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**CHALLENGES CAUSING DELAY IN THE IMPLEMENTATION OF WATER PROJECT IN
MUTALE MUNICIPALITY AND ITS IMPACT ON SOCIAL LIFE OF THE COMMUNITY:
A CASE STUDY OF TSHIPISE / DAMBALE WATER PROJECT**

by

KWINDA TSHIFHIWA SOLOMON

9209536

A mini dissertation submitted in fulfilment of the requirement for the degree of

MASTER OF PUBLIC MANAGEMENT

in the

DEPARTMENT OF PUBLIC AND DEVELOPMENT ADMINISTRATION

SCHOOL OF MANAGEMENT SCIENCES

UNIVERSITY OF VENDA

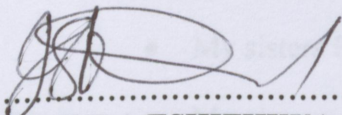
FEBRUARY 2013

SUPERVISOR: PROF. M.P KHWASHABA

ACKNOWLEDGEMENT

DECLARATION OF ORIGINALITY

I, **Kwinda Tshifhiwa Solomon**, (Student No. 9209536) declare that this dissertation hereby submitted in fulfillment of Master of Public Management degree at the University of Venda has not been submitted for a degree at this or any other university. It is my own work in design and execution and all reference material contained therein has been duly acknowledged.



.....
KWINDA TSHIFHIWA SOLOMON

STUDENT NO: 9209536

27/02/2013
.....
DATE

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I would like to express my sincere gratitude to all the people involved in one way or another in the dissertation process.

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- My pastor Muvhali F. and Matodzi F. for the spiritual support they directed to me.

DEDICATION

This research project is dedicated to my beloved wife Ela, my mother Lizzy and my children Rembu, Thanzi and Mashudu for their maximum support and their patience during the time they need my presence.

The study was placed in both the quantitative and qualitative research paradigm. The researcher used a non-probability method and its subtype purposive sampling for the purpose of collecting from the respondents with accurate and relevant information. The populations involved in this study were local traditional leaders, civic members from Tshipise and Dambale villages, and water committee from Tshipise and Dambale villages who completed the questionnaire and the community development worker (CDW), Ward councillor, community liaison officer (CLO) who were interviewed.

The study revealed that the municipality is obliged, by the law, to provide the community with water and also that the municipality is aware that the law binds them to provide the community with water. The studies also revealed that lack of capacity of contractors in the implementation of water project have delayed the implementation of water project.

It was recommended that competent contractors with relevant skills need to be appointed to render a relevant service. It was also recommended that the municipality must undertake proper monitoring to ensure the contractor is doing what he or she is supposed to do.

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- CLER - Councillor
- CLO - Community Liaison Officer
- DWAF - Department of Water and Forestry
- IDP - Integrated Development Plan
- RDP - Reconstruction and Development Programme
- WSA - Water Saving Alliance
- WSP - Water Supply Project

ABBREVIATIONS

CDW	-	Community Development Worker
CLLR	-	Councilor
CLO	-	Community Liaison Officer
DWAF	-	Department of Water and Forestry
IDP	-	Integrated Development Plan
RDP	-	Reconstruction and Development Programme
WSA	-	Water Solidarity Alliance
WSP	-	Water Supply Project

CHAPTER 1

BACKGROUND AND ORIENTATION OF THE STUDY

1.1 INTRODUCTION

This research focuses on the challenges causing delay in the implementation of water projects in Mutale Municipality and its impact on social life of the community using a case study of Tshipise and Dambale water project. Water is a basic commodity. The Constitution of the Republic of South Africa, Act (Act no. 108 of 1996) makes it clear that local government has a mandate to deliver water and sanitation services, limited to portable water supply systems and domestic waste management sewage disposable system. Mutale Municipality is tasked with the responsibility of running community projects including water projects. Community projects are aimed at improving the living standard of that particular community.

This chapter presents the problem statement, aim of the study, specific objectives of the study, hypotheses, critical research questions, significance of the study, delimitation of the study, limitations of the study, definitions of concepts, preliminary literature review, research methodology and design, ethical considerations, and organisation of chapters.

1.2 BACKGROUND OF THE STUDY

Since the election of the democratic government in 1994, South Africa's water law was based on the riparian rights principle. This is based on the ownership of property, and favored a selective portion of the population. Legal access to water was thus biased in favor of the interests of the dominant white population. The advent of a democratically elected government in 1994 provided opportunities for a new constitution. As part of that, the government implemented an overhaul of the policies, laws, and institutions governing water management (Hirji and Davis (2009:31).

Tshipise and Dambale face some difficulties in accessing water. In an attempt to solve water problem at Tshipise and Dambale villages, the municipality hired a contractors in 1995 to build a dam and lay pipelining to supply Tshipise and Dambale communities

with water. The project was to covers drilling and equipping of two boreholes. On 18 October 2005 the contractor was on site and the project was planned to be completed by 07 July 2006. On 11 October 2005 the contractor ceased to report on the site.

On the 10th of April 2008 the municipality hired another contractor, Greenville Trading 487 with the same project engineer, (B.T. Mongwe), who reported on the site on 24 November 2008. The new contractor also abandoned the project and the municipality promised to take over the project. The Municipality completed the dam in 2009 but did not go on with the system of lining 80 mm size pipe lining and laying 50 mm pipes to Tshipise and Dambale. Some pipes had been lined but not used. The project had been delayed by seven years. Each proposed water or wastewater project in Kentucky must originate at the local community, and be considered in context with all other local and regional community needs, including human services, natural resources, transportation, economic development, agriculture, education, housing, historic and cultural assets, and governance.

1.3 PROBLEMS STATEMENT

The Constitution of the Republic of South Africa, 1996 makes it clear that local government has a mandate to deliver water and sanitation services limited to potable water supply systems and domestic waste-water and sewage disposable system.

Section 152(1) (b) of the Constitution of the Republic of South Africa, 1996 (Act No. 108 of 1996) gives the provision that, the government must ensure the provision of service to the communities in a sustainable manner. This is supported by bullet no (H) of the Municipal Structures Act, 1998 (Act No. 117 of 1998) which states that each municipality must ensure that all members of the local community are provided with basic municipal services. Basic municipal services are services which are necessary to ensure an acceptable and reasonable quality of life. Service provision includes supplying people with clean water.

Despite the provisions in the above legislations, people of Tshipise and Dambale are facing challenges due to the delay in the implementation of water project. At present the

community members at Tshipise and Dambale villages are facing the problem of water shortage due to the delay in the implementation of water project. Mutale Municipality has developed many water projects successfully without any delay including Mukovha community water supply, Tshivhongweni community water supply, Manenzhe water supply and many others however Tshipise and Dambale project which commenced in 2005 has not been completed.

Delays in this project have posed problems for the community of Tshipise and Dambale who get water great difficulty way. The community struggles a lot to get water and social life is negatively affected by this condition. The study to be undertaken will investigate the challenges causing the delay in the implementation of water project in Mutale municipality and its impact on the community of Tshipise and Dambale.

1.4 AIM OF THE STUDY

The aim of the study is:

- To investigation the challenges causing delay in the implementation of water projects in Mutale Municipality and its impact on social life of the community using a case study of Tshipise and Dambale communities.

1.5 SPECIFIC OBJECTIVES OF THE STUDY

The following objectives will benchmark the realisation of the main aim of the study:

- To determine the challenges causing delays in water projects and its impact on social life of the communities.
- To assess the capacity of contractors in the implementation of water project.
- To explore the strategies to enhance water project implementations by the Mutale municipality.

1.6 HYPOTHESIS

Robbins (1989:20) defines hypothesis as a tentative explanation about the relationship between two or more variables. For this study, the following is hypothesised:

- Challenges that Mutale Municipality encountered impede the implementation of water project.
- Lack of capacity by contractors lead to delay in the completion of water projects.
- Poor planning and poor management results in delays of water project.

1.7 CRITICAL RESEARCH QUESTIONS

To address the objectives of this study, the following research questions will serve as a guide to the process:

- What are the challenges that hinder the implementation of water projects and what are its impact on social life of the communities in Mutale Municipality?
- Did lack of capacity by contractors lead to delay in the implementation of water project?
- Can poor planning and poor management result in the delay of water projects?
- Can lack of sufficient funds delay the implementation of water projects?
- What are the strategies that can be undertaken to enhance water project implementations by the Mutale Municipality?

1.8 SIGNIFICANCE OF THE STUDY

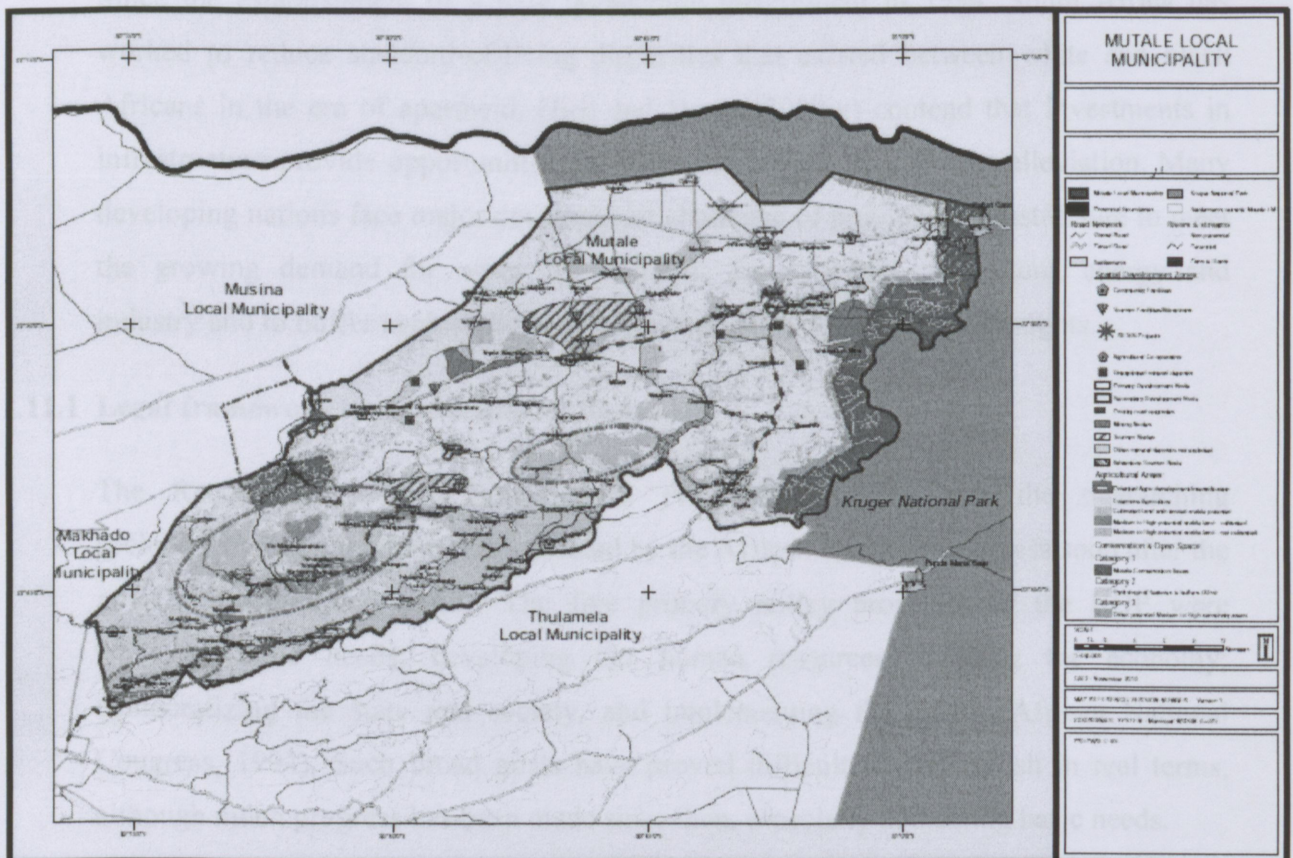
This study is undertaken in order to assist the Municipalities to undertake a site survey study before advertising any tender and to undergo proper planning before stating a project. It will also assist the Municipalities to consider skills and ability before engaging any contractor. To suggest ways to improve implementation of water projects so that the community can access clean water in without delay. This study is of importance, in that it will highlight the challenges faced by Mutale local Municipality in their bid to complete the water project.

1.9 DELIMITATION OF THE STUDY

The study will cover two villages which are Tshipise and Dambale, focusing on the implementation of water project from 2005 to 2012. The two villages under study are located in Mutale. Mutale local Municipality is found in Limpopo province of South Africa. The Municipality is comprised of vast rural areas. It is a category B Municipality as determined in terms of section 4 of the Municipal Structures Act, 1998 (Act No. 117 of 1998). The area is rural and the community mostly depends on rain for agriculture.

1.11 BRIEF LITERATURE REVIEW

MUTALE MUNICIPALITY MAP



According to the Republic of South Africa Constitution Act, (Act no. 108 of 1996), local governments bear the responsibility for designing, financing, and maintaining the water system. Successful implementation of water provision is dependent upon managerial capacity and financial strength at the local level. Given a very uneven distribution of administrative capabilities and resources, water provision varies considerably among municipalities.

1.10 LIMITATION OF THE STUDY

- There is a possibility of being disappointed by some officials, who may not be willing to cooperate as the topic is sensitive.
- The researcher may have the problem of shortage of funds for stationary, binding, editing, typing and transport.

1.11 BRIEF LITERATURE REVIEW

Since the establishment of a new democratic government in 1994, South Africa has worked to reduce standard-of-living disparities that existed between white and black Africans in the era of apartheid. Hirji and Davis (2009:v) contend that Investments in infrastructure provide opportunities for economic growth and poverty alleviation. Many developing nations face major development challenge of providing infrastructure to meet the growing demand for water for domestic consumption, agriculture, energy and industry and to buffer against the people's vulnerability to floods and droughts.

1.11.1 Legal framework and government documents

The Reconstruction and Development Programme (RDP) was the overarching socioeconomic policy framework created by the African National Congress soon after the government assumed power. The five primary policy programs of the RDP were "meeting basic needs; developing our human resources; building the economy; democratizing the state and society, and implementing the RDP" (African National Congress, 1994). Such broad goals have proved difficult to accomplish in real terms, although much progress has been made since then, especially in meeting basic needs.

According to the Republic of South Africa Constitution Act, (Act no. 108 of 1996), local governments bear the responsibility for designing, financing, and maintaining the water system. Successful implementation of water provision is dependent upon managerial capacity and financial strength at the local level. Given a very uneven distribution of administrative capabilities and resources, water provision varies considerably among municipalities.

One of these basic needs is access to clean water. Water is a finite and scarce resource in semi-arid South Africa. Uneven distribution of rainfall and the low availability of groundwater make the management of water resources a significant challenge (Department of Water Affairs and Forestry, 1994:4). This problem was exacerbated in the apartheid era because white African landowners effectively had a monopoly on water resources. According to the South African Department of Water and Forestry (DWAF), “the development of South Africa’s water resources has been linked more with supporting the progress of the country’s wealthy sector than with alleviating the position of the poor, particularly in the rural areas” (Department of Water Affairs and Forestry, 1994:4). It should be noted that policies of the apartheid era ensured that “poor” became almost synonymous with “black Africans.” To understand the extent of standard-of-living disparities regarding access to water, it is necessary to know the distribution of race in the population of South Africa.

1.11.2 Water Provision System

According to the Water Services Act of 1997, there are three fundamental objectives for managing water services. First, all people should have access to at least a basic, minimum quantity of potable water and benefit from the use of water resources. Second, water resources should be managed in a sustainable manner. This idea is closely related to the principle of “demand management.” The DWAF strives to incorporate demand management into its water services policies by discouraging inefficient and wasteful uses of water through pricing structures and conservation efforts (Department of Water Affairs and Forestry, 2002a:11). Lastly, water should be used in an economically efficient way to promote the overall economic development of the country (Republic of South Africa, 1997). These objectives reflect the belief of South Africans that water is a scarce resource that is necessary for survival (and therefore a human right) as well as an economic commodity. The water provision system is structured to achieve these sometimes conflicting objectives.

South Africa’s water provision system involves a diverse group of actors. First, as an overall policy designer and regulator, the South African Department of Water Affairs and

1.13.3 Forestry (DWAF) oversees the activities of all water sector institutions and is responsible for national and international resource planning and allocation. As its name suggests, a Water Service Provider is the entity that provides water (and also sanitation services) to the people of a particular jurisdiction. Water Service Providers deliver service at a variety of levels such as a single rural community, one or more towns, or a large metropolitan area (Storer & Teljeur, 2003:6).

1.12 PROVISION OF WATER IN TSHIPISE AND DAMBALE: EMPIRICAL EVIDENCE

1.13.4 Tshipise and Dambale area is a semi-arid area. The area does not have a nearby river and depends on rain water which is received during summer times. It is very hot. People on the area depend on animal farming as their main source of money. Many people in the area have dry lands where they crop plants like maize meal and watermelon during summer.

1.13 DEFINITION OF CONCEPTS

1.13.1 Community

Community is a social action system of a broader society; the social action of a local population is an expression of their culturally determined patterns of behaviour to survive the physical exigencies of their spatial environment, furthermore a community refers to the place where the individual experiences has to deal with the constraints of society and physical environment (Coetzee, 1989:259).

1.13.2 Municipality

In terms of the Municipal System Act, 1998 (Act no. 117 of 1998) a municipality is formed by an elected local government body, having corporate status and limited self-governance.

1.13.3 Potable water

Potable water is defined as water supplied by Water Services Providers that is intended for use as drinking or for domestic purposes and is consistent with South Africa's Specifications for Drinking Water (Republic of South Africa, 2003).

1.13.4 Water

Water is a ubiquitous chemical substance, composed of hydrogen and oxygen that is essential for the survival of many known forms of life (Twort, 1986:89).

1.13.5 Water supply

Water supply is the process of self-provision by third parties in the water industry, commonly a public utility of water resources, of various qualities, to different users (www.en.wikipedia.org/wiki/water-supply.html).

1.14 ORGANIZATION OF THE STUDY

Chapter One - Background and Orientation to the Study

This chapter will deal with the background and orientation of the study. This will include the aim of the study to give the perspective with regards to the research to be taken. Statement of the problem focuses on reflection of the problem of the problem giving rise to the need for a study. Also include in this chapter were specific objectives of the study, hypotheses, critical research questions, significance of the study, delimitation of the study, limitations of the study, definitions of concepts, preliminary literature review and the organization of the study.

Chapter Two - Literature Review

Chapter two review literature which is relevant to the research problem and questions, the review will cover the following: background, empirical data (current status and climatic condition of the area), challenges causing delays in water projects, impact of delays on water project, uses of water, sources of water and government policies (which are the

government policies will consist of the following Acts: Republic of South African Constitution, 1996 (Act 108 of 1996) and South Africa Water Services Act (Act no. 108 of 1997).

Chapter Three - Methodology and Design

In this chapter, the main focus will be on the methodology of the study and it will also describe the instrument to be used in the research, the population and the sampling techniques to be employed and data collection method. The reasons for selecting each technique will be given in the chapter.

Chapter Four - Detail Presentation and Analyses

Chapter four of the study focuses on data presentation, its analyses and interpretation. The chapter will also provide the basis on which conclusion and recommendations of the study will be made.

Chapter Five - Findings, Recommendations and Conclusion

Chapter five of the study deals with findings, conclusion and recommendation and make conclusion on the findings after which recommendation from the findings will be done.

CHAPTER 2

LITERATURE REVIEW

2.1 INTRODUCTION

This chapter provides an account of the literature reviewed on the challenges causing delay in the implementation of water projects and its impact on social life of the community. The literature review here is meant to establish a framework within which the problem can be investigated. The researcher will be reviewing literature that is relevant to this study.

2.2 LEGAL FRAMEWORK

The South Africa government highly recognized the right of access to water at the constitutional level, where it underpins the whole law and water policy framework. The Constitution adopted on 8 May 1996 represented the cornerstone of sweeping policy reforms that were undertaken in the period of transition following the end of the apartheid regime. It embraces human rights principles and contains a comprehensive Bill of Rights which sets forth the right of access to water as part of a lengthy list of social and economic rights. These include *inter alia* the right to a healthy environment; housing; health care, food and social security, education and culture.

2.2.1 The Constitution of the Republic of South Africa Act, 1996

The Constitution of the Republic of South Africa is the supreme law of all laws in South Africa. The Act has ruling on all matters concerning human conduct and supply of services to everybody in the country. Human behaviors are also regulated by this Act. Water as basic need of the community is also covered on this Act. The relevant provision with regards to water supply is Section 27(1) (b), which reads: everyone has the right to have access to sufficient food and water. The 1996 Constitution binds all three spheres of government to realize the right of access to water and the content of the Rights relates both to allowing for physical and for economic access to water.

2.2.2 Water Supply and Sanitation White Paper for South Africa, 1994

The objective of this White Paper was to set out the policy for the new Department of Water Affairs and Forestry with specific regard to water supply and sanitation services. The purpose of the white paper was to:

- Provide some historical background regarding water supply and sanitation development in South Africa;
- Explain the development approach which has guided policy formulation;
- Put forward certain basic policy principles;
- Outline the institutional framework proposed for water supply and sanitation;
- Provide standards and guidelines for basic services delivery;
- Set out policy for the financing of services;
- Outline certain immediate initiatives' which are being taken; and
- Provide supplementary policy and briefing information on important related topics.

The policy brings out the goal of government as to ensure that all South Africans have access to water supply and sanitation services at a cost which is affordable to the house and country at large. In order to achieve its goals, the policy is calling for participation by the communities of the country.

2.2.3 The South African Water Act, 1997 (Act no. 108 of 1997)

In 1994 the government published its first White Paper on Water and Sanitation Policy, which led to the Water Services Act of 1997. The Act calls for higher cost recovery, which provides a challenge due to widespread poverty and a culture of non-payment for water in many townships, remnant of protests against apartheid. Higher water tariffs and rigorous cut-offs for non-payment, reductions through the installation of "tickets" that allow only a very limited flow of water, imposed hardships on the poorest. The Act also modified the role of Water Boards, providing a clear legal definition of the functions of Water Boards and Municipalities. Water Boards have historically been the only water bulk providers. Municipalities were obliged to buy water through them. The Act allowed municipalities to develop their own, bulk water supply infrastructure or to buy bulk water

from providers other than water boards. Conversely it also allowed water boards to provide retail water services at the request of municipalities. Since the Act was passed, the capacities of both water boards and water service providers have increased significantly.

The Act also states that the communities have the right to information so that they are aware of the range of issues and options available in the provision of water service. The Act further points that consumers have got the duty to pay reasonable charges for access to basic water services. Water service delivery relies strongly on the infrastructure, and this needs to be maintained and operated, which is only possible if consumers pay for the water service they get. The Act requires that notice should be given to any person failing to pay, with an opportunity provided for making presentation before discontinuation takes place.

The Water Service Authority is required to check or monitor the performance of the water service provider in its area of jurisdiction, to make sure that it complies with the Act. According to the Act, water service must be provided in an efficient, equitable and sustainable manner. The main objectives of the Water Service Act are the following:

- Right of access to basic water supply and sanitation service;
- Preparation of water services development;
- Regulatory framework for water services institution;
- Establishment of water boards and water services;
- Monitoring of water supply and sanitation services;
- Financial assistance to water services institution;
- A national information system; and
- Accountability of water resources.

2.2.4 DWAF (1999) policy for the transfer of government water services works

The DWAF will, in terms of section 73 (1) of the Water Service Act No.36 of 1998, transfer all water service works currently operated under the trading, mainly ex-homelands schemes, to the appropriate institutions as in and defined by the policy. In

1994, the previous South Africa and the homelands' Department of Water Affairs and Forestry merged thus bringing the ownership of some 600-water services schemes serving approximately 6 million people to the Department. The Department has since continued to fund operation and maintenance of these as an interim measure until these can be transferred to the appropriate institutions outlined in the constitution and the Water Service Act.

According to the Constitution of the Republic of South Africa Act, 1996 (108 of 1996) it is the task of local government to provide access to basic services to the consumer in its area of jurisdiction. This has been enshrined in the Water Service Act that is responsible for ensuring that water services are provided in its area of jurisdiction. The Water Solidarity Alliance (WSA) may appoint a water services provider to perform any function it does not want to, or does not have capacity to perform, except those functions specifically assigned to the WSP by the Act. A Water Supply Project (WSP) may be in a district or primary municipality, including both urban and rural councils.

2.2.5 Draft Water Services White Paper on water services for South Africa, 2002

The White Paper provides an overall policy orientation of government towards the water supply and sanitation sector. Water services are the responsibility of three spheres of government and not just the national government; hence this White Paper reviews the role of relevant institution and not the role of DWAF only.

This White Paper complements the recently published white paper on basic household sanitation (2001) and addresses the full spectrum of water supply and sanitation services. The draft paper on water services aimed at ensuring:

- Access to reliable water services;
- Hygiene education and wise water use;
- That water and sanitation services are provided in manner that does not waste resources, is equitable, effective and sustainable;
- That pricing should reflect that water services are both social and economic goods.

- That water and sanitation services are regulated and monitored to ensure the ongoing achievements of these goals.

2.3 CHALLENGES TO WATER PROJECTS

Water is needed in everyday life. Water supply projects are faced by many challenges including weather conditions, public participation, lack of capacity by the contractors, financial difficulties, changes in scope of work and design error, lack of planning, strength, water conservation measures and lack of political support.

2.3.1 Weather conditions

Sri Lanka faced a great challenge of water supply due to weather conditions in 1944. Sri Lanka water project was delayed by the heavy rains that occurred in the middle of the dam's construction. The rain swept away most of the work that has already been done and also damaged the surface where the dam had to be built. This caused delay in the implementation because the contractors had to wait for the heavy rains to stop and start over from the beginning.

During heavy rain, no constructions can take place normally and this automatically leads to delays on project completion (<http://dl.lib.uom.lk/theses/handle/123/1944>).

2.3.2 Public participation

The government of Malawi faced delays in the implementation of water project during the 1980s. The delay was mainly caused by public participation. According to Cain (1999) proper functioning of village water committee is very important in managing rural water and sanitation. The proper functioning of the village water committees depend on the support by the local government, traditional leadership and the community at large. Public participation has been measured as a key factor in the success of a project. Dam Project implementation in Malawi (Chitai District) was delayed because at the conceptual stage of the project in late 1980s the project planners did not pay much attention to the importance of having public participation in the development of the project. Thus, there was very little public involvement of the planning stage of the project. Although the

project feasibility report prepared by the project planner was available for public attention in 1992, the project forum was really opened for the public after 1995.

According to Wood (2000) the management of a water supply system is the responsibility of community groups like water supply for community groups, is the responsibility of users' associations made up of various representations from water and sanitation committees. If the community is taken by surprise when dam is implemented, they oppose it or have a problem with the spot where it to be implemented.

2.3.3 Lack of capacity by the contractor

One of the South Africa's municipalities (EThekwini) faced a great water delay. EThekwini municipality's water project to extend Dube trade port and Cornubia had been delayed. The municipality had announced plans to build a 55km network of pipelines that will pump water along the city's north-east corridor in the hope that it will kick-start the expansion of the Dube Trade Port and the Cornubia development, where an estimated 30 000 high-end, middle-income and low-cost homes are to be built. The project had been delayed by KwaZulu-Natal High Court judge, Dhaya Pillay who suspended the project after finding that actions of city officials in awarding the Western Aqueduct contract amounted to "gross negligence, sheer incompetence and lack of capacity" (<http://www.internationalrivers.org/>).

2.3.4 Financial difficulties

Availability of funds is important in all stages of construction. Construction of medium scale water supply projects in Sri Lanka in 1994 were delayed because of financial difficulties. These delays were caused by lack of the following, which needs funds:

(a) Equipments and tools

In order for the dam to be implemented there is a need for equipment and tools to be used. Lack of equipment delayed Sri Lanka water project in 1994. The constructors needed money to can buy equipments and tools and these included shutter boards, machines for mixing concrete and cements. These equipment need to be bought first in

order for the dam to be built. Contactors sometimes spend money on unnecessary things and are then left with no money to buy needed equipments.

This leads to the delay of dam implementation as the municipalities have to hire a new contract who has the equipment and tools for the implementation for a dam (<http://dl.lib.uom.lk/thesis/handle/123/1994>).

(b) Employing skilled labour

Contractors do not want to spend money when they have landed and contract. Usually they employ unskilled labourers because of shortage of money to pay skilled labourers. This may delay dam implementation as the unskilled labourers will always get confused about what they should do and they will also make mistakes that take time to rectify. This problem was experienced in Sri Lanka in 1994.

In support of this idea Swanepoel, (1992:46) argue that it is also important for the project member to receive training before they can kick start with the project because without special training, the project can fail to reach its aim and objectives

2.3.5 Changes in scope of work and design error

Flyvbjerg (2009:18) contends that changing of scope by the project owner delays water supply. One major factor that has been identified as reasons for cost overrun in most projects is design errors. Change of scope will lead to wrong application of techniques in achieving result, such that, as the actual execution phase of the project unfolds these design errors and attempts to correct them will lead to delay and cost overrun. Designs that are done without extensive investigation of site could contain potential errors. This is because such designs could lead to additional work, revision of scope of work, and contract revision as the actual site conditions begins to float up at the construction phase of the project. These will no doubt affect the overall project delivery time and cost.

2.3.6 Lack of proper planning

For any project to succeed a proper planning plays an important role and must be considered. Improper planning delays project completion. According to Swanepoel

(1992:59) the danger lies rather in the possibility that planning will be wrong or unnecessary or that planning will be done at given time, or that wrong persons will be involved in planning. Proper planning must be considered at the first stage to avoid unnecessary delays.

Abetena (1995) concurs with Swanepoel (1992:59) by arguing that a successful implementation programme is based on appropriate programme planning and good management as lack of programme planning negatively affect the project Kortze (1983) states that project management includes planning, organizing, directing and controlling resources, and also management support of functional staff. In support to Swanepoel and Kotze, Mckenzie and Wegelin, (2008:171) argue that the community needs enough water in order to provide sufficient water for the future, it is essential to undertake proper planning and appropriate development in time to support the growing demands for water.

2.3.7 Lack of relevant skills

Skill such as finance management, marketing, bookkeeping, project management are important for the well establishment of a project (Ramphela, 1994:106). It is of utmost important that the contractors must have relevant knowledge as far as their services are concerned. A person who does not have any knowledge about dam building cannot build a proper dam. Donnacadh, (1990) supports Ramphela by saying that the more skills the project members have, the longer the project will survive.

2.3.8 Quality of the dam

Twort, Ratnayaka and Brandt (2000:158) say every dam must be proofed against failure by sliding along its base. This applies whether the dam is of concrete, masonry, rock, or earth. Resistance to failure against sheering through any plane is another criterion to be applied. In 1884, Bouzey dam in France was cemented back onto its foundation, but 11 years later in 1895, it split horizontally down the middle.

Twort, Ratnayaka and Brandt (2000:158) point out that another failure was that of St. Francis dam on 13 March 1928 in which a 60m high concrete dam was feeding Los Angeles with water. It was placed on weak foundation material, so that a section of the

dam broke out and a flood wave, 40m high, travelled down the valley at 65km/hour, causing 426 lives to be lost. This problem delayed the completion of the dam.

In Italy the Gleno dam 43m high suddenly failed on 1 December 1923 when one of the buttresses cracked and burst in a matter of few minutes. The cause was attributed to poor quality workmanship: the concrete in the arches was poor and inadequately reinforced with scrap netting used as hand grenade protection in the war and there was also evidence of lack of bond with the foundation (Twort, Ratnayaka and Brandt, 2000:158).

2.3.9 Lack of political support

The success of a project mostly lies in the support received by the project. According to Mckenzie and Wegelin (2008:173) lack of political support hampered the successful implementation of water demand management in the Gauteng Province, South Africa which would have been arguably successful in a different political environment. In many cases it was found that the politicians (particularly of the ruling party), at the level of municipality did not give fully support to water projects, despite the task being given to them by the Department of Water Affairs and Forestry.

2.4 IMPACT OF DELAY ON WATER PROJECT

Delayed project waste a lot of public funds as more and more funds would be needed to complete it. Delays on water projects have a negative impact on the entire community and the municipality. The municipality risk spending a lot of money because of delay and the community on the other hand struggle to get water to prepare their daily food and keep themselves and their utensils clean every time.

2.4.1 Waste of money

Poor selection of contractors due to low bids with low technical ability may cause waste of money. When contracts are given out for the implementation of a project usually it is given to the company with a lowest bid without even checking if the contractor has the technical capability to handle the project or not. This leads to cost overruns, schedule delays, poor quality, and final result that are not acceptable. This final product that is not

desirable may cause the product to last for only a short period and soon another problem may arise that may need the repetition of similar project. It is important for community projects to sustain themselves from the beginning (Marais *et al.* 2001:34).

2.4.2 Diseases

Delay in the implementation of water projects result in the shortage of water. Shortage of clean water in rural areas causes the community to exploit other water resources such as rivers, wetlands and fountain and usually this water is not safe for domestic use. These cause the community to suffer from diseases such as jaundice, typhoid, cholera, and diarrhea. Davies and Day (1998:224) supported this by indicating that most South Africans, for instance, are completely unaware of the ways in which impoundments may foster the spread of parasitic diseases such as malaria and bilharzias, as well as infectious diseases such as cholera, diarrhea and typhoid.

2.5 WATER CRISES

Water crises are experienced in many countries. All different modes of water use have continued to increase. Many countries, especially those located in arid and semi-arid regions, intensity and extent of the crises could vary from one country to another or even within the same country and over time. The constitution of South Africa Act 108 notes water crises in South Africa and advocate that it is necessary for provinces or districts to implement water projects to limit water crises problems. The response of individual countries, provinces or municipalities within a large country to reduce the impacts of those crises could vary as well (Biswas, 1997:387).

2.6 USES OF WATER

Biswas (1997:388) referred to water as an essential requirement for all human activities, ranging from drinking to agricultural production and industrial development to all forms of large- scale energy generation. Water is a resource of prime importance. People need water for irrigation, industries, transport, drinking, bathing, and several other purposes in their everyday lives. There cannot be life on the earth if there is no water. Sewerage also needs water. Agriculture needs water and agriculture is major source of food for us. The

existences of fish which make up a large chunk of our life depend on the availability of water. Water is one of cheap things to generate electricity. Airburst *et al*, 1999 outlined that generally there are three major water uses, notably, agricultural water uses, domestic water use and municipal water use.

2.6.1 Domestic

People need water for domestic purposes and they mostly need water for the following: drinking, cooking, ablution and sanitation, house cleaning, laundry and car wash (Biswas, 1997:388).

(a) Drinking

Drinking water is needed every day. Most people need about 6-8 glasses of water each day to survive. Caffeine-containing beverages (coffee, tea and colas) should not be included in this amount because caffeine acts as a diuretic and actually causes you to lose water. No human survives in the absence of water. Water is needed in our everyday life and as such water is one of essential services (Biswas, 1997:386).

(b) Cooking

Nothing can be cooked without water and as such water is urgently needed when people prepare their daily food. Preparation for food needs clean water and people prepare food every day with all preparations needing water, starting from washing of utensils to washing hands before eating (Biswas, 1997:386).

(c) Ablution and Sanitation

Bosch (2001:63) argues that globally, 1.3 billion people lack access to supplies of clean water and three billion people lack adequate sanitation. Many areas uses flushing toilets and for those toilets to function water are needed. On average a full flush from a toilet consumes approximately 10 litres or more, while some modern ones hold 9 litres. About 2 million people in Cape Town use flush toilets at home or at work or both. With at least five flushes a day and cistern with a capacity of 10 litres, these amounts to 50 litres of water per person per day just to flush away waste (Davies, 1998:369).

2.5 (d) House cleaning

Every day people clean their houses. Water is needed when people clean their houses in order to remove dust and other dirt. Complete removal of dirt needs water (Rowntree, 2010:92).

(e) Laundry and car washing

People wear clean clothes daily. For clothes to be clean, water is needed. Only clean water can clean clothes and blankets successfully (Davies, 1998:260). People always wash their car. To wash cars it needs water and unavailability of water is a challenge to car owners who want to see their cars clean (Rowntree, 2010: 94).

(f) Garden watering

More than a third of water used domestically in Cape Town is sprayed onto the garden and there is little reason to suppose that this statistic differs much from city to city in South Africa (Davies, 1998:348).

2.6.2 Agriculture

According to Fairhurst (1999:105), agricultural water use consumes about 70% of the world's fresh water. Water is also used for irrigation of crops, livestock drinking, agricultural production consumes more fresh water than any other human activity. All the food people eat are produced through agriculture and water is needed for agricultural purpose. Between 80% and 90% of the population of less developed regions are directly involved in farming activities (Coetzee, 1989:407). Biswas, (1997:454) points out that in general, regulation of water resources is progressing with an increasing need for water supply and hydropower and requirements for water –control structures for irrigation and intensification of agriculture.

2.6.3 Trade and Industry

Mining, milling and refining are examples of wealth-generating industries that use large quantity of water (Davies and Day 1998:358). Industrial water use accounts for about 23% whereas domestic water account for 7% (Fairhurst, 1999:16). Shops need water to operate effectively. If there is a shortage of water businesses cannot flourish. Even small business needs water to develop. All industries around the world need water. For the clinic to operate water is highly needed as patient will need water to take their medication. Schools need water to function properly as all stakeholders at school which are educators, learners and general workers need drinking water and wash their hands particularly after toilet. Water is needed in all offices to be used by workers before and after eating and when one comes from toilet.

2.7 SOURCES OF WATER

Rain water, oceans, rivers, streams, ponds and springs are the natural sources of water. The other sources of water which are mostly regarded as manmade are dams, wells, hand-pumps and canals. According to DWAF (2002) the maximum distance that a person should have to collect water to their dwelling is 200 metres, in steep terrain this distance may have to be reduced to consider the extra effort required to cart water up steep slopes.

2.7.1 Rain water

Water is a scarce resource, primarily because it is usually in the wrong place or available at the wrong time relative to demand. When water resources are scarce, there is an important role for economics in determining the best way to allocate a given amount of water among different users (Biswas, 1997:579-578). Rain is the main source of water for people usage. People prepare containers and places to store water during rain time. They will then use that water for domestic purposes, irrigation, bathing and to give their livestock.

2.7.2 Surface water

Surface water is water present on the surface of the earth in the form of ocean, rivers, lakes, ponds and stream. Water found in rivers and lakes comes from rain and melting of snow on mountain. River flow into the sea and added to the sea water (Biswas, 1997:215-216). In the Kruger National Park humans use the Sabie River's catchment and water for three things, not all of them strictly compatible. The upper catchment has already been exploited as far as possible for forestry. Dense and rapidly growing populations are placing increasing demands upon the river for domestic consumption and irrigated agriculture (Davies, 1998:369).

2.7.3 Strategies

2.7.3 Underground water

People, animals and plant also depends on underground water. During rainy times some of rain water seeps through the soil on to non-porous rocks below and those water forms part of underground water. If the underground water faces high pressure it sprouts out in the form of a springs. The underground water can be accessed through digging up of wells or sinking tube wells (<http://www.preservearticles.com/201104215585/short-paragraph-on-water.html>).

2.8 EMPIRICAL EVIDENCE ON THE CHALLENGES OF DELAY IN MUTALE MUNICIPALITY

Mutale municipality faces some delays in the implementation of water projects. Lack of sufficient funds and lack of capacity are the major cause of these delays.

2.8.1 Lack of sufficient funds

Nwanedi-Luphephe water supply scheme was started in 2009, until today the project had not yet been completed. The project was intended to supply the community with water from Luphephe and Nwanedi Rivers which are found in Folovhodwe village, which falls under chief Rammbuda. The project was to construct a dam, water purification and supply Niani villages with water from Folovhdwe to Matatani village. The projects had not yet being completed due to lack of sufficient funds which sometimes are not available for more than eight months.

2.8.2 Poor planning

According to 2007/2008 IDP Zwigodini/Madifha village, Mutale Local Municipality was to build a dam to supply the two villages. Madifha is a village found in Mutale municipality under chief Tshikundamalema. Zwigodini/Madifha (2008) water project had been delayed by poor planning. Dam building and pipelining of the two villages had been completed on time but the water fail to supply the Madifha community. The problem was solved by constructing main line from the borehole and taking water to the tanks erected at Madifha which then supplied Madifha community with enough water.

2.8.3 Strategies

Strategies to hasten supply of water to the community are needed. Strategies include conducting site visits and engaging competent engineers who will develop proper plan. Contractors to be engaged must have extensive knowledge about the service they are going to render. The municipality must first do proper costing and develop a proper scope of work to avoid frustration. Enough funds must be available before project started. Payments must be processed by phases.

2.9 CONCLUSION

This chapter has provided highlights of the research topic. The chapter gives an overview on the challenges causing delay in the implementation of water projects. Those challenges include weather condition, lack of capacity by contractor, water conservation measures, financial difficulties, incomplete scope of work, lack of proper planning, lack of relevant skills strength of the dam and lack of political support. To curb those challenges the municipality has to appoint competent contractors, develop a proper plan and design, have enough funds to run a project, appoint a competent engineer and monitor the whole process from the onset. The empirical evidence indicates, to the researcher, that the challenges that delay water projects had also been experience in other projects in Mutale Municipality including Zwigodini/Madifha project in 2008.

CHAPTER 3

RESEARCH DESIGN AND METHODOLOGY

3.1 INTRODUCTION

In the previous chapter, literature around the challenges causing delay in the implementation of water projects in Mutale Municipality and its impact on social life of the community was discussed thematically. The chapter is about research design and methodology to be used when conducting the whole study and it covers the following: research method, study area, population, sample size, sampling method, data collection instrument, data analyses and ethical consideration. Two research designs, quantitative approach and qualitative approach are documented separately.

The purpose of this study was to examine whether community structures and community members know the legal issues to be investigated for the causes of delay in the implementation of water projects and its impact on social life of the community; and to gain an in-depth understanding of the challenges causing delay in the implementation of water projects. Furthermore, the study sought to explore the strategies to enhance water project implementations by the Mutale municipality. According to Grinell (1993:442) exploratory research is undertaken to gather data or facts in an area of inquiry where very little is already known and is situated at the level of knowledge continuum. Du Plooy (2009:50) defines exploratory research as exploring unknown areas of research that can be based on any one or more of the following: to obtain insights as part of the pre test, and to identify key concepts.

Exploratory research enables a researcher to gain a broad understanding of a particular phenomenon or person and it is typical when the researcher examines a new area of interest. It is conducted in a situation where the researcher lacks basic information in order to help the researcher generate new ideas and to be familiar with the phenomenon (Bless *et al*, 2006:47). For the purpose of this study, the researcher used exploratory research as the main purpose of this study in order to get in-depth information from the respondents, about the kind of challenges causing delay in the implementation of water projects.

3.2 RESEARCH DESIGN

This study combined both quantitative and qualitative research designs, a mixed methodology type of research design. The design was adopted in order to acquire a complete understanding of challenges causing delay in the implementation of water projects. A mixed method research design can be described as a kind of research in which a researcher combines quantitative and qualitative research techniques, methods, approaches, concepts, or language into a single study (Johnson & Onwuegbuzie, 2004:17). In order to conduct a mixed methods research, there is a need to collect, analyse, and interpret quantitative and qualitative data in one study, or a number of studies, where an investigation of the same phenomenon is under consideration. According to Johnson and Onwuegbuzie (2004:17), the logic of conducting a comprehensive study inquiry encompasses the use of “induction (or discovery of patterns), deduction (testing of theories and hypotheses), and abduction (uncovering and relying on the best of a set of explanations for understanding one’s results)”. A mixed method approach, therefore, presents a logical and intuitive appeal hence provides a platform for bridging the divide between qualitative and quantitative paradigms.

A mixed method research design combines the strengths of both quantitative and qualitative research approaches. On their own, quantitative and qualitative methods have some strength, but more benefits are realised when they are brought together. The strength of a mixed method research design is supported by Connelly (2009: 31), who indicates that “the goal of mixed methods research is to draw on the strengths and minimize the weaknesses of both types of research”.

Quantitative research, often, improves on the validity of research instruments as well as the provision of a numerical dimension to analysis when addressing phenomena (Teddlie & Tashakkori, 2009:94). In addition, quantitative studies can simplify human experience, statistically, making the analysis of research findings easier. Qualitative studies, on the other hand, take into account the lived experiences hence enabling contextualisation of the analysis of phenomena and, they allow for an in-depth understanding of a phenomenon since they are often structured to collect data over an extended period of time (Teddlie & Tashakkori, 2009:94).

In this study, the researcher applied what Leech and Onwuegbuzie (2005:45) refer to as a (fully mixed method sequential dominant status) design. A quantitative approach was performed, subsequently followed by a qualitative approach. The sequence followed to make an inquiry moved beyond explanation and description during the quantitative method, to a qualitative exploration and in-depth investigation for deeper understanding of the challenges causing delay in the implementation of water projects.

3.3 RESEARCH METHODOLOGIES

Research methodology of a study denotes the value of selected measurement instruments and the reasoning behind the selection. Measurement instruments are techniques characterised by questions which are asked in a survey questionnaire to provide data relevant to the research questions (Punch, 2005:48). In this study, a survey questionnaire with closed-ended statements was used to collect data during the first phase. Also in this section, the population of the study, sampling procedures, construction of the questionnaire, pilot application, distribution and collection processes are explicitly documented.

3.3.1 Population

Edwards and Talbot (1994:158) postulate that a population is an identifiable group which shares the characteristics that are to be examined. Population is an abstract idea of a large group of many cases from which a researcher draws a sample and to which results from a sample can be generalized. The study covered 1500 members of the population.

The respondents who were part of this study were local traditional leaders, civic members from Tshipise and Dambale villages, and the water committee members from Tshipise and Dambale villages. Because the study used a mixed method, these respondents were selected to answer a survey questionnaire (quantitative method design).

In this study the second targeted populations were community development worker (CDW), Ward councillor, community liaison officer (CLO), Local water supply manager who had been part of the water project were interviewed (qualitative method design).

3.3.2 Sampling procedure

Sampling procedure is the selection of units to represent the entire set from which units were drawn. Babbie and Mouton (2007:164) also explain sampling as a process of selecting respondents or observations. Sampling consists of two types, but for the purpose of this study, the researcher used non-probability sampling. In addition, Bless, Higson-Smith and Kagee (2006:185) define non-probability sampling as a technique where the probability of each element of the population is not known. Purposive or judgemental sampling as a subtype of non-probability sampling was used.

3.3.2.1 Sampling Method

The researcher used purposive or judgmental sampling because the researcher is interested in respondents who have common qualities. According to MacMillan and Schumcher (2006:475) purposeful sampling is a type of sampling that allows choosing of small groups or individuals who are likely to be knowledgeable and informative about the phenomenon of interest; selecting cases without needing or desiring to generalize to all such cases. The researcher chose to use this method so as to source information from informative subjects; so that the best subject can be obtained to address the purpose of the research.

3.3.2.2 Sample size

The population for this study was selected accordingly over two (2) local traditional leaders of Tshipise and Dambale communities; fourteen (14) civic members from Tshipise and Dambale communities; and fourteen (14) water committee members from Tshipise and Dambale communities, (1) Community Development Worker (CDW), (1) ward councilor, (1) community liaison officer and (1) municipal official. In this study, a total of 34 participants were interviewed. The following table indicates the sample size and the participants who completed the questionnaire:

NO.	STAKEHOLDER	NUMBER	COMMUNITY REPRESENTED
1.	Local traditional leaders	1	Tshipise
2.	Local traditional leaders	1	Dambale
3.	Civic members	7	Tshipise
4.	Civic members	7	Dambale
5.	Water committee members	7	Tshipise
6.	Water committee members	7	Dambale
7.	Community Development worker	1	Ward 10
8.	Ward Councillor	1	Ward 10
9.	Community Liaison Officer (CLO)	1	Tshipise
1.	Local water supply manager	1	Dambale
	TOTAL	34	

3.3.3 Data collection method/Instrument

According to Somekh and Lewin (2005:346), an instrument is material developed by a researcher for data collection and analysis. Furthermore, Somekh and Lewin (2005:346) contend that it also includes an interview schedule, questionnaires, and pro-forma for observations and record sheets for coding. According to Terre Blanche (2006:555) data collection is the collection of information often in the form of numerical measuring of group of people. Data collection method is a procedure specifying technique to be employed, measuring instrument to be utilized and activities to be conducted in order to implement a study (Grinell, 1993:44).

Two instruments were used to collect data; the first instrument was a structured questionnaire. The questionnaire was preceded by a covering letter motivating the respondents to complete it. All items on the questionnaire were made up of closed-ended statements that were free from contingencies to dispel misunderstandings from the respondents. All the questionnaire statements were very short and precise. Thirty

questionnaires were allocated to each of the two villages of Tshipise and Dambale communities. A total of 30 questionnaires were at the end collected.

The second instrument used to collect data was interview schedule. According to Du Plooy (2009:200) a research instrument can include interview schedule and questionnaires and other instruments that are meant to collect data from respondents. A semi-structured interview is a method to help clarify concepts and problems and they allow for the establishment of a list of possible answers or solutions (Bless, *et al*, 2006:119).

For the purpose of this study an interview schedule was also used as an instrument to collect data. It was a semi-structured interview as the researcher wanted to create an atmosphere of trust and to encourage the respondents to talk about a topic. Respondents were asked to comment on broadly-defined issues. The researcher was allowed to intervene to ask for clarification or further explanation. There was a list of questions, which respondents were expected to answer orally.

3.3.4 Pilot testing

Bless *et al.* (2006:184) define pilot testing 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. In addition, Du Plooy (2009:99) refers to pilot testing as a method used to collect data to determine whether the method is relevant, reliable and valid. A pilot study was used because it helped the researcher to determine whether all the subsections in the research instrument were correct and appropriate so that if there are some subsections that are incorrect and inappropriate they must be removed. It also helped the researcher to analyse the data whether it was adequate and appropriate or as errors that would affect the study in the research instrument and would have to be removed.

For this study, a self-prepared and pre-tested (piloted) questionnaire and interview schedule were distributed to local traditional leaders; civic members; and water committee members who had knowledge of the implementation of water projects in their

respective villages. No error was detected from the questionnaires during the pilot study process, and as a result the questionnaires were finally distributed to the respondents.

3.3.5. Data analyses

According to Babbie and Mouton, (2001:646) data analysis is a numerical examination and interpretation of observation. Obtained data was analyzed quantitatively, examined and interpreted. According to McMillan and Schumacher (2006:417) it is important that data are clear and well organized to be properly analyzed. Analyzed data will be linked to findings and conclusion.

Welman, Kruger and Mitchel (2005:211) explain that data analysis helps researchers to investigate variables as well as their effect, relationships, and patterns of involvement within our world by means of statistics. Data analysis entails categorizing, ordering, manipulating and summarizing the data and describing. While Babbie and Mouton (2007:467) state that data analysis is a numerical examination and interpretation of observation. As indicated earlier, the interview process was based on a face-to-face interaction with the participants. The following sub-paragraphs present the setting of the interview, how the interviews were conducted, probing, the research participants' behaviour during the interviews as well as the length of the interview sessions.

For this study, the analysis of data was done using two data analyses method. The first one was done through computer software programme, the Statistical Package for Social Sciences (SPSS) and a quantitative data analyses method used. Data was analysed and interpreted to construct a theoretical framework around which to understand the challenges causing delay in the implementation of water projects in Mutale Municipality and its impact on social life of the community. Tables which explain the percentages and frequencies were given, followed by a discussion.

The second method was the one mentioned by Creswell (2005:334) which direct the researcher to follow steps of qualitative data analysis as outlined below:

Step 1: Planning for recording data

The researcher should plan to record data in a more systematic manner before collection of data.

Step 2: Data collection and Preliminary Analysis

Data analysis in qualitative inquiry necessitates a twofold approach. The first one involves data analysis at the research site during collection of data. The second one involves data analysis away from the site.

Step 3: Managing (organising) Data

This is the early stage in analysis wherein the researcher organise their data into file folder, index cards or computer files.

Step 4: Reading and Writing Memos

In this step after the researcher has organised the data, the researcher immerse himself in the detail trying to get a sense of the interview as a whole before breaking it into parts

Step 5: Generating Categories, Themes and Patterns

This involves noting regularities in the setting or people chosen for study. As the categories emerge, the researcher searches for those that have internal convergence and external divergence.

Step 6: Coding the Data

A researcher has to apply some coding scheme to those categories and themes, and diligently and thoroughly marked passages in the data. Codes may take several forms: abbreviation of key words, coloured dot and numbers; the choice is up to the researcher.

Step 7: Testing Emergent Understanding

The researcher began the process of evaluating the plausibility of her developing understandings and explores them through the data while searching for alternative

explanations.

Step 8: Searching for Alternative Explanations

At this stage, as the researcher discovers the patterns in the data he or she should engage in critically challenging the patterns that seem to be apparent. The researcher should search for other, plausible explanation for those data and the linkage among them.

Step 9: Writing the report

This is the final step wherein the researcher writes a report and explains the data in details. The researcher is engaged in an interpretative act, lending meaning to raw data. For the purpose of this study the following steps were used: planning for recording data, data collection and preliminary analysis, managing (organizing).

3.4 ETHICAL CONSIDERATION

Ethics is defined as a systematic attempt through the use of research to make sense of our individual and social experience in such a way as to determine the rules which ought to govern human conduct (Walliman, 2011:42). Working with human participants in your research always raises ethical issues about how you treat them. People should be treated with respect, which have many implications for how exactly to deal with them before, during and after a research (Walliman, 2011:42).

Ethics is the search for moral conduct. There are two aspects of ethical issues in research: the individual values of the researcher relating to honesty and frankness and personal integrity; and the researcher's treatment of other people involved in the research, relating to informed consent, confidentiality, anonymity and courtesy (Walliman, 2011:43). In this study, the researcher applied research ethics such as informed consent, confidentiality and privacy, anonymity, voluntary participation, no harm to respondents when conducting the interview and these are discussed as follows:

3.4.1 Informed consent

According to Grinell (1993:87) informed consent implies that the consent of the individual to participate in the study was obtained. Research respondents must be informed in advance, about every aspect of the study. The researcher used informed consent because it helped him to conduct the study freely knowing that respondents have been informed about everything that was happening in the process of conducting the research or study. The researcher informed the respondents about the purpose of conducting the study and also each and every aspect that will take place in the study as well as how the findings were going to be utilized.

3.4.2 Confidentiality and privacy

The researcher explained to the respondents that all the information that would be provided will be treated with high confidentiality. This is to say, that no one will be told about the source of information. This was to build trust among the respondents. Right to privacy was practiced. The right to privacy is a very important ethical concern for research as some may risk losing their jobs or being criticized by their peers. The participants were assured that matching information to participants will not be made available to anyone who was not directly involved in the study.

3.4.3 Anonymity

Anonymity has to do with assuring the participant that their details will remain anonymous throughout the study. Anonymity is a stronger guarantee of privacy and as such the respondents were advised that the researcher was not looking for names but information. The names of the respondents were not given to any body and their names were not written anywhere in the research if the respondent wanted it that way.

3.4.4 Voluntary participation

According to Grinell (1993:87) consent of individuals to participate in the research study must be voluntarily. Respondents were grant permission for involvement without being forced by anyone or a researcher. For the purpose of this study, the researcher told the

respondents that they had the power to participate in the study voluntarily and also to withdraw whenever they like. The researcher did not compel the respondents to be part of the study.

4.1 INTRODUCTION

3.4.5 No harm to respondents

The previous chapter presented the research design of the empirical investigation and the

The researcher should also not cause physical harm to the respondents (Neuman, 2006:132). The researcher did not harm the respondents by doing anything that can affect the respondent with regard to the study to be conducted. For example, the researcher did not interview respondents before asking permission from the owner of the enterprise in order to prevent the respondents from being fired from the workplace.

3.5 CONCLUSION

The first method was a quantitative research methodology and centered on survey responses and statistical analysis and the second method which was employed was a qualitative research

In this chapter, an explanation of the empirical investigation was provided. It dealt with the objectives of the study, research design, overview of research literature, delimitation of the study, population, sample procedure, instrument, pilot testing, data collection method, data analyses as well as the limitations of the study. Ethical issues were also considered. The next chapter presents an analysis and interpretation and in Chapter 5, synthesised findings of study, and recommendations for further studies on a similar subject, are made.

4.2 RESEARCH FINDINGS

4.2.1 Section A: Biographical information

Biographical information of the study covers gender and age of the respondents, those who completed the questionnaire and those who participated in the interviews.

Table 4.1 Gender of respondents

	Response	Frequency	Percentage
1	Male	11	36,7%
2	Female	19	63,3%
	TOTAL	30	100%

CHAPTER 4

DATA ANALYSIS AND INTERPRETATION

4.1 INTRODUCTION

The previous chapter presented the research design of the empirical investigation and the subsequent methodologies that the researcher followed and which indicated the structure and the procedures to answer the researcher's study questions. The previous chapter presented the mixed methodology research design which indicated the structure and procedures that were followed to answer the study's research questions. It has been revealed that the study was conducted in a sequence of two methods. The first method was a quantitative research methodology and centered on survey responses and statistical analysis and the second method which was employed was a qualitative research methodology which centered narrative analysis. The following subsections present the responses to the questionnaire items which are presented graphically in tabular form in quantitative method (survey questionnaire). This will followed by the information gathered from the respondents in table form and narrative qualitative method (interview question).

4.2 SURVEY QUESTIONNAIRE

4.2.1 Section A: Biographical information

Biographical information of the study covers gender and age of the respondents: those who completed the questionnaire and those who participated in the interviews.

Table 4.1 Gender of respondents.

	Response	Frequencies	Percentage
1	Male	11	36,7%
2	Female	19	63,3%
	TOTAL	30	100%

Table 4.1 presents the biographical information of the respondents in terms of gender. A total of 30 respondents took part in this study, of the 30 respondents, 19 (63,3%) were females whereas 11 (36,7%) were males. All targeted 30 respondents managed to return the questionnaires, and all the questionnaires were analysed. The respondents in this study live in Tshipise and Dambale communities in Vhembe District of Limpopo Province. There were more female respondents than men.

Table 4.2 Age group.

	Response	Frequencies	Percentage
1	Less than 21 years	01	3,3%
2	22 – 30 years	03	10,0%
3	31 – 40 years	09	30,0%
4	41 years and older	17	56,7%
	TOTAL	30	100%

Most of the respondents, 17 (56,7%) who took part in this study are aged between 41 years and older. 9 (30,0%) of the respondents are aged between 31 and 40, and 3 (10,0%) are between 22 and 30. Few respondent at 1(3,3%) are youth aged at less than 21 years. It can therefore be concluded that in this study, there has been a relatively better representation of the population in terms of age distribution of respondents.

Table 4.3 Position of respondents in the community.

	Response	Frequencies	Percentage
1	Local traditional leaders	02	6,7%
2	Civic Structures	14	46,7%
3	Water committee members	12	40%
4	Community development worker (CDW)	01	3,3%
5	Ward councillors	01	3,3%
	TOTAL	30	100%

It was planned for this study that two local traditional leaders shall be part of the study and all of the 2 (6,7%) did take part in the study. The majority of the population who took part in this study were civic structures. 14 (46,2%) civic structures took part in this study. Twelve (40,0%) community development workers (CDW) also took part in this study. One 1 (3,3%) community development worker (CDW) from the two communities also responded to the questionnaires, while only one ward councillor who constitute 1 (3,3%) successfully completed the questionnaires.

4.2.2 Section B: Legal issues

In this sub-section, data is analysed using graphical statistics which arose from the survey questionnaire from the respondents.

Table 4.4 The community know about their rights.

	Response	Frequencies	Percentage
1	Strongly agree	03	10,0%
2	Agree	06	20,0%
3	Not Sure	02	6,6%
4	Disagree	08	26,7%
5	Strongly disagree	11	36,7%
	TOTAL	30	100%

Eleven (36,7%) of the respondents strongly disagreed with the idea that community know more about their rights, 8 (26,7%) respondents disagreed. On the other hand, 3 (10,0%) strongly agreed and 6 (20,0%) agreed that the community knew more about their rights. Two 2 (6,6%) respondents were not sure whether the community knew more or does not know their rights. Majority of the community disagree that the communities know more about their rights. The statistics shows that the community does not know about their rights. However, the statistics also shows that a few community members know their rights because 19 (30,0%) of the respondents revealed that they know about their rights.

Table 4.5 Community had been advised of the basic needs they are entitled to.

	Response	Frequencies	Percentage
1	Strongly agree	06	20,0%
2	Agree	02	6,7%
3	Not Sure	0	0,0%
4	Disagree	04	13,3%
5	Strongly disagree	18	60,0%
	TOTAL	30	100%

The majority of respondents at 18 (60,0%) strongly disagreed that the community had been advised of the basic needs they are entitled to, 4 (13,3%) disagreed. On the other hand, 6 (20,0%) strongly agreed and just 2 (6,7%) agreed with the idea that the community had been advised of the basic needs they are entitled to. Twenty-two (73,3%) respondents revealed that the community did not get an advice on the basic needs they are entitled to receive. The figures indicate that the community structures and community members at Tshipise and Dambale were never advised of any basic needs that they are entitled to receive.

Table 4.6 The community is aware that the municipality is obliged, by the law, to provide them with water.

	Response	Frequencies	Percentage
1	Strongly agree	19	63,3%
2	Agree	05	16,7%
3	Not Sure	0	0,0%
4	Disagree	03	10,0%
5	Strongly disagree	03	10,0%
	TOTAL	30	100%

Most respondents at 19 (63,3%) strongly agreed that the community is aware that the municipality is obliged by the law to provide them with water; on the other hand, 5 (16,7%) respondents agreed with the idea that the community is aware that the municipality is obliged by the law to provide them with water. Three (10,0%) respondents strongly disagreed that the community is aware that the municipality is obliged by the law to provide them with water, whereas only 3 (10,0%) disagreed. None of the respondents, 0 (0,0%) showed that they are not sure. Such statistics indicate that the community is aware that the municipality is obliged by the law to provide them with water.

Table 4.7 The municipality is aware that the law binds them to provide the community with water.

	Response	Frequencies	Percentage
1	Strongly agree	09	30,0%
2	Agree	06	20,0%
3	Not Sure	02	6,7%
4	Disagree	07	23,3%
5	Strongly disagree	06	20,0%
	TOTAL	30	100%

Regarding the awareness of the municipality that it is bound by the law to provide the community with water, 30,0% of the respondents strongly agreed, whereas 20,0% simply agreed with the statement. On the other hand, 20,0% strongly disagreed while 23,3% simply disagreed and 6,7% were not sure whether or not the municipality is aware that the law binds them to provide the community with water. The conclusion that could be drawn is that the municipality is aware that the law binds them to provide the community with water, this is confirmed by a total of 50,0% of the respondents who agreed with the statement.

Table 4.8 The community is in possession of legislation that governs water supply to the community.

	Response	Frequencies	Percentage
1	Strongly agree	01	3,3%
2	Agree	02	6,7%
3	Not Sure	01	3,3%
4	Disagree	04	13,3%
5	Strongly disagree	22	73,3%
	TOTAL	30	100%

Only 3,3% of the respondents strongly agreed that the community was in possession of legislation that governs water supply to the community. Two (6,7%) simply indicated that they agreed. On the other hand, 73,3% strongly disagreed with the statement whereas, (13,3%) of the respondents simply disagreed. Only 3,3% of the respondents marked that they are not sure whether or not the community was in possession of legislation that governs water supply to the community. The implication based on responses was that the community was in possession of legislation that governs water supply to the community.

4.2.3 Section C: Causes of delay

The following paragraph focuses on the causes of delay in the implementation of water projects. The responses to a questionnaire items are presented graphically and in a table form and are followed by a discussion of the findings for the item.

Table 4.9 Lack of capacity by contractors leads to delay in the implementation of water projects.

	Response	Frequencies	Percentage
1	Strongly agree	12	40,0%
2	Agree	9	30,0%
3	Not Sure	0	0,0%
4	Disagree	04	13,3%
5	Strongly disagree	05	16,7%
	TOTAL	30	100%

According to the respondents, 12 out of the (40,0%), the majority of the respondents, strongly agreed that lack of capacity by contractors leads to delay on the implementation of water project. Five (16,7%) of the respondents strongly disagreed that contractors who lack capacity in building the water dam had delayed the implementation of the water project in Tshipise and Dambale communities, while 09 at (30,0%) of the respondents agreed, 04 (13,3%) on the other hand disagreed. None (0,0%) of the respondents were not sure about the statement. It means that a conclusion can be drawn that the respondents know that lack of capacity by the contractor had lead to the delay on the implementation of water project in Tshipise and Dambale communities.

Table 4.10 Poor planning and poor management result in the delay of water project.

	Response	Frequencies	Percentage
1	Strongly agree	06	20,0%
2	Agree	10	33,3%
3	Not Sure	04	13,3%
4	Disagree	04	13,3%
5	Strongly disagree	06	20,0%
	TOTAL	30	100%

With regard to poor planning and poor management, 6 (20,0%) respondents showed that poor planning and poor management results in the delay of water project, 10 (33,3%) agreed with the idea. On the other hand, a total of 4 respondents constituting 13,3% disagreed with the statement, meaning that to them, poor planning and poor management do not result in any delay of water project. Four (13,3%) respondents revealed that they are not sure whether poor planning and poor management result in the delay of water project. A total of 6 respondents, who constitute 20,0% strongly disagreed with the idea that poor planning and poor management results in a delay of water project. Such a statistics indicate that poor planning and poor management result in a delay of water project at Tshipise and Dambale communities.

Table 4.11 Lack of sufficient funds delay the implementation of water projects.

	Response	Frequencies	Percentage
1	Strongly agree	06	20,0%
2	Agree	03	10,0%
3	Not Sure	0	0,0%
4	Disagree	11	36,7%
5	Strongly disagree	10	33,3%
	TOTAL	30	100%

According to the respondents, a total of 30,0% are of the idea that lack of sufficient funds delayed the implementation of water projects. Just 33,3% strongly disagreed with the statement whereas 36,7% simply disagreed. None of the respondents, (0,0%) indicated that they were not sure whether lack of sufficient funds delayed the implementation of water projects or not. Such statistics reveal that lack of sufficient funds delayed the implementation of water projects in the community this has resulted in the community travelling long distance to neighbouring villages to fetch water and also to buy water from the people who have bore holes.

Table 4.12 Heavy rains lead to delay in water project.

	Response	Frequencies	Percentage
1	Strongly agree	02	6,7%
2	Agree	03	10,0%
3	Not Sure	0	0,0%
4	Disagree	06	20,0%
5	Strongly disagree	19	63,3%
	TOTAL	30	100%

Only 6,7% strongly agreed with the idea that heavy rains led to delays in water project. Three (10,0%) simply agreed whereas 20,0% disagreed and 63,3% strongly disagreed. The largest number of the respondents at 25 (83,0%) revealed that heavy rains at Tshipise

and Dambale communities do not contribute to the delay in the completion of the water project because there are times where rain is scare, for example, during winter season.

Table 4.13 Changes in the scope of work and design error lead to delay in water project implementation.

	Response	Frequencies	Percentage
1	Strongly agree	04	13,3%
2	Agree	02	6,7%
3	Not Sure	04	13,3%
4	Disagree	09	30,0%
5	Strongly disagree	11	36,7%
	TOTAL	30	100%

The majority of the respondents at 11 (36,7%) strongly disagreed with the statement that changes in scope of work and design error lead to delay in water project implementation, while 9 (30,0%) disagreed. Four (13,3%) strongly agreed with the statement. On the other hand, 2 (6,7%) agreed that the changes in the scope of work and design error lead to delay in the implementation of water project, while just 4 at 13,3% were not sure with that regard. A conclusion can be drawn that the municipality must make sure that there should be a stable and well-planned scope of work and design that could hasten the implementation of water projects.

4.2.4 Section C: Social issues

The following paragraph focuses on the social issues that are caused by delay in the implementation of water projects. The responses to a questionnaire items are presented graphically and in a table form and are followed by a discussion of the findings for the item.

Table 4.14 Delay in water project implementation causes water borne disease.

	Response	Frequencies	Percentage
1	Strongly agree	14	46,6%
2	Agree	06	20,0%
3	Not Sure	0	0,0%
4	Disagree	05	16,7%
5	Strongly disagree	05	16,7%
	TOTAL	30	100%

With regard to the slow process of implementation of water project which causes water-borne disease, 14 (46,6%) respondents showed that the delay in water project implementation causes water-borne diseases, 6 (20,0%) agreed with the idea. On the other hand, a total of 5 respondents constituting 16,7% disagreed with the statement, meaning that to them, the delay in water project implementation do not cause water-borne disease. None (0,0%) of the respondents revealed that they are not sure whether delay on water project implementation causes water-borne disease or not. A total of 5 respondents who constitute 16,7% agreed with the idea that the delay in the implementation of water project causes water-borne disease. The figures indicate that the community is sure that the delay in the water project implementation causes water-borne diseases.

Table 4.15 Delay in the implementation of water project negatively affects the development of the affected village.

	Response	Frequencies	Percentage
1	Strongly agree	09	30,0%
2	Agree	12	40,0%
3	Not Sure	0	0,0%
4	Disagree	04	13,3%
5	Strongly disagree	05	16,7%
	TOTAL	30	100%

The majority of respondents at 12 (40,0%) agreed that the delay in the implementation of water project negatively affected the development of the affected communities, 9 (30,0%) only strongly agreed. On the other hand, 13,3% of the respondents disagreed and just 5 (16,7%) strongly disagreed with the idea that the delay in the implementation of water project negatively affected the development of the affected communities. As indicated in literature review that it is necessary for provinces or districts to implement water projects to limit water crises problems, the figures above indicate that the delay in the implementation of water project negatively affected the development of the affected communities.

Table 4.16 Delay in the implementation of water project negatively affected the community health care services.

	Response	Frequencies	Percentage
1	Strongly agree	16	53,3%
2	Agree	06	20,0%
3	Not Sure	0	0,0%
4	Disagree	04	13,3%
5	Strongly disagree	04	13,3%
	TOTAL	30	100%

Sixteen (53,3%) respondents in Tshipise and Dambale strongly agreed with the statement that the delay on the implementation of water project negatively affected the smooth running of the affected community health clinic's day to day services, whereas 6 (20,0%) agreed. While 4 (13,3%) of the respondents agreed, four respondents (13,3%) just strongly agreed that the delay in the implementation of water project negatively affects the community health care services. The statistics were in favour that community health care services are being negatively affected by the delay in the implementation of water project at Tshipise and Dambale communities.

Table 4.17 Delay in the implementation of water project wasted the governments' funds.

	Response	Frequencies	Percentage
1	Strongly agree	04	13,3%
2	Agree	03	10,0%
3	Not Sure	03	10,0%
4	Disagree	06	20,0%
5	Strongly disagree	14	46,7%
	TOTAL	30	100%

Three (10,0%) respondents were not sure whether the delay in the implementation of water project wasted the public funds or not. Four (13,3%) strongly agreed with the idea, whereas three (10,0%) merely agreed with the idea that the delay in the implementation of water project wasted the government funds. On the other hand, 06 (20,0%) merely disagreed while the majority at 14 (46,7%) strongly disagreed that the delay in the implementation of water project wasted the government funds. The largest number of the respondents at 20 (66,7%) revealed that the delay in the implementation of water project did not waste the government funds.

Table 4.18 Delay in the implementation of water project negatively affects the community's day to day food preparations.

	Response	Frequencies	Percentage
1	Strongly agree	06	20,0%
2	Agree	09	30,0%
3	Not Sure	02	6,7%
4	Disagree	06	20,0%
5	Strongly disagree	07	23,3%
	TOTAL	30	100%

While six (20,0%) of the respondents strongly agreed, nine respondents (30,0%) just agreed that the delay in the implementation of water project, negatively affected the community's day to day food preparations. On the other hand, six (20,0%) of the respondents disagreed and only 07 (23,3%) strongly disagreed with the idea that the slow process in the implementation of water project negatively affected the community's day to day food preparations. Two (6,7%) respondents were not sure whether the delay in the implementation of water project negatively affected the community's day to day food preparations or not. The majority of the respondents at Tshipise and Dambale communities agreed with the idea that the delay in the implementation of water project, negatively affects the community's day to day food preparations. The local municipalities should prioritise their duties to make sure that during the construction of projects, they should be properly monitored, because Tshipise and Dambale communities need pure water.

4.3 INTERVIEW SCHEDULE

This data collection procedure was preceded by an introduction of myself, followed by a comprehensive explanation of the purpose of the meeting. The importance of free participation and contribution was also highlighted. The main objective was to talk with participants from Tshipise and Dambale rural communities who were taking part in the water project. The researcher asked for participants' consent to participate in the study and for interviews to be written. The researcher promised the participants confidentiality and anonymity and further indicated that a copy of the interview transcript will be available for them if they so deem necessary. A face-to-face in-depth interview was held with 04 selected respondents at Tshipise and Dambale communities from Mutale Local Municipality whereby probing question on the extent to which respondents at Mutale Local Municipality form part of the water project:

4.3.1 Section A: Background information

Biographical information of the study participants covers gender and age of the respondents, those who will complete a questionnaire and those who will participate on the interview.

Table 4.19 Background information of the respondents.

Respondents	Gender	Age Group
A	Female	36
B	Male	42
C	Male	45
D	Male	48

Table 4.1 presents the background information of the respondents in terms of gender and age group. Three of the four respondents were female and one respondent was male. All the targeted 4 participants managed to be interviewed.

4.3.2 Section B: Challenges which causes delay in the implementation of water project

In this sub-section, data is analysed using the information gathered from the respondents by face-to-face in-depth interview and is presented in table form and narrative.

Table 4.20 Challenges which causes delay on the implementation of water project.

Respondent	How does the delay of water supply affect the community?	What do you think the cause of the delay is?	Do you think there is an obligation for the municipality to supply water to the communities?	Regarding the delay, what do you think the Municipality can do to hasten the implementation of water project?
A	The community uses un-purified water and now it experiences water-related disease. The community is forced to drink dirty water which is not good for community usage and at the other hand this is risking their health and life.	Lack of capacity by contractor causes delay in the implementation of water project.	Yes, the municipality is obliged by the law to supply the community with water.	Appointing contractors with relevant skills or capacity.
B	The community travels long distances to fetch water and some people end up not getting water at all because of its scarcity.	Lack of monitoring and high level of involvement by the municipality delay the implementation of community water project.	Yes, the municipality is obliged by the Constitution of the country to supply the community with water.	Proper monitoring of the project by the municipality.
C	The community use dirty water which is not good or ready for human usage and this put their life at risk of water-related diseases.	Employing contractors without relevant skills delays the implementation of water project.	Yes, the municipality is obliged by the law to supply the community with water.	Proper monitoring of the project by the municipality.
D	Community is at risk of diseases as the human body needs water for proper functioning. Failure to get enough water by the human body resulted on different diseases.	Lack of relevant skills by the contractors delays the implementation of water project.	Yes, the municipality is obliged by the law to supply the community with water.	Considering the capacity of the contractor before the appointment.

Table 4.3.2 shows that three of the four participants note that the delay of water supply puts the community at risk of water-related diseases while one respondent responded that the delay of the water supply makes the community travel long distances to fetch water and some people end up not getting water at all because of its scarcity. Two participants revealed that the main causes of delay of water supply is that there is a lack of relevant skills by contractors and one respondent revealed that contractors do not have the capacity that is required to construct a water project while one respondent stated that there is lack of monitoring and high level of involvement by the municipality and this delays the implementation of community water project. All participants indicated that the municipality is obliged by the law to supply the community with water. Two of the four participants indicated that in order to hasten the implementation of water project the municipality should consider the capacity and the skills of the contractors before the appointment while the other two participants alluded that the municipality must monitor the project properly.

4.4 SUMMARY

In this chapter, the researcher presented and interpreted data for the quantitative study, followed by narrative analysis of the second qualitative study. From both methods, it became evident that there is a lack of relevant skills and capacity from the contractors as well as lack of monitoring by the municipality which lead to the delays in the implementation of water project. The data obtained also indicated that there is poor planning, poor management, and lack of sufficient funds by contractors which leads to delay in the implementation of water project. The next chapter presents discussions of findings, recommendations for future possible research studies and recommendations.

CHAPTER 5

FINDINGS, RECOMMENDATIONS AND CONCLUSION

5.1 INTRODUCTION

In this chapter an overview of the study is documented focusing on the research question and aims of the study. A synthesised summary of findings is also presented followed by recommendations of the study and for future research study on a similar research domain. The study closes by providing possible limitations of the study that might possibly, to a certain extent, have influenced the results.

5.2 OVERVIEW OF THE RESEARCH STUDY

The first chapter presented an orientation of this study, whereby a background, problem statement, aims, critical research questions, hypothesis of the study were properly documented. It was further reflected that the study was placed in both quantitative and qualitative research design. The area over which the study was conducted is indicated as delimitations of the study, followed by all ethical considerations taken into account in the process of investigation and its significance. The first chapter closed by providing an outline of what the study will entail in subsequent Chapters 2 to 5.

This study was about challenges causing delay in the implementation of water projects in Mutale Municipality and its impact on social life of the community using a case study of Tshipise and Dambale water project. This study was conducted in order to answer the research question that arose from the challenges that hinder the implementation of water projects and its impact on social life of the communities in Mutale Municipality it was identified that lack of capacity by contractors lead to the delay of the implementation of water project as well as poor planning and poor management; lack of sufficient funds. The study was quantitative in nature and the aim was an investigation into the challenges causing delay in the implementation of water projects in Mutale Municipality and its impact on social life of the community. Non-probability sampling technique and its subtype's purposive judgemental sampling method were used. The researcher used

survey questionnaires to collect data. Data was analysed with the aid of tables to present respondents' perceptions in terms of percentages and some excerpts from literature to support the findings.

The objectives of the study were:

- To determine the challenges causing delays in water projects and its impact on the social life of the communities.
- To assess the capacity of contractors in the implementation of water project.
- To explore the strategies to enhance water project implementations by the Mutale municipality.

The critical research questions were:

- What are the challenges that hinder the implementation of water projects and its impact on social life of the communities in Mutale Municipality?
- Did lack of capacity by contractors lead to delay in the implementation of water project?
- Can poor planning and poor management results on the delay of water projects?
- Can lack of sufficient funds delay the implementation of water projects?
- What are the strategies that can be undertaken to enhance water project implementations by the Mutale Municipality?

In the process of addressing the study's aims and to answer the research question, it was hypothesised that:

- Challenges that Mutale Municipality encountered impede the implementation of water project.
- Lack of capacity by contractors lead to delay in the completion of water projects.
- Poor planning and poor management results in the delay of water project.
- Lack of sufficient funds causes delay in the implementation of water projects.

5.3 MAIN FINDINGS OF THE STUDY

Community structures are dominated by females who are mainly of above 41 years of age. Women are in majority as the services rendered by many committees directly affect them; an example is water committee which deals with water which is mainly used by women to prepare food and washing. The majority of women stay at home while their spouses work in urban areas. The study revealed that many participants who completed the questionnaires are women and few participants are male. The majority of respondents in the study are above 41 years old. There are few respondents who are below 21 of age and this is because many of them are still schooling and did participate actively at the community structures.

The empirical evidence also revealed that many people did not know their rights and basic needs they are entitled for. This might be because the local council did not workshop them about their rights and basic needs. The findings of the study indicate that lack of the capacity by the contractors delay the implementation of water project. This takes place when the municipality just appoints a contractor unfairly or not considering all factors. It mainly happens when the people who process the appointment of contractors had an interest in a contractor and forgets to consider the capacity of such contractor. The study concur with Davies and Day (1998:224) with regard to the effect of water implementation delay that compel the community to use water which has not been purified and as such faces diseases such as jaundice, typhoid, cholera and diarrhea. This is because water is life and people cannot do anything without water.

5.3.1 Findings with regard to legal issues

One of the objectives of this research was to determine the challenges causing delays in the implementation of water projects. The researcher found that majority of the community disagree that the community knows about its rights. The statistics shows that to a great extent, the community does not know about their rights. However, the statistics also shows that few community members know their rights. The study also found that the majority of respondents do not get any advice on basic needs they are entitled to receive

while there were few respondents who indicated that there are some advice on basic needs that the community is entitled to receive.

The study further found that the majority of the respondents are aware that the municipality is obliged by the law to provide them with water and also that the municipality is aware that the law binds them to provide the community with water. Furthermore the researcher found that majority of the respondents revealed that the majority of the community did not know their rights.

5.3.2 Findings with regard to causes of delay in the implementation of water projects

The study also sought to find out the capacity of contractors in the implementation of water project. Results from the study show that lack of capacity by contractors leads to delay in the implementation of water project. However, exceptions are in a few cases of contractors who lack the capacity in building the water dam and this delays the implementation of the water project in Tshipise and Dambale communities. The empirical study revealed that there is poor planning and poor management which results in the delay of water project, but there are few respondents who stated that poor planning and poor management are not contributory factors which lead to the delay in the completion of the water projects.

The majority of respondents during the collection of data for this study also agreed with the idea that lack of sufficient funds, heavy rains and changes in scope of work and design error lead to delay in water project implementation. Few respondents in the study revealed that lack of sufficient funds, heavy rains and changes on scope of work and design error does not contribute towards in the completion of the water project.

5.3.3 Findings with regard to social issues

Another objective of this research was to inquire on the impact on the social life of the communities. Results from the study shows that the delay in the implementation of water project causes water-borne disease. The empirical study also found that delay in the implementation of water project negatively affects the development of the affected

communities. The study further revealed that delay in the implementation of water project negatively affects the smooth running of the affected communities health clinic's day to day services. Furthermore, majority of the respondents replied that the delay in the implementation of water project do not waste the government funds. In addition, the majority of the respondents revealed that the delay in the implementation of water project, negatively affects the community's day to day food preparations.

5.4 RECOMMENDATIONS

According to the findings of the research, the following recommendations could be adopted and put into practice to help the municipality to hasten the implementation of water project:

- The community to have a workshop about legislations that governs water and procedures to be followed when there is no water at the community.
- Appointment of competent contractors who have relevant skills to render a relevant service. Profile and interview to be done before engaging any contractor. Contractors to be given chance to reveal their competency before being engaged and the contractor to be interviewed by tender committee before any engagement.
- The municipality is to supply the community and clinic with clean water until the project is completed to avoid people being subjected to many water-borne diseases. Water tankers to be allocated to each community without water.

5.5 SYNTHESIS OF THE MAIN FINDINGS

The study sought to investigate challenges causing the delay in the implementation of water projects and found that some delays are caused by lack of capacity by contractors. Swanepoel (1992:46) contends that it is also important for project members to receive training before they can kick start with the project because without special training the project can fail to reach its aim and objectives. Some challenges were caused by heavy rains and this caused delays. The research found that there is poor planning and poor management towards the implementation of the project. It was also found that lack of

sufficient funds is another contributory challenge causing delays in completing the water project.

The study also found that there are many changes in the scope of the work and design error by the contractors in Tshipise and Dambale water project. Flyvbjerg (2009:15) alludes that design errors could lead to cost overrun and delay could be seen in the fact that project estimations are done base on the produced designs, as such, errors in design in a form of omission or misrepresentation will mean that the estimation for the project cost will also include these omissions, thereby leading to issues like extra works, and changing of orders thus resulting in delay and cost overrun.

5.6 RECOMMENDATIONS FOR FUTURE STUDY

From what have been sourced out in the literature consulted, survey questionnaires by respondents in Tshipise and Dambale communities, it is pertinent to indicate that, all stakeholders must be aware and also take part (people-centered) in any service that they are entitled to receive. Future researcher who may be interested to do a similar study must also include officials from the municipality as their respondent in order to get a broader understanding of the phenomenon.

5.7 CONCLUSION

In this study quantitative and qualitative findings was presented and recommendation were made. The research objectives were fulfilled because the study revealed that lack of capacity by contractors negatively affects the implementation of water project. The research also revealed that a proper screening of contractors must be done to avoid contracting contractors without relevant skills. Without clean water, the life of the community will be at risk all the time. The community can be affected by many water-related diseases if there is no clean water for people usage. Water cannot be separated from life as there is no life without water. Water is one of the basic needs of the community and must be treated as such.

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IMPLEMENTATION OF WATER PROJECTS IN MUTALE MUNICIPALITY

ANNEXURE A

P.O. Box 36

SAGOLE

0995

December 10, 2012

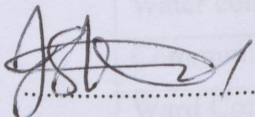
Dear Sir/Madam

I am studying at the University of Venda. I am interested in finding out the challenges causing delay in the implementation of water projects in Mutale Municipality and its impact on social life of the community.

I should be most grateful if you would help me with this part of my research project by completing the inventory. May I assure you that the survey is anonymous and is designed mainly to obtain an overall statistical picture.

In anticipation, please accept my *sincere appreciation for your willingness to assist me.*

Yours sincerely



KWINDA T.S.

083 765 1756

IMPLEMENTATION OF WATER PROJECT - QUESTIONNAIRE

The purpose of this study is to investigate the challenges causing delay in the implementation of water projects in Mutale Municipality and its impact on social life of the community: a case study of Tshipise and Dambale communities. This is an opportunity for you to reflect on your perceptions about challenges on the implementation of water project. For each of the following statements place an **X** in the box that applies to you.

SECTION A: BIOGRAPHICAL DETAILS

1.	Gender	
	Male	1
	Female	2

2.	Age	
	Less than 21 years	1
	22 – 30 years	2
	31 – 40 years	3
	41 years and older	4

3.	Position of respondents in the community	
	Local traditional leaders	1
	Civic structures	2
	Water committee members	3
	Community Development Worker (CDW)	4
	Ward Councillor	5

SECTION B: LEGAL ISSUES

Item no	Legal issues on the implementation of water project	Place an X in the box that applies to you				
		Strongly Agree	Agree	Not sure	Disagree	Strongly Disagree
4	The community knows about their rights.	1	2	3	4	5
5	Community had been advised of the basic needs they are entitled to.	1	2	3	4	5
6	The community is aware that the municipality is obliged, by the law, to provide them with water.	1	2	3	4	5
7	The municipality is aware that the law binds them to provide the community with water.	1	2	3	4	5
8	The community is in possession of legislation that governs water supply to the community.	1	2	3	4	5

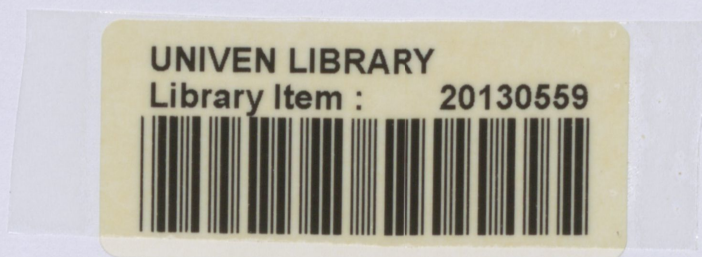
SECTION B: CAUSES OF DELAY

Item no	Causes of delay on the implementation of water project	Place an X in the box that applies to you				
		Strongly Agree	Agree	Not sure	Disagree	Strongly Disagree
9	Lack of capacity by contractors leads to delay in the implementation of water projects.	1	2	3	4	5
10	Poor planning and poor management result in the delay of water project.	1	2	3	4	5
11	Lack of sufficient funds delay the implementation of water projects.	1	2	3	4	5
12	Heavy rains lead to delay in water project.	1	2	3	4	5
13	Changes in scope of work and design error lead to delay in water project implementation.	1	2	3	4	5

SECTION C: SOCIAL ISSUES

Item no	Social issues on the implementation of water project	Place an X in the box that applies to you				
		Strongly Agree	Agree	Not sure	Disagree	Strongly Disagree
14	Delay in water project implementation causes water-borne disease	1	2	3	4	5
15	Delay in the implementation of water project negatively affects the development of the affected village.	1	2	3	4	5
16	Delay in the implementation of water project negatively affects the smooth running of the affected community health clinic's day to day services.	1	2	3	4	5
17	Delay in the implementation of water project wasted the governments' funds	1	2	3	4	5
18	Delay in the implementation of water project negatively affected the community's day to day food preparations.	1	2	3	4	5

End of questionnaire
Thank you for your contribution



RESEARCH INSTRUMENTS

INTERVIEW SCHEDULE

CHALLENGES CAUSING DELAY IN THE IMPLEMENTATION OF WATER PROJECTS IN MUTALE MUNICIPALITY AND ITS IMPACT ON SOCIAL LIFE OF THE COMMUNITY: A CASE STUDY TSHIPISE AND DAMBALE WATER PROJECT

SECTION A: BACKGROUND INFORMATION

19 Gender

20 Age

SECTION B: CHALLENGES WHICH CAUSES DELAY ON THE IMPLEMENTATION OF WATER PROJECT

21 How does the delay of water supply affect the community?


22 What do you think the cause of the delay is?

23 Do you think there is an obligation for the municipality to supply water to the communities?

24 Regarding the delay, what do you think the Municipality can do to hasten the implementation of water project?

End of interview

Thank you for your contribution


Professor M.P. Khweshaka
Deputy Dean, School of Management Sciences

4 February 2013

The Municipal Manager
Mutale Municipality

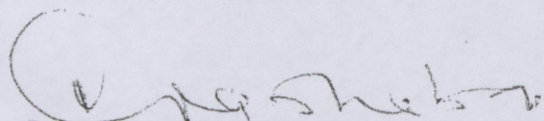
REQUEST FOR PERMISSION TO COLLECT INFORMATION FOR STUDIES (MASTER
OF PUBLIC ADMINISTRATION.(STUDENT NO:9209536)

The above matter refers.

We hereby wish to confirm that Mr Kwinda T,S. (Student No.9209536) is a registered MPM student at the University of Venda. He is researching on the following topic;**Challenges causing delay in the implementation of water projects in Mutale Municipality and its impact on social life of the community.A case study of Tshipise Dambale.**

In order for him to complete his studies, we request your municipality to provide him with the information that he might need for his study project. As an institution of higher learning, we believe that the research he is undertaking will yield the results that might also assist your institution. We for this reason encourage your institution to provide him with the necessary information that will be collected through structured questionnaire and interviews. We undertake that whatever information will be provided to him will be solely used for this studies. We also undertake that we will also supply you with the results once the study is completed for your own use.

We hope that you find this to be in order and therefore, anticipate your assistance.



Professor M.P. Khwashaba
Deputy Dean: School of Management Sciences



ANNEXURE D

MUTALE MUNICIPALITY

NEW MUNICIPAL BUILDING
NEXT TO MANENU BATTALION
MUTALE TOWN
0956



PRIVATE BAG X1254
MUTALE 0956
TEL: 027-15-967 9600
FAX: 027-15-967 9577

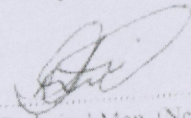
DEVELOPMENTAL MUNICIPALITY THAT ENSURES SUSTAINABLE ECONOMIC GROWTH AND EQUITABLE SERVICE DELIVERY

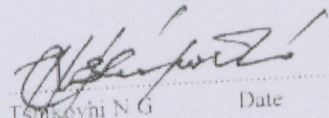
University of Venda
P/Bag x 5050
Thehoyandou
0980

Mutale municipality has granted the permission to Mr Kwinda T S (student no. 9209536) on behalf of university of Venda to conduct research for his MPM as required by the university.

Topic: challenges causing delay on the implementation of water project in Mutale municipality and its impact on social life of the community (Tshipisc/ Dambale)

We hope that you will find this in order


..... 04/01/2015
Technical Man. (Nemudzidi M E) Date


Tshikovhi N G Date

UNIVERSITY OF VENDA
LIBRARY