

AN INVESTIGATION OF THE LEVEL OF SANITATION IN  
THE BUSHBUCKRIDGE LOCAL MUNICIPALITY

BY

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## DECLARATION.

I **Flominah Sesani Timba** declare that this research project for the Master in Development Degree (MDEV) on An Investigation of The Level of Sanitation in The Bushbuckridge Local Municipality is my own work and has never been previously submitted, and that all materials contained have been acknowledged.

Signed: \_\_\_\_\_

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## **ABSTRACT**

The aim of this study was to investigate and quantify the status of household sanitation level in the Bushbuckridge Local Municipality. The study was conducted at Mthuzuni Settlement in the Bushbuckridge Local Municipality. A probability sampling technique was employed in the study. Simple random sampling was used to sample respondents from each of the 50 households. A questionnaire was used to collect data from the 50 sampled respondents. An interview schedule was also used to collect data from the ward councillor. The findings revealed that there are inadequate sanitation facilities in the Mthuzuni settlement. The significance of this study is that it can be used to educate the community about good sanitation practices. It can also serve to inform the Bushbuckridge Local Municipality to speed-up provision of basic household sanitation facilities to needy communities.

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## LIST OF ABBREVIATIONS AND ACRONYMS

ANC	African National Congress
DSTT	District Sanitation Task Team
DWAF	Department of Water Affairs and Forestry
ESKOM	Electricity Supply Commission
GESI	Global Environmental Sanitation Initiatives
IDP	Integrated Development Plan
ISRDS	Integrated Sustainable Rural Development Strategy
LOFLOS	Low- on Site Latrine
MDG	Millennium Development Goal
MIG	Municipal Infrastructure Grant
NEMA	National Environmental Management Act
NEPAD	The New Partnership for Africa's Development
NGO	Non- Governmental Organisation
PHC	Primary Health Care
PSTT	Provincial Sanitation Task Team
RDP	Reconstruction and Development Programme
RSA	Republic of South Africa
RSTT	Regional Sanitation Task Team
UN	United Nations
UNCED	United Nations Conference on Environment and Development
UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific and Cultural Organisation
UNICEF	United Nations Children's Fund
VIP	Ventilated Improved Pit Latrine
WHO	World Health Organisation
WRC	Water Research Commission
WSA	Water Service Authority
WSC	World Summit for Children
WSSC	Water Supply and Sanitation Collaboration Council
WSSD	World Summit Sustainable Development

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## CHAPTER 1

### Background to the Study

#### 1.1. Introduction

The social developmental role of a municipality is the provision of basic services to the communities. Provision of services is an essential component of development. Section 152 of the Constitution of The Republic of South Africa stipulates that the object of a municipality is “to ensure the provision of services to communities in a sustainable manner and to promote a safe and healthy environment” (RSA, 1996: 84). Good basic services, apart from being a constitutional right, are essential to enable people to support family life, find employment and develop their skills (RSA, 1996: 13). One of the basic services provided by local municipalities is the provision of sanitation. Bad sanitation practices have negative impacts on health, economic, social and psychological aspect of communities. Therefore, the purpose of providing good sanitation facilities to communities is to ensure that people enjoy good health.

Sanitation is vital for good health. Health problems associated with poor sanitation include diarrhoea, dysentery, typhoid, cholera, malaria, bilharzias, worm infestations, eye infections, skin diseases and increased infections in HIV positive people. Sanitation is also vital for wealth creation. Economic benefits of improved sanitation include savings in health costs, higher worker productivity, better school attendance, improved tourism and reduced water treatment costs (RSA, 2000:13).

#### 1.2. Statement of the Problem

It is estimated that about 2.4 billion people in the world have no access to any form of improved sanitation services (RSA, 2001: 8). As a consequence, 2.2 million people in developing countries, most of them children, die every year from diseases associated with inadequate sanitation and poor hygiene conditions (WHO, 2001: 12). The Constitution of The Republic of South Africa (Act 103 f 1996) states that everyone has the right (RSA, 1996:13): to an

environment that is not harmful to their health or well-being and to have the environment protected, for the benefit of present and future generations through reasonable legislations and measures.

Therefore, access to sanitary means of excreta disposal for example, is a universal need and, indeed, a basic human right. According to the White Paper on Basic Household Sanitation (RSA, 2000: 17) it is estimated that 18 million South Africans or three (3) million households do not have access to adequate sanitation facilities. People are still using the bucket system, unimproved pit latrines or the bush.

Everyone needs to obey the call of nature every day, and as such good sanitation facilities are essential. Inadequate sanitation facilities and infrastructure combined with unhygienic practices represent South Africa's sanitation problems (RSA, 2000:17). Unhygienic practices are clearly the result of a lack of health and hygienic awareness, poor facilities for safe disposal of wastewater and domestic waste. It also includes inadequate toilet and hand washing facilities.

The study is conducted at the Mthuzini Settlement in the Bushbuckridge Local Municipality. The Mthuzini settlement was established in 1999 through the Reconstruction and Development Programme(RDP). Since its establishment the houses are without adequate sanitation facilities. The toilets that were installed in the houses were never functional. In some houses the toilets have no ventilation pipes and in others there are no toilets at all. Thus, many people living in Mthuzini Settlement resort to using the bush to relieve themselves. In this way, they are exposed to dangerous situations, especially women and children, who can be raped or attacked by snakes and other wild animals. Because of the lack of adequate sanitation facilities, the community is exposed to health hazards. Defecating in the bush also has a negative impact on people's privacy and human dignity.

### 1.3. Motivation for the Study

Every year, when the Bushbuckridge Local Municipality is reviewing its Integrated Development Plan (IDP), community members complain about the lack of sanitation facilities, particularly at the Mthuzini Settlement, the area under study. The Mthuzini community members requested the Bushbuckridge Local Municipality to include their area when prioritizing sanitation projects.

The Researcher visited the area and observed that there are indeed, inadequate sanitation facilities in the area. The Ward Councillor indicated that houses were built by contractors who did not install adequate sanitation facilities. Other houses do have toilets, but without ventilation pipes, thus posing health hazards to the occupants. The Researcher is motivated by the fact that there is a need to highlight health problems that are caused by lack of basic household sanitation. Also, there is a need to address this problem by engaging the Bushbuckridge Local Municipality to fast track service delivery in ensuring that basic household sanitation facilities are provided to the community of Mthuzini Settlement.

#### 1.4. Aim of the Study

The aim of the study is to investigate and quantify the status of the level of household sanitation in the Bushbuckridge Local Municipality.

##### 1.4.1. Research Objectives

In line with the aim, the research has the following objectives:

- To describe the types of household sanitation facilities available at Mthuzini Settlement.
- To identify the level of understanding of the community in terms of their health and hygiene practices.
- To assess the challenges facing the community with regards to sanitation.
- To suggest corrective measures meant to address sanitation problems at Mthuzini Settlement.

#### 1.5. Research Questions

The study is guided by the following research questions formulated from the research problem:

- What is the current state of sanitation at Mthuzini Settlement?
- What sanitation options are feasible for the community?
- What is the record of service delivery of the local municipality?
- How can the sanitation situation be improved for the benefit of the community?

## 1.6. Significance of the Study

The findings of the study will be used to educate the community about good sanitation practices as well as to inform the local authority (Bushbuckridge Local Municipality) of the present status. This could result in the speed-up of provision of basic household sanitation facilities to needy communities in general, and at Mthuzini in particular. The Department of Housing can use the study as a guideline in its implementation of housing projects. The academic community can use the study as a guideline in investigating similar problems at other study areas.

## 1.7. Definition of the Sanitation Concept

### 1.7.1. Sanitation

Sanitation refers to the principles and practices relating to the collection, removal or disposal of human excreta, household waste water and refuse as they impact upon people and the environment. Good sanitation includes appropriate health and hygiene awareness and behaviour, and acceptable, affordable and sustainable sanitation services (RSA, 2001:14).

### 1.7.2. Basic Sanitation

Basic sanitation means the prescribed minimum standard of services necessary for the safe, hygienic and adequate collection, removal, disposal or purification of human excreta, domestic waste-water and sewerage from household, including informal households (RSA, 2000: 3).

### 1.7.3. Basic Sanitation Facility

A basic sanitation facility is defined as sanitation facility which is safe, reliable, private, protected from the weather, ventilated, keeps odours to the minimum, and is easy to keep clean. The facility minimizes the risk of the spread of sanitation related diseases by facilitating the appropriate control of disease carrying flies and pests, and enables safe and appropriate treatment and/ or removal of human waste and black grey (waste) water in an environmentally sound manner (RSA, 2000: 3).

#### 1.7.4. Adequate Sanitation

Adequate sanitation means the provision and ongoing operation and maintenance of a system of disposing of human excreta, waste water and household refuse, which is acceptable and affordable to the users (RSA, 1996:10).

#### 1.8. Chapter Outline

The mini-dissertation consists of the following chapters:

##### Chapter 1                      Background to the Study

This chapter gives the background to the study and includes: Introduction, Statement of the Problem, Motivation for the Study, Aim of the Study, Research Questions, Significance of the Study and Definition of Concepts.

##### Chapter 2                      Literature Review

The chapter consists of the related literature review on sanitation problems based on the research done internationally, in South Africa and in Limpopo province.

##### Chapter 3                      Research Methodology

The chapter presents the detailed description of the Research Methodology, Research Design, Area of Study, Population, Sampling Methods, Choice of Instruments, Pilot Survey and Data Collection Procedures.

##### Chapter 4                      Research Findings

In this chapter the research findings are discussed. Data are categorized and coded. The findings are interpreted and data explained with the help of tables, frequencies and statistical information.



The chapter summarizes the research findings. Lastly conclusion and recommendations are stated.

## CHAPTER 2

### Literature Review

#### 2.1. Introduction

Adequate sanitation is the foundation of social development. According to the World Health Organisation (WHO), a decent toilet or latrine is an unknown luxury to half of the people on earth. Almost 3 billion individuals do not have access to a decent toilet, and many of them are forced to defecate on the bare ground or queue up to pay for the use of a filthy latrine (UNICEF, 2001: 9). Neglect of sanitation exposes people to unhygienic conditions which leads to dangerous diseases especially diarrhea. The earth summit conference (UNCED, 1999: 12) found diarrhea is the biggest child-killer on earth, taking the lives of 2,2 million children each year. The diarrhea episodes leave millions more children underweight, mentally and physically stunted. Children become easy prey for the deadly diseases and so drained of energy that they are ill equipped for the primary task of childhood; which is learning.

To deny people basic sanitation is not just inhumane, but also knocks down the first step from a country's ladder of development. History has taught that a safe means to dispose of bodily wastes is not a luxury that can wait for better economic times but a key element in creating them (UN, 2004: 17).

#### 2.2 Global Overview of Sanitation

##### 2.2.1. Sanitation Defined by different countries

Different countries have their own national definition of sanitation. Definition may reflect countries' level of economic development, urbanization and resources available for sanitation (WHO, 2000: 18). Rapid urbanization increases population densities and puts greater demands on sanitation facilitation facilities. The definitions may also vary both in the type of toilet facility and its distance from the home. Because of these differences in definitions and also in data reporting methods and the quality of data, direct comparisons of countries achievements are difficult.

### 2.2.1 Access to Sanitation Services

Definition of access to improved sanitation differs somewhat across countries and regions. Some countries count ordinary pit latrines as adequate sanitation, while others count only ventilated Improved pit (VIP) latrines and /or flush toilets connected to a septic tank or a sewerage system (UNICEF, 2001: 2). Pit latrines may be adequate for rural communities, but may not be appropriate for urban areas. Therefore, more urbanized countries such as Argentina and Brazil, record only flush toilets as adequate and report lower rates of access than poorer countries such as Kenya and Tanzania (WHO, 2000: 14).

The WHO/UNICEF joint monitoring programme was established in 1990 to help countries strengthen water and sanitation data and collection. Generally, country definitions have since become more restrictive and realistic, resulting in reports of lower rates of access. Just as many countries need to step up efforts to improve access to sanitation, greater standardization of definitions is needed to allow for more accurate global comparison of progress.

### 2.2.2 Types of sanitation facilities

Countries and regions also differ considerably in terms of the type of sanitation most widely available. To achieve the sanitation Millennium Development Goal (MDG) is a major challenge with an additional 2 billion people needing access to sanitation by 2015 (UN, 2004:7). South-Central Asia and East Asia pose the biggest challenge with an additional three quarters of a billion people requiring improved sanitation by 2015. The sub-Saharan African countries need to provide an additional one third of a billion people with improved sanitation by 2015 to meet the requirements of the Millennium Development Goal.

The United Nations (2004:7) indicates that the existence of improved household sanitation facilities does not necessarily imply that they will always be used. Household surveys of sanitation practices in Cambodia, Indonesia, and Vietnam show the contrary. In many households with latrines individuals still occasionally defecate in fields and irrigation canals, which may be located at some distance from the village and latrine site. Public education and information campaigns are needed to encourage consistent use of sanitation facilities and to promote social norms in favour of their use.

### 2.2.3 Urban Sanitation

Rapid urbanization adds greatly to the need for urban sanitation services both in the developed and developing countries (UN, 2004:8). In order to meet the sanitation target in urban areas, additional 1 billion people would need to gain access to sanitation facilities by 2015, taking into account population increase. The situation is particularly serious in peri-urban and informal urban settlements, where coverage is extremely low, and untreated human waste threatens the water supply and human health.

According to World Health Organization, in Asia, some 330 million people lack access to improved sanitation facilities, accounting for 73 percent of the world's unserved urban population. Thus, particular effort will be needed in that region. Regions where large cities are growing rapidly are also those with low coverage of conventional sewers. Africa and Oceania have very low rates of sewerage systems, while the industrialized regions of Europe and North America have high rates. Latin America and the Caribbean and Asia lie in between. Asia has done better than the other regions of the developing world in extending the use of septic tanks and pour-flush systems.

In the large cities of Africa, septic tanks are not as common, and a large proportion of the population uses pit latrines or ventilated Improved pit latrines than in other than in other regions. There are cities in Asia and Oceania that could make greater use of dry pit latrines, particularly in settlements where the water supply is limited, expensive or unreliable (UNICEF, 2001: 10). In parts of Africa, Latin America and the Caribbean there is an unexploited potential for the use of pour-flush toilets, which can give a service that is aesthetically little different from a flush toilet, at a lower cost.

### 2.2.4 Rural Sanitation

In order to meet the sanitation target in rural areas, improved sanitation services would need to be made available to an additional 1 billion rural people by 2015, representing a rate of increase almost double that of the 1990s (UN, 2004: 17). In rural areas, the existing unserved population that needs services, the increased number is overwhelming owing to additions of the urban population. According to the African Development Bank Group

(2001:1) indicates that most of Africa's population lives in rural areas (62 percent) and yet access is lowest in the rural areas. Low access to adequate sanitation is the root cause of many diseases that afflict Africa and a contributory factor to the high infant and maternal mortality rates.

#### 2.2.5 School Sanitation

Access to sanitation facilities is a fundamental human right that safeguards health and human dignity. Therefore, the provision of safe water and sanitation facilities is a first step towards a healthy physical learning environment. The ultimate goal of Agenda 21 is for all people to have safe and adequate water and sanitation, and a clean and healthy environment.

The sanitary conditions of schools in rural and urban areas in developing countries are often appalling, creating health hazards and other negative impacts, making schools unsafe for children. Although water and sanitation facilities are recognized as fundamental for hygiene behavior and children's well being, in practice the sanitary conditions in most schools are woefully inadequate (UNICEF, 2001: 13). Diseases related to poor sanitation and water availability caused many people to fall ill or even die. Children are the most vulnerable to these health hazards.

Lee and Kirkpatrick (2000:198) indicate that one of the major problems faced by hundreds of millions school aged children is infection by parasites and flukes. These parasites consume nutrients from children they infect, bringing about aggravating malnutrition and retarding children's physical development. They also destroy tissues and organs in which they live causing pain and various health problems. Water and sanitation related diseases affecting children include diarrhea, trachoma, schistosomiasis, scabies and guinea worm. All of these have compromised children's attendance and performance at school and, not uncommonly, can result in death.

The UNICEF (2001: 9) outlines the benefits of good school sanitation facilities as follows: School can stimulate and support positive behavioural change in children, as children are eager to learn. Children have important roles in household chores related to hygiene. Depending on the culture, children may question the existing practices in the household and become agents of change within their families and communities. Children are future parents, what they learn at school is likely to be passed on to their own children.

Lack of facilities and poor hygiene affect both girls and boys, although poor sanitation conditions at school have a greater negative impact on girls. Therefore, all girls should have access to safe, separate and private sanitation facilities in their schools (UNICEF, 2001: 11). When girls start menstruating, the need for these facilities is even stronger. Sanitation facilities should be adapted to the different physical and sometimes cultural needs of girls and boys. When other family members become sick (often due to sanitation related diseases), girls are more likely to be kept home to help. This can lead to reduced school attendance by girls, and can result in an increase dropout rates.

### 2.3 International Conventions/ Agreement and Organisations

Provision of sanitation facilities is a big challenge to the global world. It is estimated that more than 2, 2 billion of people have no access to adequate sanitation facilities (WHO, 2000: 3). Inadequate sanitation poses serious hazards to public health, environment and the economy. International Conventions and Organisations have declared to meet the Millennium Development Goal target of providing all people with adequate sanitation by the year 2015.

#### 2.3.1 World Summit for Children (WSC)

The World Summit for Children informally known as Children's Summit convened in 1990 in New York. The principal themes covered during the summit include: Goals for the year 2000 for children's health, nutrition, education, and access to safe water and sanitation. The resulting document of the summit is: World Declaration and Plan of Action on the survival, protection and development of children. One of the major goals for children by the year 2015 is the universal access to safe drinking water and basic sanitation facilities.

#### 2.3.2 United Nations Conference on Environment and Development (UNCED)

This summit convened in 1990 in Rio de Janeiro, Brazil. The informal name for this summit is the Earth Summit. The principal themes were Environment and sustainable Development. The resulting Document of the summit is Agenda/vision 21 (Millennium Development Goals Declaration for 2000): called for the world to halve, by 2015, the proportion of people without access to safe drinking waters as the proportion of people who do not have access to basic sanitation.

#### 2.3.3. Fourth World Conference on Women

The conference convened in 1995 in Beijing, China. The informal name is The Beijing Women's Conference. The principal themes include: the advancement and empowerment of women in relation to women's human rights, women and poverty, women and decision making, the girl child, violence against women and other related areas of concern.

#### 2.3.4 United Nations (UN) World Summit on Sustainable Development

The summit convened in 2002 in Johannesburg, South Africa. The main aim was to strengthen the Agenda 21 and to support the Millennium Development Goals (MDG) of improving the quality of life for all people.

#### 2.3.5 The New Partnership for Africa's Development (NEPAD)

The NEPAD was formed in October 2001 in Abuja, Nigeria. The objectives on water and sanitation include: to ensure sustainable access to safe and adequate clean water supply and sanitation, especially for the poor. The actions to be taken by NEPAD are: to collaborate with the Global Environmental Sanitation Initiative (GESI) in promoting sanitary waste disposal methods and projects.

#### 2.3.6 United Nations Children's Fund (UNICEF)

The organization looks at the child survival and health. It ensures that there is universal access to safe drinking water and to sanitary means of excreta disposal in schools.

#### 2.3.7 United National Education, Scientific and Cultural Organization (UNESCO)

The organization ensures that schools and educational facilities have adequate water, sanitation and hygiene facilities in guaranteeing the health of their students and staff.

#### 2.3.8. World Health Organization (WHO)

The World Health Organisation has resources about health aspects of sanitation. It ensures quality health promotion and hygiene practices.

#### 2.3.9. United Nations Development programme (UNDP)

The United Nations Development Programme promotes ecological sanitation as a development tool.

#### 2.3.10. Water Supply and Sanitation Collaborative Council (WSSCC)

The water supply and sanitation collaborative council is a leading international organization that enhances collaboration in the water supply and sanitation sector, especially in order to attain universal coverage of water and sanitation services for poor people around the world.

### 2.4. South Africa's Perspective on Sanitation

#### 2.4.1 Background

South Africa is divided into nine provinces, namely: Eastern Cape, Gauteng, Free State, Kwazulu- Natal, Limpopo, Mpumalanga, Northern Cape, North West and Western Cape. The National Sanitation Policy (RSA, 1996) indicates that an estimated 21 million South Africans do not have access to adequate sanitation facilities. Those who have inadequate sanitation may be using the bucket system, unimproved pit toilets or the bush. In addition, there is a disturbing increase in poorly designed or operated water-borne sewerage systems. When these fail, the impact on the health of the community and others downstream, and the pollution of the environment are extremely serious. The inadequate excreta disposal facilities and unhygienic practices represent South Africa's sanitation problems. The unhygienic practices are often related to lack of access to health and hygiene education, inadequate water supply, poor facilities for the safe disposal of water and other domestic waste, and inadequate toilet facilities.



The target for clearing the sanitation backlog in South Africa is aligned with the Integrated Sustainable Rural Development Strategy (ISRDS). It is proposed that by March 2010 all South Africans must have access to a basic minimum level of sanitation (RSA, 2000:25).

Figure 1 Map of South Africa



Source: [www.places.co.za](http://www.places.co.za)

## 2.4.2 Legislative Framework

### a. The Constitution

The Constitution of the Republic of South Africa (Act 108 of 1996) stipulates that everyone has the right to an environment that is not harmful to their health or well-being; to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that prevent pollution and ecological degradation; promote conservation and,

secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.

The state must take reasonable legislative and other measures, within its available resources, to achieve the progressive realization of these rights (Parnell, *et al*, 2002:164).

b. The White Paper on Basic Household Sanitation of 2001

Providing adequate sanitation for the people is one of South Africa's major challenges. The White Paper on Basic Household Sanitation (RSA, 2001:113) points out that it is estimated that eighteen (18) million South Africans are without access to sanitation facilities, and may be using the bucket system, pit toilets or the bush. When sanitation systems are inadequate, the impact on the health of the community and on the environment can be extremely serious.

c. Reconstruction and Development Programme (RDP)

The Reconstruction and Development Programme is a policy framework document drafted by the African National Congress in 1994. One of the key programme is meeting basic needs of the South African population in an integrated manner, combining urban, peri-urban and rural development processes (African National Congress, 1994: 16) .The provision of water and sanitation are basic needs which are outlined in the RDP document. The housing standard in the policy document states that a house must include sanitary facilities, drainage and convenient access to clean water.

c. The National Sanitation Policy of 1996

The Department of Water Affairs and Forestry (DWAF) have drafted the National Sanitation Policy in 1996(RSA, 1996:17). The policy recognizes that sanitation for households mean much more than building toilets. The most important requirement for safe sanitation, is of course, getting rid of human excreta, dirty water and household refuse. Also crucial are the way people think and behave, and whether they have hygienic and healthy habits. Sanitation improvement is a bigger process, aimed at the individual, the home and the community,

which must include health and hygiene education as well as sustainable improved toilet facilities, water supply and methods of removal of dirty water and household refuse.

d. The Water Services Act no. 108 of 1997.

Section 2 defines the main objectives of the water services Act as: the main objects of the Act are to provide the right of access to basic water supply and the right to basic sanitation necessary to secure sufficient water and an environment not harmful to human health or well-being. Whilst the provision of water pipes and toilets is important, the way in which individuals and households access services is just as important (RSA,1997 : 14).

e. The White Paper on Local Government of 1998

One of the developmental outcomes of local government is the provision of household infrastructure and services. Provision of household infrastructure and services are an essential component of social and economic development. This includes services such as water, sanitation, local roads, storm water drainage, refuse collection and electricity. The starting point must be to prioritise the delivery of at least a basic level of services to those who currently enjoy little or no access to services (RSA, 1998: 7).

f. The Municipal Structure Act no 117b of 1998.

Section 84 of the Municipal Structures Act, deal with the functions and powers of municipalities. The municipalities have the following powers, among others: potable water supply systems, domestic water-waste and sewerage disposal systems, solid waste disposal sites, insofar as it relates: to the determination of a waste disposal strategy, the regulation of waste disposal, and the establishment, operation and control of waste disposal sites, bulk waste transfer facilities and waste disposal facilities (RSA, 1998 : 3).

g. Municipal System Act no. 32 of 2000.

Section 25 of the Municipal System Act provides that every Municipal Council must adopt an IDP, which is single, inclusive and strategic plan for the development of its municipality. These plans include the provision OF sanitation,

waste removal and other service delivery impacting on the environment, and must take account of national and provincial plans (RSA, 2000: 18).

#### h. Integrated Development Planning (IDP) and Local Agenda 21

The IDP was introduced in 1996 as a form of strategic planning for South Africa. It is one of the key tools for empowering local government to cope with its new developmental role, and is the principal planning instrument that guides and informs all planning and decision-making in a municipality. The underlying philosophy, principles and processes of the IDP are consistent with Local Agenda 21 and its principles of sustainable development. IDPs, therefore, have the potential to play an important role in promoting sustainable governance in South Africa (RSA, 2000: 9).

#### i. The National Health Act no.61 of 2003

The main object of the National Health Act is the provision of the eight basic element of Primary Health Care (PHC). One of the basic elements of the PHC is the provision of adequate supply of safe water and basic sanitation (RSA, 2003: 2).

#### j. The National Environment Management Act 107 of 1998. (NEMA)

The objective of NEMA is to provide for cooperative environmental governance by establishing principles for decision-making on environmental matters and procedures for coordinating environmental function by organs of state. It also provides for prohibition, restriction and control of activities likely to have a detrimental effect on the environment (RSA, 1998: 15).

### 2.5. Importance of Good Sanitation

Investing in sanitation services is a key element in improving urban living conditions, spurring rural development and reducing future costs associated with pollution, poor water quality and waste management. The United Nations Children Fund (UNICEF) and World Health Organisation (WHO) present the benefit of investing in sanitation as: reduced morbidity and mortality and increased life expectancy, savings in health care costs, reduced time caring and sick leave (back to work), higher worker productivity, better learning capacities of school children,

increased school attendance especially by girls, strengthened tourism and national pride, direct economic value of high quality water such as irrigation water for crops, and reduced water treatment costs.

## 2.6. Impact of Poor Sanitation

Sanitation is regarded as the maintenance of sanitary conditions. Therefore, basic sanitation means the provision of sufficient hygienic, hazard-free toilets, the effective removal and disposal of household waste, and effective effluent disposal (Pietersen, 1997:14). Good sanitation is important for a number of reasons, not least of all human dignity. Poor sanitation has impact on various areas of social development, which are discussed below.

### 2.6.1. Impact on Health

Lack of access to safe sanitation facilities is a significant cause of ill health in South Africa (Evans, 1994:130). Poor sanitation promotes the spread of health problems. Many infections of human beings are spread through inadequate sanitation. Viruses, bacteria, protozoa and worms may spread through direct contact, indirectly via carriers and vectors. Cholera deaths are an indication of a poor health system and certainly poor sanitation (Hall, 2003: 19). Poor sanitation impacts on the health, quality of life, and development potential of communities. The Water Services Act (RSA,1997: 13) mentions that diarrhoea is the leading child-killer disease to South African children. Poor sanitation is a major cause of diarrhoea. The White Paper on Basic Household Sanitation (RSA; 2001: 7) affirms that adequate basic household sanitation facilities can have dramatic health benefits to communities.

### 2.6.2. Impact on the Economy

Inadequate sanitation, through its impact on health and environment, has implications for economic development, (UNICEF, 2001: 12). People absent themselves from work due to excreta-related diseases. Poor health keeps families in a cycle of poverty and lost of income. The national cost of productivity, reduced education potential and curative health care is substantial. One estimate puts the cost of health expenditure at R3.5- billion per year (RSA, 2000: 8). The increasing pollution of rivers and shorelines negatively impact on businesses such as tourism and agriculture, which are vital to nations' economic growth.

Lack of excreta management also poses a fundamental threat to global water resources. The White Paper on Basic Household Sanitation (RSA, 2001:9) highlights the benefits of improving sanitation: reduced morbidity and increased life expectancy, savings in health care costs and reduced time for caring and sick leave (back to work).

### 2.6.3. Impact on the Environment

Sanitation systems involve the disposal and treatment of wastes. A lack of adequate sanitation system constitutes a range of pollution risks to the environment, especially the contamination of surface and ground water resources. This, in turn, increases the cost of downstream water treatment as well as the risk of disease for people who use untreated water. According to The White Paper on Basic Household Sanitation (RSA, 2001:8) the effects of pollution include: waterborne diseases, blue baby syndrome in bottle-fed infants, excessive growth of aquatic plants which are toxic and depletion of oxygen in the water.

### 2.6.4. Impact on Social and Psychological aspects

Inadequate sanitation facilities, inadequate disposal of waste and poor sanitation practices result in loss of privacy and dignity, exposure and increased risks to personal safety (RSA, 2001:9). People are forced to use the bush as their toilet facility. They are exposed to dangerous situations where they can be assaulted or attacked by wild animals.

## 2.7. Diseases Related to Inadequate Sanitation

Eade and Williams (1995, 688) emphasize that sanitation is vital in primary health care. It further states that over 25 million people die every year from diseases related to inadequate and poor sanitation. Inadequate sanitation has been identified as the main cause of human illness. The most common diseases associated with poor sanitation are: diarrhoea and dysentery, typhoid, bilharzia, malaria, cholera, worms, eye infection and skin diseases. Contaminated water and poor hygiene are the major cause of diarrhoea diseases, the most common group of communicable diseases, highly prevalent among poor people living in crowded conditions with inadequate facilities (Blackett, 2001: 29).

Most faecal–oral infections are transmitted on hands and during food preparation, rather than through drinking contaminated water directly. There are major routes of diseases transmission, which can include the following: Transmission via fingers and hands, contaminated by faeces through unwashed hands. The second transmission is faecal contaminated food, which has been prepared by unwashed hands or grown in contaminated soil. The third transmission is through flies. The fourth transmission mode is through fluids. This is mainly water pathogenically contaminated at source or during collection, transportation or storage. The fifth transmission is through fields, people working in fields, or children playing where pathogens are present.

## 2.8. Social Issues of Sanitation

Sanitation covers the control of public water supplies, excreta and wastewater disposal, refuse disposal, control of vectors of diseases, housing conditions, food supplies and handling, atmospheric conditions, and the safety of the working environment. Hygienic disposal of wastes should be the underlying objective of all sanitation because as has been indicated previously, it plays a vital role in reducing the spread of diseases.

### 2.8.1. Sanitation and Culture

Effective and sustainable changes in sanitation practices involve much more than good engineering. Change in human behaviour is required. The Oxfam Development handbook and Relief (Eade & Williams; 1995:704) points out that defecation practices are surrounded by cultural taboos and beliefs, which must be well understood before any sanitation programme can hope to be effective.

The UNICEF (2001: 14) indicates that many cultures, norms and beliefs have negative impacts on sanitation efforts. The topic itself, or the methods of disposing of excreta, is both associated with taboo. Problems cannot be solved and hygiene education activities are having the environment of silence and denial. The taboos are also extended to the use of technologies, including the safe recovery of agricultural resources from human wastes.

The existence of such taboos poses an increased challenge to hygiene and sanitation practices, which needs to promote links between ecology and health protection as well as both the dangers and value of excreta.

Defecation is a private matter, which adults are unwilling to discuss. Contact with faeces, for transport to a treatment or disposal site, or in cleaning of latrines, is often limited to the lowest class or caste in society (Eade & Williams, 1995:705). In most cultures, and most households, it is women rather than men who deal with their children's excreta. Gender difference and constraints, such as the requirement in some societies for women to defecate under cover of darkness, must be sensitively addressed. There are also restrictions for women during menstruation, or in the post-partum period, when they may not share sanitary facilities with others.

The concept of hygiene, cleanliness, purity, and beliefs about sanitation and disease vary widely, but are often deeply ingrained through religious practice and culture (Hall, 2003: 25). In some cultures faeces of small children are often considered harmless yet they are a frequent cause of dangerous contamination of the household, water supply, and the food chain. In countries where water is used for washing after defecation, the practice of using toilet paper is considered to be unclean and unhygienic.

Provision of sanitation facilities can be done through a careful study of the culture and belief of the community. Individual users are the ultimate decision-makers in accepting or rejecting a new practice and new technology. Women and men must be convinced of the benefits of improved sanitation and change in their own behaviour.

The National Sanitation Policy (RSA, 1996: 19) emphasizes that helping people to help themselves, require a knowledge of, and sensitivity to, the social context of a sanitation improvement programme. Government programmes must adopt people oriented strategies in which community members play an active role in planning and organizing so that local values are incorporated. This will ensure that the resulting programme is relevant, appropriate, acceptable, accessible, affordable, equitable, empowering, and based on indigeneous knowledge and local skills.



### 2.8.2. Sanitation and Women

The UNICEF (2001: 15) indicates that women without toilets are forced to defecate in the open, risking their dignity and personal safety. The old and the sick cannot endure to walk long distances in order to relieve themselves. Education suffers too as more than half of all girls who drop out of primary school do so for lack of separate toilets and easy access to safe water. In many cultures the only time when women and girls can defecate, if they have no latrine, is after dark. Apart from discomfort caused by the long wait until evening, this can cause serious illness. The walk to the defecation field, often in the dark, is when more of women run the greatest risk of sexual harassment and assault. The burden of caring for sick relatives inevitably falls to women and girls, keeping them at home and shutting them out of economic development.

### 2.8.3. Sanitation and Children

Inadequate sanitation and poor hygiene habits play a major role in the high child mortality rate (WHO, 2000: 11). Diarrhoea is the third-biggest child killer after pneumonia and malaria, accounting to the legacy of chronic malnutrition, which is the underlying cause of over half of all child mortality.

## 2.9. Types of Sanitation Systems

The main purpose of any system is the containment and destruction of the disease causing pathogens found in human excreta. The success of specific technology depends on its effectiveness in disrupting disease transmission cycles. The disruption point however, varies according to the types of pathogens and their transmission cycles (Alcock, 1999:47).

### 2.9.1. Classification of Sanitation Systems

Sanitation systems can be classified in a number of categories. One category concerns the use of water, and the second category concerns the disposal procedure for the excreta, which can be an on-site or off-site disposal. The on-site disposal requires containment and/ or treatment at the point of collections in a latrine or septic tank.

The off-site disposal requires either a continuous transport (i.e. in water into a sewer systems), or a regular collection and transport (i.e. by emptying of night soil buckets, or by pumping from a cess-pit of waste) to a treatment or disposal site (Alcock,1999: 49).

Table 1. Categories of sanitation systems

Use of water	Conveyance of excreta to waste	Treatment of excreta on site
No water added	Group 1 - Bucket latrines - Chemical toilets	Group 2 - Unimproved pit latrines - Ventilated improved pit latrines. - Reed odourless earth closet latrines. - Composting latrines. - Anaerobic digesters. - Biological/ electric toilets.
Water added	Group 3 - Conservancy tank systems - Conventional water-borne sewerage systems.	Group 4 - Conventional septic tank systems. - Aqua-privies. - Biogas digesters. - Solids free sewer system.

Source: Alcock, P.G. 1999. *A Water Resources and Sanitation Systems Source Book*. Government Printers

Table 1 presents the categories of sanitation systems. Sanitation Systems under group 1 require no water but need to be collected and transported to the disposal site. Group 2 need no water but are treated on site and are called on-site disposal sanitation systems. Group 3 require water and transport to the disposal site. Group 4 need water and treated on site.

### 2.9.2. An Overview of Different Types of Sanitation Systems

A wide variety of sanitation systems are currently in use globally. They impact differently on the environment and have widely differing costs and degrees of acceptability to the users. The following tables present the various sanitation systems that are available.

Table 2. Group 1 of the Sanitation Systems

<b>Advantages</b>	<b>Disadvantages</b>
<p>a. Bucket Latrines</p> <ul style="list-style-type: none"> <li>- Apply in high density at short notice.</li> <li>- Best for temporary arrangements</li> </ul>	<ul style="list-style-type: none"> <li>- High operating costs.</li> <li>- Unhygienic, flies, odour and spillage at the household or during conveyance.</li> <li>- Does not cater for grey water, resulting in health and environmental implications.</li> </ul>
<p>b. Chemical toilets</p> <ul style="list-style-type: none"> <li>- No water is needed.</li> <li>- Hygienic, free of odour and flies.</li> <li>- Suitable for temporary situation e.g. sports events and emergency situation.</li> <li>- Can be moved from one place to another.</li> </ul>	<ul style="list-style-type: none"> <li>- Cannot dispose grey water or kitchen water.</li> </ul>

Source: Alcock, P.G. 1999. *A Water Resources and Sanitation Systems Source Book*. Government Printers

Table 2 presents examples of group 1 Sanitation Systems which are bucket and chemical toilets. These sanitation systems use no water but need to be collected and transported to the disposal site.

Table 3. Group 2(a) of the Sanitation Systems

<b>Advantages</b>	<b>Disadvantages</b>
<p><b>a. Open defecation</b> No cost. Often currently practised.</p>	Serious health hazards, depending on weather conditions and population.
<p><b>b. Shallow pit</b> No cost. Benefit farmers as fertilizers.</p>	<p>Fly nuisance. Spread of hookworm larvae.</p>
<p><b>c. Simple pit latrines</b> Low cost. Can be built by householder. Needs no water for operation. Easily understood.</p>	Odour, fly nuisance, and mosquito nuisance if pit is wet (both can be controlled with a tight - fitting lid)
<p><b>d. Ventilated improved pit latrines</b> Can be built by householder. Needs no water for operation. Smells reduced. Control of flies.</p>	<p>Does not control mosquitoes. Extra cost of vent pipe. Extra maintenance of fly screen. Need for dark interior. Complicated to build correctly.</p>

Source: Alcock, P.G. 1999. *A Water Resources and Sanitation Systems Source Book*. Government Printers.

The above table 3, presents examples of sanitation systems in group 3. These types of Sanitation Systems require no water but are treated on site.

Table 4 Group 2(b) of the Sanitation Systems

Advantages	Disadvantages
<p><b>a. Borehole latrines</b></p> <p>Can be excavated quickly if equipment available.</p> <p>Suitable for short - term use, e.g. in emergencies.</p>	<p>Sides liable to be fouled, hence fly nuisance. Short life. Risk of underground pollution due to depth of hole.</p>
<p><b>b. Composting Latrine</b></p> <p>Valuable humus is provided. Convenience. Less expensive than septic tank.</p>	<p>Careful operation essential. Urine should be collected separately in batch system. Ash or vegetable matter should be added.</p>
<p><b>c. LOFLOS-low flow on site latrine</b></p> <p>User cannot see the excreta. No danger of falling into the toilet. Hygienic and free of odour, mosquito, and flies. Can be installed indoor and can be used in high density areas.</p>	<p>Contamination of ground water.</p>
<p><b>d. Biological/ Electric toilets</b></p> <p>Compact, hygienic and free of odour, mosquito, and flies. Can be used in high density areas. Do not pollute ground water.</p>	<p>Sophisticated and expensive.</p>

Source: Alcock, P.G. 1999. *A Water Resources and Sanitation System Source Book*. Government Printers.

Table 4 also presents examples of Sanitation Systems of Group 2. These sanitation systems require no water and are treated on-site.

Table 5. Group 3 of the Sanitation Systems

	<b>Advantages</b>	<b>Disadvantages</b>
<b>A. Pour-flush latrine /conveyance tank system</b>	<ul style="list-style-type: none"> <li>Control of flies and mosquitoes.</li> <li>No odour.</li> <li>Pit contents not visible.</li> <li>Can be upgraded by connection to a sewer.</li> <li>Latrine can be in house with pit outside.</li> </ul>	<ul style="list-style-type: none"> <li>Reliable, unlimited water supply required.</li> <li>Unsuitable for use with solid anal cleansing materials.</li> <li>Easily blocked and broken.</li> </ul>
<b>Conventional Waterborne sewerage systems</b>	<ul style="list-style-type: none"> <li>Can be placed indoors.</li> <li>Can be used in very high density areas.</li> <li>Hygienic, free of odour, mosquito and flies.</li> <li>Permanent installation.</li> </ul>	<ul style="list-style-type: none"> <li>Expensive to design.</li> <li>Uses a lot of water.</li> <li>Ground water pollution.</li> <li>Numerous skilled staffs required to install it</li> </ul>

Source: Alcock, P.G. 1999. *A Water Resources and Sanitation Systems Source Book*, Government Printers.

Table 5 presents examples of Sanitation Systems of Group 3. These type of Sanitation Systems need water and are regarded as off-site disposal.

Table 6. Group 4 of the Sanitation Systems

Advantages	Disadvantages
<p><b>a. Septic Tank system</b></p> <p>Convenience.</p>	<p>High cost. Reliable, ample water supply required.</p> <p>Only suitable for low- density housing.</p> <p>Regular desludging is required.</p> <p>Permeable soil is required.</p>
<p><b>b.Aqua- privies</b></p> <p>Convenience. Less expensive than a septic tank.</p>	<p>Water must be available nearby. More expensive than any latrine. Sufficient water must be added to maintain seal. Regular desludging required.</p> <p>Permeable soil required.</p>
<p><b>c. Biogas digesters</b></p> <p>Can be placed indoor.</p> <p>System is hygienic and free of odour, mosquitoes and flies.</p> <p>End product used as fertilizer. System is permanent installation</p>	<p>System cannot be upgraded. Some communities may have cultural or religious objections to the system.</p> <p>Colder parts or areas are not suitable for this system.</p>
<p><b>d. Solid free sewer</b></p> <p>Permanent installation. Can be upgraded.</p> <p>Hygienic and is free of odour, mosquitoes and flies. System can be placed inside the dwelling.</p> <p>Can be used in high density areas.</p>	<p>Expensive to install and operate. Possibility of surface and ground water contamination.</p>

Source: Alcock, P.G. 1999. *A Water Resources and Sanitation Systems Source Book*, Government Printers.

Table 6 presents examples of Sanitation Systems of Group 4. These types of Sanitation Systems need water, collection and transport to the off-site disposal.

The National Sanitation Policy (RSA, 1996: 33) states that some of the sanitation options illustrated in the above tables 2.3,4,5 and 6 do not meet the criteria of being considered adequate in South Africa. Traditional unimproved pits, except in rare cases, do not provide barriers against flies, besides their other defects, which are usually related to quality of construction. The bucket system, as commonly operated in South Africa, does not provide adequate sanitation. It is also socially unacceptable to most people. Buckets are to be phased out and replaced by an appropriate system, which does not pose risks to health. Portable chemical toilets are not encouraged, except in emergency situations, and then only for short periods, due to the high running costs involved.

### 2.9.3. Adequate Improved Level of Sanitation Systems

The following technology options are regarded as adequate level of sanitation, if they are properly designed, built and maintained. They meet the basic functional, health and environmental requirements in a process of gradual improvement of health and standard of living of people (RSA, 1996:34). Table 7, in the next page, illustrates the hierarchy of adequate sanitation options that are considered to be adequate in South Africa.



Table 7 Hierarchy of adequate improved sanitation technologies/ systems considered in South Africa

System	Degree of complexity	Approximate water (1/flush)
VIP	Simple, but needs proper design and construction; periodic desludging or relocation.	Nil
LOFLOS	Some types use mechanical flushing; soakaway or soakpit needs proper design; periodic desludging.	0,5 to 1
Septic tank	Soakaway needs proper design and construction; periodic desludging.	6 to 15
Solids-free sewerage	Needs reticulation and treatment works, periodic desludging.	3 to 15
Conventional sewerage	Needs reticulation and treatment works.	6 to 15

Source: *Department of Water Affairs and Forestry, 1999: National Sanitation Policy, Government Printers.*

#### 2.9.4. Factors influencing Sanitation options

Eade and Williams (1995: 708) indicate that the technical feasibility of a particular sanitation system depends on many factors, of which the following are the most important:

- Affordability

The choice of sanitation system will depend on the affordability at household, local and national level.

- Institutional Needs

The more complex systems may require substantial community-level organization and institutional support both for delivering and for operation and maintenance.

- Environmental Impact

All sanitation facilities should be designed to reduce the environmental impact of unmanaged human waste disposal. Environment Impact Assessment should be done before considering and selecting a sanitation option.

- Social issues

Social and cultural practices and preferences vary considerably from area to area. These will affect the range of options acceptable to consumers, and must be catered for, so that facilities are used effectively and, health benefits are gained by users and the community as a whole.

- Water supply service level

In areas where water supplies are limited or unreliable, water-dependent sanitation systems should be discouraged.

- Reliability

Households with least to spend on sanitation should be supplied with reliable technology.

- Upgrading

Existing sanitation facilities should be upgraded e.g. VIP to septic tank. Designs should be done accordingly, within today's cost constraints.

- Site-specific issues

The geology, hydrology and topography of an area may influence the choice of technology e.g. soil conditions, etc.

- Use of local resources

Local availability of materials and skills has an important bearing on the choice of technology or construction method. The design of facilities should maximize the use of these resources, in order to stimulate local economic activity and create jobs in keeping with the aims of the Reconstruction and Development Programme (RDP).

- Settlement patterns

The density and layout of a settlement are important factors in selecting sanitation technology. Sewer systems can be considered in denser areas while in larger plots on-site system can be installed.

#### 2.9.5. Issues Affecting the Choice of Sanitation Systems in Urban and Rural areas

There are various issues, which need to be considered when providing sanitation systems in both urban and rural areas (RSA, 2002: 12). Some of these issues are:

#### a. Urban Areas

Existing sewerage infrastructures, high density of housing and full water reticulation systems may, in some cases, alter the economic ranking of the various options. With better water supplies and the possible existence of trunk sewers, the call for higher levels of sanitation is often heard. While construction costs may be met, it must always be asked whether the community is able and willing to pay the on-going operation and maintenance costs of such systems. In some urban situations, people already have sanitation infrastructure that they cannot afford to run and maintain. In these cases, the local authorities will need to consider cross-subsidisation or other means of funding on-going costs. The costs of emptying pits and tanks and disposing of the contents must be included in affordability calculations, along side the costs of conventional sewage disposal.

#### b. Rural areas

Due to the low density of housing in most rural areas, conventional water dependent sewerage will usually not be feasible, mainly for economic reasons. Individual households wishing to have water systems will normally be able to construct septic tanks and soak-aways themselves. The septic needs of farm-workers on private farms will need to be addressed with modified strategies.

### 2.10. Barriers to Progress in Sanitation

The barriers to the progress in providing sanitation outlined by the United Nations Children's Fund (UNICEF) include: lack of political will, low prestige and recognition, weak institutional framework, inadequate and poorly used resources, inappropriate approaches, low demands from households, ineffective promotion, and low public awareness.

## 2.11. Roles and Responsibilities in Achieving Better Sanitation

Better sanitation can be achieved through acknowledging the range of factors which promote sound management and improved health and hygienic awareness, and which enable end-users to make informed choices around their options for optimizing good household sanitation.

The improvement of sanitation is everybody's business (RSA, 2002: 14). Role-players include communities and households (first and foremost), community-based contractors, local, provincial and national government, the private sector and NGO's.

### 2.11.1. Constitutional Responsibilities

The key basis for all legislation is the national constitution of the country, which is the supreme law upon which all laws are based. In terms of local government affairs, the constitution recognizes it as a distinctive sphere of government and mandates local government to give priority to the basic needs of the community, and to promote the social and economic development of the community, and participate in national and provincial development programs (Lovan, *et al*; 2005:28).

Sisk (2001:6) maintains that service delivery is a core function of the municipalities, especially those services that require local-coordination, networks, infrastructure, or planning. Local authorities share responsibility with individual household for achieving better sanitation. Therefore, municipalities must provide access to basic services, including sanitation. National and provincial Governments must support municipalities with legislation and other measures.

### 2.11.2. Households and Communities

Good sanitation begins in the home. Household and communities are responsible and foremost for their own health, a clean environment and improved sanitation (RSA, 2002: 10). Wrong hygiene practices can jeopardize their own health and the health of the communities and the nation. The following steps can be taken to improve hygiene practices:

- Washing hands after using the toilet, before handling food and after changing babies' nappies.
- Spreading the message of good hygiene and the importance of sanitation.
- Reporting faulty sanitation systems and sanitation risks to the environment to local government.
- Ensuring that toilet facilities are always clean and in good working order.

Communities and community-based organizations should alert government of sanitation related needs. They should also assist local government in planning, implementing, monitoring and evaluating sanitation progress. Household toilets are a household responsibility. Local government should support community members to achieve a cleaner and healthier living environment through community-based projects whereby local builders are trained to build safe and hygienic toilet facilities. It should provide information to assist households and builders to build safe, sturdy and attractive toilets. The essential materials should be subsidized as to ensure that the toilet facility is hygienic, safe and accessible.

### 2.11.3. Different Levels of Governments

The National Sanitation Policy (RSA, 2002: 44) shows that provision of sanitation is also the responsibility of the three levels of government: local, provincial and national.

#### a. Local Government

Local government responsibilities in respect of sanitation include: Provision of communal infrastructure (planning, programming, and financing), operation and maintenance of infrastructure, communication with consumers (agreeing standards, setting tariffs, collecting revenues), maintenance of public health (health education, pollution prevention and control), promotion of development (facilitating community involvement), provision of technical assistance for upgrading on-site systems, facilitating the establishment of and capacity building of local water and sanitation committees (in rural areas),

co-operation with other to pool experience and generate consistent approaches, and reporting to provincial government.

#### b. Provincial Government Level Responsibilities

In respect of sanitation, provincial government responsibilities include: provision of technical assistance to local authorities (engineering advice, capacity building, training), distribution of housing subsidies, environment management, co-ordination of regional planning, mobilization and co-ordination of regional training capacity, promotion of integrated development, inter-departmental co-ordination, allocation of provincial funding, monitoring progress of sanitation programme, and related activities of local government.

#### c. National Government Level Responsibilities

The national government responsibilities include: co-ordination of all activities, development of policy and strategy, setting basic minimum standards and levels of service, changes to regulatory framework, allocation of national funds (funding criteria), development of a framework for grants, loans and technical assistance, preparations of guidelines, promotion and advocacy of sanitation improvements (support programmes), monitoring and evaluation.

#### d. Other Role Players

The improvement of sanitation is not the responsibility of government only, but other stakeholders have vital role to play.

#### e. The Private Sector

Government cannot address the sanitation backlog alone. The private sector, especially businesses, can manufacture and install sanitation systems, partner with municipalities in service provision and funding of projects.

#### f. Non Government Organisations(NGO's)

The Non-Government Organisations can help with hygiene awareness programmes, facilitate community participation, develop community-based construction teams and implement and monitor projects.

#### 2.11.4. Key Government Departments

In South Africa the following departments need to play a vital role in the provision of sanitation (RSA, 2001: 12):

##### a Department of Water Affairs and Forestry (DWAF)

Department of Water Affairs and Forestry (DWAF) is the custodian of the nation's water and the lead department in the sanitation sector. In partnership with other national role players DWAF develop standards, support provinces and municipalities in developing sanitation services, monitor outcomes, build capacity, provide financial support, undertake pilot projects in low cost sanitation and make sure that sanitation is implemented in a co-ordinated manner. It also supports local government in developing Water Services Development Plans, which is a component of the Integrated Development Plans.

##### b. Department of Provincial and Local Government

The Department of Provincial and Local Government take responsibility for promoting the Integrated Development Plans of municipalities, ensuring that provincial and local governments have sufficient capacity, providing Equitable and municipal infrastructure grants and monitoring.



c. Department of Health

The Department of Health co-ordinate information on public health, create a demand for sanitation through hygiene awareness programmes, prepare health norms for sanitation, support municipalities, provide training materials and educate communities on hygiene.

d. Department of National Treasury

National Treasury supports local governments in planning and managing their funding. The department allocates funds to the municipalities through conditional and municipal infrastructure grants for service delivery.

e. Department of National Housing

National Housing develops standards for housing development (the minimum level for sanitation is a Ventilated improved Pit Latrine (VIP) per household unless soil conditions dictate otherwise<sup>0</sup>). It also co-ordinates the housing subsidy administered by the provincial housing departments.

f. Department of Education

National Department of Education is responsible for developing curricula and standards, ensuring funding, information and capacity building. The Provincial Departments are responsible for the improvement of school infrastructure, including sanitation, and for implementing the Health Promoting Schools Programme to create safe and healthy schools.

g. Department of Public Works

Department of Public Works acts as the implementing agent on behalf of national and provincial government when schools and clinics are constructed. This department has a responsibility to ensure that adequate sanitation is installed in government and public buildings. The department is also responsible for implementing the community-based public works programme.

h. Department of Environmental Affairs and Tourism

Department of Environmental Affairs and Tourism is responsible for protecting the environment and will develop standards relating to the impact of sanitation on the environment and for monitoring impacts and compliance with environmental management procedures.

2.12. Principles that Guide the Provision of Sanitation

Provision of sanitation is vital in rich and poor communities, in rural and urban areas, and whether sanitation is for individual households or provided as a system for an entire community. The White Paper on Basic Household Sanitation (RSA, 2001: 13) points the principles that guide the provision of sanitation as:

a. Development Should be Demand-Driven and Community Based

Household sanitation is, first and foremost, a household responsibility and is demand-driven. Sanitation must respond to the demands of communities, and should link to improved hygiene awareness. For people to benefit from sanitation improvements, everybody must understand the link between their own health, good hygiene and toilet facilities.

b. Basic Services are a Human Right

In fulfillment of its obligation, government must create an enabling environment through which all people can access services and support in obtaining those services, but in the end it is the individuals who are responsible. Citizens have rights, but also responsibilities in taking charge of their own health.

c. "Some for All" Principle Rather than "All for Some"

The use of scarce public funds must be confined to assisting those who are unable to attain a basic level of service. Individual householders are ultimately responsible, although communities may require a degree of conformity to achieve the "healthy environment" envisaged in the Constitution. A careful balance needs to be achieved between what is affordable to households, communities and the national economy. Therefore, scarce public funds must be prioritized to help those most at risk.

d. Equitable Regional Allocation of Development Resources

The limited national resources available to support the provision of basic services should be equitably distributed throughout the country, according to population and level of development.

e. Water Has an Economic Value

The way in which sanitation services are provided must take into account the growing scarcity of good quality water. The value of these services must be reflected in such a way that it does not undermine long term sustainability and economic growth. The pollution of water has an economic cost.

f. The User Pays

Sanitation systems must be sustainable. This means they must be affordable to the service provider, and payment by the user is essential to ensure this. Similarly, polluters must pay for the cost of cleaning up the impact of their pollution on the environment.

g. Integrated Development

Sanitation development is not possible in isolation from other sectors. Sanitation must be provided in conjunction with water supply and other municipal services. Co-ordination is necessary between the different departments, all tiers of government and other stakeholders.

h. Environmental Integrity

The environment must be considered in all development activities. Appropriate protection of the environment must be applied, including if necessary, prosecution under the law. Sanitation services, which have unacceptable impacts on the environment, cannot be considered to be adequate.

i. Sanitation is About Health

Sanitation is more than just toilets, it must be accompanied by environmental and health education. The aim is to encourage and assist people to improve their health and quality of life.

j. Sanitation is a Community Responsibility

Improvements in health through improved sanitation are most likely to be achieved when the majority of households in a community are involved. Sanitation is therefore a community responsibility, and this must be emphasized through sanitation awareness programmes.

2.13. Provision of Sanitation in the Limpopo Province

The Limpopo Province comprised of six district municipalities which include: Capricorn, Waterberg, Vhembe, Mopani, Sekhukhune and Bohlabela. As one of the country's poorest and least developed province, both in terms and with respect to its population's access to safe water and sanitation services, the Limpopo Province is among the first to undertake a major sanitation development initiative called The Limpopo Draft District Sanitation Strategy (RSA, 1998: 3)

Figure 2. Municipalities of Limpopo Province



Source: Department of Provincial and Local Government: Local Government Review- 2003/2004.

### 2.13.1. Sanitation Needs in the Province

Indications from various sources reviewed initially that most households in the Limpopo Province have access to some form of sanitation in the way of constructed latrines. The Urban Sanitation Evaluation Report (WRC, 1993: 14) estimated a 72% use of unimproved pit latrines in the Province. This was confirmed in the research outcomes, where up to 90% of rural community dwellers in the researched communities had access to pit latrines. This high level of coverage by unimproved pit latrines had been due to a decree of the tribal leadership. Residents were under threat of fines for non-compliance. Unfortunately the provision of latrines in this way did not result in improved health benefits of appropriate latrine usage. The barriers to health benefits were twofold: a lack of an adequate water supply which did not allow for sufficient water for hand-washing or for improved household hygiene, and children did not use the unimproved pit latrines for safety reasons.

### 2.13.2. Management Structures in the Province

As the underlying purpose of all sanitation activities is improved health, a multidisciplinary approach, which acknowledges the relationship of sanitation to water supply, hygiene and health education and to a range of socio-economic and cultural factors, is required. Initiatives and programmes that will build existing knowledge, experience, capacity and resources already available in the province must be applied to improve sanitation (RSA, 2000 :8). Management structures, which facilitate co-ordination between role players and sectors in order to optimize the allocation and impact of available resources and the development of a common approach, are required.

The following sanitation structures have been created in the Limpopo Province to achieve the above: The Provincial Sanitation Task Team (PSTT) is the main sanitation policy and strategy formulation and adoption body in the province. The PSTT is composed of decision makers from each relevant department at the provincial level, with representation from various other statutory and non-governmental bodies. The Regional Sanitation Task Teams (RSTT) are the main policy and strategy implementation and evaluation bodies in the province. These teams are composed of decision makers from each relevant department at the regional level, with representation from various other statutory and non-governmental bodies.

### 2.13.3.Sanitation Backlog in the Province

Poor sanitation practices that are an outcome of inadequate facilities combined with unhygienic behaviour and, frequently a lack of formal water supplies, compromise human health and often have a detrimental environmental impact as well. According to the Limpopo Regional Sanitation Coordinator's report, dated 29 September 2005 (RSA, 2005: 3), the household sanitation backlog was as follows:

Table 8. Updated household sanitation backlog figures

<b>DISTRICTS</b>	<b>POPULATION</b>	<b>PEOPLE TO BE SERVED</b>	<b>BACKLOG/TOILETS TO BE BUILT (AVERAGE FAMILY UNIT OF 7 MEMBERS)</b>
<b>WATERBERG</b>	668 984	409 585	58 512
<b>VHEMBE</b>	1 371 099	1 178 964	168 423
<b>CAPRICORN</b>	1 154 692	281 862	40 266
<b>BOHLABELA</b>	695 108	499 192	71 313
<b>SEKHUKHUNE</b>	1 136 261	1 090 187	155 741
<b>MOPANI</b>	1 097 895	891 205	127 315
<b>TOTAL</b>	6 124 039	4 350 995	621 570

Source: *Department of Water Affairs and Forestry; 29 September 2005, Government Printers.*

Based on the figures illustrated in table 8, it is clear that there is a huge backlog in providing sanitation to the people in the province. The province needs to speed up the provision of sanitation in order to meet the Millennium Development Goal Target (MDG) of providing access to sanitation to all people by the year 2015(RSA, 2000: 13). Provision of adequate sanitation has a significant role in improving the quality of life, human health, environmental health and the economy. Emphasis on personal hygiene, household hygiene and community hygiene can be effectively addressed when adequate sanitation is provided. The provision of sanitation is not the responsibility of the government only, but all stakeholders need to be involved in providing this basic need.



## CHAPTER 3

### Research Methodology

#### 3.1. Introduction

The fieldwork for this study was accomplished during the year 2005. It was conducted at Mthuzini settlement in the Bushbuckridge Local Municipality. The purpose of this chapter is to describe the methodology the researcher followed in the process of carrying out this study. The discussion includes: the research design, area of study, population, sampling methods, choice of instruments, pilot study and data collection procedures.

#### 3.2. Research design

Leedy and Omrod (2001:13) define a research design as the complete strategy of attack on the central research problem. It provides the overall structure for the procedure that the researcher follows, the data that the researcher collects, and the data analyses that the researcher conducts. Mcmillan and Schumacher (1993:9) refer to research method as a systematic and purposeful method of investigation. Quantitative and qualitative research designs have been used to investigate the problem identified for this study.

Quantitative research is used to answer questions about relationships among measured variable with the purpose of explaining, predicting, and controlling phenomena (Leedy & Omrod, 2001:103). Quantitative researchers seek explanations and predictions that will generalize to other persons and places. The intent is to establish, confirm, or validate relationships and to develop generalizations that contribute to theory. In this study data were categorised and analysed in terms of frequencies and percentages.

A qualitative research design was also used in this study. Leedy and Omrod (2001:101) indicate that qualitative research is typically used to answer questions about the complex nature of phenomena, often with the purpose of describing and understanding the phenomena from the participants' point of view. The qualitative researcher seeks a better understanding of complex situations.

For the purpose of this study, the researcher wanted to describe, explain, and explore the level of sanitation at Mthuzini settlement.

The study was also descriptive in nature. A descriptive study involves examination of a phenomenon to more fully define or to differentiate it from other phenomena. The purpose of descriptive research is to describe situations and events. In line with the aim and objectives of the study, the researcher wanted the respondents to describe the types of household sanitation facilities available at Mthuzini settlement.

The study was also exploratory in nature, the researcher aimed at exploring the level of understanding of the community of Mthuzini settlement in terms of their health and hygiene practices. Exploratory research is used for the following reasons: to satisfy the researcher's curiosity and desire for better understanding, to test the feasibility of understanding a more profound study and to develop the methods to be employed in a more profound and specific study.

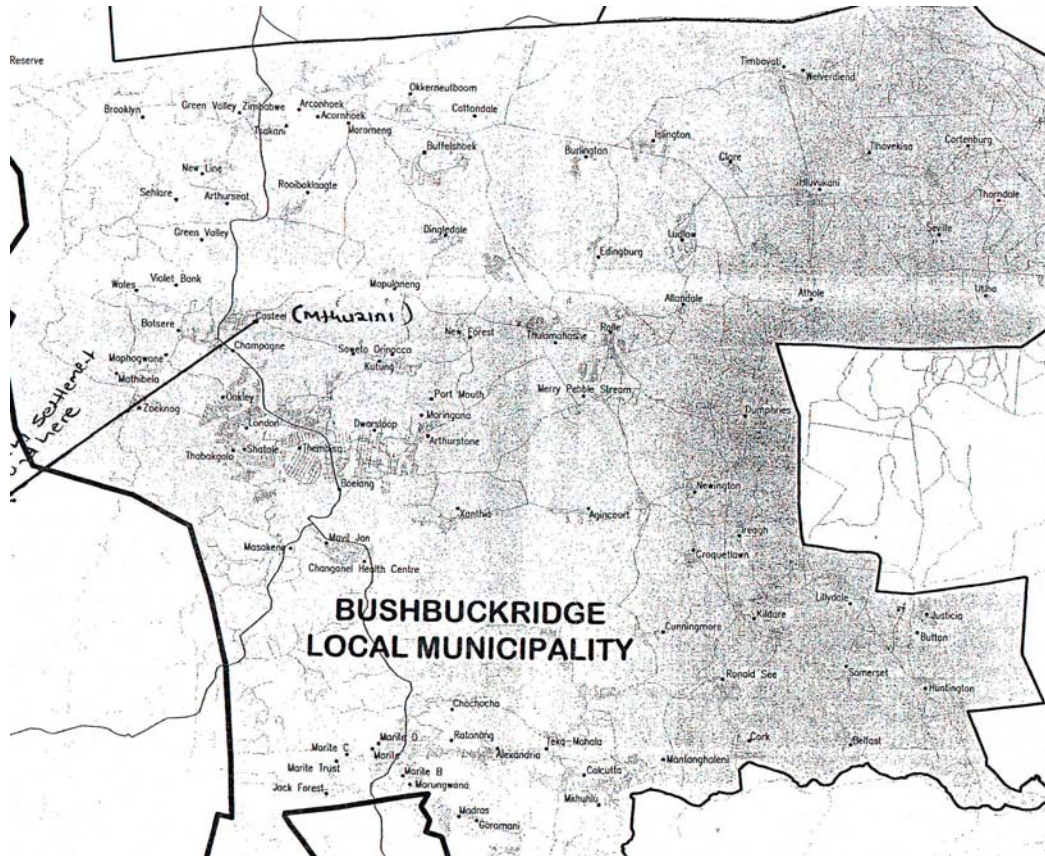
The study was also an action research. Action research is conducted in order to solve a social problem. In this study, the researcher wanted to assess the challenges facing the community in the Mthuzini Settlement with regard to sanitation, and to suggest corrective measures for addressing sanitation problem at Mthuzini settlement.

### 3.2. Area of study

The study was conducted at Mthuzini settlement in the Bushbuckridge local Municipality, which forms part of Bohlabela District Municipality in the Limpopo Province. The Mthuzini Settlement was established in 1999 through the Reconstruction and Development Programme (RDP). The area at which this study was in is ward 6, situated next to Casteel MPCC (Multi-Purpose Community Centre) along the R40 road from Bushbuckridge to Acornhoek. There are 200 houses (units) in the Mthuzini Settlement. Since the settlement was established in 1999, the houses are without adequate sanitation facilities. Some houses have toilets without ventilation pipes, while others have no toilets at all. Because of inadequate sanitation facilities, the community is exposed to health hazards.

Thus, the people of Mthuzini settlement resort to using the bush as a sanitation facility. In this way, the residences are exposed to dangerous situations, especially women and children. Defacating in the bush also has a negative impact on people's privacy and dignity. It was also imperative to investigate the provision of sanitation services at Mthuzini and suggest corrective measures in upgrading the existing sanitation facilities, in order to ensure that proper sanitation facilities are provided in a sustainable manner.

Figure 3 Map of the study area



Source: Development Bank of South Africa: *Basic Cadastral & Land Use Maps*

### 3.3. Population

The population is the set of people or entities to which findings are to be generalized. To define the population, the researcher specifies the unit being sampled, the geographical location, and the temporal boundaries of population (Neuman, 2000 :201). The unit of analysis in this study was the households and the ward councillor representing the community of Mthuzini Settlement in the Bushbuckridge Local Municipality. In the area under study, there are two hundred (200) households. The Mthuzini Settlement is a new settlement which was established in 1999 through the Reconstruction and Development Programme(RDP). Data was collected from the households and the ward councillor.

### 3.4. Sampling methods

A sample comprises the elements of the population considered for actual inclusion in the study (De Vos, 2002: 199). The researcher studies sample respondents in an effort to understand the population from which it was drawn. Le Compte and Preissle (1993:65) reveal that a sample involves defining what kind of people and how many of them can be studied as well as when, where and under which circumstances they will be studied.

A probability sampling technique was employed in this study. Probability sampling is one, in which each person in the population has known probability of being selected. The selection of respondents from the population was based on the same form of random procedure. A list of house numbers of the households was obtained from the Bushbuckridge Local Municipality where the researcher drew a simple random sample of 50 households. The simple random sampling was chosen because the sampling frame was small, consisting of 200 households. Fifty (50) households were sampled from the two hundred (200) households. Respondents comprised of one ward councillor and members from each of the fifty (50) households sampled from the 200 households. The sampled respondents were above the age of 18 years. The selection was based on the fact that they were matured and would provide responsible answers.

The researcher is a resident of Bushbuckridge Local Municipality, and is aware of the poor sanitation systems available in the communities. These factors together with the researcher's own experience prompted the choice of study in this area.

### 3.5. Choice of instruments

The study employed both quantitative and qualitative research designs. Both the two approaches were selected because the study required statistical information, views, opinions and understanding of respondents with regards to the level of sanitation at Mthuzini Settlement. Two data collection techniques were used to collect data. Data were collected by means of a questionnaire and an interview.

De Vos (2002:172) defines a questionnaire as a set of questions on a form which is completed by the respondent in respect of a research project. A self-constructed questionnaire was administered which tapped biographical information of the respondents, structure of the households, access to sanitation facilities, knowledge, attitudes, experiences about sanitation, and views concerning the provision of sanitation. For the purpose of this study, a hand-delivered questionnaire was employed. The respondents completed the questionnaires at their own time. Questionnaires were collected after 2 days (48 hours).

The second method of data gathering employed for this study is the interview. A structured interview was conducted with the ward councilor. Questions were tapped in the following: biographical information of the respondent, understanding of service delivery, access to housing and sanitation, and sanitation provision by the municipality.

### 3.6. Pilot study

Bless and Higson-Smith (2000:155) define "pilot study" as a small study conducted prior to a larger piece of research to determine whether the methodology, sampling, instruments and analysis are adequate and appropriate. Five households were selected as part of the pilot survey. The aim was to test reliability, validity and feasibility of the research methodology.

The results of the pilot study indicated that the respondents understood the questionnaires. The respondents were included in the main study as part the fifty (50) sampled households.

### 3.7. Data collection procedures

The researcher requested permission from the ward councillor to collect data from the households of Mthuzini Settlement. Eventually, the researcher was able to secure appointments with the respondents to fill the questionnaire at their convenient time. The questionnaires were collected after 2 days. Explanation and clarity was provided to the respondents as to why the study was being conducted. Data from the ward councillor was collected through an interview. Data collected from the households and the ward councillor constituted primary data. Secondary data included information collected from policy documents, White papers, Acts, library books, journals, articles, electronic sources and reports from government departments.

The research used both qualitative and quantitative research designs. The study was completed on the basis of data collected from primary and secondary sources. The researcher compiled a questionnaire for the households in the Mthuzini Settlement, and an interview schedule was used to collect data from the ward councillor. The researcher used a simple random sampling technique to sample the respondents. The findings are discussed in the next chapter.

## CHAPTER 4

### Research Findings

#### 4.1. Introduction

In this chapter research findings will be discussed. Data was categorized and coded. The findings are interpreted and data explained with the help of tables, frequencies and statistical information.

#### 4.2. Biographical Profile of the Respondents

The category on biographical profile of the respondents had four variables. They are: age, gender, education, and source of income. The data are presented in the three (3) tables below.

Table 9 Age details of the respondents

Variable	Frequency	Percentage
Ages		
18 – 27	10	20
28 – 37	22	44
38 – 47	09	18
48 – 57	06	12
58 - 67	03	6
TOTAL	50	100

The study required sampled respondents from each household to be over the age of 18 years. The selection was based on the fact that they were matured and they would provide responsible responses. The above table indicates that the majority of the respondents in the sample i.e. 44% (22) were in the age group of 28 – 37 years, followed by 20% (10) of the age group of 18 – 27 years. The third age group of 38 – 47 years constituted 18% (9) of the sampled respondents. The fourth age group of 48 – 57 years constituted 12% (6) of the sampled respondents. There were few cases 6% (3) where the sampled respondents were between the age group of 58 – 67 years.



Traditionally females play key roles in terms of sanitation, as they execute most of the household chores such as the preparation of food, collection of water, changing of children's nappies, etc. It is evident from the research findings that this study had more female respondents than the male respondents. Females made up 76% (38) of the sampled respondents while their male counterparts constituted 24% (12).

Table 10. Educational levels of the respondents

Variable	Frequency	Percentage
Education		
No	10	20
Primary	10	20
Secondary	25	50
Tertiary	05	10
TOTAL	50	100

The level of education that a person has, determines the level understanding about developmental issues especially, provision of sanitation in the household or the community. The research findings indicated that 20% (10) of the respondents had no formal education, while another 20% (10) had primary education. Those with secondary education comprised 50% (25) of the sampled respondents. There were few cases 10 % (5) where the respondents had tertiary education.

Table 11. Source of income of the respondents

Variable	Frequency	Percentage
Source of income		
Employed	09	18
Self – employed	02	4
Pensioner	05	10
Social Grants	07	14
Unemployed/ no income	27	54
TOTAL	50	100

Provision of sanitation and the type of the facility is determined by the affordability and ability of the households to pay for such services. People may want sanitation very badly, yet be powerless to express that desire in financial terms (UNICEF, 2000: 17). They may want excreta management facilities but not at the prevailing price. It is evident from these findings that only 18% (9) of the sampled respondents were employed. Four percent of the respondents were self - employed. Pensioners made up 10% (5) of the respondents. Fourteen percent of the sampled respondents indicated that they depend on social grants. Fifty-four percent of the sampled respondents indicated that they were unemployed or had no source of income. Based on these research findings it indicates that the community is poor, hence they cannot afford to build they own latrines. In such cases they qualify for the free basic sanitation programme initiated by the Department of Water Affairs and Forestry (RSA, 2003: 12).

#### 4.3. Structure of the Households

The second category of data in this study is the structure of the households which had nine (9) variables, namely: period of occupation, head of the household, size of the family, number of extended family members, number of females in the household, number of males in the household, elderly family members, income earners in the household and number of children below 10 years living in the household.

Table 12. Period of occupying the house

Variable	Frequency	Percentage
Year occupied		
1999	14	28
2000	08	16
2001	06	12
2002	05	10
2003	11	22
2004	02	4
2005	04	8
TOTAL	50	100

As has been mentioned earlier the settlement was established in 1999 through the Reconstruction Development Programme (RDP). The RDP is committed to establishing housing, which has a reasonable living space and privacy. According to the RDP housing standards, a house must include sanitary facilities, storm water drainage, etc. (ANC,1994: 14). The research findings in this study indicated that 28% (14) respondents occupied the houses during the year 1999. Sixteen percent of the respondents occupied the houses in 2000. Twelve percent of the respondents occupied the houses in 2001. Ten percent of the respondents indicated that they occupied the houses in 2002. Twenty-two percent of the respondents indicated they occupied the houses in 2003. Four percent of the respondents indicated they occupied the houses in 2004. The last group of 8% (4) indicated they occupied the houses in 2005. Based on the research findings it is clear that people have stayed for more than five (5) years without adequate sanitation facilities in their houses. According to Higgins & Krieger (2002: 4) indicate that features of substandard housing, including lack of safe drinking water and ineffective wastes disposal contribute to the spread of infectious diseases.

Table 13. Heads of the households

Variable	Frequency	Percentage
Head of the household		
Father	17	34
Mother	29	58
Grandmother	03	6
Sister	01	2
TOTAL	50	100

Female headship (mothers) has been observed to increase in most of sub-Saharan Africa, a phenomenon that has linked to increase in feminisation and poverty (Preston, *et.al*; 2000: 19). The research findings indicated 58% (29) of the respondents stated that their households were headed by mothers. While 34% (17) indicated that fathers were heads of the households. The number of respondents who indicated that grandmothers headed households was 6% (3). There were a few cases where 2%(1) of the sampled respondents indicated that sister was the head of the household.

Household size is closely linked to socioeconomic status of households and their prospects in life (Weeks, 2005: 19). The size of the household has an impact on the use of the sanitation facility. Crowding is associated with transmission of tuberculosis and respiratory infections. In this study it was found that 94% (47) of the respondents indicated that the size of their families were between 1 and 5 individuals, and 6% (3) indicated that the size of their families were between 6 and 10 individuals. It is evident that most of the respondents had the family size of between 1 and 5 individuals. According to the Department of Water Affairs and Forestry (RSA, 2005: 2) points out that one toilet facility caters for the average family unit of 7(seven) members.

Extended family consists of the head, his or her spouse, their children and other relatives (Hirschowitz, 2000: 9). The respondents were asked to indicate if they were staying with extended family members. The availability of extended family members increases the size of the household, which also has an impact on the household sanitation facility. It was reported that 38% (19) of the sampled respondents had extended family members of between 1 and 5 individuals.

Only about 4% (2) of the respondents had family members of between 6 and 10 individuals, this is a low percentage considering that extended family structure has been reported to be the predominant structure in Africa as a whole (Goody, 1999: 6), and South Africa in particular (Steyn & Rip, 1989: 10). The rest of 58% (29) of the respondents were not staying with extended family members.

Gender influences the sanitation needs of the different family members in a household. According to the World Health Organisation (2000: 1), sanitation needs for female family members are not necessary the same with that of the male family members. The research findings also indicated that 86% (43) of the respondents are staying with female family members of between 1 and 5 individuals. The 4% (2) of the respondents indicated that they were staying with female family members of between 6 and 10 individuals. It was found that 78% (39) of the respondents had male family members staying in the same households of between 1 and 5 individuals. While 22% (11) of the respondents indicated that they were not staying with any male family members in their households.

Inadequate sanitation facilities have a negative impact on the elderly people as they cannot afford to walk long distances to access toilet facility in the bush. Respondents were asked if they were staying with elderly family members of above 65 years. The research findings indicated that 16% (8) of the respondents were staying with elderly family members in their households, while 84% (42) of the respondents indicated that they were not staying with any elderly family members.

The study enquired if there were income earners in the household. The income of all household members influences the type of sanitation facility that a household is willing to use. The research findings in this study indicated that 44% (22) of the respondents had family members who earned an income in their households. While 56% (28) of the respondents indicated that there was nobody receiving any form of income in their households. It is evident that the community of Mthuzini settlement has a high unemployment rate compared with that of the country, which is 26% (STATS, 2003: 7)

Inadequate sanitation and poor hygiene habits have a negative impact on children as noted in Chapter 2. According to School Sanitation and hygiene Education Programme (UNICEF, 2000: 14) indicates that children are the most vulnerable to health hazards caused by inadequate sanitation facilities. The promotion of sanitation facilities and behaviours can dramatically positively affect the number of deaths from diarrheal diseases in children (World Bank Group: 2003: 13). Fifty percent (25) of the respondents indicated that they had children below the age of 10 years in their households.

#### 4.4. Access to Sanitation Facilities

The third classification of data in this study was categorized as access to sanitation facilities. This category had seven variables, namely, the availability of latrine, reasons for not having a latrine, who built the latrine, where the latrine is situated, the type of latrine, how long a person takes to reach the toilet facility, and the time of the day a person visits the toilet facility.

Household toilet facility is an important aspect of household health status (Hosegood, et.al, 2003: 4). The research findings indicated that only 6% (3) of the sampled respondents had latrines. Most striking is that 94% (47) of the sampled respondents had no latrines at all. Seventy percent of the sampled respondents not owning a latrine indicated that did not have money or building materials to erect their own latrines. The thirty percent of the other respondents indicated that the Government did not provide latrines in their households. Those who had latrines indicated that they had built the facility in their yard through their own initiative. The findings further indicated that 6% (3) of the sampled respondents had ordinary pit latrines. The rest of the 94% (47) of the sampled respondents used the bush as their toilet facility.

Table 14. How long does it take to reach the toilet facility?

Variable	Frequency	Percentage
How long does it take to reach the toilet facility?		
1 – 10 minutes	06	12
11 – 30 minutes	08	16
31 – 60 minutes	04	8
60 >	03	6
Cannot estimate	29	58
TOTAL	50	100

Inadequate sanitation facilities lead to inconveniences as lot of time is wasted on trips to reach a toilet facility such as the bush. It is evident from the study that 12% (6) of the respondents indicated that it took them 1 – 10 minutes to reach the toilet facility. Sixteen percent of the respondents said it took them 11 – 30 minutes to reach the toilet facility. Another 8% (4) of the respondents took 31 – 60 minutes to reach the toilet facility. Six percent of the respondents said it took them more than 60 minutes to reach the toilet facility. The rest of the respondents 58% (29), cannot estimate the time it took them to reach the toilet facility.

Table 15 Time of the day to visit toilet facility

Variable	Frequency	Percentage
Time of the day to visit the toilet facility		
Morning	41	82
Afternoon	04	8
Evening	01	2
Night	04	8
TOTAL	50	100

Weeks (2005: 42) indicates that delaying a visit to a toilet can strain a person's heart and the full bladder increases heart diseases. The findings of this study indicated that 82 % (41) of the respondents visit the toilet facility in the morning, while 8% (4) of the respondents visit the toilet facility in the afternoon, and 2% (1) use the toilet facility during in the evening. Eight percent indicated that they visit the toilet facility during the night.

#### 4.5. Sanitation Practices

The fourth category of data in this study was categorized as sanitation practices. This category had four variables, namely; source of water for the households, washing of hands after visiting the toilet facility, what is used to wash the hands, and disposal of children's stools.

Parallel to toilet facility as an important aspect of household health status, is a source of drinking water. Unsafe sources of water can lead to waterborne diseases; including diarrhea and dysentery. This study found that 28% (14) of the respondents had yard connection tap where they drew water. The rest of the 72 % (36) of the respondents relied on the water from the river, which could expose them to water- borne diseases. It is evident from this study that 86 % (43) of the respondents as indicated by their responses had good hygiene practices. They also indicated that they washed their hands after visiting the toilet facility. The other 14 %(7) of the respondents indicated that they did not wash their hands after visiting the toilet facility. The washing of hands with soap was reported by the 34% (17) of the sampled respondents. The majority of the 66 % (33) of the respondents indicated that they used only water to wash their hands.

Table 16. Disposal of children's stools

Variable	Frequency	Percentage
Disposal of children's stools		
Throw in the toilet	03	6
Throw in hole	14	28
Throw in hole and cover	31	62
Left alone	02	4
TOTAL	50	100

Human waste, especially children's stools needed to be disposed in a safe way. Unsafe disposal of excreta causes smell, flies and contamination of ground water (WHO, 2000: 18). The research findings indicated that 6% (3) of the respondents dispose children's stool by throwing it in the toilet. Twenty-eight percent of the respondents indicated that they throw children's stools in holes.



The highest percentage of the respondents with 62% (31) indicated that they throw children’s stools in holes and cover it in order to prevent flies and odour. The other 4% (2) of the respondents indicated that children’s stools are not disposed off. This is obviously not a good sanitation practice.

#### 4.6. Knowledge, attitudes and experiences about sanitation.

The fifth category of data in this study was categorized as knowledge, attitudes and experiences about sanitation. This category had four variables: washing of hands before handling food, any family members who had suffered from water- borne diseases, causes of water – borne diseases and prevention of water –borne diseases.

Washing of hands before handling food is one of the first steps of personal hygiene practices. The respondents who answered yes to washing of hands before handling food had the highest percentage, which is 84% (42). Those respondents who indicated “no” to washing of hands before handling food had the lowest percentage, 16% (8). This indicates clearly that health education needs to be instilled into them as part of health promotion.

Table 17. Any family members suffered from water – borne diseases

Variable	Frequency	Percentage
Family member suffered from water – borne diseases.		
Cholera	03	6%
Bilharzias	03	6%
Diarrhoea	44	88%
TOTAL	50	100%

When the respondents were asked whether any of their family members had suffered from any water – borne diseases, 6% (3) indicated that their members once suffered from cholera. The other 6% (3) of the respondents indicated that their family members once suffered from bilharzias.

The highest percentage of the respondents 88% (44) indicated that their family members once suffered from diarrhea.

From the research findings, 76% (38) of the respondents indicated that water-borne diseases caused by drinking polluted water. Twenty-four percent of the respondents did not give any answer to the question on what causes water – borne diseases.

Table 18 Prevention of water – borne diseases

Variable	Frequency	Percentage
Prevention of water – borne diseases.		
Boil water	17	34
Have adequate sanitation facilities	17	34
Consult doctor.	08	16
Do not know	08	16
TOTAL	50	100

The above table indicates that 34% (17) of the respondents said boiling water was one method of preventing water – borne diseases. The other 34% (17) of the respondents said that water – borne diseases could be prevented if there are adequate sanitation facilities. There were 16% (8) of the respondents who said that water – borne diseases could be prevented when a person consult a doctor. The other 16 % (8) of the respondents did not give any answer to the question on how to prevent water – borne diseases. It is a clear indication that health education as part of health should be inculcated to the respondents who indicated that they did know how to prevent water- borne diseases.

#### 4.7. Views on Provision of Sanitation

The sixth category of data was categorized as views on provision of sanitation. This category consisted of five variables, namely, satisfaction about the available sanitation facilities; reasons for not being satisfied; what to be done to improve sanitation facility; who is responsible to provide sanitation facility, and how to ensure there are adequate sanitation facilities in the households.

It is evident from the findings that all the 50 sampled respondents were not satisfied about the available sanitation facilities that were currently in use in their households.

Table 19. Reasons for not being satisfied

Variable	Frequency	Percentage
Reasons for not being satisfied		
Unhealthy toilet facility	28	56
Do not have toilets	19	38
Use the bush	03	6
TOTAL	50	100

Unhealthy toilet facility was the reason given by 56% (28) of the respondents as the one making them not to be satisfied about the available sanitation facilities in their households. The other 38% (19) of the respondents indicated that they were not satisfied because they do not have toilets. Only 6 % (3) gave the reasons that they were not satisfied because they were using the bush as their sanitation facility.

Most respondents (64%) reported that they should build safe toilets for themselves in order to improve the situation, while 36% of the respondents indicated that the Government/Municipality should provide them with sanitation facilities. In response to the question on who is responsible for provision of sanitation facilities, 62% (31) of the respondents reported that it was the responsibility of the households to provide sanitation facilities.

The other 38% (19) of the respondents indicated that the government was the one responsible for the provision of sanitation facilities. In ensuring that there is improved sanitation in the households, 48% (24) of the respondents indicated that each household should ensure that there were improved sanitation facilities. The rest of the respondents 52% (26) indicated the Government should ensure that there are improved sanitation facilities in the households.

#### 4.8. Response from the Ward Councillor

Data were also gathered from the ward councilor responsible for development in the Mthuzini settlement. An interview was conducted on the 12<sup>th</sup> November, 2005. Data was categorized into three categories: understanding about service delivery, access to housing and sanitation, and sanitation provision by the Municipality. Analysed data that was transcribed, is presented below.

##### 4.8.1. Understanding of Service Delivery

It was indicated that the local municipality had adopted an Integrated Development Plan (IDP), to guide them in the provision of services to their constituencies. An IDP is a tool that a municipality uses to achieve quality service delivery to its communities. It was reported that provision of water and community services such as halls and libraries were insufficient. It was noted that the municipality, through the help of ESKOM (Electricity Supply Commission), was doing better in terms of providing electricity for the communities. It was also trying to improve in the provision of refuse removal. The findings of this study indicated a huge backlog in terms of sanitation provision to the entire communities within the local municipality. People are still infected with water –borne diseases that are result of inadequate sanitation.

The respondent mentioned two major problems that hamper service delivery in the municipality. The first problem is that the local municipality has inadequate revenue base, relying on conditional and municipal infrastructure grants as its source of income. The Municipality is one of the nodal points declared as poor, and therefore, it cannot generate its own sufficient revenue to speed up service delivery.

The second problem mentioned was the bureaucracy in the tendering or procurement systems, the process is so tiresome it results in the delay of service delivery.

Capacity development is needed at the professional and decision- making levels to promote new approaches to the provision of effective sanitation services (UN, 2004: 14). Responding to the question on whether the local municipality does have capacity in the provision of sanitation, he mentioned that he had no clear answer because the District Municipality is a Water Service Authority (WSA), and its functions are to provide potable water and sanitation. Considering the reasons given above, the respondent indicated that it is difficult to give a clear answer of whether the local municipality has the capacity to provide sanitation or not.

#### 4.8.2. Access to Housing and Sanitation

According to Higgins & Krieger (2002: 15), housing is an important determinant of health, and substandard is a major public health issue. The respondent indicated that the municipality, through the Department of Local Government and Housing provide houses to the needy communities. The community in his ward, including Mthuzini Settlement, had been allocated houses. The housing standards contained in the Housing Act require that the house should be 40 square metres and that it must have a safe toilet. The houses in the Mthuzini Settlement had no adequate sanitation. The reasons given for the absence of sanitation were that the houses were built in 1999 before the establishment of the municipality in December 2000. There were no proper monitoring mechanisms to ensure that developers and contractors adhere to the minimum required housing standards.

#### 4.8.3. Sanitation Provision by the Municipality

Effective sanitation service delivery requires decision- making and control of resources at the appropriate level (UN, 2004: 10). The respondent indicated that the IDP of the local municipality caters for the provision of sanitation to needy areas, including Mthuzini Settlement. It was mentioned that there is backlog in the provision of sanitation. The backlog can be fast tracked if the function and funds could be devolved from the District Municipality into the Local Municipality.

The District Municipality was perceived as the one hampering the progress of sanitation provision. The Local Municipality is prepared to address the sanitation backlog to meet the Millennium Development Goal (MDG) target in South Africa by 2010. To address the sanitation backlog in the municipality through the help of Department Water Affairs and Forestry, funds and personnel have been put in place. Institutional structure in the form of District Sanitation Task Team (DSTT) has also been established. Generally, the sanitation standards are feasible and practical because they are user friendly and cater for all people in the communities.

## CHAPTER 5

### Summary, Conclusion and Recommendations

#### 5.1. Introduction.

The aim of this study was to investigate and quantify the status of the level of household sanitation at Mthuzini Settlement in the Bushbuckridge Local Municipality. The objectives of the study were to describe the types of household sanitation facilities available at Mthuzini Settlement; to describe the level of understanding of the community in terms of their health and hygiene practices; to assess the challenges facing the community with regards to sanitation and to suggest corrective measures to alleviate sanitation problems. The study was guided by the following research questions formulated from the research problem: (a) What is the current state of sanitation at Mthuzini Settlement, (b) What sanitation options are feasible for the community? (c) What is the record of service delivery of the local municipality, and (d) How can sanitation be improved?

The study required that the sampled respondents be above the age of 18 years. The selection was based on the fact that they were matured and would provide responsible answers. The study had 76 % female respondents, and 20 % of the respondents had no formal education. There is high unemployment rate in the Mthuzini settlement as 54% of the respondents indicated that they had no source of income. Data were collected through questionnaires and interview. Questionnaires were administered to the members of households at the Settlement. An interview was also conducted with the ward councillor responsible for development issues at Mthuzini settlement. The ward councilor represents the community of Mthuzini Settlement in the Bushbuckridge Local municipality. The data collected were analysed and interpreted.

## 5.2. Summary of the Findings Based on Data Collected from the Households

### 5.2.1. Access to Sanitation Facilities

The research findings indicated that 84% of the sampled respondents had no latrines. The two reasons given for the lack of latrines were: 70% of the respondents indicated that they did not have money. Other respondents said that the Government did not provide sanitation facilities in their households. The 6% of the respondents who had latrine reported that they had built the ordinary pit latrines, on their own. The 94% of the sampled respondents indicated that they relied on the bush as their toilet facility. Going to the bush for sanitation purposes was an inconvenience as 58% of the respondents indicated that they could not estimate how long it took them to reach the toilet facility. It was reported by 82% of the respondents that they visited the toilet facility in the morning.

### 5.2.2. Sanitation Practices

Only 28% of the respondents had yard connection tap from where they drew water. The rest of the 72% respondents drew water from the river. The use of river water exposes them to unhealthy conditions. Water from a river is usually polluted and is the main cause of water – borne diseases. It was evident that most respondents wash their hands after visiting the toilet facility. Washing of hands is the first step to good personal hygiene practices. Disposing of children's stools in the toilet and in the holes, which are later covered, is another indication of good sanitation practices. The respondents who indicated to throwing children's stools in hole without covering and those who left stools in the open practiced bad sanitation.

### 5.2.3. Knowledge, Attitudes and Experiences about Sanitation

Washing of hands before handling food is another step to personal hygiene. 84% of the respondents indicated that they wash their hands before handling food. They had the knowledge that good sanitation start with the individual. The water – borne diseases that the family members of the respondents suffered most it was indicated to be diarrhoea. The respondents also had the knowledge that using or drinking polluted water especially from rivers causes water-borne diseases.



They had knowledge on how to prevent water – borne diseases, amongst the answers given include: the use boiling of water, having adequate sanitation facilities and consulting a doctor.

#### 5.2.4. Views on Provision of Sanitation

All the sampled respondents indicated that they were not satisfied with the available sanitation facilities they were using. Though 6% of the respondents indicated that they had latrine, the type of latrines they are using is not adequate because they are just ordinary pit latrines. The rest of the 94% respondents use the bush as an alternative toilet facility. Use of ordinary pit latrine and the bush is unhealthy. These are the reasons that made the respondents to be dissatisfied. To improve sanitation facilities requires the initiatives of the individuals to ensure that safe and healthy sanitation exists in their households. Government must create enabling environment for provision of sanitation facilities in the communities. The local municipality can use the Municipal Infrastructure Grant to provide sanitation to needy households through the free basic household sanitation programme. Improving sanitation facilities is the responsibility of the individual, community and the Government.

#### 5.3. Summary of the Findings Based on Data Collected from the Ward Councillor

The researcher conducted an interview with the Ward Councillor. The ward councillor is responsible for development issues in his ward, which also encompasses the Mthuzini Settlement where this study was conducted. Data from the interview was categorized into three categories: understanding about service delivery, access to housing and sanitation, and sanitation provision by the municipality.

##### 5.3.1. Understanding of Service Delivery

The municipality uses the IDP service delivery guide. The services that are provided by the municipality include: water provision; refuse removal; electricity, halls and libraries, and sanitation provision. It was indicated that the municipality still experiences problems with regard to provision of sanitation.

The reasons causing backlog to sanitation provision include insufficient revenue and the tendering systems in the municipality. Provision of sanitation services is the responsibility of the district municipality. It is the responsibility of the district municipality as a Water Service Authority (WSA) to capacitate the local municipality.

#### 5.3.2. Access to Housing and Sanitation

The Municipality through the Department of Local Government and Housing had erected houses in the entire wards within the local municipality. The houses at Mthuzini Settlement were built in 1999 before the local municipality was established in December 2000. The housing standards require that a house should be 40 square metres and must have a safe toilet. It seems that the developer and the contractor who were responsible for erecting the houses at Mthuzini Settlement did not comply to the RDP housing standards.

#### 5.3.3. Sanitation Provision by The Municipality

The IDP of the municipality does cater for the provision of sanitation facilities to the communities, where they do not exist. Action plans through funds and personnel have been put in place to address the backlog problem in the municipality. An institutional structure in the form of District sanitation Task Team had been established in order to oversee the implementation plan.

#### 5.4. Conclusions

In the light of the information presented in this study, it can be concluded that:

- Since 1999 people had stayed in the RDP houses at Mthuzini Settlement without adequate sanitation. There were no monitoring mechanisms to ensure that the contractors adhered to the housing standards of providing sanitation facilities.

- A large percentage of the households have no source of income to build safe sanitation facilities.
- Some respondents still have the perception that the government has a sole responsibility to provide sanitation facilities to the households. There is a lack of initiative from individuals to ensure that they have toilet facilities of their own.
- Pit latrines are inadequate as they tend to emit odour and attract flies.
- Use of the bush as a sanitation facility has a negative impact on the environment. It leads to contamination of ground- water. People are also exposed to dangerous situations especially at night.
- Use of the bush is also inconvenient in that time is wasted by the long trips. This time can be used for other productive engagements.
- Use of water from rivers predisposes people to unhealthy conditions. Polluted water causes water – borne diseases.
- Respondents are well aware of personal hygiene practices such as the washing of hands before handling food and after visiting the toilet facility as a good way of health promotion.

#### 5.5. Recommendations

This study recommends that:

- Individual households and communities who can afford should be responsible for building their own safe sanitation facilities.
- Ordinary pit latrines be replaced by Ventilated Improved Pit Latrines (VIP)
- Municipalities should fast track the provision of sanitation through the free basic household sanitation programme to those who cannot afford to build their own sanitation facilities.
- Communities should be encouraged to choose a level of service for which they are willing and able to pay.
- Health education and hygiene awareness should influence hygiene behaviours that target personal, household and community hygiene.
- Monitoring mechanisms by the Municipality should be put in place as to ensure that all houses do meet the minimum required housing standard of a safe sanitation facility.

- Municipalities should provide clean water to all communities. Sanitation and water supply go together.

In this study it was clear the there are inadequate sanitation facilities at Mthuzini settlement. Inadequate sanitation exposes people to unhygienic practices, which lead to health problems. Good sanitation facilities and practices have vital benefits to the individual, community and the whole nation. It is the collective responsibility of the individual, community, and Government to ensure that safe sanitation facilities are provided in all households.

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**ADDENDUM A**

**QUESTIONNAIRE FOR THE HOUSEHOLD MEMBERS**

**A. BIOGRAPHICAL PROFILE**

1. AGE. 18-27  
28-37  
38-47  
48-57  
58-67
  
2. GENDER. Female  
Male
  
3. EDUCATION. NO  
Primary  
Secondary  
Tertiary
  
4. SOURCE OF INCOME. Employed  
Self-employed  
Pensioner  
Social grants  
Unemployed  
No income

**B. HOUSEHOLD INFORMATION**

1. When did you occupied the house?.....
2. How long have you been staying in the house?.....
3. How many family members live in the house?.....
4. How many females live in the house?.....
5. How many males live in the house?.....
6. How many elderly people live in the house?.....
7. How many children who are below the age of ten years live in the house?.....

**C. ACCESS TO SANITATION FACILITIES**

1. Do you have a latrine?.....yes / no.
2. If you have no latrine what is the reason?.....  
.....
3. If you have a latrine, who built it? .....  
a. own.            b. community.            c. government.

4. Where is the latrine situated?.....
  - a. house.      B. yard.
  
5. What type of latrine is used in the household?.....
  - a. flush toilet. B. ordinary pit latrines. C. ventilated improved toilets. D.bush/veld. E. other/ specify.
  
6. How long does it take you to reach the toilet facility?.....
  - a. 0 – 10 minutes.
  - b. 11 – 30 minutes.
  - c. 31 – 60 minutes.
  - d. 60 +
  - e. cannot estimate.
  
7. At what time of the day do you visit the toilet facility?.....
  - a. Morning. B. afternoon. C. evening. D. night.

**D. SANITATION PRACTICES**

1. Where do you get your water from?.....
  - a. house connection tap b. yard connection tap. c. communal tap. d. river or dam. e. bore hole. f. other, please specify.
  
2. Do you wash your hands after visiting the toilet?.....
  - a. yes.      b. no.
  
3. What do you use to wash your hands?.....
  - a. soap.      b. ash. c . water only. d. other, please specify.
  
4. Where do you dispose the stools of children/ babies?.....
  - a. throw in the toilet.      b. throw in hole.      c. throw in hole and cover.      d. left alone.      e. other, please specify.

**E. KNOWLEDGE, ATTITUDES AND EXPERIENCES ABOUT SANITATION**

1. Do you wash your hands before handling food?.....
  - a. yes b. no.
  
2. Has one of your family members suffered from?.....
  - a. cholera.      b. Typhoid.      c. bilharzias.      d. diarrhoea.      e. other, please specify.
  
3. What causes the diseases mentioned in E2?.....
 

.....

.....

.....

.....

4. What can be done to prevent a person from being infected by the diseases mentioned in E2?.....  
.....  
.....  
.....  
.....  
.....  
.....

**F. VIEWS CONCERNING PROVISION OF SANITATION**

1. Are you satisfied with the toilet facility available in your household?.....  
a. yes. b. no.

2. If no, what makes you not to be satisfied?.....  
.....  
.....  
.....  
.....  
.....

3. Who do you think is responsible in providing better toilet facility in your household?.....  
.....  
.....  
.....

4. As an individual, what can you do to ensure that you have a better and improved toilet facility in your household?.....  
.....  
.....  
.....  
.....  
.....

**ADDENDUM B**

**INTERVIEW SCHEDULE FOR THE WARD COUNCILLOR**

**A. BIOGRAPHICAL PROFILE.**

1. AGE: Less than > 20  
20 – 30  
31 – 40  
41 – 50  
51 – 60
  
2. GENDER: Female  
Male
  
3. EDUCATION: NO  
Primary  
Secondary  
Tertiary
  
4. Where you employed before becoming a councillor? \_\_\_\_\_
  
5. If yes, what was your job? \_\_\_\_\_
  
6. Apart from being a councillor, do you have another job? a. yes. b. no.
  
7. If yes, what is your other job? \_\_\_\_\_
  
8. Which Municipality do you represent? \_\_\_\_\_
  
9. Which ward do you represent? \_\_\_\_\_
  
10. How long have resided in your local municipality? \_\_\_\_\_
  
11. What motivated you to run for local government elections? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**B. UNDERSTANDING OF SERVICE DELIVERY**

1. What is the function of an IDP? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2. What is a quality service delivery? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

3. In your opinion, are the major problems hampering quality service delivery in your local municipality? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

4. Do you think your local municipality has capacity in terms of service delivery? a. Yes , b. No. \_\_\_\_\_

5. If no, what do you think can be done to build capacity of your municipality?  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

C. **ACCESS TO HOUSING AND SANITATION**

1. Are there any RDP houses erected in your ward? \_\_\_\_\_

2. Are you aware of the housing standards contained in the Housing Act?  
\_\_\_\_\_

3. If yes, can you state the housing standards? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

3. What source of water supply does the people in the RDP houses use?

Mark with an x.

- a. Water dwelling.
- b. Tap on site.
- c. Public tap
- d. Tanker.
- e. Natural.
- f. Other, please specify.

4. What type of toilets are used by the residents of the RDP houses in your ward? Mark with an X.

- a. VIP toilets.
- b. Pit latrines.
- c. Bucket latrine.
- d. Flush toilets.
- e. Other, please specify.

5. Can the type of toilets used in the RDP houses be regarded as adequate sanitation?\_\_\_\_\_.

6. If no, why do you think they are not adequate sanitation?\_\_\_\_\_

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7. Could you please explain your understanding of the importance of sanitation?\_\_\_\_\_

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D. **SANITATION PROVISION BY THE MUNICIPALITY**

1. Does the IDP of your local municipality cater for the provision of sanitation facilities?\_\_\_\_\_

2. Do you think your local municipality has the capacity to address sanitation backlog?\_\_\_\_\_

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3. How is your local municipality prepared to address the sanitation backlog\_\_\_\_\_

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