

FACTORS THAT AFFECT SUCCESSFUL
IMPLEMENTATION OF COMMUNITY INFRASTRUCTURE
PROJECTS: THE CASE OF MAKHUDUTHAMAGA LOCAL
MUNICIPALITY, LIMPOPO PROVINCE

By

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CERTIFICATE

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DECLARATION

I declare that the mini-dissertation entitled “Factors that affect successful implementation of community infrastructure projects: the case of Makhuduthamaga Local Municipality, Limpopo Province” hereby submitted to the University of Limpopo, for the degree of Master of Business Administration has not been previously submitted by me for a degree at this or any other university; that it is my work in design and in execution and that all material contained herein has been duly acknowledged.

Mr M.A. Segale

DATE

DEDICATION

This work is dedicated to my late parents Johannes and Magdaline Segale, who taught me the importance of hard work, education and for teaching me that anything is achievable only if you are dedicated, determined and disciplined.

Thank you!

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I would like to express my sincere gratitude and appreciation to the following people, who encouraged and supported me throughout the study from the beginning of the course and throughout the research work.

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ABSTRACT

Rural communities in South Africa, including Makhuduthamaga Local Municipality, experience mobility problems in order to access facilities like hospitals, police stations, schools and shopping centres. This research study attempted to identify factors that affect effective implementation of community road infrastructure projects under the jurisdiction of Makhuduthamaga Local Municipal Council.

The study was qualitative in nature wherein municipal officials directly involved in provision and maintenance of road infrastructure in the municipality, ward councillors and a consultant were interviewed. The study wanted to understand how councillors, officials and consultant observe service delivery in terms of road infrastructure in the area. The respondents indicated that the project management unit is trying very hard to ensure that service provision is spread adequately but the challenges experienced hamper effective service delivery. The identified challenges include: interference, including political interference of some stakeholders, service providers who are not experienced enough, inadequate finances and supply chain systems and policies which seem to be ill-defined and/or not implemented properly.

There is a need for the government to invest more in infrastructure, specifically roads. It was proven from the findings of this study that the government still has to do more in providing quality roads in rural areas. The municipality should prioritise financial allocation or provision for road infrastructure in their budget to help in the stimulation of the burden experienced by everyone in this regard. The study recommends that the Project management unit needs to adhere to policy and contracts that bind service providers. There should be training of officials and service providers to improve the quality and effectiveness of the services rendered.

LIST OF ABBREVIATIONS

ANC	African National Congress
COGTA	Corporate Governance and Traditional Affairs
COGHSTA	Corporate Governance Human Settlement and Traditional Affairs
DPLG	Department of Provincial and Local Government
IDP	Integrated Development Plan
LED	Local Economic Development
MIG	Municipal Infrastructure Grant
MLM	Makhuduthamaga Local Municipality
MPAC	Municipal Public Accounts Committee
PFMA	Public Financial Management Act (Act 1 of 1999)
PMU	Project Management Unit
PR	Proportionality Representative
RAL	Road Agency Limpopo
RISFSA	Road Infrastructure Strategic Framework for South Africa
RSA	Republic of South Africa
SAICE	South African Institute of Civil Engineering
SALGA	South African Local Government Association
SAMWU	South African Municipal Workers Union
SANCO	South African National Civic Organisation
SANRAL	South Africa National Road Agency

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CHAPTER 1

ORIENTATION TO THE STUDY

1.1 INTRODUCTION

Local government in Limpopo Province generally encounter many challenges in the provision of road infrastructure to communities according to a report issued by the Department of Corporate Governance, Human Settlement and Traditional Affairs (CoGHSTA, 2014). Although the municipalities were making progress in the delivery of other basic services, the delivery of road infrastructure to communities still experience many challenges for the majority of local municipalities in Limpopo Province including Makhuduthamaga Local Municipality. The constitution of the Republic of South Africa mandated all local municipalities with responsibilities to provide basic services to the communities within their jurisdiction (CoGHSTA, 2014).

Most often the municipalities might face challenges ranging from internal weaknesses to external threats that affect and influence their performances. They also have more varied problems that cannot be tackled by one group of individuals. These problems may need the intervention of the Department of Provincial and Local Government (DPLG) and its provincial counterparts like the Department of Corporate Governance, Human Settlement and Traditional affairs (CoGHSTA), Department of Roads and Transport (DRT) and the Road Agency Limpopo (RAL).

The Constitution of the Republic of South Africa (1996:14) chapter three (section 40.1) states that the three “spheres of government are distinctive, interdependent and interrelated for the delivery of services within the communities”. Provision of some

services, including road infrastructure were decentralised in municipalities in order to expedite service delivery to the masses of the people.

The municipality receives equitable shares funds and Municipal Infrastructure Grant (MIG) grants for capital projects implementation every financial year. The municipality also established a Project Management Unit (PMU) in house for proper control of and planning for projects, including the road infrastructure projects. They also outsourced service providers including engineering consultants and contractors to administrate and implement the projects. Despite all the effort that the municipality took there are still community unrest within the municipal areas regarding poor road infrastructure. As stated in the Sekhukhune District Municipality IDP (2012/2013:30) there are still “Sporadic protests around water, roads and non-responsive/slow pace of responding to community issues at all local municipalities”

Makhuduthamaga Local Municipality appointed Dombo Du Plessis and Partners to develop the road master plan and storm water management plan for its entire area of jurisdiction in 2010/2011 financial year (Dombo Du Plessis and Partners, 2011:3). The document highlights the need for the municipality to ensure the provision of road services to the communities and to promote social and economic development amongst others. So given all this initiatives to improve road infrastructure in the municipality, this study wants to find out what the critical success factors are as well as challenges in terms of progress made towards roads infrastructure.

1.2 PROBLEM STATEMENT

It is important to note that project management capacity is essential for a municipality to be in a position to implement capital projects in an effective and efficient manner and taking into consideration the aspects of costs, time and quality. For this reason, project management is an integral function of any municipality that has a developmental role in terms of the Constitution of South Africa, 1996 (Act 108 of 1996). The key function of Makhuduthamaga Local Municipality (MLM) Project Management Unit (PMU) is to be efficient and effective in facilitating good governance and public participation in all projects implemented.

The information provided details related to performance of MLM PMU in the implementation of projects funded by Municipal Infrastructure Grant (MIG), depict that in three(3) consecutive financial years the municipality expenditure declined drastically in 2011/2012, 2012/2013 and 2013/2014. The spending percentages were as follows: 88%, 50% and 50% respectively (MLM Annual Report, 2013/2014). However, in the same period the conditions of roads were below standard, they required upgrading and improved storm water management. Proper storm water drainage systems are needed in all gravel roads because only a few portions of the paved/tarred roads have storm water drainage. (MLM IDP, 2014/2015:111).

Road Infrastructure that needs to be considered includes the backlogs of 76 bridges which are needed to improve mobility and accessibility to the communities and 322.69 km of roads that are gravel need to be tarred (MLM IDP, 2014/2015:111). The budget, the Integrated Development Plan (IDP), the Project Management Unit (PMU) and the Outsourced Service Provider are available to expedite the performance and also the road infrastructure that had been decentralised to local municipalities from district municipalities. The problem includes the fact that despite all these efforts, including

under spending of MIG allocated to road infrastructure, there is still community unrest within the municipality areas regarding poor road infrastructure (Sekhukhune District Municipality IDP, 2012/2013: 30).

1.3 MOTIVATION/RATIONALE FOR THE STUDY

Local government in Limpopo generally encounter many challenges in the provision of road infrastructure to communities according to the report issued by the Department of Corporate Governance Human Settlement and Traditional Affairs (CoGHSTA, 2014). The municipalities, including Makhuduthamaga Local Municipality, experience challenges in terms of projects implementation while they have financial allocation and are given the authority to implement the road infrastructure projects by the district municipality.

The community protests that are raging in the municipal areas as well as a large number of areas within the MLM where pot holes and dirt roads are a concern to the municipality and public stakeholders at large. All these challenges triggered the need to investigate the factors that affect implementation of projects processes, specifically road infrastructure projects.

1.4 SIGNIFICANCE OF THE STUDY

The study is intended to investigate the factors that affect successful implementation of road infrastructure projects at Makhuduthamaga Local Municipality. The study is envisaged to make a significant contribution to the municipal Project Management Unit (PMU) in terms of enhancement of project implementation processes and the good practices for the future endeavours.

Also the envisaged improvement in project implementation, in terms of road infrastructure, will help the communities to access various public facilities without travelling burdens.

The municipal infrastructure development policy making committee will hopefully reap the benefits that will be addressed that will flow from the knowledge in the MLM. The MLM's experiences will also hopefully help other municipalities in other areas.

1.5 AIM OF THE STUDY

The main aim of the study was to determine the factors that affect the successful implementation of road infrastructure projects in Makhuduthamaga Local Municipality (MLM) in Limpopo Province.

1.6 OBJECTIVES OF THE STUDY

The objectives of this study were to:

- Analyse factors that facilitate the implementation of the road infrastructure projects in MLM as planned in their IDP.
- Evaluate factors that hinder the successful implementation of the road infrastructure projects in MLM as planned in their IDP.
- Assess whether the municipality has the resources to operate their Project Management Unit (PMU) to achieve successful implementation of road infrastructure.

1.7 RESEARCH QUESTIONS

The study was guided by the following research questions:

- What are the factors that facilitate implementation of the road infrastructure projects in MLM?
- What are the hindering factors for successful implementation of the road infrastructure project in MLM?
- Does the municipality (MLM) have the resources in terms of human capital to operate the PMU?

1.8 BRIEF LITERATURE REVIEW

The road network of Sub-Saharan Africa is sparse. The asset value of the road network exceeds 30% of the gross domestic product (GDP), an indication of the magnitude of the maintenance problem. Beyond the classification network of primary and secondary roads, there is an unclassified network of tracks providing varying degrees of services to rural areas (Silcok, 2015)

About 50% of the population of South Africa is rural. The delivery of rural transport infrastructure services can be a significant catalyst for sustainable economic development, improved social access and poverty alleviation in South Africa. It is accepted that the delivery of most rural transport infrastructure and services will increasingly be a local government responsibility, funded through consolidated capital grants, the equitable share mechanism and transfers of monies in terms of the National Land Transport Transition Act (NLTTA). Although some provinces may still have a strong direct delivery role in the short to medium term, the long-term focus of all

provinces – together with that of the national sphere – will be on the facilitation, coordination and strengthening of service delivery. (AICD RONET, 2014)

Limpopo Province has a total road network of about 22 200 km, with 14% of national roads, 33% provincial roads and 53% local roads. An estimated 31% is tarred and the rest is gravel and dirt roads. The extent of the national road network is expected to increase significantly in future as some of the provincial roads are planned to be transferred to the South African National Roads Agency Ltd (SANRAL). The total road network in Limpopo represents about 5.0% of the total South African road network which is about 448 000 km excluding streets. On average, about 3% of the paved road network is in poor to very poor condition with a further 27% in an average condition and the paved road network in the Sekhukhune District Municipality is in much better condition in comparison with the other districts. (Road Agency Limpopo (RAL), 2014)

It is argued that the major failings in traditional approaches to project delivery have been in extensive delays in the planned schedules, cost overruns, quality and increase in the number of claims and the litigation associated with construction projects. In order to plan and manage a successful project, the three parameter of time, cost and quality should be considered (Hughes and Williams, 1991).

As a consequence of the lack of technical capacity in the public sector, prioritisation and selections of projects are often based on subjective factors, such as political influence and perceived value. This subjectivity is why many organisations experience projects that are not completed or are ineffective; they represent a lack of support from top management, poor project management, poor prioritisation or projects that are in conflict with the daily operation (Stentoft, Vagn, Freytag and Thoms, 2015).

Since the 1960's, project management researchers have endeavoured to identify the factors resulting in projects' successes. The key success factors to effective project implementation have been identified, these include having an actual schedule, top management support, risk identification and assessment, clear objectives, project sponsor/hero, adequate budget, organisational structure/culture, involvement of consumer/client, appropriate performance of suppliers/contractors/ consultants, adequate resources that are allocated appropriately, training, effective change management, political stability, competent project manager(s), project size, complexity or period of project, skilled/eligible team, environmental influences, appropriate leadership and selection of right method/ tools (Fortune and White, 2006).

1.9 DEFINITION OF CONCEPTS

- Community: social group of any size whose members reside in a specific locality, share government and often have a common cultural and historical heritage. (Van der Waldt, Venter and Van Niekerk, 2007).
- Community Project: is a term applied to any community-based project and can cover a variety of projects. They play a role to facilitate sustainable development in economic development, environmental protection and also generating useful current affairs for the public (Preenithi and Chotchai, 2015).
- Infrastructure: According to Nagle (1998:264), the term typically refers to the technical structures that support a society such as roads, water supply and electricity.
- Local Government: is a form of public administration which in a majority of contexts, exists as the lowest tier of administration within a given state. It also operates under an act that continues to govern the incorporation procedures of local governments, amalgamations and boundary changes. It also governs the incorporation of and the purposes, powers and governance of regional districts and improvement districts. It also contains the procedures for local government

elections, including referenda, as well as the powers and procedures for community development (planning and zoning) (Local Government: Municipal System Act 32 of 2000).

- Municipality: part of government that manifests at grassroots level and that exists as a legal person, as well as being a key part of a set of governmental relationships and organisational systems (Van der Waldt, 2007:148).
- Project: A temporary endeavour undertaken to create a unique product or service (PMBOK, 2004).
- Service Delivery: According to Van der Waldt *et al.* (2007:148), service delivery is the provision of public activities and this process relates to both the provision of tangible public goods and intangible services.

1.10 RESEARCH DESIGN

McMillan and Schumacher (1993:31) define research design as the plan structure of the investigation used to obtain evidence to answer research questions and that the design describes the procedures for conducting the study, which include when, from whom and under what conditions the data will be obtained. Research design is a plan or a blueprint of how you intend conducting the research (Babbie and Mouton, 2002:74).

The study used a qualitative descriptive research design. In-depth interviews were conducted, complemented by document analyses (specifically the MLM IDP) to find out the experiences of Makhuduthamaga Local Municipality in the provision of road infrastructure services.

The targeted population of the current study was:

For the councillors simple random sampling to sample a total of ten (10) councillors and the others took the total of each category.

- The Municipal Manager of Makhuduthamaga Local Municipality as he is the overseer of projects in the municipality.
- Municipal officials who are directly working with roads infrastructure projects implementation, viz.:
 - The Director: Infrastructure Development;
 - Project Management Unit: Manager;
 - Road and Storm Water Manager
- Consulting Engineer (x1): the consultant who was outsourced to carry the designs was interviewed;
- Ward councillors (x31): there are thirty one (31) wards in MLM and they were interviewed to provide input from ‘the community’.

As the targeted population size was small enough, meant that was manageable.

The study conducted one-on-one interviews with the identified participants using a research guide that was designed for purposes of this study. Appointments were made with participants to interview them at places that were accessible to them. Interviews were recorded both on paper and by audio recorder. The researcher employed and adapted version of Creswell’s (1998) data analysis spiral, where raw data were organised, perused, classified and synthesised for the final report.

1.11 OUTLINE OF THE DISSERTATION

The research report comprises of five (5) chapters as outlined below:

Chapter 1:

This chapter includes the background, problem statement, aim and objectives of the study, significance of the study, definition of concepts and ethical considerations.

Chapter 2:

This chapter includes the literature review on project management and factors that either facilitate or hinder effective management of projects.

Chapter 3:

This chapter gives an outline of the research design and methodology that was followed when conducting research study. The chapter also explains how the data were collected and analysed.

Chapter 4:

The main objective of the chapter is to present the results from the data that were collected. It also focuses on the analysis and the interpretation of the data.

Chapter 5:

This is the final chapter of the study. It presents recommendations and conclusions for future implementation of the road project and/or further research on the topic.

1.12 RESEARCH LIMITATIONS

The investigation focused only on Makhuduthamaga Local Municipality. Therefore, generalisation to other municipalities may not be possible. However, the study could be used to understand the context of MLM as well as helping other municipalities facing similar mandates and/or challenges.

CHAPTER 2

LITERATURE REVIEW

2.1 INTRODUCTION

In this chapter, the study was positioned and rested among the available works of other scholars which addressed issues of local government service delivery and the project management arena. The literature explored how the municipalities are capacitated with the systems that are guidelines of service delivery by government. A rigorous look at the Constitution of the Republic of South Africa (1996) was carefully developed for the purpose of understanding the constitutional mandate of Local Government.

Significant legislations such as the Local Government Municipal Systems Act (Act 32 of 2000) and the Local Government Municipal Structures Act (Act 117 of 1998) gave a detailed description of the powers and functions as per the categories of municipalities. There are spheres of government namely: National, provincial and local. These spheres of government must, among other functions, ensure that the provision of services is met to all South Africans. Du Toit, Knipe, Van der Waldt and Doyle (2002:100) highlighted that the municipalities must deliver services that accompany the political, social and economic environment within the three spheres. This is attainable only if the municipal infrastructure projects and portfolios are successfully managed.

The South African Management Development Institute (2009:11) explains that since it had been liberated in 1994, legislations and policies were developed mainly focusing on poverty and rural development. Along with others the Reconstruction and Development Programme (RDP) was introduced to ensure that major principles such as incorporated development and sustainable economic growth, social improvement and environmental protection were applied.

The national government in 1998 established the South Africa Road Agency Limited (SANRAL) as a company that represents the government to ensure that the road infrastructure in the country is up to standard, mainly focusing on national roads. Moody's International Public Finance (2008:3) further explains that SANRAL's main objective is to grant and manage all national roads networks for the purpose of improving road infrastructure and quality life for all South Africans and for economic development. Even though there are these interventions which are implemented, yet service delivery is still a challenge since there is a lack of provision of services within the country including road infrastructure, which causes chaos and community unrests. Hollands & Mageza (2005:4) highlighted that all community unrests caused by poor provision of services due to municipal failure.

The South African government introduced the Reconstruction and Development Programme (RDP) which is an integrated, coherent socio-economic policy framework, it seeks to mobilise all people and the country's resources towards the final eradication of apartheid and the building of a democratic non-racial and non-sexist future. It has six (6) basic principles. For the purpose of the study the researcher will only focus on link reconstruction and development.

The RDP integrates growth, development, reconstruction and redistribution into a unified programme. The key to this link is an infrastructural programme that provides access to modern and effective services like electricity, water, telecommunication, transport, health, education and training for all South Africans. The five key programmes include: meeting basic needs, developing human resources, building economy, democratising the state and society and implementing of RDP (SAMDI, 2009:11)

In 2010 the total value of road infrastructure was estimated at R1 trillion, further paved road networks summed to be 80% of the total value estimated. The cost of a kilometre is estimated to be R3.5 million for low traffic paving on a rural road. Due to heavy trucks that are travelling on these roads, they quickly deteriorate, costing the government a lot of money to correct the defects (Department of National Treasury, 2014:124).

According to President Jacob Zuma in the state of the nation address (SONA), the national infrastructure development programme continues to be a key job driver and catalyst for economic growth (Zuma, 2015:13). He further highlighted that the infrastructure programme continues to expand the transport network and to improve roads. The department of transport will spend about 9 billion on provincial road maintenance and R11 billion on upgrading and maintaining roads which are not tolled. He also indicated that over R6 billion will be spent in cities on planning, building and operating the integrated public transport network.

The premier of Limpopo, Mr Stanley Mathabatha, also highlighted that the Limpopo Development Plan reflects their shared vision and strategic imperatives towards poverty reduction, elimination of social inequality and a creation of sustainable jobs in the province. The aim is to achieve this through sustainable socio-economic, infrastructural and institutional development (Premier's State of the Province Address, 2015:3).

The premier of Limpopo further highlighted that the Presidential Strategic Infrastructure Programme (PSIP) will target both Waterberg and Sekhukhune District Municipalities and the envisaged Special Economic Zones earmarked for implementation in both Greater Tubatse and Musina Local Municipalities (Premier's State of the Province Address, 2015:3).

This chapter will review the government's frameworks and the enhancing of provision for roads in South Africa with the intention finding out the application of these frameworks by the municipalities as road infrastructure is well known as a strategic stimulant for economic growth and development. The Literature review in this chapter will dwell much on the information accessed from national and provincial reports, academic books, related journals and relevant legislations.

2.2 UNDERSTANDING OF INFRASTRUCTURE

The Oxford Dictionary of Economics (2009) defines infrastructure as: "The capital equipment used to produce publicly available services, including transport and telecommunications and gas, electricity and water supplies. These provide key categories of infrastructure that help to evaluate the economic stability in any country for possible investments. Infrastructure services are generally either provided by the private sector, another organ of state or the state itself.

The Economist's online dictionary, Economics A-Z (2012:52), describes infrastructure as "*The economic arteries and veins*". Infrastructure is critical for ensuring the effective functioning of an economy by stimulating economic growth and promoting employment. During periods of high unemployment and depressed economic growth, governments tend to fund infrastructure projects that are labour intensive. According to Chandan (2014:32), the infrastructural development of the 2010 Fédération Internationale de Football Association (FIFA) World Cup in South Africa made a large contribution to the recovery of the country out of the 2009 recession. Chandan (2014:32) further indicates that although there have been improvements in infrastructure development in South Africa, there are still challenges that need to be addressed before the country can reach its infrastructural goals. Some of the challenges include funding of infrastructure investment, slow approval processes for projects and skills shortages in carrying out the actual job. However, there are also opportunities in investing and developing

infrastructure namely, job creation, social development, economic efficiency and skills development.

The importance of reliable and well-developed infrastructure for the development of any nation hardly needs to be emphasised. Efficient transport, reliable energy, safe drinking water and modern telecommunication systems are all critical to attracting foreign direct investment (FDI), expanding international trade, achieving long-term investment and growth and ultimately ensuring social development of the population. Although globalisation was expected to ensure that global capital markets, which have the depth, maturity, size and sophistication to fund all viable investments would ease financing of infrastructure projects. This has not happened and the demand for infrastructure, particularly in the developing countries has remained acute (Ngowi et al., 2006:14)

The demand for infrastructure provisions in the developing countries has increased considerably in the recent years, which can primarily be attributed to the rapid economic growth witnessed by these economies. The vast urbanisation and industrialisation is putting enormous pressure on the existing infrastructure, which in turn led to the widening of the demand-supply gap of infrastructure in the developing economies around the world (Dailami and Leipziger, 1998:22).

The researchers clearly highlight the importance of infrastructure development for any country's development in terms of global economic competitiveness and improving the lives of communities to access jobs, services and businesses sustainability. Also, partnerships between private and public enterprises play a crucial role in the development of infrastructure in all the different settlements in any country.

2.2.1 Types of Infrastructure

The telecommunications, electricity, transport and water infrastructure developments are classified as key types of infrastructure upon which the country could be evaluated, based on the provision of accessibility. Below are types of infrastructure:

1) Telecommunications

According to Loannides et al. (2007), the telecommunications sector has seen phenomenal growth in the past decade. The ever increasing levels of Information and Communications Technology (ICT) has led to a significant reduction in the transmission and communication information costs around the world.

2) Electricity

According to the Deloitte Infrastructure report (2012:45), the supply of electricity and gas has the potential to improve the quality of life of households by empowering them with energy. It is also a large input for business as much of the equipment that are used in many industries require electricity to function

3) Water

According to Creamer (2011), with the democratisation of South Africa in 1994, more emphasis was placed on increasing access to water without giving the necessary attention to the sources of water. This is likely to lead to a water shortage in the near future. The most immediate solutions that the Department of Water Affairs (DWA) has identified are demand management as well as fixing the current infrastructure so that there is less wastage between the source and the final consumer

4) Transport

According to Chandan (2014:32), a good transport system is essential for both the transportation of goods and people. There are different benefits associated with investment in a country's transport infrastructure. Amongst others the benefits include, economic, environmental, community, social and the reduced traffic congestion.

He further indicated that economic benefits include a boost to the freight industry's competitiveness, which refers to the reduced production and distribution costs, by lowering barriers to mobility, giving the manufacturing, retail and service sectors access to specialised and productive labour as well as diverse selection of raw materials. Transport also strengthens local, regional and national economies.

Below is the main focus of road infrastructure which the study investigates:

- **Road infrastructure**

Road, as a means of transport, makes a crucial contribution to economic development and growth and brings important social benefits. Poorly maintained roads constrain mobility, significantly raise vehicle operating costs, increase accident rates and their associated human and property costs and aggravate isolation, poverty, poor health and illiteracy in rural communities (Malmberg, 1998:101).

The road infrastructure in South Africa has different agencies that regulate certain aspects of the industry. Some of the agencies include SANRAL, the Cross-Border Road Transport Agency (C-BRTA), the Road Traffic Management Corporation (RTMC) and the Road Accident Fund (RAF).

According to the SANRAL (Act No. 7 of 1998), the agency is mandated to construct, maintain and finance the national road network, amongst its other functions. The C-

BRTA is charged with managing the cross border road transport business. The RTMC was established to improve the value of providing the road traffic services and to ensure safety and security on the roads, amongst other things.

2.3 THE STATE OF ROADS IN SOUTH AFRICA

Currently the road is the most frequently used mode of transport in South Africa, meaning it is absolutely necessary that national infrastructure investment be made in this direction. At present the road density is too low. This affects the state of the roads as more vehicles are forced to use the same roads, there being no alternative routes available. Furthermore, the deteriorating condition of the nation's roads has a negative effect on logistics (e.g. potholes and roadblocks causing delays) (KPMG Report, 2015:11).

According to Department of Transport (2014:130), the quality of the country's road network and the need for an effective and reliable public transportation system, are now receiving greater attention by provinces. They further indicate that efficient provision of public transport services should progressively discourage private car use and encourage the use of public transport.

The South African Institute of Civil Engineering (SAICE) Infrastructure Report Card For South Africa (2011:20) highlights that South Africa's road network consist of 747 000km of which 140 00km is unproclaimed, 37% of it is classified to be road network and 75% is unpaved. The responsibility for this road network is shared amongst all three spheres of government. The report further states that SANRAL has R50 billion backlogs on strategic (national and provincial) roads, with an associated maintenance budget of R12 billion annually, which shows clearly that road infrastructure is taken seriously as a pivotal player in economic growth and development.

They further highlight that provincial government spending increased from R19.9 billion in 2010/11 to R25.7 billion 2013/2014 and is set to increase to R31.9 billion in 2016/17. They also indicate that visual condition indices and provincial road asset management plans indicate an increase in the percentage of the pre-existing networks classified as “poor” or “very poor”.

According to Department of Transport (2014:119), assessing the condition of roads at the sub-national (provincial and municipal) level is hampered by the fact that data collection and management systems have not been updated for numerous roads. According to SANRAL (2014), the provinces that have a significant portion of their road network in a very poor state include KwaZulu-Natal (22 per cent), Mpumalanga (15 per cent), Northern Cape (9 per cent) and Eastern Cape (7 percent).

2.4 IMPORTANCE OF ROADS

Road is a means of transport which makes a crucial contribution to economic development and growth and brings important social benefits. Poorly maintained roads constrain mobility, significantly raise vehicle operating costs, increase accident rates and their associated human and property costs and aggravate isolation, poverty, poor health and illiteracy in rural communities (Malmberg, 1998:101).

Roads are among the most important public assets in many countries. Road improvements bring immediate and sometimes dramatic benefits to road users through improved access to hospitals, schools and markets; improved comfort, speed and safety; and lower vehicle operating costs. For these benefits to be sustained, road improvements must be followed by a well-planned programme of maintenance. Without regular maintenance, roads can rapidly fall into disrepair, preventing realisation of the

longer term impacts of road improvements on development, such as increased agricultural production and growth in school enrolment (Zietlow, 1998:72).

Road transport is characterised by the capillarity of its infrastructure system, able to conjugate urban and extra-urban mobility in a continuous flow based on individual planning. There is an urgency to increase road capacity and efficiency; roads must be able to absorb the ongoing and increasing flow of vehicles and ensure at the same time an adequate level of safety. Such performances must be applied to largest section of existing networks. Therefore, not only new construction methods, but also sustainable maintenance of the existing network is paramount (European Commission EUR 23349, 2008:15).

The major aspects that are used to evaluate the condition of roads nationally and provincially are its accessibility, quality and cost to meet the expectation of the users both individuals and for business purposes.

According to the European Commission EUR 23349 (2008:15), below are the benefits of proper road infrastructure:

- The transportation of goods in regions which will eventually result in the booming of the economy and thus higher income for the government.
- Communities access to services and to working destinations.
- Investment on roads include higher potential for the transportation of goods, reduction in costs related to problems caused by low quality roads and a notable effect on the thriving of the whole region and the country in general.
- Improve avoidance of traffic jams and street hawking.

2.5 LEGISLATIONS AND FRAMEWORKS MANDATING PROVISION OF ROADS IN SOUTH AFRICA

2.5.1 The Constitution of South Africa (1996)

The Constitution of the Republic of South Africa of 1996 encompasses the following provisions, which also apply to municipal systems of operations. Chapter 10 of the constitution [Section 195(1)] talks about the basic values and principles governing public administration.

Public Administration must be governed by the democratic values and principles enshrined in the constitution based on the following principles:

- A high standard of professional ethics must be promoted and maintained.
- Efficient, economic and effective use of resources must be promoted and maintained.
- Public administration must be developmentally orientated.
- Services must be provided impartially, fairly, equitably and without bias.
- People's needs must be responded to.
- The public must be encouraged to participate in policy making.
- Public administration must be accountable.
- Transparency must be fostered by providing the public with timely accessible and accurate information.
- Good human resource management and career development practices to maximise human potential must be cultivated.
- Public Administration must be broadly representative of the South African people, with employment and personnel management practices based on ability, objectivity, fairness and the need to redress the imbalances of the past.

The above-mentioned principles are standards for all spheres of government to address the administration and to instil acceptable ethical characteristics in the personnel of the spheres.

Section 152 of the Constitution states that the objectives of local government are:

- to provide democratic and accountable government for local communities;
- to ensure the provision of services to communities in a sustainable manner;
- to promote social and economic development;
- to promote a safe and healthy environment; and
- to encourage the involvement of communities and community organisations in the matters of local government.

The constitution of South Africa, 1996, in schedule 4 part A and B, clearly indicate the services that need to be provided by municipalities or local government which include the provision of roads development, municipal roads and maintenance. However, the state of roads in both urban and rural areas still needs serious intervention from all spheres of government.

Mokale and Scheepers (2011:1) highlight that there are policies and legislations within municipalities but the challenges are the implementation of those frameworks by the officials within the responsible department. They also explain that service delivery won't be possible in municipalities if the officials are not held accountable for execution of the infrastructure projects. Davids, Theron and Maphunye (2005:46) support the statement by showing that the residents of this country are aware of socio-economic rights that are governing this country, but is difficult for them to reap the benefits of this country's freedom due to the lack of services that should be provided to them by the local government or municipalities.

Johansson (2004:8) highlights that the roads in the rural environment connect communities within their respective villages and there are no accessible roads, which

make it difficult for residents. The backlog is a very difficult task to get rid of due to irregularities within the public sector. Johansson (2004:15) further indicated that there are other areas which are affected by poor roads infrastructure like investment, tourism, business success and service delivery. This clearly indicates that there are still many challenges people are facing due to the poor road infrastructure network in South Africa.

The constitution of South Africa (1996) categorises the municipalities into three in section 155 (1).

1. Category A (metropolitan municipality) has an exclusive municipal executive and legislative authority in its area.
2. Category B (local municipality) shares executive and legislative authority with category C in those areas in which it is located
3. Category C (district municipality) has exclusive municipal executive and legislative authority in an area that includes more than one municipality.

Hollands and Mageza (2010:9) state that the categories of the municipalities are important since it clearly differentiates powers and functions like category B and C are related since category B operates under jurisdiction of category C. All have the same objectives and mandates.

2.5.2 Municipal Structures Act (Act No 117 of 1998)

The Municipal Structures Act (MSA) (Act No 117 of 1998) was developed for the establishment of municipalities in accordance with the requirements relating to categories and types of municipalities. The act is derived from the constitution of South Africa, which established local government as a distinctive sphere of government, interdependent and interrelated, with national and provincial spheres of government (MSA, 117 of 1998).

Makale and Scheepers (2011:22) highlight that all processes of the municipality should be transparent to ensure that the public and communities at large are fully participative without fear or bias and also when responding to issues they are facing in their areas. In essence the act stipulates the functions and powers of the municipalities that are assigned to perform and to ensure that the communities that are demarcated in the boundaries of a specific municipal jurisdiction, what they should expect from the municipality. The infrastructure development is the main objective topping the list of the municipal performances since it covers service delivery.

2.5.3 Municipal Systems Act (Act No 32 of 2000)

According to Van der Waldt and Knipe (1998: 16), the municipalities must have clear objectives and goals to implement their strategic goals which outline long-term and short-term of how they will deliver their basic services as indicated in section 25 of the Local Government: Municipal Systems Act (32 of 2000). The act requires that all municipal Councils, after commencement of their elected term of office, adopt the strategic plan that will be a vehicle to transport the strategic objectives for the municipality. According to Chapter 5 of the Municipal System Act Section 25(1), the strategic plan, also known as the Integrated Development Plan (IDP), must be crafted and be implemented.

Each municipal council must, within a prescribed period after the start of its elected term, adopt a single, inclusive and strategic plan for the development of the municipality which:

- links, integrates and co-ordinates plans and takes into account proposals for the development of the municipality;
- aligns the resources and capacity of the municipality with the implementation of the plan;

- forms the policy framework and general basis on which annual budgets must be based;

In 1995 the Forum for Effective Planning and Development (FEPD, 1995:107) defined Integrated development planning as: “A participatory approach to integrate economic, sectoral, spatial, social, institutional, environmental and fiscal strategies in order to support the optimal allocation of scarce resources between sectors and geographical areas and across the population in a manner that provides sustainable growth, equity and the empowerment of the poor and the marginalised.” They further stated that in order to ensure that available resources are optimally utilised towards the promotion of sustainable economic and social development, with the focus on viable service delivery, municipalities must implement the IDP process.

The Department of Provincial and Local Government (Guide Pack VI, 2000:8) outlined detailed contents for compiling and executing a municipality's Integrated Development Plan as consisting of:

- The planning process for the Integrated Development Plans;
- Institutional preparedness;
- Municipal implementation and service delivery; and
- Organisational performance management.

Section 26 of the Municipal Systems Act, 2000 determines that one of the core components of Integrated Development Plans will be the council's operational strategies in order to implement the actual objectives of its Integrated Development Plans.

Chapter 5 of the Municipal Systems Act [32 of 2000, section 29(1) (b) (ii)] directs the municipalities to engage with the communities to participate in developing the Integrated Development Plans to ensure that all the services needed by the community are part of the 5 year strategic plan that should be implemented and reviewed yearly until the end of term of the elected council. The main objective of community participation is to

unearth and prioritise the services that need prompt attention in communities such as water, roads, housing and electricity per wards. Van der Waldt and Knipe (2007:40) elaborate that the municipalities are structured in a way that will facilitate the service delivery.

2.6 INSTITUTIONS INVOLVED IN THE PROVISION OF ROADS IN SOUTH AFRICA

The democratic government of South Africa introduced the Road Infrastructure Strategic Framework for South Africa (RISFSA) to address the backlogs in all 9 provinces of this country. The main focus of the RISFSA is for efficiency in the road infrastructure. The government is working together with different private organisations, academic institutions and other technical bodies to come up with strategies that should maximise the efficiency of roads developments.

The current government, after consultation with other stakeholders, decided to introduce the strategic initiatives that should efficiently and effectively help to eradicate the road infrastructure backlogs. There are to date many communities in the country which still lack adequate and affordable access to transport systems and services in the country (Rural Transport Strategy for South Africa, 2006:10). This lack of access to an affordable transport system leads to social and economic problems since the affected people have challenges of moving to and from their villages. Over and above that, it is costly to take a taxi to different destinations like hospitals, schools and nearest towns. People end up walking many kilometres to the public services due to lack of affordability for taxi fares and other travelling mechanisms.

Pillay and Seedat (2007:399) highlighted that about 7 million learners and workers rely on public transport on roads and approximately 14 million learners walk to their schools. The situation is appalling because even at this stage public transport is still a problem,

in all the provinces. Metropolitan municipalities provide the strategic rapid bus transit system (BRT) like in Gauteng, “Re ya vaya” and “A re yeng”, but in remote areas of all provinces there are still people who travel extra kilometres to access basic services including police facilities, social facilities, health care and other services, because without proper roads networks accessibility this is a challenge.

Hassen (2000:1) suggest that infrastructure delivery should be measured through how important it is to the people, rather than spreading the services that do not serve the purpose of development for the needs of the communities. There are uncompleted projects within the country such as water lines, electricity lines, houses and roads, but what matters to the people are the services that are durable and accessible which also improve their well being.

Through the strategic framework the government is trying to come up with amicable solutions for road infrastructure in the country, but it has to be acknowledged that as a country there are still backlogs that require serious attention. These need to be included in the strategic plans of the country, including national development plans, provincial plans and municipal plans to cover all spheres of government.

In South Africa the provision of road infrastructure is performed by national, provincial and local governments and other government entities. Public entities like SANRAL and RAL also play an important role in ensuring that they facilitate the construction and maintenance of roads in the country. Since all spheres and departments are interrelated and interdependent, all of them have the same mission and vision since the national development plan is cascaded down to all the spheres and entities in terms of road infrastructure development. The finances and administrations depend on the government fiscals for funding for operational purposes.

All spheres of government depend on the government funding with regard to maintenance and new constructions of roads projects (The Department of National Treasury, 2014:121). The different roles and responsibilities of SANRAL, as well as local, provincial and national governments are now presented.

2.6.1 South African National Roads Agency Limited

National government established the South Africa National Roads Agency (SANRAL) in 1998. The main focus is to expand, construct and maintain all national roads. Some provinces like Limpopo also established provincial strategic organisations in line with SANRAL like the Road Agency Limpopo (RAL) to deal with provincial roads' issues and interconnections of major roads in the province. As a parastatal or public entity SANRAL is responsible for managing more than 20 000 km of South Africa's national road network. Its core task is focusing on the planning part of the road infrastructure development.

According to SANRAL's report, one of their fundamental principles in achieving their goal remains the preservation of national assets by creating the necessary infrastructure platform and a demand driven upgrade for the primary road network, which will play its rightful role in sustainable social and economic growth of the country. They further explain that their principal tasks are to strategically plan, design, construct, operate, rehabilitate and maintain South Africa's national roads in order to mobilise the economy (SANRAL, 2015).

The South African Institute of Civil Engineering (SAICE) Infrastructure Report Card For South Africa (2011:20) highlights that South Africa's road network consist of 747 000km of which 140 00km is unproclaimed, 37% of it is classified to be road network and 75% is unpaved. The responsibility for this road network is shared amongst all three spheres

of government. The report further states that SANRAL has R50 billion backlogs on strategic (national and provincial) roads, with an associated maintenance budget of R12 billion annually, which shows clearly that road infrastructure is taken seriously as a pivotal player in economic growth and development.

Section 25 (1) of the South Africa Roads Agency Limited and National Roads Act (Act no 7 of 1998) states that The Agency, within the framework of government policy, is responsible for and is thereby given power to perform, all strategic planning with regard to the South African national roads system, as well as the planning, design, construction, operation, management, control, maintenance and rehabilitation of national roads for the Republic. It is responsible for the financing of all those functions in accordance with its business and financial plan, so as to ensure that government's goals and policy objectives concerning national roads are achieved.

The act further elaborates on the additional powers of the Agency in section 26, highlighting that the Agency's main powers and functions under section 25 are: the Agency is competent— (a) at the request of a municipality or the Premier of a province and with the Minister's approval, to perform any work in connection with any road (whether a national road or a road of which that municipality or province is the road authority), including the planning, design and construction of such a road, or to have it done under its supervision, for the account of that municipality or province. The act clearly states that all spheres of government and entities have common objectives in terms of improving road infrastructure for the better in the country.

Minkley and Phiri (2010:8) highlight that the larger number of South Africans still experience the problem of accessing roads networks. Therefore, the entity has an important role to play to ensure that the residents of this country have access to roads as mandated by legislation. Since the road infrastructure is ongoing it is assumed that

the agency will ensure that the success of the developments is attained with the resources at their disposal.

2.6.2 Role of Local Government in the provision of Road Infrastructure

According to Botes et al. (1996:217), Local government administers public services locally in the municipal demarcation focusing on all affairs that are happening in their area of jurisdiction. Municipalities have functions and roles that are different from those of national and provincial governments, but all these spheres are mandated to deliver basic services to the people. The municipalities as local government are situated in a good position to reach the communities, which have to help in avoiding unrests and other challenges when proper mechanisms and systems are applied in facilitating service delivery. Botes et al. (1996:217) further elaborate that to achieve the government's objectives depend on the municipalities to honour their obligations as stated in the Local Government: Municipal Systems Act (32 of 2000).

Gildenhuys (1997:08) explains that "Local Government must have a purpose in mind and a goal towards which they strive". He also states that the municipalities' objectives in their IDP must be clearly defined and attainable, also show value for money in terms of the quality of services delivered.

The Department of Provincial and Local Government (DPLG, 2006:9) talks about all the government departments, structures, spheres of government, municipalities and their representatives that are directly involved in either the policy making, co-ordination, planning, development, implementation, monitoring, reporting or auditing of municipal infrastructure. Amongst these stakeholders a number of structures have also been established for policy making, planning, co-ordination, monitoring and reporting purposes.

It further states that the Institutional Framework for Municipal Infrastructure ensures that the respective roles and responsibilities of the different spheres of government and various sector departments are clearly defined.

The Department of Provincial and Local Government (DPLG) also ensures that the imperative of both co-operative government and sector collaboration is recognised and that overlapping mandates are minimised. It outlines the institutional principles and the roles and responsibilities of the different spheres of government for municipal infrastructure delivery. It also explains the structures for co-operative government.

It further elaborates that planning and implementing municipal infrastructure is the responsibility of local government. A developmental and democratic local government is in the best position to make accountable decisions related to how services should be provided, taking into account the needs of their constituencies as well as social, economic and environmental aspects within their areas of jurisdiction. The roles and responsibilities are guided by the planning framework.

The National Spatial Development Perspective, the Provincial Growth and Development Strategies, Provincial Sector Plans and IDPs are all key development plans that form part of the planning framework across the different spheres and sectors of government. Role players must undertake their planning responsibilities within the planning framework to ensure that they provide the necessary inputs for municipal infrastructure development. All municipal infrastructure projects (i.e. not just MIG projects) must be part of the municipality's IDP and the appropriate sectoral plan.

2.6.3 Role of National and Provincial Government in Provision of Road Infrastructure

The framework for the roles and responsibilities of national sector departments, their provincial counterparts and municipalities in terms of the delivery of municipal infrastructure is based on Chapter 3 of the Constitution of South Africa (1996) on co-operative government. The Constitution states that the three spheres of government are distinctive, interdependent and interrelated. Thus the principles that underlie the relations between the spheres are that of co-operative government and intergovernmental relations. In terms of section 41(i) of the Constitution, each sphere must, amongst other things:

- respect the constitutional status, institutions and powers and functions of government in the other spheres;
- exercise their powers and perform their functions in a manner that does not encroach on the geographical, functional or institutional integrity of government in another sphere;
- co-operate with one another in mutual trust and good faith by:
 - assisting and supporting one another;
 - consulting one another on matters of common interest;
 - co-coordinating their actions and legislation with one another;
 - adhering to agreed procedures

This means that all national departments and their provincial counterparts retain their policy making and regulatory functions. However, the importance of co-coordinating such activities, with the objective of creating a common approach to local government, is imperative. In addition, sector departments and provinces retain their constitutional rights to intervene directly in the affairs of municipalities where necessary.

The Department of National Treasury (2014:117) states clearly that the department of transport regulates and facilitates the legislative framework and policy development that

have to be implemented by provincial departments, municipalities and other public entities. The department further states that municipalities have responsibilities to provide roads in their jurisdictions and provincial governments also get funds to help in provincial roads maintenance.

A Review of the South African Road Network (2010:3) highlights that all roads on national level belong to SANRAL, which works closely with the national department of transport. They both ensure that the roads are of high quality. It also elaborates that the national department of transport should cascade the funds to public entities, provincial spheres and municipalities to ensure that they further construct road infrastructure in the prioritised areas. Since the department of treasury is the budgetary department it has to ensure that the money they transfer reaches the expected destination applying all the relevant regulations and legislations. Table 2.1 shows the extent of provincial networks by type and by province.

The Department of Treasury (2014:118) states that South Africa has an estimated 750 000 kilometres of roads of which 618 081 kilometres are proclaimed roads. These are valued at more than R2 trillion, according to the South Africa National Roads Agency Limited (SANRAL). Provinces are responsible for 190 686 kilometres of these roads.

Table 2.1 below shows the states of the South African road networks by type of road and province.

Table 2.1: South Africa Road Network

Province	Surfaced/paves roads(KM)	Gravel roads(KM)	Percentage of surfaced (%)	Total number of vehicles	Road densities (vehicle per hour)
Eastern Cape	3 608	26 391	13.7%	672 835	22.4
Free State	6 613	21 887	30.2%	507 938	17.8
Gauteng	3 671	1 832	200.1%	3 905 214	709.7
KwaZulu Natal	7 252	22 228	32.6%	1 387 914	47.1
Limpopo	5 593	14 632	38.2%	544 535	26.9
Mpumalanga	5 371	8 506	63.1%	671 267	48.4
Northern Cape	3 640	22 621	16.09%	219 422	8.4
North West	5 176	14 700	35.2%	496 999	25.0
Western Cape	6 424	10 541	60.9%	1 604 519	94.6
Total	47 348	143 338	33%	10 010 643	52.5

Source: Department of Treasury (2014:118)

Table 2.1 shows the extent of the provincial road network and the density levels for each province. In addition to these roads, there are an estimated 131 919 kilometres of un-proclaimed roads, mainly serving rural communities. These roads are a serious challenge as they are not recorded on any official inventory nor are they classified as the responsibility of a particular sphere of government. Assessing the condition of roads at the sub-national (provincial and municipal) level is hampered by the fact that data collection and management systems have not been updated for numerous roads. According to the national Department of Transport and SANRAL, data are available on the condition of only 82 per cent of provincial roads.

Despite the lack of comprehensive data, it is clear that the general condition of the provincial road network is cause for concern. The net worth of this network illustrates road authorities' efficiency in maintaining their roads. Information provided by SANRAL indicates that the current value of the provincial road network is an estimated R673 billion. Its condition has deteriorated over time due to a lack of life-cycle costing, poor budgeting, overloading, weak maintenance regimes and the lack of an asset management culture leading to deferred maintenance. In addition, about 80 per cent of the network is older than its original design life.

The Department of Transport estimates that, if maintenance is delayed by five years, the cost of reconstructing a road is up to 18 times higher than the cost of resealing it as part of coordinated maintenance. Vehicle operating costs increase dramatically when roads are in poor condition.

As a result, the priority in provincial road infrastructure investment has shifted from new construction towards maintaining the existing network. The Provincial Roads Maintenance grant was introduced in 2011/12 as a supplementary funding source for road construction and maintenance. As a condition for receiving allocations in the 2015/16 financial year, provinces are required to submit up-to-date road asset management data.

2.7 STRATEGIC PROJECT MANAGEMENT AND IMPLEMENTATION PROCESSES

The basic aim of an infrastructure project is to enhance the development of economically sound improvements which will be executed within a specific scope, time, cost and quality. Project management as an application is used by many municipalities across the country to effectively and efficiently manage the projects. Van der Waldt (2014: 844) states that even though project management is utilised, the translation of

integrated development planning (IDP), top-layer of service delivery and budget implementation plan (SDBIPs) into successful projects often do not yield the desired results. He further states that in a system of co-operative and integrated governance the developmental role of the 278 municipalities holds the key to address the significant backlog of infrastructure in South Africa.

2.7.1 The Project Management Framework

2.7.1.1 Understanding project management

This is defined as “A temporary endeavour undertaken to create a unique product or service” (PMBOK, 2004). The various projects are also important as they depend on the industry that is being used in the construction, information technology, etc. as these will operate differently according to activities but the procedure and the processes will remain the same in tackling the projects.

The Guide to the Project Management Body of Knowledge (PMBOK, 2004) defines project management as “the application of knowledge, skills, tools and techniques to project activities in order to meet stakeholders’ needs and expectations from a project”. Meeting or exceeding stakeholders’ needs or expectations invariably involves balancing the competing demands among:

- Scope, time, cost and quality;
- Stakeholders with differing needs and expectations; and
- Identified requirements (needs) and unidentified requirements (expectations);

The guide further states that sometimes project management used to describe an ongoing organisational approach to the management of ongoing operations.

2.7.2 The Project Management Context

PMBOK (2004) indicates that there are key aspects of the project management which include project management cycle, project stakeholders, organisation influences, key general management skills and socioeconomic influences.

A Project life cycle generally defines:

- What technical work should be done in each phase (e.g. is the work of the architect part of the definition phase or part of the execution phase)
- Who should be involved in each phase (e.g. concurrent engineering requires that the implementers be involved with requirements and designs. (PMBOK, 1996)

It further indicates that project life cycle descriptions may be very general and very different in application in a real situation.

Perkins (2003:1-3) highlights that project management processes are divided into phases and stages that help the project team to manage execution of project activities. When the five phases are applied well they can yield excellent results in any project nature at any given time. The five phases of a project life cycle are:

- Initiating
- Planning
- Executing
- Monitoring and controlling
- Closing

2.7.2.1 Initiation phase

The Initiation phase has several steps.

- The phase begins by defining the scope, purpose, objectives, resources, deliverables, timescales and structure of the project.
- The next step is to develop a Business Case, including several possible solutions and a cost/benefit analysis for each. A Feasibility Study should then be carried out to ensure that the chosen solution is feasible and has an acceptable level of risk.
- The next step is to define the Terms of Reference, followed by the selection of the project team that will carry out the different tasks. The final step is to carry out a Phase Review before seeking approval to proceed, also not forgetting to check with all stakeholders of the project to ensure smooth operations.

2.7.2.2 Planning phase

The Planning phase entails the creation of a detailed Project Plan/terms of reference which the project manager and all the team members will refer to throughout the project to monitor and control time, cost, quality and other aspects of project.

2.7.2.3 Execution phase

The execution phase involves the project manager coordinating the activities of the actual project by following the provisions reached in the planning phase. The project manager is in charge of supervising the workforce, providing employees with the necessary resources and informing them of the performance of the project during its execution. During the course of the project, the project manager reviews the performance of the project at the current position as per the original plan and may need

to make adjustments in the initial planning for issues such as budget, insufficient resources or unforeseen risks.

2.7.2.4 Monitoring and controlling phase

The monitoring and controlling phases of the project management lifecycle consists of completing and managing the work required to meet the project objectives. This phase also ensures that the project performance is monitored and adjustments to the project schedule are made as needed. It includes the following objectives:

- It is a continuous assessment or review and surveillance by the project management at every level of the hierarchy of the implementation of the project.
- It is aimed at tracking the progress of the project by ensuring that input and material deliveries, work schedules, targeted outputs and other required actions are proceeding according to plan.
- It is Keeping track of events in relation to the work plan and targets.

2.7.2.5 Closing phase

A project life cycle incorporates everything from the Planning Phase to the Closing Phase needed to complete the project. The purpose of the Closing Phase is to confirm completion of project deliverables to the satisfaction of the project sponsor and to communicate final project disposition and status to all participants and stakeholders. The project closure period also reviews the successes and challenges of the project for future reference.

These phases are presented in figure 2.1 below:

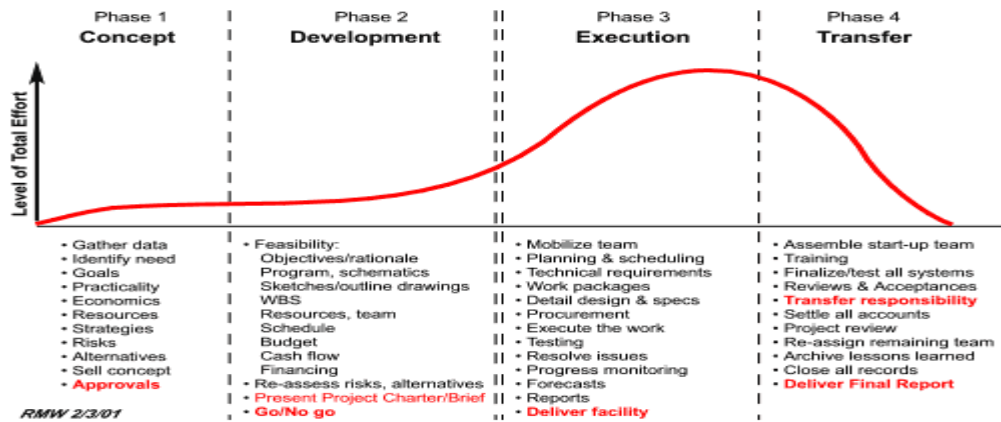


Figure 2.1: Project phases

Source: Project Management wisdom (1987).

The DPLG (2006:19) states that national and provincial governments are responsible for creating an enabling policy, financial and institutional (support) environment for municipal infrastructure. Municipalities are responsible for planning and implementing municipal infrastructure. This is reflected in the various policies which support the devolution of responsibility for municipal infrastructure development to the lowest possible level. Infrastructure development at a local level is dependent on both programme based and project based activities. Both types of activities are dependent upon adequate resources in terms of skills and funding.

The project life cycle for infrastructure development should be more detailed as shown in the diagram below (figure 2.2) because government spheres processes take lengthy steps before they undergo construction. The process starts with community consultation till the commissioning and maintenance of the assets while being recorded in their assets register for tagging purposes.

The project life cycle for infrastructure development can be presented in figure 2.2 below:

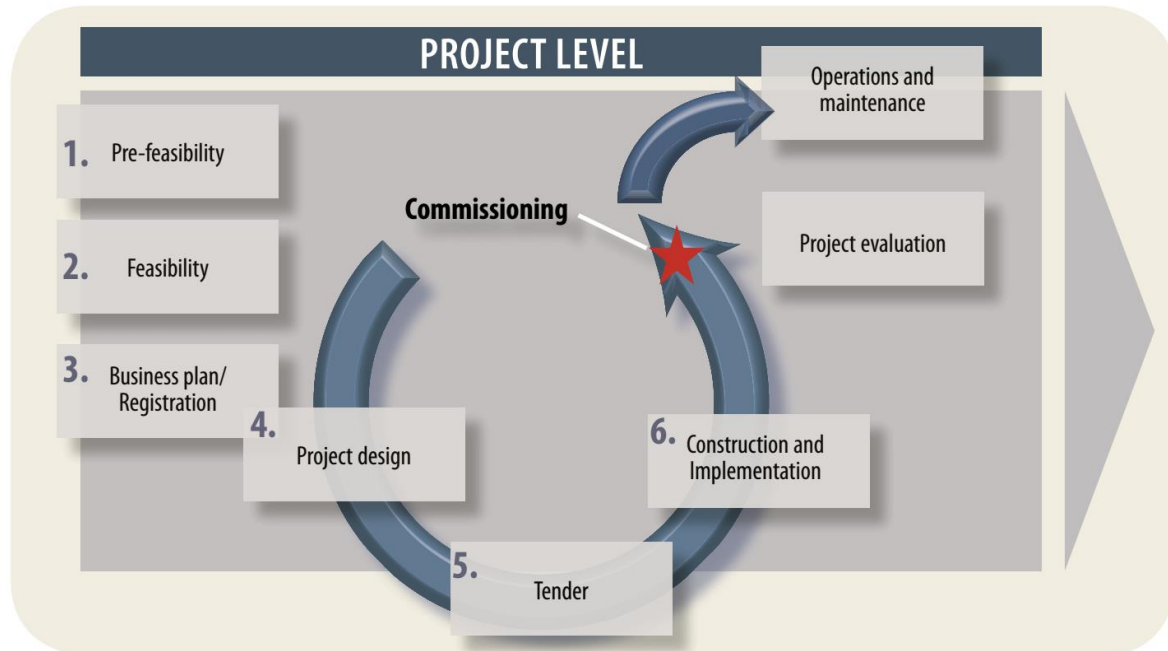


Figure 2.2: Project life cycle for infrastructure development

Source: Municipal infrastructure project life cycle (DPLG: 2006).

2.7.3 Project Management Knowledge Areas

The Project Management knowledge areas organise the 42 project management processes into nine knowledge areas and describe the key competencies that project managers must develop. The knowledge areas are categorised into the following:

- Four core knowledge areas lead to specific project objectives (scope, time, cost and quality).

- Four facilitating knowledge areas are the means through which the project objectives are achieved (human resources, communication, risk and procurement management).
- One knowledge area (project integration management) affects and is affected by all of the other knowledge areas.

2.7.3.1 Project integration management

Project integration management entails unification, consolidation, articulation and interactive actions that are crucial to project completion. Integration is about making choices, about where to concentrate resources and effort. It also involves making tradeoffs among competing objectives and alternatives. Integration is primarily concerned with effectively integrating the processes among the Project Management Process Groups (Miqdadi, 2014: 3)

The main focus of the project integration management helps in developing the following guidelines:

- The Project Charter
- Develop Project management Plan
- Direct and Manage Project Execution
- Monitor and Control Work
- Integrated Change Control
- Close Project

2.7.3.2 Project Scope Management

Project Scope Management entails the processes required to ensure that the project includes all the work required and only the work required, to complete the project successfully (Miqdadi, 2014:3).

Project scope is the core of the project which forms the basis of all activities and has to be well detailed. The following are the key aspects of project scope:

- Collect Requirements
- Define Scope
- Create work breakdown structure (WBS)
- Verify Scope
- Control Scope

2.7.3.3 Project Time Management

Project Time Management includes the processes required to manage timely completion of the project (Miqdadi, 2014:3). Project time has a financial implication if it is not handled in a proficient manner. Below are the aspects of time management:

- Define Activities
- Sequence Activities
- Estimate Activity Resources
- Estimate Activity Durations
- Develop Schedule
- Control Schedule

2.7.3.4 Project Cost Management

Project Cost Management involves estimating, budgeting and controlling costs so that the project can be completed within the approved budget (Miqdadi, 2014:3).

Project cost actualises the whole endeavour because without finance no activity will take place. Below are the aspects of cost management:

- Estimate Costs
- Determine Budget
- Control Costs

2.7.3.5 Project Quality Management

Project Quality Management includes the processes and activities of the performing organisation that determine quality policies, objectives and responsibilities so that the project will satisfy the needs for which it was undertaken. It implements the quality management system through policy and procedures with continuous process improvement activities conducted throughout, as appropriate (Miqdadi, 2014:3).

Quality is very important since every project has specifications and standards that the scope needs to adhere to. The following are the aspects of quality management.

- Plan Quality
- Perform Quality Assurance
- Perform Quality Control

2.7.3.6 Project Human Resource Management

Project Human Resource Management includes the processes that organise, manage and lead the project team (Miqdadi, 2014:3). People are the most important assets in administration of the project. Below are the aspects covered in human resources management:

- Develop Human Resource Plan
- Acquire Project Team
- Develop Project Team
- Manage Project Team

2.7.3.7 Project Communications Management

Project Communications Management includes the processes required to ensure timely and appropriate generation, collection, distribution, storage, retrieval and ultimate disposition of project information. Project managers spend the majority of their time communicating with team members and other project stakeholders (Miqdadi, 2014:3).

Proper communication channels and matrix enhance the effectiveness and efficiency in any line of engagements. Below are the aspects of communication management:

- Identify Stakeholders
- Plan Communications
- Distribute Information
- Manage Stakeholder Expectations
- Report Performance

2.7.3.8 Project Risk Management

Project Risk Management the processes of conducting risk management planning, identification, analysis, response planning and monitoring and control of a project. The objectives of Project Risk Management are to increase the probability and impact of positive events and to decrease the probability and impact of negative events in the project (Miqdadi, 2014:3). Project Risk Management includes the following aspects:

- Plan Risk Management
- Identify Risks
- Perform Qualitative Risk Analysis
- Perform Quantitative Risk Analysis
- Plan Risk Responses
- Monitor and Control Risks

2.7.3.9 Project Procurement Management

Project Procurement Management includes the processes necessary to purchase or acquire products, services or results needed from outside the project team. The organisation can be either the buyer or seller of the products, services or results of a project (Miqdadi, 2014:3). Project Procurement Management includes:

- Plan Procurements
- Conduct Procurements
- Administer Procurements

- Close Procurements

2.8 FACTORS THAT INFLUENCE THE SUCCESS/FAILURE OF PROJECTS

According to Belassi and Tukel (1996), there are seven critical success factors in projects which determine failure or success in projects. Most, if not all, of these factors relate to the project manager and to the organisation the project belongs to and seem to ignore project characteristics, characteristics of team members and the external factors around the project. They further indicate that it is important not to involve all possible critical factors that might affect the project outcome which will be impossible because of the diversity of the projects, but to show that the identification of the group to which the critical factors belong would be sufficient for better evaluation of the projects.

It is important for the project manager to have a clear understanding of which aspects of the projects might be critical for their successful completion. According to Belassi and Tukel (1996), there are the following grouped factors in four areas that determine success or failure in projects. The factors relate to:

- 1) The project,
- 2) The project manager and the team members,
- 3) The organisation and
- 4) The external environment.

The above factors can be presented in figure 2.3 below.

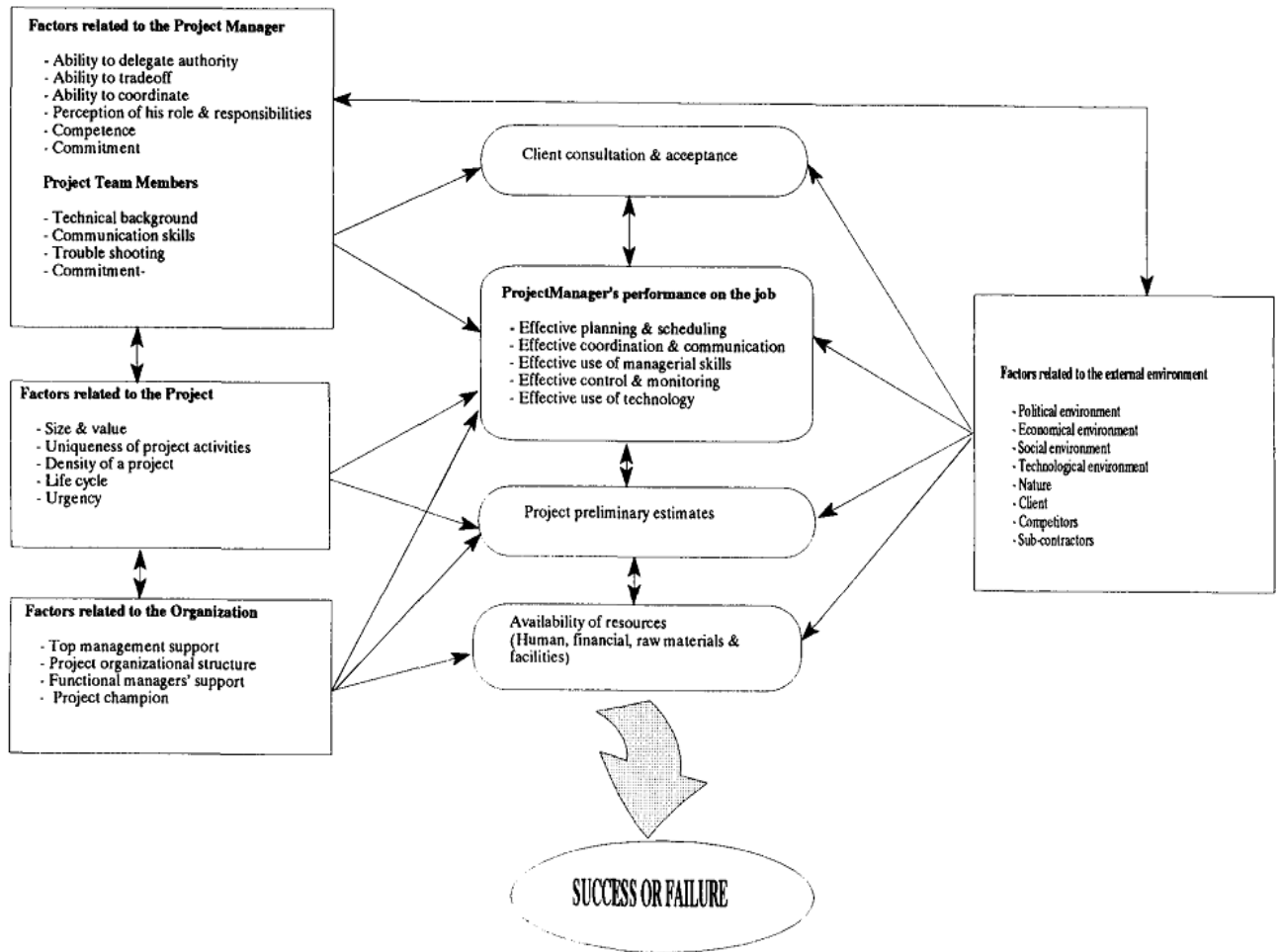


Figure 2.3: Factors that affect the success and/failure of projects

Source: Belassi and Tukel (1996).

As portrayed in the figure above all the groups are interrelated with each other, one failure will affect the other groups. For instance a lack of management support or incompetency of the project manager can kill the project.

According to Belassi and Tukel (1996), the framework suggested will bring advantages by grouping critical factors. In addition, the project manager must understand the intra-

relationships between the factors in the different groups. The authors, further highlight that the framework will also help project managers to evaluate and monitor their projects more accurately. Project managers' competence is a critical factor that affects project planning, scheduling and communication. Factors related to a project manager include his/her managerial skills, competence and his/her technical background.

Tukel and Rom (1996) concluded their study by highlighting the five common success factors identified through various literature as follows:

- Top management support,
- Client consultation,
- Preliminary estimates,
- Availability of resources,
- Project managers' performance

Some of the factors that may have an effect on the implementation of projects are discussed below:

2.8.1 Poor Project Management

The European Commission User's Guide (1998) states that the role of the project manager or project management team is probably the most important element in containing the costs of a project. It is often true that a poor project with a good project manager will be completed satisfactorily. But even a good project, if combined with poor project management, will almost always face serious difficulties. A poor project management structure will have an impact at all stages of the construction process leading to:

- A lack of planning and coordination;
- Poor communication between members of the project team and the project sponsor;
- Failure to identify problems and institute necessary design and programming changes;

- A lack of control over time and cost inputs.

The European Commission User's Guide (1998) further highlights that improved contingency planning can never be a substitute for good project management. Good project management has essential elements that include:

- i. **Cost control:** managing the design and construction processes to achieve best value for money and ensuring that the final cost does not exceed the budget.
- ii. **Time control:** managing the design and construction processes so that the project is completed on or before the agreed completion date.
- iii. **Quality control:** ensuring that the quality and performance of the completed project meets the project sponsor's original objectives.
- iv. **Change control:** ensuring that any changes that are necessary are achieved within the approved budget, that they represent good value for money and that authorisation to proceed has been obtained from the project sponsor.

2.8.2 Cost Changing Factors

2.8.2.1 Inflation

The European Commission user's guide (1998) states that inflation can act to increase the original estimates of construction costs. Inflation may have been taken into account in the original estimates, but if the rate of inflation increases above the predicted level during the construction period, then the original cost estimate will be exceeded. Obviously, any other factor that delays a project will expose the project to the risk of further inflationary cost increases. Inflation may not be the only cause of price rises. Political or technological factors may affect one or more elements of cost.

2.8.2.2 Shortages of material and plant

During periods where the level of development activity is unusually high in a particular region, there may be shortages of some construction materials, construction plants (machines and equipment used during construction) and service plants (equipment used in the operation of the infrastructure project). If this was not anticipated in the

original cost estimate, delays may occur and/or the prices of these elements may increase (European Commission user's guide, 1998).

2.8.2.3 Inappropriate contractors

Contractors are selected on the basis of price, experience in undertaking particular types of project and their track record in producing high quality work within budget and on time. Problems may arise where there is a high level of development activity being undertaken in a particular region and the better contractors are not available to bid for the work at that time. Alternatively, the tender review process may not have been undertaken by the personnel with the best understanding of the services required.

As a consequence, firms which are not the most experienced in that field of activity are chosen, often with implications for the quality and cost of a project. Delays in project implementation and increases in costs can arise through the use of ineffective or inappropriate labour or errors in calculating how productive the labour will be. This can happen especially when sub-contractors are used whose quality is not controlled in the main project contract (Tukel and Rom, 1996).

In most cases there is a trade-off between price, experience and track record but the desire to accept the lowest tender does not always lead to a project that is completed within time and budget. There are cases of contractors and sub-contractors who go into liquidation during the construction period. This can lead to significant delays and extra costs arising as the project sponsor has to re-tender the remaining work. Identifying a new contractor to complete another contractor's work is difficult because of the possible liabilities that the new contractor would have to accept for another company's work (European Commission user's guide, 1998).

2.8.2.4 Land Acquisition Costs

The land on which a project will be built is not always owned by the project sponsor. Where this is the case, local government authorities can usually compulsorily purchase

the land in accordance with legal statutes. The statutes usually require that the land is valued and that compensation is paid to the owner on the basis of the valuations. Although the right to purchase and actually develop the land can be agreed relatively quickly, the amount of compensation that actually has to be paid can sometimes not be agreed upon until the end of the project, especially if the land owner appeals against the original valuation.

The owner may have the right to appeal and it is up to a Court to agree a fair price for the land. In many cases, this may be greater than the original forecast by the project sponsor. Inevitably, long drawn out compensation cases will delay a project (Belassi and Tukul, 1996)

2.9 SUMMARY

Road infrastructure in South Africa is provided by the three spheres of government namely, national, provincial and local, in partnership with other organs of state i.e. RAL, SANRAL. The current condition of roads in South Africa is a concern. All spheres of government need to invest in infrastructure development especially in the provision of roads, to ensure economic development and enhancement of the transport network system to improve the lives of the citizens.

CHAPTER 3

RESEARCH DESIGN

3.1 INTRODUCTION

Chapter two presented the literature review on all government spheres, legislations which govern administration and operations to the spheres, including the source of funds, reporting, line of communication, service delivery, project management knowledge areas and factors that hamper or help the execution of the project. In addition, literature covering the factors that affect projects in a positive or negative way was also covered. This chapter provides information on the research design and methodology employed in collecting data for the study. The targeted population, sampling, data collection methods and instruments used are also presented.

3.2 RESEARCH DESIGN

McMillan and Schumacher (1993:31) define research design as the plan structure of the investigation used to obtain evidence to answer research questions and that the design describes the procedures for conducting the study, which include when, from whom and under what conditions the data will be obtained. Research design is a plan or a blueprint of how you intend conducting the research (Babbie and Mouton, 2002:74). Mouton (1999:107) refers to research design as a series of guidelines and instructions towards addressing a research problem. Leedy (1993:127) indicates that the purpose of research design is to provide the most valid, accurate answers possible to research questions.

The research methodology used in this study was qualitative. Weinreich (2006:2) indicates that the advantage of using qualitative methods is that they generate rich and detailed data that leave the participants' perspectives intact and provide the context for

healthy behaviour. Weinreich (2006:2) further states that the qualitative research methods include observations, interviews and focus groups and that these methods help the researcher to understand the meanings people assign to social phenomena and elucidate the mental processes underlying behaviours. Qualitative research is appropriate as the study seeks to find out participants' experiences and opinions without changing the information they give in any way.

3.3 TARGET POPULATION

According to Babbie and Mouton (2002:100), a population of a study refers to a group from which the researcher wants to draw conclusions. Also, De Vos (1998:191) defines population as a set of entities for which all measurements of interest to the researcher are presented. The nature of this study requires data to be collected from the municipal officials, ward councillors and municipal appointed consulting engineers dealing with specifically road infrastructure. This enabled the researcher to interpret the state of road infrastructure in the Makhuduthamaga Local Municipality.

The targeted population of the current study is:

- The Municipal Manager of Makhuduthamaga Local Municipality as he is the overseer of projects in the municipality.
- Municipal officials who are directly working with roads infrastructure projects implementation, viz.:
 - The Director: Infrastructure Development;
 - Project Management Unit: Manager;
 - Road and Storm Water Manager
- The Consulting Engineer (x1): the consultant was outsourced to carry the designs and will thus be interviewed;
- Ward councillors (x31): representing various wards in MLM and were interviewed to provide input from 'the community'

Thus the total targeted population was 15.

3.4 SAMPLE

Miles and Huberman (1994:27) maintain that qualitative researchers usually work with small samples of people situated in their context and studied in depth. Creswell (1994:118) indicates that clear identification and formulation of criteria for the selection of the participants are of cardinal importance. A sample is a small portion of the total set of objects, events or persons that together comprise the subject of the study (De Vos *et al.*, 2002:199).

This study was conducted with interviewees including the Municipal Manager, PMU Manager, Roads and Storm water Section Manager, Director: Infrastructure Development, Consulting engineer and 10 (Ten) councillors. The total number of respondents was 15 representing 100% of the entire population.

3.5 STUDY AREA

Limpopo Province comprises of five District Municipalities namely, Capricorn, Mopani, Waterberg, Greater Sekhukhune and Vhembe. Makhuduthamaga Local Municipality is located within the area of jurisdiction of the Greater Sekhukhune District Municipality. Makhuduthamaga shares municipal boundaries with Fetakgomo, Elias Motsoaledi, Tubatse and Ephraim Mogale Municipalities. It is in the heart of the Greater Sekhukhune Municipal area and constitutes an interlinkage road network to the other four Municipalities. The headquarters of the Makhuduthamaga Local Municipality is situated at Jane Furse town. It is located about 140 km South East of Polokwane, the capital of Limpopo. The municipality is largely rural (MLM IDP, 2014/2015).

3.6 DATA COLLECTION

3.6.1 Data Collection Instrument

The study used a semi-structured interview guide for data collection (see (Appendix B). There were three (3) guides tailor-made for each group, for the councillors simple random sampling to sample a total of ten (10) councillors and the others took the total of each category. Interview information was noted and read simply to identify emerging patterns. The choice of interviews as instrument of choice proved to be best to the researcher as participants' viewpoints could also be linked to interpretation of their responses for the entire research.

3.6.2 Data Collection Methods

The researcher conducted semi-structured individual interviews. The purpose was to get verbal, reliable and valid information from the respondents. The interviews were conducted on a face-to-face basis at a time convenient to the respondents. The respondents were contacted telephonically and a firm appointment was made. The topic of the interview was introduced to the respondents prior to the day of the appointment, when the appointment was again confirmed. The researcher took notes during interviews and a tape recorder was also used.

Bless and Highson-Smith (2000:156) define a qualitative research approach as a research conducted using a range of methods which uses qualifying words and descriptions to record and investigate aspects of social reality. In-depth interviews were conducted, complemented by document analyses (specifically the MLM IDP) to find out the experiences of Makhuduthamaga Local Municipality in the provision of road infrastructure services. The choice of interviews as instrument of choice proved to be best to the researcher as participants' viewpoints could also be related to interpretation of their responses.

Anderson *et al.* (1994:116) indicate that in order to conduct a fruitful interview, the interviewer should ensure that everything has been put in place to avoid disappointments. This statement encouraged the researcher to conduct the interviews according to the following phases; planning, beginning data collection, basic data collection and closing data collection (McMillan and Schumacher, 2001:404).

Closing data collection: This is the phase where data collection draws to a close. The researcher closed the interview and the participants were asked for any further additions to the interview conducted. It is always important to value the additions and recommendations from the participants because at some level these additions could further elaborate the issues in the interview or add more emphasis.

3.6.3. Data Analysis

Huberman and Miles (2002: 309) articulated the aims of qualitative data analysis amongst others as defining concepts, mapping dynamics of phenomena, creating topologies, finding associations, seeking explanations and developing new ideas or theories. Ely, Vinz, Downing and Anzul (1997:161) maintained that in outlining the analysis for qualitative research, researchers ought to discern the smallest elements to which something could be reduced but still maintain the original meaning even when lifted out of immediate context. The elements should be such that researchers would continue to rediscover relationships between them.

Data analysis was made by interpreting the data that were collected from the respondents. The researcher employed an adapted version of Creswell's (1998) data analysis spiral, where raw data were organised, perused, classified and synthesised for the final report.

3.7 ETHICAL CONSIDERATIONS

The following ethical issues were taken into consideration for this study:

- **Permission to conduct the study:** permission to conduct the study was sought from the municipal manager prior to conducting the study (see Appendix A).
- **Informed consent:** the study and its purpose were explained to all participants prior to collecting data to ensure that the participants give informed consent.
- **Confidentiality:** the identity and information provided by the participants were kept confidential.
- **Report:** after the completion of the research the participants and other interested stakeholders will be provided with the report and outcomes of the research.

3.8 SUMMARY

In this chapter the research design was described. Research methodology and sampling method, including the research subjects were presented. The data collection method was also presented. In the next chapter, the findings from the data collected will be presented.

CHAPTER 4

RESULTS

4.1 INTRODUCTION

Chapter three outlined the research design and methodology used to collect data for the study. The current chapter will mainly focus on presentation of results from data gathered. The qualitative analysis approach was used wherein face-to-face interviews were conducted to acquire in-depth information to answer the research questions.

Data analysis was made by interpreting the data that were collected from the respondents. The researcher employed and adapted Creswell's (1998) data analysis spiral method, where raw data were organised, perused, classified and synthesised. Ely, Vinz, Downing and Anzul (1997:161) maintained that in outlining the analysis for qualitative research, researchers ought to discern the smallest elements to which something could be reduced but still maintain the original meaning even when lifted out of immediate context. The elements should be such that a researcher would continue to rediscover relationships between them.

The biographical information of the respondents will be presented first followed by their opinions and views on the management of road infrastructure in Makhuduthamaga Local Municipality.

4.2 BIOGRAPHICAL INFORMATION OF RESPONDENTS

For this study, the researcher interviewed the municipal manager, municipal officials, municipal councillors and consulting engineer involved in municipal projects, specifically

the road infrastructure projects. The analysis of data was done with interview data from fifteen (15) participants as listed in chapter three.

4.2.1 Departments where Respondents are working

Table 4.1: Department of Respondents

Department	Number of Respondents
Infrastructure Development and PMU	3
Office of Municipal Manager	1
Municipal Councillors	10
Consulting Engineer	1
TOTAL	15

Table 4.1 above indicates that one (1) consulting engineer, 10 municipal/ward councillors were interviewed, three (3) officials who are directly involved in road infrastructure development and maintenance in the municipality as well as the municipal manager were interviewed for the purpose of this study.

4.2.2. Gender of Respondents

Table 4.2 below shows that there was a total of 15 respondents, only five (5) of whom were females.

Table4.2: Gender of Respondents

Department	Male	Female	Total
Infrastructure Development and PMU	2	1	3
Office of Municipal Manager	1		1
Municipal Councillors	6	4	10
Consulting Engineer	1		1
Total	10	5	15

4.2.3. Age Profile of Respondents

Table 4.3 below shows that the age profiles of respondents are between 30-49 in all categories.

Table 4.3 Age Profile of Respondents

Age	Infrastructure Development and PMU	Office of Municipal Manager	Municipal Councillors	Consulting Engineer
30-39	3	0	2	1
40-49	0	0	4	0
50-59	0	1	4	0
Total	3	1	10	1

4.2.4 Number of Years in Service

Table 4.4 below shows that the service experience of respondents ranges from 6 years to more than 20 years.

Table 4.4 Years of Service of Respondents

Number of years	Infrastructure Development and PMU	Office of Municipal Manager	Municipal Councillors	Consulting Engineer
6-10	0	0	7	0
11-20	3		3	1
>21	0	1	0	0
Total	3	1	10	1

4.2.5 Educational Profile

Table 4.5 below shows that the education level of respondents vary between high school and degree qualifications.

Table 4.5: Educational Profile of Respondents

Level of Education	Infrastructure Development and PMU	Office of Municipal Manager	Municipal Councillors	Consulting Engineer
High school	0	0	5	0
Technical Qualification	0	0	0	0
Diploma	0	0	3	0
Degree	3	1	2	1
Total	3	1	10	1

4.3. INTERVIEW QUESTIONS FOR MUNICIPAL OFFICIALS

The municipal officials were interviewed separately from councillors to see if they have the same understanding of the issues that have to do with road infrastructure development and/or maintenance in their municipality. (See Appendix A)

4.3.1. What the Municipal Officials think of the State of the Roads Infrastructure in their Municipality

The municipal officials who were interviewed indicated that Makhuduthamaga Local Municipality (MLM) is still under-developed in terms of road infrastructure. In addition, they also indicated that most of the roads are gravel and the tarred roads are also not of high quality or below average. Finally they indicated that there are numerous speed humps constructed, some of them by the surrounding community, in most of the roads including the provincial roads which do not comply with the roads standards. Communities damage the roads demanding those humps and make it very difficult for vehicle mobility along those roads.

4.3.2. What were the Municipal Plans for Road Infrastructure Development in the Last Five Years?

The municipal officials were asked what their plans were in terms of road infrastructure development (in terms of new roads) in the past five years. They indicated that they have a five (5) years strategic plan in terms of their Integrated Development Plan (IDP) which they use as a guide for projects that will be implemented in the five years term of the new municipal council after local elections.

According to Chapter 5 of the Municipal System Act Section 25(1) the strategic plan, also known as the Integrated Development Plan (IDP), must be crafted and be implemented. Each municipal council must, within a prescribed period after the start of

its elected term, adopt a single, inclusive and strategic plan for the development of the municipality which:

- Links, integrates and co-ordinates plans and takes into account proposals for the development of the municipality;
- Aligns the resources and capacity of the municipality with the implementation of the plan;
- Forms the policy framework and general basis on which annual budgets must be based.

The respondents also indicated that every financial year there are provisions for roads infrastructure planned for implementation. However, they experience financial challenges of allocation for the projects since the municipality depends largely on equitable share and MIGs because they have no mechanisms of revenue generation. The allocation is reportedly not enough to eradicate the backlogs according to the respondents which led them not to achieve their plans as expected.

The respondents also indicated that a road master plan had been developed in the whole municipal area which indicated all the roads from gravel to tarred roads. The master plan also indicates the critical areas and priorities that need to be implemented urgently.

4.3.3. Whether the Projects Targets Have been Achieved or not.

Table 4.6 below shows the planned municipal projects and whether they were achieved or not.

Table 4.6: Municipal Targets/Projects 2014/2015 Financial Year

Projects/Plan	Achieved	Not Achieved
Construction of Kutupu Road and Stormwater control		Not achieved
Construction of Reitfontein Stormwater control	Achieved	
Jane Furse Police Station to Marangrang Access Road	Achieved	
Construction of Access Road to Peter Nchabeleng Sport Facility Phase 2	Achieved	
Upgrading of Masemola Sports Facility		Not achieved
Construction of Moripane/Mogorwane Access Bridge	Achieved	
Construction of Lobethal/Phaahla Access Bridge		Not achieved
Construction of Moripane/Riverside Pedestrian Bridge	Achieved	
Construction of Skotiphola Access Bridge	Achieved	
Construction of Moretsele /Dichoeong road link		Not Achieved
Construction of Makhutso Access Bridge	Achieved	
Construction of Vierfontein to Rietfontein Link Road		Not Achieved
Construction of Rietfontein Stormwater control PH 2		Not Achieved
Construction of access road to Madibaneng Mohlala Tribal Office		Not Achieved

After identifying their plans for road infrastructure development the respondents were asked whether their plans were achieved or not. The table above shows that of the 14 projects that were planned only half of them were achieved. The respondents indicated that the project targets were not achieved since not all projects indicated that some roads were divided into phases because of lack of funds to implement them fully. They further highlighted that some of the roads only 0.5 km to 1 km would be constructed due to the shortage of funds as indicated. They further indicated that the shortage of finance is the main source of their failure to implement the projects as per the strategic plan.

4.3.4. Challenges Encountered when Implementing Roads Infrastructure Projects in the Municipal Area.

The respondents alluded that there are different challenges they experience when implementing projects including the following:

- Community interference in the administration of the projects which include recruitment of labourers. The community also demands sub-contracting from appointed service providers.
- Communities and wards councillors fighting for municipal wards boundaries and demarcation during project implementation.
- Chief demanding more money for royalties up to approximately R200 000 for the projects that would be implemented in their areas.
- Appointing under resourced service provider which sometimes fails or takes a lengthy duration to execute the project.
- Political interference from the councillor tempering with the municipal plan to suit their own interest or prioritising their mandate not the departmental plan as planned.

4.3.5. Strategies that need to be in Place to overcome such Challenges

The respondents indicated that the following measures need to be in place to curb some of the challenges encountered:

- That it is very important to appoint an experienced social facilitator to educate the communities and/or Chiefs about their roles in projects to ensure good flow during implementation and to minimise the asymmetry of information among all stakeholders.
- They also indicated that it is very important to involve the designers or the consultants during the evaluation of contractors at the tender stage to ensure that they evaluate the contractors' capacity before they could be appointed.
- The respondents also indicated to the researcher that it is important to capacitate the politicians, councillors and ward committees about their roles in projects and service delivery to avoid misunderstandings and diverting municipal plans to drive their political mandates.

4.3.6. Factors that Currently Facilitate Achievement of Planned Road Infrastructure Projects (i.e. critical success factors)

The respondents pointed out that:

- Good working environments where all stakeholders' play their roles help the project to be executed on time without challenges.
- Proper consultation of communities also play an important role in deliberating most of challenges.

- Experienced and committed service providers help a lot in terms of project performance during construction because they execute the project within expected time frames and available resources without compromising the quality of work.
- A committed project management office including the staff play a key role in monitoring the service providers during implementation to ensure proper delivery of expected service(s) with acceptable specifications of the project and the quality of a working environment for everyone.

4.3.7. What the Municipality Needs in order to Effectively Plan and Implement Road Infrastructure Projects

The respondents were also asked to indicate what the municipality needs (e.g. resources such as finance, human resources) for it to be able to implement its planned projects effectively.

- They indicated to the researcher that it is important to capacitate (through training and development) the departmental personnel with the relevant skills according to their responsibilities from setting strategic municipal infrastructure goals to implementation.
- They also indicated that any work without proper plans by senior managers there is no way the department will head to right direction or have strategic plan for five (5) years.
- The respondents also indicated that it is very important for the municipality to collaborate and work closely with sector departments like Eskom, CoGHSTA, Department of Public Works, Department of Roads and Transport, Department of Water Affairs, Department of Treasury, Department of Environment and the Road Agency Limpopo to ensure smooth approval of services required from the sector

department because the municipalities experience delays in the implementation while waiting for departmental approvals.

4.3.8. Plans that are in Place to Maintain the Quality of the Roads after Completion

The municipal officials were also asked about what plans they have to maintain the state of the roads that have been developed already. They highlighted that:

- After commissioning of every project the consultant develops an operations and maintenance plan for five years; the first year after the completion the appointed contractor is still contractually obliged to correct the defects. The respondents also indicated that where there is failure to rectify such defect(s) the municipality can retain 10% retention of the payment.
- The operations and maintenance plan estimates the costs for repairs and possible areas that would need attention, also the life span of the roads are clearly described.
- Beyond five (5) years the municipality develops their maintenance plan using technicians as well as the operation and maintenance manager to evaluate and inspect the current status of the roads, recording all areas that need any attention.
- The working relationship with ward councillors and committees is imperative to achieve the road maintenance task as councillors are in constant contact with local communities who can report roads that need repairs and maintenance.

The respondents indicated that as they do not have capacity in terms of machinery to carry out the task of maintaining the roads themselves, they rely on securing the services of outside service providers for the period of two (2) years to accomplish the tasks allocated according to the priority list derived from the operation and maintenance plan.

4.3.9. Challenges in terms of being able to maintain the Roads Infrastructure Effectively

The respondents indicated the following challenges:

- Questionable capacity of the contractor to repair the defects according to the priority list to cover the entire area of the municipality,
- Poor condition and shortage of machinery used to maintain roads resulting in frequent breakdown of such machines. The breakdown and shortage have a negative impact on the speed of execution of the developed plan.
- The contractor at times experiences problems with community members, ward councillors and committees who extend the scope of the specified work to other areas that have not been included as priority areas according to the list and job order that has been issued to the contractor.
- The financial allocation or budget is reportedly not sufficient to cater for the entire municipality during the financial year and leads to not completing all maintenance plans as planned.

4.3.10. Factors that can Facilitate Maintenance of Road Infrastructure in the Municipal Area

The municipal officials indicated the following factors that need to be in place to facilitate maintenance of roads.

- The experienced and skilled personnel of the appointed contractor.
- Machinery that are in good condition.
- A well conducted roads audit and evaluation can help the municipality to develop a good maintenance plan that would help to preserve the standard of the road.

The municipality needs to hire more experienced personnel to help in that regard.

4.3.11. Municipal Involvement of the Community in the Planning, Implementation and Evaluation of their IDP

The respondents were asked if and how they involve the community when they plan, then implement and evaluate their IDP especially in terms of the road infrastructure development and maintenance. As per Chapter 5 of the Municipal Systems Act Section 25(1) the IDP is the strategic plan or tool used by all the municipalities in South Africa. IDPs should be developed as mandated by the Municipal Systems Act under the constitution of the country. The IDP is a five (5) year strategic plan document which is being reviewed annually to measure the progress of the roads developed (and other projects) as planned.

The respondents pointed out that:

- Community participation in the draft IDP is fully acknowledged. They also highlighted that community participation in the development of IDP is conducted annually, ward by ward, involving all stakeholders, conducted by the municipal council which includes the politicians, the mayor and executive committee, ward committees, councillors and municipal employees involved in the planning department and infrastructure development.
- The consultation process covers all the wards to ensure that it (consultation) reaches the entire population of the municipality.
- During the implementation of the IDP the ward councillors and committees of affected areas take part in the processes and stages from appointing consulting engineers during designs until the appointment of the contractor, which helps to disseminate information to the communities.

- A meeting is held at the tribal offices or nearest community gathering centre to introduce the service providers before they start with actual work to ensure smooth construction and full public consultation.
- During consultation with the community and other stakeholders the community appoints their representative in the form of project steering committee, which would report the project's progress, recruitment process and challenges experienced day to day on site.
- Regular meetings are held on site to evaluate the progress with municipal officials, the consultant, contractor and project steering committee. Then the steering committee reports back to the community in their meeting to ensure that the project information is properly disseminated.

The respondents however indicated that problems are always there even though these efforts are taken, from stakeholders and sometimes from the community or contractors' side. They indicated that in regular meetings some problems are solved while others need the political intervention of *Magoshi* (tribal rulers).

4.3.12. Perceived Effectiveness of the Municipal Project management Unit (PMU)

Another question was whether the municipality has a PMU and how effective that unit is if they have it. The respondents pointed out that they do have an effective project management unit within the municipality. They also indicated that the first task of the PMU is to look at the strategic planning document IDP as the main focus in terms of service delivery for the whole municipality. They also alluded to the fact that the PMU extracts the projects from the IDP to prepare annual forward planning before implementation by conducting feasibility studies using outsourced consulting engineers.

The respondents indicated that during implementation the consultants are acquired through the supply chain management process for the designs and monitoring of the

projects during implementation as a municipal implementing agent. They also highlighted the procurement challenges they faced including acquiring inexperienced consultants and contractors. In addition, sometimes the inputs of PMU or infrastructure are not considered in the recommendation of service providers due to the full powers granted to the supply chain division, which leads to poor performance by service providers.

To compound matters further, the respondents also indicated that the supply chain management process takes a long time to evaluate and to adjudicate tenders to a point where some projects' validity period expires, which leads to re-advertising. The result is the reduction of MIG allocation or withdrawal of other funds during the next financial year by the Treasury with recommendations from CoGHSTA.

The respondents also alluded to the fact that the failures are also due to poor planning, inexperienced personnel, no start-up capital, failure to prepare cash flow, failure to prepare payment certificates and failure to prepare progress reports. It was also indicated that sometimes the department fails to enforce contracts (i.e. takes recourse) when service providers fail because of interference by some senior municipal officials and some politicians, which they indicated are the major causes of municipal failure in service delivery.

The respondents further related that it is very depressing for them due to the challenges they experience within the PMU. They also indicated that they cannot perform some of their duties because of fear to step on contractors' toes because they could ruin their relationships with their superiors as these seniors are connected to some of the service providers.

Some respondents indicated that there are signs of corruption within the municipality but they could not disclose the full details and implications during the interviews because they fear for their job security. All these highlight the fact that the effectiveness of the PMU is hampered by several factors that are beyond the unit's control.

The researcher further asked the respondents for a possible solution for these challenges. The respondents said that the municipality does not have policies on ethics or a code of conduct. They only rely on legislations, no infrastructure policies which makes the municipality ungovernable since all employees do as they see fit. Some of respondents indicated that the working environment is not good for young professionals since there is nothing to learn technically or administratively due to the lack of focus of the main work because the interests have been diverted by the senior officials preventing them to act ethically and appropriately at times.

4.4. INTERVIEW RESULTS WITH MUNICIPAL COUNCILLORS

This section presents the views of the ward councillors on the development and maintenance of roads infrastructure in their municipality. (See Appendix C)

4.4.1. The Perceived role of Ward Councillors in terms of Roads Infrastructure Provision/Development

The respondents were asked to indicate their understanding of their role(s) in terms of developing and maintaining road infrastructure in their municipal area. They indicated that:

- Their primary role is to ensure that all the communities' requests are met especially related to infrastructure development by the municipality especially to

list the projects through public consultation or participation when developing the IDP.

- They also work as a link to connect communities and the municipality through dissemination of information related to service delivery.
- They take initiative of recording the service delivery needs and submitting them to the Infrastructure Development Department in the municipality to fast-track the processes not waiting for IDP public consultation. The initiatives include recording the needs regarding roads, bridges, blading and re-gravelling.

4.4.2. Ways in Which Municipality Officials Include the Local Communities on issues of Roads Infrastructure in their Municipal Area

The municipal ward councillors were asked how the municipal officials include them on issues of roads infrastructure development. They indicated that:

- The municipal officials and councillors hold regular community meetings with ward committees to plan ward needs in terms of infrastructure development including road infrastructure and these meetings sometimes involve the community at large.
- The respondents also indicated that meetings play an imperative role to hear views of communities to avoid protests and uprisings.
- Portfolio meetings are held monthly with municipal officials to report on progress of the entire municipal infrastructure programmes and projects, which help them to be informed and updated so that they could disseminate the information from legitimate infrastructure reports to their communities. The respondents indicated that these meetings with communities and ward committees also serve the purpose of their gathering information about what the community needs are regarding roads infrastructure development and maintenance. They also

highlighted that after collecting information about community needs they then draft a report that will be submitted to the department of infrastructure for recording.

- During projects implementation in wards they conduct progress site meetings with stakeholders like municipal officials, consultants, contractors, ward committees and department sectors like Eskom, CoGHSTA, Department of Roads and Transport and Department of Public Works.

4.4.3. Whose Responsibility is it for Road Maintenance in the Municipality?

The municipal councillors were asked who they think should be responsible for road maintenance in their area. They indicated that the municipality (i.e. officials) is a responsible body to perform road maintenance in the whole municipal area using outsourced maintenance service providers. They also highlighted that they felt that sometimes the municipality does not prioritise the needs of the communities.

4.4.4. The Target Plans for Road Infrastructure Development/Provision for the Past Five Years

Another question put to the respondents was on the targets planned for road infrastructure development in the past five (5) years. They indicated that:

- They are not aware of the existence of municipal maintenance plans or targets. This suggests that they see their role as that of only submitting their needs to municipal officials, which should then get addressed by the municipality.
- The capacity of municipal maintenance is not efficient because sometimes the financial year starts and ends without allocation of any services, which causes

problems to the community since most of the roads are in a bad condition and are not accessible.

- Contracted service providers are sometimes not cooperative when the service is being rendered, saying that these service providers work as they wish without being monitored or controlled by municipal officials. This tends to compromise the quality of work done and at times they do not perform all the work as per issued order.

4.4.5. How Satisfied the Respondents are with the Progress made towards Achieving Targets

The respondents told the researcher that they feel that progress is very slow, which negatively affects the communities because they wait long for minor projects to be executed. In some wards a period of more than five year elapses to have a project implemented in the area, which according to them is questionable. They pointed out that they feel the services are biased, in that the choice of which area needs the services first is not completely objective and that such choices are used as political games and advantage some people over others. They however indicated that the municipality is trying its utmost but the wards are difficult to be serviced fully. Thus all of the respondents suggested that the progress on road infrastructure is not satisfactory.

4.4.6. Factors that can Facilitate Achievement of Set Targets

The councillors were asked what they thought are factors that can facilitate achieving of the targets that were set. They indicated that they understand that the municipality experiences limited funds. They highlighted then that it is important to implement the projects on a ward based programme since they felt that some wards benefit more because every financial year those wards receive projects from council while others wait

for years. This links to their feeling that the distribution of services/projects is not objective or equitable amongst wards and that the decisions are biased.

The respondents indicated that some senior politicians divert the projects into their areas of interest to score political points for the coming elections which, according to the respondents, compromises the communities at large. They feel that services should not be for a specific ward but for all the Makhuduthamaga Municipality residents. They further indicated that it is painful to experience that feeling of inequitable service rendering because it poses a danger for them in the communities. They, the municipal councillors, are the direct links with communities and when these communities protest they are the first and nearest targets.

The municipal councillors also indicated that working with the needs of communities requires commitment and dedication. So as IDPs are the cornerstone to success of rendering services by the municipalities, councillors and municipal officials need to work together guided by Chapter 5 of the Municipal Systems Act Section 25(1) for good governance. They suggested that cooperation between municipal officials and councillors can go a long way towards effective service delivery.

4.4.7. Factors that Hamper the Provision and Maintenance of Road Infrastructure in the Municipality

According to the councillors who were interviewed in this study the following factors make it difficult for the municipality to achieve set targets for roads' infrastructure development and maintenance:

- Insufficient budget.

- Poor planning by municipal officials.
- Lack of skills and capacity by the service providers.

4.4.8 Involvement of Municipal Councillors in IDP Planning, Implementation and Monitoring and Evaluation on issues of Road Infrastructure Development and Maintenance

The respondents highlighted that the municipality annually consults the communities per wards in public consultation forums when the IDP is developed. Prior to consultation with the municipality, the community holds meetings that help to gather information of the expected needs regarding the roads infrastructure, which are then communicated to the municipality during the consultation forums.

According to the councillors, in terms of implementation of IDPs, the community only gets involved when there are projects that need to be executed in their wards. Beyond that there is no involvement in the municipal IDP implementation in general.

The respondents also indicated that in terms of monitoring and evaluation, the councillors visit construction sites regularly to view progress and any challenges that might occur or need attention.

4.4.9. How often Road Maintenance is required in the Area

The respondents told the researcher that although the municipality has an annual maintenance plan it is not enough to cater for all the maintenance required in the ward. They indicated that they are always in need of maintenance especially during the rainy seasons because of dongas, potholes and other uneven areas.

4.5. INTERVIEW RESULTS WITH THE CONSULTANT

Another research guide was used to interview the consultant. (See Appendix D). The field of speciality of the consultant engineer who was interviewed and who has been involved in road infrastructure development and maintenance in Makhuduthamaga Local Municipality (MLM) is transport engineering, roads and storm-water as well as light structures. The consultant indicated that he was involved with the design and monitoring of several projects including, Marangrang Access Road, Skotiphola Access Bridge, Rietfontein Storm-water Control and Moretsele Dichoeung Access Road.

When asked about factors that he thought hampered successful road infrastructure development and maintenance the consultant indicated that:

- The lack of formalised infrastructure within the municipality due to its rural state.
- Insufficient budget
- The MLM is a vast rural settlement contributing to some of the challenges that are experienced when implementing the projects within the area.
- The supply of construction material by suppliers takes long, which sometimes affects the duration on the project.
- The unrests/protests in the area associated with labour recruitment, sub-contracting and Chiefs or Ndunas demanding a stake in the projects also hamper effective service delivery
- The fact that the district municipality tends to focus mainly on water and sanitation within the local municipality to the exclusion of other projects.

For the municipality to be able to mitigate the identified challenges, the consultant suggested that they (the municipality) need to:

- Increase their MIG funding, equitable shares and strengthen their revenue collection to increase the capital to build and maintain more roads.
- Establish proper procedures and policies for the PMU.
- Employ more experienced personnel in the department that will be able to make informed decisions in the entire processes of road infrastructure development as well as for all other municipal projects.
- When personnel in the supply chain management procure service providers, especially contractors, consultants and/or designers, they must form an evaluation committee to capacitate the municipality with the evaluation criteria and methods because many contractors are inexperienced and incompetent, which affects the municipal performance.

4.6 SUMMARY

This study is qualitative in design and approach. Hence, in data analysis the researcher took into consideration the characteristics of qualitative research. Du Toit et al. (2001:425) mention that qualitative research is usually a social science application, its focus is complex and broad, it is holistic in nature (focuses on broader, contextual issues).

This study employed an adapted version of Creswell's (1998) data analysis spiral, where raw data were organised, perused, classified and synthesised for the report. Similar answers to each question were categorised into relevant themes. This chapter presented results from the study. The next chapter will outline the summary of results, conclusions and recommendations.

CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

5.1 INTRODUCTION

In this chapter the summary and discussion of results, recommendations and conclusion from the findings adopted in the study are presented. The recommendations and conclusions drawn from the study are informed by the findings of this study. In recommending solutions to this study, the researcher ensures that there is a correct link of the recommended solutions to the objectives as anticipated in the study.

The objectives of this study include the following:

- To establish and analyse the hindering factors to project implementation of Makhuduthamaga Local Municipality as per municipal IDP.
- To identify and understand the facilitating factors.
- To assess whether the municipality has the resources to operate a project management unit.
- To suggest proposed solutions and recommendations to the challenges experienced by MLM projects implementation.

5.2 SUMMARY AND DISCUSSION OF RESULTS

Chapter four presented the research findings, analyses and interpretations of the study. The study undertook to understand service delivery and implementation of road infrastructure in Makhuduthamaga Local Municipality (MLM). The data were collected from municipal officials, councillors and a consultant who had been involved in several projects over a number of years in MLM.

In terms of the findings in this study several issues were noted about service provision in Makhuduthamaga Local Municipality in terms of road infrastructure:

- Firstly, respondents confirm that the project management unit is trying very hard to ensure that the service provision is spread well but the challenge is inexperienced service providers that are acquired for rendering services. As a result of lack of experience there is poor work/service and these service providers also tend to take a long time to complete projects.
- Secondly, the interference, including political interference, of some stakeholders hinders smooth flowing of project processes. Chiefs, politicians and some of the community members tend to demand sub-contracting thereby affecting projects negatively.
- Thirdly, there is also a problem of inadequate financial resources to implement and spread projects widely, to cater for many indigents of the municipality.
- Fourthly, the PMU officials do not apply swift corrective measures for failing contractors.
- Lastly, the supply chain systems and policies seem to be ill-defined and/or not implemented properly, i.e. procuring contractors affect the service delivery because most of them fail to meet their contractual obligations within stipulated time frames, which cause chaos in the villages.

5.2.1 Factors that Facilitate Implementation of the Road Infrastructure Projects in MLM

The results from the study indicated that the municipality has drawbacks when it comes to implementation of road infrastructure projects. A good working environment for internal staff needs to be addressed carefully to ensure that every employee performs their duties to their full potential but now they feel that they are not valued.

Some of the municipal service providers are not experienced or committed to execute their contractual obligations since projects are not completed on time thus creating problems between the municipality and communities. The municipality needs to tighten their procurement policies when procuring service providers. Some of the reasons are attached to the project management unit not dealing with failing contractors swiftly according to the contractual obligations. The unit tends to soften their role when coming to apply penalties or termination of contracts, which results in much time being wasted before projects can be completed.

5.2.2 Hindering Factors for Successful Implementation of the Road Infrastructure Project in MLM.

The study shows that community interference in the administration of the projects, which includes recruitment of service providers, the demand of sub-contracting from appointed service providers and Chiefs (*Magoshi*) demanding a lot of money are major problems that the municipality needs to deal with prior to the appointment of service providers. Political interference again affects the projects since sometimes councillors interfere with municipal implementation plans to suit their political agendas.

Other identified factors that affect the municipality's functioning negatively include the following:

- Lack of sufficient budget within the municipality to cater for road infrastructure development.
- Poor planning by municipal officials.
- Lack of skills and capacity by the service providers.

5.2.3 Municipal Human Capital Resource Adequacy to Operate PMU.

The information extracted from the respondents suggests that the municipality has sufficient staff/personnel to administer the projects with the allocated funds for a specific financial year. The unit manager and project managers are there to implement the projects, but the bigger challenge is the procurement process which impacts negatively on the entire planned implementation plan.

There is some indication that there are inadequate supply chain systems and policies when coming to acquisition of service providers and when measuring the performance and failures as discussed by the respondents. Another challenge is the procurement cycle, which sometimes takes many months before appointment of relevant service providers can be effected, which leads to the municipality not finishing their project within the allocated financial year.

The incompetency of service providers is shown by the fact that they fail due to poor planning, lack of experience, no start-up capital, failure to prepare cash flow, failure to prepare payment certificates and failure to prepare progress reports.

Sometimes the municipal management fails to enforce contracts when service providers fail because of interference by senior municipal officials and some politicians, which respondents indicate are major triggering factors to municipal failure in service delivery.

5.3 CONCLUSION

This study investigated the effective implementation of road infrastructure development projects in rural areas in South Africa, Limpopo Province in Makhuduthamaga Local Municipality. The findings show that there are still challenges when coming to road infrastructure provision in various parts of this country, including Limpopo Province, though the study focused primarily on Makhuduthamaga Local Municipality.

The management of the municipality has to close the gaps to satisfy interests of all stakeholders categorically since there are administrative, political and societal problems that affect the service delivery at large immensely. Through the proper adhering to legislations, regulations and policies, all would be attained, but another major hindering factor is corporate governance which plays an important role in ensuring that there are no risks the municipality is exposed to. Findings show that the governance is poor since the systems are not followed.

5.4 RECOMMENDATIONS

The study makes the following recommendations:

5.4.1 Factors that Hinder Road Infrastructure Project Implementation of Makhuduthamaga Local Municipality

There is a need for the government to invest more in infrastructure, specifically roads. It was proven from the findings of this study that the government still has to do more in providing quality roads in rural areas. Therefore, more investment in infrastructure should be considered. It should be understood that roads play a very significant role in the country and therefore it is important to keep on investing in the upgrading and maintenance of roads infrastructure.

- By so doing the government will expand the possibilities for economic growth and development while driving public independency for entrepreneurial activities. There is a need for all South Africans to look upon road infrastructure investment as a driving key factor for poverty alleviation strategy.
- Strategic municipal social facilitation needs to be established to deal with issues related to stakeholders concerns and requests or demands on the correct platform or forum. For the chiefs (*Magoshi*) demanding money from contractors it has to be clearly communicated to them that government money has to be accounted for. In addition, municipalities should report the issues that interfere with accountability to CoGHSTA since recognised chiefs get paid through the department. The issue/challenge should also be discussed at Chiefs' forums.
- The municipality has a database for service providers, SMMEs in the communities should be taken in to workshop through the economic development and planning department to equip them with relevant tendering processes skills so that they can market and sustain themselves without demanding work from the contractors.
- The municipality should prioritise financial allocation or provision for road infrastructure in their budget to help to stimulate a burden experienced by everyone in this regard.

5.4.2 Factors that can Facilitate Implementation and Monitoring of the Road Infrastructure Projects in MLM

- It is believed that it is only during the monitoring and implementation phases that corruption can be properly addressed. It is therefore important for the government to ensure that during roads provision a proper monitoring process is provided to ensure an efficient and effective service delivery to the people. It should also be understood that the municipalities have placed ward councillors

closer to the local communities to ensure that service delivery is accessed in the areas and it is therefore the role of the ward councillors to ensure that they monitor roads provision in their areas of responsibility.

- The Project management unit needs to adhere to policy and contracts that bind service providers without being dictated what to do, how to do it and when to do it. Adherence to policy will help the municipality in terms of being able to treat all contractors/service providers the same. Bias and inconsistent treatment of contractors can ruin the entire control system because failure to impose law on contractor A, may have an effect on how contractor B behaves and is treated. So the control systems need to be in place and interference from senior municipal officials and politicians should be addressed in municipal upper forums.

5.4.3 The Municipal Resources to Operate Project Management Unit.

- Since the municipality is local they do not implement bulk projects. The evaluation of current staff to handle projects that are expected to be implemented suggests that training is required. So continuous training in financial management, procurement, advanced project management and contracts management is required. This kind of training will especially help personnel to deal with contract administration to avoid influences by other external officials.
- There should be monthly municipal progress meetings with all service providers (consultants and contractors) and not just one project based meeting to sort out the challenges that are hindering proper projects implementation. It would also help to fast-track service delivery.

5.5 SUMMARY

The current study set out to find out factors that affect successful implementation of infrastructure projects in Makhuduthamaga local municipality. Chapter one presented the research problem as well the aim and objectives of the study. The literature review was outlined in chapter two and the method followed to collect data for the study in chapter three. Results of the study were presented in chapter four and they show that the current implementation systems lead have challenges that lead to failure of projects with financial cost implications at times.

The further study shows that government and municipalities are willing to invest more in infrastructure projects though there are hindering factors i.e. the administrative, political; and societal problems that affect the implementation of projects. This chapter presented the summary of results, conclusions and recommendations. One of the core suggestions of this study is that proper adherence to legislations, regulations and policies would remedy the challenges, and improving on the corporate governance.

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APPENDIX A

REQUEST AND PERMISSION LETTERS TO CONDUCT STUDY





MAKHUDUTHAMAGA MUNICIPALITY

Private Bag X 434
JANE FURSE
1085

email: info@makhuduthamaga.gov.za Tel: (013) 265-8600 Fax: (013) 265 1975

OFFICE OF THE MUNICIPAL MANAGER

Enquiries: Komape M.

Tel: 013 265 8640

E-mail: makgabok@makhuduthamaga.gov.za

To WHOM IT MAY CONCERN:

PERMISSION TO CONDUCT RESEARCH

This is to confirm that **Matsedi Albert Segale** Student no. 201533275 is permitted to conduct a research about **“Factors that affect successful implementation of community projects: the case of Makhuduthamaga local municipality, Limpopo Province”**. The research will be conducted within the jurisdiction of Makhuduthamaga Local Municipality.

We hope the research will help the student for academic purpose.

Hope all are in order.

Yours faithfully

Municipal Manager

M.E. Moropa

10/04/2015

Date

APPENDIX B

RESEARCH GUIDE: MUNICIPAL OFFICIALS

Title of research: The challenges and achievements experience by the municipality in the provision and maintenance of road infrastructure in the community.

1. What do you think of the state of the roads infrastructure in your municipality?

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2. What was your plan for road infrastructure development (in terms of new roads) in the last five years?

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3. Have you achieved your project target?

YES NO

3.1 If yes, what are the factors that facilitated your achievement?

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3.2 If No, what part of the plan is still outstanding? Why?

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4. What are the challenges that you encounter when implementing roads infrastructure projects in your municipal area?

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5. What strategies are in place to overcome such challenges?

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6. What would you say are factors that facilitate achievement of your planned road infrastructure projects delivery (i.e. critical success factors)?

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7. What are your municipality's needs in order to effectively plan and implement road infrastructure projects? (E.g. resources such as human and equipment, etc.).

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8. What plans do you have in place to preserve/maintain the quality of the roads after completion?

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9. What challenges do you have in terms of being able to maintain the roads infrastructure effectively?

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10. What factors facilitate maintenance of road infrastructure in your municipal area?

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11. Does the IDP of the municipality assist in planning for roads projects implementation? If yes, how does it contribute?

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12. In what way do you involve your community in the IDP planning (particularly road infrastructure planning)?

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13. In what way do you involve your community in the IDP implementation?

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14. In what way do you involve your community in the IDP monitoring and evaluation?

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.....

15. Does the municipality have a Project management Unit (PMU)? If yes, how effective and efficient is it in terms of roads projects planning, implementing, monitoring and commissioning?

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APPENDIX C

RESEARCH GUIDE

RESEARCH GUIDE: WARD COUNCILLORS

Title of research: The challenges and achievements experience by the municipality in the provision of road infrastructure in the communities.

The role of the ward councillors in roads infrastructure provision and maintenance in municipalities

- 1. As a ward councillor, what is your role in terms of roads infrastructure provision/development in your municipal area?**

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- 2. In what way do you include/ cooperate with the local communities on issues of roads infrastructure in your municipal area?**

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- 3. In what way do you include/cooperate with the municipal officials on issues of roads infrastructure in the municipal area?**

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4. How does the municipality know about the community's needs for roads infrastructure development and/or maintenance?

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5. Whose responsibility is road maintenance in the municipality?

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6. What were the target plans for road infrastructure development/provision for the past five years?

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7. How satisfied are you with the progress made towards achieving those targets?

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8. What factors help in reaching those targets? (critical success factors)

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9. What factors hampers/challenge the provision and maintenance of road infrastructure in the municipality?

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10. What is your role/involvement in terms of IDP planning on issues of road infrastructure development and maintenance?

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11. What is your role/involvement in terms of IDP implementation on issues of road infrastructure development and maintenance?

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12. What is your role/involvement in terms of IDP monitoring and evaluation on issues of road infrastructure development and maintenance?

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13. How often do you require road maintenance in the area?

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14. Any additional comments on the development or maintenance of road infrastructure in your municipal area:

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APPENDIX D

RESEARCH GUIDE

RESEARCH GUIDE: PROFESSIONAL CIVIL ENGINEERING CONSULTANT

Title of research: The challenges and achievements experience by the municipality in the provision of road infrastructure in the communities.

- 1. What is your area of specialisation in civil engineering?**

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- 2. Have you worked with Makhuduthamaga Local Municipality (MLM)? If yes, which projects have you designed and monitored for them in terms of road infrastructure development and maintenance?**

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- 3. What do you think are the factors that facilitate the implementation of road infrastructure projects in MLM?**

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- 4. What do you think are the factors that hinder the implementation of road infrastructure projects in MLM?**

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5. What do you think the municipality should/can do to mitigate those challenges?

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6. According to you what are the areas that the municipality can improve in their PMU in order to improve their road infrastructure development and maintenance?

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APPENDIX E

MAKHUDUTHAMAGA LOCAL MUNICIPALITY MAP

