

**Community involvement in the maintenance of urban water systems: a proposed
experiment in Dipaleseng local municipality**

SELLO JOHANNES MASWANGANYE

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**Supervisor: Prof J.W.N. Tempelhoff
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ABSTRACT

The South African Constitution declares that everyone has the right to access sufficient water. However, with the current challenges of water scarcity and poor water infrastructure, it is impossible to fulfill these rights. The study basically deals with community involvement in the maintenance of the urban water system in Dipaleseng Municipality.

The research study was conducted in the format of a case-study investigation, in which the potential strategies and the effects of involving the community in the maintenance of the local water infrastructure were investigated. A qualitative interpretative approach was used in attempting to establish proper community involvement procedures, as well as the perceptions of the community as regards the maintenance of their local potable water supply and the wastewater treatment system.

The literature study and the empirical investigation have both shown that it is possible to persuade the community to participate in some aspects of the local water governance and maintenance. There are already examples of successful local initiatives in various parts of the world. From the empirical evidence collected in Dipaleseng Local Municipality, it is evident that the community has the potential and the willingness to resolve their own problems.

It is recommended in the study that the Municipality should create a platform of communication that is conducive to a climate of active civil society participation in the project of maintaining urban water system. It could be of value, in the sense that it could lead to the effective maintenance of the local water infrastructure. It could also contribute to making the local community self-reliant and confident enough to resolve their water related problems themselves.

Moreover, through community involvement, the community could acquire skills, such as plumbing – and many more skills that are needed – to build and maintain the water supply system.

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1. ORIENTATION AND PROBLEM STATEMENT

1.1 PROFILE AND ORIENTATION OF THE AREA UNDER INVESTIGATION

Dipaleseng Local Municipality is situated about 80km South East of Johannesburg in Mpumalanga Province. It forms part of the Gert Sibande District Municipality. The capital of the district is the town of Ermelo. Dipaleseng Local Municipality is regarded as one of the poorest in the district, on account of the conditions of the infrastructure.

According to Dipaleseng Local Municipality (2008), the local population in the area has increased to 52 427 people since 2001. The population figure listed above includes the smaller towns of the municipality, such as Greylingstad, Balfour and Grootvlei.

According to Levinsohn (2007:3), unemployment is a critical issue in contemporary South Africa. Mohr et al. (2000:120-121) outline the unemployment rate in South Africa as being very high, due to the rapid population growth.

Though there are new employment agencies in the Dipaleseng Local Municipality, the limited intake of local people seems to be a challenge. The situation is exacerbated by the lack of the necessary skills. About 50 per cent of the local population can be described as impoverished because of unemployment. The number of grants or recipients of handouts has drastically increased in recent times (Mabena, 2009).

Water plays a vital role in people's lives. We need it for personal use, i.e. basic consumption, hygiene, and sanitation. Irrigation is crucial to our growing need for food. Simultaneously, there is also a growing demand for water in the field of economic development (RSA 2002).

There are essentially three important pieces of legislation, which deal specifically with water. These are: the *Constitution of the Republic of South Africa, Act, 108 of 1996*; the *National Water Act, 36 of 1998*; and the *Water Services Act, 108 of 1997*. These Acts essentially regulate the

water supply system of the country. The Constitution, in its Bill of Rights, emphasises the right of access to basic clean water and proper sanitation for all citizens of South Africa (RSA 1996).

The existing legislation stipulates that the responsibility for the water supply rests with the local government.

The *National Water Act*, 36 of 1998 outlines the proper way of managing scarce water resources. It also delineates the role of the national government as the custodian that manages the country's water resources on behalf of its inhabitants. The *Water Services Act*, 108 of 1997, supports the constitution, by ensuring that the right of access to water is secure for all citizens (RSA, 1997).

These pieces of legislation which delegate responsibilities to municipalities to maintain and create a user-friendly water system have proved to be ineffectual, especially in the rural areas of the country. This can be deduced from the problems that are currently being experienced by the different municipalities. The standard in terms of ensuring the proper management of potable water has deteriorated – due to a lack of capacity within the municipalities. Countrywide, constant water cuts are being experienced on an on-going basis for a number of reasons – known only to the municipalities (Earle et al., 2005:1-40).

According to Dipaleseng Local Municipal officials, major water-related problems are experienced frequently in this municipal area. There are continuous interruptions of potable water supply to all parts of the town. The local water purification plant is not properly maintained, as a result of negligence and insufficient supplies of treatment chemicals. Also the wastewater treatment works have fallen into a state of disrepair.

The implications of this state of affairs are evident, especially in rural urban environments. In the Victor Khanye Local Municipality in Mpumalanga, several outbreaks of contagious water-borne diseases, as a result of contaminated drinking water, have since 2000 been responsible for claiming several lives (Nealer, 2009: 4-6).

More recently, the northern parts of South Africa have been seriously affected by a cholera epidemic that started in Zimbabwe in August 2008; and which then spread to many parts of South Africa (Fisher, 2009:82-83). The spread of this water-based pandemic is symptomatic of inadequate environmental health measures in the water sector to control and prevent the spread of this deadly disease.

The record number of service-delivery protests, held in all parts of the country in 2009, suggests that residents in the towns and cities of South Africa require proper service delivery. Water supply and sanitation are part and parcel of this problem (RSA, 2009:2-4).

1.2 PROBLEM STATEMENT

In this study the question is asked: Does the community not have a role to play in what is increasingly becoming a critical state of affairs in local municipal water governance and service delivery? It has perhaps now become imperative to realize that civil society could play a crucial role in the maintenance of the local water infrastructure. It is an undisputed truth that these negative developments in the maintenance of important water infrastructural systems affect the entire community. Therefore, the very same community can make a concerted effort to solve its own problems.

However, community involvement seems to be a great challenge – specifically, in Dipaleseng Local Municipality, where the local authority is solely responsible for all the water related issues.

The Department of Water Affairs (DWA) has been running a project for a number of years since 1995. This project is called: Working for Water. It is an initiative aimed at organizing unemployed people in all parts of the country to help clean up river catchment areas of alien plant life. Many of these plants have been responsible for feeding on the country's finite water supplies. The project has been successful, in that it has helped to partly address major environmental problems – by ensuring that river water supplies are being properly conserved (Binns et al 2001: 341).

According to Barnes et al. (2002:1-2), the project has provided many unemployed families in all parts of the country with an income, while on the other hand, ensuring water conservation. It has demonstrated how effective community involvement can be in dealing with its own problems.

This study intends to investigate whether the concept of “working for water” can be extended to other fields in the water sector.

In view of the growing crisis experienced in the water service delivery sector of local government, the question can be asked: Can something similar to Working for Water be applied in the rural areas (towns and villages) of South Africa? ‘Working for Urban Water’, could perhaps serve as a valuable objective in getting the local water supply and sanitation infrastructure in a working condition once again – specifically, in Dipaleseng Local Municipality’s area.

The current crisis of the collapsed water system does not only affect a specific race or group of individuals in the community. The entire community is affected. It is therefore significant to view this as something that demands a concerted and dedicated effort from people of all races. Black and white residents of the rural urban areas can perhaps work in a collaborative manner to help repair the water infrastructure, without which the community cannot function properly.

They should, in small teams, assist local authorities in doing some of the basic repair work to the water supply. They can work under the supervision of a qualified official of the Department of Water Affairs (DWA) or the local authority. At the same time, they could learn skills, such as elementary plumbing, that would be of great value for future employment. The workers should perhaps also be taken into service at local wastewater treatment plants, and also at the water purification works, where they could help to alleviate the workload of some of the existing workers.

Government funding should be made available for the employment of these people. The ultimate objective would be to see how these ‘water workers’ with their skills and local knowledge, could become entrepreneurs working for their own account, as local business people.

According to Reid (2000), community involvement refers to the total participation of people in the various activities of the community. Community involvement is not specifically open to a certain group of individuals in terms of their race and culture, but it is accommodative. Participating communities conduct their business openly and publicize it widely. Citizens are well informed about the community's work, and about any opportunities. Community involvement is also a process, whereby local people could be empowered to become self-reliant.

1.3 RESEARCH QUESTIONS

It is imperative to investigate the possibility of linking the concept of community involvement to an urban water supply system. It is also significant to present the following questions, which are pertinent to the problems being experienced in terms of ensuring proper community involvement in the maintenance of the urban water supply system:

- Who is responsible for maintaining the urban water supply system in Dipaleseng Local Municipal area?
- What are the real reasons which have led to the current state of the water system's disrepair?
- Is there an alternative way to deal with the challenges of the urban water system?
- What are the benefits of involving the community in maintaining the local water supply system?
- Can a viable project, which would typically go by the name of 'Working for Urban Water', be executed and launched in Dipaleseng Local Municipal area?

1.4. OBJECTIVES

The main objectives of the study are to:

- Locate the relevant sectors in the Dipaleseng Local Municipality responsible for operations in the running and maintenance of the water purification and wastewater treatment works.

- Determine what factors are responsible for lapses in the running and maintenance of the urban water system in Dipaleseng Local Municipality.
- Investigate the potential strategies of community involvement, to provide labour and support in the local municipal water sector.
- Outline a potential project that can go by the name of, for example: ‘Working for Urban Water’; and which could be implemented as a pilot project in Dipaleseng Local Municipality.

1.5 HYPOTHESIS

Members of the community of Dipaleseng could play a vital role in maintaining their local water infrastructure. By taking cognisance of an existing development initiative, such as ‘Working for Water’, it may be possible to launch a project, such as ‘Working for Urban Water’, aimed at empowering local people to find employment and acquire skills in the water sector.

1.6 METHODOLOGY

1.6.1 Literature study

It is imperative to note that the researcher cannot rely solely on his intellectual capacity, but needs to consider other relevant sources to support the argument. Zaaiman (2009:23) asserts that it is important for the researcher to have a clear idea of what literature must be consulted for the research. The author managed to focus on a number of aspects of the problem that need to be addressed. Utilizing different sources has provided an idea of the extent of the work done previously on the topic.

Pole and Lampard (2002:14) confirm that the existing literature could guide the researcher on what is already known – or is thought to be known – about his or her area. In a way, this assisted the author in identifying gaps, and in simultaneously coming up with a new way of researching the problem.

For the purposes of this research project, a number of resources have been consulted for relevant information that could enhance, support and further inform the current standing of knowledge on the topic under investigation. This includes:

- Experts in the field of water at the Department of Water Affairs and other agencies.
- A catalogue of the relevant sources at the Ferdinand Postma Library of North West University (Potchefstroom campus)
- Internet resources of the Water Research Commission, and the Department of Water Affairs.
- A selection of articles in academic journals.
- Research reports on ‘Working for Water’ and problems related to water service delivery at local government sphere.
- Periodicals and publications, such as newspapers and popular magazines.

1.7 RESEARCH METHODOLOGY

Qualitative research was utilised as a way of collecting the desired information. According to Zaiman (2009:31), qualitative studies seek to investigate human activities from the perspective of human actors. It is imperative to note that this research was concentrating on community involvement; and therefore, qualitative research was significant.

Having access and time to freely move around in the community, the researcher was in a position to locate key persons with expertise among the local residents. Knowledgeable people were interviewed on the status of water governance and maintenance in Dipaleseng Local Municipality. This was done in one-on-one interviews. According to De Vos (2002:297), one-on-one interviews can be conducted via informal conversational interviews, standardised open-ended interviews and guided interviews.

Unstructured interviews were also conducted, in which the respondents interviewed were not aware of matters pertaining to the maintenance of the water infrastructure.

A random sample of 30 persons from the population was selected. This was done without considering their sex, race, or culture. About 10 respondents from each area were selected to represent the population of Dipaleseng. The selection process was conducted in line with the criteria outlined by Huysamen (1994:20).

1. 8 CHAPTERS

This research is structured in the following way:

Chapter 1: Introduction

This chapter consists of the problem statement, the objectives, the research methodology, and the profile of the targeted area.

Chapter 2: ‘Working for Water’ and similar types of initiatives

This chapter deals mainly with community involvement and the maintenance of the urban water supply.

Chapter 3: The legislative framework of South Africa’s water sector

This chapter investigates thoroughly the South African water legislation and the problems of local service supply. The discussion will also include working for water.

Chapter 4: An outline of water supply and sanitation problems in Dipaleseng

This chapter will discuss Dipaleseng’s local municipality, its water supply, and its sanitation problems.

Chapter 5: Project ‘Working for Urban Water’ implementation

In this chapter, the discussion revolves around what needs to happen during the implementation process.

Chapter 6: Findings, conclusion and recommendations

Findings and sound recommendations, which may be useful in the improvement of the water supply system in the municipality, will be investigated. These will form part of the discussion. These recommendations may be used to chart a new way or approach to doing things in the municipality.

CHAPTER 2

WORKING FOR WATER AND SIMILAR TYPES OF INITIATIVES

2.1 INTRODUCTION

According to Dalal-Clayton et al. (1998:3), there are five main challenges relevant to the development features in the planning of developing countries:

- Most strategies have continued to be environment-driven, rather than encompassing sustainable development.
- The focus has often been bureaucratic, focused on a document, rather than on change.
- There has been a lack of consideration given to future needs.
- Participation has been weak; and as a result, strategies have been poorly linked to real development trends.
- The donor role has been ambiguous, providing resources, but often dominating the process.

These challenges have hindered the plans for and the implementation of sustainable development. Good policies in most countries are in place to combat these situations, which could result in the pulling down of what could potentially benefit future generations. However, implementation seldom seems to take place. Challenges to development initiatives will persist for as long as there are no resources or proper consultation at the community level.

This chapter seeks to create a common understanding on the concept of community involvement, the benefits and importance of community involvement, and also to determine the feasibility of community involvement in water-related projects with specific reference to different case studies.

2.2 WHAT IS COMMUNITY INVOLVEMENT?

Reid (2000:1) defines community involvement as a process whereby the community is empowered to resolve its own problems. In a participating community, many people are involved, and business is not simply run by an elite leadership. It is the work of everyone.

A definition provided by Ofori (2008:5) is of relevance to this discussion. He separates the concept of community from mere involvement to create a better understanding of the concept. He defines a community as a group of people with common needs, or sharing common interests and living within a geographically defined area. He further defines participation or involvement as the act of being involved in something. According to him, the term community involvement refers to some form of involvement of people, with similar needs and goals, in decisions affecting their lives.

Burkey, in turn, views participation as a process of involving organized efforts to increase control over resources and regulative institutions in given social situations (1993:53-59). However, community involvement goes beyond merely seeking the opinions of people. Local knowledge is crucial in solving community problems. Roles must therefore be divided, according to the level of knowledge and commitment of the affected community and also to allow them to participate actively throughout the project.

Participatory communities are open to involvement, irrespective of age, race, culture, religion and social orientation. Responsibilities are divided up amongst the participants. Power is decentralized at local level, specifically at the community level. All ideas are treated with respect and welcomed as sources of inspiration with potential value for the entire community.

Reid (2000:2) goes further and defines a participating community as a process in which many people are involved in community activities. An elite leadership, in this regard, does not solely run business, but it is the work of everyone. Power and responsibility are decentralized. Business is conducted openly; and transparency is the primary principle. All ideas are treated with respect, and there is no such thing as a bad idea.

Given the above definitions, community involvement can be defined as the process of empowering the local community through assigning them different roles from the initiation phase and the implementation phase, irrespective of their gender, age, race or culture.

2.3 THE IMPORTANCE OF COMMUNITY INVOLVEMENT

According to UNICEF (1999:42), it is vital to involve the community in water-related issues. This would have the following advantages:

- The community becomes aware of its real needs and priorities.
- Maintaining a sensible status quo and sustainability of water resources becomes a way of life in the community.
- In the process, members of the community may acquire a variety of useful skills, necessary for the construction and maintenance of a water supply system.

Bemberger (1991:3), states that every community has the potential to resolve its own problems. It is, therefore, necessary not to decide on anyone's behalf. Within each community, there are skilled people who may volunteer or offer their skills to solve a particular problem (Ingham 1993:1803-1814). These people need to be recruited and utilized to improve the status quo of their local water supply systems.

Burns et al. (2000:3) are of the opinion that community involvement is critical in the development of local residents. They further elaborate on its importance as:

- Community definitions of needs, problems and solutions are different from those put forward by service providers.
- Community knowledge is an important resource and widens the pool of expertise from which regeneration and renewal strategies can be drawn.
- Community participation gives local residents the opportunity to develop the skills and networks that they need to address the problem of past social exclusion.

- Active participation of local residents is essential to improve democratic and service accountability.

It is therefore imperative to encourage community participation in initiatives that are intended to improve the living conditions of the local people. The community should be part of the process from the initial phase, its implementation and its final evaluation.

2.4 CASE STUDY 1: CONSEQUENCES OF COMMUNITY INVOLVEMENT IN WATER SUPPLY IN NEPAL

Nepal is regarded as one of the poorest countries in Asia and the Pacific region. Less than 60 per cent of its 30 million people have any access to clean water, while less than 20 per cent have access to basic sanitation facilities. However, the country has two thirds of the world's water resources. Despite this abundance of water, the harsh terrain makes it difficult for the community to safely access water supplies, (Anon., 2002:2).

Women and girls in the remote Nepali Village were responsible for fetching water on a daily basis from distant springs and streams, and then arduously carry it back to their homes, using small containers. This was strenuous to these women, and it affected their development, as they spent most of their time fetching water.

After realizing that the situation was getting out of hand, the community decided to establish a water users' committee, whose members comprised the local residents. Through this initiative, the community was encouraged to contribute funds to build a proper infrastructure. About 20 taps with running water were installed through this initiative. A total of 279 households benefited from the arrangement.

The project was then expanded to other poverty-stricken areas. The government and other relevant institutions were roped in; and as a result, essential resources were mobilized. This project continued to yield positive results. Ultimately, about 60 000 households benefited from this initiative (Anon., 2003:3).

2.5 CASE STUDY 2: COMMUNITY COUNTERACTING WATER POLLUTION

Vunisinu is a small peri-urban area situated in Fiji. The local community depends solely on fishing as a means of livelihood. They daily sell fish to generate an income to meet their basic needs. However, at one stage the daily catch of fish started diminishing – because, of the local household wastewater pollution.

In an effort to address the problem, the government established a partnership with local community-based organizations. It facilitated the erection of educational workshops on the dangers of wastewater pollution. These workshops became eye-openers to the entire community, and members began to understand the importance of keeping the environment clean. They also understood the effect that the pollution had previously had on their livelihood.

Ultimately, they changed their behaviour and started to comply with the prescribed environmental health standards. They utilized their new-found knowledge to their advantage, as they embarked on a concerted effort to clean up their environment.

For example, disposable composting toilets were designed and built. These toilets handled the capacity of six people and lasted six months, before they had to be replaced. Not long after adopting these environment-friendly practices, the community started to notice the impact thereof (www.adb.org/water/action).

2.6 CASE STUDY 3: THE MUTENGE WATER PROJECT

Mutenge is a village in Cameroon. The local residents experienced problems with the availability of potable water. Community members then organized themselves, in an attempt to deal with the problem. They then planned a project, which was notable for being developed by residents.

Prior to the project being launched, the community had depended on an inadequate supply of polluted water. Money was raised from local sources to finance a feasibility study for the project. Community members were elected to the local committee on water issues. This committee had to oversee the process, starting from the initial phase to its final implementation.

The community implemented the project successfully. Many members benefited from it. The project became the priority of the village and a post-project maintenance committee was established. This committee comprised volunteer members who were responsible for maintaining the water system, as well as ensuring the efficient and safe utilisation of the water system.

Other responsibilities of the committee included penalising defaulters of relevant rules and regulations, collecting necessary fees, and addressing new water installation and extension requests. Among the achievements of the committee was the development of a scheme to raise funds for maintaining the water system (Njoh, 2002: 233-248).

2.7 CASE STUDY 4: WORKING-FOR-WATER PROJECT

Working-for-Water is a government-initiated programme whose main objectives are working towards enhancing water security, improving the ecological integrity of natural systems, investing in the most marginalized sectors and enhancing their quality of life through job creation (RSA, 2000:1).

According to the originators of the plan in South Africa (RSA, 2001:1), the working-for-water programme aims at clearing invasive alien plants, because of the benefits of water security, the conservation of the biological diversity, the productive use of land, the reduction in intensity of fires and floods, as well as the forthcoming employment benefits.

Hosking *et al.* (2002:2) regard the programme as the biggest conservation project ever to be implemented in South Africa. In 1998, there were roughly 250 000 people in South Africa who were employed on this project. The programme is implemented in collaboration with local

communities. According to RSA (2000), the criterion for selecting the participants is based on the following principles:

- As many as 60% of the participants are supposed to be women;
- People with disabilities constitute 20%.
- The poorest of the poor are given priority, specifically those residing in rural areas;
- Persons in single-headed households are eligible to participate; and
- There are vacancies for people who are HIV/AIDS infected.

This programme involved various stakeholders, such as government departments and local communities. Since its inception in 1995, the programme has managed to reach its objective of clearing invasive alien plants and the creation of 20 000 job opportunities for marginalised individuals. Of these, 52% are women (RSA, 2010).

However, there are also a number of problems with ‘Working for Water’. The sustainability of the initiative to provide sustainable livelihoods to poverty-stricken individuals is questionable. The Government in this regard is responsible for funding the initiative and the community is only responsible for displaying commitment and participation in the project. ‘Working for Urban Water’ concept will be different to ‘Working for Water’, on the following grounds:

- People will be equipped with skills and they would be in a position to find independent employment on their own.
- The community would depend on their capacity to raise funds for this project, and
- The involvement of the Dipaleseng Municipality and the DWA would be limited to support in the form of skill

2.8 CONCLUSION

It is clear from the above, that community-based initiatives can be successful in developing societies. The foreign case studies mentioned above are projects that were introduced to directly benefit the communities. The respective community drove from below most of these projects with support from the authorities. In the the ‘Working for Water Project’ the plan is to work in the environment to indirectly benefit the water resources of the communities. At the same time, it

has the objective to create sources of income for unemployed people, and also for people in very special circumstances, such as female-headed (matriarchal) families and also for HIV/AIDS victims.

‘Working for Urban Water’ would differ from ‘Working for water’, in the sense that the focus is on cultivating skills within the community and also creating potential platforms for sustainable economic livelihoods.

CHAPTER 3: THE LEGISLATIVE FRAMEWORK OF SOUTH AFRICA'S WATER SECTOR

3.1 INTRODUCTION

Water in South Africa plays a crucial role in sustaining the quality of life of 49 million people. According to the Constitution of South Africa (1996), everyone has the right of access to sufficient water. However the responsibility lies with Government to ensure proper delivery of water to the citizens.

The main purpose of this chapter is to identify and discuss policies pertinent to the water sector and analyse the incorporation of community involvement aspects in each policy.

The Constitution is the supreme law that governs the country and from which other laws are developed and implemented. The Constitution, according to Thompson (2006:1), gives every person a fundamental right to an environment that is not harmful to his/her wellbeing and requires the environment to be protected for the benefit of the present and future generations.

The Constitution grants every person a fundamental right of access to sufficient water. There is no specification in terms of who is supposed to access water, and what quantity must be consumed by individuals (RSA 1996, Section 27 (1) (b)). The element of community involvement in the Constitution is visible. The word 'every person' signifies the importance of the sense of community involvement in terms of accessing clean and sufficient water. However, the Government is also responsible for facilitating the process of ensuring that these rights are realized. It is impossible for the Government to realize these rights and see to it that they are respected and fulfilled without also involving the concerned people.

The Constitution places a duty on all three spheres of government (National, Provincial and Local) to realise the right of access to water by acting in partnership with one another. While the national government is required to establish a national framework to ensure the

realisation of this right, local government must play the critical role of ensuring delivery of water to all (Earle, et al., 2005:13-16).

3.2 NATIONAL SANITATION POLICY

According to the water policy of RSA (1994:1), sanitation is defined as a process of collecting and disposing - in a hygienic manner waste, including human excreta, household wastewater and rubbish. This is done to prevent harmful diseases such as diarrhoea and cholera. According to the report of RSA (2009), 80 per cent of municipal wastewater treatment does not work properly.

The importance of sanitation is much more than building toilets (RSA, 2006:1). The most critical condition for proper sanitation is to get rid of human excreta, dirty water and household refuse (RSA 1997: ii).

It is imperative to note that Government has a constitutional responsibility to ensure that all South Africans have access to adequate sanitation. The National Sanitation Policy therefore focuses on providing adequate sanitation for households, schools and clinics, improving household waste collection and disposal, and educating the public about hygiene.

Government plans to facilitate improved service delivery by supporting communities in providing and using sustainable (affordable and community-run) sanitation services. Key focus areas include rural, peri-urban and informal settlements where the need is greatest.

Community involvement in this regard is rated highly. Problems relating to sanitation may lead to people contracting waterborne diseases, or in the worst-case scenario dying. It is therefore proper to involve the community at large so that they understand the seriousness of these challenges. Communities in this regard are involved through educational programmes, which include both soft and hard skills, and also through awareness campaigns.

3.3 NATIONAL WATER ACT, 36 OF 1998

According to Thompson (2006:198), the *National Water Act* has an important role to play, specifically in the water sector. The purpose of the legislation is to ensure that the nation's water resources are protected, used, developed, conserved, managed and controlled in ways that take into account among other factors-

- Meeting the basic human needs of present and future generations.
- Promoting equitable access to water.
- Redressing the results of past racial and gender discrimination.
- Promoting the efficient, sustainable and beneficial use of water in the public interest.
- Facilitating social and economic development.
- Reducing and preventing pollution and degradation of water resources.
- Promoting dam safety.

The *National Water Act* also touches on the issues of financial assistance to any person who contributes towards its realisation.

It is important to note the element of community involvement embedded in the *National Water Act*. The fact that the Act promotes equal access to water demonstrates the broader involvement of the community irrespective of race, financial status and culture.

It also shows the relevance of this study through outlining social and economic development as an ultimate goal. However, this is only possible through the involvement of the community. The case study on “Working for Water” demonstrates how the community can typically benefit through their efforts of maintaining their water supply systems. By involving the community, it is predicted, the issue of water pollution could be significantly reduced.

It is therefore important to note the importance of the *National Water Act* in the water sector. The Act may yield positive results depending on how it is implemented.

3.4 WATER SERVICES ACT, 1997 (Act 108 of 1997)

The Water Services Act, 108 of 1997 creates a regulatory framework within which water services could be provided. The Act intends to provide for the right to a basic water supply and the right to basic sanitation necessary to secure sufficient water, as well as an environment not harmful to human health or well-being (Nzimakwe 2009:54).

The main objects of the Water Services Act (RSA 1997: 6-7) are as follows;

- the right of access to basic water supply and the right to basic sanitation necessary to secure sufficient water and an environment not harmful to human health or well-being;
- the setting of national standards and norms and standards for tariffs in respect of water services;
- the preparation and adoption of water services development plans by water services authorities;
- a regulatory framework for water services institutions and water services intermediaries
- the establishment and disestablishment of water boards and water services committees and their duties and powers;
- the monitoring of water services and intervention by the Minister or by the relevant Province;
- financial assistance to water services institutions;
- the gathering of information in a national information system and the distribution of that information;
- the accountability of water services providers; and
- the promotion of effective water resource management and conservation

It is vital to note that the water services Act emphasizes the importance of accessing water by the community, however accessing water goes hand in glove with the responsibility and accountability by involved parties such as government, community and service providers.

3.5 NATIONAL WATER RESOURCE STRATEGY

The National Water Resource Strategy (2002:1-7) provides information about the ways in which water resources must be managed and the institutions that should be established. The purpose of the NWRS is to strategically direct the management of water resources from a national perspective, and the water availability information is therefore relatively coarse (RSA 2002:6).

Community involvement elements are visible in the National water resource strategy. The strategy outlines the procedures in which the community must be provided with the information with regard to the availability of water.

3.6 CONCLUSION

It is clear that the South African water legislative framework takes cognizance of the role of the communities in managing the water supply systems. The role and the level of support that the government should provide are also displayed in the legislation. However, it has become apparent that municipalities do not either understand or they are disregarding the legislation. It is therefore imperative for DWA to conduct educational workshops on water legislation in order to create a common understanding within the municipalities.

CHAPTER 4: AN OUTLINE OF WATER SUPPLY AND SANITATION PROBLEMS IN DIPALESENG

4.1 INTRODUCTION

Water forms part and parcel of the most integral basic needs that gradually tends to deplete if not taken care of. Various governments around the world have developed policies that regulate water. South Africa as a sovereign independent state has instituted appropriate legislation in the form of a constitution which basically encompasses the rights of every person to water and also the responsibility of protecting the country's natural resources.

It is imperative to note the effects ensuing from globalization and industrialization as far as water is concerned. The love of money has had a negative impact. It has been partially responsible for communities and society at large to compromise their environmental friendliness over the years. Mines and other big companies have played an unacceptable and irresponsible role in terms of water pollution, exposing human species to substantial health threats (Malzbender, *et al* 2005: 3-20).

The scarcity of skills to combat the purification of water in South Africa has become a threat that seems to be far from being settled. The prevalence of deadly water-based diseases, such as cholera and diarrhoea has become normal in most of the municipalities especially in Mpumalanga Province (RSA, 2003:1).

Municipalities require special skilled individuals who will come up with ideas that will positively benefit them. Environmental awareness education, if constantly conducted, may yield positive results towards water conservation and fighting intentional pollution.

This section of the study intends to outline water supply and sanitation problems in Dipaleseng Local Municipality's geographical area of jurisdiction.

Many developing countries face significant challenges as far as sustainable provision of adequate and safe water services is concerned. Most municipalities are encountering challenges in terms of ensuring proper quality of water and lacks capacity or skills to treat water that is to be consumed. Both affect the provision of safe drinking water and the controlled discharge of treated effluent into the environment (Turton, 2002: 7).

According to Thompson (2006:7), South African water resources, in global terms, are scarce and extremely limited in extent. He also demonstrated that 1200 Kℓ of fresh water is available for each person per year for a population of around 42 million (currently about 49 million) people. He further mentions that the problem of water scarcity is essentially one of the conflicts between different uses and users in or between catchments, present and future generations, application of human and capital resources for water resource development relative to other investments and economic prosperity and preservation of ecosystem.

The decisions to cut operational and maintenance budgets for storm water management, water supply and waste water treatment has led to more frequent breakdowns, resulting in untreated effluent and waste in the water resources (Hinsch, 2009: 14). For example, in Dipaleseng Local Municipality, it is unusual to experience a continuous supply of water. Cuts are associated with the reduction of the budget for maintenance.

Outbreaks of contagious water borne illnesses such as cholera and diarrhoea have been experienced in many parts of the country in recent years. It has become something that is considered to be 'normal'. Mpumalanga Province, and specifically Dipaleseng Local Municipality, has become vulnerable to such diseases due to the current status of local water supplied (Dipaleseng Local Municipality, 2009).

Skills development and community engagement strategies to inform people to issues pertaining to water management still poses serious threats for the country and the municipalities.

4.2 ACCESSIBILITY OF WATER

According to the free basic water policy, there are two types of water sources in South Africa (RSA, 2003:1-3); namely

- underground water which is accessed through boreholes
- surface water which is found in for example the rivers, sea, dams and lakes.

In the Dipaleseng Local Municipality area, both methods are used to gain access to water. About 90% of the local water supply is from Vaal Dam. The remainder of the local water supply comes mainly from boreholes.

4.3 WATER UTILIZATION IN DIPALESENG LOCAL MUNICIPALITY AREA

According to Tempelhoff (2008:52), water is consumed in the following pattern in developing countries:

Agriculture%	Industry%	Domestic%
81	11	8

Dipaleseng Local Municipality area is a peri-urban area wherein subsistence farming activities are practised in an effort to augment the available local food supply. There are mining activities and a power station. These are regarded as big industries within the area. However, agriculture stands out as the largest consumer of water in the area which can be estimated to be 70 per cent. The mine consumes about 15 per cent of water while Eskom through its power generation consume the remaining 10 per cent. The remaining 5% is consumed by households in the towns (Dipaleseng Local Municipality, 2009).

4.4 DISTRIBUTION OF WATER IN DIPALESENG LOCAL MUNICIPALITY

The Constitution states it clear that every person has got the right to clean water and therefore municipalities are responsible to fulfil that mandate. There are two ways through which the community of Dipaleseng Local Municipality area can access water depending on the location in which they are situated.

In the town and the former African township the water supply is provided through the local authority's main pipeline that comes from the Vaal River. Most domestic water is utilized for watering gardens, personal hygiene, and laundry and cooking. There is an area (informal settlement) where water is scarce. People in this area access water from water tanks, which are situated about 1 km from the community. Water is fetched in containers conveyed in wheelbarrows. A person can ask a valid question about the difference between the person in the township, a person who stays in a shack and the town itself.

It is evident that services rendered within the area are biased towards certain areas (Researcher's Observation). There are not sufficient points of potable water supplies for local residents in all parts of the community. Furthermore, there are insufficient sanitation services in many parts of the township.

About 80 percent of the farming entities in the region have built small dams to augment their water supplies. These dams assist in terms of fulfilling agricultural activities in the area from which irrigation and ensuring the healthy livestock through water provision is conducted (Dipaleseng Local Municipality, 2009). This is primarily for people in the peri-urban areas.

4.5 WATER MANAGEMENT AND CAPACITY

Water management requires a multifaceted approach premised on sectoral collaboration. It is important to collaborate with the existing institutions in terms of coming up with a concrete plans to manage water properly. An integrated approach in this case is critical due to the

limited capacity within municipalities. Most of the municipalities outsource their service such as water management and purification.

However, Dipaleseng Local Municipality does not have such arrangements. They did establish a forum consisting of representatives from various wards to serve as an advisory committee on water-related issues. The issue of capacity or skills of the nominated individuals serving in the forum is questionable (Dipaleseng Local Municipality, 2009).

The structure within the department of water in Dipaleseng Local Municipality comprises of the manager who oversees all activities of the department. He is also responsible for implementing relevant local water bylaws. There is one person at the water purification works who does not have any formal qualification. Yet he is responsible for cleaning water – with only chlorine. There are also two people who are responsible for maintenance work, such as fixing leaking pumps (Dipaleseng Local Municipality, 2009).

The evidence submitted above illustrate that the critical issue of capacity is a far wider issue than core expertise. What also became clear is that optimum staffing levels and the training of staff is essential. There is generally a lack of competencies. However, it should be managed as a medium to long-term aim to realise. It cannot be part of a rapid capacity-building approach. It is difficult for a municipality to impart skills that they do not have to members of the community. In principle the issue of capacity should start from within before going out. The municipality requires administrative and financial capacity and the same with the community is applicable to possess necessary skills for the effective management of water.

The municipality is not coping in terms of producing water that may satisfy all the demands. This has caused a major blow to the local economy as companies cannot produce as they are predicting.

4.6 EDUCATIONAL PROGRAMMES

Educational programmes through awareness campaigns and workshops at the community level are very important in terms of ensuring sustainable development. Dipaleseng Local Municipality does not have any plans in place for educational programmes. The community is not informed about programmes that are in progress, and most of them do not see anything wrong about that.

Water needs to be protected and conserved as much as possible. Seemingly for Dipaleseng community water conservation and management is not possible as there are about 50 per cent cases of broken taps due to theft. This suggests that what is needed is an effective system of maintenance.

Both the community and the municipal officials were consulted to provide inputs on skills development programme that needed to be implemented. The suggestion was made to break down the skills into three categories:

1. **Life skills:** these include soft skills that are intended for changing the mindset and the behaviour of people towards water. The skills that were identified in this category were:
 - awareness on water conservation; and
 - awareness on the danger of water pollution
2. **Business skills:** these include management skills that are intended at increasing the rate of service delivery through utilizing the existing resources. The issue of accountability was also referred as important in Dipaleseng Municipality. The following skills are suggested:
 - project management;
 - financial management which must include knowledge of the Municipal Financial Management Act (MFMA);
 - workshop on water legislative framework

3. Technical Skills: these are skills that require physical strength. Technical skills will be used to address current water system challenges that are faced within the municipality. The following skills were recommended as priority:

- water purification (mixing of chemicals)
- waste management; and
- plumbing

4.7 FINDINGS OF THE RESEARCH

The study was undertaken in Dipaleseng Local Municipality to check the possibility of involving the community in the maintenance of water system. A more formal and acceptable scientific approach was followed to gather the required information. A questionnaire was designed and distributed to 40 respondents who were supposed to provide the required information per questions.

4.7.1 Biographical information of the respondents

Biographical information is required to determine the profile of the participants. This includes information about gender, age, race and educational background of the participants.

4.7.2 Gender of the respondents

Male	40%
Female	60%

This project intends at maintaining water supply system, at the same time empower the marginalized such as women and poverty stricken households through creating employment opportunities. Therefore it was proper to decide on the 40 and 60 principle.

4.7.3 Age of respondents

18 to 25 years	15%
26 to 35 years	20%
36 to 45 years	40%
46 to 55 years	12%
56 to 60 years	8%
Over 60 years	5%

4.7.4 Level of education

No schooling	12%
Primary school level	38%
Secondary school	48%
Tertiary level	2%

People who do not have any schooling are between the age of 45 and 60. They are the most vulnerable group in the area as they cannot access available opportunities. However about 70% of the respondents at secondary level did not complete their matric.

4.7.5 Race of respondents

Black	90%
White	5%
Indian	9
Colored	0
Other	0

Black people constitute about 90% of the population in Dipaleseng while whites and Indians share the remaining 10%. Representation of the respondents was therefore made based on the statistical basis.

4.7.6 Employment

Yes	20%
No	80%

About 80% of the respondents indicated that they are unemployed. Approximately 60% of respondents, who are unemployed, do not have any means of survival besides depending on social grants and remittances from their relatives. From the 20% of those who are employed, about 90% are employed by the mine, while the remaining 10% are self-employed.

4.8 ACCESSIBILITY OF WATER

4.8.1 Respondents who have water in their yards

Yes	56%
No	44%

The majority of the respondents (56%) have water in their yards. The remaining 44% are still walking distances to collect water. This has had a notable influence on the municipal official. They have had to endure constant protests due to poor service delivery in recent times.

4.8.2 If yes, is it clean? (Please rate)

Very clean	0
Clean	3%
Unsure	10%
Not clean	87%

Only 3% of the respondents revealed that they have an access to clean water, while 10% were uncertain. About 87% declared water as unclean and risky to drink.

4.8.3 Payment of municipal services

Yes	10%
No	90%

Payment of services is very important to sustain the municipal finances. However, in Dipaleseng only 10% of the respondents indicated that they pay for essential service that the municipality is providing. About 90% of the respondents indicated that they do not pay any services as they are not satisfied about the quality of water in their area. Majority of respondents (80%) mentioned that they are willing to pay for services on the condition that the municipality provides quality water.

4.8.4 Satisfaction of the respondents

Yes	0
No	100%

All respondents indicated that the water supply system of Dipaleseng is in a state of crisis. They were all not satisfied with the quality of water. They complained about the smell and the colour of water and the lack of responses to their questions that they have experienced from the municipality.

4.9 WATER SYSTEM PROBLEMS

4.9.1 Waterborne illnesses

Cholera	5%
Diarrhoea	80%
Other	5%

Approximately 5% of the respondents suffered from cholera, while 80% suffered from the diarrhoea on daily basis after consuming water. About 5% suffered from other waterborne illnesses. This is a demonstration of how bad water conditions are in Dipaleseng area.

4.9.2 How many times do you experience water cuts?

Daily	42%
Once a week	46%
Once a month	12%
Once a year	0
Other	0

Dipaleseng local municipality is mostly affected by constant water cuts which have contributed towards the decline of the local economy. About 42% indicated that they experienced water cuts on daily basis. However about 80% of those who are experiencing water cuts on daily basis indicated that they have containers ready for water cuts. Approximately 46% of the respondents experienced water cuts once a week while 12% revealed that they experience water cut only once a month.

4.10 CHALLENGES OF WATER IN DIPALESENG

4.10.1 Poor water system conditions

According to the respondents, the following are the causes of the poor water system:

- lack of skilled personnel and management in the municipality;
- vandalism of the water system by some of the community members with the intention of selling some of the parts to scrap yards;
- illegal connection of water; this is done by unskilled people who are trying to bring water next to their doorsteps.

It is important to note that the blame for the poor water system in Dipaleseng should not only be directed at the municipality, but also to the community, as they have already contributed to the

current status of the water system in Dipaleseng. Shortage of skilled personnel, who should be responsible for the improvement of the water system in Dipaleseng, as well as the behaviour and the attitude of the community towards their own resources, constitute serious problems which need to be tackled.

4.10.2 The demand for water exceeds the supply

Demands for water in Dipaleseng Local Municipality have outgrown the supply, due to the population growth since 1994; this is according to the municipality. There is a concealed competition between newly formed industries, such as Eskom and the newly developed mines, as well as the community in the utilization of the water resources in the municipality. This has led to constant water cuts or shedding in some of the areas, such as Greylingstad, Nthoroane and some of the informal settlements.

Due to the shortage of skilled personnel and the fact that the community is not willing to pay for water, the Municipality has failed to produce user-friendly water that could be utilised for consumption purposes. It is, therefore, critical to take the issue of competition into cognisance, when developing a water-management strategy. Competitors, together with the municipality, should form part and parcel of the solution.

4.10.3 Lack of proper plans with regard to community educational programmes

Community involvement in educational programmes specifically on water issues is imperative, in the sense that the affected community should begin to realise the importance of paying attention to their attitude, since that will ultimately play a crucial role in improving local water resources.

However, Dipaleseng Local Municipality does not take any responsibility pertaining to the imparting of relevant knowledge to its residents. According to the respondents, there are no educational programmes that the Municipality and its government partners are running in order to fulfil their responsibilities. It will be important for the municipality to conduct a capacity

analysis on the needs of the community – in line with the water issues. The educational background and the level of understanding of the community should be taken into consideration when developing educational programmes.

4.10.4 Lack of integrated planning

Dipaleseng Local Municipality views itself as being autonomous from other partners, when it comes to water issues. This became apparent when the staff members were interviewed on the role of other sectors – in terms of the development of an integrated water plan. The community, and other partners, are not involved in any of the planning phases. However, the community is viewed as being the recipients of the services; therefore, according to them, their role is merely to consume and use the product.

Respondents from the community voiced their frustration when they indicated that none of the plans developed by the Municipality reflected or addressed their needs. There is a lack of understanding between the community and the municipality; and this has resulted in the community losing confidence in the Municipality. Integrated plans would allow decision-makers to holistically comprehend and balance critical elements, such as the economic, social and environmental factors. Planning fragmentally could jeopardise the implementation process, as the municipality does not possess all the required resources.

4.10.5 Lack of Sector collaboration

The maintenance of urban water systems demands a multi-faceted approach that is premised on sector collaboration. The exclusion of the relevant stakeholders could severely jeopardise the implementation process. It is vital to note that the Dipaleseng Local Municipality does not view the issue of sector inclusion as being crucial, but rather they see themselves as the main stakeholders in water issues. There is no local water forum in which issues pertaining to water can be vigorously discussed.

The current situation may perhaps change if the municipality would acknowledge its shortcomings, by revisiting its strategy on private-public partnerships regarding water matters. According to the respondents, this would also minimize the constant service delivery protests that the community has undertaken – in an attempt to force the municipality to assume its responsibilities.

4.10.6 Lack of institutional capacity

Dipaleseng Local Municipality has failed dismally when it comes to the provision of high quality water. According to the respondents, the main cause could be that of inadequate skills amongst the responsible officials. This has caused a lot of financial damage to the municipality, since local communities are now also refusing to pay for the services.

The municipality should develop an institutional capacity-building plan that is intended to address the current challenges. The plan should be realistic; and it should be aligned to the current situation. An assessment of the training needs should be conducted; however, this must not only be limited to the staff, but to the community as well. At present, there is minimal capacity to train both the community and the staff; hence, the failure by the community to pay for their services.

Capacitating both the community and the staff could enhance the relationship, whereby both parties would understand and work together to achieve good results. The municipality, on the other hand, needs to conduct a skills audit on a regular basis – in order to improve and review its service delivery approach.

On the basis of the above challenges, there is a need to provide support to the municipality to ensure proper service delivery.

4.11 CONCLUSION

It is clear from the above, why water has become a critical issue under constant debate in the country, and specifically also in the case of Dipaleseng. The issue of relying on only one source of water provision is unsustainable; and this needs to be thoroughly checked and assessed, specifically in the case of Dipaleseng, where the demand for water exceeds the supply thereof. Capacity building remains the most important aspect that needs to be prioritized when dealing with water issues.

According to MacKay *et al.* (2003:2), the sustainable management of water resources is a journey without an end. We cannot stop managing once we have reached a comfortable position. New challenges and changes will face us all the time, as the political, social, economic and ecological environments around us change. They further state:

We, in this generation, are tackling only the first mountain in a range: once we reach the top of this peak, we will see more mountains for the future. Even if we wished to, we could not hand over a fully achieved goal to the next generation, for them to sit back and reap the benefits. The best we can hand over is a sound process for climbing mountains, and the tools to climb the mountains that lie ahead. What would an adaptive policy implementation process look like, and what principles should be followed in its application? If we continue the mountaineering metaphor, we can uncover a set of “mountaineering rules” to guide the process (MacKay et al., 2003:2).

CHAPTER 5

THE PROJECT OF 'WORKING FOR URBAN WATER' AND ITS IMPLEMENTATION PLAN

5.1 INTRODUCTION

Working for urban water requires a sound strategy that would ensure the proper involvement of the concerned community. It is evident from the outcomes of this research that the community of Dipaleseng Local Municipality is willing to participate in the process of maintaining their water system.

According to *News 24* (2009:1), there have been serious and violent demonstrations with regard to service delivery in Balfour. Clean water was tabled as one of the priorities in the demands of the community. Therefore, this project plan will play a vital role in identifying a simple strategy of community participation in maintaining the water supply system in the Dipaleseng Municipal area.

Communities should no longer be regarded as the mere recipients of water services, but as partners in the maintenance of the entire urban water system. The community should, therefore, own the process of every development initiative that is implemented in their area. Capacity building – in the form of workshops and awareness campaigns – could play a vital role in enabling the community to increase its level of participation in sustaining their water resources.

Capacity, in this case, should include different training, with community members on the what, why and how the process could improve the water system; and who should participate in what. Assigning responsibilities to community members, based on their capabilities and their sharing of knowledge, would necessarily form part of the empowerment process.

The project plan will be based on the following four phases of the project management, as outlined by Van der Walt (2009:4):

- Initiation (social mobilisation),
- Planning,
- monitoring and
- evaluation.

5.2 PHASE 1: INITIATION (SOCIAL MOBILISATION)

Hagmann et al. (1998:17) are of the view that if development activities are to be owned by a community, two key conditions are integral:

- Real motivation and enthusiasm within the community to take it forward; and
- Effective community organization, which could support the process.

Without these elements, there is little chance that development activities would be sustainable without external intervention.

The social mobilisation phase has five main steps, which are set out by Els (2000:4):

1. Entering the community and building trust.
2. Identifying and supporting local people with expertise.
3. Providing feedback to the community.
4. Raising awareness in the whole community and
5. Identifying the community needs.

These steps are important in ensuring effective community involvement in maintaining the urban water system in Dipaleseng Local Municipality area. However, this requires the concerted efforts of both the community and the external stakeholders.

5.2.1 Step 1: Entering the community and building

According to Hagmann *et al.* (1998:15), the first step in ensuring proper participation should be based on how the researcher or the community workers enter the community, and the rate at which in the community he/she is able to identify and liaise with key people, such as religious leaders, community leaders, and people who are well-known.

It is imperative, in this case, not to draw conclusions from the interactions that the researcher would be having with the key people, as they may not reflect a true picture of the community as a whole.

The researcher should arrange an informal meeting with the local leaders and the water experts, in order to get a clear picture. In this meeting, the researcher needs to understand how a community functions before introducing any new concept. However, Hagmann *et al.* (1998:16) pointed out that during these meetings, most community members could express their past experiences with outsiders. This would be the right platform for the researcher to get to the root of the participants' fears and their experiences; and this would best be done in the form of a SWOT (strength, weaknesses, opportunities, threats) analysis.

It is important to make them understand that the community will run this process, and that the success of the project would depend on their level of commitment.

It is vital for the researcher to outline his role, as far as community problems are concerned. The researcher should emphasize his role, as being that of a facilitator, and also clearly explain how he is going to help the community to resolve their own water system problems.

5.2.2 Step 2: Identifying skilled and unskilled people and encouraging them to participate

Any water supply system maintenance project that is to be implemented should be organised and taken forward by local people. According to Frank *et al.* (1999: 5-8), it is important for people to

analyse their resources, including the availability of skills. It is also important for them to share the responsibilities, according to their individual capacities.

McKnight *et al.* (1990:12) assert that the identification of skilled people must be done through conducting a community survey, in which the community members themselves:

- identify the skilled people operating within the community (plumbers and technicians);
- identify unskilled people who are interested in the project; and
- understand the role of these people in the community, as well as their strengths and weaknesses.

Different groups of people, such as skilled and unskilled people, should be interviewed informally. Questions may include: Which people have specific skills in water system maintenance? What are their activities? What are their strengths and weaknesses? How can they assist in terms of maintaining the present water supply system?

The identification of appropriately local skilled people could lead to the success of the project, as there would not be any crippling conflicts or competition during the implementation of the project. However, skilled people should be given leading roles in terms of addressing the water system challenges.

5.2.3 Step 3: Raising awareness in the whole community

Hagmann *et al.* (1998:22) indicated that if a community is to participate effectively, it must conceptualize its own issues and develop ways of dealing with them. However, for this to happen, there is often a need to strengthen people's analytical and planning skills.

The researcher should organize a workshop to which the whole community is invited. The objective of the meeting would be:

- to motivate people to become involved in the project;

- to stimulate reflection on how people perceive their current water supply system and to provide possible options; and
- to allow the community to suggest ways on how they are going to resolve the existing water supply problems.

5.2.4 Step 4: Community empowerment

Empowerment is the process whereby individuals, communities and organizations gain confidence, self-esteem and the power to articulate their concerns and take the necessary actions to address them (Decarme, 2000:3).

According to Rich *et al.* (1995:657), empowerment takes place at three levels:

- the individual level,
- the organizational or group level, and
- the community levels.

Empowerment, at the individual level, deals specifically with the personal capacity to influence social and political systems, knowledge and skills, as well as behaviour (Rich et al., 1995: 659). At the group or organizational level, empowerment is redirected at local organizations that empower or facilitate the confidence and competencies of individuals. Community level empowerment focuses on the capacity of communities to respond effectively to collective problems. This occurs when both individuals and institutions have sufficient power to achieve substantially satisfactory outcomes.

Therefore, empowerment may be defined as the process of enabling the community to resolve its own problems. This is done through working with the community in planning, implementing and evaluating any project that is intended to develop the community. Empowering of the community should be carried out in the form of workshops and educational campaigns.

5.3 THE PLANNING PHASE

Monaheng (1995:57) describes planning as the platform that enables the community to analyse the underlying causes of the problems and to suggest possible solutions. The community is able to take the responsibility for resolving their own problems.

The following questions will be asked when undertaking proper planning:

- What problems are experienced with regard to the water supply system's maintenance?
- How do these problems affect the community?
- How best can the problems be resolved?
- Who is responsible for what?
- When can the required activities be implemented?

After clarifying the possible solutions and the institutional responsibilities, concrete actions need to be planned. This is the stage where the community is now able to define clearly the nature of the support they expect from the researcher. This should be clarified, so that both sides are clear on what their roles will be (Rondinelli, 1993: 15).

A format of an action plan may look something like this:

Objective	Activity	Indicator	Time	Responsibility
What is it that the community wants to achieve?	How are they going to achieve it?	What will be the measure of achievement?	When must the activity be achieved?	Who must do it or ensure that it is done?

Some of the activities may happen simultaneously, while others may require more time. The role of the researcher, together with that of the community would be to monitor the plan, and also to provide support.

5.4 THE IMPLEMENTATION PHASE

During the implementation phase, new questions and problems, which were not seen at the beginning, are likely to arise; and these would then comprise the community's action research (Van der walt, 2009:66). In other words, the implementation phase may be regarded as a way of learning for improvement purposes. The process is constantly being monitored – where results are observed and analysed by the community as a whole.

6. PERCEPTIONS OF MEMBERS OF THE DIPALESENG COMMUNITY ON THEIR PERSONAL INVOLVEMENT

6.1.1. Do you believe that community involvement in the maintenance of water supply system is necessary?

Yes	80%
No	20%

While investigating the importance of the community involvement in the maintenance of the water supply system, about 80% of the respondents believed that community involvement would be the solution. Approximately 20% of the respondents, comprising mainly ordinary community members and the staff from the municipality, did not believe that community involvement would be of any importance in solving the water supply system challenges. They viewed the challenges as the sole responsibility of the municipality.

6.1.2 Willingness of the respondents to participate in the water system maintenance project

Yes	80%
No	5%
Unsure	15%

While investigating the willingness of the respondents to participate in the water system maintenance project, 80% of the respondents, comprising mainly unemployed people, indicated that they would be willing to participate in the project, while about 5% of the respondents were not willing to participate for various reasons, such as: full-time commitment is demanded from their employment; while others were just not happy with the municipality.

Approximately 15% revealed that they were uncertain about their willingness to participate, because of their past experiences with the municipality. It is evident that people are willing to participate; however, those who did not show any interest should perhaps be motivated and encouraged to participate.

6.1.3 Availability of the respondents for participation in the project

Once a week	1%
Twice a week	4%
Three days a week	6%
Four days a week	9%
Five days a week	65%
Six days a week	10%
Seven days a week	0%
Not sure	3%
Not available	2%

In investigating the availability of the respondents, about 95% stated that they were available, regardless of the specific days that they indicated. About 3% of the respondents were not sure whether they would be available to participate in the project. Only 2% indicated that they would not be available, due to the nature of their employment; however, they supported those who would be available.

Due to the high rate of unemployment in the area, there were other community members who were willing to participate in the project on a full-time basis. This may be advantageous to the success of the project, since the community views this as a way of improving their living conditions.

6.1.4 If not available, are you willing to support the project financially?

Yes	100%
No	0%

Only 2% of the respondents, who indicated their lack of availability, were prepared to commit themselves to supporting the project – should there be any financial implications. This shows that the community is aware of their problems and they are also willing to contribute other resources than their time. Finances could play an important role in sustaining this project; and the community could then depend on its own strength, rather than relying on external institutions for any financial assistance.

6.1.5 Your involvement in the maintenance of water supply system could improve the current status of water in your area. Do you agree?

Fully agree	90%
Partially agree	5%
Do not agree at all	0%
Not sure	5%

Almost 90% of the respondents fully agreed that their involvement in the maintenance of the water supply system could improve the current status of water in Dipaleseng. About 5% of the respondents partially agreed, while the other 5% of the respondents were not sure whether their involvement would add value to improving the water supply system.

It is clear that the people are realizing the value of their participation in the maintenance of their own water system. There is a need to hold continuous workshops with the community, where members might be motivated and shown how they could improve their water system.

7. CONCLUSION

It is clear from the above, that the community is willing to participate in the maintenance of its water system; however, there is a need to provide motivation on a continuous basis. The municipality should create a suitable platform to ensure maximum participation in the project. It was also discovered that those who would not be participating because of not having sufficient time, would contribute financially to the project. There is also a view that through community participation, the current status of the water system could be improved.

CHAPTER 6

CONCLUSION AND RECOMMENDATIONS

6.1 INTRODUCTION

The idea of involving the community in the maintenance of the water system in Dipaleseng Local Municipality could maximize the chances of socio-economic changes amongst its community members. Apart from addressing the actual problem, other challenges – such as unemployment and members' behaviour towards their water resources – could also possibly be altered.

This chapter intends to outline the conclusion and to come up with feasible recommendations that would assist in implementing the community-initiated project.

6.2 COMMUNITY INVOLVEMENT IS NOT AN AUTOMATIC ISSUE

Involving the community is a process, and that will not happen overnight. The facilitator or researcher should work overtime to understand and learn the way in which the community is composed, and how the community should be involved. It is important to note that the community would sometimes seem to possess no confidence or knowledge of the specific issues; however that need not be taken as conclusive.

Most of the researchers and community development facilitators have a tendency to ignore the inclusion of the vulnerable groups, such as women and youth, in developmental initiatives. It is therefore important to include all the people – regardless of their culture, age and gender. The facilitator in this regard should play a vital role in ensuring a fair representation from all the groups.

According to the community members, one of the main reasons for constant service delivery protests and the collapse of the local water system in Dipaleseng municipality was because of

inadequate consultation. Community members did not regard the water resources as being their own, but felt these resources to be someone else's responsibility. There were no community restrictions against illegal connections and water pollution; as a result, the water system was affected. There was no maintenance of the site and the system by the local community or protection of the supportive infrastructure, such as fences and pipes, from theft.

Involving the community could change the situation, and make the community feel that they are part of the process. However, involving the community should not only be in the planning stage, but also in the implementation and evaluation of the entire process.

6.3 CONCLUSION

The conclusion will assess whether the study has managed to achieve what it initially set out to achieve. The objectives of the study will be evaluated.

The first objective: "To determine the viability of community involvement in the running and maintenance of the urban water system in Dipaleseng Local Municipality" – This was intensively discusses and evaluated in Chapter 2. This objective was achieved through the literature study that covered various topics, such as a definition of community involvement and related case studies.

Chapters Five and Six dealt with the second objective: "To investigate reasons which led to the current status of the water system's disrepair". This was done by conducting interviews with the concerned community, and also by outlining the current challenges that led to the collapse of the water system in Dipaleseng.

The last objective: "To identify alternatives in terms of dealing with the current challenges" – This was dealt with in Chapter 4, where the findings illustrated the willingness of the community to participate in their own development. It is apparent that community involvement could be one of the most important driving forces in any community-development initiative.

The hypothesis of this mini-dissertation was stated as follows: “Members of the community of Dipaleseng could play a vital role in maintaining their water system”. The hypothesis was tested thoroughly in Chapters 4 and 5. The findings of this study indicated the commitment and the willingness of the community to participate in the maintenance of their water system. It is therefore concluded that the hypothesis was correct, and that community involvement could indeed play a crucial role in the maintenance of the urban water system.

6.4 RECOMMENDATIONS

It is clear from the above findings, that the people of Dipaleseng Local Municipality area are willing to participate in the project that is intended to improve the current status of their water system. The fear of contracting waterborne diseases is one of the driving factors towards community participation.

6.5 RECOMMENDATIONS ON MEASURING COMMUNITY INVOLVEMENT

It is firstly recommended that the following success measures be used to measure the success of community involvement in Dipaleseng:

- **Continuous commitment of community members:** Members of the community should not be driven by material needs to participate in their own development. They need to demonstrate passion and commitment towards participating in initiatives intended to address their own problems.
- **Skills acquired by community members during the implementation phase:** It should be noted that this project will not be implemented solely to address water challenges, but also to empower the people with the necessary skills that could add value in sustaining their livelihood.
- **Income generated through this project:** This project will definitely create employment for the people of Dipaleseng. It is clear from the findings that people are willing to provide

financial support to the project and that people are willing to pay a certain amount for the water that they use.

- **Level of community satisfaction:** Measuring the level of satisfaction amongst community members is pivotal. People should be interviewed to check on the impact that the project has yielded.

6.6 RECOMMENDATIONS PERTAINING TO THE ROLE OF THE MUNICIPALITY

The municipality has an important role to play in the maintenance of the local water system. The sustainability of the local water resources depends on the following:

- The municipality should encourage maximum participation of the community in the maintenance of the water supply system. The most effective tool to encourage people to participate – as well as sharing the information – would be through ward meetings. The municipality, through the assistance of the researcher or facilitator and local leaders, should assume the responsibility of mobilizing as many people as possible. It is important to note that the problem of the water system does not merely affect the municipality itself; but it affects everybody in the community. The municipality should also assist in mobilizing other relevant stakeholders who may be of assistance in the implementation process.
- The municipality should fund this project, and also develop control systems that are effective for accountability purposes. The municipality could take the responsibility of funding petty things, such as tools or equipment, as well as protective clothing. This funding should be a once-off thing. The municipality must, therefore, document the outcomes of the project for evaluation purposes. Should the project be viable, the municipality should adopt it and continue to provide support; however, the financial sustainability of this project lies solely with the community, rather than being with the municipality alone. It is the responsibility of the municipality to continuously encourage community members to pay their water accounts.

- The municipality should facilitate the training of the community. Training should cover the aspects of life-skills, business, and technical skills. It is also important for the training to address the real needs of the people. The municipality and the Department of Water Affairs – through their staff – should train those community members who are willing to participate in the project. However, the researcher would also identify local people with relevant skills prior to the planning and the implementation phases of the project.
- Through the offices of the municipality there should also be talks with the private sector doing business in the local community, to determine if there is an interest in making contributions towards the initiative in the form of money, or expertise; and potentially participating in the project in the form partnership initiatives.
- The municipality should strengthen the lines of co-ordination between different stakeholders at the local level, and develop an integrated plan to address the challenges.

6.7 RECOMMENDATIONS PERTAINING TO PARTICIPATION BY THE COMMUNITY

The following should be done to ensure participation by the community:

- A strategy on community participation should be developed.
- The community should drive and own the project. This could be done through allocating responsibilities to the community members to perform the planned tasks.
- An approach of learning from one another should be adopted. This could be done through utilising local skilled people.

6.8 RECOMMENDATIONS ON COMMUNITY CAPACITY BUILDING

Capacitating community members may produce the following positive results:

- Improving the physical and psychological wellbeing of individuals and of the entire community.
- Improving networking amongst community members, where the exchange of skills and knowledge could take place.
- Providing a sense of ownership to the community with regard to the project that is to be implemented – the community needs to feel confident to drive their own process of development.
- Reducing excessive costs because there would be less water-related problems.
- Equipping community members with leadership skills; some people may have skills to conduct meetings, as well as speaking in public.

It is imperative for the facilitator to apply methods that will match the literacy levels of the involved community. This would enable the participants to understand easily – and also to enjoy the whole process. It is therefore recommended that a capacity-building plan should be designed and implemented in the following manner:

- Community involvement should not be compromised – The community as a whole should have ownership of the whole process. This implies that the community should form part and parcel of the capacity planning, since they have a certain energy that is needed for the implementation of the project.
- Learning more about the community – The facilitator should learn more about the ability of the community, and those individuals who are willing to contribute their time to the project.
- Knowledge of community resources, such as dams, rivers, and other natural resources that may affect the project need to be identified – together with the community.
- The community should drive the implementation of the plan, and also be part of the evaluation process.

6.9 RECOMMENDATIONS FOR THE INTEGRATION AND CO-ORDINATION OF THE PROCESS

Dipaleseng Local Municipality alone does not have sufficient abilities to address the water issues. Involvement of other stakeholders could play a crucial role in terms of reducing excessive costs that the municipality would have to provide. The task team would include experts from different organizations and some of the community members. The following activities should be considered when integrating and co-ordinating the maintenance of the water system:

- Conduct a stakeholders' analysis, in order to check stakeholders that are relevant.
- Arrange meetings with the stakeholders, to explain the goals and the objectives of the project and their role.
- Establish a task team that should include representation from the community as a whole.

The task team would be responsible for mobilizing the resources that could benefit the community. It would be advisable for the team to disseminate the information to the community, as much as possible; however, the planning of the project should be the responsibility of the community members themselves.

6.10 RECOMMENDATIONS FOR FURTHER RESEARCH

The following areas appear to be still in need of further research, as far as the community involvement in the maintenance of the water supply system is concerned:

- Research is needed in developing specific strategies to determine the impact of working for the urban water project.
- Research is also needed to investigate the possibilities and the effects of including water studies in the basic education.

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ANNEXURE A

QUESTIONNAIRE: COMMUNITY INVOLVEMENT AND MAINTENANCE OF URBAN WATER SYSTEMS

My name is Sello Maswanganye, a Masters student from the North West University. I request your permission and assistance in completing the questionnaire. The information will solely be used for research purposes and may also add value towards the current status of water in Dipaleseng. No information shall be provided to the third party without your permission.

(Please do not write your name on this questionnaire)

QUESTIONNAIRE NO:.....

SECTION A: BIOGRAPHICAL

I) Gender of the respondent (please tick)

Male	
Female	

What is your age? (please tick)

18 to 25 years	
26 to 35 years	
36 to 45 years	
46 to 55 years	
56 to 60 years	
Over 60 years	

What is your level of education?

No schooling	
Primary school level	
Secondary school	
Tertiary level	

What is your race?

Black	
White	
Indian	
Colored	
Asian	

Are you employed?

Yes	
No	

If yes, please specify your profession/ type of work

.....
.....

ACCESSIBILITY OF WATER

Do you have water in your yard?

Yes	
-----	--

No	
----	--

If yes, is it clean? (Please rate)

Very clean	
Clean	
Unsure	
Not clean	

Do you pay for services?

Yes	
No	

If no, what is the reason?

.....

.....

If yes, are you satisfied with its status?

Yes	
No	

If no, why are you not satisfied?

.....

.....

.....

WATER SYSTEM PROBLEMS

Did you ever suffer any of the following waterborne illnesses?

Cholera	
Diarrhea	
Other	

How many times do you experience water cuts?

Daily	
Once a week	
Once a month	
Once a year	
Other	

COMMUNITY INVOLVEMENT

Do you believe that community involvement in the maintenance of water supply system is necessary?

Yes	
No	

If water system maintenance project can be implemented in your community, will you be willing to participate?

Yes	
No	
Unsure	

If yes, when are you available?

Once a week	
-------------	--

Twice a week	
Three days a week	
Four days a week	
Five days a week	
Six days a week	
Seven days a week	
Not sure	

If not available, are you willing to support the project financially?

Yes	
No	

Your involvement in the maintenance of water supply system may improve the current status of water in your area. Do you agree?

Fully agree	
Partially agree	
Do not agree at all	
Not sure	

Lastly, do you have any suggestion on how to improve your water supply system?

.....

.....

.....

Thank you very much for your assistance and participation in completing this questionnaire.