed by Ekurhuleni Metropolitan Municipality in Gauteng Province in South Africa which was presented at the *Southern Africa Revenue Protection Association Conference in 2010* (Holeni, 29 June 2010). The Ekurhuleni Metropolitan Municipality took a bold step to roll out a comprehensive programme on revenue management and enhancement (Holeni, 29 June 2010). The Metropolitan municipality employed a new operating model to enable the municipality to enhance and protect the revenue that had been generated (Holeni, 29 June 2010). The programme involved four different projects namely:

- Revenue generation;
- Revenue management;
- Revenue protection; and
- Revenue enhancement.

The Ekurhuleni Metropolitan Municipality had to take drastic measures and develop a clear turnaround strategy to respond to the challenges with respect to financial sustainability, unfavourable economic conditions and high rate of consumer debt (Holeni, 29 June 2010). All these conditions had resulted in the Country as a whole facing recession and the operating income of the Municipality was inadequate to meet all the financial obligations including rendering basic services to the citizens (Holeni, 29 June 2010). The conditions on the ground necessitated that the Municipality should employ an unconventional strategic model to secure

revenue management and enhancement which would improve the current situation. The authorities of the Ekurhuleni Metropolitan Municipality developed and adopted a financial sustainability model that would promote creativity and innovativeness through alternative sources of funding large projects and improved revenue inflows (Holeni, 29 June 2010). Coutinho (2010) as cited in Chiunye and Chikosha(2015) observed that there were other ways that can be employed by the local government municipalities to ensure that they continue to be financially viable. He emphasized that there is a need for the municipalities to ensure that the consumers of services pay for services rendered.

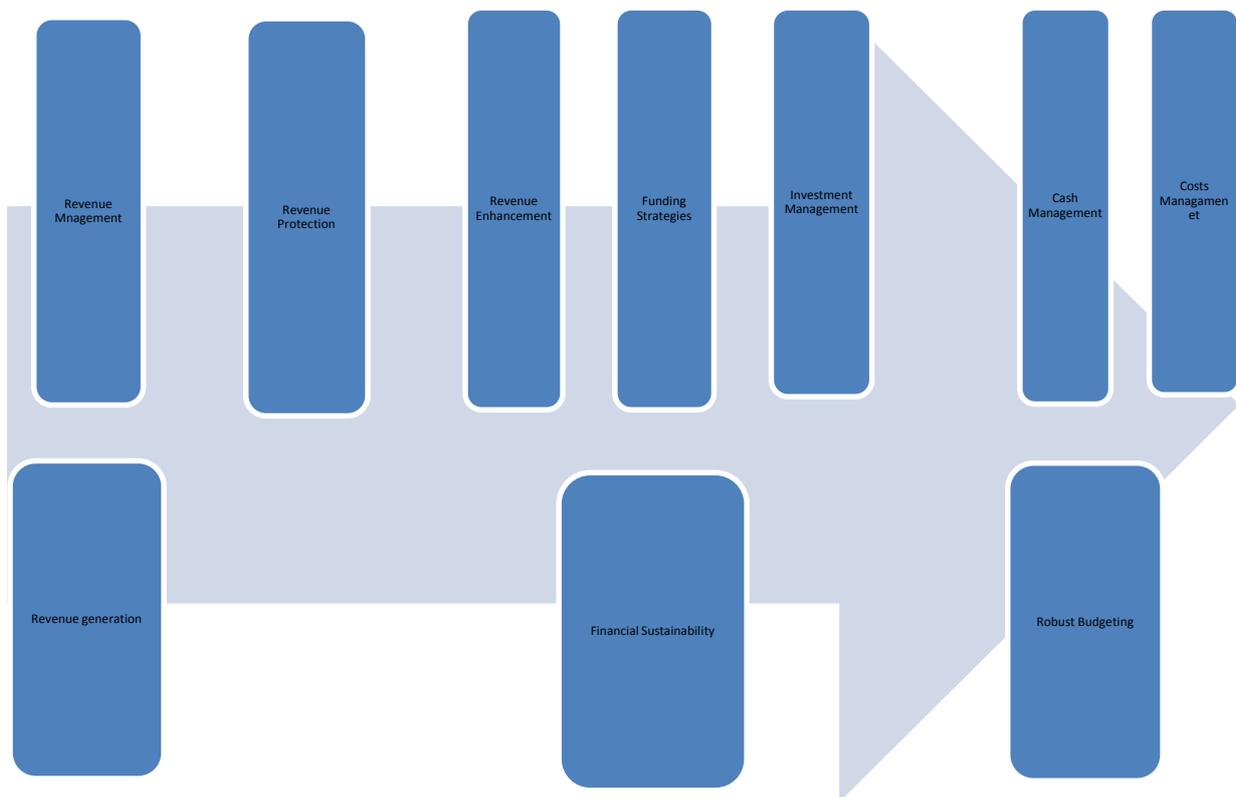
On the other hand, the *UKZN Financing and Development in South Africa Financial Viability conference* held in 2008, as cited in Chiunye and Chikosa (2015), described financial viability as an overall municipal priority that involves staff capacity, and environmental and institutional capacity that enables adequate service delivery (Chiunye & Chikosha, 2015).

Chiunye and Chikosha (2015) highlighted the following abilities in order to demonstrate viability:

- Provision of the necessary services and infrastructure to the citizens;
- Creation of the sustainable local economic development initiatives that are conducive to the citizens;
- Possession of necessary institutional capacity to perform municipal functions;
- Budgetary adequacy to manage the financial resources and the growth of the revenue base; and
- Creation of productive public participation in initialising, planning and executing municipal projects.

According to Chiunye and Chikosha (2015) the financial viability of local authorities in India was secured through the managing of their functional authority through both operation and fiscal decentralisation (Chiunye & Chikosha, 2015).

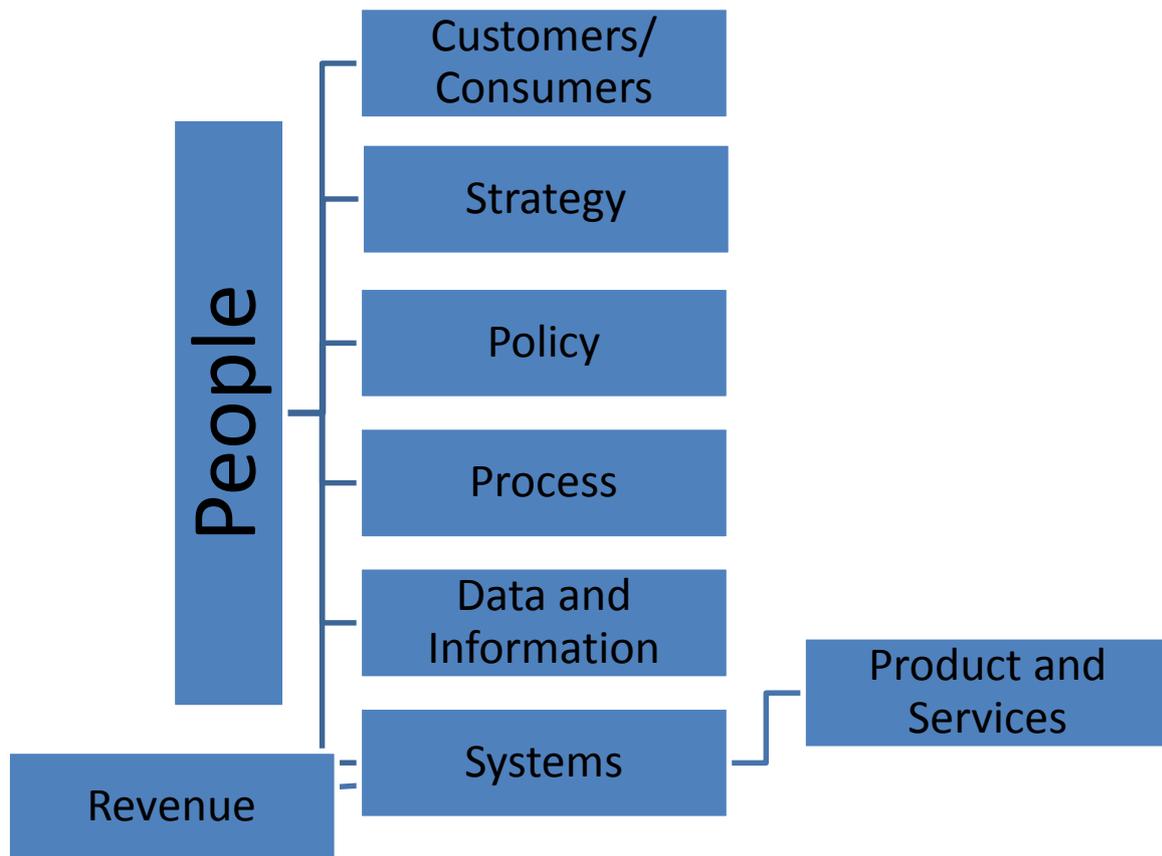
Figure 2.8: Financial Sustainability Model



Source: SARPA Conference, 2010

Ekurhuleni metropolitan municipality had implemented tripod methodology to ensure the effectiveness and efficiency of its revenue management and enhancement programme. The tripod methodology is the system that enables the integration of products and services rendered by the municipality to its consumers together with the revenue that is generated (Holeni, 29 June 2010). The interaction between consumers and the municipality through the customer care contact centre improves the willingness to pay by the consumers and improves the quality of services that are rendered by the Municipality (Holeni, 29 June 2010). There are more payment options that have been created by Ekurhuleni Metropolitan Municipality ranging from physical to electronic channels (Holeni, 29 June 2010).

Figure 2.9: Tripod Methodology



Source: SARPA Conference, 2010

The revenue and enhancement programme developed by Ekurhuleni metropolitan Municipality, which is a financial sustainability Model, is their medium to long-term programme that will enable the Municipality to achieve financial sustainability and to assist in breaking ‘silos’. The main sources of own revenue in Ekurhuleni Metropolitan Municipality are water, electricity, rates and solid waste. There are other revenue collection centres in Ekurhuleni Metropolitan municipality, those being Metro police and licensing, the fresh produce market and Housing Department. However, their financial sustainability model is relevant to the case study of revenue management of water and sanitation in the Harry Gwala District Municipality as a Water Services Authority because if this model can be implemented and employed as a matter of best practice, it will enable the Municipality to produce positive results as far as revenue management is concerned and improve revenue inflows.

The following section will analyse Disconfirmation, Gap and Servqual models looking at the customer perspective and service quality in relation to revenue management of water and sanitation service delivery by the Water Services Authority.

2.17 The disconfirmation model & the gap model

The Disconfirmation model and the Gap model are models that aim to provide a service delivery experience that is better than that which the customer or consumer expected from the service provider (Iacobucci, et al., 2001). Iacobucci, Ostrom and Grayson (2001) state that the academic literature maintains that customer satisfaction is a function of the discrepancy between a consumer's prior expectation and his/her perception regarding the services rendered. Iacobucci, Ostrom and Grayson (2001) note that when the experience of the customer with regard to the services rendered by the provider is better than expectations, there is positive disconfirmation. Service quality as well has been defined in a similar way to customer satisfaction in that it is a comparative function between customer expectations and actual service performance. The customer satisfaction literature refers to this model as the disconfirmation paradigm while the service quality literature refers to this model as the Gap paradigm (Iacobucci, et al., 2001).

According to Iacobucci, Ostrom, and Grayson (2001) the terms 'satisfaction' and 'quality' are normally used interchangeable in both the working environment and in academia (Iacobucci, et al., 2001). Indeed if both definitions of terms are compared, the two terms appear to be highly similar. Both terms are important concepts in academia especially to those researchers that are studying consumer evaluations and to consumer practitioners as a means of creating customer loyalty. It is well-known that there are many studies that have been conducted to examine whether or not quality and satisfaction have dissimilar antecedent foundations, resulting in them being regarded as different, separable constructs (Iacobucci, et al., 2001). Most of the researchers in academia have an interest in finding out how they differ and, some of the service quality researchers describe satisfaction as a short term evaluation of a single service encounter and quality as a long-term evaluation of service (Iacobucci, et al., 2001).

On the other hand, some of the customer-satisfaction researchers describe quality as a component of satisfaction as part of a broader evaluation of service (Iacobucci, et al., 2001). Bitner, Booms and Mohr (1994) state that service quality is the consumer's overall impression of the superiority or inferiority of the services provided by the service provider to its consumers (Bitner, et al., 1994). Taylor and Cronin (1994) define service quality as an attitude acquired through a long run evaluation by the consumer (Taylor & Cronin, 1994). Parasuraman, Zeithaml and Berry (1985) view service quality as the differences between what the consumers expected from the service provider versus performance along quality dimensions (Parasuraman, et al., 1985)., Roets and Pieters (1997) view service quality as a

cognitive discrepancy between experience-based norms and performances related to service rendered (Roest & Pieters, 1997).

Drawing on Oliver (1981), Brady and Robertson (2001), Lovelock, Patterson and Walker (2001), Fen and Lian (2007) conceptualised the term customer satisfaction as a customer's feeling of pleasure or disappointment resultant from comparing the service rendered in relation to his/her expectations.

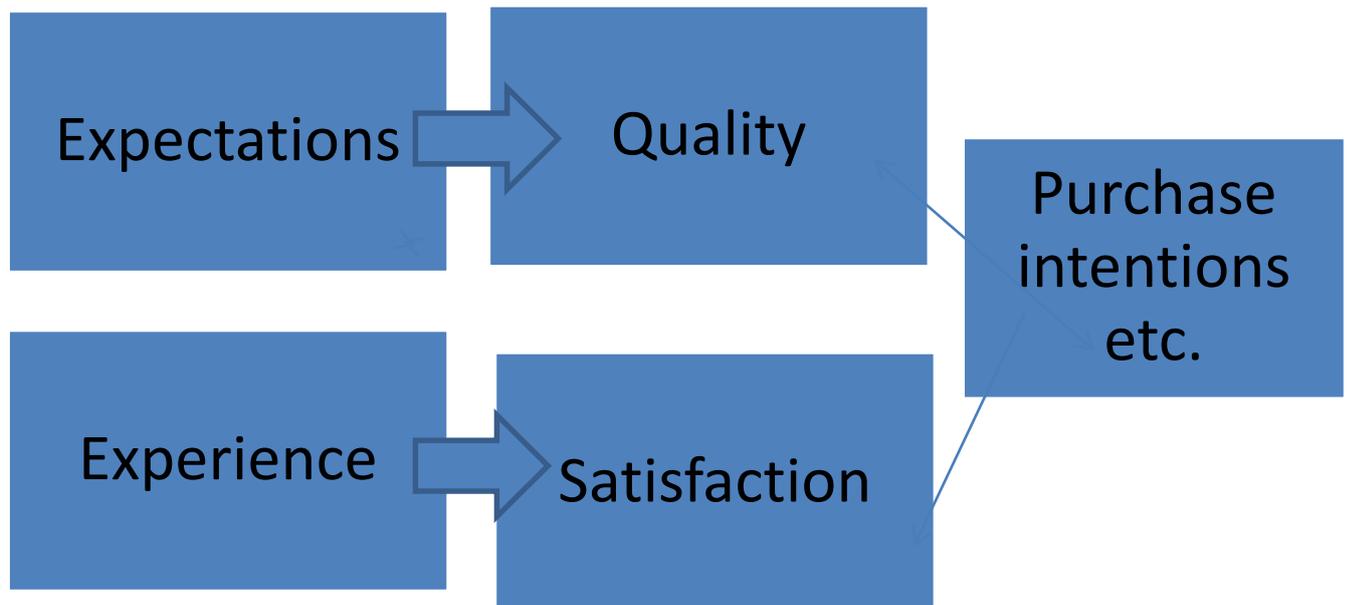
The following table identifies the number of elements that distinguishes service quality from customer satisfaction

Table 1: The variances between Customer satisfaction and Service Quality

Service Quality	Customer Satisfaction
Quality judgement is specific	Can result from any dimension either quality-related or not
Quality expectations are based on ideals or perception of excellence	Can be formed by non-quality issues e.g. needs, perception of fairness or equity
Fewer conceptual antecedents	More conceptual antecedents
Does not require experience with the service/provider	Requires experience with the service/provider

Source: Compiled from various sources (Taylor, 1993; Oliver, 1993; Rust and Oliver, 1994; Spreng and Mackoy, 1996; Choi et al., 2004; Grace and O' Cass, 2005).

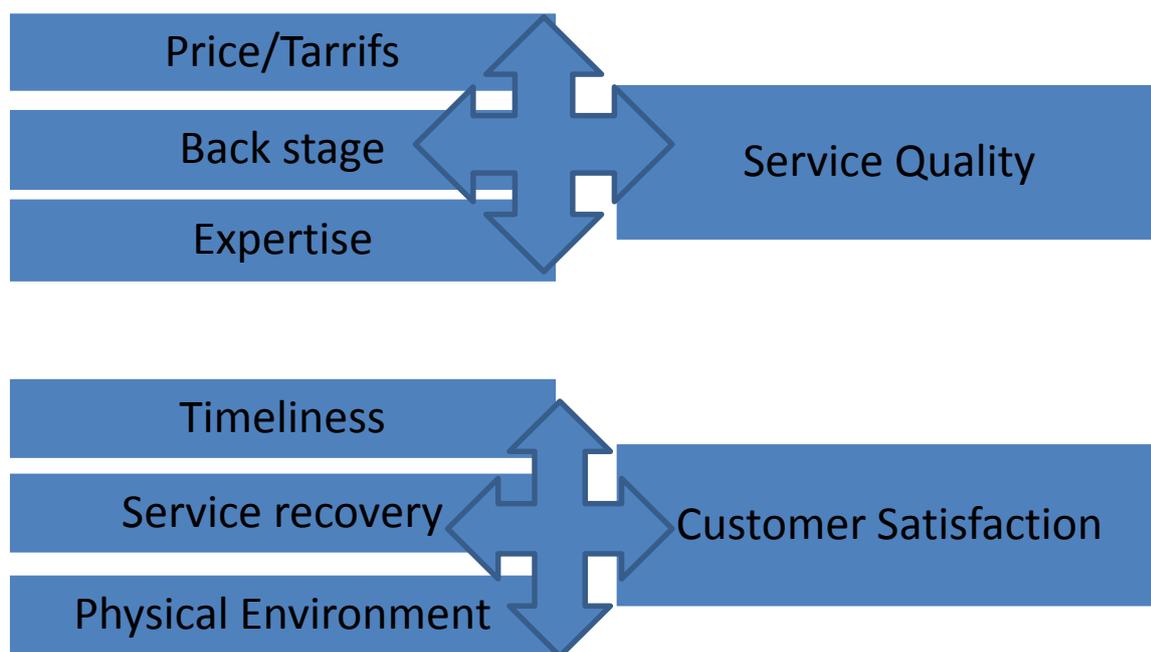
Figure 2.10: Service Quality and Customer satisfaction



Source: (Iacobucci, et al., 2001: 280)

Some scholars may argue that quality and satisfaction can be distinguished if one hypothesizes a situation whereby a high quality service or product may result in customer satisfaction (Iacobucci, et al., 2001). Since the Harry Gwala District Municipality is a Water Services Authority institution responsible for the provision of water and sanitation services to its consumers, one may argue that provision of quality drinking water and decent sanitation services to the consumers may result in customer satisfaction and improved willingness to pay which will then impact positively on revenue collection. However, the service provider should be able to know the expectations of the consumers and adhere to the service level standards of the institution.

Figure 2.11: Conceptualising service quality and customer satisfaction



Source: (Iacobucci, et al., 2001: 295)

According to Iacobucci, Ostrom, and Grayson (2001) in a study that was conducted pursuing the consumer voice (Iacobucci, et al., 2001) there is no difference between quality and satisfaction either for disconfirmation, keeping promises, customisation, empathy, friendliness, or purchase intentions. The literature provided evidence that quality and satisfaction are hypothesizing judgements of expectations versus experiences as an antecedent and purchase intentions as a consequence (Iacobucci, et al., 2001). From the customer perspective, the purchase characteristics of price, backstage as well as expertise are the causal antecedents that affect the perception of service quality. Moreover, from the customer perspective, the purchase characteristics of timeliness, service recovery and physical environment are likely to affect the judgement and perceptions of customer satisfaction (Iacobucci, et al., 2001).

Quality factors are those factors that are in the control of the service provider, The Harry Gwala District Municipality as the Water Services Authority is responsible for the provision of quality drinking water and adequate sanitation services to its citizenry. It develops and adopts tariffs, and it designs and develops the flow chart of service delivery including behind the scenes systems and is responsible for recruitment and appointment of qualified personnel, to deal with policy design and implementation, and monitoring and evaluation. Satisfaction factors, on the other hand, are those factors that impact on the experiential aspect of the

consumer. The customer's service experience is impacted positively or negatively by the turnaround time of the service provider when the service was requested, the turnaround time between any service interruption and its resumption as well as the physical environment of the service institution.

However, the difference between satisfaction and quality reflects the service provider versus customer concerns; a Water Services Authority and the consumer in this case. When the Water Services Authority provides high quality service and the consumer experiences good quality service he/she may automatically become satisfied and this will improve willingness to pay for services rendered. If we characterise quality within the domain of the service provider and satisfaction within the domain of the evaluative reaction of the customer before or after receiving service this would offer a clear basis for dissimilarity. On the other hand quality programmes involving total quality management would focus on improving the service provider's controllable aspects of the service delivery of potable water/ quality drinking water and sanitation services to the consumers.

It is well known that customers are key stakeholders in the water and sanitation business and their satisfaction should be a priority for the management of the Water Services Authority.

2.18 SERVQUAL MODEL

The Servqual Model stipulates that staff satisfaction and service quality are drivers of customer satisfaction by doing things efficiently (Maddern, et al., 2007). Drawing on Voss et al., 2004; Vilares and Coehlo (2003), and Van Der Weile (2002). Maddern, Maull, Smart and Baker (2007) point out that providing excellent service quality is imperative as a key business requirement for corporate profitability and survival (Maddern, et al., 2007). , Ruyter (1997) pointed out that quality and satisfaction are indices of an organisation's economic status (Ruyter, 1997). Drawing on Caruana (2002), Mosahab, Mahamad, and Ramayah,(2010) argue that service loyalty is one of the key structures in service marketing, because of its final effect on customers' repeated purchases (Mosahab, et al., 2010). They further argue that those loyal customers in any organisation who purchase repeatedly are considered as the base of any the business (Mosahab, et al., 2010). On the other hand, Parasuranam, Zeith and Berry (1985) who are the originators of Servqual model argue that services are totally different to goods (Parasuraman, et al., 1985)

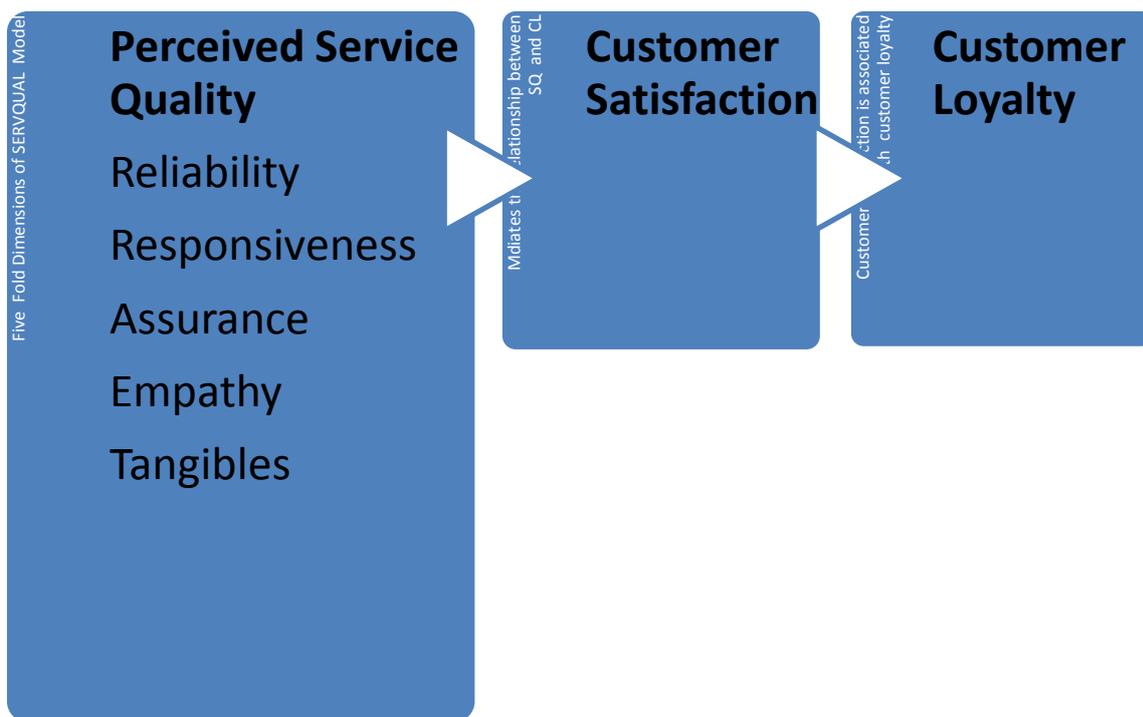
- Services by nature are intangible;
- Services are heterogeneous; and
- Both production and consumption of services are inseparable.

Parasuraman, Zeithaml and Berry (1985) developed an instrument for measuring service quality which is a Servqual model that became very popular in academia. According to Mosahab, Mahamad and Ramayah(2010) there have been attempts to divide service quality into process quality and output quality although this suggestion lacks detail (Mosahab, et al., 2010). For this reason Zeithaml, Berry and Parasuraman (1996) combined the ten dimensions of service quality and applied these to a fivefold dimensional base for making a tool for testing the service quality which is known as the Servqual model (Zeithaml, et al., 1996). In their research papers they emphasize that Servqual is a lasting and reliable tool/scale for determining service quality (Parasuraman, et al., 1994). They further pointed out that the Servqual model is applicable to an extensive spectrum of service spheres (Parasuraman, et al., 1994).

According to Mosahab, Mahamad, and Ramayah (2010) service is increasingly becoming a larger portion of many organisations both regionally, nationally and globally and it is well considered as a tool for revenue streams (Mosahab, et al., 2010). This then means that today's business services require reliable tools to measure assess and improve the quality of services (Mosahab, et al., 2010). Avkiran (1994) developed a model consisting of four dimensions namely: personnel's contact, reliability, communication and access to services (Avkiran, 1994). Subsequently, Othman and Owen (2001) developed another model consisting of six dimensions called Carter, which is an acronym for. Complaint, Assurance, Reliability, Tangibles, Empathy, and Responsiveness (Othman & Owen, 2001).

The original study by Parasuraman introduced ten dimension of the Servqual model which were later refined and reduced to five dimensions. The original ten dimensions were: tangibles, reliability, responsiveness, competence, courtesy, credibility, security, access, communication and understanding the customer (Parasuraman, et al., 1988). There is yet another model that was developed by Cronin and Taylor (1992), cited in Jain et al.,(2004) which is Servperf (Jain, et al., 2004)

Figure 2.12: The Five dimensions of the Servqual Model



Source: Mosahab et al. (2010:204)

The whole idea of service quality as a concept is to satisfy customers by providing quality services. It is therefore imperative to measure service quality in order to determine whether the services are good or bad or to determine whether the customers are satisfied with the quality of services or not. According to Haywood (1998) there are three components of service quality called the 3 Ps namely:

- Physical facilities;
- Personnel behaviour; and
- Professionalism (Haywood, 1988).

The Servqual model by Parasuraman has been proven by most of the researchers in academia to be the most suitable scale to measure the quality of services provided to customers by the Service provider. The researcher has found this model to be employable in the Harry Gwala District Municipality to measure water and sanitation services quality provided to the consumers by the Water Services Authority. The Servqual model has been proven as the best evaluation methodology that is consistent and reliable (Brown, et al., 1993). The way that this model has been presented by different researchers makes it clear to me that the Servqual model best fits the investigation of ratepayers' perceptions of cost recovery in water and

sanitation service delivery in the Harry Gwala District Municipality from the customer/consumer perspective. This was one of the key objectives of this research.

The five dimensions of Servqual are:

- **Reliability-** This relates to the ability of the Water Service Authority personnel to perform the promised service diligently and accurately which will result in customer satisfaction and willingness to pay for service charges;
- **Responsiveness-** This refers to willingness to help customers timeously and to provide speedy service that adhere to the turnaround time stipulated by the service level standards;
- **Assurance-** This relates to the level of knowledge, competence and professionalism of the Water Service Authority's personnel and their ability to restore public confidence in the institution.
- **Empathy-** This refers to the understanding of the vision and mission of the Water Service Authority and to the upholding of a set of ethical values of the institution by doing things ethically.
- **Tangibility-** This relates to the appearance of the physical facility of the Water Service Authority's equipment, the working environment and the appearance of the personnel especially at the contact centre/ customer care centre.

2.19 Structural alignment of the national development plan and other legislative framework in relation to water and sanitation service delivery

According to Atkinson (2013), the *National Planning commission of South Africa* located in the office of the Presidency, was established in 2010 in order to identify sectors of the economy which could be boosted to alleviate the unemployment crisis in the Country (Atkinson, 2013). In the second quarter of 2013, it was reported that the unemployment rate in South Africa was 25.6 percent (StatsSA, 2013) cited in (Atkinson, 2013).

Pillay (2009) argues that there is an alarming skills deficit figure of the senior management levels in the South African public sector. Pillay (2009) further argues that this situation places a high premium on ensuring that training and skills development of senior management is as effective as possible by comparison to the lower ranks.

The National Infrastructure plan seeks to transform the economic landscape while simultaneously creating a significant number of new jobs and to strengthen the delivery of the

basic services. The national infrastructure plan is also trying to respond to the socio-economic challenges of poverty, unemployment and inequality. The plan also highlights 18 strategic integrated projects as catalyst projects that can fast-track development and growth aligned to three cross-cutting areas: human settlement, planning and skills development.

For the purpose of this research study, the discussion will focus on SIP 18: Water and sanitation.

The National infrastructure plan outlines a ten year plan to address the estimated backlog of 1.4m water service provisions and 2.1m adequate sanitation services in order to meet the social needs and to ensure economic growth. As stipulated in the National infrastructure plan, the focus will include rehabilitation and upgrading of the existing infrastructure, improved management of water infrastructure as well as the provision of the new infrastructure.

There is a desire to change and to build a state that is capable and developmental, which requires strategic interventions by the authorities and bureaucrats to identify root causes of the current unsatisfactory state of affairs and to facilitate the policy-making process that will result in the development of programmes that are responsive to those challenges.

One of the strategic interventions is to monitor the implementation of the National Development Plan in all spheres of government in both the State-owned enterprises and the Public service institutions. The National Planning Commission proposed fundamental steps to be taken to enable the achievement of the set objectives of the NDP. The National Planning Commission emphasized the need for a high quality public service, improving and maintaining infrastructure and professionalising of the public service in order to build a capable and developmental state. The emphasis put forward in chapter 13 of the NDP is the recruitment and promotion on the basis of merit and potential rather than connections and political allegiance. The state should appoint highly skilled people in the public sector in order to achieve the set objectives of the National Development Plan.

2.20 Outcomes approach to performance management in the public sector

The Constitution of 1996 under the Bill of Rights stipulates that everyone has the right to basic education including adult basic education and to further education. Section 29 further states that the state, through reasonable measures, must make education progressively available and accessible to all citizens.

The former president Nelson Mandela once said “Education is the only weapon we can use to change the world”(Nelson mandela,2009). The socio-economic challenges that the country is faced with can only be addressed by skills development and academic development of citizen. The success of the public service is largely dependent upon the requisite skills, experience and expertise within the state (Mollo, 2013).

The National Planning Commission targeted key areas to transform the state into one that is capable and developmental. These are to:

- Stabilise the political administrative interface - Separation of roles between politicians and the Administration. Politicians make policies and the Administration is responsible for the day-to-day operations;
- Make the public service and local government a career of choice – Appointments based on experience, merit and expertise. Promote professional skills and specialist technical skills;
- Improve relations between the three spheres of government. Improve inter-governmental relations; and
- Ensure stability in state-owned enterprise boards to ensure that these enterprises deliver as expected.

Tshishonga (2014) argues that human resource development and management are critical in redressing the legacy of apartheid, service delivery backlogs and expediting the implementation of development policies (Tshishonga, 2014). Tshishonga (2014), further argues that the skills shortage and deficiencies have a detrimental effect on delivery of basic services such as water and sanitation (Tshishonga, 2014).

This then implies that human capital management is fundamental to ensure that the set objectives in the national development plan are achieved. Human capital management is an integrated strategic and deliberate activity performed by both public and private sector organizations as a model of attracting, selecting, training, developing, retaining, promoting and deploying employees (Rooyen, 2011).

According to Ployhart (2014) organisational leaders endorse the notion that employees are their most important assets. In essence such characterisation is the idea that collective human capital in the workforce represents an economic resource for the organisation in the sense that it generates future income streams (Ployhart, 2014) Drawing on Barney (1991), Becker and Gerhart (1996), Lado and Wilson (1994) Ployhart, (2014) argue that this perspective is echoed in a growing body of scholarly work in strategy and strategic human resource

management that examines firm level human capital as a type of resource from which firms can potentially derive competitive advantage (Ployhart, 2014).

Likewise, Ployhart (2014) drawing on journals like the *Harvard Business Review* argues that the managers should be held accountable within organizations for how they contribute to overall workforce value and not just for costs or for immediately positive effects on profitability, but for their contribution to longer-term productivity. Ployhart (2014) further maintains that short-term performance outcomes are important, but organisations also benefit from information on how managers manage the human capital resource for the future.

Kooij (2013) argues that, human resource practices focus on employee well-being and performance. Human resource practices whether labelled as high performance or high commitment human resource practices result in heightening performance through increased discretionary effort by providing opportunities to participate, and by enhancing skills and motivation.

Furthermore, Kooij (2013) points out that the ability, motivation and opportunity model of performance proposes that an individual's performance is a function of an individual's abilities, motivation and opportunity to contribute. In order to ensure effective and efficient performance management, the organizations should differentiate the 'general' human resource practices that they offer to employees in different age groups (Kooij, 2013). The human resource practitioners should offer their aging employees the opportunity to benefit from job enrichment human resource practices because these policies are also important for both aging workers' well-being and their performance and they further ensure that aging workers have challenging jobs that make full use of their training, knowledge and skills.

Pillay (2008) makes the point that there is a necessity to develop pragmatic programmes that are effective and relevant to the functioning of departments and the provision of information, training, tools and support as a retention strategy. Pillay (2008) further argues that the aim of human resource development is to secure effective and efficient service delivery by appropriately training employees. Another fundamental point made by Pillay (2008) is the need for managers to implement policies that would increase productivity in terms of effective, efficient and responsive delivery of services.

According to the *World Public Sector Report* as cited in Pillay (2008) there are critical aspects that are significant for the improvement of public sector human resource management: a public service that is non-partisan, professional and focused on merit, an

agency exercising strategic leadership and monitoring a system of decentralized management, emphasis and focus on a result-oriented management approaches, tough anti-corruption rules and regulations, legislative provisions and professional norms that facilitate openness and transparency, systems and skills that provide high level and ongoing communication through global technologies.

Moreover, drawing on Carsten and Thornhill's (2000) work, Pillay et al. (2008) claims that the new public management approach was introduced to attain reform goals as follows: hands on professional management in the public sector, a shift to greater competition in the public sector, explicit standards or measures of performance management, greater emphasis on output controls, a shift to desegregation of units in the public sector, emphasis on private sector styles of management, and greater discipline and economy in resource use.

2.19 Summary

The chapter dealt with the legislative framework, role of water sector institutions in the water and sanitation business cycle, progress made to date in relation to water and sanitation provision and cost recovery in South Africa as a mechanism which was employed by the post-apartheid government in South Africa to try and urge residents to pay for service charges.

The chapter reflected on the Revenue Management Principles in general. The chapter further highlighted the sources of government revenue and provided a reflection on the attempts by Local government to raise revenues in Southern Africa. All these aspects have been discussed in detail. The chapter further dealt with the theoretical framework drawn from Benefit Taxes and User Fees theory. The chapter specifically concentrated on the user fees theory that will be employed because the study will be assessing revenue management of water and sanitation in the Harry Gwala District Municipality.

The chapter further distinguished between Benefit Taxes and User Fees, and finally reflected on the traditional goals of tax policy, the role of Benefit Taxes and User Fees, the design of such taxes and Municipal government expenditure with specific reference to water and sanitation services. All these aspects have been discussed in detail. It is important to point out that the researcher found Benefit Taxes and User Fees theory relevant and employable in the assessment of revenue management of water and sanitation services in the Harry Gwala District Municipality.

The chapter summarised the discussion on the guide to enhancing municipal revenue, the impact of the billing system in revenue collection and the financial sustainability business model.

The chapter further presented a discussion on service quality and customer satisfaction looking at Disconfirmation & Gap as well as the SERVQUAL Models. To this end, the chapter summarised the discussion on Structural alignment of the National Development Plan and other legislative frameworks in relation to water and sanitation service delivery including the Outcomes Approach to Performance Management in the Public sector.

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

3.1 INTRODUCTION

This chapter describes the research methodology and research design that was used to accomplish the research objectives. First, this chapter will provide a brief background of the purpose of the research. Secondly, the chapter will outline the research setting, paradigms and traditions as well as the research design. Thirdly, the chapter will declare the research methodology that was employed to accomplish the research objectives which will include a definition of the target population for the research. Fourthly, the chapter will highlight the sampling methods and sample size for the research. The chapter will conclude by discussing data collection methods, tools and instruments that were used to collect data, data analysis, validity, reliability and trustworthiness, ethical issues and it will present a detailed research schedule.

3.2 RESEARCH PURPOSE

The researcher carried out a study on an assessment of revenue management of water and sanitation in the Harry Gwala District Municipality. The study employed a qualitative case study approach to the data collection and data analysis. The research problem informing this methodology was the fact that most rural municipalities including the Harry Gwala District Municipality have a very weak revenue base and end up depending on the Provincial and National transfers to fund constitutional mandates. In this qualitative research the focus of the researcher was on assessment of revenue management of water and sanitation services in the Harry Gwala District Municipality and to explore the communication challenges being experienced by the Harry Gwala District Municipality in water and sanitation service delivery. It was also the intention to investigate challenges of the provision of metered services in water and sanitation service delivery in this Municipality and to assess the challenges in accurate billing for water and sanitation; and to determine the management of the revenue collection challenges in order to improve water and sanitation service delivery.

Qualitative research attempts to collect rich descriptive data in respect of a particular phenomenon with the intention of developing an understanding of what is being observed (Creswell, 2007). According to Mouton and Marias as cited by Rensburg (2010), a qualitative approach is an approach in which the procedures are formalized and explicated in not so

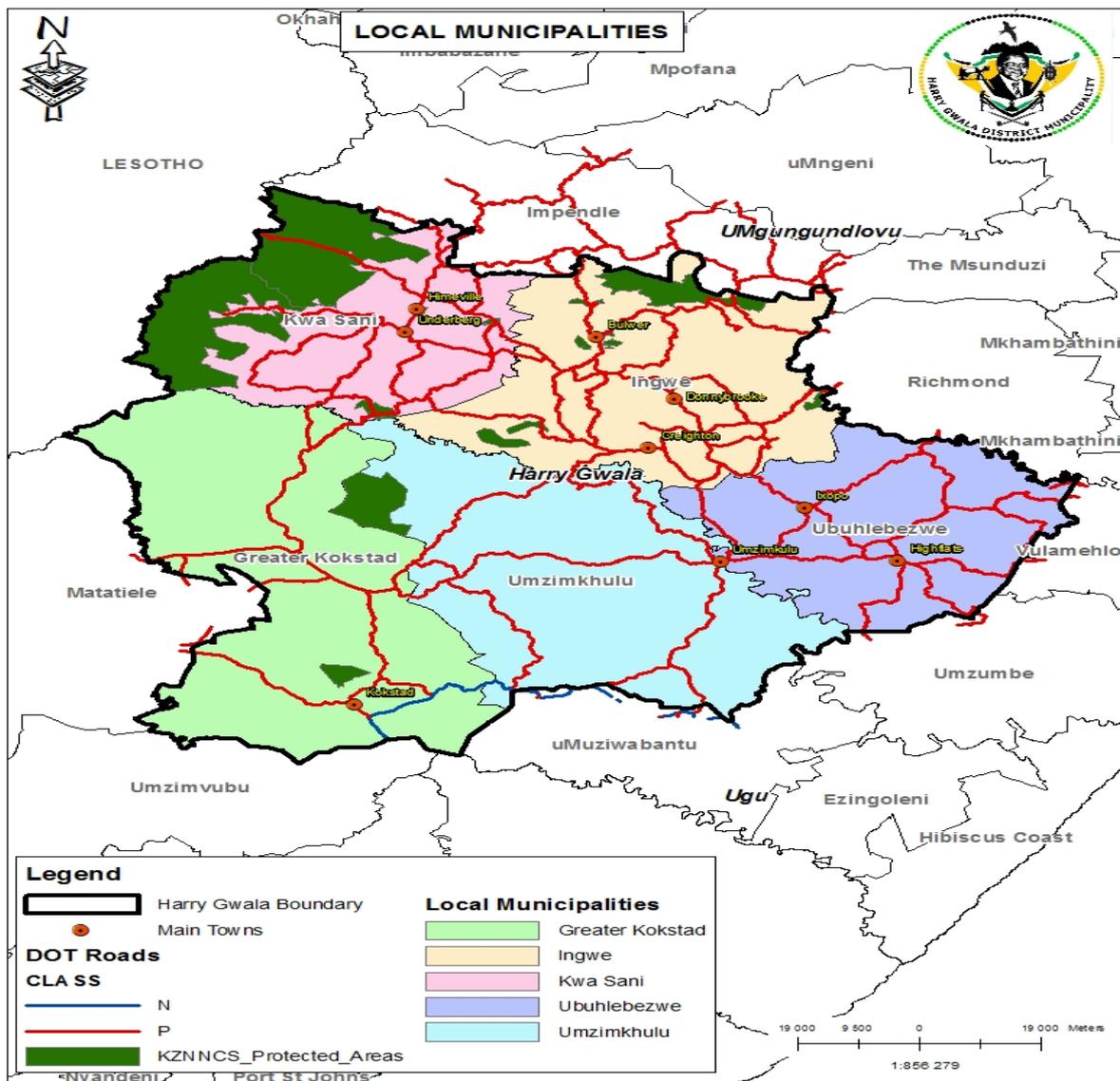
strict a manner, but in which the scope is less defined in nature and in which the researcher does his or her investigation in a more philosophical way (Rensburg, 2010).

The researcher decided to use a qualitative research approach because the research topic is sensitive in nature, since there has been documentary analysis of reports from income/billing section on revenue management of water and sanitation services in the organisation and the research further explores the rate payer's perceptions through in-depth interviews, and assesses the performance of the organisation with reference to revenue management of water and sanitation. The methods that were used are In-depth interviews, focus group discussions, observations and document analysis of the existing literature including journal articles, National Treasury data sets, annual reports from Harry Gwala District Municipality and other official correspondence and pieces of legislation related to water and sanitation provision.

3.3 Research setting

Research setting is the place where the researcher conducts a study that is suitable and feasible (Maree, 2014). In South Africa there are 278 municipalities and one municipality was selected for this case study. The research was conducted in all four satellite offices in the Harry Gwala District Municipality. This District Municipality comprises four local municipalities under its area of jurisdiction and is located in the South of the Province of KwaZulu-Natal. The Harry Gwala District Municipality (DC43) is located in the South West of the KwaZulu-Natal province. Its population is sparsely spread throughout an area of 11, 127, 9 square kilometers. The Harry Gwala District municipality forms part of the border between KwaZulu-Natal and Eastern Cape provinces. However, the two municipalities of Ingwe and KwaSani have recently been amalgamated. The District was previously called Sisonke District Municipality. The municipalities that were serviced by this District are Umzimkhulu, Ubuhlebezwe, Greater Kokstad and Dr Nkosazana Dlamini Zuma.

Figure 3.1: Map of HGDM area of jurisdiction



Source: Harry Gwala District Municipality’s Annual report (2016)

3.4 Research paradigms and traditions

According to Bryman (2012) as cited by Plooy-Cilliers (2014), a paradigm is a cluster of beliefs and dictates in a particular discipline that determine what should be studied as a researchable area and how research should be done and it further provides guidance on how results should be interpreted. In the discipline of social science, a paradigm is referred to as a cluster of research traditions or worldviews.

However there are three dominant research paradigms: positivism, interpretivism and critical realism or constructionism. According to Terre Blanche (2007) Ontology, Epistemology and Methodology are three dimensions or traditions of research paradigms (Terre Blanche, et al., 2007). Each research paradigm has its own ontology, epistemology and methodology.

Ontology: Specifies the nature of reality that is to be studied and what can be known about it.

Epistemology: Specifies the nature of the relationship between the researcher and what can be known.

Methodology: Specifies how the researcher may go about practically studying whatever they believe can be known.

This study was underpinned by an interpretive research paradigm because the researcher believed that the reality that was studied consisted of participants' subjective experiences of the external world. For this reason, a researcher employed an intersubjective or interactional epistemological stance towards that reality in order to accomplish the objectives of the research. The qualitative research methodology that was employed by the researcher involved interviews and participant observation. These are both characteristics of the interpretive approach.

The interpretivist research paradigm that was employed by the researcher is generally understood as an approach that embodies the view that social reality is in a constant state of flux and dependent on the way in which individuals experience reality internally. It has been proven by other scholars that the aim of interpretivists is to gain an in-depth understanding of multiple realities through the qualitative research (Plooy-Cilliers, 2014). According to Bertram and Christiansen (2015) the interpretive paradigm evolved as a response to positivism and post-positivism. In this case, qualitative research can be described as a strategy that emphasises words rather than numbers in the collection and analysis of data. The 'interpretivist' paradigm is suitable for this study because its main objective is to study reality and to use methods that are sensitive to the context which will help to gain an in-depth understanding (Plooy-Cilliers, 2014). This paradigm is suitable and feasible in a qualitative approach since the researcher becomes the primary research instrument and the participants teach the researcher about their lives. Modes of data collection include in-depth interviews, focus group discussions, observations and document analysis.

3.4.1 The assumptions of the ‘Interpretivists’

According to Bertram and Christiansen (2015) the main purpose of social research and education research is to understand the meaning which informs the behaviour of humans (Bertram & Christiansen, 2015). Drawing on Guba and Lincoln’s (1994) work, Bertram and Christiansen (2015) point out that the ‘interpretivists’ hold the belief that there is no single reality about the social world but rather a set of realities which are historical, local, specific and non-generalizable (Bertram & Christiansen, 2015).

The researcher made interpretations with the purpose of understanding human behaviour, attitudes, perceptions and beliefs in relation to cost recovery in water and sanitation service delivery in the Harry Gwala District Municipality. This means that the meaning can only be understood within the context of the interaction between the researcher and the rate payers/ service users of water and sanitation in the Harry Gwala District Municipality. The Interpretive approach places a strong emphasis on naturalistic research (Bertram & Christiansen, 2015). This then implies that the researcher had to engage the situation from the view point of the participants. For example, the researcher had to attempt to understand the rate payers/ service users perceptions of cost recovery in water and sanitation service delivery in the Harry Gwala District Municipality. However, this understanding was not acquired without taking into account the larger cultural, social, and political context since the ‘interpretivist’ research is underpinned by the idea that people’s behaviour is context-dependent (Bertram & Christiansen, 2015).

3.4.2 The criteria for quality ‘interpretivist’ research

In the interpretivist research paradigm the data should be authentic and should reflect the experiences of the respondents or participants (Bertram & Christiansen, 2015). Ultimately, the interpretive research paradigm allowed the researcher to demonstrate the trustworthiness of how she analysed the data and reached the conclusion of the research. However, the researcher could only draw conclusions from the limited number of respondents that were part of the study. The research findings cannot, therefore, be generalised but they can prompt enquiry in a different context.

3.5 RESEARCH DESIGN

According to TerreBlanche (2007) a research design is a strategic framework for action that serves as a bridge between the research question and the execution of the research. Other scholars argue that a research design is a formal plan of how the researcher intends to conduct the research (Mouton & Babie, 2007). Bertram and Christiansen (2015) make the point that a research design is a plan of action on how the researcher will systematically collect and analyse the data in order to answer the research questions.

The researcher utilized three designs namely: explorative, descriptive and case study design to explore why the Harry Gwala District Municipality is not financially viable, to assess the revenue management of water and sanitation services in this Municipality, to explore the communication challenges being experienced by the Municipality with regard to water and sanitation service delivery; to investigate challenges of the provision of metered services in water and sanitation service delivery; to assess the challenges in accurate billing for water and sanitation; and to determine the management of the revenue collection challenges in the Harry Gwala District Municipality in order to improve water and sanitation service delivery.

A case study can be regarded as an exploration or an in-depth analysis that is bounded by time and/or place, using a single or multiple cases over a period of time (Fouche, 2010). Welman (2005) makes the point that a case study helps in understanding the uniqueness and idiosyncratic nature of a particular case in all its complexity (Welman, et al., 2005).

A case study is a qualitative research methodology of inquiry that studies a unit of analysis in a real life context (Welman & Kruger, 1999). In support of Welman and Kruger (1999), Bertram and Christiansen (2015) hypothesize that a case study as a style of research that is often used in the 'interpretivist' paradigm which may involve a combination of both quantitative and qualitative enquiry. (Bertram & Christiansen, 2015). Drawing on Rule and John's (2011) work, Bertram and Christiansen (2015) assert that a case study is a systematic and in-depth study of one particular case in its context which aims to describe what is it like to be in that particular situation. In this case, a unit of analysis refers to the empirical analysis of data from the Harry Gwala District Municipality. In support of Weman, Strydom and Bezuidenhout (2014) defined case study as a thick and detailed description of a social phenomenon that exists within a real world context (Strydom & Bezuidenhout, 2014). The case study recounts a real life situation by rigorously describing the scenario in which the phenomenon occurs. The case study method allows for a deep exploration within a natural

context and experience of a participant. Moreover it is viewed as a method to give a voice to ordinary people (Strydom & Bezuidenhout, 2014). A case study is generally descriptive in nature and can also be used to generate claims for further verification (Bertram & Christiansen, 2015).

Pfiffner (1940) and Johnson (2002) as cited in Mazibuko and Fourie (2013) defined case study as an intensive investigation of an individual unit e.g. group, individual person, or event that affects developmental factors in relation to a specific context (Mazibuko & Fourie, 2013). The aim of the case study is to represent the case authentically in order to discover symbolic realities that amplify the unique voice of those whose experience in, and perspective of the world are unknown, neglected or suppressed (Strydom & Bezuidenhout, 2014).

Explorative studies are used to make preliminary investigation into relatively unknown areas of research and also to generate speculative insights, new questions and hypotheses (Martin Terre Blanche, 2007). An explorative study involves a rigorous description of the case within its broader context in an attempt to understand the nature of the case (Strydom & Bezuidenhout, 2014). Likewise, this approach is typical when a researcher examines a new interest or when the subject of study itself is relatively new.

Descriptive studies are used in many social scientific studies to describe situations and events. The researcher observes and then describes what was observed. This process of observation is careful and deliberate such that the description reflects the real nature of a phenomenon (Mouton & Babie, 2007). The phenomenon in this study was the revenue management for the provision of water and sanitation services in the Harry Gwala District Municipality.

In this qualitative research, the researcher chose an explorative design as the main design and a case study approach in order to explore an in-depth understanding of the state of affairs with reference to revenue management of water and sanitation in the selected Municipality and further to describe the perception of rate payers regarding cost recovery in water and sanitation service delivery utilizing interpretation of the transcripts of the interviews.

The strength of a case study research is that results are more easily understood by a wide audience including non-academics (Cohen, et al., 2011). This exercise will assist the researcher in communicating the research findings even to the participants who are non-academics e.g. some of the traditional leaders and members of the community water and

sanitation forums. The results of the case study are very clear, immediately intelligible; and they speak for themselves which prevents the distortion of the findings (Cohen, et al., 2011). The case study captures unique features that may otherwise be lost in larger scale data since the researcher conducts a study in a relatively small population e.g. The Harry Gwala District Municipality in this case. The case study results are strong on 'reality' because they provide insights into other, similar situations and cases (Cohen, et al., 2011). Since the researcher was the only one conducting this study it demonstrated that this paradigm can indeed be undertaken by a single researcher, which can be regarded as strength. However, every approach has its own weaknesses. In case study research results may not be generalised except where other researchers see their application (Cohen, et al., 2011). Some of the weaknesses of the case study are that results are not easily open to cross-checking hence they may be selective, subjective and prone to problems of observer bias, despite attempts made to address this problem. (Cohen, et al., 2011).

3.6 RESEARCH METHODOLOGY

Research is described as a process of looking for answers to find a solution to a problem, which contributes to the body of knowledge in order to understand the phenomenon, situation or behaviour (Plooy-Cilliers et al., 2014). The researcher conducted the study to assess the revenue management of funds collected for water and sanitation services in the Harry Gwala District Municipality and to understand why the municipality is not financially viable by looking at the issue from a customer and service quality perspective in order to establish customer perception in relation to cost recovery in water and sanitation service delivery. This case study drew on a sample of forty four (44) participants from the population inclusive of four municipal officials from the Harry Gwala District Municipality. Research methodology is the term that is used to describe methods and tools, procedures and techniques that are used during the research process to find answers to the research problem (Welman, et al., 2005).

3.6.1 Qualitative Research Method

Qualitative research involves a holistic investigation executed in a natural setup. It has been a norm that a good researcher is one that uses mixed methods. However for the benefit of this study, the researcher employed a qualitative research approach. The researcher tried to study all the elements that were present within that particular context. The researcher is the primary data collection instrument in this type of research. The main characteristic of qualitative research is that it is conducted in a natural, not a laboratory setting. The researcher was the

key instrument in the process of data collection. Instead of relying on a single data source, the researcher gathered data from multiple sources. This research methodology allowed the researcher to ask broad questions and to collect verbal data from the participants who were selected with a purpose in mind and to analyse reports from the budget and income section in the Harry Gwala District Municipality. The researcher's interest was to understand the phenomenon of revenue management for water and sanitation services in this Municipality. The researcher wanted to investigate this researchable area from the participants' viewpoint and qualitative research is interpretive - it is in the form of inquiry in which the researcher makes an interpretation about what he or she sees hears and understands (Creswell, (2007) as cited in Alpaslan, (2010). However, due to the nature of the study, the research paper also contains figures since the study was assessing revenue management of water and sanitation.

3.6.2 The Target population

A population is the entire group of persons or objects which the researcher is interested in investigating (Rensburg, 2010). Terre Blanche further describes population as the larger pool from which our sampling elements are drawn and to which we want to generalize our findings (Martin Terre Blanche, 2007). Theoretically speaking, population encompasses all the elements that make up our unit of analysis.

The population for this study consisted of all consumers and customers living within the Harry Gwala District Municipality area of jurisdiction. However, the researcher was not able to include the whole population but a sample was drawn from this population.

3.6.3 Accessible population

The accessible population for this study were Ward Committees and Community development workers (2); Business sector representatives (2); Traditional Leaders/Councillors (2); Farmers association/Rate payers Association members (2); Water and Sanitation Community Forums (2) and Water Services Authority Officials (4, - 2 from the Income section, 1 from the Water services Department and 1 from the Budgeting and Treasury Unit) of the Harry Gwala District Municipality. Accessible population refers to elements chosen to be included in a sample based on a list of characteristics (Pascoe, 2014).

3.7 SAMPLING METHOD

Sampling involves making decisions about which people, setting or behaviour to include in the study. The researcher should decide how many people or objects to include in the study (Bertram & Christiansen, 2015). The non-probability sampling method was employed to select the participants for inclusion in the study since the selection in this method is based on the judgement of the researcher. The researcher employed purposive sampling to select the sample hence the researcher was targeting a specific group with specific characteristics.

Rensburg (2010) defines sample as a subset of the population (Rensburg, 2010). Sampling is the process of selecting a subset of people or social phenomena to be studied from the larger universe to which they belong (Pyne, 2004). Pascoe also defines sampling as the deliberate selection of the most appropriate participants to be included in study (Pascoe, 2014).

Purposive sampling has been defined as an acceptable kind of sampling for a special situation; and further allows the judgment of an expert in selecting cases with a specific purpose in mind. It is also a powerful technique with a wide application beyond social research (Nueman, 2007). Purposive sampling is used in special situations where the sampling is done with a specific purpose in mind (Creswell, 2007). Purposive sampling as entirely based on the judgment of the researcher.

3.7.1 Sample size

The sample size refers to the number of elements in a sample (Rensburg, 2010). The researcher considered the purpose, the design, the size of the population and the sample size. The size of the sample consisted of (10) participants that were interviewed by the researcher from each local municipality which then gave us a total number of the sample size of (40) participants plus 4 municipal officials. The Harry Gwala District Municipality has four local municipalities/ satellite offices under its area of jurisdiction. Each sector was represented by participants from each and every local municipality and all of them were purposively selected to participate in the study since they are key role-players in the water and sanitation services business either as consumers or staff in the Municipality.

The participants were selected using purposive sampling as they were deemed to be key decision-makers or they play pivotal roles in shaping decisions on how best the Harry Gwala

District Municipality can improve revenue inflows as far as revenue collection for water and sanitation services is concerned.

3.8 DATA COLLECTION

The method of data collection is described in the following sub-sections:

3.8.1 Data collection methods and tools

(a) Interviews

Interviews were the primary data collection strategy and a natural outgrowth of observation strategies that were employed by the researcher. The researcher used semi-structured in-depth interviews as a method of collecting data in this study. A semi-structured in-depth interview is a combination of structured and unstructured interviews. It defines the line of inquiry which allows the researcher to use basic interviewing skills (Creswell, 2007). A semi-structured interview is a method of corroborating data that emerges from other data sources, It defines the line of inquiry which allows for probing through the use of open-ended questions that seek clarification of answers (Creswell, 2007).

To allow semi-structured in-depth data collection, the questions were given to all participants two weeks prior to the in-depth interviews taking place. This ensured that the participants got enough time to scrutinise and reflect on the questions in order to provide considered responses. Semi-structured in-depth interviews explored and examined the factors that hinder effective revenue management in the water and sanitation division of the Harry Gwala District Municipality. All the ten participants were interviewed to share their perceptions of cost-recovery in water and sanitation service delivery and their experiences of the phenomenon. The in-depth interview questions went out hand-in-hand with a letter of consent outlining the aims and objectives of the study and guarantees that the participant's privacy would be respected and that the information to be provided during semi-structured in-depth interviews would be treated as confidential..

(b) Focus groups

The researcher interviewed a group of participants to determine their attitudes, behaviour preferences, perceptions, likes and dislikes in relation to the revenue management of water

and sanitation service delivery. Focus group discussion or interview is a method used to determine participants' experiences regarding the product and services (Plooy-Cilliers et al., 2014). Focus groups consist of 6 to 12 people gathered for the purpose of expressing their views and opinions regarding predetermined open-ended questions related to a specific phenomenon (Plooy-Cilliers et al., 2014). The group is coordinated by a facilitator. The researcher identified questions in advance in order to facilitate a discussion on revenue collection of water and sanitation services in the Harry Gwala District Municipality. This exercise was done in an unstructured way to enable the participants to express their views and opinions about the topic and to allow a free exchange of ideas between the selected participants.

This method is very cost-effective since it allows for the collection of data from a number of participants simultaneously and helps the researcher to determine the questions that will be used in the follow up in-depth interviews. The participants were given an opportunity to discuss their experiences in relation to cost recovery and revenue management of water and sanitation services. Focus groups are also a very useful data collection method since it also allows a researcher to interact with a number of participants and share with them some of the consequences of non-payment of service charges which may result in solutions to the problem and to improved revenue inflows in the Municipality.

(c) Collecting Secondary Data: Document analysis

The researcher made use of secondary data from public databases and government publications. The researcher also analysed the records and reports from the Income/ billing section of the Harry Gwala District Municipality in order to get an indication of how many people are indigent as per the indigent register information and the number of those who are capable of paying for water and sanitation services inclusive of an analysis of the revenue that was generated for three consecutive financial years. The researcher also analysed the billing records versus collection by working with the revenue management team in the income section of the Municipality.

3.8.2 Data collection instruments

- Interview guides – The researcher employed semi-structured interviews and interview guides. All the list of topics and aspects of those topics were outlined in the guide. The researcher raised those questions related to the perception of consumers and

customers concerning cost recovery for water and sanitation service delivery. The respondents were asked the same questions but the researcher took cognisance of the educational levels of participants by altered vocabulary slightly to cater for different levels of comprehension

- Cameras - The researcher also used a visual technique which is a camera to take photographs of the proceedings. This is useful for reliability and validation as a camera also documents non-verbal behaviour and communication and can provide permanent records. Analysis of non-verbal communication is very important in qualitative studies (McMillan & Schumacher, 2006).
- Tape recorders and Video recording. – The researcher also used technical equipment like a tape recorder and a video recorder to collect data to ensure that she provides accurate and relatively complete records which will enhance reliability.

3.9 DATA ANALYSIS IN SOCIAL RESEARCH

Data analysis in social research identifies patterns in data—recurrent behaviour. Once a pattern is identified it is interpreted in terms of social theory (Nueman, 2007). On the other hand one scholar defines data analysis as the process of bringing order, structure and meaning to data (De Vos, 2005). Creswell states that data analysis is always an on-going process that routinely starts prior to the first interview and that the process of data analysis commences when the process of data collection begins.

The data collected was analysed using thematic analysis that made it possible to analyse and interpret factors that hinder effective revenue management funds obtained from water and sanitation provision in the Harry Gwala District Municipality and the rate payers perception of the cost recovery in water and sanitation service delivery as well as the recommendations that were made by participants on how best the Authorities can improve water and sanitation revenue inflows in this Municipality. Thematic analysis is a popular model of analysis in qualitative research. The researcher analysed the recurring themes extrapolated from the data collected from the participants.

3.9.1 Eight Steps of Data Analysis

These are the eight steps that the researcher followed when she analysed the data:

- The researcher carefully transcribed (wrote word for word) all the audio-taped interviews and made notes of ideas that were prompted by this process;

- The researcher selected one of the document sources which seemed to be the most interesting one and then she interrogated this, taking notes on the significance of the information;
- The researcher made a list of all the topics and put similar topics into columns that might be grouped into major topics;
- The researcher took the list of topics and assigned to each topic an abbreviation;
- The researcher found the most descriptive wording for her topics and turned them into themes. (Codes helped to reduce the total list of themes into groupings of topics that are related to each other). The researcher also drew lines between her categories to show interrelationships;
- The researcher made a final decision on the abbreviation for each theme;
- The researcher used the cut and paste method to assemble the data belonging to each theme in one place to facilitate preliminary analysis; and
- The researcher recorded the existing data and started on interpreting and reporting the research findings (Alpaslan, 2010; Creswell, 2007).

3.10 Validity, reliability and trustworthiness

Credibility	The researcher ensured accuracy in the interpretation of data provided by the participants, The researcher spent a long time with the participants in order to gain insight into the phenomenon and to ensure credibility as well as to make a worthy contribution to the body of knowledge.
Transferability	The researcher ensured that the research findings are able to be applied to similar situations and that this would deliver similar results.
Dependability	The researcher ensured that there are no flaws in the process of integration that takes place between data collection, analysis and the theory that is generated from the data.
Confirmability	At the end the researcher had seen to it that the data collected does not contradict with the findings. The data should support the findings and interpretation of the researcher.

3.11 ETHICAL ISSUES

The researcher informed the participants that she would like to audio tape the interviews so as to be able to focus on the interview without taking notes. She also asked permission to use the following research tools: tape recorder; stills camera and video recording equipment for the above purpose. The ethical issues such as respect, confidentiality, informed consent were addressed.

The researcher assured the participants that only herself will have the access to the information that they have shared with her in the consent forms.

Ethical approval for this research was granted by the University of KwaZulu-Natal and the gatekeeper's letter from the office of the Municipal Manager in the Harry Gwala District Municipality was obtained.

These are the ethical considerations that the researcher upheld:

- Confidentiality and Anonymity.

According to Creswell (2007) anonymity means that the researcher will not reveal the identity of the respondents; their identities are protected from disclosure and they will remain unknown. The researcher adhered to the ethical considerations as proposed by Creswell by not revealing any identity of the participants in this study. Creswell (2007) further explains that confidentiality means that the researcher can match names with responses, for example in a face-to-face interview, but ensures that no-one else will have access to the identity of the respondents. Confidentiality should only be assured if it can genuinely be maintained. It is not enough to state that material will be confidential without taking concrete steps to ensure that this in fact will be the case (Creswell, 2007).

- Confidentiality

De Vos (2005) views confidentiality as a continuation of privacy which refers to the agreements between people that limit access by others to private information (De Vos, 2005).

The researcher ensured anonymity by giving the participants pseudonyms and told them that only the researcher will have information about participants and no one else.

- No harm to Participants

According to Neuman (2007), harm is an injury that is caused by a person. Social research should never in any instances cause harm whether physical or mental to the participants. The researcher ensured that the focus group interviews were conducted in conducive environments. The researcher further ensured that there was no act of physical or psychological harm to participants, for example emotional stress discomfort or embarrassment in any way.

- Informed consent

The researcher gave participants a form to fill in to confirm that they consented voluntarily to participate in this study. Obtaining informed consent implies that all possible information on the goal of investigation, the procedures that will be followed during the investigation, the possible advantages, disadvantages and danger to which respondents may be exposed, as well as the credibility of the researcher are declared to the potential subject or their legal representatives, prior to them signing the Informed consent form (Alpaslan, 2010).

- Management of Information

Management of information involves collection and management of information from one or more sources including both electronic and physical information. Management of information entails organizing, retrieving, acquiring, securing and maintaining information. The more sensitive the information, the greater the need to remind the researcher and all concerned with the gathering of information to treat this as extremely confidential during and after the research process (De Vos, 2005).

The information the participants shared with the researcher was stored in a safe place where no one else has access but the researcher who treated that information with respect. The researcher ensured that the tapes, notes and transcripts of all recordings are kept safe in a lockable cabinet to which only the researcher has access. The participants were ensured of privacy and anonymity. The tape recording and notes identifying the participants were erased at the end of the study for the protection of the participants.

3.12 SUMMARY

The chapter dealt with the research methodology and designs including research paradigms and traditions. Details were declared regarding the target population, sampling, data collection and analysis techniques, validity, reliability and trustworthiness as well as ethical considerations. All of these aspects were discussed in detail. The chapter dealt with the

research methodology on the case study of revenue management of water and sanitation in Harry Gwala District Municipality. The research design that underpinned the research study were explorative, descriptive and case study designs to collect and analyse the data in order to answer the research questions, including research paradigms and traditions, has been discussed in detail. Reliability, validity and trustworthiness as well as ethical considerations have been discussed in detail.

CHAPTER FOUR

DATA PRESENTATION, INTERPRETATION AND ANALYSIS

4.1 INTRODUCTION

The range of data presented in this chapter is themed under four headings: Communication; metered services; billing system and revenue management. These categories are not exclusive in terms of content but there is an overlapping of themes. Categories are still legitimate because they are an attempt to make sense of the data. There is also a fifth category which is called 'other' because the content is related to revenue management of water and sanitation but cannot readily fall under any of the other categories. It is also important to note that the data presented in this chapter has been collected from four focus groups in the district inclusive of the internal staff where the researcher wanted to get a service provider point of view as part of the data collection process. The focus groups were convened in the following regions: Dr Nkosazana Dlamini Zuma, Greater Kokstad, Umzimkhulu and Ubuhlebezwe Local Municipalities and Satellite offices within Harry Gwala District area of jurisdiction.

Interviews were the primary data collection means and a natural outgrowth of observation strategies that were employed by the researcher during the data collection process. After the researcher transcribed the recorded interviews she employed NVIVO computer software for qualitative data analysis to manage, handle sort and organise volumes of data and to prepare diagrams.

This qualitative data analysis will be applied to textual analysis of data that was collected through focus group interviews. It repeated the analysis and the interpretation over and over again, applying a hermeneutic approach in order to obtain a deeper understanding of the meaning of the data collected.

The chapter will first discuss an analysis of the communication challenges being experienced by the Harry Gwala District Municipality in their Water and Sanitation Service Delivery. Secondly the chapter will present an Analysis of the metered services of water and sanitation service delivery in this Municipality. Thirdly the chapter will present an Analysis of the Municipal billing system for water and sanitation. The chapter will also discuss municipal income and management of municipal revenue.

4.1.1 An Analysis of the communication challenges being experienced by the Harry Gwala District Municipality with regard to their Water and Sanitation Service Delivery.

According to the focus group discussions it is crystal clear that communication is a challenge in this Municipality. There is a communication challenge to the extent that even the internal department or sections are not communicating properly and end up being seen as working in silos. The external stakeholder's coordination and relations management is also a challenge in particular when it comes to the water and sanitation service users. The Servqual model that was developed by Parasuraman has been accepted as being the most suitable scale to measure the quality of services provided to Customers by a Service provider. There is a necessity, then, for the Harry Gwala District Municipality Water Services Authority to employ this model to measure water and sanitation services quality provided to the Consumers by this Water Services Authority.

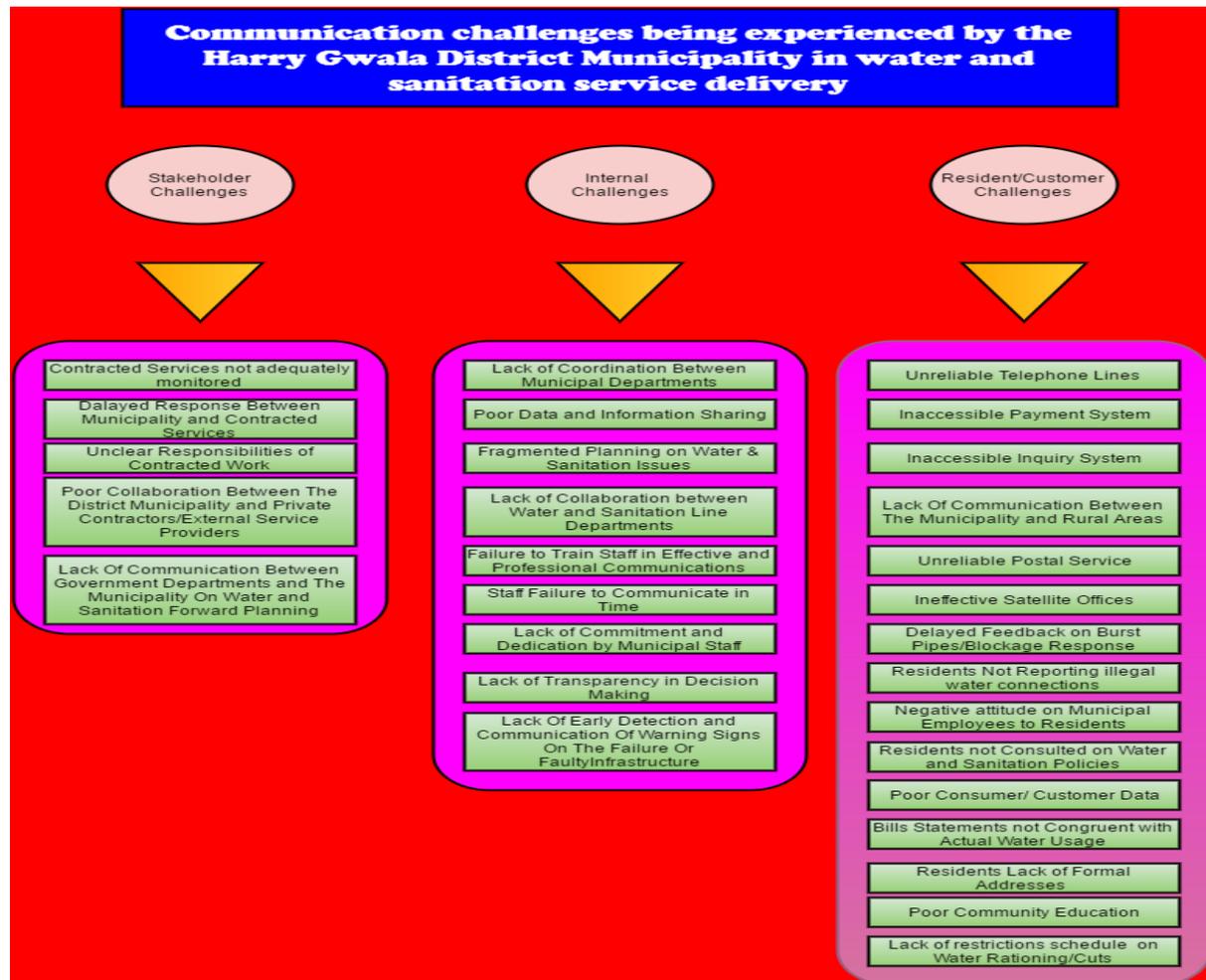
According to different authors and academics, the Servqual model has been proven as the best evaluation methodology that is consistent and reliable (Brown, et al., 1993). The way that this model has been presented by different researchers makes it clear to me that the Servqual model best fits the investigation of ratepayers' perceptions of cost recovery/ revenue collection and management of water and sanitation service delivery in the Harry Gwala District Municipality from the customer's/consumer's perspective and this was one of the key objectives of the research.

The Disconfirmation model and the Gap model are models that reflect the experience that is better than what the customer or consumer expected from the service provider (Iacobucci, et al., 2001). Iacobucci, Ostrom and Grayson (2001) state that the academic literature supports the view that customer satisfaction is a function of the discrepancy between a consumer's prior expectation and his/her perception regarding the services rendered. This means that the services rendered by the Water Services Authority to the consumers should be of high quality. If there are any service interruptions, the consumers should be informed on time of such interruptions as well as being informed of any interim measures or arrangements to be put in place until the uninterrupted service is restored,.

Employing the Servqual model and Disconfirmation and Gap models will enable the Harry Gwala District Municipality Water Services Authority to address the communication challenges as highlighted in the Figure 4.1. The diagram encapsulates the communication

challenges experienced in water and sanitation service delivery in the Harry Gwala District Municipality focusing on stakeholders' communication challenges, internal communication challenges and residents or consumer/customer perspective communication challenges.

Figure 4.1: Communication challenges in Water and Sanitation Service Delivery



Source: Author's own construction

From the findings presented in Figure 4.1 it is apparent that the Harry Gwala Municipality is facing water and communication challenges from three perspectives namely stakeholder challenges, internal challenges and resident/customer challenges. There are also communication challenges between contracted firms for water and sanitation provisioning and the municipal management. Respondents pointed to incidences of poor communication existing between the contractors for water and the community as evidenced by delayed responses to queries or concerns. Respondents further pointed out that some challenges are as a result of poor contractor monitoring and collaboration mechanisms. These stakeholder

challenges inadvertently affect water and sanitation provisioning as they lead to resident dissatisfaction which further leads to resistance to pay for water and sanitation services.

Apart from the stakeholder communication challenges the findings further point to the existence of internal communication challenges within the Municipality. According to some respondents communication challenges emanate from lack of collaboration between the Municipality's departments. This view is reinforced by another finding which points to the existence of fragmented planning among the various complementary departments because of poor data sharing between departments. This might be interpreted to mean that there is lack of unity when it comes to communicating issues of water and sanitation provisioning. The other internal communication challenge that emanated from the findings is a cluster of issues related to lack of training of staff in effective communication methods. Thus poor communication, poor data-sharing, lack of collaboration and lack of training for effective communication, and failure to communicate on time all lead to lack of transparency among and within departments leading in turn to resident dissatisfaction with service delivery and ultimately to resistance to pay for water and sanitation services.

The most outstanding and major communication challenge that emerged from the finding was poor Municipality-to-resident communication. From the findings presented in Figure 4.1 it is apparent that the Harry Gwala Municipality is being affected by communication challenges in Water and Sanitation Service Delivery from the perspective of residents. Respondents such as (Ix1, Ix2, Nix3, Ix4, Ix5, Ix6, Ix7, Ix8, Ix9, Ix10; Nmz1, Nmz2, Nmz3, Nmz4, Nmz5, Nmz6, Nmz7, Nmz8, Nmz9, Nmz10; Kok1, Kok2, Kok3, Kok4, Kok5, Kok6, Kok7, Kok8, Kok9, Kok10; Ndz1, Ndz2, Ndz3, Ndz4, Ndz5, Ndz6, Ndz7, Ndz8, Ndz9, Ndz10) pointed out that residents were facing difficulties accessing the municipality concerning certain issues they want clarification about. Respondents pointed out that in most cases there is failure to access the municipality due to the unreliable telephone service, inaccessible payment system, and an inaccessible inquiry system. This problem of inaccessibility to the municipality enquiry system extends to the rural areas whereby respondents pointed out the existence of poor communication between the municipality and rural dwellers regarding provision of water and sanitation services. Furthermore respondents pointed out that the poor communication is hindering residents who receive monthly statements that are not congruent with actual water usage. Another finding pertained to the fact that there is lack of communication on water rationing in the form of advance warnings or water cuts schedules. In cases where the information about water cuts and/or water provisioning was given, respondents pointed out that these water rationing schedules were rarely adhered to. Evidence

of this finding can be found in the following quote from respondents "... in our communities we lack information, usually we are not informed that at a certain time there will be no water. As a result, in terms of customer care services, we are not informed and the service is average. As a result we even come to you for clarity and request water without being informed that there will be a shutdown" (Ix1, Ix2, Ix3, Ix4, Ix5, Ix6, Ix7, Ix8, Ix9, Ix10; Nmz1, Nmz2, Nmz3, Nmz4, Nmz5, Nmz6, Nmz7, Nmz8, Nmz9, Nmz10; Kok1, Kok2, Kok3, Kok4, Kok5, Kok6, Kok7, Kok8, Kok9, Kok10; Ndz1, Ndz2, Ndz3, Ndz4, Ndz5, Ndz6, Ndz7, Ndz8, Ndz9, Ndz10). Further evidence of poor communication can be found in this quote from respondents "It is important for the municipality to communicate with the public. I think the community members would have a better understanding of matters if they were informed beforehand that water is going to be closed off and for how long. The time scheduled must be followed because it has happened that the municipality placed a notice informing the community that water is going to be opened at a particular time. The problem is that we don't communicate about the issue early enough. We wait instead until the situation becomes critical and this causes a lot of damage. For instance you will find that with the issue of sewerage. The department has not declared that the sewerage issue is of major importance and that it should receive attention at the highest level. As matters stand we fix this pipe today and tomorrow another one leaks. So I think that the story of the communication must be monitored very closely. In fact all these issues revolve around the communication problem" (Ix1, Ix2, Ix3, Ix4, Ix5, Ix6, Ix7, Ix8, Ix9, Ix10; Nmz1, Nmz2, Nmz3, Nmz4, Nmz5, Nmz6, Nmz7, Nmz8, Nmz9, Nmz10; Kok1, Kok2, Kok3, Kok4, Kok5, Kok6, Kok7, Kok8, Kok9, Kok10; Ndz1, Ndz2, Ndz3, Ndz4, Ndz5, Ndz6, Ndz7, Ndz8, Ndz9, Ndz10).

The following is an additional quote from respondents which shows the concerns of respondents regarding poor communication "When there is a service interruption of water, the information is not communicated to us as to why there is no water. There are questions amongst members of the community, about how long the water service interruption will take, and why there is no water. We normally experience ineffectiveness, many people keep wondering what's going on. Water is still not here but we do not know what the problem is that causes the water to be off. When will the water tanker truck arrive to deliver water? Often when it comes it cannot afford to deliver to the whole community as was expected" (Ix1, Ix2, Ix3, Ix4, Ix5, Ix6, Ix7, Ix8, Ix9, Ix10; Nmz1, Nmz2, Nmz3, Nmz4, Nmz5, Nmz6, Nmz7, Nmz8, Nmz9, Nmz10; Kok1, Kok2, Kok3, Kok4, Kok5, Kok6, Kok7, Kok8, Kok9, Kok10; Ndz1, Ndz2, Ndz3, Ndz4, Ndz5, Ndz6, Ndz7, Ndz8, Ndz9, Ndz10). Lastly the

following quote from respondents shows that the problem of poor communication between the Municipality and the residents is acute “Whatever policy they are trying to implement, we should be involved. They should have meetings with the community or distribute pamphlets door-to-door” ” (Ix1, Ix2, Ix3, Ix4, Ix5, Ix6, Ix7, Ix8, Ix9, Ix10; Nmz1, Nmz2, Nmz3, Nmz4, Nmz5, Nmz6, Nmz7, Nmz8, Nmz9, Nmz10; Kok1, Kok2, Kok3, Kok4, Kok5, Kok6, Kok7, Kok8, Kok9, Kok10; Ndz1, Ndz2, Ndz3, Ndz4, Ndz5, Ndz6, Ndz7, Ndz8, Ndz9, Ndz10).

Furthermore respondents pointed to the existence of several barriers to communication such as poor employee attitude to residents as well as poor community training. However the findings on residents-municipality communication seem to be balanced in the sense that both the municipality and the residents are to blame for the poor communication status that currently exists. There were respondents who pointed out that in some cases residents take a long time to report burst water and sewer pipes or leakages to the Municipality resulting in the delayed remedy to this problem of water and sewerage burst pipes and leakages.

These findings are contrary to the provisions of The *Municipal Systems Act, 32 of 2000* which stipulates that:

...a municipality must, within its financial and administrative capacity —

(a) Establish a sound customer management system that aims to create a positive and reciprocal relationship between persons liable for these payments and the municipality, and where applicable, a service provider;

(b) Establish mechanisms for users of services and ratepayers to give feedback to the municipality or other service provider regarding the quality of the services and the performance of the service provider;

(c) Provide accessible mechanisms for dealing with complaints from such persons, together with prompt replies and corrective action by the municipality;

(d) Provide mechanisms to monitor the response time and efficiency.

In trying to shape the public sector and to address the challenges that the South African government is faced with in the public sector, the African National Congress, in 2012 in Bloemfontein, adopted the National Development Plan (NDP) in its elective conference and the South African government adopted it as its own economic and socioeconomic development strategy for the country, which is also known as vision 2030.

The NDP consists of 15 Chapters incorporating: policy-making in a complex environment, demographic trends, the economy and unemployment, economic infrastructure, environmental sustainability and resilience, inclusive rural economy, South Africa in the region and the world, transforming human settlements, health care for all, social protection, building safer communities, building a capable and developmental state, fighting corruption and nation building and social cohesion (*National Development Plan, 2012*). The NDP defines a desired destination and identifies the role that different sectors of society should play in reaching the desired goal. The NDP aims to ensure that South Africans attain a decent standard of living through the alleviation of poverty and reduction of inequality. The NDP has been approved and adopted by the government and has been endorsed by the broader society.

For the purpose of this paper, the discussion will be guided by Chapter 13 of the NDP: Building a capable and developmental state. The main argument that is apparent in the NDP Chapter 13 as propounded by the National Planning commission is to transform the public sector into a more capable, more professional and more responsive body to serve the needs of the citizens. The National planning commission has made policy proposals to unlock opportunities, tackle major challenges and to put the country on the right path for building a state that is capable of promoting the key National objectives of alleviating poverty and reducing inequality.

4.1.1.1. Evaluation of the NDP in relation to Communication Challenges in the Harry Gwala District Municipality as the Water Services Authority

The strength of the NDP is that it provides a comprehensive long-term vision for the country and it aims to ensure that it builds a professional public service and a capable developmental state in order to realise the vision for 2030. The National Planning Commission (2011) presented a balanced view and covered all significant aspects. The Commission further recommended drastic corrective measures and policy proposals, the plan is clear and convincing that the set goals and objectives of the NDP will be achieved. However, the preamble is not a true reflection of what is happening on the ground. South Africa is still faced with triple challenges and uneven performance in all spheres of government, and it is also a developing Country that is very far from reaching a situation whereby every citizen will be satisfied with the services rendered by the public sector.

Chapter 13 contains significant and progressive proposals. First, the chapter advanced the democratic principles of a developmental state by emphasizing the importance of

collaborative efforts between the society and the authorities in Government. The chapter further provided policy proposals on how best the public service can be transformed to be protected from narrow selfish political interference in procurement and appointment of public servants. Lastly, the piece provided policy proposals and reforms on professionalising the public service and state-owned enterprises (SOEs) to be responsive to the needs of citizens.

Likewise, *The Organization for Economic Cooperation and Development Public Management Policy* (OECDPMP) (Brief No 7) states that Public service involves public trust. Citizens expect public servants to serve the public interests with fairness and to manage public resources properly on a daily basis. The OECDPMP further argues that Reliable public service inspires public trust and a favourable environment. The OECDPMP concluded by stating that Public service ethics are a pre-requisite to underpin public trust and public service that are the corner stone of good governance. In support of the OECDPMP, Moeti (2014) proposed that in the field of financial management, essential values in the public sector ethics are honesty and probity. Moeti further stated that ethical failure in the public sector is caused by lack of honesty and probity. As argued by Moeti (2014), Public representatives and public servants should have commitments towards the following:

- Providing optimal service delivery;
- The Valuing of impartiality or fairness;
- Putting people first (*Batho Pele*);
- Strengthening established institutions; legislation and systems and processes; and
- The introducing of additional arrangements where weaknesses have been discovered.

4.2.2 Analysis of the metered services of water and sanitation service delivery in the Harry Gwala District Municipality.

This section of the metered services analysis unpacks the meter and leaks audit including the meter repairs that have been made by the Harry Gwala District Municipality. The section of the chapter will further highlight the impact that the fixing of faulty meters will have in the Water Services Authority of the Harry Gwala District Municipality. To this end, the section will provide details of the number of faulty meters as well as the number of meters that have been fixed in this Municipality up to date.

4.2.2.1 Bulk Flow Meters inlets and outlets

The Harry Gwala District Municipality has limited or no bulk meters in the Water Treatment Works (WTW) which makes it difficult to access metre readings for water balance information in order to manage water losses and non-revenue water within the District. However, the water balance information has been populated and submitted to the Department of Water and Sanitation using estimated volumes.

4.2.2.2 Meter and Leaks Audit and Repairs

The Water Services Authority has embarked on a campaign of auditing meters and leaks in the Ixopo Water supply system to try and minimize or to save water as it has been noticed that the water consumed is more than the expected consumption. The aim was to establish the status quo and to apply remedial measures based on the findings of an audit.

According to the findings of the meter audit, leaks fixing and meter fixing will help in reducing water losses which may cause the following:

- irregular supply of water for consumption;
- unforeseen water interruptions;
- shortage of water in the system; and
- fixing faulty, non-working and missing meters will help to identify how much water is lost in the distribution network system.

Meter Audit and Repairs

The following table presents the analysis of the audited meters in Ixopo and Umzimkhulu areas respectively, faulty meters identified and meters that have been fixed.

Table 4.1: Meter Audit and Repairs in Ixopo/Ubuhlebezwe and UMzimkhulu towns

	Description	Quantity		
		Ixopo Town System	Umzimkhulu Town System	Total
1.	Meters audited in Ixopo	1475	1584	3059
2.	Meters not working	1086	424	1510

3.	Meter already fixed	3	0	3
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The municipal records indicated that all non-working meters/ faulty meters are to be replaced with smart meters which are designed to provide a limited amount of water (*Harry Gwala Meter Audit report 2016*). Then the consumer will make use of the coupon sale arrangement to top up the supply. The report further indicated that the following social issues will be dealt with before the project of the installation of smart meters is implemented:

- Issuing of notices to the consumers informing them about the meter audit, meter fixing and smart meters installation initiative.
- The consumer’s engagement with the transformation that will take place.

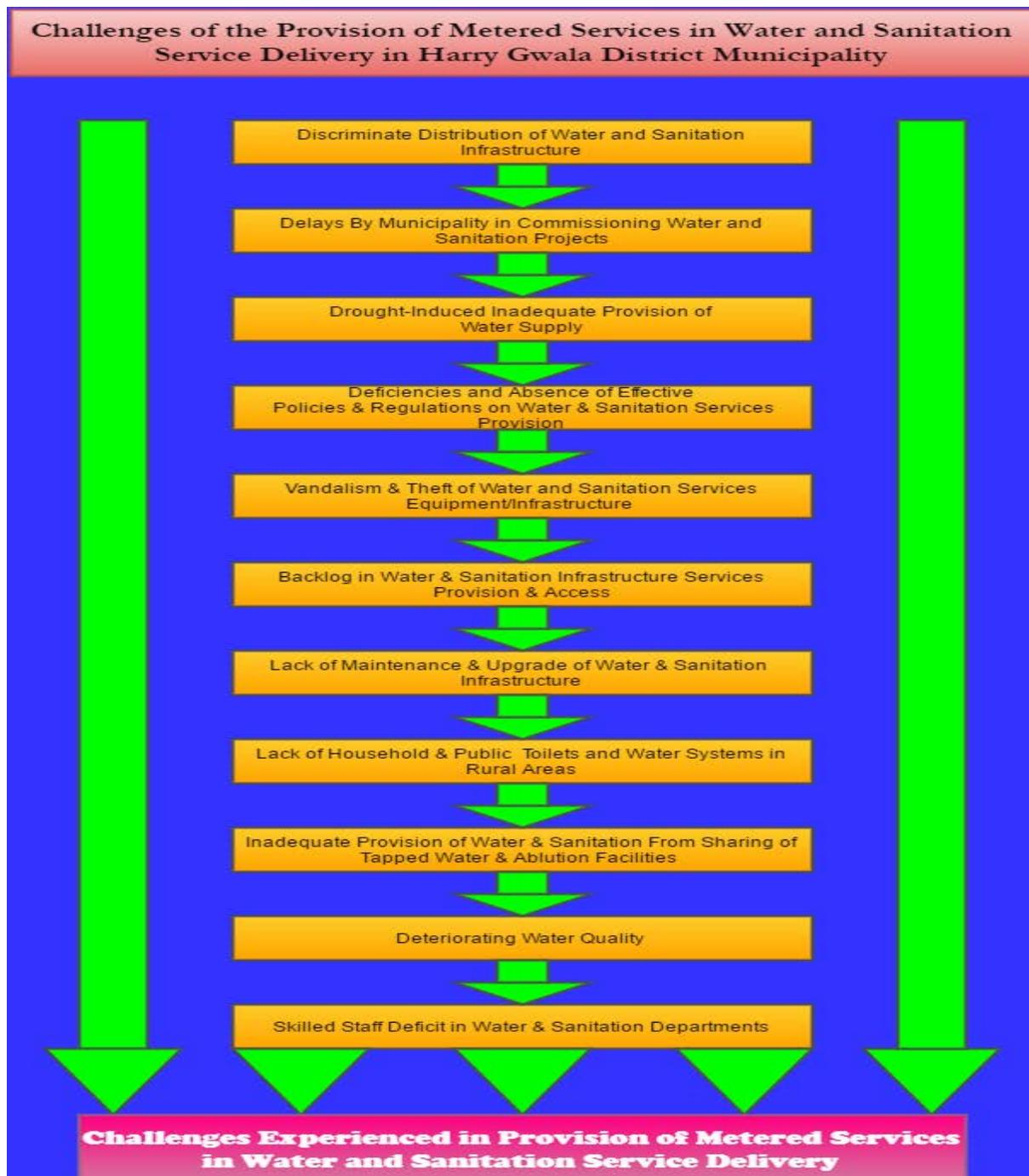
Households Leaks Repairs

Table 4.2: Households Leaks and repairs in Ixopo and Umzimkhulu Towns

	Description	Quantity		
		Total No of Households	Repaired to date	% Complete
1.	Households leaks attended to in the Ixopo Town system	534	250	47 %
2.	Households leaks attended to in the Umzimkhulu Town system	1602	290	18 %

The above statistics are based on the municipal records, the meter leaks audit that was done in all the households within the two water supply systems. The service provider that was appointed couldn’t complete the project due to financial constraints in the Harry Gwala District Municipality.

Figure 4.2 Challenges of the provision of Metered services in Water and sanitation service Delivery in the Harry Gwala District Municipality



From the findings presented in Figure 4.2 it is evident that the Municipality is facing several challenges that are militating against its ability to provide Metered services in Water and sanitation service delivery. Respondents pointed out that the provision of metered water and sanitation services is being affected by the following challenges:

The uneven and discriminate distribution of water and sanitation services whereby the water and sanitation infrastructure in some residential areas is not suited to the provision of metered services. For example there are areas in the Municipality where there are bulk water taps or communal taps as well as communal toilets which makes it a challenge to provide individual meters. Thus in terms of revenue generation through the provision of metered water services, this is highly impracticable unless the Municipality embarks on a programme to install individual water taps and toilets per household which would make it possible to provide metered water services. Evidence of this finding can be found in the following quote “The worst part is our tanks because they are choosy; they don’t give water to all of us equally. This is a health problem for citizens because it results in most of citizens not having access to clean water and this has a negative impact on our health” (Ix1, Ix2, Ix3, Ix4, Ix5, Ix6, Ix7, Ix8, Ix9, Ix10; Nmz1, Nmz2, Nmz3, Nmz4, Nmz5, Nmz6, Nmz7, Nmz8, Nmz9, Nmz10; Kok1, Kok2, Kok3, Kok4, Kok5, Kok6, Kok7, Kok8, Kok9, Kok10; Ndz1, Ndz2, Ndz3, Ndz4, Ndz5, Ndz6, Ndz7, Ndz8, Ndz9, Ndz10).

Delayed commissioning of additional water and sanitation projects might be interpreted to mean that the meters cannot be installed up until the new water and sanitation projects have officially been completed and commissioned.

From the findings in Figure 4.2 it can be deduced that the installation is being hampered by drought-induced water deficiencies. Respondents pointed out that the current, and ever declining water levels have been caused by the twin effects of declining rainfall as well as prolonged effects of the drought. This might have created uncertainty and hesitation to invest in water and sewerage meters. Evidence of this finding can be found in the following quote “Currently there is drought, then maybe moving forward some of the things will change and water sources may change either dry up or water levels may increase. Then it is important to employ cost-recovery concepts in our Municipality in order to enhance Municipal revenue. Through our understanding of how the Municipality operates, we know that the water is not always enough, because in most places there is drought” (Ix1, Ix2, Ix3, Ix4, Ix5, Ix6, Ix7, Ix8, Ix9, Ix10; Nmz1, Nmz2, Nmz3, Nmz4, Nmz5, Nmz6, Nmz7, Nmz8, Nmz9, Nmz10; Kok1, Kok2, Kok3, Kok4, Kok5, Kok6, Kok7, Kok8, Kok9, Kok10; Ndz1, Ndz2, Ndz3, Ndz4, Ndz5, Ndz6, Ndz7, Ndz8, Ndz9, Ndz10).

From the findings it can be deduced that the installation of water meters in the Municipality is among other things being hampered by vandalism of municipal infrastructure which by extension complicates the provision of water and sewerage meters.

From the findings presented in Figure 4.2 one can see that the Municipality is facing challenges related to the issue of backlogs in the provision of water and sewerage infrastructure to potential recipients of Municipal services who are illegally accessing these services. This is also hampering the revenue generation initiatives which include the installation of water and sanitation meters. The following quote from respondents demonstrates the nature of the challenge. “The problem is that the backlog is too large and will not be able to be covered overnight. The municipality will not be able to cover the backlogs because the district is very vast and all the rural communities demand water and sanitation service delivery. When reporting water and sanitation-related challenges/issues; they tell us that water cannot be supplied to the community because the engine is faulty. This is all because the office-based official cannot come to check and verify whether the engine is really faulty or not. When a pipe bursts, then it should be rectified as soon as possible. Providing water should not have any challenges or interruptions and the Municipality should be effective. There are many communities that need water and there are few water tanker delivery trucks” (Ix1, Ix2, Ix3, Ix4, Ix5, Ix6, Ix7, Ix8, Ix9, Ix10; Nmz1, Nmz2, Nmz3, Nmz4, Nmz5, Nmz6, Nmz7, Nmz8, Nmz9, Nmz10; Kok1, Kok2, Kok3, Kok4, Kok5, Kok6, Kok7, Kok8, Kok9, Kok10; Ndz1, Ndz2, Ndz3, Ndz4, Ndz5, Ndz6, Ndz7, Ndz8, Ndz9, Ndz10).

From the findings presented in Figure 4.2 one can deduce that the evident lack of maintenance of water and sewer infrastructure has complicated the ability of the Municipality to provide water and sanitation services. Evidence of this finding can be found in the following quotes: “The water service provider is responsible for good quality water supply and adequate sanitation services to consumers under the service delivery agreement by the Water Service Authority (*Department of Water Affairs & Forestry, 2005*)”. “There are still problems that need to be addressed; purified water has to reach people who stay in rural areas as there are still people who rely on spring water for drinking. The challenge is that residents are not aware of where situations like these must be reported. If you look at our ward there are still taps. The challenge is that some taps are broken which makes it problematic since people cannot fetch water properly and this wastes a lot of water. Children play with taps and as a result they become broken and if that happens we really don’t know where to report this issue. This is the evidence that there is still a lack of coordination between the Municipality and the community. Repairs will result in minimising the amount of water wastage and the

community will not have a problem in drawing water. The service does not satisfy our needs as a community and it is very upsetting that when we report to the Municipality they delay a lot.” (Ix1, Ix2, Ix3, Ix4, Ix5, Ix6, Ix7, Ix8, Ix9, Ix10; Nmz1, Nmz2, Nmz3, Nmz4, Nmz5, Nmz6, Nmz7, Nmz8, Nmz9, Nmz10; Kok1, Kok2, Kok3, Kok4, Kok5, Kok6, Kok7, Kok8, Kok9, Kok10; Ndz1, Ndz2, Ndz3, Ndz4, Ndz5, Ndz6, Ndz7, Ndz8, Ndz9, Ndz10). The above finding further confirms the findings on poor communication that were identified above. Additionally the above quote further demonstrates that the quality of water provided has declined.

From the findings presented in Figure 4.2 respondents alluded to the inadequate provision of both household and public toilets which has been substituted by the provision of shared tapped water and ablution facilities which is making it difficult to provide metered services further leading to the inability to generate additional revenue from installation of water and sewer metres as well as installation of the user-pay toilet system.

Also the research findings presented in Figure 4.2 demonstrate that the Municipality is being affected by a crippling skills deficit in as far as installation of water and sewer metres is concerned. The following quotes from respondents validate this finding. “On the other hand if employed personnel are not trained, this might cause damage that cannot be paid for. They always come and take notes but there is no action taken. What is painful is that they didn’t fix the issue and we are not getting any feedback. These are the things that make the community not want to pay for water bills. Improving the quality of services makes people to see the need to pay for the services” (Ix1, Ix2, Ix3, Ix4, Ix5, Ix6, Ix7, Ix8, Ix9, Ix10; Nmz1, Nmz2, Nmz3, Nmz4, Nmz5, Nmz6, Nmz7, Nmz8, Nmz9, Nmz10; Kok1, Kok2, Kok3, Kok4, Kok5, Kok6, Kok7, Kok8, Kok9, Kok10; Ndz1, Ndz2, Ndz3, Ndz4, Ndz5, Ndz6, Ndz7, Ndz8, Ndz9, Ndz10). The other finding which is related to lack of skills is the issue of staff incompetence. In the words of respondents staff incompetence is related to prolonged delays in attending to customer complaints leading to lack of trust. The evidence for this finding can be obtained from the following quote “People need to trust that unit hence the staff should be capable of resolving problems. Sometimes you find that the problem is not about maintenance but the problem is finance-related. The challenge that we face is that the Municipality takes a long time to resolve customer complaints or to attend to them. Also the area is very vast and a high percentage of it is in rural areas” (Ix1, Ix2, Ix3, Ix4, Ix5, Ix6, Ix7, Ix8, Ix9, Ix10; Nmz1, Nmz2, Nmz3, Nmz4, Nmz5, Nmz6, Nmz7, Nmz8, Nmz9, Nmz10; Kok1, Kok2, Kok3, Kok4, Kok5, Kok6, Kok7, Kok8, Kok9, Kok10; Ndz1, Ndz2, Ndz3,

Ndz4, Ndz5, Ndz6, Ndz7, Ndz8, Ndz9, Ndz10). The following quote further provides evidence of staff incompetence “because when the municipal officials arrive and find a water leak, he says that he is not in a position to fix the leaking pipe and community members end up not being sure which job should be fixed by municipal officials? The community should be informed that the water will be delivered once a week because of the drought. There might be complaints and outcry out in public but at least if you let them know the days when the water will be delivered they can make necessary arrangements and get containers to store water on the day of delivery by water tanker” (Ix1, Ix2, Ix3, Ix4, Ix5, Ix6, Ix7, Ix8, Ix9, Ix10; Nmz1, Nmz2, Nmz3, Nmz4, Nmz5, Nmz6, Nmz7, Nmz8, Nmz9, Nmz10; Kok1, Kok2, Kok3, Kok4, Kok5, Kok6, Kok7, Kok8, Kok9, Kok10; Ndz1, Ndz2, Ndz3, Ndz4, Ndz5, Ndz6, Ndz7, Ndz8, Ndz9, Ndz10).

4.2.3 Analysis of the Municipal billing system of water and sanitation in the Harry Gwala District Municipality

Figure 4.3 Trend Line graph of Harry Gwala District Municipality water and sanitation yearly income (2014-2016)

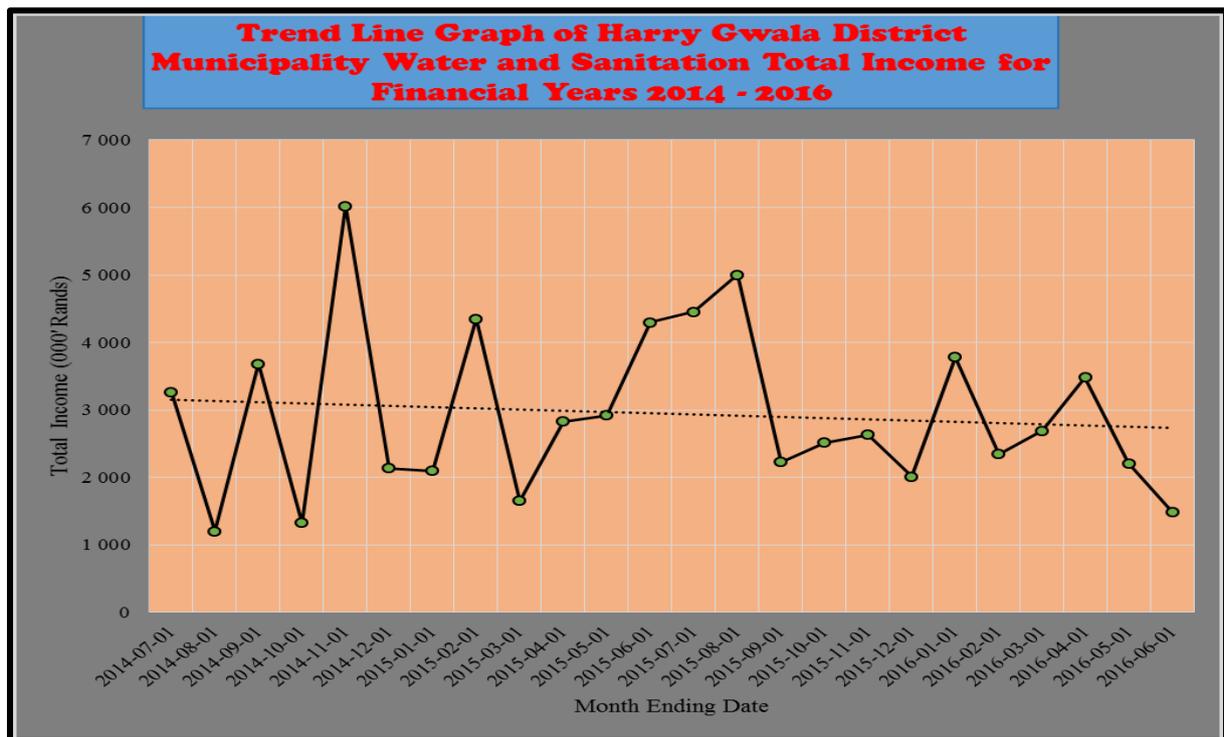


Figure 4.3 presents a Trend Line graph of the Harry Gwala District Municipality water and sanitation yearly income (2014-2016). In 2014 in the months from July total revenue generated rose from approximately R3,4 million to almost R6 million by the end of December 2014 showing a near 100 per cent increase. Regrettably revenues dropped from the

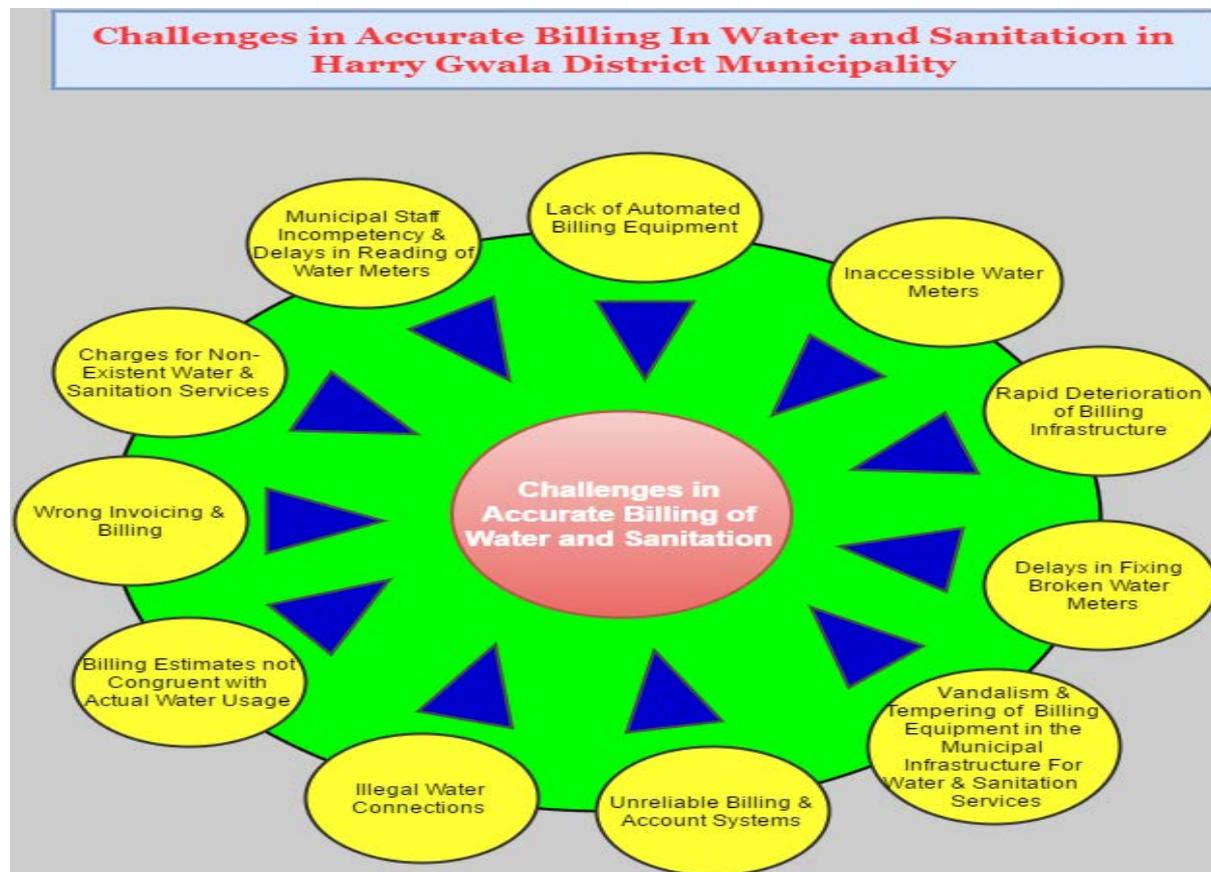
peak of R6 million in December 2014 to almost R2 million between January and February 2015. This was a phenomenal drop of 67 per cent. The revenues then increased from R2,1 million to almost R4.4 million before dropping to below R2 million in March 2015. From April there was a sluggish increase in total revenues to a peak of R5 million in August 2015 before dropping sharply to below R2 million in October 2015. Since then there has been a steady increase interrupted by a decrease to R2 million by December 2015. Since then revenue inflows have been falling especially from the month of April 2016 from R3 500 to R1 500 in June of the same year. The overall trend shows serious fluctuations in the revenues marked by more downward variations than upward trends.

The findings as presented in Figure 4.2 show a worrying downward trend in revenues which points to serious management shortcomings in terms of revenue generation and inefficiencies in the revenue collection systems. This finding might be interpreted to mean that the Municipality revenue collection system might be ineffective due to lack of adequate manpower to engage in revenue collection. As alluded to by a majority of respondents, there is not enough manpower dedicated to both revenue collection as well as to attending to breakdowns and other issues. The other factor that respondents alluded to as causing lower revenue generation from water and sanitation is something to do with faulty meters that do not give accurate meter readings and ultimately a lower revenue generation. This finding is supported by the following quote “We have to have enough staff, which, at the moment, is not as we wish. A small number of staff that is on the ground deal with the challenges and the break downs. But if it is happening in the late hours, we are supposed to have people on standby. We are trying as municipality but struggling financially not to have a lot of people on standby. To minimize the use of people on standby which is costly, we are somehow restricted to working during normal working hours in municipalities. The issue of budget goes as far as the resources to use like tools and we are trying to save on the amount of budget that we have as the operation maintenance team. The first step would be to assess the capacity of the infrastructure to allow for the connections. Normally with the faulty meters we receive the list of faulty meters from our department. People advise us of any faulty meters that are not working. That tells us that there is a leak at a certain meter or, normally it is reported that the meter is not working. We attend to those meters as we receive the list but there are challenges as well around the capacity we have to attend to these meters” (S2)

“Imagine if you have calls from three separate areas that are 3 kilometres apart. How do you respond very quickly? Remember that area of 90 square kilometres has maybe one plumber

that is allocated to that particular area. So it is very difficult for that particular plumber to reach everyone in those areas.

Figure 4.4 Challenges in accurate billing for water and sanitation in the Harry Gwala District Municipality



From the findings presented in Figure 4.4 demonstrate that the Harry Gwala Municipality is facing several challenges related to the accurate billing for potable and sanitation water. According to respondents, the unavailability of an automated billing system is hindering the accuracy of the billing systems. According to respondents the lack of automation has led to the Municipality relying more on estimated bills which has led to customer dissatisfaction because in most cases there are allegations of inflated bills which are not congruent with actual usage. Thus one of the most outstanding challenges facing the municipality as per the findings is the problem of unreliable and inaccurate billing which is feeding wrong accounting information. According to the respondents the problem of bill estimation is leading to inaccuracies in the billing systems leading to wrong invoicing and billing. The net effect of this is resident disgruntlement and anger leading to resistance to pay and ultimately causing a decline in revenue inflows and to a liquidity crisis for the Municipality.

This finding is supported by the following quote from respondents “The billing system doesn’t satisfy us as the consumers, because you find that my neighbour has more people in

her house staying who are using water and you have fewer people staying with you only to find that you are billed more than your neighbour. So that raises a lot of questions and makes you wonder how this thing happens. You then assume that maybe the person responsible for meter reading just estimated the volume and writes what he/she likes. The meter readers do come to read but the problem that we experience ourselves as the communities is that we do not understand how the Municipality charges us for water and sanitation services. It is very unfair to customers who pay and in the informal settlements they don't pay for water and us here we are expected to pay. They even waste water because they don't pay for water at all. They leave the taps open, squirting just anyhow. They do not pay for water, so how should you then pay for water for other people while there are people who do not pay at all?".

Another finding from that is depicted in Figure 4.4 is the challenge associated with the inaccessibility of water meters. "The meters are totally inaccessible and water services are still invoicing and billing water. But there is a huge issue with wrong invoicing, when people sell the properties, the water is not cleared when the property is sold. The only thing that I can say is that things are messed up by the meter readers, you may find out that some meters are underneath the surface and how do they read them. I think they just estimate and write anything. There people who live in townships are able to rob the meters in so many ways. So comparing your meter with your neighbour may not be a solution to the problem. Some bypass the meters. You may disconnect the meter, and connect the pipe to wash and do everything and reconnect the meter afterwards. Those who have a vast experience with the meters, they just make it to face in the opposite direction for it not to be able to read, it then makes it difficult to recover the water that had been used after it has been reconnected properly" (Ix1, Ix2, Ix3, Ix4, Ix5, Ix6, Ix7, Ix8, Ix9, Ix10; Nmz1, Nmz2, Nmz3, Nmz4, Nmz5, Nmz6, Nmz7, Nmz8, Nmz9, Nmz10; Kok1, Kok2, Kok3, Kok4, Kok5, Kok6, Kok7, Kok8, Kok9, Kok10; Ndz1, Ndz2, Ndz3, Ndz4, Ndz5, Ndz6, Ndz7, Ndz8, Ndz9, Ndz10).

"The issue here is that people are not aware that they should pay for water. They are aware of the municipal services only. So it creates a problem where water would be consumed free without it being paid for. Because it also comes back to the issue of the councillor. There are no statements that are being issued. So people know nothing, because they don't know that they have to pay, some communities want the municipality to write off their debts and also to fix all the challenges that are there in the existing metering system. The people they can't afford to pay. The bills that are posted to people get to them after 2 or 3 months and they are so shocked with the bill. The municipality is trying its level best but now people have

difficulty in paying for services since they are depending on social grants for survival. The communities have heard that in some areas the Amnesty programme was implemented by the Municipality. I think that those are some of those reasons why people are not willing to pay” (Ix1, Ix2, Ix3, Ix4, Ix5, Ix6, Ix7,Ix8, Ix9, Ix10; Nmz1, Nmz2, Nmz3, Nmz4, Nmz5, Nmz6, Nmz7, Nmz8, Nmz9, Nmz10; Kok1, Kok2, Kok3, Kok4, Kok5, Kok6, Kok7, Kok8, Kok9, Kok10; Ndz1, Ndz2, Ndz3, Ndz4, Ndz5, Ndz6, Ndz7, Ndz8, Ndz9, Ndz10)

Another finding that is depicted in Figure 4.4 relates to the challenge of vandalism of municipal billing infrastructure for water and sanitation, which is then exacerbated by the delays in fixing the broken infrastructure due to staff ineffectiveness. This finding is confirmed by the following quote: “In villages when you get there you understand that there is illegal connection but the communities will tell you that this is their water and these are not illegal connections. But if you look at the history of not paying for water, there was someone who assisted them. Now everyone has a tap in the yard but people are not aware that they have connected illegally. If you talk about illegal water connections, they tell you that they are going to destroy/ vandalize the scheme by cutting, exposing and damaging those pipes/ reticulation. There are illegal connections in our areas which I think were forced by the programmes introduced by the government. People are forced to do illegal connections because the water they are getting they have to travel hundreds of metres away. At the time when the water is opened as per the restriction schedule some are not at home. The main reason that makes communities to connect water illegally in their homes it is because they need water right in their homes. If there is someone who has a yard connection they cannot walk 200m radius to a communal stand pipe to fetch water. Those are some of the core reasons that make communities mostly in rural areas to opt for illegal yard connections. Perhaps that will assist in water use efficiency as people need water it is important to include metering so that they can control the wastage hence they will have to pay at the end of the day which will then enhance municipal revenue collection. There are informal settlements who have decided to connect illegally. There is a site that has a meter nearby them. But the people who live near have houses built with mud; they fetch water from that meter there. They use their own pipe to fetch water from that meter and disconnect the pipe afterwards” (Ix1, Ix2, Ix3, Ix4, Ix5, Ix6, Ix7, Ix8, Ix9, Ix10; Nmz1, Nmz2, Nmz3, Nmz4, Nmz5, Nmz6, Nmz7, Nmz8, Nmz9, Nmz10; Kok1, Kok2, Kok3, Kok4, Kok5, Kok6, Kok7, Kok8, Kok9, Kok10; Ndz1, Ndz2, Ndz3, Ndz4, Ndz5, Ndz6, Ndz7, Ndz8, Ndz9, Ndz10).

“Some of the meters are too close and some have been swapped or put in a different property or yard which makes it difficult for the meter readers to be in a position to say that this meter reading belongs to A or B. There are very old meters and the communities and households end up not knowing where her/his meter is located. So even if there is a water leak in the meter he/she does not know whether it belongs to him/her or not. The Municipality should ensure that each and every household does have her/ his designated meter without sharing it with anyone. If one may argue, that perhaps I pay for you. Or alternatively you may pay for me. The service users should have a trust that the reading is a true reflection of what she/he has consumed and there should be no confusion here. Maybe from a service providers' point of view, there are areas in which there are no meters at all, but it is not necessarily that they do not pay because there are no meters it's just that they don't want to pay. The water is never disconnected, so they always have a continuous supply. So we need to enforce disconnections, and perhaps alternatively impose restrictions” (Ix1, Ix2, Ix3, Ix4, Ix5, Ix6, Ix7, Ix8, Ix9, Ix10; Nmz1, Nmz2, Nmz3, Nmz4, Nmz5, Nmz6, Nmz7, Nmz8, Nmz9, Nmz10; Kok1, Kok2, Kok3, Kok4, Kok5, Kok6, Kok7, Kok8, Kok9, Kok10; Ndz1, Ndz2, Ndz3, Ndz4, Ndz5, Ndz6, Ndz7, Ndz8, Ndz9, Ndz10).

“If the engine is faulty one can assume that within a week all that will be solved and the community may have access to water, people may not understand about the faulty engine and how long it takes to fix it and what the processes are that are followed for it to be fixed”. “It's important for people to be made aware that it's better to inform the community if anything faulty still needs to be purchased”. “The municipality should inform us that this will take a long time due to the fact that an external service provider will be appointed to come and fix the engine which may cause delays”. “All these things if people grasp the thinking and are properly informed, I believe that there will be no problem and that they will understand” (Ix1, Ix2, Ix3, Ix4, Ix5, Ix6, Ix7, Ix8, Ix9, Ix10; Nmz1, Nmz2, Nmz3, Nmz4, Nmz5, Nmz6, Nmz7, Nmz8, Nmz9, Nmz10; Kok1, Kok2, Kok3, Kok4, Kok5, Kok6, Kok7, Kok8, Kok9, Kok10; Ndz1, Ndz2, Ndz3, Ndz4, Ndz5, Ndz6, Ndz7, Ndz8, Ndz9, Ndz10).

4.3.4 The Municipal income and management of Municipal revenue: An Analysis of the Harry Gwala District Municipality

In terms of section 17 of the MFMA;

An annual budget of a Municipality must set out realistically anticipated revenue for the budget year and appropriate expenditure for the budget year under the different votes of the Municipality.

Revenue Management

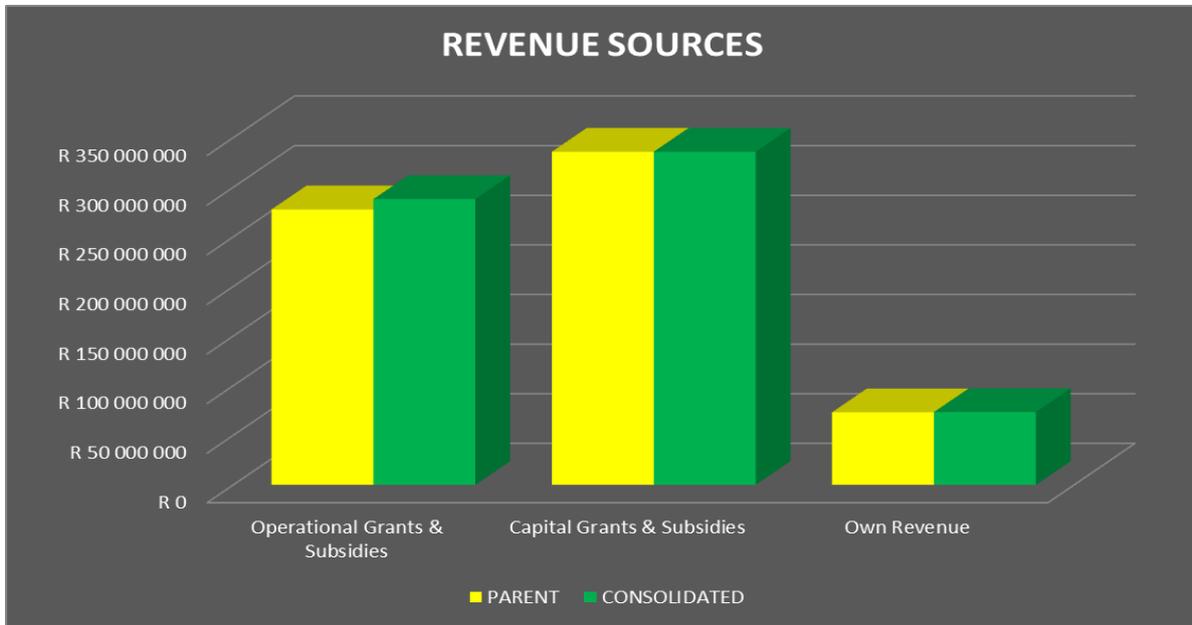
“The total budget for 2016 to 2017 for the Harry Gwala District Municipality is six hundred and thirty million, five hundred and sixty six”. “The rural municipalities depend on the national and provincial grants. Our Municipality also depends on national and provincial grants, because our revenue for 2016 to 2017 which includes the service charges is R73m. The other revenue that we get is from the provincial and national grant”. The national is R630m and the provincial is only four hundred thousand. That makes six hundred and eighty million” (S1)

The total budget amounts to R686, 5m for the ``parent municipality and consolidated, this amounts to R 697, 1m. This income is derived mainly from Government Grants & Subsidies (i.e. MIG, WSIG, RBIG & Equitable Share). This has been allocated as follows to the operational and capital budget;

Table: 4.3: Revenue

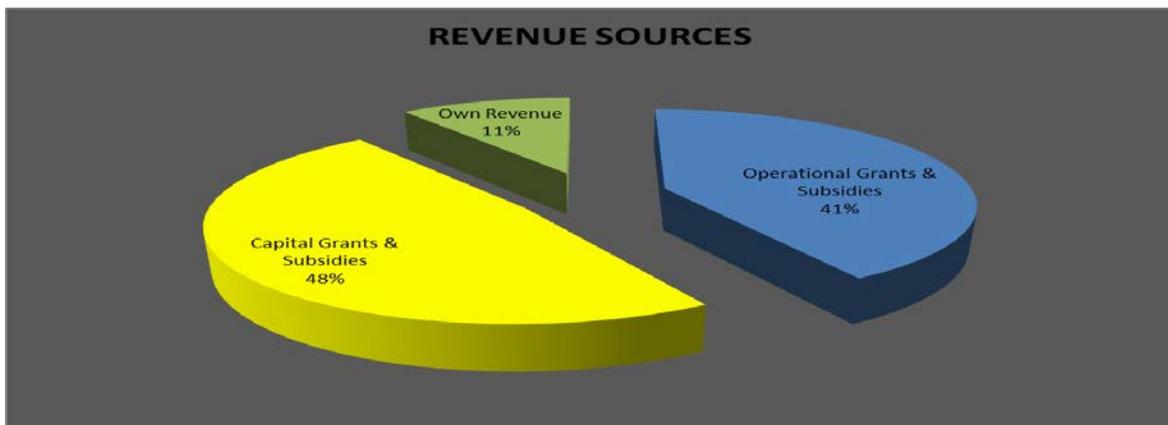
Revenue	2016/17 Parent	2016/17 Consolidated
Operational Grants & Subsidies	R 277, 6m	R 288m
Capital Grants & Subsidies	R 335, 7m	R 335, 7m
Own Revenue	R 73, 1m	R 73, 3m
TOTAL	R 686, 5m	R 697, 1m

Figure 4.5: Revenue Sources



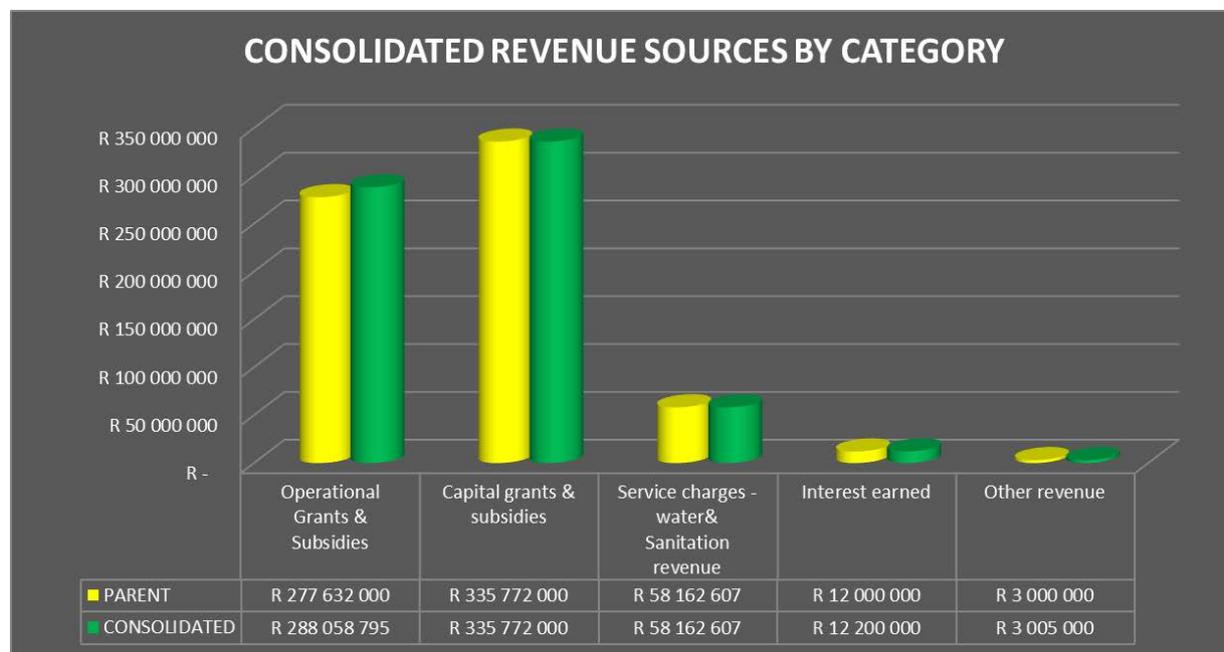
Source: Harry Gwala District Municipality: Final Draft Budget Report, (2016:1)

Chart 4.1: Revenue Sources into Percentages



Source: The Harry Gwala District Municipality: Final Draft Budget Report, (2016:1)

Chart 4.2: Consolidated Revenue by Category



Source: Harry Gwala District Municipality: Final Draft Budget Report, (2016:2)

Revenue distribution by category consists of Capital Grants & Subsidies at 48 per cent, Operational Grants & Subsidies at 41 per cent and lastly Own Revenue is at 11 per cent.

Table 4.4: Detailed Revenue Sources

REVENUE

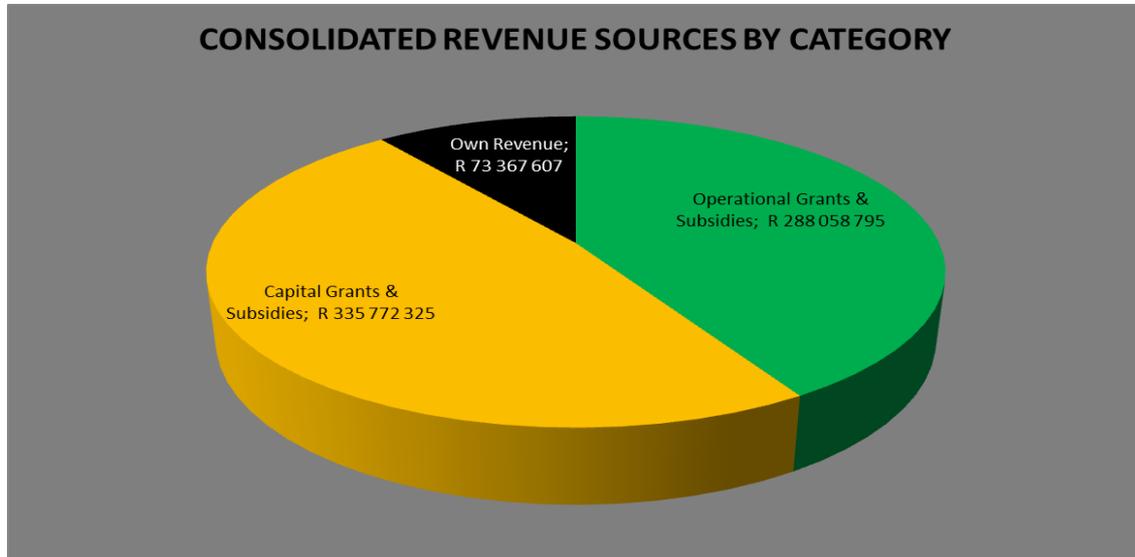
NATIONAL GRANTS	2016/17	2017/18	2018/19
Equitable share	R 260 069 000	R 284 205 000	R 308 451 000
Municipal infrastructure grant	R 186 290 325	R 203 643 375	R 215 961 525
Municipal infrastructure grant (pmu)	R 4 776 675	R 5 221 625	R 5 537 475
Regional bulk infrastructure grant	R 60 000 000	R 100 000 000	R 38 718 000
Rural roads assets	R 2 095 000	R 2 234 000	R 2 375 000

infrastructure - grant			
Municipal system improvement grant	R 1 041 000	R 1 637 000	R -
Finance management grant	R 1 250 000	R 1 250 000	R 1 000 000
Expanded public works programme	R 3 364 000	R 0	R -
Energy efficiency & demand management grant	R 8 000 000	R 0	R -
Municipal water infrastructure grant	R 86 118 000	R 98 000 000	R 118 400 000
Total	R 613 004 000	R 696 191 000	R 690 443 000
Provincial grants			
Development Planning Shared service	R 400 000	R 400 000	R 500 000
Subtotal	R 400 000	R 400 000	R 500 000
Own Revenue			
Service charges - water revenue	R 40 713 825	R 43 156 654	R 45 746 053
Service charges - sanitation revenue	R 17 448 782	R 18 495 709	R 19 605 451
Interest earned - external investments	R 3 500 000	R 3 710 000	R 3 932 600
Interest earned - outstanding debtors	R 8 500 000	R 9 000 000	R 9 500 000
Other revenue	R 3 000 000	R 3 180 000	R 3 370 800
Sub-total	R 73 162 607	R 77 542 363	R 82 154 905
Total Revenue	R 686 566 607	R 774 133 363	R 773 097 905

The water & sanitation tariffs are proposed to increase by 6 per cent considering economic viability of the Harry Gwala District Municipality for the ensuing year. The proposed tariff

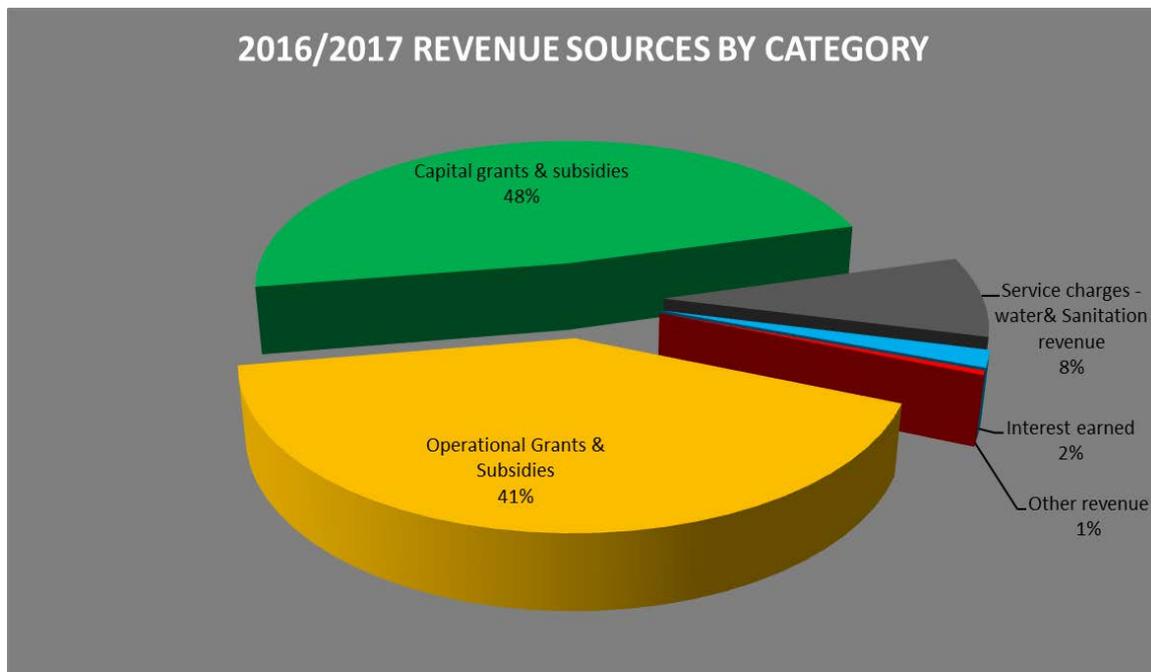
increase is at 6 per cent below the inflation rate estimated at 6.6 per cent as forecast by the National Treasury.

Chart 4.3: Consolidated Revenue Sources



Source: Harry Gwala District Municipality: Final Draft Budget Report, (2016:2).

Chart 4.4: 2016-17 MTREF Budget Summary



Source: Harry Gwala District Municipality: Final Draft Budget Report, (2016:2)

Chart 4.4 above presents the budget summary for the 2016-17 budget year categorised by revenue sources.

This is a distribution of the budget summary with the biggest piece of the pie of 48 per cent coming from capital grants & subsidies, followed by operational grants & subsidies at 41 per cent, the service charges resulting from water & sanitation revenue at 8 per cent there is also interest earned at 2 per cent and lastly other revenue generated at 1 per cent.

Capital expenditure (Capex)

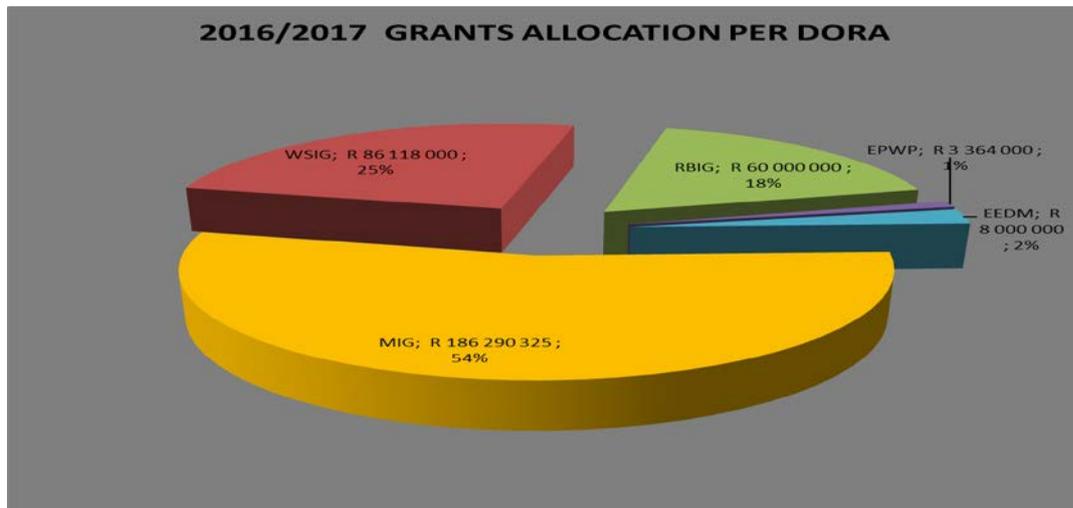
Table 4.5: Capital Budget by Type

	BUDGET
Water	R 309 106 542
Sanitation	R 33 665 783
Office Equipment, Computers & Other	R 12 282 000
Fencing	R 1 000 000
Total	R 356 054 325

Table 4.6: 2016/2017 Conditional grants Allocation

GRANTS	
	2016/17
MIG	R 186 290 325
WSIG	R 86 118 000
RBIG	R 60 000 000
EPWP	R 3 364 000
EEDM	R 8 000 000
TOTAL	R 343 772 325

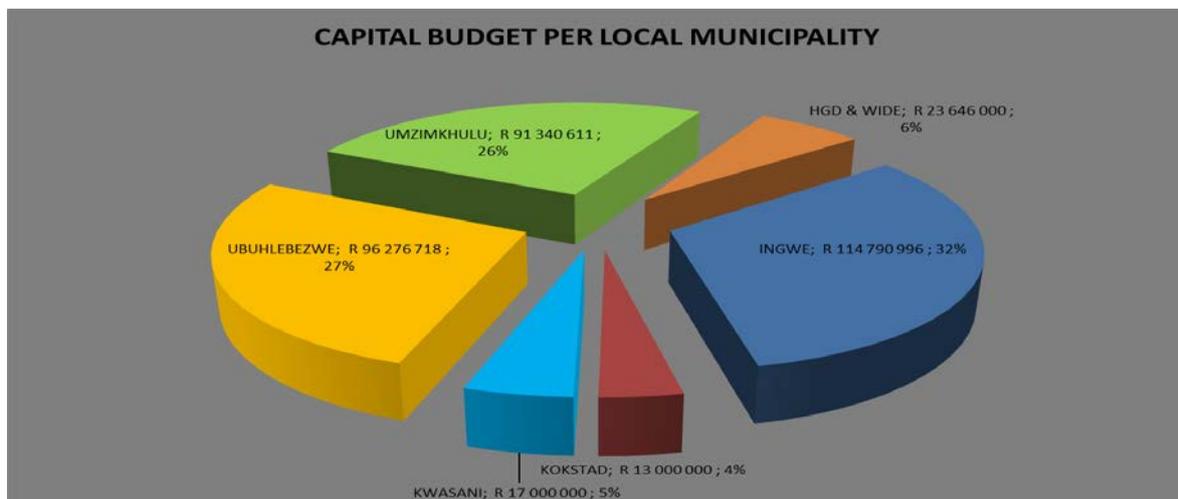
Chart 4.5: Grants allocation per Dora



Source: Harry Gwala District Municipality: Final Draft Budget Report, (2016:3).

This is a distribution of grants allocation per DORA with the majority of the grants being allocated to MIG at 54 per cent, WSIG followed by 25 per cent grant allocation, followed by RBIG at 18 per cent, EEDM followed by a 2 per cent grant allocation and lastly EPWP allocated 1 per cent of the grant budget.

Chart 4.6: Capital Distribution per Local Municipality



Source: Harry Gwala District Municipality: Final Draft Budget Report, (2016:3)

Table 4.7: Capex Budget per Local Municipality

PROJECTS	BUDGET		
	2016/17	2017/18	2018/19
Ingwe	R 114 790 996	R 170 371 824	R 128 718 000
Kokstad	R 13 000 000	R 33 677 072	R 13 125 940
KwaSani	R 17 000 000	R 15 420 853	R 20 298 110
Ubuhlebezwe	R 96 276 718	R 50 221 626	R 50 537 475
Umzimkhulu	R 91 340 611	R 88 952 000	R 102 000 000
HG District Wide	R 23 646 000	R 61 244 520	R 66 572 970
TOTAL	R 356 054 325	R 419 887 895	R 381 252 495

Each financial year various projects are allocated funds to provide the water quality that complies with the minimum standards as set out for the provision of water supply and sanitation services.

Capital Budget

The total capital budget is R 356m. This is largely funded from MIG Municipal Water Infrastructure Grant and Rural Bulk Infrastructure Projects funding. The funding sources are as follows:

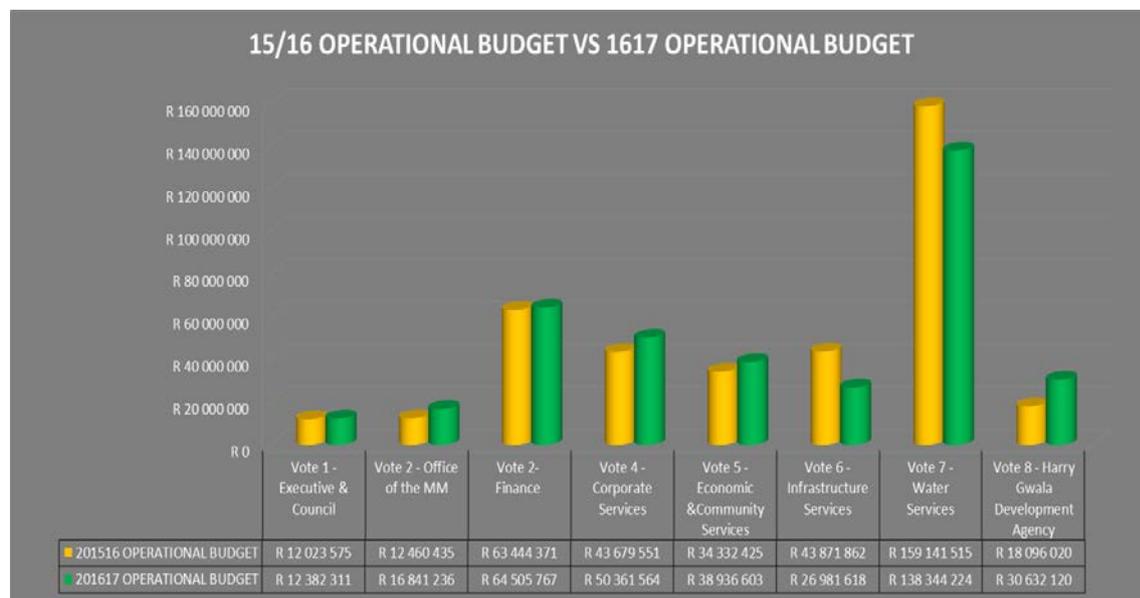
Table 4.8: Capital Budget per Department distribution

DEPARTMENT	2016/2017	2017/2018	2018/2019
Corporate Services	R 4 623 500	R2 775 663	R 2 936 651
Social Services & Development Planning	R 1 116 500	R1 334 857	R 854 279
Infrastructure Services	R 345 272 325	R 456 233 375	R 433 164 925
Water Services	R 5 042 000	R 2 544 000	R 2 696 640
TOTAL	R356 054 325	R462 88 7895	R439 6524 95

Operating expenditure budget

The operating expenditure budget for the 2016/17 budget is R368, 3m.

Chart 4.7: 2016-17 MTREF Operational Budget per Vote



Source: Harry Gwala District Municipality: Final Draft Budget Report, (2016:3)

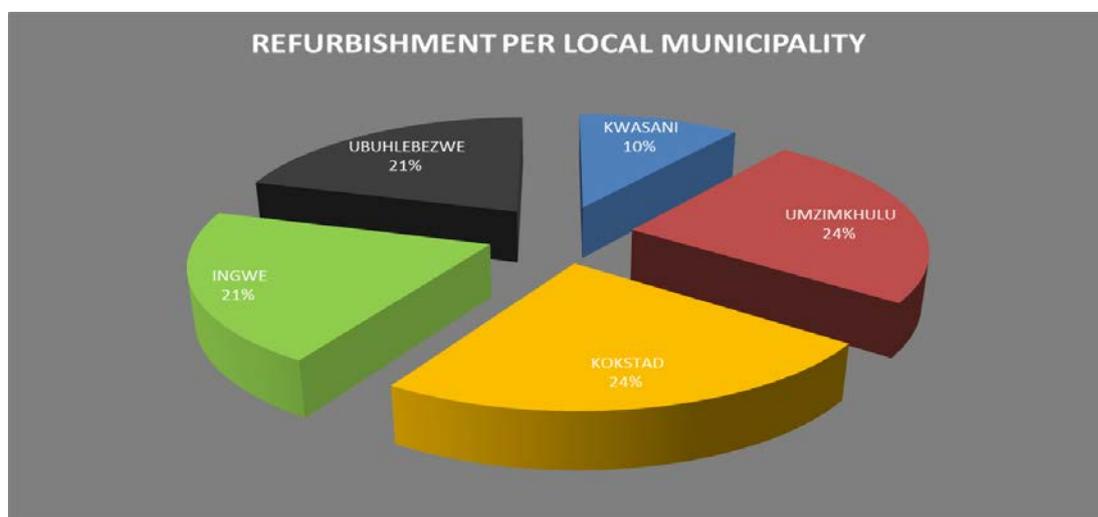
Chart 4.7 above presents a comparison between the 2015/2016 adjusted operational budget and the 2016/17 draft operational budget. The detailed line items providing operational projects as well as operational expenditure have been inserted in the table below. The comparison indicates significant decrease in operational budget by 5% and by R18m in monetary value.

Table 4.9: Operational Budget per Department

DEPARTMENTS	BUDGET		
	2016/17	2017/18	2018/19
Executive Council	R 12 382 311	R 13 274 425	R 14 232 193
Office of the MM	R 16 841 236	R 16 946 539	R 18 130 859
Budget & Treasury Office	R 64 505 767	R 69 099 860	R 71 472 981
Corporate Services	R 50 361 564	R 53 620 391	R 57 095 211

Social Services & Development Planning	R 38 936 603	R 41 197 649	R 43 730 154
Infrastructure	R 26 981 618	R 28 966 546	R 30 924 355
Water Services	R 138 344 224	R 146 489 680	R 156 282 833
HGDA	R 20 000 000	R 22 218 300	R 23 551 398
TOTAL	R 368 353 323	R 391 813 390	R 415 419 984

Chart 4.8: Refurbishment in Local Municipalities.



Source: Harry Gwala District Municipality: Final Draft Budget Report, (2016:4).

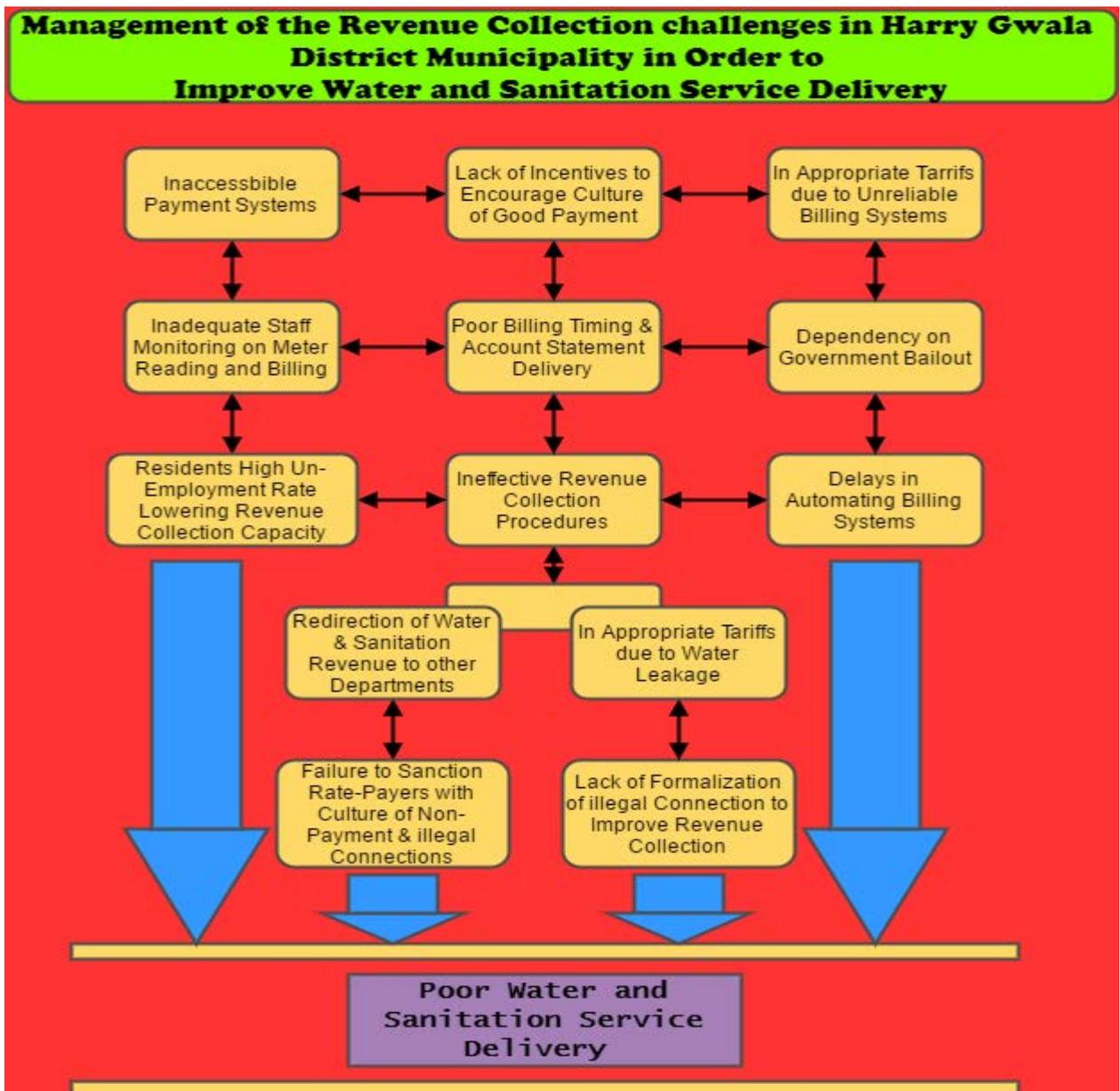
Umzimkhulu and Kokstad get the biggest piece of the budget both getting 24 per cent, Ubuhlebezwe and Ingwe following, both with 21 per cent and lastly KwaSani with a mere 10 per cent budget allocation.

Table 4.10: Refurbishment Budget per Local Municipality

PROJECTS	BUDGET		
	2016/17	2017/18	2018/19
Ingwe	R 3 265 000	R 3 454 370	R 3 654 723
Kokstad	R 3 765 000	R 3 983 370	R 4 214 405
Kwasani	R 1 655 000	R 1 739 074	R 1 839 940

Ubuhlebezwe	R 3 237 500	R 3 425 275	R 3 623 941
Umzimkhulu	R 3 865 000	R 4 089 170	R 4 326 342
TOTAL	R 15 787 500	R 16 691 259	R 17 659 352

Figure 4.6: Management of Revenue collection challenges in order to improve water and sanitation service delivery.



From figure 4.6 one can deduce that there are several factors that require attention to improve water and sanitation revenue collection. The Municipality’s ability to collect adequate

revenues from water and sanitation provisioning is hindered by the lack of incentives given to residents to encourage them to foster a payment culture for services provided. Also the findings presented in figure 4.6 correspond to similar assertions by respondents in figure 4.4 to the effect that the incidences of inaccurate billing systems coupled with inaccessibility of pay points due to distance or otherwise together with unreliable billing systems are responsible for crippling management's ability to collect the required levels of revenue from residents. The following quote substantiates the finding that there is the lack of a paying culture among some residents "The main challenge is the issue that we have discussed of cost recovery; people do not pay because they believe that services are free. In some areas now, as the voters we know that there is a demand for water. More than 5 wards per day want water tanker delivery in rural areas. But every time we then get reports from the Municipality that there is a challenge in securing the water tankers" (Ix1, Ix2, Ix3, Ix4, Ix5, Ix6, Ix7, Ix8, Ix9, Ix10; Nmz1, Nmz2, Nmz3, Nmz4, Nmz5, Nmz6, Nmz7, Nmz8, Nmz9, Nmz10; Kok1, Kok2, Kok3, Kok4, Kok5, Kok6, Kok7, Kok8, Kok9, Kok10; Ndz1, Ndz2, Ndz3, Ndz4, Ndz5, Ndz6, Ndz7, Ndz8, Ndz9, Ndz10). The impact of the non-paying culture on the Municipality is best highlighted by the following quote : "If anyone wants to use the services for free, that would end up lowering the revenue collection capacity and impact negatively on those people who need municipal services and this affects the Municipality at the end of the day" (Ix1, Ix2, Ix3, Ix4, Ix5, Ix6, Ix7, Ix8, Ix9, Ix10; Nmz1, Nmz2, Nmz3, Nmz4, Nmz5, Nmz6, Nmz7, Nmz8, Nmz9, Nmz10; Kok1, Kok2, Kok3, Kok4, Kok5, Kok6, Kok7, Kok8, Kok9, Kok10; Ndz1, Ndz2, Ndz3, Ndz4, Ndz5, Ndz6, Ndz7, Ndz8, Ndz9, Ndz10).

Another finding presented in figure 4.6 relates to high unemployment affecting the Municipality. There is an increase in the number of indigent members of the population which effectively means quite a number of the residents are unable to pay for services rendered due to high poverty levels. This can be interpreted to mean that declining levels of revenue collected by the Municipality are as a result of high unemployment and poverty. As alluded to by residents, the net effect of inefficiencies in terms of revenue collections of sub-economic tariffs being charged, ineffective billing procedures, and poor payment culture is the ever-increasing reliance on government bail outs due to the ever-increasing weakening of the revenue base. Respondents pointed out that sometimes the number of the indigent are exaggerated resulting in some high-income earners evading the payment of rates. The following quote points to respondent's views about actions that need to be undertaken to reduce the number of fake indigents. "Household profiling is needed to check affordability if they will be able to pay for water services. The Municipality must consider installing smart

meters/ prepaid metered services in order for us to get rid of all these challenges that we have mentioned” (Ix1, Ix2, Ix3, Ix4, Ix5, Ix6, Ix7, Ix8, Ix9, Ix10; Nmz1, Nmz2, Nmz3, Nmz4, Nmz5, Nmz6, Nmz7, Nmz8, Nmz9, Nmz10; Kok1, Kok2, Kok3, Kok4, Kok5, Kok6, Kok7, Kok8, Kok9, Kok10; Ndz1, Ndz2, Ndz3, Ndz4, Ndz5, Ndz6, Ndz7, Ndz8, Ndz9, Ndz10).

Furthermore respondents pointed out that lack of formalisation of illegal water connections is resulting in the loss of potential revenues for the Municipality, hence contributing to a weaker revenue base. “Management of the revenue collection is a challenge in the Harry Gwala district Municipality in order to improve water and sanitation service delivery. It’s important for us to recap and reflect on the issue that the Municipality has a weak revenue base. Meaning it doesn’t generate enough revenue on the services that are rendered in particular for water and sanitation services” (Ix1, Ix2, Ix3, Ix4, Ix5, Ix6, Ix7, Ix8, Ix9, Ix10; Nmz1, Nmz2, Nmz3, Nmz4, Nmz5, Nmz6, Nmz7, Nmz8, Nmz9, Nmz10; Kok1, Kok2, Kok3, Kok4, Kok5, Kok6, Kok7, Kok8, Kok9, Kok10; Ndz1, Ndz2, Ndz3, Ndz4, Ndz5, Ndz6, Ndz7, Ndz8, Ndz9, Ndz10).

“We have to participate we as stakeholders. the Municipality is making an insufficient contribution because when one calls the office the challenge that one gets is that there is a shortage of Municipal vehicles to attend to the complaint or sometimes it is reported that there is a shortage of plumbers to do the work” (Ix1, Ix2, Ix3, Ix4, Ix5, Ix6, Ix7, Ix8, Ix9, Ix10; Nmz1, Nmz2, Nmz3, Nmz4, Nmz5, Nmz6, Nmz7, Nmz8, Nmz9, Nmz10; Kok1, Kok2, Kok3, Kok4, Kok5, Kok6, Kok7, Kok8, Kok9, Kok10; Ndz1, Ndz2, Ndz3, Ndz4, Ndz5, Ndz6, Ndz7, Ndz8, Ndz9, Ndz10).

“The cost recovery is about recovering costs, from all the implemented projects or all the projects that have been done. . The cost recovery concept enables an organization to stand up and to be financial independent. According to its money and resources it should become self-sufficient. Every project will be implemented and finished and also there will be more money that will be recoverable and the Municipality will be able to generate revenue and become self-sustainable. This will ensure that there is continuing delivery of services to the people, because there are people who have nothing. There are people who are still waiting for water and sanitation service delivery. Now it's important that all projects provide their own revenue and be financially independent. People can’t access water during drought seasons and the Municipality doesn’t generate revenue in return, currently there is a drought, moving forward some of the things will change and water levels may increase. Then it is important to employ

cost recovery initiatives in our Municipality in order to enhance Municipal revenue” (Ix1, Ix2, Ix3, Ix4, Ix5, Ix6, Ix7, Ix8, Ix9, Ix10; Nmz1, Nmz2, Nmz3, Nmz4, Nmz5, Nmz6, Nmz7, Nmz8, Nmz9, Nmz10; Kok1, Kok2, Kok3, Kok4, Kok5, Kok6, Kok7, Kok8, Kok9, Kok10; Ndz1, Ndz2, Ndz3, Ndz4, Ndz5, Ndz6, Ndz7, Ndz8, Ndz9, Ndz10).

Figure 4.7: Strategies to improve provisioning of metered services for water and sanitation services delivery in the Harry Gwala District Municipality

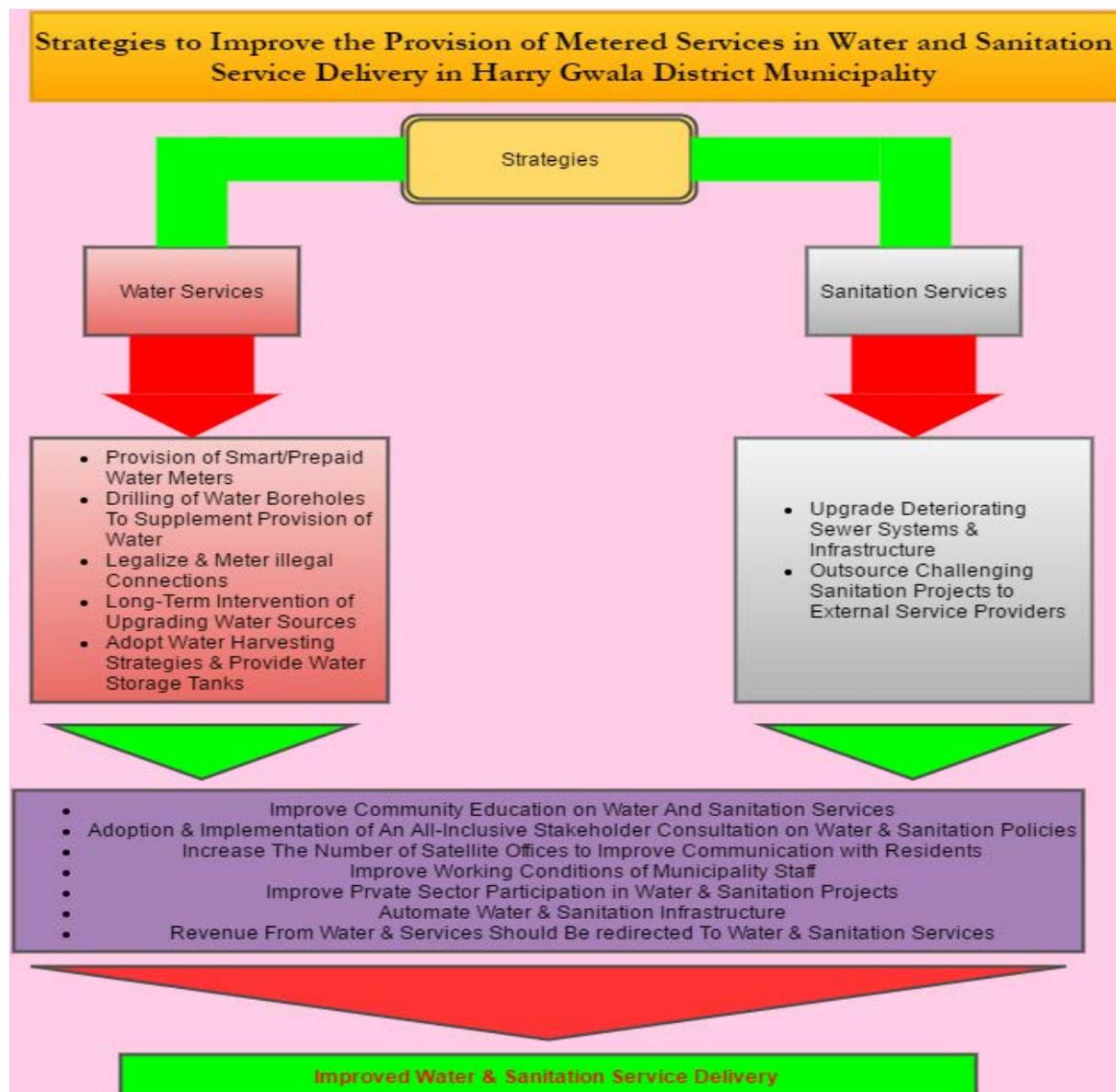


Figure 4.7 above demonstrates that there are several strategies that the Municipality can adopt to improve metred services for the provisioning of water and sanitation service delivery. One of the findings presented in figure 4.7 indicates that respondents advocated for the speedy implementation of the installation of smart water meters in all potential areas in order to improve revenue collection and revenue generation for the purpose of achieving full cost

recovery for services provided by the Municipality. Furthermore respondents highlighted the need to legalise illegal water and sewer connections for the purposes of earning additional income for the Municipality. Some respondents suggested a solution that has to do with mitigating the effects of declining water levels and/or supply from traditional sources such as dams by digging boreholes and improving water harvesting techniques so as to ensure the uninterrupted supply of water to residents which inadvertently leads to a steady inflow of revenues from continuous supply of water.

Furthermore respondents encouraged the speedy repair of mechanical breakdowns of pumps with a view to reduce customer complaints about erratic water supply and resistance to paying for water services. The following quote from respondents supports this initiative “The municipality must come up with a strategy for dealing with problems, make temporary arrangements if the municipal transport/ vehicles have a challenge and make alternative means to get the faulty pump or engine fixed, like for instance, the Municipality should drill boreholes, including provision for the pipes so that people have access to water. But the Municipality delays sometimes to come up with interventions that can help the communities to access water, while the big schemes are being implemented. And the other thing is that sometimes water appears then disappears in springs while money is wasted’ (Ix1, Ix2, Ix3, Ix4, Ix5, Ix6, Ix7, Ix8, Ix9, Ix10; Nmz1, Nmz2, Nmz3, Nmz4, Nmz5, Nmz6, Nmz7, Nmz8, Nmz9, Nmz10; Kok1, Kok2, Kok3, Kok4, Kok5, Kok6, Kok7, Kok8, Kok9, Kok10; Ndz1, Ndz2, Ndz3, Ndz4, Ndz5, Ndz6, Ndz7, Ndz8, Ndz9, Ndz10).

“We need to educate communities and to explain that perhaps this thing will affect them in future. Illegal connections impact negatively on a programme by government to save water since water is a scarce resource in South Africa. We need to preach to them that there is drought and a water shortage, so they need to be educated about such things. When the Municipality does that, the educational programme will be beneficial to the future generations. The Municipality can come up with the system where maybe they would allow the people to convert the illegal connections to be legal. All those who have been employed for community education by the Municipality should be able to teach people about water saving because the country is currently in a state of drought. The councillors will appreciate that communities are informed about these issues and the residents may assist other people and the water monitors employed by the Municipality should assist in disseminating the information so that all the people will be informed, to be able to care for the water resources. Feasibility studies should be conducted to determine which will cost a lot of money, to

abstract water from Umzimkhulu, or to abstract water from Donnybrook because there is a dam” (Ix1, Ix2, Ix3, Ix4, Ix5, Ix6, Ix7, Ix8, Ix9, Ix10; Nmz1, Nmz2, Nmz3, Nmz4, Nmz5, Nmz6, Nmz7, Nmz8, Nmz9, Nmz10; Kok1, Kok2, Kok3, Kok4, Kok5, Kok6, Kok7, Kok8, Kok9, Kok10; Ndz1, Ndz2, Ndz3, Ndz4, Ndz5, Ndz6, Ndz7, Ndz8, Ndz9, Ndz10).

“Perhaps it would help if the Municipality could strengthen the community educational outreach programmes for the public to know more about the issue because we only believe that the water is our right and that it should be provided by the Municipality at all times without any service interruptions. People should be informed about any challenges and constraints in the water sector. The communities should be educated on water recycling programmes for them to understand how effectively they can use such water to respond to the challenges of water shortages. All people who are involved in the water business I think should be coordinated and they should be united in order to achieve a common goal. For example, the councillors/ traditional leaders, community water and sanitation forums, and water monitors should be united and there should be scheduled trainings by the Municipality where all these sectors are capacitated together” (Ix1, Ix2, Ix3, Ix4, Ix5, Ix6, Ix7, Ix8, Ix9, Ix10; Nmz1, Nmz2, Nmz3, Nmz4, Nmz5, Nmz6, Nmz7, Nmz8, Nmz9, Nmz10; Kok1, Kok2, Kok3, Kok4, Kok5, Kok6, Kok7, Kok8, Kok9, Kok10; Ndz1, Ndz2, Ndz3, Ndz4, Ndz5, Ndz6, Ndz7, Ndz8, Ndz9, Ndz10).

“Meters are read and the municipal workers know the location of all meters. A suggestion is that the meters are read when any member of the particular household is present. The owner must be able to access the readings for monitoring purposes so that she/he can be satisfied and happy with the bill at the end of the day” (Ix1, Ix2, Ix3, Ix4, Ix5, Ix6, Ix7, Ix8, Ix9, Ix10; Nmz1, Nmz2, Nmz3, Nmz4, Nmz5, Nmz6, Nmz7, Nmz8, Nmz9, Nmz10; Kok1, Kok2, Kok3, Kok4, Kok5, Kok6, Kok7, Kok8, Kok9, Kok10; Ndz1, Ndz2, Ndz3, Ndz4, Ndz5, Ndz6, Ndz7, Ndz8, Ndz9, Ndz10).

“I suggest that the management must come up with a strategy for monitoring the way in which municipal workers are working. To cut costs, the Municipality should make use of internal staff rather than relying more on external service providers. To capacitate their skills, perhaps from time to time to have refresher courses” (Ix1, Ix2, Ix3, Ix4, Ix5, Ix6, Ix7, Ix8, Ix9, Ix10; Nmz1, Nmz2, Nmz3, Nmz4, Nmz5, Nmz6, Nmz7, Nmz8, Nmz9, Nmz10; Kok1, Kok2, Kok3, Kok4, Kok5, Kok6, Kok7, Kok8, Kok9, Kok10; Ndz1, Ndz2, Ndz3, Ndz4, Ndz5, Ndz6, Ndz7, Ndz8, Ndz9, Ndz10).

“Do have a water conservation and water demand management strategy as a Municipality, because of the backlog and because of the situation that has been going from bad to worse. We do have a customer centre where all the communities can report to. But it is not working sufficiently because the system that they are using is manual. It is very difficult for the call centre attendants to deal with them because it is too manual. Sometimes you might find that there is a communication breakdown with the people that are supposed to be attending to cases from the community because you would have to provide them with information that you don't have. The Municipality has however taken a step further to buy an electronic system that would assist us. So we are trying to improve our call centre system to be able to be electronic, in order to avoid the challenges” (S2)

“The reason why people are connecting illegally is because they need a service that is more improved than the current service that we are providing, so obviously we have to make our community to understand that this may come at a cost. Because for them to get a house connection it would cost money, Infrastructure-wise we have to improve everything and the best way of doing this is to connect them legally to their plot and start charging them. I totally agree with the idea of getting illegal connections legalized “(S2)

“Regarding the indigent register, we are in the process of developing it. We are also data cleansing although we are not doing it fully. We are doing part of it. We are only focusing on the areas where we know it is already made up of indigent consumers. The Plan is to put out an advert regarding application for those consumers who really want to apply for indigent status. I think with assistance of customer care to liaise with the relevant stakeholders”(S3)

CHAPTER FIVE

ANALYSIS OF THE FINDINGS

5.1 INTRODUCTION

The Harry Gwala District Municipality, just like other rural municipalities, is in a financial quagmire as a result of inefficient revenue collection and management of money due to the Municipality for the provision of water and sanitation services. Poor leadership is not playing an efficient oversight role and there is poor management generally. This chapter discusses the findings of the study and provides an interpretation of the findings.

5.2 ANALYSIS OF THE FINDINGS

The Harry Gwala District Municipality has been negatively affected by the culture of non-payment and the culture of entitlement on the part of users of water and sanitation. This has resulted in a number of free riders within the District Municipality in all four satellite or local municipalities. This culture seems to have originated during the days of Apartheid when there was mass civil disobedience which was manifested through boycotting among other things the payment of rates and service charges or user fees. The Municipality has also been affected by the growing proportion of outstanding debts as most eligible debtors are not paying. Lube and Rossouw (2005:780) maintain that one of the most negative aspects crippling municipalities' financial health is the aspect of residents resisting the payment of municipal rates. This concurs with the findings obtained from document analysis and interviews conducted in all four satellite offices or local municipalities, and from some of the officials from the Water Services Department, Budget and Treasury and Income section of the Finance Department at the Harry Gwala Municipality.

The document analysis confirmed that the amounts owed to the municipalities have ballooned exponentially over the years. This situation has become so serious that the Municipality is now failing to operate, refurbish and maintain existing water and sanitation infrastructure. Burst pipes and water leaks are now causing water shortages and increasing dissatisfaction among residents. The failure to repair water and sanitation infrastructure in the Harry Gwala District Municipality has been attributed to lower cash flows from revenue collection for water and sanitation services.

The document analysis confirmed that the Water Services Authority has limited or does not have bulk flow meters in the Water Treatment Works (WTW) which then makes it difficult to have bulk meter reading records. This also affects the water balance information that monitors non-revenue water and water losses and the Municipality ends up estimating the volumes. There are large numbers of estimated volume figures of consumption by the consumers in the Municipal billing records.

The IWA water balance records revealed that water losses and non-revenue water is sitting at 55.6 per cent which is considerably higher than the national average of 34.6 per cent (HGDM Water Losses/Non-Revenue Working Paper File)

Just like other municipalities that implement the ANC-led government's pro-poor policies, the Harry Gwala Municipality is providing 6 kilolitres of water free of charge to all households. The policy works in this sense that all households require this minimum amount of water per month. Any water usage above this threshold means that the household should pay for extra usage. This in essence covers the indigent population since they will be provided with a minimum amount of water to survive and, as exempted water and sanitation users; they do not have to pay for such services. At the same time by limiting the volume it helps the Municipality to save water and also to raise revenue when the minimum limit has been exceeded.

Another finding was inability to generate enough revenue due to an ineffective billing system. Some households with outstanding bills were not being disconnected to enforce payment because they were connected to some officials in the Municipalities. This deprived the Municipality of the much needed revenue. The Municipality's financial problems are also being caused by the growing population of the indigent in the community. Although there is no indigent register in place in the Harry Gwala District Municipality a number of households claim that they qualify to be regarded as indigent. These are poor households with a monthly income below R1 000. They are therefore unable to pay for municipal service charges like water and sanitation, yet they require water for their day-to-day survival. The income actually received is, however, inadequate to cover all the operational and maintenance costs associated with water and sanitation service provision.

Another finding that resulted in severe service interruptions and customer dissatisfaction due to water leaks, sewer spillages and blockages was that there is no systematic refurbishment and replacement plan in place for ageing infrastructure. This has resulted in the deterioration of the existing infrastructure in the Harry Gwala District Municipality. What worsened the situation is that the Water Services Authority in this Municipality is using a manual system to lodge/capture customer complaints in the complaints register which then becomes difficult for the Municipality to deliver as expected and to adhere to the 24 hours turnaround time. This has resulted in severe communication challenges and customer relations management difficulties which has resulted in customer dissatisfaction in the Harry Gwala District Municipality.

The situation is further compounded by the prevailing high unemployment rate in the district. One of the findings was that the Municipality is largely rural with only a small percentage living in what can be termed urban settlements in areas like Ixopo Town, Underberg, Kokstad and Umzimkhulu Towns. There are very few employment opportunities in the Harry Gwala District. The Municipality has very few income-generating projects and these are struggling. This is an issue that the Municipality should look at so as to reduce the indigent population.

The findings in relation to regulation and compliance of the Harry Gwala District Municipality were that; during the 2013/14 regulatory performance management system assessment that was set up as the regulatory tool used by the Department of Water and Sanitation, the national regulator, to improve the water business practice in local government sphere in order to improve business practice with regards to water services delivery in local government and to ensure that Water Services Authority comply with national norms and standards, revealed that there was the:

- Failure of the Water Services Authority to provide an approved indigent register;
- Failure of the Water Services Authority to display the *Customer Care Charter* and *Batho Pele* principles in the reception of the Municipal offices and in other public places;
- Non-visibility and inaccessibility of the customer contact centre;
- Failure of the Water Services Authority to provide a risk management policy;
- Failure of Water Services Authority to provide a tariff model; and
- Failure of the Water Services Authority to provide an approved tariff structure and policy,

The 2013/14 *Regulatory Performance Management System Assessment* focused on three performance areas of the Harry Gwala Water Services Authority. The three performance areas were risk management; billing and revenue generation and customer care relations management. For the above-mentioned key performance areas, the assessors wanted a portfolio of evidence supporting the fact that the three areas are prioritized by the Municipality.

5.3 INTERPRETATION OF THE FINDINGS

The Harry Gwala Municipality should take a proactive approach to reduce the growing indigent population within its domain which is caused by a high rate of unemployment in the area. However, there is no indigent register in place in the Harry Gwala District Municipality. The likelihood is that there is a high rate of indigent population in the area because most of the communities are rural. A high rate of indigent population is highly unsustainable for a Municipality because it has serious financial implications. This problem needs to be arrested immediately by being creative and innovative on the part of the Municipal management. This is because it is difficult to expect citizens to pay for the services while they have no income. This renders Duffy's user pay principle ineffective because the service users are largely poor and cannot really afford to pay for water and sanitation services. This makes revenue management impossible. This, coupled with a poor billing system; communication challenges between the water and sanitation service provider and the consumer of water and sanitation services; and challenges related to metered services, all makes the Harry Gwala District Municipality heavily dependent on financial bailouts or financial transfers or grants from central government. This dependency on the Central/ National government is in my view not sustainable. An ideal situation would be for a municipality to be largely self-sustaining meaning that the Water Services Authority (WSA) should be able to generate and manage revenue for water and sanitation services. However this is impractical because of a situation beyond the control of most of the rural municipalities. Sadly; the Harry Gwala District Municipality is now being sustained by budgetary support in the form of grants from the Provincial and National government.

There is a need for further research to contribute to the existing literature on recommendations on how to improve service delivery centres or on advising municipalities to lobby government for increased budgetary allocations so as to enable them to fund their

obligations fully which includes water and sanitation service delivery. This argument has numerous supporters and takers because of its obvious simplicity and common-sense approach. The researcher is of the view that always to look to central government for more and more financial allocations and bailouts is grossly unfair as the central government is often overstretched in terms of fulfilling its national and international mandates. These mandates are of significance to national wellbeing. Therefore there is need for all stakeholders to moderate their expectations from government. This is not to dismiss the popular notion that government should always adjust its allocations to municipalities as and when possible. The writer recalls the advice: “Give a man a fish and you feed him for a day, teach a man how to fish and you feed him for life”. Based upon this advice the researcher would like to advance a two-pronged strategy to improve service delivery. The strategy seeks to ‘conscientise’ municipalities on the need to take a proactive approach to reduce unemployment in their areas of jurisdiction by inculcating a spirit of entrepreneurship among its citizenry in particular in the Harry Gwala District Municipality. This can be done through providing land or places where people are able to sell their wares or operate small businesses or through launching projects to enable them to earn a living and to be in a position to pay for water and sanitation services so that they do not hide behind the often-cited excuse of being too poor to pay. The Municipality must take a proactive approach by subscribing to policies that make it easier for people to start and run income-generating projects without asking them to undertake costly and time-consuming bureaucratic procedures which often lead to people getting frustrated and giving up on their dreams (Pretorius & Schurink, 2007:26). To alleviate poverty the Municipality must find the means of helping the indigent population to access cheap loans to start projects like small-scale poultry projects, flower cultivation, carpentry, shoe making and many others. . As more and more people are assisted to become entrepreneurs, poverty will be reduced and more people will become eligible to pay for water and sanitation services which in turn will capacitate municipalities to improve service delivery due to increased revenue inflows.

Further management should move towards adopting and implementing staff motivation strategies that increases job satisfaction and that reduces employee turnover so as to retain experienced and committed skilled staff and prevent service delivery interruptions. The operation and maintenance staff should be capacitated from time to time with technical skills or refresher courses in order for them to be empowered to perform maintenance procedures and to establish early warning signs. Since the infrastructure leakage index (ILI) is 6.2 per cent as per the Department of Water and Sanitation, the maintenance schedule for all existing

infrastructure should be put in place, monitored and be implemented. The Municipal assets register for water and sanitation infrastructure should provide the life expectancy of all infrastructure items, replacement and refurbishment should be planned and budgeted for in each and every financial year.

According to Pretorius and Schurink (2007) municipal service delivery can be improved through strict implementation of the Integrated Development Plan gazetted by the ANC-led government and the performance management systems, improving intergovernmental relations; acculturation in terms of the *Batho Pele* principles, proper budgetary systems and policy consistencies.

Lastly, the Greater Kokstad and Ixopo under Ubuhlebezwe were the two towns most affected by the drought situations in the Harry Gwala District Municipality. During the drought season, the supply from the Crystal Springs Dam had been closed by the Water Services Authority (WSA) in order to build up water levels inclusive of the Ixopo Home farm dam. Augmentation of Ixopo Town Bulk Water and Reticulation by drawing raw water from the Umzimkhulu River and pumping this up to Ixopo Water Treatment Works would be a solution to the problem and this would ameliorate the severe effects of drought in the District. The Harry Gwala Municipal reports (2016) indicate that the preliminary studies have already been done by Umgeni Water board to augment Ixopo Town Bulk water and Reticulation (*Harry Gwala Municipal reports 2016*).

5.4 SUMMARY

This chapter discussed the findings of the study and provided an interpretation of the findings. The next chapter provides conclusions and recommendations of the study.

CHAPTER SIX

CONCLUSION AND RECOMMENDATIONS

6.1 INTRODUCTION

In conclusion, the Ixopo water supply system should be a priority scheme considering the drought situation that has stricken the Ixopo area, and should there be no intervention, the Town of Ixopo will be out of water.

Augmentation of Kokstad Water Supply Scheme and Rehabilitation of the water reticulation network to eliminate all water leaks including the relocation and upgrading of the water pipeline along Hope Street is essential. This intervention may also assist the Municipality to manage water losses and non-revenue water/unaccountable water. During the focus group discussions one of the outcries was that the communities are not happy about the quality of services that are rendered by the Municipality including the turnaround time on the complaints that had been lodged in the customer care unit. Eliminating water leaks and upgrading of the pipeline may result in greater customer satisfaction and willingness to pay for municipal services in particular for water and sanitation services.

Upgrading of the sewer network in Ixopo to incorporate future developments and to eliminate all sewerage spillages and blockages may also result in heightened levels of customer satisfaction. Rehabilitation of the water and wastewater network of Umzimkhulu Town including Clydesdale and St Margaret Hospital may result in improved revenue inflows for the Harry Gwala District Municipality because there are commercial users of water and sanitation services in those areas. Installation of an efficient Telemetry System in all the schemes of the Harry Gwala District Municipality primary nodes in order to monitor the water levels will result in improved efficiency and effectiveness of the Water Services Authority Customer Care Unit.

6.2 SUMMARY OF THE FINDINGS

The findings of the study revealed that there is an urgent necessity for the installation and configuration of an electronic Customer care management system that is designed to deploy customer service management software components in the call centre environment in the

Harry Gwala District Municipality in order to assist the Municipality to improve its support services to its consumers/customers and to address communication challenges in water and sanitation service delivery.

The installation of bulk meters in all water treatment works inlet and outlets in the Harry Gwala District Municipality, and further to ensure that the meters are read and data recorded and analysed on a daily basis can assist in the management of water losses and non-revenue water and further ensure proper implementation of water conservation and a water demand management strategy for the Water Services Authority. Another approach should be the meter audit that should be undertaken to confirm if all households and commercial users of water and sanitation are metered, and to establish if there are no faulty meters and the meter readings do corresponds with the Municipal billing database. The Municipality should ensure that the billing system is effective and efficient and they should employ an efficient model whereby consumers are billed according to the actual consumption.

In relation to patriotism, professionalism, commitment and dedicated public servants, one of the academics NPC Jam once said “If we are to develop and maintain professional people and service-orientated public service we need to ensure that the public service becomes a calling of excellence and a career which should be sought after not for its financial gains and security but because it is the haven for passionate patriots who want to serve all South Africans.”

Based on the diagnosis and policy proposals made by the National Planning Commission, the researcher believes that it is prudent and advisable that the Authorities and Senior managers of Water Services Authorities should ensure that there is skills transfer where services are outsourced to the consultants and external service providers of water and sanitation service delivery in order to address existing shortages of technical and specialist professional skills in the public sector in particular in the Harry Gwala District Municipality, Water Services Authority.

Furthermore, there is an urgent necessity to develop pragmatic programmes that are effective and relevant to the functioning of departments and the provision of information, monitoring of policies and strategic plans for implementation processes, training, tools and support as a retention strategy in order to be responsive to the government call to build a capable and developmental state. The National Development Plan, calls for collaborative efforts between the consumers of water and sanitation services working together with the authorities of the

Water Services Authority in the Harry Gwala Municipality in order to address the communication challenges, challenges related to the metered services, billing system-related challenges and the revenue management challenges and to do more to contribute to the solutions to problems.

6.3 CONCLUSIONS

This research study discussed several issues affecting the Municipality's ability's to achieve financial sustainability effectively through its revenue management systems. The research study attempted to explain several factors impacting on revenue generation in rural municipalities but in particular in the Harry Gwala District Municipality. An attempt was made to discuss several strategies that the Municipality can adopt to enhance its revenue generating abilities. An efficient revenue management system contributes significantly to financial sustainability of local government municipalities. The lessons learnt from the Canadian experience can be used to implement the user pay principle including the guide to enhancing municipal revenue developed by USAID subject to some modifications to suit regional and local conditions in the Harry Gwala District Municipality.

6.4 RECOMMENDATIONS OF THE STUDY

The research makes the following recommendations:

- The Municipality must engage in a comprehensive staff-training programme in order to address the skills shortage .This must encompass both elements of on-the-job training and off-the-job training for both technical and office staff. Skills upgrading for technical staff is required in order to be able to attend to all technical problems that require their attention. Similarly office staff needs to be trained on telephone etiquette;
- The Municipality must undertake motivational strategies in order to make call centre staff actively committed to performing their tasks;
- The Municipality should design and implement a performance-management system in order to make satellite centres/ offices like Underberg more efficient;
- The Municipality must design both organisation-wide monetary and non-monetary-incentives for all staff in order to boost employee motivation thereby reducing employee turnover in all categories of employees and to improve employee performance;

- The Municipality should consider and implement the bulk 'sms' system to be used as a tool to inform residents in advance of any impending water cuts or service disruptions in order to minimise negative perceptions associated with alleged lack of communication;
- The Municipality should consider conducting meter reading on the 1st of every month to avoid confusion associated with the haphazard reading of meters;
- The Municipality should do away with the policy of outsourcing for services because most of the outsourced firms lack patriotism in their provision of services. Most of the outsourced firms are very expensive and do not perform quality work. Outsourcing can be substituted by the in-house training of existing employees to provide similar services;
- There is need to have a functional office in both Underberg and Ingwe;
- The Municipality must improve its hiring strategies so as to be able to hire or recruit committed and competent people so that local government can be a career of choice;
- The Municipality's top management should be largely supportive of their subordinates so as to avoid setting up junior staff for failure;
- The Municipality should consider appointing local service providers for operations and maintenance of water and sanitation infrastructure;
- A comprehensive strategy for eliminating illegal connections should be undertaken. One of the suggested recommendations pertains to the strategy of legitimising the illegal connections so as to expand the revenue base;
- The Municipality should undertake a comprehensive communication plan that involves setting up more channels of communication, increasing frequency of participation, conducting public-awareness campaigns, increasing public participation, establishing community partnerships that are centred on harnessing inputs from residents and incorporating them in the decision-making process;
- Multiple pay points for the water and sanitation service charges which are accessible to as many consumers as possible, needs to be established;
- The Municipality should put in place a debtors list which must be regularly updated in order to capture details of new owners when property ownership changes; and
- The Municipality should develop a comprehensive strategy for addressing the problem of free riding in order to improve water and sanitation service delivery and to enhance revenue collection including improving billing and the capacity to follow up non-payment-related cases through by-laws enforcement.

6.5 FINAL REMARKS

The African cross-border trading initiatives can also contribute effectively to Local Economic Development and can enable the indigent to be able to pay for water and sanitation services. These include adopting proper credit control policies, efficient debt- collection strategies, embarking on investment proportion strategies. Adoption of some of these strategies will greatly increase the revenue base and propel the Municipality to greater financial sustainability. There is need for further discussions and research in this area so as to further the financial sustainability of municipalities in the rural areas and in the wider world including exploration of the possibilities of outsourcing the billing and collection functions to improve revenue inflows in order to impact positively on the revenue streams of the Water Services Authority.

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Annexure A: Permission to conduct the study

Annexure A: Permission to conduct research

P O Box 1081

Harding

4680

06/07/2016

The Municipal Manager

Harry Gwala District Municipality

P/Bag X 501

Ixopo

3276

Dear Sir

PERMISSION TO CONDUCT RESEARCH STUDY IN YOUR MUNICIPALITY

I am currently registered with the University of Kwa Zulu Natal for M Admin in Public Administration. My student number is 215078684. My research topic is "An Assessment of Revenue Management of Water and Sanitation: A Case of Harry Gwala District Municipality".

I am going to adhere to professional and ethical considerations of the research.

Should you have any interest in the research findings, I will make the research document available for your municipality.

I hope that this research will be beneficial to the municipality.

	Approved	Stamp/ Date
Ms Nobuhle Pamela Nkabane  Researcher	Mr. M Mkatu  Acting Municipal Manager	<div style="border: 1px solid black; padding: 5px;"> <p>Harry Gwala District Municipality WATER SERVICES DEPARTMENT Private Bag x501, Ixopo, 3276 Tel: 039 834 1507 / 1637 Fax: 039 834 1486 Customer Care: 086 010 3651</p> </div>

Annexure B: Informed Consent

UKZN HUMANITIES AND SOCIAL SCIENCES RESEARCH ETHICS COMMITTEE (HSSREC)

APPLICATION FOR ETHICS APPROVAL For research with human participants

Information Sheet and Consent to Participate in Research

Date:

Greetings,

My name is Nobuhle Pamela Nkabane from Harry Gwala District at Umzimkhulu Local Municipality, a student at the University of Kwazulu Natal. My contact number is 076 9849866, email address buhlebuhle0@gmail.com

You are being invited to consider participating in a study that involves research “An Assessment of Revenue Management of Water and Sanitation: A Case of Harry Gwala District Municipality). The aim and purpose of this research is to assess revenue management of water and sanitation in Harry Gwala. The study is expected to include 40 participants in total, 10 in each satellite office/ local municipality. The research will involve interviews. The duration of your participation if you choose to participate and remain in the study is expected to be one week.

The study will not involve any risks and/or discomforts. We hope that the study will create the following benefits: The recommendations of the study will assist Harry Gwala District Municipality to improve its revenue enhancement strategies in support of the organisation. The research findings may produce theory which can be used by Harry Gwala District Municipality to develop revenue policies as the Water Services Authority (WSA) in order to improve revenue enhancement strategies rather than relying on National and Provincial Government for grants. This study will reinforce existing theories, and enable the role players and stakeholders in Public Finance and any other civil society organisations, like Farmers Associations, Ward Committees, Amakhosi, Community Water and Sanitation forums, CBO’s and NGO’s and the general Public to benefit from this research.

This study has been ethically reviewed and approved by the UKZN Humanities and Social Sciences Research Ethics Committee (approval number: HSS/1085/016M).

In the event of any problems or concerns/questions you may contact the researcher at 076 984 9866 or the UKZN Humanities & Social Sciences Research Ethics Committee, contact details as follows:

HUMANITIES & SOCIAL SCIENCES RESEARCH ETHICS ADMINISTRATION

Research Office, Westville Campus

Govan Mbeki Building

Private Bag X 54001

Durban 4000 KwaZulu-Natal, SOUTH AFRICA

Tel: 27 31 2604557- Fax: 27 31 2604609

Email: HSSREC@ukzn.ac.za

Your participation in the study is voluntary and by participating, you are granting the researcher permission to use your responses. You may refuse to participate or withdraw from the study at any time with no negative consequence. There will be no monetary gain from participating in the study. Your anonymity will be maintained by the researcher and the School of Management, I.T. & Governance and your responses will not be used for any purposes outside of this study.

All data, both electronic and hard copy will be securely stored during the study and archived for 5 years. After this time, all data will be destroyed.

If you have any questions or concerns about participating in the study, please contact me or my research supervisor at the numbers listed above.

Sincerely

Nobuhle Pamela Nkabane

CONSENT TO PARTICIPATE

I -----have been informed about the study entitled “An Assessment of Revenue Management of Water and Sanitation: A case of Harry Gwala District Municipality” by Nobuhle Pamela Nkabane.

I understand the purpose and procedures of the study.

I have been given an opportunity to ask questions about the study and have had answers to my satisfaction.

I declare that my participation in this study is entirely voluntary and that I may withdraw at any time without affecting any of the benefits that I usually am entitled to.

I have been informed about any available compensation or medical treatment if injury occurs to me as a result of study-related procedures.

If I have any further questions/concerns or queries related to the study I understand that I may contact the researcher at 076 984 9866.

If I have any questions or concerns about my rights as a study participant, or if I am concerned about an aspect of the study or the researchers then I may contact:

HUMANITIES & SOCIAL SCIENCES RESEARCH ETHICS ADMINISTRATION

Research Office, Westville Campus

Govan Mbeki Building

Private Bag X 54001

Durban

4000

KwaZulu-Natal, SOUTH AFRICA

Tel: 27 31 2604557 - Fax: 27 31 2604609

Email: HSSREC@ukzn.ac.za

Additional consent, where applicable

I hereby provide consent to:

Audio-record my interview / focus group discussion	YES / NO
Video-record my interview / focus group discussion	YES / NO
Use of my photographs for research purposes	YES / NO

Signature of Participant

Date

Signature of Witness
(Where applicable)

Date

Signature of Translator

Dat

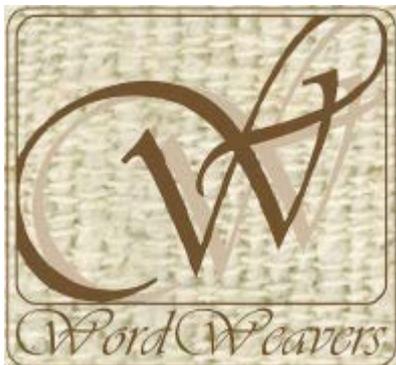
Annexure C: Interview Guide

Introduction	<p>Let me take this opportunity to thank you all for availing yourselves to be part of the focus group today. My name is Nobuhle Nkabane a researcher from the University of Kwazulu Natal. I would like us to talk about your experiences in water and sanitation service provision as well as revenue management in the Harry Gwala District Municipality.</p> <p>As you are the beneficiaries of water and sanitation services in the Harry Gwala District I would like us to assess the effectiveness of the current systems in order to capture lessons that can be employed in future interventions.</p> <p>The interview should take less than an hour. I will be taping and recording the session because I do not want to miss any of your comments during the proceedings. I will be also taking some notes during the proceedings.</p> <p>All responses during interviews will be kept confidential and only the researcher will have access to these responses. I will ensure that the research report does not identify the participants as respondents</p> <p>Are you willing to participate in this interview?</p> <p>Interviewee: _____</p> <p>Signature: _____</p>
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PART B: Revenue Management and Technical Issues

- Are there any challenges related to billing and metered services in water and sanitation service delivery?
- Is there any common outcry by the community that is related revenue management of water and sanitation services?
- What are the future improvements that you can recommend in order to improve service level standards and to enhance revenue collection?
- What is the total budget for the Municipality for this financial year?
- Could you please provide me with the breakdown of the sources of revenue?
- Does your municipality have an indigent policy and how long has it been reviewed?
- Does your municipality have an indigent register and how long has it been since it was last reviewed?
- What mechanisms do you employ to deliver statements of accounts?
- How do you monitor the effectiveness of your meter readers?
- How do you deal with faulty meters?
- What is your turnaround time to attend to complaints by the operation and maintenance team
- What can be done to improve responses to the challenges experienced by the Water and Sanitation Department/ WSA?
- Do you have a water conservation and demand management strategy and how far are you with the implementation process?
- How effective and efficient is your contact centre/ customer care and what can be done to improve its performance?
- Do you experience complaints related to billing?
- What method does Harry Gwala District Municipality employs to deal with defaulters?
- What are the challenges that you encounter in water and sanitation revenue management?
- What are improvement plans that you have to improve revenue collection of water and sanitation?

Annexure D: Editor's Certificate



7 Woodlands Rd
GLENWOOD
DURBAN
4001
083 415 2531

26 October 2016

Reg. No. 2006/156780/23

N P Nkabane

EDITING OF RESEARCH ARTICLE OF N P NKABANE

I have an MA in English from University of Natal (now UKZN) and have been performing editing services through my company for eleven years. My company regularly edits the research dissertations, articles and theses of the School of Nursing, Environmental Studies and various other schools and disciplines at the University of KwaZulu-Natal and other institutions, as well as editing for publishing firms and private individuals on contract.

I hereby confirm that Dennis Schaffer edited the research dissertation of **N P Nkabane** for a study titled "*An assessment of revenue management of water and sanitation: the case of the Harry Gwala district Municipality*" on behalf of WordWeavers cc and commented on the anomalies he was unable to rectify in the MS Word Track Changes and review mode by insertion of comment balloons prior to returning the document to the author. Corrections were made in respect of grammar, punctuation, spelling, syntax, tense, referencing and language usage as well as those to sense and flow.

I trust that the document will prove acceptable in terms of editing criteria.

Yours faithfully

C Eberle

Catherine P. Eberle (MA: University of Natal)

Annexure E: Ethical clearance Approval



20 July 2016

Ms Nobuhle Pamela Nkabane (215078684)
School of Management, IT & Governance
Westville Campus

Dear Ms Nkabane,

Protocol reference number: **HSS/1085/016M**

Project title: An assessment of Revenue Management of Water and Sanitation: A case of Harry Gwala District Municipality

Full Approval – Expedited Application

With regards to your application received on 18 July 2016. The documents submitted have been accepted by the Humanities & Social Sciences Research Ethics Committee and **FULL APPROVAL** for the protocol has been granted.

Any alteration/s to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form, Title of the Project, Location of the Study, Research Approach and Methods must be reviewed and approved through the amendment/modification prior to its implementation. In case you have further queries, please quote the above reference number.

Please note: Research data should be securely stored in the discipline/department for a period of 5 years.

The ethical clearance certificate is only valid for a period of 3 years from the date of issue. Thereafter Recertification must be applied for on an annual basis.

I take this opportunity of wishing you everything of the best with your study.

Yours faithfully

Dr Shamilla Naidoo (Deputy Chair)

/ms

Cc Supervisor: Professor Thokozane Nzimakwe
Cc Academic Leader Research: Professor Brian McArthur
Cc School Administrator: Ms Angela Pearce

Humanities & Social Sciences Research Ethics Committee

Dr Shanika Singh (Chair)

Westville Campus, Govan Mbeki Building

Postal Address: Private Bag X54001 Durban 4001

Telephone: +27 (0) 31 260 3587/3650/4557 Facsimile: +27 (0) 31 260 4908 Email: shs@ukn.ac.za / snymann@ukn.ac.za / ethics@ukn.ac.za

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Annexure F: Turnitin Report

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