



Towards a model for implementation of public infrastructure projects in selected local municipalities in Limpopo Province

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the North-West University

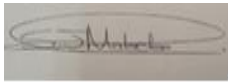
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DECLARATION

I, Selaelo John Mabeba, declare that this thesis, titled: **TOWARDS A MODEL FOR IMPLEMENTATION OF PUBLIC INFRASTRUCTURE PROJECTS IN SELECTED LOCAL MUNICIPALITIES IN LIMPOPO PROVINCE**, is hereby submitted for the fulfilment of the requirements of the degree Doctor of Philosophy in Social Sciences with Public Management and Governance at North-West University, Vaal Campus, School of Government Studies in the Faculty of Humanities, has not been previously submitted at this or any other university. It is my own work in design and all reference material contained therein has been acknowledged to the fullest.



.....

Mabeba, SJ (Mr)

21 October 2024

.....

Date

ORIGINALITY OF THE STUDY

The study provides new insights by identifying factors that contribute to the abandonment of road, water, and sports infrastructure projects in the three local municipalities. The study has also developed an integrated model to suggest how various stakeholders should work to minimise the causes of abandoning the implementation of public infrastructure projects.

DEDICATION

I dedicate this thesis to my son Rearabilwe, so that he can grow up understanding the value of education.

To everyone in the Mabeba family, I am a doctor today, full of gratitude for the various roles you play in my life.

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ABSTRACT

For many years, South African local municipalities have faced challenges in implementing road, water, and sports infrastructure projects. For this reason, the study sought to: determine the causes of abandoning the construction of roads, water, and sport infrastructure projects in the three selected local municipalities in Limpopo Province under Capricorn District Municipality; investigate the state of constructing public infrastructure projects; evaluate the impact of roads, water, and sport infrastructure on municipal financial viability; and identify challenges hindering the successful completion. Finally, identify socioeconomic opportunities for the successful construction of roads, water, and sport infrastructure. The researcher used a mixed-methods research approach (qualitative and quantitative methods) to achieve the study's objectives. Face-to-face interviews were conducted with municipal officials, while semi-structured questionnaires were used to collect data from political office bearers and community members in three local municipalities: Molemole, Blouberg, and Polokwane. The study discovered that community protests, political interference during contractor appointments, underpricing by contractors, inexperienced contractors, contractor capital shortages, and weather conditions are all contributing factors to the abandonment of road, water, and sports infrastructure projects. The study also discovered that some of the contractors do not do quality work, so their work frequently needs to be rectified, especially with sports infrastructure. On a positive note, the study discovered that road, water, and sports infrastructure projects and services provide socioeconomic opportunities during and after construction. The study concludes by stating that community members benefit from job opportunities in which students and graduates with construction and related qualifications can do practicals on site as part of skills transfer.

Keywords: Financial viability, public infrastructure projects, implementation, governance, abandonment

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1.1 INTRODUCTION

The intellectual and practical discourses in the field of study and practice of Public Administration make provision for debate and implementation of public infrastructure projects, with a particular reference to South African municipalities. This study contends that public infrastructure is one of the services required under Section 152(1) of the Republic of South Africa's (1996) Constitution, which requires municipalities to deliver effective and sustainable municipal services. In numerous countries around the world, governments have been the primary source of funding and construction for public infrastructure projects (Alan, 2010:1). Therefore, this study is located in the field of Public Administration. Since, according to the South African Constitution of 1996, all branches of government have responsibility for the provision of public infrastructure (Government of South Africa, 1996). This results in an extremely intricate planning and policy-making process. The formulation of policies, strategies, and regulations, as well as the management and implementation of national assets, such as national roads, are primarily under the purview of the national government (Gauteng Provincial Government, 2012). Provincial governments are tasked with managing provincial resources as well as planning, developing, and regulating public infrastructure. The local level of government oversees internal roads and bulk water (Gauteng Provincial Government, 2012).

The impact of public infrastructure projects on social and economic change is regularly (annually) documented by the International Worldview. This includes more than 100 countries around the world, including Indonesia (World Economic Forum, 2018). According to the International Worldview (2017–2018) report, public infrastructure projects will speed up efforts to boost inclusiveness and competitiveness by increasing trading activity efficiency, reducing transaction costs, expanding market access, and giving people the chance to find better jobs and have greater access to better goods and services. Income, the rate of increase in labour productivity, the unemployment rate, the degree of poverty, and the availability of health and education services are some crucial metrics used to assess the effectiveness of development brought about by investment and innovation in infrastructure development (WEF, 2018). Public infrastructure refers to facilities that support the socio-economic well-being of any society. South African Local government is expected to lead in the execution of

municipal infrastructure programme. Arguably, public infrastructure projects are a pillar of the socio-economic development of South African communities. In the sense that public infrastructure projects can attract economic growth and increase productivity. Additionally, public infrastructure projects could create jobs, help reduce poverty, and facilitate regional and local development (Ministry of National Development Planning, 2015).

To be specific, this study focused on municipal roads, sports and water infrastructure, using three selected local municipalities in Limpopo Province as case studies. The study therefore wanted to explore the causes of prolonging and abandoning public infrastructure projects in selected local municipalities in Limpopo Province.

Municipalities in South Africa frequently undertake public infrastructure projects, but the coordination and execution of these projects often present challenges. For instance, the former and late Auditor-General (Kimi Makwetu) used a project at Metsimaholo Local Municipality in Free State, where 99% of the money was used to construct a R21,9 million sports complex, but there were no tangible structures to indicate that the project has indeed materialised (Mail & Guardian, 2019). It is for this reason that the study sought to explore the causes of such challenges.

1.2 ORIENTATION AND BACKGROUND OF THE STUDY

Public facilities are a means of supporting a nation's economic and social activity rather than an end in themselves. The development of public infrastructure has remained a constitutional requirement and one of the cornerstones of governmental existence in virtually every economy in the world. Fiscal austerity in the United States (US) continues to present a variety of difficulties for public institutions in charge of financing and implementing regional public infrastructure projects. There is a gap between metropolitan-wide infrastructure demands and local government. The ability to generate sufficient revenue allows for the funding, financing, and delivery of essential public infrastructure at minimal or no extra expense to local taxpayers (Yescombe, 2007). To date, the creation of regional special purpose districts, metropolitan-wide revenue-sharing agreements, and formal municipal and metropolitan political boundaries have been among the solutions to the so-called metropolitan fiscal disparity problem (Bish, 1971; Hall & Jonas, 2014; Ostrom, 1990; Wachsmuth, 2015).

Public financing of infrastructure projects has become a concern for policymakers globally. Arguably, this could also be a concern for communities, opposition parties, various investors, and possibly public servants. Budget constraints, historical experiments of poor public spending, and inefficiencies in managing public infrastructure projects on the government side have led to a reconsideration of the need to shift the investment effort to the private sector and to the development of Public Private Partnerships (PPPs) (Croce & Gatti, 2014). However, this does not necessarily guarantee the success of infrastructure projects. Local governments in developing nations currently face the challenge of funding public infrastructure projects and services. Public infrastructure is required to provide essential services to a constantly growing population. Financial management frequently suffers from capacity issues (United Nations Human Settlements Programme, 2015). In terms of service delivery, the Auditor-General's 2021/2022 report raised the following important concerns about South African municipalities: poor accountability and service delivery, bad governance, the absence of financial discipline, inadequate institutional strength, and volatility.

Furthermore, disclaimed audit results are another sign of poor community service delivery. These shortcomings directly impair the local government's capacity to provide water and road infrastructure, which has an impact on inhabitants' day-to-day experiences (Auditor-General South Africa, 2022). According to Turf News Online (2020), the Mankweng Sports Complex (funded by Polokwane Local Municipality) is still being built, but officials anticipate additional delays because of the poor workmanship of the previous contractors and the lockdown brought on by the coronavirus. It started in 2014 and has not been finished, with a completion date of 2021 being rumoured. The delay has the community wondering why it took so long. Conversely, the Polokwane Local Municipality Annual Performance Report (2017–2018) revealed the termination of the contractor for the Mankweng Sports Complex for reasons not specified in the report. Subsequently, a new bid document has been served to the Bid Specification Committee (BSC) and is awaiting to be advertised. However, despite employing a new contractor, the project already faces more difficulties obtaining building supplies and components from businesses because hardware manufacturing was shut down during the Coronavirus lockdown. A local business owner gave insight on the project, stating that they *found the stadium the*

way it is, and it was just there; it was not being built; there was no progress. It was a project from five years ago, and it's only now that they were trying to continue where they left off. Nevertheless, the municipality has declined to comment on the project, citing sensitivity concerns. It is against this background that the study intends to investigate the causes of prolonged and abandoned public infrastructure projects in Molemole, Blouberg, and Polokwane Local Municipalities, which are demarcated in Limpopo Province. In this context, the study focused on municipal roads, sports and water infrastructure to establish the causes of abandoning public infrastructure projects.

1.3 PROBLEM STATEMENT

The accountability component of good governance is a matter worth bringing up in relation to the funding and implementation of public infrastructure projects. Lawrence (2016) blames corruption on a poor accountability system, a weak and twisted political system, and sit-tight public office holders, best described as demonocracy. Without a strong governance framework, it is impossible to allocate the available funds to worthwhile public infrastructure projects in public institutions. Nigeria, like the majority of developing nations such as South Africa, is plagued by this socio-economic ailment brought on by abuse of authority, poor financial management, corruption, and ineffective leadership on public infrastructure projects. This has also emerged in some of the municipalities in South Africa. Service delivery has emerged as one of the most contentious topics in municipal governance in the majority of developing nations, including South Africa (Islam & Mahmud, 2015). This results from residents' efforts to receive good services from their communities and the growing pressures on local government to meet these needs, even while municipalities struggle to successfully provide fundamental public services, including infrastructure (Masiya, Davids & Mangai, 2019). The inadequate implementation of service delivery in South African municipalities is mostly discussed in various ways. According to some (Southall, 2006; Atkinson, 2007; Koelble and Lipuma, 2010; Koelble and Siddle, 2014; Weaver, O'Keeffe, Hamer & Palmer, 2017), neither the apartheid state nor the post-apartheid state were able to build and run even the most fundamental public infrastructure services. The second discourse emphasises the crippling levels of rent-seeking in the procurement process and state capture, which have the effect of misallocating public

funds, allowing for self-enrichment, and delivering subpar or missing infrastructure to communities (Atkinson, 2007; Marcatelli, 2017; Olver, 2017; Muller, 2020).

For example, a water project in Giyani Limpopo Province could also be used to emphasise that indeed there is a crisis of poor financial management and ineffective leadership. The project should have concluded in 2017, but it remains unfinished. Officials claimed that a R4 billion top-up is needed to complete the project. Following this, allegations of corruption led to the arrest of three project officials (Giokos, 2021).

Nevertheless, Bloubaerg Local Municipality (one of the study's target populations) in Limpopo Province is not immune from governance challenges and pending public infrastructure projects. The local municipality allegedly abandoned an incomplete water project worth R280 million in 2017 due to maladministration and incorrect budget use (South African Broadcasting Corporation News, 2022). Another example, the former and late Auditor-General (Kimi Makwetu) used a project at Metsimaholo Local Municipality in Free State, where 99% of the money was used to construct a R21,9 million sports complex, but there were no tangible structures to indicate that the project has indeed materialised (Mail & Guardian, 2019). It is for this reason that the study sought to explore the causes of such challenges. Given this background, the study poses a critical question: What else could be the cause of pending and abandoned public infrastructure projects in South African municipalities? Could it be price escalation by suppliers, corruption, ineffective governance mechanisms for infrastructure projects, inappropriate costing, a lack of project management skills, poor financial management, incompetent contractors, incompetent municipal personnel, a lack of willingness to regulate tendering processes, a lack of consequence management, or poor budgeting?

Nonetheless, one of the fundamentals of a research study is to advance knowledge by identifying a research gap. In so doing, the researcher checks what other researchers have not researched. Secondly, the researcher can identify the research gap when there is limited research conducted by other researchers, specifically on the factors that lead to the prolongation and abandonment of road, sports, and water infrastructure projects in South African municipalities. Based on this, the researcher has found that the causes of abandoning the construction of public infrastructure, particularly roads and sports infrastructure, in South African municipalities are not well

understood. For instance, studies such as those (Mbanga & Chitiga-Mabugu, 2017; Patience & Nel, 2021) are silent about the causes of abandoning the construction of public infrastructure projects, the impact of public infrastructure on financial viability, and challenges hindering the successful completion of public infrastructure projects in South African local municipalities. Although the study of Mbanga and Chitiga-Mabugu (2017) focuses more on the socio-economic benefits of public infrastructure investment than the other objectives that this study seeks to pursue. Therefore, such a research gap opens potential areas for investigation, particularly in the South African local municipalities. Considering both the empirical and secondary studies of the above-mentioned researchers, it is also not clear whether contractors of public infrastructure projects could be contributing to the causes of abandoning the implementation of roads, water, and sport infrastructure projects. It is for these reasons that the study conducted an investigation into the causes of abandoning the implementation of public infrastructure projects, the impact of public infrastructure on financial viability, and challenges hindering the successful completion of public infrastructure projects in the South African local municipalities. To achieve this, three local municipalities, namely Molemole, Polokwane, and Blouberg Local Municipality, located in Limpopo Province under Capricorn District Municipality, were used as case studies.

1.4 RESEARCH HYPOTHESIS

- A sound financial viability was predicted to significantly have a positive impact on public infrastructure projects in Limpopo local government.

1.4.1 Alternative research hypothesis

- Violation of project management principles have a negative impact on public infrastructure projects in Limpopo local government.

1.5 MAIN RESEARCH QUESTION

What is the cause of abandoning the construction of public infrastructure projects in the three selected local municipalities?

1.5.1 Sub-questions

- What is the state of constructing public infrastructure projects in the South African local municipalities
- What is the impact of public infrastructure on financial viability in the South African local municipalities
- What are the challenges hindering the successful completion of public infrastructure projects
- What are the socio-economic opportunities for successful construction of public infrastructure projects in the selected local municipalities
- What are the possible recommendations to address the challenges hindering the successful implementation of public infrastructure projects

1.6 THE MAIN OBJECTIVE OF THE STUDY

- To determine the causes of abandoning the construction of public infrastructure projects in the three selected local municipalities.

1.6.1 Sub-objectives of the study

- To investigate the state of constructing public infrastructure projects in the three selected local municipalities
- To evaluate the impact of public infrastructure projects on financial viability in the South African local municipalities
- To establish challenges hindering the successful completion of public infrastructure projects
- To identify the socio-economic opportunities for successful construction of public infrastructure projects in the selected municipalities
- To develop possible and practical recommendations to address the challenges hindering the successful implementation of public infrastructure projects in South African local municipalities

1.6 SIGNIFICANCE OF THE STUDY

The study will be informative to other researchers, academics, and members of society concerned with the topic under investigation. The study seeks to complement the existing studies on the same topic, with the main purpose of drawing conclusions on

the causes of the prolongation and abandonment of public infrastructure projects in selected municipalities in Limpopo Province. The knowledge generated in this study will contribute to an increased understanding of the concepts of public infrastructure projects and the challenges confronting South African municipalities during the implementation of such infrastructure projects. Such challenges will guide the researcher in providing practical recommendations in an attempt to improve the implementation of public infrastructure projects in the three selected municipalities. The study was also expected to develop a model for successful implementation of public infrastructure projects in South African municipalities. This study will also serve as a point of reference for other researchers to conduct further research on the problem under investigation. The study was also used to test whether the stated hypothesis and alternative hypothesis were correct or not.

1.7 CENTRAL THEORETICAL STATEMENT

The principal-agency theory describes how to set up partnerships in which one partner (municipality) assigns tasks, and another partner (contractor /agent) completes those tasks. In this arrangement, the principal hires the agent to carry out the tasks that the principal is unable to complete. A public sector organisation (municipality), for instance, enters into a contract with a private sector organisation to carry out public infrastructure projects on their behalf. According to Jensen and Meckling (1976:1), the principal-agency theory served as the basis for the theoretical framework of this investigation. Early in the 1970s, the principal-agent theory was developed by combining elements of institutional theory and economics. The principal-agency hypothesis attempts to explain the relationship between two parties in which the contractor is an agent who acts as the principal's (municipality's) representative in dealings with a third party and the other is a principal in control of a particular firm (Barry, 2006:1). According to agency theory, an organization consists of a network of agreements between managers (the agents) and the principals, who own the economic resources. The agents are tasked with using the resources to carry out specific tasks to accomplish the desired goals (Jensen & Meckling, 1976:308). The theory's foundation is the idea that agents are better informed than principals, and that this information imbalance leads to unethical behaviour that impairs the principals' ability to effectively monitor and assess whether agents are adequately serving their interests (Adams 1994:19). It can be concluded that the application of the theory was

also used to provide clarification on the legal bindings in Principal-Agency theory, facilitation of public infrastructure projects using the theory, the importance of the theory in public infrastructure projects, the mandate of local municipalities and contractors and, processes for dealing with challenges under a public and private partnership.

1.8 THEORETICAL FRAMEWORK ON PUBLIC INFRASTRUCTURE: PRINCIPAL AGENCY-THEORY

The principal-agency theory explains how to arrange partnerships. In this scenario, one partner delegated tasks to another, who then completed them. In this arrangement, the principal hires the agent to carry out the tasks that the principal is unable to complete. A public sector organisation, for instance, enters into a contract with a private sector organisation to carry out public infrastructure projects on their behalf. Therefore, municipalities become the principal, while the contractor is the agent in this context. In other words, the municipality outsources a private organisation to provide public infrastructure projects on their behalf. Agency theory posits that the self-interests of both the principal and the agent motivate them to cooperate in any contractual arrangement (Gailmard, 2012). Such motivation for self-interest may lead to certain conflicts within the principal-agency relationship. Therefore, once the parties involved in the agency relationship are propelled by self-interest, there is a possibility that agents can do the work assigned to them based on personal vested interests, which may be contrary to the goals and objectives of the principal (Wright, Mukherji & Kroll, 2001). This could also be true for public infrastructure projects. The contractor may provide a service that falls short of expectations due to personal interests, which the municipality or principal may discover later. Arguably, discrepancies could still occur when the municipality runs out of the necessary resources to complete the project. This study acknowledges that discrepancies could occur at the municipality, which in this case is the principal.

Just to clarify, service providers' faults do not always hinder public infrastructure projects. Occasionally, the municipality may be the cause of the project's hindrance. Ozcan (2018:1) echoes this, emphasising that public institutions' inability to fund essential investments due to budget deficits and criticism of inefficiencies presents additional cause for concern. Experts in Public-Private Partnership (PPP) emphasise

the adoption of the Agency Loss Criteria to assess the agent's adherence to the principal's best interests. The discrepancy between the consequences of the agent's actions and the best feasible alternative result for the principal is known as agency loss (Michael & Robert, 2005). Sometimes there is no agency loss when an agent acts in the principal's best interests. When the agent's work diverges farther from the principal's interests, the agency loss typically rises. Agency loss naturally increases when an agent bases all her efforts on her own self-interest, which is at odds with the interests of the principal (Shankman, 1999). Numerous studies on the principal-agency theory demonstrate a decrease in agency loss when the municipality hires a contractor despite their extreme busyness or inability to complete public infrastructure projects, or when the contractor's busy schedule prevents them from fully supervising their team's work. In this situation, the principal must look for a strategy to persuade the contractor to operate in the municipality's best interests.

Finding areas where the municipality and the contractor have similar interests is the first step in encouraging the contractor to operate in the municipality's best interests (Quinn & Jones, 1995). The difficulty arises when the contractor and municipality have interests that are completely at odds with one another, making it difficult for the municipality to influence the contractor to deliver standardised public infrastructure projects (Leruth & Paul, 2007). Given this scenario, municipalities are expected to be fully active in the process of playing an oversight role. This will ensure that the contractor renders public infrastructure projects appropriately and in line with specific standards outlined by the municipality prior to the project's commencement. Robinson and Scott (2009) accentuated that when public infrastructure projects are poorly managed, realising the intended objectives may become a myth.

Therefore, the study concludes by stating that the researcher applied the previously mentioned theory to the context of public infrastructure projects. This theory added value to the scientific component of the study in the sense that it assists scholars, municipal practitioners, and the public at large in understanding how best municipalities and contractors could work to achieve common interests, which in this case are public infrastructure projects. The theory further outlines the roles of both parties in the process of executing public infrastructure projects. Arguably, these roles play a crucial role in determining the accountability for any discrepancies that arise during the execution of public infrastructure projects. Among other core challenges,

the National Development Plan (NDP) highlights poorly financed and managed public infrastructure projects worldwide. Subsequently, failure to complete infrastructure projects on time, budgetary overruns, and poor quality of work create a negative perception. Additionally, these challenges negatively affect the budgetary allocations given to public institutions in a particular country. Consequently, public institutions have to spend more resources to rectify and mitigate unnecessary operational issues and manage risks that ought to have been avoided by proper planning (National Planning Commission, 2013). While the theory outlines some of the factors impeding the successful implementation of public infrastructure projects in South African municipalities, it's important to note that the data collection process in the three selected local municipalities revealed additional factors. Therefore, the researcher carried out an investigation into the identified problem in the study. It can then be concluded that the theory adequately defines the problem under investigation.

1.9 LIMITATIONS AND DELIMITATION OF THE STUDY

- **Limitations of the study**

The study was biased in terms of participation, as only municipal officials with knowledge of public infrastructure projects were given the opportunity to respond to questions posed by the researcher. Second, limitations included the municipal officials involved in the implementation of public infrastructure projects who have left the three selected municipalities for a number of reasons. On the other hand, not all community members were selected to participate in the study. As a result, the researcher was unable to assess a wide range of socioeconomic opportunities that may arise from the implementation of these projects. Other study limitations included participants' lack of interest in participating in the study. In the sense that it limited the researcher's ability to obtain detailed information about the problem under consideration.

- **Scope of the study**

The scope of the study was limited to investigating the causes of abandoning the construction of roads, water and sport infrastructure under three selected local municipalities in Limpopo Province. In doing so, the researcher determined whether such causes stemmed from the three selected municipalities or the contractors who are tasked with providing such public infrastructure projects. The study chose three

case studies because local municipalities with the authority to carry out public infrastructure projects are aware of the reasons for abandoning the construction of roads, water, and sports infrastructure in South African municipalities. As a result, the study did not focus on anything other than the construction of roads, water, and sport infrastructure.

1.10 LITERATURE REVIEW

A literature review is a thorough examination of secondary data, such as peer-reviewed publications, that is typically available for use when conducting a research study (Sarantakos, 2013). The literature review was conducted to better understand the causes of prolonged and abandoned public infrastructure projects in three Limpopo municipalities. In this case, the study relied on secondary sources such as online materials, peer-reviewed articles, reports, print media, and policy and legislation documents pertaining to public infrastructure projects. Online materials included search engines such as Google and Google Scholar to access journals on the topic under investigation.

1.11 RESEARCH METHODOLOGY

Research methods are the many techniques, plans, and formulas employed to methodically and scientifically acquire knowledge in order to address a specific research issue (Rajasekar, Philominathan & Chinnathambi, 2013). A mixed-methods research programme, according to Creswell (2007), is a longitudinal program of inquiry or a single study that integrates quantitative and qualitative research. This type of research combines qualitative and quantitative methods to better grasp a study problem or subject than either research strategy could on its own. Compared to either quantitative research or qualitative research alone, mixed-methods research offers a more comprehensive grasp of the research problem.

In causal models, mixed techniques aid in the explanation of outcomes or the operation of processes. Variables such as hypotheses, questions, instruments, closed-ended questions, reliability, validity, statistical analysis, generalisability, replicability, control, and objectivity are all components of a mixed-methods research strategy. Furthermore, a mixed-methods inquiry strategy takes the following into account: general enquiries, participant perceptions, respect and reciprocity, topics and

descriptions, interpretation, individual reflection, an adaptable structure, and implying or supporting individuals or groups (Creswell, 2007). Caracelli and Greene (1993) viewed a mixed method as an approach that collects and analyses data in the form of numbers and words. The study employs a mixed method because: (1) a mixed method enhances the research findings; (2) mixed methods research outperforms monomethods research by utilising the strengths and adjusting for the weaknesses of each individual approach; (3) by adjusting for the biases that each approach inherently entails, the researcher obtains comprehensively and impartial research results and (4) both methods cross validate each other in the sense that qualitative results concur with the quantitative findings; (5) mixed method data complement each other in the sense that data from one component can be better interpreted when combined with findings from another component (Bergman, 2016). Based on the research method that the study employed, the researcher collected data from municipal officials in three selected municipalities in Limpopo Province under Capricorn District. The study adopted a mixed-methods research approach because it does not limit respondents from expressing their opinions about the matter under investigation. The researcher integrated qualitative and quantitative techniques to achieve impartial research outcomes. In other words, this type of research approach was used to complement the data that was collected using each method.

1.11.1 Research design

A research design focuses on the researcher's methodology, techniques, and data collection tools employed to gather information on the investigated matter. There are several research designs that one can use to achieve the study's objective; this study adopted a mixed-methods approach and combined qualitative and quantitative data collection instruments. The study wanted to employ a mixed-methods research approach targeting municipal officials involved in public infrastructure projects and members of municipal council from the following political organisations: the African National Congress (ANC), Economic Freedom Fighters (EFF), and Democratic Alliance (DA) in the three selected municipalities. Finally, the study employed a mixed method to gather data from community members, aiming to comprehend the socio-economic benefits they could reap from the execution of public infrastructure projects. The study also used a mixed-methods research approach to understand the causes

of abandoned public infrastructure projects. Based on this, the study wanted to analyse the different perceptions, experiences, and knowledge of various research participants as far as the implementation of public infrastructure projects in the three selected local municipalities was concerned.

Quantitative data assist the researcher in establishing the causes of abandoning public infrastructure projects and the extent to which such causes contribute to the unsuccessful execution of public infrastructure projects. This type of research question was used to further determine the impact of public infrastructure projects on financial viability. With qualitative questions, the study sought to have an in-depth understanding of the investigated problem. Hence, this type of research question was anticipated to allow participants to fully express themselves about the problem under consideration. Given this background, the study adopted a mixed-methods research approach to gain a deeper perspective and understand the respondents' viewpoint. However, the study followed a descriptive research design. The study employed a case study approach, using Polokwane, Molemole, and Blouberg local municipalities as points of reference. The study adopted a cross-sectional time horizon during data collection. The reason being that the study was meant for academic purposes only; as such, there was no need to collect data repeatedly with the same participants.

1.11.2 Target population

This study has identified a specific group of people with the main goal of collecting the required data. Having this in mind, a target population in this context is defined as a group of people within a specific territory who have the potential to participate in the study with the sole purpose of generalising the findings of the study (Welman, Kruger & Mitchell, 2005) According to Casteel and Bridier (2021:344), the target population refers to a specified, conceptually confined group of potential participants with whom the researcher may choose to share their views about the causes of abandoning public infrastructure projects in the three selected local municipalities. The target population for this research was municipal officials and members of the municipal council from various political parties responsible for the implementation of public infrastructure projects in Polokwane Local Municipality, Molemole Local Municipality, and Blouberg Local Municipality. Lastly, community members were also chosen to share their perceptions about the socio-economic opportunities that they could get after their local

municipalities have successfully implemented roads, sports and water infrastructure. By doing so, the study wanted to answer the study's research questions.

1.11.3 Sampling

1.11.3.1 Sampling frame

An empirical study, by nature, must include sampling techniques. A sample is a small part of the overall set of individuals that together make up the subject of the study (De Vos, Strydom, Fouche & Delport, 2011). The study aimed to select participants from three local municipalities. These participants were expected to make a representation of the entire population for the local municipalities and communities under the three municipalities.

1.11.3.2 Sampling techniques

The study employed both purposive and random sampling strategies. The purposive sampling strategy is a type of judgemental sampling strategy in which the researcher intentionally uses their discretionary knowledge to select a group of potential participants who can provide primary data. This study employed purposive sampling to gather information from municipal officials and members of the municipal council, who represented three political parties: the ANC, EFF, and DA. On the other hand, random sampling techniques were applied to community members in the three chosen local municipalities. This type of technique is key in the sense that all community members stand a chance of being given questionnaires to share their opinions about socio-economic opportunities that they could benefit from post-implementation of roads, sports, and water infrastructure.

1.11.3.3 Sample size

The sample size of the study comprised 84 participants. The table below shows the number of participants who were sampled in the study:

Table 1.1: Population of the study

Participants	Number of participants
Chief Financial Officers (CFO) from three selected municipalities	One from each municipality (03)

Municipal managers of the three selected municipalities	One from each municipality (03)
Managers of / Heads for Local Economic Development within the three selected municipalities	One from each municipality (03)
Members of the Mayoral Committee (for infrastructure) from the three selected municipalities	The researcher chose two from the selected municipalities (06).
Community members in each of three selected local municipalities	10 community members in each of three selected local municipalities, which makes it 30 community members in total
Managers of / heads for Integrated Development Plan (IDP) within the three selected municipalities	One from each municipality (03)
Members of Municipal Council from three political parties (EFF, ANC and DA) in the three municipalities	The researcher selected two participants from each political party within the three selected municipalities (18).
Office of public infrastructure in the three selected municipalities	Five from each municipality (15).
Managers of /heads for community services in the three municipalities	One from each municipality (03)
TOTAL SAMPLE SIZE	84

1.12 DATA AND INFORMATION COLLECTION

The study used interviews, questionnaires, and documentation as data collection instruments, as discussed below.

1.12.1 Data collection instruments

The researcher distributed semi-structured questionnaires to members of the municipal council from three political parties (EFF, ANC, and DA), as well as community members in the three chosen local municipalities. Simply put, the study sought to delve into the participants' responses to the questions being investigated. Semi-structured questionnaires gave the researcher the flexibility to ask additional, unexpected questions in response to the participants' responses (Lessa de Oliveira, 1982: 12). There were both open and closed-ended questionnaires. Open-ended questions allowed the researcher to elicit concerns. Furthermore, it allowed the researcher to obtain detailed responses. Closed-ended questions, on the other hand, enabled the researcher to measure and compare quantitative and qualitative results. Both sets of questions were useful in determining whether they described the same pattern of outcomes. The goal was to investigate the causes of abandoning public infrastructure projects in local municipalities.

1.12.2 Interviews

According to De Vos et al. (2011), an interview is a pre-prepared questionnaire that guides the researcher through the data collection stage. According to Burns (1997:329), as cited in Kumar (2011:144), an interview is also a verbal dialogue that is conducted face-to-face or over the phone with the goal of eliciting information from the interviewee. This study's qualitative data collection method involved semi-structured interviews. The researcher asked open-ended questions. Traditionally, the researcher reads all questions to the participants and records their responses. The one-on-one interviews for this study focused on the reasons behind the abandonment of public infrastructure projects in the three selected local municipalities. These interviews were conducted with municipal officials (administrative staff) from three local municipalities in Limpopo Province. Interviews were conducted to gather detailed information about the reasons for abandoning the construction of public infrastructure projects, with a predetermined set of questions directed at municipal officials. It was expected that these officials would be heads of community services, the office of public infrastructure, managers or heads of integrated development plans, managers or heads of local economic development, chief financial officers, and municipal managers in the three selected local municipalities.

1.12.3 Documentation (DOCUMENT ANALYSIS)

Creswell (2003) defines documentation as a compilation of records that provide specific information for the study. Published records related to the thesis were used as sources of knowledge, including academic books, government gazettes and laws, journals, journal articles, and dissertations.

1.12.4 Data analysis techniques

1.12.4.1 Quantitative data analysis

Once the researcher has collected all of the necessary data, the next step is to analyse it. The Statistical Packages for Social Sciences (SPSS) software was used to organise, categorise, code, and translate the quantitative data into meaningful values. SPSS is a software package for editing and analysing various types of data. During data analysis, the researcher was looking for trends, differences, and patterns (Lowe, 2007). The data was then reduced to manageable proportions in order to identify and evaluate patterns in the problem under investigation. The SPSS was chosen to demonstrate differences, trends, and patterns in quantitative data through pie charts and graphs.

The study also aimed to use coding techniques to prepare questionnaires. Coding is the process of assigning tags, names, or labels to individual pieces of data; codes are also names, tags, or labels (Punch, 2014:87). Coding allows researchers to better understand the data. Coding entails labelling similar concepts, phenomena, people, or events and clustering them together. Coding also allows researchers to organise their ideas and become more familiar with the data. Coding also entails reducing responses to numbers and simplifying the data for the researchers (Birmingham & Wilkinson 2003; Rallis & Rossman in Croker & Heigham 2009:281). Given this context, coding was used for quantitative data analysis, which was applied to closed-ended questions and demographic information of the targeted respondents.

1.12.4.2 Qualitative data analysis

Qualitative data was collected through face-to-face interviews. This type of data was sorted, analysed, and presented as part of the findings. Consequently, the researcher sorted and classified the data based on various themes. The researcher used the

narrative form to present the data. During the data interpretation, the researcher quoted and italicised important responses from the respondents. The intention was to highlight and emphasise some of the key findings in line with readily available material from internet sources (Schutt, 2011). The study employed a mixed method, evaluating the obtained data using both descriptive and interpretive research methods. For qualitative data analysis, words and quotations were used to present the qualitative data around the interpretive analysis.

1.13 VALIDITY, CREDIBILITY AND TRUSTWORTHINESS OF THE STUDY

1.13.1 Validity

In principle, research projects must be valid. In the context of public infrastructure, they could serve as a source of information for local government practitioners, academics, students, and researchers. In keeping with this background, the study posited that conducting a pilot test prior to the study's implementation is necessary to ensure the validity of the data collected through a mixed-methods research approach. A pilot test refers to the process of testing a research instrument prior to commencing the actual data collection. It was proposed that a pilot test be done with some of the study's research participants within the municipality and selected communities. The data collection process would exclude those who participated in the pilot study. The pilot study strategy also ensures that the structure of questionnaires and interview questions corresponds with the research questions, aim, and objectives to avoid a situation where the information would be biased, misleading, and inaccurate. The term validity refers to the standard rather than the authenticity of a research endeavour or study (Szczerbinski & Wellington 2007:43).

To clarify, validity does not encompass the entire research study but rather the degree to which a research method or instrument accurately assesses its intended outcomes (Garry, 2009:107). Using these aspects, the study employed semi-structured questionnaires to investigate the reasons behind the abandonment of public infrastructure projects in the three local municipalities that were selected. The study also aimed to verify the accuracy of its research findings in the context of public infrastructure project construction. Therefore, research methods and quantitative data collection instruments were double-checked to maintain the validity of the research findings. Since the researcher spent a lot of time with the research participants in the

field, this was to give them the confidence necessary to elicit detailed and valid quantitative data (Kumar, 1996: 141).

1.13.2 Trustworthiness

According to Leedy and Ormrod (2014:272), the degree to which participants and readers interpret the study's qualitative findings in such a way that they are convinced about the findings and take the study seriously impacts the study's trustworthiness. By establishing criteria for evaluating this trustworthiness, researchers must demonstrate the validity of their qualitative research findings by establishing criteria for evaluating trustworthiness. The study should convince readers of its worth and merit, and the believable qualitative findings could guide future research techniques and investigations. The established norms and practices that guide participants' ethical involvement with one another must be part of the criteria for determining trustworthiness. Following moral guidelines is a proper course of action (Rallis & Rossman in Croker & Heigham, 2009:264).

This study upheld ethics and provided copies of North-West University's ethical clearance certificate to the participants. Before taking part in the study, the participants were required to complete an informed consent form. This was to inform them about the study's goal and the ethical concerns raised.

1.13.3 Reliability

According to Lewis, Morrell, Ormston and Ritchie (2014:365), reliability also implies confirmability or dependability because the quantitative research findings must be consistent if a second study is conducted using the same or related procedures. Research studies frequently use the following types of reliability: (a) interrater, which gauges the degree to which two or more individuals evaluating the same good or performance reach the same conclusions; (b) test-retest, which scrutinizes the degree to which the same individuals receive identical results from a single instrument on two distinct occasions; (c) equivalent, which gauges the degree to which two distinct iterations of the same instrument yield comparable results; and (d) internal consistency, which denotes the degree to which all components of a single instrument yield consistent findings (Leedy & Ormrod, 2014). For this study, the researcher tested and pre-tested quantitative data collection instruments before the actual data

collection phase. This pilot study was done with some of the chosen participants in the study. To ensure the reliability of the results, the researcher introduced appropriate data analysis techniques like SPSS for quantitative data. The researcher also ensured that participants had the same questions on the quantitative data collection instruments to answer. The purpose was to avoid asking inconsistent questions.

1.13.4. Dependability

According to Babbie (2009:278), dependability is the ability to replicate findings with the same participants in the same setting while still producing similar outcomes. Testing the dependability of findings can be done in a number of ways, including peer review, coding, and re-coding. The study employed peer review in this work. Peer examination is when a researcher talks to objective colleagues who have a deeper understanding of qualitative research methodology, data analysis, and findings (Anney, 2014:279). This process requires the researcher to be clear about the research methodology and processes so that colleagues can analyse qualitative data properly. It is therefore important to state that dependability in this context was applied by using colleagues in the Department of Public Administration at the University of Limpopo who understand qualitative research. The study also employed auditing.

1.13.5 Conformability

Baxter and Eyles (1997) define conformability as the extent to which other researchers can independently check and support the study findings. It aims to make sure that the researcher did not falsify the data or the interpretation of the findings (Tobin & Begley, 2004:392). There are various strategies used to assess conformability. This study employed a data audit to guarantee the study's conformity. In so doing, the researcher was trying to ensure that qualitative results and findings were not manipulated to perpetuate the researcher's own personal interests.

1.13.6. Transferability

Bitsch (2005:85) defines transferability as the ability to apply qualitative research findings to other types of investigations. This implies that other researchers ought to be able to duplicate the study under comparable circumstances and reach the same conclusion. The study followed a systematic literature review in the context of roads,

water and sport infrastructure. The study selected its target respondents based on the research topic. To accomplish this, the study provided a detailed explanation of the research methodology at the conclusion of the thesis finalization process. The study thoroughly unpacked the research methods adopted and the qualitative data collection instruments used to obtain primary data. All these important procedures were outlined in the thesis.

1.14 ETHICAL CONSIDERATIONS

In principle, empirical studies must adhere to certain research ethics and standards. For compliance purposes and observation of research ethics, the researcher applied for an ethical clearance letter from the university where the student has registered. The researcher obtained this letter before initiating data collection. The participants were guaranteed anonymity. The main purpose of conducting the study was made known to all participants in the selected municipalities. As part of ethical considerations, the researcher had to inform prospective participants that participation in this study was not mandatory. Therefore, participation in the study was entirely voluntary. Therefore, participants who were willing to participate had the liberty to withdraw at any time.

In pursuit of all this, the study confirmed that participants' information will remain confidential and that neither the data collection instruments nor the thesis will reveal their identities. Further, the anonymity, honesty, and privacy of the respondents were highly maintained. The researcher had an ethical obligation to engage respondents in an environment where they would freely and comfortably express themselves.

1.15 CHAPTER OUTLINE

Chapter one: The chapter provides an introduction and background to the study. The chapter further discusses the problem statement, theoretical framework on public infrastructure, hypothesis of the study, research objectives, as well as the research methodology, description of the study area, target population, sampling techniques, data collection instruments, validity and reliability, ethical considerations, and significance of the study. This chapter discusses the mentioned aspects in the context of an investigation into the causes of abandoning the construction of public infrastructure projects in three selected local municipalities in Limpopo Province.

Chapter two: This chapter provides a literature review that helps to unpack the causes of abandoning the construction of public infrastructure projects in South African local municipalities. The chapter delves into the following themes to comprehensively explore the question under investigation: the current status of public infrastructure project construction in local municipalities, the impact of these projects on financial viability in South African local municipalities, the challenges that impede the successful completion of public infrastructure projects, and finally, the socio-economic opportunities for successful implementation of public infrastructure projects in the selected local municipalities. Lastly, the chapter also discusses the principal agency theory, which was adopted to add value to the scientific component of the study as well as to understand contractual terms between local municipalities and the contractors under concern.

Chapter three: In this chapter, the study looks at public infrastructure projects in South Africa. To achieve this goal, the study utilizes readily available information, also known as secondary data. The readily available information consists of books, journal articles, conference proceedings, official reports, and integrated development plans of South African municipalities, dissertations, and theses that are in line with the topic under concern.

Chapter four: The chapter discusses the research design and methodology used in the study. The chapter further describes the study area, participants that the study was targeting, sample size, data collection tools, and procedures. Additionally, the study elucidates the research methodology, its significance within the context of public infrastructure projects, and the factors hindering the successful execution of public infrastructure projects in South African local municipalities. Considering this, a mixed-methods research approach was chosen. The chapter further provides detailed information about the criteria followed to reach out to the target population. As a result, the study used a mixed-methods approach to answer the research questions outlined in Chapter 1.

Chapter five: This chapter presents, analyses, and interprets the data collected from municipal officials in three selected local municipalities in Limpopo Province's Capricorn District. The researcher followed this approach to answer the research questions of the study as well as to understand the causes of abandoning the

construction of public infrastructure projects in the context of the South African local government sphere.

Chapter six: This chapter focuses on discussing and developing a model as guided by existing theories and the findings that the study has brought forward to the attention of scholars, academics, local government practitioners, and the nation at large.

Chapter seven: The chapter outlines conclusions and recommendations. The study's findings, gathered through a mixed-methods research approach, guide these recommendations. This chapter holds significant importance as it offers recommendations for implementing public infrastructure projects, especially in local municipalities in South Africa. The recommendations make a significant contribution to efforts to use government resources efficiently during the construction of public infrastructure projects.

1.16 CHAPTER SUMMARY

The chapter has discussed all the important aspects of a research proposal. Where necessary, the researcher has secondary information to justify some of the assertions made in the study. Therefore, the purpose of this chapter was to unpack the study's problem statement, research objectives, and questions, as well as the research design and methodology used in pursuit of the study's objectives. Also, the chapter made use of Principal-Agency Theory to strengthen the scientific aspect of the study. Therefore, the use of a theory was necessary since it explicitly explained the roles and responsibilities of municipalities and contractors during the implementation of roads, water, and sport infrastructure projects. The theory also clarified contractual bindings between local municipalities and service providers. The chapter below discusses the theoretical framework that is employed in the study. Subsequently, the researcher chose to employ the Principal-Agency Theory. Moreover, the chapter will utilise the objectives of the study to analyse and interpret the empirical literature. Therefore, the study will follow a global context to present the empirical literature.

CHAPTER TWO: PRINCIPAL-AGENCY THEORY AND EMPIRICAL LITERATURE

2.1 INTRODUCTION

The previous chapter detailed the study's problem statement, its objectives and questions, and the research methodology it employed to address the research questions it formulated. Considering this brief scenario, this section reviews readily available material by conducting an investigation into the causes of delays, abandonment, and poor implementation of public infrastructure projects. The study further reviews available secondary data by making use of the following research objectives: to investigate the nature of public infrastructure projects and financial viability; to evaluate the impact of public infrastructure projects on financial viability; to establish challenges hindering successful implementation and completion of public infrastructure projects; and lastly, to identify socio-economic opportunities that could emanate from successful implementation of public infrastructure projects. Secondary to the goal of this chapter, the study will comprehensively discuss the Principal-Agency Theory which the study adopted in order to understand how the principal (South African municipalities) and the agents (contractors) work prior to and during the implementation of public infrastructure projects. In pursuit of all this, the chapter will also unpack the concept of public infrastructure projects. This is done to provide a comprehensive understanding of the concept and to explore its meaning using multiple sources of information. It is therefore worth explaining that this chapter will use existing secondary information at a global or international level to provide answers for each research objective. Nevertheless, a literature review is the procedure of gathering, examining, and analysing information from published academic works in accordance with a particular research topic (Strukelj, 2018).

2.2 PUBLIC INFRASTRUCTURE PROJECTS

Regardless of a consensus definition, people understand public infrastructure projects to include things like roads, wastewater treatment, and electric power generation (Smith & da Lomba, 2008). On a brighter note, it is important to understand that public infrastructure projects do not only focus on tangible objects, but also management practices and developmental policies that facilitate the cost-effective use of the infrastructure in an attempt to provide for societal needs (Smith & da Lomba, 2008).

Kumari and Sharna (2017) defined public infrastructure projects as the physical structures and networks that deliver the necessary services to various sectors and communities. In their view, public infrastructure projects include water supply, sewage, roads, bridges, and urban services. However, the types of public infrastructure projects differ at the national, provincial, regional, and finally municipal levels in terms of concentration, quality, and efficacy. This is influenced by several political and economic legacies. South Africa suffers from an uneven distribution of infrastructure in developed and well-maintained industrial and metropolitan regions, such as Gauteng. This dilemma extends to the pitfalls in other developing provinces. Municipalities concentrate on two primary aspects related to infrastructure delivery in the interim: granting citizens access to essential municipal services (such as power, water, sanitation, and solid waste removal) and providing and maintaining infrastructure (Smith & da Lomba, 2008).

To present an alternative perspective, the World Bank (2014), Olaseni and Alade (2012), and Iyortyer (2017) define public infrastructures as services provided by governments worldwide and private investors, utilizing small, medium, and large construction firms and their expertise. Public infrastructures are regarded as a unique asset of social overhead capital activities and modern factor inputs, capable of delivering consistent long-term capital appreciation and contributing to overall economic well-being. Public infrastructure encompasses a vast array of factor assets such as transportation, energy, water and sanitation, housing, and communication infrastructures. These include roads, bridges, railroads, housing, water supply and waste treatment plants, power plants, and telecommunications (Chan, Forwood, Roper & Sayers, 2009; Stewart, 2010). Srinivasu and Srinivasa Rao (2013) shared a similar opinion about the concept of public infrastructure projects. According to both scholars, it is a group of establishments that offer products and services to the citizens of a certain nation. Its installations function as inputs for all other socio-economic activity, rather than producing commodities and services on their own. The nation, province, or area requires a collection of capital assets and fundamental amenities to function. Notably, their examples of public infrastructure projects are similar to those of other scholars who have attempted to clarify the concept. Their instances include roads, bridges, and other public works necessary for the operation of an industrial economy, or at least a portion of it. These basic services are required for the

economy's primary, secondary, and postsecondary activities to operate. Nevertheless, Szado (2010) and Fasoranti (2016), both knowledge producers, contributed to the definition of public infrastructure projects, defining "economic infrastructure" as fundamental physical facilities and services that directly support the production and distribution process in an economy. Economic infrastructures are the physical or non-physical facilities and/or services that directly support the processes of production, distribution, and resource allocation. Examples of these are roads and bridges. Social infrastructures include water and sanitation systems, as well as residential, commercial, health, and recreation buildings (UN-Habitat, 2011). For relevance and context, this study only focuses on roads, water, and sport infrastructures.

2.3 THEORETICAL FRAMEWORK: PRINCIPAL-AGENCY THEORY

This section discusses the theoretical framework incorporated into the study. The study uses the principal-agent theory to understand the relationship between the principal and the agent in ensuring the successful implementation of public infrastructure projects. The study defines South African municipalities as principals in this context and refers to contractors as agents responsible for providing public infrastructure projects. Understanding the underlying theories of Public-Private Partnerships (PPPs) and the unique factors for the project at hand is necessary to execute them in the roads, sport and water sectors with the best possible results (Higuchi, 2018). Therefore, in order to understand the relationship between municipalities and contractors, it is necessary to first unpack the principal-agent theory and how it is incorporated into understanding factors hindering the successful completion of public infrastructure projects. Additionally, it is crucial to investigate the connections between the principal agent theory and PPPs on a global and national scale. This is because the twin approach of "principal" (state and government) and "agent" (private organisations or contractors) is a reductionist duality to understand how PPPs work in different environments, including South African municipalities. The Smithian philosophy of new public management provides a theoretical and conceptual foundation for PPPs around principal-agent theory (Nayak, 2018). To ensure the successful implementation of public infrastructure projects by municipalities and agents, this section provides a descriptive narrative on the theory of principal agent connection relationships, focusing on their nature, legal background, role, and practice. The literature review in this section focuses on the analysis of existing

literature and debates by practitioners on the principal-agency theory of public infrastructure projects and analysing scholarly and development partner debates on different approaches for the application of such theory to public infrastructure projects in the roads, sport and water sectors (Gibson, Wallacem & Sturgill, 2015).

The literature review format adopted an exploratory analysis of the relevance of the principal-agency theory to the process of designing, implementation, operation, and sustainability of public infrastructure projects in the roads, water and sport sectors in developed and developing countries (Asian Development Bank (ADB), International Agency Development Bank (IADB), and World Bank (WB), 2014). Therefore, the study uses the principal-agency theory to analyse the implementation of public infrastructure projects in South African municipalities. Understanding PPP dynamics and creating a PPP theoretical framework depend heavily on the application of principal-agency theory to PPPs (Farquharson & Yescombe, 2011; Bouman, Friperon, Gielen & Wilms, 2013).

2.3.1 The principal agency theory on public infrastructure projects

To effectively use PPPs in South African municipalities, it is necessary to first understand the relationship between government and private organisations working together to deliver services (public infrastructure projects) to citizens using the principal agency theory (Holland, 1984). Every country's PPP performance hinges on the interactions between public (principal) and private (agent) partners (McQuaid, 2000:3). Agency theory posits that an organization comprises a network of contracts between South African municipalities, the owners of economic resources, and contractors, the agents, who are responsible for employing these resources to fulfill specific duties and achieve the intended goals (Jensen & Meckling, 1976) Therefore, the study defines certain duties as public infrastructure projects that contractors are required to deliver. The premise of the idea is that agents possess more information than principals, and this information disequilibrium can result in unethical actions that hinder principals' ability to effectively monitor and assess whether agents are successfully serving their interests (Adams, 1994). It is equally important to mention that agents need to have sufficient knowledge about roads, water and sport infrastructure projects. Their knowledge plays a significant role in the sense that the successful implementation of roads, water and sport infrastructure projects largely

depends on their knowledge. On the other hand, the principal is also required to have sufficient knowledge and understanding of what the agent must do during the execution of roads, water and sport infrastructure projects.

In general, an agency is a relationship between two parties, one being the principal and the other being an agent who is responsible for managing, operationalizing, and implementing public infrastructure projects, or representing the principal by working with other third parties (sub-contractors). It also assumes that principals and agents function more rationally, leveraging the contracting process to optimize business opportunities and generate wealth. Therefore, in this scenario, South African municipalities, acting as principals, entrust private organisations as agents to implement public infrastructure projects. At the same time, the agents (contractors) must report to their principals (municipalities) on how such resources are being used in the implementation of road, water, and sport infrastructure projects and programs to offer public services. As a result, principal-agency connectedness emerges when the principals hire the agent to do a certain activity, such as providing public infrastructure projects on their behalf. Principals delegate authority to their agents to make critical choices on their behalf. Because agents make decisions with third parties that influence the principal, agency difficulties are unavoidable (Jensen & Meckling, 1976).

The concept is concerned with the principal and agent's conflicting goals in achieving each of their individual objectives and is based on methods geared toward gathering information about potential clients, acquiring goods, services, and works, or finding a suitable contractor. So, getting the agent to manage efficiently and monitoring the agent's capacity to neutralise any connected unethical practices are both based on principal-agent theory (Rendon, 2009). The agency theory provides realities that are relevant to this study on public infrastructure projects, as well as management structures that are necessary for persuading agents to do particular things that are consistent with the principal's expectations and specifications. The theory predicts the behaviour of specific individuals in an agency relationship. In this case, contractors could fail to carry out public infrastructure projects in line with specifications and expectations. Alternatively, municipalities may neglect to offer the required assistance and supervision when assigning agents a project to execute. Therefore, these factors could potentially contribute to the poor implementation of public infrastructure projects.

It should also be mentioned that the municipal-contractor relationship is formalized. Both parties must familiarize themselves with contractual agreements before initiating public infrastructure projects. It is important to highlight that the municipal-contractor relationship often faces a range of challenges, some of which are beyond the control of both the agent and the principal and are occasionally associated with the public infrastructure project environment (Rendon, 2009). These challenges include the weather conditions and the nature of the project's environment. In order to reduce the risk of trust erosion stemming from a lack of ownership control in the public management process, the government, specifically municipalities in this case, might be more inclined to employ internal monitoring systems to ensure the effective execution of public infrastructure projects (Adams, 1994). This theory also encourages the use of regulations and rules to ensure that business managers, acting as contractors, adhere to the wishes of municipalities (Hawley & Williams, 1996). According to Watts (1988), the implementation of roads, water, and sport facility projects is a bonding cost carried by agents in order to meet the principals' demands for responsibility. Therefore, the principals in South African municipalities must constantly monitor the administration of public infrastructure projects by private sector organizations. This is due to the fact that private officials who act as agents may not look out for the specific interests of residents (community members or end users of public infrastructure). Municipalities must assess the effectiveness of risk management, control, and governance as a monitoring mechanism because they have contracted with the agency to implement such public infrastructure on their behalf (Iossa & Martimort, 2015). Moreover, the public sector principal should consistently provide suggestions for enhancing the risk management, control, and governance systems linked to private sector agents' implementation of public infrastructure projects. Continuously strengthening risk management helps to mitigate any risk that could prevent the successful implementation of public infrastructure projects. Municipalities should not only provide recommendations, but they should also monitor private sector representatives' implementation of these recommendations. The private sector could either guarantee the efficient implementation of public infrastructure projects or decline to take accountability for disregarding the advice of the public sector principal. Therefore, agency theory serves as a guide for the principal in assessing whether the agent is successfully carrying out public infrastructure projects in compliance with established criteria, standards, terms, and conditions (Nuwagaba,

2019). One of the goals of this thesis was to establish challenges hindering the successful implementation of public infrastructure projects. As a result, the study has adopted the principal-agent theory to explain the challenges faced by South African municipalities and contractors during the implementation of various projects. The adoption of this theory could also assist both parties in clearly understanding their roles when dealing with public infrastructure projects. Shankman (1999) emphasised the importance of considering other essential stakeholders in a principal-agent relationship, as they play a crucial role in organising the agent's work to ensure the efficient achievement of the principal's objectives. In this case, the study believes that community members, non-governmental organisations, and other government institutions could be involved in this process. Notably, some developing nations, such as Uganda, have embraced PPP models that recognise the importance of other private players in the supply of public infrastructure services (Iossa & Martimort, 2015).

2.3.2 Legal bindings in Principal-Agent theory for public infrastructure projects

PPPs often create a contractual responsibility between the public and private sectors (municipalities and contractors) to supply a service or product (public infrastructure projects) to the public through effective risk and reward sharing (Yang, Hou & Wang, 2013; Van Den Hurk & Verhoest, 2016; Hashim, Che-Ani & Ismail, 2017). This leads to a principal-agent relationship where an existing contractual commitment mandates the partners to collaborate (Iossa & Martimort, 2015). A municipal-contractor relationship requires actors to rely on one another, with each partner focussing on their main competencies. This means that PPPs aim to bring parties together in order for them to collaborate in a sustainable manner, particularly in the process of carrying out water, roads and sports infrastructure projects across South African municipalities (Edelenbos & Teisman, 2008).

However, given the complexity of various PPP models and the potential for unethical practices from municipalities or contractors, it is crucial to ensure an effective PPP implementation process to achieve the desired public infrastructure project objectives (Edelenbos & Teisman, 2008). The parties must always agree on the project components before implementing any public infrastructure project, and they should not limit themselves to the principal-agent collaboration framework and the conduct

rules (Edelenbos & Teisman, 2008). A contract becomes the ideal tool for articulating each party's roles and obligations, outlining what is and is not expected to be done, and designing appropriate penalties for any transgression (Javed, Lam & Zou, 2013a; Van Den Hurk & Verhoest, 2016; APMG, 2017). The study deems it essential for municipalities and contractors to understand the expected and non-expected tasks. This is to ensure efficiency, effectiveness, and value for money while contractors implement public infrastructure projects. Legal contract bindings for public infrastructure projects focus on balancing the various interests of principal-agent partners and putting in place standard operating procedures to guard against unethical conduct in order to handle such areas of compromise (Van Den Hurk & Verhoest, 2016).

Under such circumstances, the contract establishes the framework for managing the relationship between the principal and agent, ensuring the successful execution of tasks assigned to each party (Van Den Hurk & Verhoest, 2016). One of the arguments in this study is that unethical practices such as corruption, poor financial management, and maladministration could be other reasons for poor governance and implementation of public infrastructure projects. These factors play a significant role in the unsuccessful execution of public infrastructure projects. Therefore, this study supports putting in place standard operating procedures to prevent any unethical practices during the implementation of public infrastructure projects.

This has given rise to a new trend, according to which the government (municipalities) should focus on providing oversight for the delivery of public services (public infrastructure projects) rather than providing such services directly (Reynaers, 2014). That is why, according to Johnston and Romzek (2005), developing nations like Uganda should learn from the best practices of the public sector in the United States, which commits its resources to managing contracts rather than providing such services directly in order to provide better services. A contractual relationship between a principal and an agency creates management restrictions that require the government (municipalities) to implement stringent accountability procedures if the private partners are to perform their tasks efficiently.

According to Johnston and Romzek (2005), one of the essential principles for effective acceptance, implementation, and sustainability of PPP projects under public

infrastructure is having a structure that emphasises performance for partnership contracts. Only if the parties involved can agree on the intended mode of service delivery prior to signing a PPP contract, can they follow a performance framework in any PPP contractual obligation. This results in a better contractual relationship in which the principal and agent mutually work together to provide a service (public infrastructure) to the public, as opposed to the traditional contracting process in which the public sector, as the principal, uses bureaucracies to manage the contracting processes of the service provider or contractor. Good performance in any contractual relationship under public infrastructure projects necessitates the parties involved establishing expected standards as soon as possible (Johnston & Romzek, 2005).

There are several challenges associated with managing principal-agent contractual relationships for public infrastructure projects. One is political interference in government institutions, which compromises the contracting process. Brown, Potoski and Van Slyke (2006) acknowledged that private organisations (agents) can provide the best public infrastructure services; however, the challenge could be stakeholder expectations and standards coupled with management efficiency and effectiveness. Additionally, Johnston and Romzek (2005) emphasised the issue of incomplete contracts as another major challenge in the principal-agency contractual relationship. Government and private institutions sign contracts that lack binding information. This then creates a space for unethical practices during the implementation of public infrastructure projects (Robinson & Scott, 2009). This study then calls for all public infrastructure project stakeholders to be well informed about rules, regulations, procedures, and guidelines for successful implementation of roads, water, and sport infrastructure across different municipalities and regions (Brown, Potoski & Van Slyke, 2006).

2.3.3 Facilitation of public infrastructure projects using principal-agency theory

Various implementing partners adopt, implement, administer, and manage any principal-agent contract, which creates a number of constraints in terms of ambiguous performance measurement (Johnston & Romzek, 2005). This means that the implementation of road, sport and water infrastructure projects requires effective management, which narrows the gap between the principal and the agent in order to

forecast what is required in the future. They can also effectively address any occasional uncertainties and guarantee the provision of goods and services in compliance with the established parameters and standards (EC, 2003; Cruz & Marques, 2013). In such a scenario, the study can therefore conclude that the implementation of public infrastructure projects in South African municipalities requires a mutual relationship between municipalities and contractors. Without a strong relationship, organisations risk compromising the standards and expectations of public infrastructure services. Contract management in a principal-agent relationship is thus critical because it establishes the terms and conditions for effective delivery of public infrastructure projects throughout the project life cycle (EC, 2003:90; Cruz & Marques, 2013).

Contract management and administration are concerned with ensuring that both the principal and the agent achieve successful execution of public infrastructure in terms of efficiency, effectiveness, and cost-effectiveness (Brown *et al.*, 2006). Cruz and Marques (2013) argue that contract management and administration should adequately address all stakeholder specifications and expectations when executing public infrastructure projects. This will help in the event that one of the stakeholders has violated contractual agreements under public infrastructure projects. In this context, stakeholders include municipalities and contractors responsible for delivering public infrastructure projects. Brown *et al.* (2006) recommend training public infrastructure implementing partners so that they can effectively implement, manage, and sustain projects in order to provide socio-economic impact in the local communities. By developing contracts that require both the principal (municipalities) and the agent (contractors) to adhere to the stated terms and conditions, training ensures the simple detection and avoidance of unethical practices, meeting the expectations of public infrastructure project stakeholders (Brown *et al.*, 2006). Contract management and administration should also be done in such a way that any errant stakeholders within the principal-agent collaboration who fail to adhere to the contracting terms and conditions during the implementation of public infrastructure projects can be held accountable. Brown *et al.* (2006) further emphasised that the principals (municipalities) use open competition among bidders to effectively deal with constraints during the contracting process. However, it is important to note that

different perspectives exist on the effective management of principal-agency contracts.

Javed *et al.* (2013a) and Love, Liu, Matthews, Sing & Smith (2015) are of the opinion that for developing countries such as South Africa to successfully achieve their intended public infrastructure objectives, strict rules, monitoring measures, and regulations regarding contract management and administration must be put in place (Javed *et al.*, 2013a; Love *et al.*, 2015). That is why most contracts under public infrastructure projects in Australia and Britain have been found to be more cost-effective, time-efficient, and resource-efficient (Henjewe, Sun & Fewings, 2011; Iossa & Martimort, 2015:6; Love *et al.*, 2015). Yet, there are many principal-agent contracts in developing countries that have been associated with constraints such as high project implementation costs and poor project performance, which eventually culminate in the premature closure of such public infrastructure projects (Bloomfield, 2006; Yuan, Zeng, Skibniewski & Li, 2009; Marques & Berg, 2010; Henjewe, Sun & Fewings, 2011; Iossa & Martimort, 2015; Love *et al.*, 2015). According to Iossa and Martimort (2015), some countries in Latin America and the Caribbean have failed to successfully execute principal-agency contracts, leading to their premature termination over time. In addition, high costs of operation coupled with unrealistic expectations have led to the failure of public infrastructure projects in Eastern and Central Europe compared to other developed countries (Iossa & Martimort, 2015).

According to Robinson and Scott (2009), failing to realise successful implementation of public infrastructure projects in South African municipalities may result from poorly managed principal-agent contracts. Marques and Berg (2010) and Iossa and Martimort (2015) assert that failure to complete contracts to their fullest extent can lead to renegotiation. Furthermore, according to Yong (2010), renegotiation of the same contract may result in unethical behaviour on the part of any of the parties (municipalities and contractors) involved in an effort to get further benefits rather than concentrating on the best way to complete the task at hand, which in this context is a public infrastructure project. Therefore, Yong (2010) argues that renegotiating the same contract, which wastes time and money, should only occur to establish specific mechanisms for the efficient implementation of principal-agent contracts. Therefore, if the tasks and obligations of each partner are not clearly defined, contract management and administration may suffer. In the majority of cases, the contract outlines the tasks

and obligations of the private partner with regard to ensuring that the planned project objectives are being met (Nuwagaba, 2019).

2.3.4 The need for principal-agency theory under public infrastructure projects

The principal-agency approach contends that South African municipalities, as the principal, must effectively collaborate with private partners, who serve as agents, in order to be successful. To perform requirements assessments, design specifications, terms of reference, and scope of work, the South African local government requires cooperation from the principal agents in the procurement and implementation processes for its projects. Furthermore, in order to reduce the risks involved in contract implementation by both the municipality and their contractor, project contract management must be the result of a coordinated effort between municipalities and contractors (Poulton & Macartney, 2012).

According to the principal-agency theory, in order to identify any performance deviations early enough, a large portion of public infrastructure contract administration must be carried out by the user institution that will be directly impacted by the contract's execution. Municipalities are considered the end users of public infrastructure in this case. Therefore, it is essential to design a well-thought-out plan that serves as the foundation for effective contract management by integrating various stakeholders and defining duties and responsibilities for each project stakeholder (Babayan & Kadlecikova, 2016; Roach, 2016). This study has chosen to apply the principal-agent theory to better understand the outcomes of the agency relationship that arises from the interaction between municipalities and contractors. Given this background, the study can use the theory to establish challenges confronting both municipalities and contractors during the implementation of public infrastructure projects, with specific reference to South Africa. The principal-agency theory pertains to the delegation of public infrastructure implementation tasks to a private entity (Babayan & Kadlecikova, 2016; Roach, 2016). In this context, South African municipalities are principals, while contractors are defined as agents. It is therefore advisable for municipalities to assign the responsibilities of implementing public infrastructure to contractors that have demonstrated outstanding performance.

2.3.5 Principal-agency theory as a means to minimise challenges under public infrastructure projects

The goal of principal-agency theory is to clarify how to resolve specific problems that might arise in any contractual agreement between the principal and the agent, likely due to competing interests and objectives in addressing the accompanying uncertainties. The public sector (principal) and the private sector (agent) typically have an agency relationship when managing principal-agent contracts (Barry, 2006). Since such contracts require sharing risks between a public authority (primary) and a private party, economists from the 1960s to the 1970s focused primarily on how to distribute risks among partners in order to achieve the intended aims and objectives, which is public infrastructure in this study. Principal-agency theory aids in directing the best way to divide up the roles and responsibilities of contract management between the principle and agent, helping the principal and agent internalise how to work successfully together to achieve the intended goals and objectives (public infrastructure). According to Eisenhradt (1989), this theory primarily focuses on resolving two problems that typically arise in agency relationships: the principle and agent's conflicting interests and the principal's difficulty in confirming the agent's actual activity. Agency theory can initiate the principal-agent relationship in this situation, enabling the agent to accomplish the assigned tasks.

A contractual relationship arises when the principle and the agent work together to provide goods and services, while granting the agent some discretion to make decisions on the principal's behalf. In contract management, the major agency connections are between managers and stockholders, as well as between debt holders and stockholders. Principal-agency theory primarily focuses on disputes that frequently arise between agents and principals because such principal-agency relations may not be adequately harmonised (Poulton & Macartney, 2012). A situation like this can have an impact on good governance principles. Principal-agency theory has emerged as the primary model for evaluating the success of public infrastructure executors (Saam, 2007; Poulton & Macartney, 2012).

2.3.6 The mandate of public and private partners under principal-agency theory

The principal-agency theory states that well-structured relationships between partners, where one assigns work and the other completes it, are desirable. In this arrangement, the principal hires an agent to perform tasks for which the principal is unable. For instance, when roads, water and sport infrastructure projects are implemented, a public sector entity contracts with a private sector firm to carry out the project on their behalf. In such a scenario, there is a partnership between municipalities and contractors. According to this theory, any contractual relationship will result in the principal and agent cooperating since they have a common interest in doing so (Gailmard, 2012). On the other side, it is possible for agents to carry out their duties in a manner that is inconsistent with the principal's goals and objectives, especially when the parties to the agency relationship are motivated by self-interest (Wright, Mukherji & Kroll, 2001).

2.3.7 Dealing with pitfalls during implementation of public infrastructure projects under principal-agency interface

Most academics assert that in an agency relationship, it is impossible to completely avoid issues that typically influence the duties, accountability, behaviour, expectations, and goals shared by the principal and agent. Quinn and Jones (1995) assert that in order to hold the agent more accountable, the principal must ensure strict adherence to the contract's terms and conditions. This should be the case when implementing public infrastructure projects. That being said, a contract, which Schieg (2008) refers to as a red tape monitoring and assessment agreement, must always be in place to maintain the principal-agent relationship (Shankman, 1999). This is due to the favourable conditions that such a contract agreement offers, which encourage strategic alliances and allow the principal to exert influence over the agent's behaviour. Additionally, one must ensure that such a contract allows for the proper alignment of all decisions made in order to successfully realise the principal's goals (Babayan & Kadlecikova, 2016; Turner, 2004; Müller & Turner, 2005; Saam, 2007). Roach (2016) argues that the principal should consistently enter into contractual agreements with the agent, establishing terms and conditions that ensure the execution of the job in a manner that will facilitate the achievement of the specified objectives (Leruth & Paul,

2007). The study has developed five research objectives to understand the implementation of public infrastructure projects in an international context.

2.4 THE GLOBAL STATE OF ROADS, WATER AND SPORT INFRASTRUCTURE PROJECTS

According to Johnson, Adelekan, Bosher, Jabeen, Kataria and Marome (2013), the construction industry employs multidisciplinary professionals and skilled labour services such as land surveyors, urban planners and environmentalists, geologists, architects, engineers, quantity surveyors, project managers, masons, steel fabricators, painters, and so on in the development of infrastructure. According to Jadid (2009), the competency of these professionals and skilled manpower, whether consultants, clients' employees, or service providers, is obvious, distinct, and necessary to ensure the achievement of project objectives—cost, time, and quality. The study emphasises the importance of considering value for money when implementing public infrastructure projects. Furthermore, social and economic public infrastructure projects contribute to industrial development, increase the stock of national fixed capital investment, and create job opportunities. However, the government remains the primary client, financier, and promoter of public infrastructure in developing countries such as Nigeria and South Africa through ambitious spending (Khan, 2008). Furthermore, a number of reports (Stewart, 2010; Oladinrin, Ogunsemi & Aje, 2012; Olaoye, 2016; Fasoranti, 2016) confirmed the performance trajectory of the construction sector's GDP share contribution of 3.8% (in 1960), 4.22% (in 1965), 4.38% (in 1970), 5.70% (in 1975), and a massive 10% (in 1979) before declining to an average of 4% in the late 1980s and 1990s.

According to Anyanwu (2012), the decline can be attributed to shocks in government revenue, political instability during military eras, corruption in public institutions, miscalculations in public economic policy, and deficits in public infrastructure spending. Public infrastructure investment is a critical driver of rapid and sustained economic growth. The presence of adequate public infrastructure will be required for societal modernisation and commercialisation, as well as the achievement of income surpluses for capital accumulation. It can serve as a foundation for expanding local industries and markets for their outputs. Many studies have discovered a positive relationship between economic development (as measured by per capita income and

other indicators) (Human Development Report of India, 2011). There is an inextricable link between public infrastructure and development. Public infrastructure investment has a direct impact on economic development. Infrastructure investment has a direct impact on economic development. As a result, the only way to increase a country's productive potential and raise per capita income is to expand its capacity for producing goods, which can include roads and water infrastructure, all of which can contribute to increased productivity and higher living standards. Countries with poor infrastructure typically have lower per capita income, a higher proportion of primary industry, and lower population density. Regions with a high level of public infrastructure typically have a higher per capita income, a lower proportion of the primary sector, and a higher population density. In regions that have good basic facilities such as roads and transportation infrastructure, water and sanitation, it will attract more investments, particularly from small and marginal entrepreneurs who are starting their business activities. Good transportation and the availability of skilled labour have always had negative and positive effects on production costs and profit levels. Inadequate public infrastructure and services became a burden for infrastructure providers, resulting in low output efficiency (Srinivasu & Srinivasa Rao, 2013).

The World Bank's World Development Report (1994), titled "Infrastructure for Development," correctly states that "the adequacy of public infrastructure helps determine one country's success and failure in diversifying production, expanding trade, coping with population growth, reducing poverty, or improving environmental conditions." Social and economic infrastructure can both facilitate and accelerate socioeconomic development. People widely acknowledge that productivity and growth require an adequate supply of public infrastructure services. Furthermore, public infrastructure could allow the circulation of money in different regions. Therefore, this is where financial viability comes into play. Nonetheless, if these facilities and services are not available in a particular country, development will be difficult, and the economy's production activities will suffer. The pursuit of greater well-being for citizens of countries in the days of globalisation necessitates efficiency, productivity, and growth across all economic sectors. Efficient public infrastructure, such as roads, is necessary for rapid growth. Without them, either economic production or quality of life suffer. This type of infrastructure activity could thus be viewed as an essential input to the economic system. In this regard, adequate and efficient public infrastructure is

critical due to its impact on the economy's efficiency and growth and, in turn, the welfare of society. Public infrastructure has a direct relationship with the environment, health, poverty, equity, and general quality of life, in addition to growth. The higher income and advanced infrastructure of developed countries attest to this relationship. In view of all this, Hirschman (1958) emphasised that “let us build roads, water infrastructure, and sports facilities; the rest will follow automatically.” It can therefore be argued that this is a clear admission that public infrastructure has the potential to attract various forms of investment in a country or region. Furthermore, in regions such as China and parts of Latin America, where the lack of transport facilities is a significant barrier to economic progress, investing in public infrastructure could potentially be the most effective way to initiate development. If sufficient capital is available for investment in various sectors of the economy, the normal multiplier effect will naturally lead to further development.

Taking this into account, South Africa is expected to lead in the execution of the municipal infrastructure programme. According to the Constitution of the Republic of South Africa (1996), municipalities are required to provide efficient and sustainable municipal services, and infrastructure is one of them. The same Constitution further encourages municipalities to promote social and economic development. Consistent with that, the study highlights that infrastructure projects and facilities have the potential to facilitate socio-economic development in many parts of communities across the country. Investment in infrastructure projects, such as tarred roads, has the potential to stimulate economic growth through increased transportation of goods and people. The Local Government Municipal Systems Act (Act 32 of 2000) mandates municipalities to compile, approve, and review Integrated Development Plans (IDP) to fulfill their integrated planning mandate. A municipal IDP must be vocal about the Spatial Development Framework (SDF) in order to impact the infrastructure projects set therein. A municipal SDF must work towards creating a link between policies and plans, as they are spatially relevant for the municipal territory. The idea is therefore to better align infrastructure planning with spatial planning in order to achieve more sustainable human settlements. It is crucial to establish a link between infrastructure planning and spatial planning as soon as possible, as this will enable the prioritization of infrastructure projects based on their potential to foster socio-economic

development. The planning of future infrastructure projects should not be underestimated, especially tangible infrastructure such as roads, which can have a multiplier impact on the socio-economic development of communities (Todes, 2008). SSA suffers from a severe infrastructure shortage. The COVID-19 outbreak has exacerbated the lack of critical infrastructure in SSA (Kato, 2021; Arimoro, 2022). In SSA, there are serious shortages in nearly all essential sectors, including transportation and water (Kodongo & Ojah, 2016). The SSA needs more infrastructure worth \$93 billion a year (World Bank, 2017). There is no denying that Africa has a vast public infrastructure gap (Goodfellow, 2020). The issue for Africa and SSA goes beyond a lack of vital public infrastructure like roads and water. There is the issue of inadequate upkeep and investment (Collier & Cust, 2015). In terms of coverage of important public infrastructure classes, including roads and water infrastructure, SSA countries trail behind the rest of the globe (Lakmeeharan, Manji, Nyairo, & Poeltner, 2020). The SSA sub-region, home to nearly one-seventh of the world's population, ranks last among all emerging regions in terms of public infrastructure stock (Calderón, Cant & Chuhan-Pole, 2018).

The infrastructure deficit in SSA countries, compared to global peers, exacerbates the challenge (Goodfellow, 2020). The argument posits that the limited public infrastructure in SSA countries negatively impacts the quality of life in these countries, without implying that the sub-region lacks public infrastructure facilities (Nyikos & Ermasova, 2021). Additionally, the COVID-19 pandemic's arrival and the financial burden it places on SSA nations' governments make cooperation between the public and commercial sectors imperative (Anago, 2021). Total economic growth will remain a distant dream as long as the countries in the SSA region suffer from poor public infrastructure. Decision-makers in government institutions have correctly argued that they should view the shortage of public infrastructure assets as an opportunity to collaborate with the private sector on effective asset procurement and maintenance (Arimoro, 2022). On the other side, due to a lack of compelling public infrastructure projects, the private sector will continue to be uninterested in initiatives that are more politically motivated than those that would positively affect the economy and provide reliable returns on investment (Arimoro, 2017).

2.5 THE CAUSES OF ABANDONING THE CONSTRUCTION OF ROADS, WATER AND SPORT INFRASTRUCTURE GLOBALLY

A cost overrun, also known as a cost increase, underrated cost, or budget overrun, refers to unplanned costs incurred in excess of budgeted amounts due to an underestimation of the actual cost during budgeting. Most projects cite design errors, scope changes, inappropriate procurement processes, project nature, and the post-execution phase as reasons for cost overruns. Aibinu and Jagboro (2002) stated factors that cause delays in infrastructure projects. The findings suggest that cash flow problems, shortages of construction materials, clients' financial challenges, inadequate consultant experience, and incompetent project personnel are some of the causes of delays in infrastructure projects. These two scholars further highlighted the impact of delays and their consequential effect on project completion (Aibinu & Jagboro, 2002).

To a certain extent, fastening project delivery can inadvertently increase the costs of the infrastructure project in some cases. It is still necessary to put measures in place to ensure that the project is completed as planned. On the other hand, the Joint Building Contracts Committee (JBCC) provisions outline contractual periods, defect liabilities, construction guarantees, and penalties, among other critical issues. As a result, the introduction of such control measures can guarantee speedy delivery, improved output, and compliance with contractual terms (Maritz & Hattingh, 2015). Additionally, public sector-ranked scope changes, payment delays by the municipalities, poor monitoring measures, cost of capital, political, and labour issues are among the causes of infrastructure project delays (Alinaitwe, Apolot & Tindiwensi, 2013).

Traditionally, most construction projects fail to meet their objectives due to deficiencies in the implementation processes, which eventually lead to contractor and client dissatisfaction (Ika, 2012). These projects are frequently plagued by delays and cost overruns, posing numerous challenges to their completion (Aibinu & Jagboro, 2002; Ika, 2012). Projects should ideally run continuously and without interruption (Aibinu & Jagboro, 2002). Nonetheless, construction delays are one of the most significant challenges confronting the global construction industry (Aibinu & Jagboro, 2002; Ika, 2012). To date, the industry has seen a number of major projects fail to meet project deadlines due to delays in construction projects (Ika, 2012). Delays in construction

projects reduce economic activity (Global Construction, 2015). Additionally, delays reduce employment opportunities (Hart, 1973) and can discourage foreign investors (Onyeiwu & Shrestha, 2004; Neary, 2009), implying that a delayed project will always have negative consequences for the contract's final outcome. Furthermore, the characteristics of delay factors and their level of impact are dependent on the type and time frame (which can range from a few days to years) of projects (Koushki, Al-Rashid & Kartam, 2005). In general, construction delays are attributed to project mismanagement, which could have been avoided if an efficient method of analysing the associated consequences had been implemented (Ika, 2009, 2012).

However, prior research has shown that, despite the adoption of various project management practices, construction projects in most countries, particularly in low- and middle-income countries, are still plagued by project delays (Africa & Sachs, 2016). Furthermore, the impact of construction delays and poor implementation affects the entire economy of the countries involved, not just the construction industry and governments of various countries (Teo & Loosemore, 2001). The following are other public infrastructure-related causes of delay attributed to the owner of project. Delay in honouring payment progressively, delay in the provision or delivery of the project site, slow decision-making process, errors in design and specifications, poor communication and coordination with contracting parties, conflicts between project joint-owners, indefinite suspension of work by owner and lastly, lack of complete documentation before the commencement of the project (Fashina, Omar, Sheikh & Fakunle, 2021).

Conversely, researchers have pinpointed delays that the contractor (agent) is responsible for. The following factors also contribute to the poor implementation of projects. Challenges in project financing, a lack of skilled personnel, mistakes during project implementation, inadequate planning and preparation, poor site management and coordination, delays in sub-contractors, underestimation or overestimation of the project cost, disagreements between the contractor and other project stakeholders, and regular changes in the sub-contractor's technical staff. To gain a comprehensive understanding of the causes of project delays and poor implementation, several studies have identified the following external factors, among others, that impede the successful execution of public infrastructure projects: unfavourable site conditions, changes in weather conditions, the occurrence of misfortunes during project

implementation, and changes in government policies, regulations, and laws (Fashina, Omar, Sheikh & Fakunle, 2021).

Globally, poor governance and management of public infrastructure projects continue to be a major issue. The level of corruption, institutional capacity restrictions relating to proper skills and personnel, and a lack of openness are all key concerns, as are government officials who are not accountable, their inability to comply with regulations, and their failure to prioritise community needs. The political and budgeting procedures, as well as the budgeting processes themselves, present significant challenges. Additionally, challenges arise within the administrative aspects of the public sector. Consequently, aspects of this nature have a significant impact on how the public sector operates (Phatudi, 2015). The capital markets in SSA, with the exception of South Africa, are mostly underdeveloped (Pottas, 2021). Although there have been some notable gains in countries like Nigeria, Kenya, and Ghana, it is still imperative to diversify the sources of finance for public infrastructure. The COVID-19 has had a significant negative influence on the African economy (Anago, 2021). Presently, the outlook is not very promising. Public infrastructure finance will require a large contribution from the private sector (Eyraud, Pattillo, & Selassie, 2021). The World Bank reports that investments in public infrastructure with private sector participation in SSA countries fell from \$15 billion in 2012 to \$5 billion in 2019. Generally, the private sector in Africa is not heavily involved in providing finance for the delivery of public infrastructure (Eyraud, Pattillo & Selassie, 2021). This means that government institutions in Africa are responsible for funding public infrastructure projects.

2.6 THE IMPACT OF CONSTRUCTING ROADS, WATER AND SPORT INFRASTRUCTURE ON MUNICIPAL FINANCIAL VIABILITY

The significance of public infrastructure extends far beyond its impact on economic growth. It improves the nation's economic output, production, and distribution, as well as its citizens' overall quality of life. It is frequently stated that public infrastructure is, if not the engine, then the wheel of economic growth. This is one aspect of the public infrastructure narrative. The other component is that public infrastructure spreads the benefits of growth, making the development process more inclusive. Lack of such infrastructure facilities is regarded as a major structural weakness that leads to underutilisation of existing productive capacity and constraints, which can have a

negative impact on profits and production levels. Poor and insufficient public infrastructure causes the country to lag behind. Challenges of this nature could also have an impact on the country's financial viability. In the sense that insufficient and inadequate public infrastructure could lead to low revenue generation (Srinivasu & Srinivasa, 2013). In a chain of cumulative causation, physical infrastructure makes a positive contribution to economic growth and development by increasing investment, employment, output, and income. Flowing from this view, agglomeration economies develop over time, leading to further concentration of economic activities in a specific country, location, or region. Productivity and pricing improvements would allow for more effective service delivery in response to demand. They would also boost the economy's growth and competitiveness. They would also allow for much greater mobilisation of resources for needed new investment by increasing revenues and establishing policies that encourage the inflow of new investment resources.

The fundamental gap in African public infrastructure development is a significant impediment to growth and poverty alleviation. Public infrastructure investment stimulates private sector activity by lowering production costs, opening new markets, and presenting new production and trade opportunities. As a result, Africa must invest in public infrastructure development (Bwanali, 2015). According to the African Union Commission and the New Partnership for Africa's Development Agency (2011), the link between the economy and public infrastructure is critical as a stimulant to inclusive growth and long-term development.

Many emerging economies and most low-income countries, according to Bhattacharya, Romani, and Stern (2012), require significant public infrastructure investment to alleviate growth constraints, respond to urbanisation pressures, and meet critical development, inclusive growth, and sustainability goals. To stimulate economic growth, strategic infrastructure such as roads, sports and water facilities must be built. Africa requires massive financial investments to close the region's infrastructure gap and bring it up to speed with the rest of the developing world. As a result, African countries must embark on infrastructure sector reforms and innovation in order to generate more resources for the sector, as traditional sources of finance will not be sufficient (Ondiege, Moyo & Chouchane, 2013).

Landlocked African countries (Lesotho, Zambia, Zimbabwe, Ethiopia, and others) face unique challenges due to a lack of multimodal infrastructure. Because of a lack of multimodal infrastructure that can accommodate their specific needs, the continent's 15 landlocked countries face challenges in transporting their goods to markets and bringing in imports. Therefore, the importance of an infrastructure network that connects producers to markets via an interconnected platform that includes feeder roads and national roads in connecting markets, particularly in landlocked countries, cannot be overstated (Ondiege *et al.*, 2013). This is where the issue of poor financial viability comes in, which could emanate from a lack of road infrastructure.

Proper planning is one of the most important aspects of infrastructure projects. Infrastructure projects are often prolonged, and in most cases, the private sector is believed to be more efficient in delivering infrastructure projects. In line with Baloyi and Bekker (2011) on the significance of proper planning, Mathenge (2012) on the relevance of professional input, and Khang and Moe (2008) on how important it is to have capable planners. Albinu and Jagboro (2002) deliberated on the inevitable costs caused by delays and the effect thereof on the delivery of the project and the community, which is the end-user of the infrastructure. While financial viability remains critical in the daily operation of municipalities across the globe, so does financial sustainability, particularly during the implementation of public infrastructure projects. A successful infrastructure project depends on how municipalities distribute and sustain their financial resources in the phase of working on infrastructure projects (Phatudi, 2015).

In other words, the inability to manage municipal finances will have a negative impact on the overall public infrastructure project. Be it a road or water infrastructure project. Hence, citizens, members of various political parties, and public officials often come across abandoned and incomplete infrastructure projects due to a lack of sound financial management and strict consequence management strategies in place. The result implies that, despite massive government investments, appropriated capital expenditure through budget could not support improvements in public infrastructure provision and help to increase quality of life and the economy (Emerenini & Okezie, 2014). While public infrastructure provision through the construction sector in Nigeria is a major job creator (NBS, 2014), the data show (Knoema Incorporation, 2019) that Nigeria's GDP per capita is slowly increasing at an annual rate. As a result,

unemployment (UNEPr) and GDP per capita are socioeconomic drivers of infrastructure development.

2.7 CHALLENGES HINDERING THE SUCCESSFUL IMPLEMENTATION OF PUBLIC INFRASTRUCTURE PROJECTS

Sub-Saharan Africa (SSA) must act quickly to close the infrastructure deficit in the region, given that the Sustainable Development Goals (SDGs) of the United Nations Agenda 2030 are due in less than eight years. There is no denying the area's outstanding potential (Berg, Blankespoor, & Selod, 2018). However, if recovery is taken into account, there is still a lot of room for improvement given the effects of the Coronavirus (COVID-19) pandemic on the world economy in the previous two years (Anago, 2021). According to conventional public financing for infrastructure, the public authority is required to pay for all of the state's public infrastructure requirements (Spohr, Wikströma, & Eriksson, 2022; OECD, 2015). Additionally, budgetary restrictions and competing demands for public funding make it challenging for governments worldwide to fully support all infrastructure procurement, given the significant capital outlay required for funding infrastructure projects (Arimoro, 2018). It follows that if nations are to close their infrastructure gap, alternative sources of finance for infrastructure are essential.

Given that the SSA region lags behind other parts of the world in terms of the infrastructure deficit, policymakers must address this issue (Arimoro, 2021). India is a wonderful example of how to encourage private sector financing for public infrastructure by employing infrastructure mutual funds (Gnanasekar & Malini, 2015). For instance, a recent study demonstrates that African countries benefit more if the continent can use specific organisations and finances to develop public infrastructure procurement expertise (Lisinge, 2020). Worldwide, mutual funds draw inexperienced investors (Moreno & Rodriguez, 2013). Given that the majority of people in most SSA nations are categorised as having low incomes (The World Bank, 2020). Public infrastructure has not yet achieved the status of a viable asset class for financial institutions, as has been emphasised, and correctly so, in terms of availability of financing for that sector (The Word Bank, 2021). This problem indicates that if the funding gap for public infrastructure in the sub-region is to be closed, unleashing infrastructure finance, especially in developing regions like SSA, is essential. The

region's undeveloped financial market and inability to finance long-term public infrastructure projects are just two of the difficulties encountered when financing public infrastructure projects. Due to specific cost risks, public infrastructure procurement makes foreign direct investment in public infrastructure procurement in Africa unappealing (Kuru & Artan, 2020). Furthermore, there is constant scepticism regarding the authenticity of the regional administrations and the support systems they offer. The purpose of SSA is to encourage governments to collaborate with other industrialized nations, such as Germany, Japan, Sweden, and the Netherlands. However, Azolibe & Okonkwo (2020) suggest that the top ten countries in terms of public infrastructure ranking could potentially address the infrastructure gap. Respectfully, this is not possible. The solutions to the infrastructural issues in SSA must come from SSA if the nations there want to make a difference. (Lee, 2017). A is for the governments to collaborate with other developed nations like Germany, Japan, Sweden, and the Netherlands. However, Azolibe & Okonkwo (2020) suggest that the top 10 countries in terms of infrastructure ranking could potentially bridge the infrastructure gap. If SSA nations must be strategic like other sub-regional blocs if they are to close their public infrastructure gap. For instance, Europe has called for the promotion and development of sustainable market environments for infrastructure financing (Paterson-Jones, 2019).

Opportunities for revenue generation are often restricted by inadequate regulatory frameworks or disadvantageous political structures. Local government spending often creates budgetary shortfalls and economic stagnation (United Nations Human Settlements Programme, 2015). One of the priorities of the South African government in its development strategy is infrastructure development. The National Development Plan (NDP) outlines, amongst other core challenges, public infrastructure projects that are poorly financed and managed. Arguably, public infrastructure projects increase the exposure of investments. In comparison to projects in other sectors, infrastructure projects are more vulnerable to political and regulatory interference. This clearly increases the inherent regulatory risk that such investments may face (Sheppard, Stephan & Kumar, 2006). In order for Africa to raise the necessary finance for its much-needed infrastructure, it must improve its capacity to finance public infrastructure, and manage the specific risks associated with public infrastructure investments (Bwanali, 2015). Subsequently, failure to manage and complete infrastructure projects on time,

budgetary overruns, and poor quality of work create a negative perception. Additionally, such challenges also have a negative impact on budgetary allocations provided to public institutions. Consequently, public institutions have to spend more resources to rectify and mitigate unnecessary operational issues and manage risks that ought to have been avoided by proper planning (National Planning Commission, 2013). Infrastructure projects must be properly monitored and managed, as they have an impact on the budget allocations of municipalities and provincial governments (Khumalo, Choga & Munapo, 2017).

Proper planning, accompanied by effective monitoring and evaluation measures, is important when dealing with infrastructure projects. The above measures help save financial resources in public institutions. Infrastructure projects face another challenge in the form of payment delays. Payments for projects or services performed for government departments require approval or authorization from higher provincial offices. This is usually time-consuming and often results in payment delays. If the service provider happens to be a private company, then the private company normally charges some interest on the delayed payments. The government's provincial budget typically accounts for these delays in its allocation process. There is a lack of monitoring and checking systems. The government is a public entity, which means there is no strict ownership of whatever processes take place there. This allows for corruption, or the diversion of resources to private use, to easily occur. Corruption and diversion of resources are avoidable, and these are unnecessary costs to the government and affect the provincial budget (Khumalo, Choga & Munapo, 2017).

Pawole, Jagboro, Babatunde and Opawole (2013), in their research study, which took place in Osun State, South Western Nigeria, discovered that policy and financing issues are factors affecting infrastructure projects. The scholars found that political interference in the budget process is a major challenge that needs attention. They also noticed that, at times, budgeting for infrastructure projects does not allow for the recruitment of skilled and competent personnel, such as engineers and quantity surveyors. Rural areas typically build infrastructure projects to assist the local community in gaining access to resources, solving rural problems, and positively changing the general rural environment, while also assisting communities in achieving a variety of goals and objectives. However, the absence of these projects poses serious socioeconomic problems for local communities, such as a devastating impact

on living standards, a negative impact on quality of life, increased spending on healthcare and education, lower economic growth, and increased unemployment (Agarwal, Rahman & Errington, 2009). The significance of public infrastructure projects in the life of a community necessitated taking the necessary action for community development in rural areas. Rural infrastructure has recently gained popularity in the public domain in order to make long-term public infrastructure projects more sustainable.

Apart from the previously identified challenges, public infrastructure projects face inherent challenges, particularly in developing countries such as South Africa. These challenges may be the primary reason for the lack of progress in successfully implementing infrastructure projects in most African countries. Common challenges identified include a lack of clear policy statements, a lack of public sector capacity, an inadequate enabling environment in terms of legal, regulatory, and institutional frameworks, and the high costs and risks of project development faced by the contractors. These challenges affect both the government and the private sector, affecting the implementation and completion of effective public infrastructure projects (Bwanali & Rwelamila, 2017). The success of a public infrastructure project necessitates formal support in the form of a clear policy statement outlining the government's strategy for the development of infrastructure. The absence of a clear policy statement implies uncertainty and ambiguity, and projects may fail as a result. Governments must develop explicit public infrastructure policies (Commonwealth Secretariat, 2010).

Furthermore, a lack of appropriate skills and experience in public infrastructure projects can lead to delays, inefficiencies, and, in some cases, infrastructure failure. Poor project development skills in the public sector can result in the preparation of unbankable projects, a problem in many countries where the project design and structure are unappealing to private investors. Some countries have established public infrastructure units to provide governments with expert advice and support on infrastructure projects in order to capacitate the public sector on such projects (Bwanali & Rwelamila, 2017). The participation of the private sector in public infrastructure projects necessitates the establishment of an enabling legal, regulatory, and institutional framework to guide and support transactions. Many countries lack infrastructure legislation or a regulator to monitor performance and ensure compliance

(Commonwealth Secretariat, 2010). Despite progress, unfortunately, public infrastructure laws are often stronger on paper than in practice (The Economist Intelligence Unit Limited, 2015).

2.8 SOCIO-ECONOMIC OPPORTUNITIES FOR SUCCESSFUL IMPLEMENTATION OF PUBLIC INFRASTRUCTURE PROJECTS GLOBALLY

Public infrastructure remains essential for the social and economic development of communities. Territories without public infrastructure are associated with poverty (Smith & da Lomba, 2008). Typically, developing countries build public infrastructure projects in rural areas to facilitate access to resources, address rural issues, and enhance the overall rural environment (Wahid, Ahmad, Abu Talib, Shah, Tahir, Jan & Saleem, 2016). These projects also aid communities in accomplishing a range of goals and objectives (Tan, Hou & Zhang, 2020; Sinakou, Pauw, Goossens & Van Petegem, 2018). However, the absence of these projects poses serious socio-economic problems for local communities, such as a devastating impact on living standards, a negative impact on quality of life, and increased spending on healthcare and education (Hussain, FangWei, Ali & Xu, 2017). These negative consequences extend to lower economic growth and increased unemployment (Agarwal, Rahman & Errington, 2009).

The significance of public infrastructure projects in the life of a community necessitated taking the necessary action for community development in developing countries such as South Africa (Sinakou, Pauw, Goossens & Van Petegem, 2018; Hussain, Wang, Maqbool, Hussain & Shahnawaz, 2022). Recently, rural infrastructure in various countries has gained popularity in the public domain in order to make public infrastructure projects in rural areas that directly support community development sustainable. When it comes to building development projects to strengthen sustainable societies in the rural areas of developing countries, the concept of sustainability encompasses many aspects (Maqbool & Rashid, 2017). One of the fundamental socio-economic elements is the influence of public infrastructure on sustainable rural development. This includes the facilitation of regional economic development through the provision of transportation infrastructure between territories, which can also aid in reducing societal differences (Li, 2014). Public infrastructure projects have the ability to influence many features of societal and economic activities (Dudzińska, Baciór & Prus, 2018). These are, but are not limited to, better quality of life, gross domestic

growth, quality education, employment, poverty alleviation, education, and better healthcare facilities worldwide (Marten & Carvalho, 2017; Maqbool, Rashid & Ashfaq 2022). In the modern era, socio-economic dimensions hold the potential to define community development, especially in developing countries, and their influence has been associated with local development worldwide (Tian & Wang, 2019). Several approaches to measuring the sustainability of public infrastructure projects have been proposed over the last decade (Zhang, Wu & Skitmore, M.; Jiang-Gilbert Silvius, Kampinga, Paniagua & Mooi, 2017; Zhang, Wu, Skitmore & Jiang, 2015) directing significant community development. Socio-economic enhancement standards and objectives can measure both the long-term and short-term sustainability of public infrastructure projects. The standards are needed for a medium that must be satisfied to achieve the standards of sustainability and community development (Sierra, Pellicer & Yepes, 2017). The public construction industry in Pakistan is considered a dynamic sector due to its volatile market situation (Maqbool & Rashid, 2017). This sector's growth and progress have been found to be remarkable when compared to others.

In Pakistan, rural infrastructure is still in the initial stages of the adoption of sustainability and community development. Infrastructure projects and their impact on community development continue to be a major national issue that has gone unexplored. Public infrastructure projects have a coercive effect on the development of rural areas all over the world (Ahmad & Abu Talib, 2016). Roads and water supply infrastructure in rural areas help facilitate growth and fulfil basic requirements and useful activities (Shen, Asce, Lu, Peng & Jiang, 2011). More investment often correlates with improved rural development. Some have leaped, stating that rural areas would be suitable for rapid socio-economic growth if only they had better competitive public infrastructure accessible from several urban regions (Fox & Porca, 2001). It is expected that better water infrastructure in rural areas will improve economic conditions and quality of life, thereby assisting in poverty alleviation (Hussain, FangWei, Ali & Xu, 2017; Yilmaz, Dasdemir, Atmis & Lise, 2010; Ahmad & Talib, 2014). Public infrastructure projects help improve future generations' sustainability performance by improving the general socio-economic conditions of rural residents in various countries. It is also believed that rural public infrastructure projects can generate more local job openings and that the economic base of the indigenous communities can be supported (Aarseth, Ahola, Aaltonen, Økland &

Andersen, 2017). Fan, Hazell and Thorat (2000) discovered that rural public infrastructure and rural development are linked to reducing rural poverty and raising living standards through increased agricultural productivity, job opportunities, and non-farm employment. Rural public infrastructure is thought to be built to help various economic, social, and environmental goals. A survey conducted in China's rural areas by Shen, Asce, Lu, Peng and Jiang (2011) revealed that in developing countries such as South Africa, rural public infrastructure plays an important role in poverty alleviation, community development, and agricultural growth. Furthermore, Cook (2011) conducted a literature review on the role and relationship of public infrastructure and rural development on economic growth and social development. Pavlovskaia (2013) found that achieving a sustainability standard requires the fulfillment of necessary measures and interference conditions. Sustainability must begin at the local public level in every developing country, where the residents' needs, benefits, and desires in relation to socio-economic development must be examined and met.

National investment policies in public infrastructure projects and development plans are essential for community development and will continue to play a significant role in economic development, social welfare, and the prudent use of available natural resources (Gilbert Silvius, Kampinga, Paniagua & Mooi, 2017; Mahdei, Pouya, Taheri, Azadi & Van Passel, 2015). According to Krajangsri and Pongpeng (2022), the use of sustainability in public infrastructure projects can help achieve development goals. Asomani-Boateng, Fricano and Adarkwa (2015) found that sustainable public infrastructure can be used as a local growth mechanism to boost a country's community development, and it has become an important component in rural countries' achievement of development goals (Maqbool & Amaechi, 2022). Socio-economic development measures, conditions, and goals determine the short- and long-term community development of the public infrastructure project, with the socio-economic status of local residents serving as the most powerful predictor of community development (Maqbool & Amaechi, 2022).

Socio-economic factors are critical to enhancing community development. Various countries around the world have been focusing on public infrastructure sustainability because it has the potential to improve community development in any region. Productivity, development, accessibility, growth, and sharing are examples of socio-economic factors that support community development (Basiago, 1999). Additionally,

public infrastructure projects promote economic well-being, provide social benefits, and make societies more accessible and convenient. Any country's construction sector represents a vital and strategic sector of the economy. A joint World Bank and International Monetary Fund (IMF) report (2014) emphasised the importance of public infrastructure to national sustainability, equitable growth, and welfare. Infrastructure development, provision, and investment, particularly in all types of public infrastructure such as roads, sports facilities, and water, is undertaken by the building and construction industry (BCI) sector in any economy (Ojo & Awodele, 2013). This is reflected in the nation's gross fixed capital formation, which accounts for approximately 35% of Nigeria's GDP (Economic Recovering and Growth Plan, 2017). Furthermore, the BCI sector creates a large number of job opportunities and stimulates other productive activities in virtually every other sector of the national economy.

In line with this view, the economic contribution trajectory of public infrastructure development and investment through the Nigerian BCI sector accounted for 5.8% GDP growth in 1981, 7.3% GDP in 1986, and 7.2% GDP in 1998, but declined to 2.34% GDP, 1.43% GDP, and only 3.1% GDP in 2001, 2012, and 2013, respectively (National Bureau of Statistics, 2014; Central Bank of Nigeria, 2015). Under the right conditions, the sector was expected to contribute more than 15% growth to the nation's GDP by 2020 (CBN, 2015), with a high reliance on human capital, standardisation of regulations, and public investments. As a result, public capital spending and other macroeconomic factors are critical to the development of sustainable and equitable public infrastructure (provision and investment). This highlights the government's purchase and investment in public infrastructure as provided in annual budgetary appropriations (Olaoye, 2016).

According to Iyortyer (2017), the government appears to be the primary provider of public infrastructure projects, particularly in the developing world, via a responsive construction industry sector as an economic agent. According to the Federal Ministry of Finance (2017), total budgetary capital expenditure in Nigeria between 2000 and 2016 amounted to N6.02 trillion, with the highest capital spending of N1.12 trillion in 2013 and the lowest amount of N643 billion in 2016. Unfortunately, the result of capital spending ranked public infrastructure in deficit, with repairs estimated to cost more than \$3 trillion, or N915 trillion, over the next 30 years (Nigerian National Infrastructure Master Plan, NIMP, 2013), the poverty rate (56.38%), unemployment (15.49%),

inflation (15%), and the increased cost of industrial production (NBS, 2017). In addition, there is a housing deficit of over 17 million people, a poor road network due to a lack of road infrastructure, and a general slow pace of public infrastructure development (Sanusi, 2010). These appalling statistics come on the heels of alarming national foreign and domestic loan facilities, which, according to Ojo (2010), were intended for public infrastructure development but have been disappointing. Public infrastructure failure undermines economic growth, impedes improved welfare, and impedes the achievement of the Millennium Development Goals (MDGs) in Nigeria (Calderon & Serven, 2010). These scenarios have resulted in a fascinating yet revealing divergence of opinions in public economics discourse. Emerenini and Okezie (2014) established that the reduction in total government expenditure (and, by extension, public infrastructure development) has had a negative impact on Nigerian economic growth.

A number of other studies (Ogun, 2010; Ojeifo and Ojeifo, 2012; Edame, 2012; Edeme, 2018) have examined public infrastructure development's relationship with the general economy and societal development, as well as the contributions of public infrastructure provision in Nigeria. It is therefore worth noting that the successful implementation of public infrastructure projects in every nation is significant. In the sense that increased infrastructure investment leads to a significant increase in aggregate welfare and plays critical roles in any economy's social, economic, and technological development, particularly in developing countries like South Africa and Nigeria (Gibson & Rioja, 2017). To further emphasise the role of public infrastructure projects in socio-economic development, this study finds it relevant to contextualise the views of Adolph Wagner on public infrastructure projects. This theory appears to explain the relationship between the advancements of an industrialising economy and the concurrent growth of the public sector and government by using public spending as an endogenous factor that is determined by the growth of national income.

In addition, Keynes' general theory of employment, interest, and money states that "efficient government participation and interventions in the economy influence macroeconomic growth variables in the long run." This emphasised that increasing government spending will create more jobs and increase a nation's spending pattern. Wagner's and Keynes' theories, when combined, emphasise the optimistic roles of government participation in the overall socio-economic development of society

through interventions such as public infrastructure development (provision and investment), with the resulting effects on public capital expenditure, employment, interest rate, and price stability (Akinyoade, 2013; Punch, 1998). According to Olaoye (2016), in addition to public capital spending, other socio-economic issues are associated with the provision of public infrastructure.

It is also cliché to mention that public infrastructure is a catalyst for long-term economic growth (Ojo, 2020). Systems that fulfil the fundamental service demands of citizens constitute sustainable infrastructure (Bradlow, 2015). SSA countries must address critical issues that directly affect individuals' quality of life. Priority should be given to important areas like roads, transportation, and water infrastructure. The countries in the sub-region must strategically accomplish the Sustainable Development Goals (SDGs) while concentrating on Agenda 2030. Without establishing priorities, undertaking multiple tasks simultaneously can lead to a reduction in effectiveness. Arguably, investment in public infrastructure projects could also assist in achieving the SDGs. Public infrastructure possesses the capacity to stimulate socio-economic activities across various nations. Therefore, injecting money into the SDGs will mean that there should be sufficient financial resources (Arimoro & Elgujja, 2019; Cirolia, 2020).

On the other hand, the SSA transportation industry faces significant challenges. Modern transportation is said to be a necessary component of economic growth since it permits the movement of people, supplies, and goods while also allowing citizens to access critical facilities and services (Schwela & Haq, 2013). Road transportation is in bad condition in all SSA nations besides South Africa (Arimoro, 2018). Once more, the SSA countries' poor road infrastructure has been a significant contributor to the high number of traffic accidents (Jones, Walsh & Appiah-Opoku, 2016). The poor condition of roads in rural areas impacts the cost of transporting raw materials to towns and cities. It is for these reasons that the study finds it appropriate to mention that road infrastructure is also essential for socio-economic development.

2.9 CHAPTER SUMMARY

The purpose of this chapter was to present the Principal-Agency theory that was employed to understand the framework of ideas. The theory was also used to understand the meaning of Principal-Agency relationship during the implementation of roads, water and sport infrastructure projects. The chapter also wanted to discuss and understand the causes of abandoning the construction of roads, water and sport infrastructure, the state and quality of constructing infrastructure projects, the impact of constructing roads, water and sport infrastructure on municipal financial viability, challenges confronting the local government sphere during project infrastructure implementation, and the socio-economic benefits of constructing and having roads, water and sport infrastructure in the communities. However, the chapter was selective in pursuit of writing a literature review in the sense that it only used global or international secondary information to present empirical literature. The next chapter will discuss the causes of abandoning the construction of roads, water and sport infrastructure, the state and quality of constructing infrastructure projects, the impact of constructing roads, water and sport infrastructure on municipal financial viability, challenges confronting the local government sphere during infrastructure implementation, and lastly, the socio-economic benefits of constructing and having roads, water and sport infrastructure. The chapter will specifically use South African empirical literature.

CHAPTER THREE: ROADS, WATER AND SPORT INFRASTRUCTURE PROJECTS IN SOUTH AFRICA

3.1 INTRODUCTION

The previous chapter successfully discussed and unpacked the theoretical framework (Principal-Agency Theory), which is seen as applicable to the study. This was to provide clarification on how the principal and agents could work during the implementation of roads, water, and sport infrastructure. In the previous chapter, public infrastructure projects was conceptualised. On the other hand, the study has successfully reviewed secondary reading materials from various scholars with a view to providing a detailed understanding of the causes of delays, abandonment, and poor implementation of such projects. The study further delved into the nature of public infrastructure projects, their financial viability, their impact on financial viability, the challenges that impede successful project implementation, and the potential socio-economic opportunities that could arise from successful project implementation. All this was done in a global context. On that note, this section will provide a further review of secondary reading materials using the same objectives, but this time in the context of South Africa.

3.2 THE SOUTH AFRICA'S STATE AND QUALITY OF CONSTRUCTING ROADS, WATER AND SPORT INFRASTRUCTURE PROJECTS

Municipalities around South Africa inherited very limited resources after 1994, according to the evolution of local government and articles 28(1) of schedules 6 and 239 of the South African Constitution of 1996 (as modified). Municipalities rely on certain resources, including immovable infrastructure like roads, sports facilities, and water infrastructure, to deliver services within their boundaries and ensure sustainable social and economic growth (Construction Industry Development Board, 2006). Infrastructure development and management is an integral component of the government's commitment to providing critical services to communities. Unfortunately, the growth side has received a lot of attention, whereas the administration and maintenance components have received very little attention and investment (Mazele & Amoah, 2022).

The South African government uses the Municipal Infrastructure Grant (MIG) program as a tool to fund municipal investments in public infrastructure. This massive effort to guarantee that towns and rural areas create public infrastructure, which will entice private enterprises to participate in the infrastructure, sees billions of rands invested each year. Swilling (2006) agrees and asserts that MIG is the largest source of outside funding for local government. Unlike the national government, where public infrastructure investments are concentrated on items like dams, railways, and national roadways, the MIG is focused on municipal projects like local roads, municipal sports, and water facilities. However, the Auditor General of South Africa (AGSA) (2018) reports numerous instances where municipalities in South Africa fail to allocate the allocated MIG funds.

Municipal infrastructure is greatly developed by thoroughly thought-out MIG projects. For instance, the majority of the roads in rural communities are still unpaved and in poor condition. Such appalling conditions prevent investments from commercial sectors like banking and retail, which may greatly aid in job creation and other local economic development initiatives. Poor public infrastructure has social consequences because it immediately affects people's ability to obtain social and welfare programs like food assistance and social handouts. This is one glaring example of how local government's developmental role in connecting rural areas with urban centres to boost their local economies has failed (Munzhedzi & Phago, 2020). Miller (1997) underlined the crucial role that public infrastructure plays in socio-economic growth and the detrimental effects of poor management on both. Most of the time, it is clear that poorly managed immovable properties (infrastructure) pose a threat to the assurance of long-term socio-economic growth in society.

According to Isaacs (2014), the government uses taxpayer's money to offer services to its citizens, and such services include public infrastructure. In this study, public infrastructure is viewed as another form of investment that municipalities could use to collect revenue. South Africa has announced an infrastructure investment plan for the coming years. This plan, known as the National Infrastructure Plan (NIP), includes 150 projects organised into 18 strategic infrastructure projects (SIPs) (Presidential Infrastructure Coordinating Commission, 2013). The majority of these are long-term social and economic infrastructure projects that will provide services for decades. Planning, designing, building, maintaining, and eventually demolishing structures and

works are all tasks that fall under the purview of the public infrastructure business. The public infrastructure business primarily functions as a service industry, drawing its inputs and outputs from other interconnected economic sectors, often in intricate ways (Selleh, 2009). The majority of the time, governments commission and oversee the delivery of complicated, dangerous, and time-consuming construction projects by national and multinational contractors with a range of cultural backgrounds, political ideologies, linguistic backgrounds, and political systems (Shore & Cross, 2005; Othman, 2013).

UN-Habitat (2011) defines infrastructure as all the components and inputs necessary for South Africa's economy to operate effectively. Economic and social infrastructure are the two subsets of public infrastructure that are affected by bad infrastructure management. Therefore, the latter definition clearly illustrates the unavoidable relationship between public infrastructure and socio-economic development. Among other things, this definition views infrastructure as a fundamental driver of economic growth. Infrastructure possesses the capacity to infuse or draw financial resources into South Africa's economy at the national, provincial, and local government levels. According to UN-Habitat (2011), there are two main categories of infrastructure: hard infrastructure, which includes roads, and soft infrastructure, which includes basic utilities like water supply and sports facilities. In closing, this section has successfully demonstrated the nature of public infrastructure projects and their financial viability in South African municipalities. It can further be stated that in this context, the focus is much on road, water and sports infrastructure projects.

3.3 THE CAUSES OF ABANDONING THE CONSTRUCTION OF ROADS, WATER AND SPORT INFRASTRUCTURE PROJECTS

This section seeks to critically unpack the causes of abandoned public infrastructure projects. The discussion will be demarcated to South African municipalities. Nevertheless, public infrastructure projects in the construction sector commonly face schedule and expense overruns, leading to the widespread dissemination of performance-improving tactics. According to historical experience, several construction projects have encountered significant difficulties that have resulted in delays and rising costs. Moreover, difficulties at the construction site are a significant cause of these issues (Aiyetan & Das, 2022). For instance, Love, Edwards, and Irani

(2008) suggested a model that encourages businesses to embrace cross-organisational learning and collaboration in order to eradicate the threat of design-induced rework in projects. They claim that in order to decrease rework and enhance project performance, businesses should re-evaluate their work practices and methodologies. Rework and defects are not the only significant performance issues in public infrastructure projects, as the majority of South African public infrastructure project indicators (CII) have called for dramatic improvements in terms of quality, client happiness, contractor payment, and profitability (Emuze & Smallwood, 2011). Certain general contractors in the Eastern Cape perceive the scope and frequency of rework in South African construction as average, citing imprecise design information, inadequate supervision, and poor site management as the top three reasons for rework (Emuze & Smallwood, 2011b).

Public infrastructure projects have clearly become a central activity in the majority of public organisations, and they are rapidly increasing their investment resources in projects such as the development of water, roads and sport infrastructure (Humaidi & Said, 2011). However, numerous studies have found that the majority of projects fail to meet time and budget objectives, as well as fail to meet customer and company expectations. Other factors that contribute to project failure include weaknesses in project mission and planning, constrained operating capacity, corruption, poor maintenance, and detrimental environmental effects; a lack of project knowledge; a breakdown in communications; a lack of resources; a political issue; control issues; a lack of top management support; and a lack of technical expertise (Sauser & Eigbe 2009; Humaidi & Said, 2011; Van Der Walddt, 2014).

According to the Construction Industry Development Board report (2010), procurement-related barriers could also be the major contributors to poor public infrastructure quality in South Africa. Such procurement-related barriers include: fraud and corruption, or political interference (including cronyism and nepotism); the procurement and delivery model (such as the 'design by employer' model); the use of procurement systems based solely on price and preference, without regard for functionality (or quality); and/or insufficient information to select professional services and/or contractors based on quality criteria. Windapo and Cattell (2013) have identified several challenges that impact the performance, growth, and development of the South African public infrastructure industry (Mbande, 2010; Milford, 2010; SA

Construction Industry Status Report [Statistics South Africa], 2004). Mbande (2010) and Windapo and Cattell (2013) identified a skills shortage in the South African skills sector, such as construction, as one of the challenges. According to the CIDB (2004), public-sector capacity is a major constraint on public infrastructure delivery and long-term growth in the South African construction industry. According to Milford (2010), a lack of public-sector capacity has resulted in an inefficient and time-consuming process of government funding construction projects, as well as payment backlogs of more than six months in some cases. According to the CIDB (2011), the quality of tender documents and specifications, as well as the management of change orders, are specific issues of concern.

The establishment of Key Performance Indicators (KPIs) is critical to project delivery. A large number of performance indicators can be used to measure and evaluate project performance, which can be related to various dimensions (groups) such as time cost, quality, client satisfaction, client changes, business performance, and safety (DETR 2000; Cheung, Poon, Yu, Ching See, 2004; Enshassil, Mohamed & Abushaban, 2009). However, the three most important performance evaluation dimensions in the construction industry, also known as the "iron triangle," are time, cost, and quality. On the contrary, Garbharran, Govender and Msani (2013) stated that an assumption is made that if a public infrastructure project is completed on time, within the agreed budget, and with the desired quality, also known as the golden/iron triangle, the project is considered successful.

Ogunsanmi (2013) asserts that KPIs, also known as key success indicators, encompass more than just project completion. Traditionally, Elattar (2009) and Garbharran et al. (2013) have defined success as the degree to which project objectives and expectations are satisfied. In light of this, determining project success is a difficult task because achievement is intangible and difficult to agree upon. The construction industry, where various parties such as the client, the architect, the contractor, and various surveyors and engineers are involved, experiences a similar phenomenon. Each project participant will define success differently. Regardless, it is important to outline key performance indicators before implementing public infrastructure projects. As such, both the contractor and the municipality in concern should be aware of them. This will assist both parties in measuring the extent to which public infrastructure projects have been implemented.

From the perspective of the contractors, Al-Tmeemy *et al.* (2010) and Garbharran *et al.* (2013) identified critical success factors for building projects. Cost, time, quality, safety, meeting scope, customer satisfaction, technical specifications, functional requirements, competitive advantage, reputation, revenue, profits, and stakeholder benefit were among the criteria. As a result, key performance indicators would likely differ from one municipality to the next. This depends on the public infrastructure projects that the municipality under concern is implementing over a certain period of time.

3.4 THE IMPACT OF ROADS, WATER AND SPORT INFRASTRUCTURE PROJECTS ON MUNICIPAL FINANCIAL VIABILITY

Municipalities must provide dependable, essential services, such as public infrastructure projects, because they are the closest to communities. The government has turned citizens into passive recipients of its assistance for most of our democracy, even if many are still waiting for these services to arrive (Schermbucker, 2020). Section 53 of the Constitution of the Republic of South Africa, 1996, states that “*a municipality must structure and manage its administration, budgeting, and planning processes to give priority to the basic needs of the community, and to promote the social and economic development of the community, and participate in national and provincial development programmes*”. Considering this view, the study holds the opinion that social and economic development could be promoted through investment in roads, water and sport infrastructure. This would be another way to establish municipalities that can generate revenue for themselves.

According to IDASA (2010), a democratic system's primary objective is to satisfy its citizens. Therefore, the ability of local government structures to provide an integrated developmental approach to social and economic development issues and to provide public infrastructure that is in line with the needs and desires of the local communities must be used to evaluate the effectiveness of good local governance. In order to fulfil the ambitions of society, municipalities should be able to recognise and prioritise local requirements, establish appropriate service levels, and distribute the required resources to create a financially viable local government for all. Municipalities' failure to provide public infrastructure (as part of basic services) not only puts their citizens

through great suffering, but it can also have a negative effect on social and economic development (IDASA, 2010). According to Madue (2008), the challenges are inextricably linked to the political and social framework in which the government operates. The inability of municipalities to provide services to their communities is one of the primary issues. Dzengwa (2007) argues that certain municipalities continue to be neither economically active nor financially viable. In such cases, the ability of these municipalities to offer services and sustainably earn their own revenues has been hindered due to their state of hardship. On the other side, communities are destroying municipal infrastructure to draw the attention of their council members to their complaints about problems with service delivery. Many of these complaints are the result of inadequate management and neglect of public infrastructure, and as a result, many communities continue to struggle to gain access to basic services (Sosibo, 2014).

Lack of effective asset and risk management has resulted in many municipalities in South Africa (SA) finding it challenging, if not impossible, to fulfil the constitutional mandate of providing sustainable basic services. This is inclusive of public infrastructure, which is a necessity for societal development. Therefore, Schermbrucker (2020) suggested that for community development and growth to occur, municipalities must first work on having effective leadership. This study uses infrastructure provision practices in an effort to better understand how South African municipalities may render their infrastructure assets to meet the local government's constitutional goals under Section 152 of the Constitution of the Republic of South Africa. The goals of local government are as follows: 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 lastly, to encourage the involvement of communities and community organisations in the matters of local government (Constitution of the Republic of South Africa, 1996). Municipalities must fully provide and utilise their infrastructure in order to achieve these goals because providing services necessitates effective water, roads and sports infrastructure. For residents to take pride in their territories and for communities to be dynamic and entrepreneurial, it is crucial to manage infrastructure assets well. All of these factors contribute to economic growth, development, and general prosperity (Patience & Nel, 2021).

One of the best predictors of South Africa's potential wealth in the global economy is the condition of its physical infrastructure (South African Institute of Civil Engineers [SAICE], 2011). An efficient functioning of systems, such as transportation and water, results from a flourishing economy, and these services build social infrastructure that attracts capital to such an area or nation (Patience & Nel, 2021). Also, the local government in South Africa is required to provide the people with basic services, with a particular emphasis on the construction of roads in the communities they serve. A functioning road system is crucial for the development, growth, and redistribution of the economy (Statistics South Africa, 2017). Delivering the road network infrastructure should guarantee and produce positive results for the general population (Nyakala Vermeulen, Pretorius & Munyai, 2017). The South African Minister of Finance ordered a 2013 investigation study on public infrastructure funds used by municipalities, which found a direct correlation between the viability of local government and these investments (Republic of South Africa, 2014c). The government's primary goal is to eliminate backlogs in underdeveloped communities; therefore, this might be seen as a funding diversion, but targeted economic public infrastructure can frequently accomplish more to alter the lives of a municipality's underprivileged people by offering development prospects (Republic of South Africa, 2014c).

Mahabir and Mabena (2015) state that if meeting local communities' requirements or expectations costs more than what municipalities can earn, they should anticipate funding gaps. To close this deficit, the government makes intergovernmental transfers, primarily in the form of infrastructure conditional grants and unconditional grants to municipalities. The aforementioned authors claim that the purpose of these subsidies is to alleviate financial issues in municipalities, assist the government's strategic goal of eliminating service delivery backlogs, and support local economic development in the nation. The study therefore holds the view that municipalities could use public infrastructure projects such as roads, water and sport facilities to support local economic development. By establishing these projects, municipalities can effectively tackle socio-economic issues like poverty and unemployment. To a certain extent, local economic development activities could generate a revenue base for municipalities.

3.5 CHALLENGES HINDERING THE SUCCESSFUL IMPLEMENTATION AND COMPLETION OF PUBLIC INFRASTRUCTURE PROJECTS

The development function of the municipalities holds the key to addressing the massive infrastructure backlog in South Africa in a system of cooperative and integrated government. Developmental local government is an entity that actively encourages social and economic growth, transforms local areas in a more equal and effective way, and contributes significantly to state strategy (Van Der Waladt, 2014). Additionally, developmental local government puts the interests of the lower socio-economic sector at the centre of its mission and enables efficient service delivery. Municipal services frequently fall short of meeting the demands of citizens, particularly those from lower socio-economic backgrounds, as communities grow. Services like public infrastructure development are frequently hampered by inadequate planning and insufficient operational capabilities (Van Der Waladt, 2014).

Even though the South African government, particularly municipalities, like the majority of developing nations, understands how crucial public infrastructure investment is to the expansion of its economy, it is unable to finance all of its infrastructure needs through conventional fiscal means. In spite of the 2008 economic recession, South Africa boosted its budgetary allotments for infrastructure (Camane, 2013). In order to generate jobs, lessen poverty, and boost the South African economy, Gordhan (2012) emphasised the significance of private sector involvement in the creation and construction of public infrastructure. Given the significance of public infrastructure investment in South Africa, it is imperative to evaluate the appropriateness, efficacy, and efficiency of the current public infrastructure funding systems in light of international best practices (Camane, 2013).

Infrastructure development is critical for a competitive and productive economy that is sustainable. However, the public sector's inflexible fiscal policies, high budget deficits, and lack of debt reduction strategies have a direct impact on infrastructure implementation and development (Ruiters & Matji, 2015). The public sector faces challenges in providing for public infrastructure assets. Many obstacles are impeding infrastructure development. This section further looks at challenges hindering the successful implementation of public infrastructure projects. In pursuit of all this, Kudumela (2015) identified public infrastructure development challenges as

insufficient municipal skill capacity, a lack of funding, political instability, and corruption. This is emphasised by Aiyetan and Das (2022), who stated that evidence from the literature, however, revealed that a major obstacle is the lack of required knowledge, competence, skills, capacities, and finance to successfully implement public infrastructure projects. Additionally, lack of knowledge has led to understaffing in many municipalities, which has deteriorated service delivery over time and left many communities with insufficient access to essential services, including roads, water and sport facilities. It is unfortunate that a lack of skilled workers has led to enormous service delivery backlogs that have prevented the administration from properly and quickly addressing the issues. This is especially true for management and technical posts, many of which are unfilled in rural communities. Serious service backlogs due to a lack of competence have a negative impact on many underserved areas that rely on the supply of essential services to survive (Managa, 2012).

While some municipalities lack the resources necessary to fulfil their constitutionally mandated improvement in service delivery, others simply fall back on underspending the allotted monies due to a lack of leadership abilities. This has largely been caused by a lack of project management (for public infrastructure) and finance management abilities, which has hampered the beginning or completion of some projects (Parliament of the Republic of South Africa, 2009). Protesters have argued that poor management of public resources, such as the misappropriation or underuse of money designated for service delivery, as well as a lack of ability to finish public infrastructure that benefits communities, are among the failures of service delivery. The government's directive to assign African National Congress (ANC) comrades to unqualified jobs exacerbates the issue of subpar service delivery, as some of these applicants lack the necessary qualifications to perform their duties. It could be argued that this could also contribute to the incompleteness of public infrastructure projects. In the meantime, the government recognises that nepotism and inadequate management, often resulting in unskilled and disorganised staff, plague most municipalities. The lack of technical expertise and project management capabilities is one of the biggest barriers to public infrastructure investment in South Africa (Burger, 2009; South African Government, 2023). The Auditor-General's report for 2010–2011 also presents a gloomy picture of financial mismanagement in most municipalities. It supports the premise that inadequate project planning, poor management, and a lack

of competence for completing the tasks at hand are to blame for under- and over-spending budget allocations. Many municipalities lack the personnel with the financial and managerial skills necessary to ensure the appropriate allocation of funds for service delivery and public infrastructure development, in line with need or demand (Mosombuka, 2011).

On the other hand, Senyakoe (2011) presented an alternative perspective, stating that municipalities throughout South Africa encounter difficulties in planning sectoral infrastructure and managing projects and programs. According to Hofstetter, Bolding and van Koppen (2020), many government employees choose to have positions that provide them with the ability to influence the selection of public infrastructure contractors. It is well known that many officials prefer to hold positions that provide them the ability to influence contract award decisions, so long as they can do so behind closed doors and without being held responsible for their activities.

Thornhill (2006), the National Treasury of the Republic of South Africa (2015), and Munzhedzi (2016) all concur that politicians influence the allocation of public infrastructure contracts. This could negatively impact the quality of public infrastructure projects, particularly if contracts are awarded without merit. Nonetheless, the public sector in South Africa is responsible for the development and sustainability of water infrastructure, as well as ensuring that communities across the country receive adequate service delivery, which can only happen if the necessary infrastructure exists and is in good condition. Failure to comply will result in production difficulties in communities where such services are critical to the daily operations of local businesses, as well as severe consequences for households that rely solely on the businesses' products and services. South Africa's infrastructure, as one of the recognised developing economies, is underperforming in comparison to global standards (Ruiters, 2013). Significant investment is required to adequately maintain, upgrade, and replace infrastructure assets, including provision for the delivery of new and improved infrastructure (Cardone & Fonseca, 2006; Abadie, 2008).

Infrastructure investment is critical to public infrastructure development, and limited access to adequate funding impedes the progress of delivering the necessary assets and services to improve and sustain the public's well-being. Adequate funding for infrastructure assets is hampered, among other things, by the constant escalation of

project costs (Dithebe, Aigbavboa & Thwala, 2019). According to the World Bank (2010), both the inadequate coverage of infrastructure networks and the price caps placed on various public services are extremely high in comparison to other developing and developed economies (Abadie, 2008). The primary source of infrastructure financing has been national budgets and the use of parastatals as business models; however, this has proven insufficient to address the alarming infrastructure deficits (Ruiters, 2011). In South Africa, inadequate sources of financing infrastructure, particularly water infrastructure, include, but are not limited to, the use of the national revenue fund, municipal infrastructure grants, regional bulk infrastructure grants, and conditional grants (Rajan & Gemson, 2011; Dithebe & Aigbavboa, 2017). The public sector faces a variety of challenges when it comes to financing and providing public infrastructure assets and services.

According to Goodman and Hastak (2006) and Hartig (2008), one of the challenges to delivering infrastructure assets is a municipality's lack of technical and administrative capacity to plan, implement, operate, and maintain infrastructure assets (Eales, 2011; Cagliano, Grimaldi & Rafele, 2015). Ruiters and Matji (2016) echoed this, emphasizing that municipalities with water services authority status face various challenges, including a lack of technical, planning, and management skills, limited financial resources, and inadequate operation and maintenance, leading to deteriorating and aging water and sanitation service infrastructure. Furthermore, infrastructure development backlogs are caused by insufficient investment laws, limited access to loans and other debt financing institutions, insufficient municipal revenues from taxes and tariffs, and unreliable planning and procurement processes used to carry out public projects (Hartig, 2008).

To ensure that infrastructure delivery remains an essential component of the economy's competitiveness and productivity, it is important to prioritise social and environmental concerns. Different line agencies or stakeholders involved in infrastructure planning and delivery are frequently disjointed, and different departments have and carry out different mandates (Department of Cooperative Governance and Traditional Affairs, 2010). The delivery of water infrastructure assets necessitates integrated coordination among all involved institutions. According to the World Bank (2010; Ruiters and Matji (2015) for an effective water value chain, the involved institutions and departments must assess and improve existing funding

models. Motau (2009) identified legislative and policy constraints, insufficient subsidies for public facilities and services, and poor financial systems as barriers to financing and successful implementation of public infrastructure (Mensah, 2008; Investopedia, 2017).

Other common challenges include apprehension about foreign involvement, a reluctance to deal with labour issues, and negative public opinion (Helm, 2010). Municipalities, in particular, are overly reliant on loans from outside sources rather than exploring all available options: "they must seek local financing capacity while capitalising on all resources available from multilateral, bilateral, central, and provincial governments" (Moszoro & Krzyzanowska, 2008). According to Soubliere, Cloutier (2015), and Kim (2016), public institutions, with a specific reference to South African municipalities, fail to be innovative in their use of financial models available to them. Of course, this necessitates effective financial resource management and value implementation. According to Rajan and Gemson (2011) and Ramparsad (2015), the private sector plays an important role in the provision and financing of public infrastructure assets. However, Verma (2016) clarified that the government's monopoly on force and taxpayers' ability to absorb equity risk make the private sector more vulnerable to high risk than the public sector when it comes to financing public infrastructure.

According to Helm (2010), among the challenges faced by private organisations, the longer payback periods used by the government to compensate entities for public infrastructure rendered must be the most common. Furthermore, the political risk of asset assumption takes precedence, as the sector may be unable to recover costs and earn a reasonable profit due to the risks or difficulties encountered by private funding (Helm, 2010). According to Bielenberg, Kerlin, Oppenheim and Roberts (2016), backlogs preventing investors from financially participating in public infrastructure projects include a lack of transparent and bankable projects, high development and transaction costs, a lack of political and administrative stability, non-transparent financial management of local governments, a lack of viable funding models, inadequate risk-adjusted returns, and inflexible regulations and laws (Hartig, 2008; Ruiters & Matji, 2015).

Nevertheless, financial sector impediments, a lack of project development capacity, a lack of credit history, and cost recovery constraints are highlighted as challenges to developing-country public infrastructure development. Furthermore, in countries such as South Africa, inadequate funding of public infrastructure projects occurs due to a lack of leadership among state personnel, overlapping institutional responsibilities, and poor infrastructure planning. Inadequate investments in public infrastructure projects, fragmented institutional structures, and capacity constraints have also been identified as challenges for public institutions in delivering public infrastructure assets (Dithebe, Aigbavboa & Thwala, 2019). Govender (2019) added that South Africa lacks a legislatively approved procedure for thoroughly inspecting all public (social and commercial) infrastructure in terms of quality and effectiveness in the provision of services. Delivering essential basic services like public infrastructure to communities is becoming more and more expensive due to unreliable services caused by inadequate governance, resource allocation, and business practices within South African municipalities. Even when the cost of services keeps rising, the efficiency of their provision keeps declining.

Since 1994, South Africa's fiscal decisions have resulted in positive growth rates, improved welfare and living standards, and expanded access to bulk economic infrastructure for the majority of the population. Despite significant progress in reducing poverty and inequality, the country still faces significant economic and social infrastructure gaps. To curb this, the government has enacted a slew of policies, including the National Development Plan (NDP), which establishes ambitious targets for social reforms aimed at eradicating poverty and reducing inequality by 2030. However, in order to meet these targets, the economy must grow at a faster rate of 5.4% per year. Long-term structural weaknesses in the economy, such as long-term planning, a lack of a strategic vision, and financing challenges, have a negative impact on growth. Much is riding on state infrastructure spending as the answer to reducing poverty, inequality, and unemployment, while also spurring economic growth. South Africa, on the other hand, faces three public infrastructure challenges: providing public infrastructure that stimulates economic growth and job creation, maintaining existing infrastructure, and providing infrastructure and services to the poor in order to eradicate poverty (Financial and Fiscal Commission Policy Brief, 2015).

Among other challenges are large-scale "mega infrastructure" projects (sport complexes and roads), which are the standard for infrastructure investment now; however, they frequently result in significant cost overruns and delayed completion (Reboredo, 2019). The private sector has been involved in some capacity in most of these megaprojects. They expose insufficient governance and weak project management in charge of these significant initiatives. The delays and cost overruns on significant public infrastructure projects demonstrate how poorly managed megaprojects can cost the economy by piling on a lot of debt (Phalatse, 2022). Second, public infrastructure spending has steadily decreased since the early 1980s, despite its importance in post-apartheid economic policy. This has also been the case. Between 2014 and 2018, the average real spending on infrastructure by the general government (national, provincial, and local governments) decreased by an average of 0.8% annually (National Treasury, 2020b). Total public infrastructure spending decreased by 13% between 2016–2017 and 2017–2018, respectively (National Planning Commission, 2011). Furthermore, despite small increases in the local government budget from 2016 to 2019, public infrastructure funding has also decreased at the municipal level. Service users who cannot afford the rates for basic services have consistently underpaid, according to municipalities that rely on user fees for revenue. This has, therefore, affected the provision of services, including public infrastructure projects (National Treasury, 2019). Conclusively, in South Africa, project stakeholders are in charge of ensuring that public infrastructure projects are completed with the required quality and oversight and within the budgeted prices and time frames.

3.6 SOCIO-ECONOMIC OPPORTUNITIES FOR SUCCESSFUL IMPLEMENTATION OF PUBLIC INFRASTRUCTURE PROJECTS

Numerous causes, including population growth, shifting economic structures, technological advancements, and demands for environmental preservation, continue to drive the need for infrastructure development. To achieve sustainable economic growth and provide their populations with necessities like water, countries, particularly those with developing economies such as South Africa, rely on the integrity of their public infrastructure, which includes things like roads and water (Camane, 2013). In order to reduce poverty and create jobs in South Africa, infrastructure development is necessary. Modernising infrastructure quickly is necessary for sophisticated

economies to grow sustainably. Nevertheless, a strong public infrastructure improves both the standard of living for the general populace and the competitiveness of private businesses. Govender (2019) also stated that the ongoing construction of new public infrastructure for South African municipalities is essential for the country's socio-economic development and overall economic health. Good maintenance complements the lifespan and effectiveness of public infrastructure, supporting a strong economy, a progressive society, and a high standard of living for many.

According to Briceo-Garmendia (2010), Foster (2010), and Mafusire, Anyanwu, Brixiova and Mubila (2013) emphasised the dire need for public infrastructure investment to sustain economic growth in countries like South Africa. Kingombe (2011), Briceo-Garmendia and Foster (2010), and Fay & Morrison (2005) all emphasised the importance of infrastructure investments in developing countries to meet basic community needs while also promoting economic growth. Merrifield (2000) also emphasised the value of public infrastructure and how it affects economic progress. In South Africa, Perkins, Fedderke, and Luiz (2005) discovered that Growth Domestic Product growth influences the amount of public infrastructure investment. These scholars concluded that economic growth targets may not materialise without infrastructure developments in response to suitable cost-benefit evaluations.

The South African construction industry contributes significantly to the growth and employment of the nation's economy (Crampton, 2016). It makes a sizable contribution to the Gross National Product (GNP) and is essential to GDP growth, which in 2016 averaged 3.9% (Crampton, 2016). According to Statistics South Africa (StatsSA) (2015), the construction industry employs more than 1.4 million people and contributes to the expansion of the labour market. The construction sector supports the government's socio-economic goals and provides the public infrastructure (roads, sports facilities, and water infrastructure) necessary for numerous activities (Wentworth, 2012). People often view public infrastructure spending as a measure of the industry's performance. Yet, delivering public infrastructure involves significant amounts of capital expenditure (PwC, 2013).

The significance of public infrastructure investment to South Africa's socio-economic development cannot be overstated (Percze, Gyuricza, Birkás, Szemők & Ujj. 2020). The President of the Republic of South Africa, Cyril Ramaphosa, stated during his

2023 State of the Nation Address (SONA) that through the government's investment drive, economic reforms, and an increasing public infrastructure programme, the government has built a solid foundation over the past year based on its commitments for faster development (South African Government, 2023). From this statement, it is clear that public infrastructure has the potential to significantly boost the country's economy. Inadequate or poor infrastructure makes it difficult for citizens to access markets, as well as opportunities for employment and services like clean water, sports, recreation, and transportation. The International Labour Organisation (ILO) states that infrastructure development does not directly align with any of the 2030 Agenda for Sustainable Development Objectives. Yet, without it, many of the objectives would not be met, and sustainable infrastructure would not be developed.

Public infrastructure development is critical for developing economies, particularly African economies. The provision and delivery of public infrastructure assets and services is much more important for developing countries' socio-economic benefits (Ngowi, Pienaar, Akindele & Iwisi, 2006; United Nations Economic Commission for Europe (UNECE), 2008). Without adequate delivery of well-maintained infrastructure assets, congested roads and deteriorating water will increase, all of which will have a direct impact on the economy's competitiveness and productivity (Babbie, 2010). The growing investment deficits realised each fiscal year are a concerning factor for African infrastructure development (Foster, Butterfield, Chuan & Nataliya, 2009). Infrastructure is a top priority for the South African government, having been identified as one of the 'binding constraints' by an international panel chaired by Hausmann (2008), who advised the government on how to boost economic growth. This clearly acknowledges the crucial role of public infrastructure in driving South Africa's economic growth.

Following the Accelerated and Shared Growth Initiative of South Africa (ASGISA) (RSA, 2006), the 2006 National Budget proposed an investment in public infrastructure over a three-year period (National Treasury, 2007). In his 2009 Budget Speech, then Minister of Finance Trevor Manuel emphasised the importance of continuing and expanding infrastructure spending in the face of fears of an impending international economic recession that would raise borrowing costs (Calitz & Siebrits, 2005). In order to reduce poverty and provide jobs in developing nations like South Africa, infrastructure development is obviously necessary. However, rapid infrastructure

upgrades are also required for advanced economies to thrive sustainably. A robust infrastructure guarantees improved living circumstances for the general populace and increases the viability of private firms. Public infrastructure investment is a major focus of the government's industrial policy because it serves as an important engine for growth and employment generation (Euractiv, 2010; Phalatse, 2022). South Africa has struggled with socio-economic problems such as high unemployment, poverty, and income inequality since achieving democracy in 1994. The nation's economic growth has not created enough jobs to address these issues. The country's economic growth has not been able to generate enough jobs to reduce unemployment, poverty, and inequality. Economic challenges often stem from poorly located and insufficient public infrastructure. Investment in public infrastructure is considered a crucial component in addressing the fundamental socio-economic problems of high unemployment, income inequality, and poverty. For instance, the Johannesburg government's administration believes that increasing public infrastructure spending can lead to a development path that absorbs labor (Makalima, 2022). On the other side, the South African government believes that focussing on improving public infrastructure and network services will lead to more labour-absorbing growth.

According to the National Treasury (2012), the main priority of budgets in future years will be to provide financing for public infrastructure development, with the goal of strengthening economic infrastructure, in particular around municipalities. On the other side, the green economy seeks to promote sustainable development by decoupling economic growth rates from environmental deterioration while increasing the quality of life for all, with particular reference to the poorer populations, according to the South African government (GoSA, 2012). Therefore, the greening of public infrastructure should promote this decoupling process, just as infrastructure supports economic growth and access to services (Amador-Jimenez & Willis, 2012; Srinivasu & Rao, 2013). (Corfee-Morlot, Marchal, Kauffmann, Kennedy, Stewart, Kaminker & Ang, 2012; World Bank, 2012).

The Financial and Fiscal Commission Policy Brief (2015) highlighted that infrastructure that supports accelerated growth initiatives will result in higher tax revenue returns, allowing for greater service provision. To boost growth and create more jobs, the South African government is investing heavily in public infrastructure. This happens as the nation is enduring a severe economic crisis that has gotten worse over the past few

years. Only two days before the first official COVID-19 case was reported on March 3, 2020, it was declared that the economy was in a recession. After two consecutive quarters of negative growth, the gross domestic product (GDP) shrank by 1.4% in the fourth quarter of 2019, and the jobless rate increased to an all-time high of 38% in 2019. The COVID-19 outbreak has made South Africa's economic predicament worse. The third quarter of 2020 saw the loss of 2.8 million jobs (Statistic South Africa, 2020). During the six-month lockdown, hunger and poverty rates have significantly increased. 37% of households, or twice as many as in 2016, reported running out of money for food in June 2020 (Bridgman, Van der Berg & Patel, 2020). Also, the push for public infrastructure comes after a protracted era of subpar infrastructure investments and a growing infrastructure deficit. High rates of crowdedness, extreme poverty, and insufficient access to essential public amenities like water characterize socio-economic situations in rural areas, making this especially important. In response to this problem, the government has proposed two significant measures, totaling R300 billion, with the aim of achieving a budget surplus within the next five years (National Treasury, 2020a). Second, in order to achieve socio-economic and infrastructural development objectives, these austerity measures have justified the necessity of obtaining funding from sources other than the public coffers. During the next ten years, the South African government intends to raise up to R1 trillion in finance from the private sector through the Infrastructure Fund (Government of South Africa, 2020). This fund is expected to provide funding for significant infrastructure projects that will encourage or leverage private funding.

In South Africa, economic policy prioritises public infrastructure. For instance, the National Development Plan (NDP) adopted in 2011 outlines the audacious objective of reaching a level of infrastructure investment equal to 30% of GDP by 2030 (National Planning Commission, 2011). The National Treasury reiterated that infrastructure spending will play a crucial role in fostering the post-COVID-19 economic recovery through reforms that would catalyse greater investments from the private sector in the 2020 Supplementary Budget, which was presented three months after the national lockdown brought on by COVID-19. Given this whole discussion, it can then be stated that roads, water and sport infrastructure are key in the process of building a capable local economy in the South African municipalities.

3.7 CHAPTER SUMMARY

In this chapter, the study has managed to provide a literature review that was guided by the following themes: the causes of abandoning the construction of roads, water and sport infrastructure projects; the state and quality of constructing these public infrastructure projects; the impact of constructing roads, water and sport infrastructure on municipal financial viability; challenges hindering the successful implementation of these infrastructure projects; and lastly, socio-economic opportunities for constructing roads, water and sport infrastructure. Consequently, the study restricted its review of secondary information to the South African context. The next chapter unpacks the research design and methodology that the study has employed to achieve its objectives. The chapter will also explain how the research was designed throughout the process of data collection.

CHAPTER FOUR: RESEARCH DESIGN AND METHODOLOGY

4.1 INTRODUCTION

The chapter unpacks the research design and methodology employed in the study. The chapter further discusses the limitations of the study, the scope of the study, the target population, sampling, sampling methods and size, sampling techniques, data and information collection methods, data analysis techniques, validity, credibility, dependability, and trustworthiness of the study. The chapter also delves into the ethical considerations observed during data collection. Nevertheless, the chapter has employed a mixed-methods research approach by combining qualitative and quantitative research methods. The study consisted of three different groups of respondents: municipal officials, political office bearers and community members in the three selected local municipalities. For municipal officials, face-to-face interviews were employed; for political office-bearers, semi-structured questionnaires were utilised, while semi-structured questionnaires with both open and closed-ended questions were used to collect data from community members. Overall, the study had 49 respondents from the three selected local municipalities. The intention was to determine the causes of abandoning the construction of roads, water and sport infrastructure, investigate the state and quality of constructing such infrastructures, evaluate the impact of constructing roads, water and sport infrastructure on municipal revenue collection, establish challenges depriving the successful implementation of these infrastructure projects, and identify some of the socio-economic opportunities for implementing roads, water and sport infrastructure. Arguably, the application of a mixed method was influenced by the type of respondents the study has chosen. The chapter also provides a process that the study has followed to analyse the required data. In closing, this data was collected between November 2023 and February 2024.

4.2 LIMITATIONS AND DELIMITATION OF THE STUDY

The next section discusses the limitations of the study. The study was conducted in three selected local municipalities in Limpopo Province. Therefore, there are several factors that have limited the study.

- **Limitations of the study**

The study was biased in terms of participation in the sense that only municipal officials who had knowledge about roads, water and sport infrastructure projects were given the opportunity to respond to questions that were brought forward by the researcher. Second, the researcher limited the study to fewer respondents than the initial sample size he had proposed. Not all municipal officials and politicians have participated in the study. For example, none of the politicians (councillors from the ANC, EFF, and DA) returned any of the questionnaires for analysis. As a result, this negatively impacted the data available for analysis and interpretation in the study. Conversely, the study did not provide equal opportunities for all community members to participate. This is due to the random sampling of only 10 community members from each of the three selected local municipalities. Also, some of the respondents (municipal officials, community members, and politicians) did not answer all questions to the best of their ability. Some respondents limited their responses to a simple yes or no, without offering any explanations for their opinions. So, this had an impact on the amount of data that the researcher has collected for presentation, analysis, and interpretation. Therefore, all these factors limited the study from getting an in-depth understanding of the causes for abandoning the construction of roads, water and sport infrastructure, the state and quality of constructing public infrastructure projects, the impact of constructing roads, water and sport infrastructure on municipal financial viability, challenges hindering the successful completion of these infrastructure projects, as well as socio-economic opportunities that the community members may get during and after the implementation of roads, water and sport infrastructure projects and services. Additionally, the study also limited the implementation of road, water and sport infrastructure projects in Molemole, Blouberg and Polokwane Local Municipalities.

- **Scope of the study**

The scope of the study was limited to the investigation of the causes of abandoning the construction of roads, water and sport infrastructure, the evaluation of the state and quality of constructing public infrastructure projects, assessing the impact of constructing roads, water and sport infrastructure on municipal financial viability, challenges hindering the successful completion of these infrastructure projects, as well as socio-economic opportunities that the community members may get during and

after the implementation of roads, water and sport infrastructure projects and services under the three selected local municipalities in Limpopo Province. In so doing, the study wanted to establish whether the causes of abandoning roads, water and sport infrastructure could be emanating from the three selected municipalities or the contractors' side, who were given the responsibility to provide such public infrastructure projects. The study chose the three case studies because local municipalities have the mandate to execute public infrastructure projects and have knowledge about the causes of abandoning the construction of roads, water and sport infrastructure in South African municipalities. Consequently, the study did not focus on anything besides the implementation of roads, water and sport infrastructure projects.

4.3 LITERATURE REVIEW

A literature review is a detailed evaluation of secondary data, such as published peer-reviewed publications, that is typically available for use when undertaking any research study (Sarantakos, 2013). The review of literature was undertaken to understand the causes of abandoning the construction of roads, water and sport infrastructure, the state and quality of constructing public infrastructure projects, the impact of constructing roads, water and sport infrastructure on municipal financial viability, challenges hindering the successful completion of these infrastructure projects, as well as socio-economic opportunities that community members may get during and after the implementation of roads, water and sport infrastructure projects and services. In this case, the study heavily relied on secondary sources such as master's dissertations, doctoral theses, peer-reviewed journal and conference articles, South African government reports, print media, and policy and acts' documents regarding roads, water and sport infrastructure projects. The online materials included search engines such as Google and Google Scholar to provide online information regarding the topic that was under investigation.

4.4 RESEARCH METHODOLOGY

Research methods are the many techniques, plans, and formulas employed to methodically and scientifically acquire knowledge in order to address a specific research issue (Rajasekar, Philominathan & Chinnathambi, 2013). According to Creswell (2007), a mixed-methods research programme is a longitudinal program of inquiry or a single study with the integration of quantitative and qualitative research. In

order to grasp a study problem or subject more fully than either research strategy could do on its own, this type of research combined qualitative and quantitative methods. Compared to either quantitative research or qualitative research alone, mixed-methods research offered a more comprehensive grasp of the research problem.

In causal models, mixed techniques aid in the explanation of outcomes or the operation of processes. Variables such as hypotheses, questions, instruments, closed-ended questions, reliability, validity, statistical analysis, generalisability, replicability, control, and objectivity are all components of a mixed-methods research strategy. Furthermore, a mixed-methods inquiry strategy took the following into account: general enquiries, participant perceptions, respect and reciprocity, topics and descriptions, interpretation, individual reflection, an adaptable structure, and implying or supporting individuals or groups (Creswell, 2007). On the other side, Caracelli and Greene (1993) viewed a mixed method as an approach designed to collect and analyse data in the form of numbers and words. The study employed a mixed method because: (1) it enhanced the research findings; (2) mixed methods research outperformed mono methods research by utilizing the strengths and adjusting for the weaknesses of each individual approach; (3) by adjusting for the biases that each approach inherently entailed, the study obtained comprehensively and impartial research results and (4) both methods cross validated each other in the sense that qualitative results concurred with the quantitative findings; (5) mixed method data complemented each other in the sense that data from one component can be better interpreted when combined with findings from another component (Bergman, 2016). Based on the research method that the study employed to collect data in the three selected local municipalities, the study collected data from municipal officials in the three selected municipalities in Limpopo Province under Capricorn District Municipality. The study adopted a mixed-methods research approach because it does not limit respondents from expressing their opinions about the matter under investigation. The study integrated qualitative and quantitative methods to achieve impartial research outcomes. In other words, this type of research approach was used to complement the data that was collected using each method.

4.4.1 Research design

A research design focuses on the study's methodology, techniques, and data collection tools employed to gather information on the investigated matter. There are several research designs that one can use to reach the objective of the study; this study adopted a mixed-methods approach and combined qualitative and quantitative data collection instruments. The study employed a mixed-methods research approach targeting municipal officials who were involved in the implementation of roads, water, and sport infrastructure projects and members of the municipal council from the following political organisations: the African National Congress (ANC) and the Economic Freedom Fighters (EFF) in the three selected municipalities. Lastly, a mixed method was used to collect data from community members with a view to understanding the socio-economic opportunities that they could gain from the implementation of roads, water and sport infrastructure projects and services. The researcher also used a mixed-methods research approach to understand the causes of abandoning the construction of roads, water and sport infrastructure projects. Based on this, the study sought to analyse the different perceptions, experiences, and knowledge of various research participants as far as the implementation of public infrastructure projects was concerned in the three selected local municipalities.

Quantitative data assisted the study in establishing the causes of abandoning the construction of roads, water and sport infrastructure projects. This type of research question was used to further measure the impact of public infrastructure projects on municipal financial viability. With qualitative questions, the study wanted to have an in-depth understanding of the problem that was under investigation. Hence, this type of research questions allowed participants to fully express themselves about the causes of abandoning the construction of roads, water and sport infrastructure, the state and quality of constructing public infrastructure projects, the impact of constructing roads, water and sport infrastructure on municipal financial viability, challenges hindering the successful completion of these infrastructure projects, as well as socio-economic opportunities that the community members may get during and after the implementation of roads, water and sport infrastructure projects and services. Given this background, the study adopted a mixed-methods research approach to gain a deeper perspective and understand the respondents' viewpoints in line with the five objectives that underpinned the study. However, the study followed a descriptive

research design. The study employed a case study approach, using Molemole, Blouberg, and Polokwane Local Municipalities as points of reference. The study adopted a cross-sectional time horizon during data collection. The reason being that the study was meant for academic purposes only; as such, there was no need to collect data repeatedly with the same participants under the same objectives. In closing, the researcher held the view that using two research methods would not have jeopardised the study. Ultimately, the combination of qualitative and quantitative data gave the study an opportunity to use both qualitative and quantitative data for the same objectives.

Nonetheless, positivist and interpretivism research paradigms were employed in the study for the following reasons: positivist paradigm holds a view that the truth, reality and knowledge about the implementation of road, water and sports infrastructure projects can only be discovered by doing research on the problem under concern. The paradigm was also utilized because of its emphasis on the fact that research should follow a scientific method. The paradigm believes in the formulation and testing of research hypotheses, by using an empirical approach, which is exactly what the study did. Given this background, it can be stated that the positivist research paradigm was used because it also covers quantitative research approach (Fadhel, 2002). Interpretivism was also important in the study, since there is the understanding that the researcher will construct knowledge socially or through their personal experiences of the real life within the natural setting of the implementation of public infrastructure projects being investigated (Punch, 2005). As the researcher engages the participants during face-to face interviews, they intermingle, dialogue, probe questions, listen, make a follow up, read and write and record research data. These research data from the natural setting were gathered through interviews, with the researcher acting as a participant observer (Ugwu, Ekere & Onoh, 2021).

4.4.2 Target population

The target population is one component of an empirical study. The study has identified a specific group of people with the main goal of collecting the required data. Having this in mind, a target population in this context is defined as a group of people within a specific territory who have the potential to participate in the study with the sole purpose of generalising the findings of the study (Welman, Kruger & Mitchell, 2005).

According to Casteel and Bridier (2021:344), the target population refers to a specified, conceptually confined group of potential participants with whom the researcher may choose to share their views about the causes of abandoning the construction of roads, water and sport infrastructure projects in the three selected local municipalities. The target population for this research was municipal officials and members of the municipal council from the ANC, EFF, and DA responsible for the implementation of roads, water and sport infrastructure projects in Polokwane, Molemole, and Blouberg Local Municipalities. Community members were also chosen to share perceptions and thoughts about socio-economic opportunities that they may get during and after the implementation of roads, water and sport infrastructure. By doing so, the study wanted to get answers to the study's research questions.

4.4.3 Sampling

4.4.3.1 Sampling frame

An empirical study, by nature, must include sampling techniques. A sample is a small part of the overall set of individuals that together make up the subject of the study (De Vos, Strydom, Fouche & Delport, 2011). Participants in the study were selected from three local municipalities. These participants made a representation of the entire population for the municipalities and communities under the three selected local municipalities.

4.4.3.2. Sampling techniques

The study employed both purposive and random sampling strategies. The purposive sampling strategy is a type of judgemental sampling strategy in which the researcher deliberately uses discretionary knowledge to select a group of potential participants who can provide primary data. This study employed purposive sampling to gather information from municipal officials and politicians, specifically members of the municipal council, representing three political parties: the ANC, EFF, and DA. The intention was to have a broad understanding of the problem under investigation. On the other hand, random sampling techniques were applied to community members in the three chosen local municipalities. This type of technique was key in the sense that all community members stood a chance of being given semi-structured questionnaires to share their thoughts under the following research objectives: the causes of

abandoning the construction of roads, water and sport infrastructure, the state and quality of constructing public infrastructure projects, the impact of constructing roads, water and sport infrastructure on municipal financial viability, challenges hindering the successful completion of these infrastructures projects as well as socio-economic opportunities that the community members may get during and post the implementation of roads, water and sport infrastructure projects and service.

4.4.3.3. Sample size

The study had a sample size of 84 participants. Given this, the study only managed to collect data from 49 respondents in Molemole, Blouberg, and Polokwane Local Municipalities. To be specific, the study consisted of 16 municipal officials interviewed face-to-face. These interviews were conducted under the following research questions: What are the causes of abandoning the construction of roads, water and sport infrastructure? What is the state and quality of constructing public infrastructure projects, the impact of constructing roads, water and sport infrastructure on municipal financial viability, challenges hindering the successful completion of these infrastructure projects, as well as socio-economic opportunities that the community members may get during and after the implementation of roads, water and sport infrastructure projects and services? The study used purposive sampling to conduct interviews with municipal officials from the following sections: project management unit, facilities management (sport infrastructure), office of the municipal manager, roads and storm water (technical services), economic development and tourism, planning, water infrastructure, budget and treasury (finance), and economic development and planning. Furthermore, the study purposively sampled politicians from the ANC and EFF. The DA did not have representation in the study, and even after so much effort in distributing semi-structured questions to them, they have not returned them for analysis. Only three questionnaires, two from the ANC and one from the EFF, made it back for analysis. In other words, politicians in Blouberg Local Municipality did not return their semi-structured questionnaires for analysis and interpretation. On the other hand, the study has managed to distribute 30 semi-structured questionnaires to community members in the three selected local municipalities. Each municipality was represented by 10 community members, inclusive of both males and females. The aim was to get an in depth understanding of

the socio-economic opportunities that community members may get during and after the construction of roads, water and sports infrastructure. However, all questionnaires from community members were returned for analysis.

4.5 DATA AND INFORMATION COLLECTION

Using several forms of data collection instruments, the study employed interviews, questionnaires, and documentation, as discussed below.

4.5.1 Data collection instruments

Semi-structured questionnaires were physically distributed by the researcher to members of the municipal council from three political parties (EFF, ANC, and DA) and community members in the three selected local municipalities. It is worth noting that three questionnaires from politicians and 30 from community members were returned for analysis. In simple terms, the researcher probed questions to get responses guided by the following objectives: the causes of abandoning the construction of roads, water and sport infrastructure; the state and quality of constructing public infrastructure projects; the impact of constructing roads, water and sport infrastructure on municipal financial viability; challenges hindering the successful completion of these infrastructure projects; as well as socio-economic opportunities that the community members may get during and after the implementation of roads, water and sport infrastructure projects and services. Semi-structured questionnaires allowed the study to have the discretion to elicit additional, unanticipated questions in response to the participants' responses (Lessa de Oliveira, 1982: 12). The questionnaires had both open-ended and closed-ended questionnaires. In the sense that open-ended questions allowed the study to probe questions under concern. Additionally, this allowed the study to get in-depth responses using qualitative questions. On the other side, closed-ended questions allowed the study to measure and compare quantitative results with qualitative ones. Both sets of questions gave the study a chance to determine whether they described the same pattern of results. Therefore, semi-structured questionnaires allowed the study to fulfil its objectives.

4.5.2 Interviews

De Vos *et al.* (2011) stated that an interview is a prepared questionnaire that guides the researcher during the data collection stage. An interview also refers to a verbal dialogue that is conducted face-to-face or over the phone in which the interviewer aims to elicit information from the interviewee, according to Burns (1997:329), as referenced in Kumar (2011:144). This study employed semi-structured interviews as its qualitative data collection method. The study used open-ended questions to explore the causes of abandoning the construction of roads, water and sport infrastructure, the state and quality of constructing public infrastructure projects, the impact of constructing roads, water and sport infrastructure on municipal financial viability, challenges hindering the successful completion of these infrastructure projects, as well as socio-economic opportunities that community members may get during and after the implementation of roads, water and sport infrastructure projects and services. The researcher read all questions to 16 respondents (municipal officials) and recorded their responses. Face-to-face interviews were conducted with municipal officials in Limpopo Province's three selected local municipalities. Interviews were used to probe more deeply into the causes of abandoning the construction of roads, water and sport infrastructure, thereby using a predetermined set of questions to get responses from the municipal officials. The use of face-to-face communication gave the researcher the opportunity to ask follow-up questions since it allowed for immediate follow-ups. The researcher also wanted to ensure that respondents did not get the opportunity to easily ignore certain questions. Since this may often be the case with virtual interviews, this has also assisted in terms of getting reach data. Follow-ups were also used to seek clarity regarding the responses of the interviewees. Nevertheless, interviews were conducted with officials in the following sections: project management unit, facilities management (sport infrastructure), office of the municipal manager, roads, and storm water (technical services), economic development and tourism, planning, water infrastructure, budget and treasury (finance), as well as economic development and planning in the three selected local municipalities.

4.5.3 Documentation (DOCUMENT ANALYSIS)

Creswell (2003) defines documentation as a compilation of records that provide specific information for the study. Published records related to the thesis were used as sources of knowledge, including academic books, government gazettes and laws, journals, journal articles, and dissertations. Therefore, documents were sampled with the use of five objectives of the study. The researcher first verified whether the sampled documents (secondary data) were addressing the research objectives and questions of the study.

4.5.4 Data analysis techniques

4.5.4.1 Quantitative data analysis

The next step was data analysis. After the researcher had finished collecting the required data, the next step was data analysis. The Statistical Packages for Social Sciences (SPSS) software was used to capture, organise, categorise, code, and translate the quantitative data acquired into pertinent values. SPSS is software for editing and analysing all sorts of data. The researcher first captured the quantitative data on Microsoft Excel and then imported it into SPSS for analysis. During data analysis, the researcher was looking for trends, differences, and patterns (Lowe, 2007). Therefore, the data was then reduced to manageable proportions to identify and evaluate patterns of the causes of abandoning the construction of roads, water and sport infrastructure, the state and quality of constructing public infrastructure projects, the impact of constructing roads, water and sport infrastructure on municipal financial viability, challenges hindering the successful completion of these infrastructure projects, as well as socio-economic opportunities that the community members may get during and after the implementation of roads, water and sport infrastructure projects and services. Therefore, the Statistical Package for the Social Sciences (SPSS) was used to demonstrate differences, trends, and patterns with pie charts and graphs for quantitative data.

While focussing on quantitative data analysis, the study also made use of coding techniques for preparing the semi-structured questionnaires. Coding is the process of assigning tags, names, or labels to individual pieces of data; codes themselves are names, tags, or labels (Punch, 2014:87). Coding helps researchers understand the

data. Coding entails labelling similar concepts, phenomena, people, or events and clustering or grouping them together. Coding also helps researchers organise their thoughts and become more familiar with the data. Coding also involves reducing responses to numbers and making the data simpler for the researchers (Birmingham & Wilkinson, 2003; Rallis & Rossman in Croker & Heigham, 2009:281). Given this background, in this study, coding was used for quantitative data analysis, which was applied to closed-ended questions and demographic information of the target respondents in the three chosen local municipalities.

4.5.4.2 Qualitative data analysis

Qualitative data was collected using face-to-face interviews. This type of data was then sorted, analysed, and presented as part of the findings using Atlas.ti. The software gave the researcher an opportunity to import various data formats, including interviews. Another benefit of Atlas.ti is its efficiency in terms of data management and organization. In pursuit of qualitative data analysis, the researcher began by familiarising himself with the data. The intention was to gain a deeper understanding of a phenomenon and the perceptions of the respondents regarding the causes of abandoning the construction of roads, water and sport infrastructure, the state and quality of constructing public infrastructure projects, the impact of constructing roads, water and sport infrastructure on municipal financial viability, challenges hindering the successful completion of these infrastructure projects, and lastly, socio-economic opportunities that the community members may get during and after the implementation of roads, water and sport infrastructure projects and services. During data analysis, the study used the narrative form to present the data. During the presentation, analysis, and interpretation of the data, the study quoted and italicised important responses from the respondents. In so doing, the study wanted to highlight and emphasise some of the key findings in line with readily available material from internet sources (Schutt, 2011). The study employed a mixed method, evaluating the obtained data using both descriptive and interpretive research methods.

4.6 VALIDITY, CREDIBILITY AND TRUSTWORTHINESS OF THE STUDY

4.6.1 Validity

One of the fundamental principles of a research project is that it should produce valid results. In the context of roads, water and sport infrastructure, they could serve as a source of information for local government practitioners, academics, students, and researchers. The term validity refers to the standard rather than the authenticity of a research endeavour or study (Szczerbinski & Wellington 2007:43). In other words, validity does not refer to the entire research study but rather the extent to which a research method or instrument measures what it is intended to assess (Garry 2009:107). It is in line with this background that the study held the view that there was a need for a pilot test to be considered before the study could take place as a way of ensuring that the data collected by using a mixed-methods research approach would be valid. A pilot test refers to the process of testing a research instrument prior to commencing the actual data collection. A pilot test was done with two municipal officials in Molemole Local Municipality as one of the chosen local municipalities for the study. The use of a pilot study proved beneficial as it revealed that some of the questions were excessively lengthy and confusing for the respondents. Conversely, the researcher discovered that some of the questions lacked clarity and conciseness. Therefore, the researcher went back after having completed the pilot study to revise the questions. One of the respondents during the pilot testing had even mentioned that the questions were vague. Hence, this approach assisted the researcher in revising and shortening some of the questions to ensure that the researcher got the required and reliable data. Additionally, the researcher conducted a pilot test to confirm the accuracy of the interview questions. Another purpose for employing a pilot test was to verify if a set of questions that were prepared were able to fulfil their purpose, thereby addressing the questions under investigation. The researcher also believed that pilot testing helped prevent the recurrence of questions with identical responses, even when asked differently. The pilot study strategy also ensured that the structure of face-to-face interview questions aligned with the research questions, aim, and objectives, thereby preventing bias, misleading, and inaccurate information.

Considering the reasons for conducting pilot testing, two respondents who were part of the pilot study were then excluded during data analysis.

The study utilized semi-structured questionnaires to investigate the reasons behind the abandonment of public infrastructure projects in the three selected local municipalities. The study had to also verify whether the study's research findings are a true reflection of reality in the context of the implementation of roads, water and sport infrastructure projects. Therefore, research methods and quantitative data collection instruments were double-checked to maintain the validity of the research findings. Since the researcher spent a lot of time with the study participants in the field, this helped to forge the confidence necessary to elicit detailed and valid quantitative data (Kumar, 1996: 141).

4.6.2. Trustworthiness

According to Leedy and Ormrod (2014:272), the degree to which participants and readers interpret the study's qualitative findings in such a way that they are convinced about the findings and take the study seriously impacts the study's trustworthiness. By establishing criteria for evaluating this trustworthiness, researchers must demonstrate the validity of their qualitative research findings. The study should convince readers of its worth and merit, and the believable qualitative findings could guide future research techniques and investigations. The established norms and practices that guide participants' ethical involvement with one another must be part of the criteria for determining trustworthiness. Following moral guidelines is a proper course of action (Rallis and Rossman in Croker & Heigham, 2009:264).

Ethics was upheld in this study, and copies of North-West University's ethical clearance certificate were provided to the participants during data collection. Before taking part in the study, the participants were also required to complete informed consent papers. Finally, before they participated, they were informed about the study's goal and the ethical concerns raised.

4.6.3 Reliability

According to Lewis, Morrell, Ormston and Ritchie (2014:365), reliability also implies confirmability or dependability because the quantitative research findings must be

consistent if a second study is conducted using the same or related procedures. The types of reliability that are frequently used in research studies include: (a) interrater, which measures the degree to which two or more people evaluating the same good or performance make the same conclusions; (b) test-retest, which examines the degree to which the same people receive the same results from a single instrument on two separate occasions; (c) equivalent, which measures the degree to which two different iterations of the same instrument produce results that are comparable; and (d) internal consistency, which refers to how closely all of the components of a single instrument provide findings that are consistent (Leedy & Ormrod, 2014). For this study, the researcher tested and pre-tested quantitative data collection instruments before the actual data collection phase. The semi-structured questionnaires were given to two colleagues of the researcher in the Department of Public Administration. These were senior academics who were more experienced in quantitative research. This was to ensure that the quantitative questions were aligned to the research objectives and questions of the study. Second, the study applied appropriate data analysis techniques, such as SPSS, to ensure the reliability of the quantitative results. The researcher also made sure that all respondents received identical questions on the quantitative data collection instruments. This was to avoid asking questions that were inconsistent for the respondents. Therefore, the researcher put all these efforts in place to ensure that the quantitative set of questions consistently measured the same thing and produced the same results. In closing, reliability helped the researcher ensure that there was clarity in the questions and that the instrument was only measuring what the study wanted to measure.

4.6.4 Dependability

According to Babbie (2009:278), dependability is the ability to replicate findings with the same participants in the same setting while still producing similar outcomes. Testing the dependability of findings was done in a number of ways, including peer review, coding, and re-coding. The study employed peer review in this work. Peer examination is when a researcher talks to objective colleagues who have a deeper understanding of qualitative research methodology, data analysis, and findings (Anney, 2014:279). This process required the researcher to be clear about the research methodology and processes so that colleagues could analyse qualitative

data properly. It is therefore important to state that dependability in this context was applied by using colleagues (2 senior academics) in the Department of Public Administration at the University of Limpopo who understood qualitative research. The study also employed auditing, which was done by both the researcher and statistician, who had more knowledge about the use of data analysis software such as SPSS and Atlas.ti.

4.6.5 Conformability

Baxter and Eyles (1997) define conformability as the extent to which other researchers can independently check and support the findings of a study. In this study, conformability aimed to make sure that the researcher did not falsify the data or the interpretation of the findings (Tobin & Begley, 2004:392). There were various strategies used to assess conformability. This study employed data auditing to guarantee the study's conformity. In so doing, the researcher was trying to ensure that qualitative results and findings were not manipulated to perpetuate the researcher's own personal interests.

4.6.6 Transferability

Bitsch (2005:85) defines transferability as the ability to apply qualitative research findings to other types of investigations. This implies that other researchers ought to be able to duplicate the study under comparable circumstances and reach the same conclusion. The study followed a systematic literature review in the context of roads, water and sport infrastructure. The target respondents were chosen in line with the study's research objectives. To achieve this, the study provided a detailed explanation of the research methodology once the thesis was finalized. The study unpacked the research methods it adopted and the qualitative data collection instruments it used to obtain primary data. The thesis outlined all these crucial procedures. The purpose of transferability in qualitative research is to create an opportunity for other researchers to learn from the study itself and not only about what the study has found during inquiry. Therefore, transferability largely depended on the research design of the study.

4.7 ETHICAL CONSIDERATIONS

In principle, empirical studies must adhere to certain research ethics and standards. For compliance purposes and observation of research ethics, the study obtained an ethical clearance certificate (N W U - 0 1 0 4 3 - 2 3 - A 7) from the university where the student has registered. The researcher completed this step before initiating data collection. Following this, the researcher initiated the data collection process. Before starting the actual data collection, the researcher gave all respondents a consent statement form to sign during this phase. This form was obtained from the Basic and Social Sciences Research Ethics Committee (BASSREC) at the North-West University. In view of all this, the respondents were guaranteed anonymity. The main purpose of conducting the study was made known to all respondents in the three selected local municipalities. As part of ethical considerations, the researcher had to inform prospective participants that participation in the study was not mandatory. Therefore, participation in the study was entirely voluntary. We also informed the participants that they could withdraw their participation at any time.

The researcher pledged to maintain the confidentiality of the information participants provided, ensuring their identity would not appear anywhere on the data collection instruments or thesis. Further, the anonymity, honesty, and privacy of the respondents were highly maintained in the sense that none of the respondents's names were captured anywhere in the thesis. The researcher had an ethical obligation to engage respondents in an environment in which they were free and comfortable to express themselves. To promote privacy between the researcher and respondents during working hours, the researcher conducted interviews with all municipal officials in their offices. This was also done to avoid unnecessarily exposing respondents by engaging them in public (around their colleagues), which could have led them to respond less confidently to questions. While political office-bearers were given questionnaires in their respective municipalities. The researcher distributed questionnaires to community members in their respective homes, maintaining honesty, respect, and professionalism throughout the process. On the other hand, as part of the ethical requirements, the researcher had to conduct himself like a researcher during data collection. The purpose was to avoid being too friendly with the respondents to the

point where their responses may compromise objectivity and limit the findings of the study. Other ethical considerations included zero potential harm or threat to the participants, wherein the researcher conducted himself in a professional way to avoid causing any harm to the research participants (Nigel, Amanda & Amanda, 1998:1). The study also acknowledged the ideas and contributions of other researchers by making citations on secondary data. This was done deliberately to fulfil the anti-plagiarism principles in the study.

4.8 CHAPTER SUMMARY

The purpose of this chapter was to outline the research design and methodology that it has followed. The chapter has successfully achieved its objective by outlining a criterion that the study followed to choose the respondents. The section also clarified the data collection instruments used to obtain the necessary data. The researcher has also elucidated the ethical considerations observed throughout the entire data collection phase. Therefore, all these processes took place after the study obtained an ethical approval certificate from the Basic and Social Sciences Research Ethics Committee (BASSREC) within North-West University, Vaal Campus. The research focused on three local municipalities within the Capricorn District Municipality of Limpopo Province. The next section of the study will present, analyse, and interpret the findings.

CHAPTER FIVE: RESEARCH FINDINGS, ANALYSIS, AND INTERPRETATION OF DATA

5.1 INTRODUCTION

This chapter presents the research findings, analysis, and interpretation of data gathered through face-to-face interviews and semi-structured questionnaires. Data collection was conducted in three selected local municipalities, namely: Molemole, Blouberg, and Polokwane Local Municipality in Limpopo Province. The chapter presents results that were collected from municipal officials, politicians, and community members in those municipalities. The study aimed to identify the reasons behind the abandonment of public infrastructure projects in the three selected local municipalities, assess the condition and quality of these projects, assess the impact of public infrastructure projects on the financial viability of South African local municipalities, identify the challenges that impede the successful completion of public infrastructure projects, and finally, pinpoint the socio-economic opportunities for successful public infrastructure project construction in the selected local municipalities. In pursuit of these objectives, the study collected data from community members, municipal officials, and politicians, seeking their perceptions and views on the implementation of public infrastructure projects such as roads, water, and sports infrastructure in the aforementioned local municipalities. The choice of local municipalities was influenced by the public infrastructure projects typically implemented in these municipalities. The study followed a mixed-methods research approach to get the required data. This chapter is divided into three sections. Section A below presents the findings from the municipal officials; Section B is for community members; and Section C is for politicians. In some sections of the study, graphs, words, and pie charts are used to demonstrate the findings.

5.2 PRESENTATION OF FINDINGS

The findings were collected in two ways from the participants. The study employed face-to-face interviews to obtain data from municipal officials. Secondly, the study used semi-structured questionnaires with open and closed-ended questions to get the results from politicians and community members in the three chosen local municipalities. Therefore, the study will present data collected through interviews and questionnaires.

5.2.1 SECTION A: Data collected from municipal officials

The study collected data from municipal officials in Molemole, Blouberg, and Polokwane Local Municipalities, located in Limpopo Province, through face-to-face interviews. These officials were chosen under the impression that they have more knowledge and understanding of how roads, water and sport infrastructure projects are implemented in their respective local municipalities. In other words, the researcher purposively conducted interviews with municipal officials who directly deal with the implementation of roads, water and sport infrastructure projects. Among other questions, municipal officials were probed with a set of questions under the following themes: the causes of abandoning the construction of public infrastructure projects in the three selected local municipalities, the state and quality of constructing public infrastructure projects in the three selected local municipalities, the impact of public infrastructure projects on financial viability in the South African local municipalities, challenges hindering the successful completion of public infrastructure projects and lastly the socio-economic opportunities that could emanate from the successful implementation of public infrastructure projects in the selected local municipalities. Face-to-face interviews with municipal officials were worth it. In the sense that the researcher has managed to get sufficient data through valuable interactions and follow up questions with sixteen (16) municipal officials. The next section presents demographic information about the municipal officials in the three selected local municipalities.

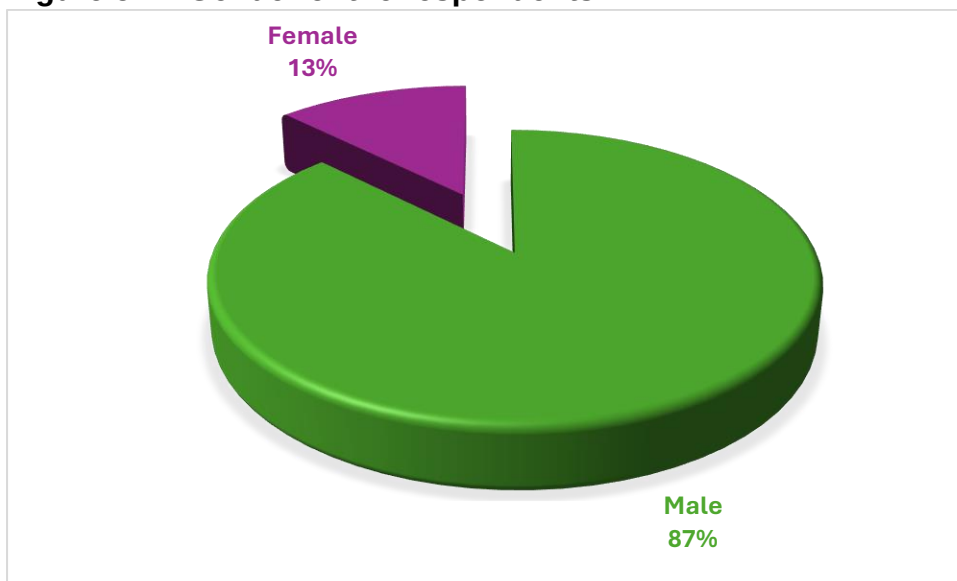
5.2.1.1 Demographic information

The presentation, analysis, and interpretation of face-to-face interview data begin by providing demographic information about the municipal officials in Molemole, Blouberg, and Polokwane Local Municipalities. Demographic information was developed under the following sub-themes: gender, ethnic or historical racial group, age group of the respondents, home language, marital status, education, training, and highest qualification, and lastly, the employment status of the respondents. It established the demographic profile of respondents the researcher was dealing with at data collection. Below are the findings of the demographic information for the municipal officials in the three selected local municipalities.

5.2.1.2 Gender

Under demographic information, the first question was about gender. The study posed this question to establish the gender profile of the respondents, who are municipal officials in the three selected local municipalities. According to Mabeba (2021), probing gender in this study is important because it gives the study an opportunity to determine the male and female dominant genders of municipal officials in Molemole, Blouberg, and Polokwane Local Municipalities. The gender profile of the respondents is presented below.

Figure 5. 1: Gender of the respondents



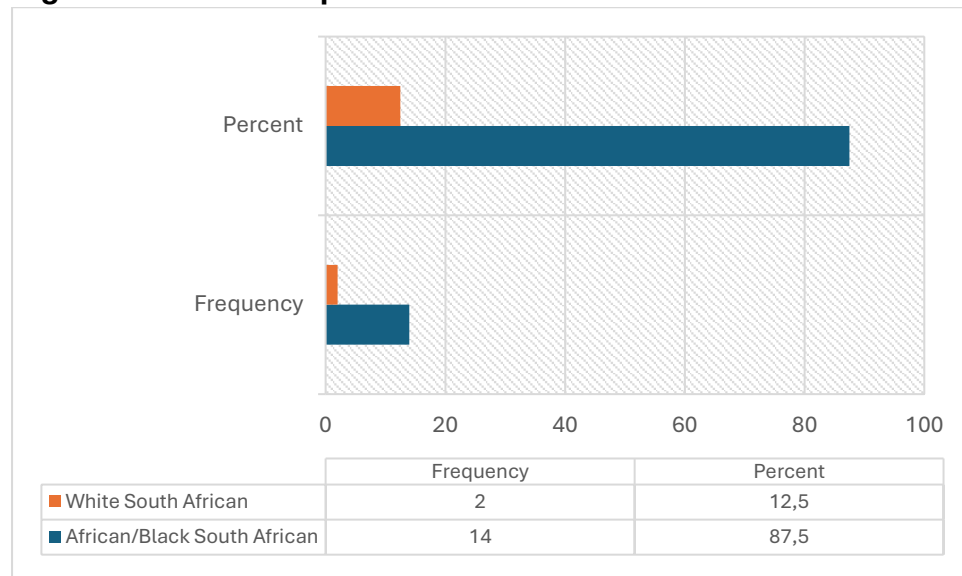
The above drawing demonstrates the gender profile of municipal officials in the three selected local municipalities in Limpopo Province. Through careful analysis and observation, the study found that 87% of the respondents were males, while 13% of them were female municipal officials. Various factors could have contributed to this finding. One of them may be the level of interest in participating in the study. The second one could be that the majority of the municipal officials who are involved in the implementation of roads, water and sport infrastructure projects are males in the three selected local municipalities. Therefore, it can be concluded that the majority of the respondents in this study were male municipal officials.

5.2.1.3 Ethnic/ historical racial group

Among other demographic questions, the study wanted to determine the level of representation per ethnic group. The study provided the respondents with four ethnic

group choices. These choices included black, white, coloured, and Indian South Africans. The results for ethnic representations are presented below.

Figure 5.2: Ethnic representation

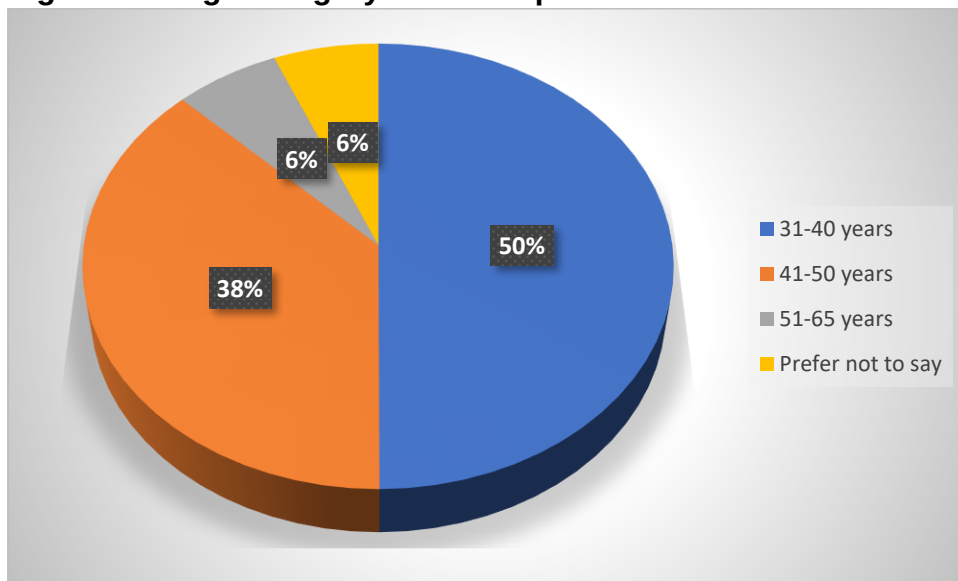


The above graph indicates the ethnic representation of the municipal officials within the three selected local municipalities. The above figure shows that the study included 12.5% white South African respondents, and 87.5% black South African respondents. Despite the data collection instrument offering options for respondents to choose from based on their ethnic or historical racial groups, there was no representation of coloured or Indian respondents. The study's findings indicate that black South Africans made up the majority of respondents, with a relatively low representation of white South Africans at 12.5%.

5.2.1.3 Age group

The study also probed the age group of the respondents. This is because age often determines the respondent's knowledge and understanding regarding the implementation of roads, water and sport infrastructure projects. Considering this, the respondents were able to indicate their age categories and the findings are presented below.

Figure 5.3: Age category of the respondents

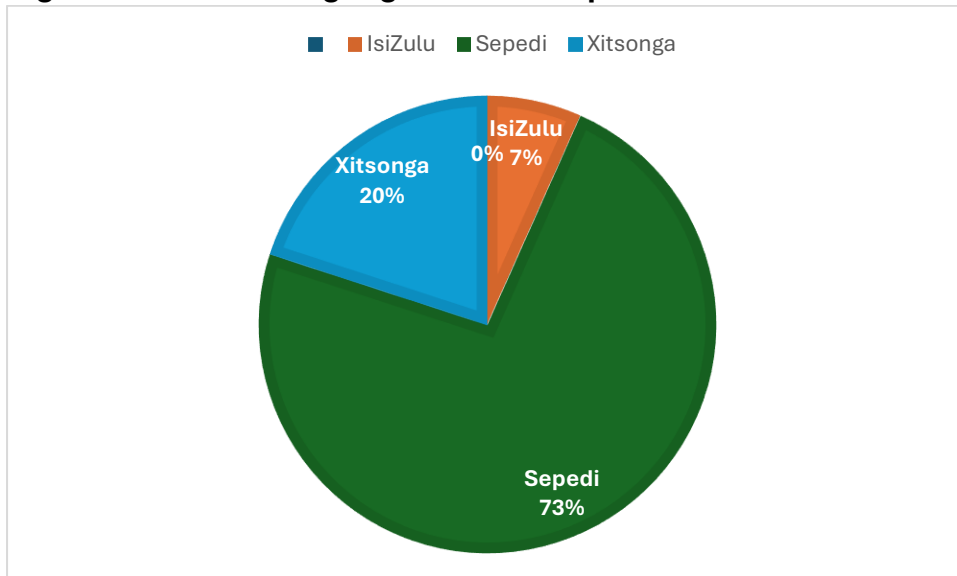


The study probed the age categories of the respondents in the three local municipalities. The intention was to establish the age profile of the respondents because age often influences their perceptions and experiences, particularly when dealing with questions about the implementation of public infrastructure projects in the selected local municipalities. The study revealed that 50% of the respondents were aged between 31 and 40, 38% were aged between 41 and 50, and 6% were aged between 51 and 65. However, it is also worth mentioning that 6% of the respondents preferred not to indicate their age categories. Therefore, the majority of the respondents were between 31 and 40 years.

5.2.1.5 Home language

The study probed home language as part of the respondents' demographic information. Probing home language assisted the study in determining the tribal background of the respondents in the three selected local municipalities. The figure below shows the statistics of the home languages that were represented in the study.

Figure 5.4: Home languages of the respondents

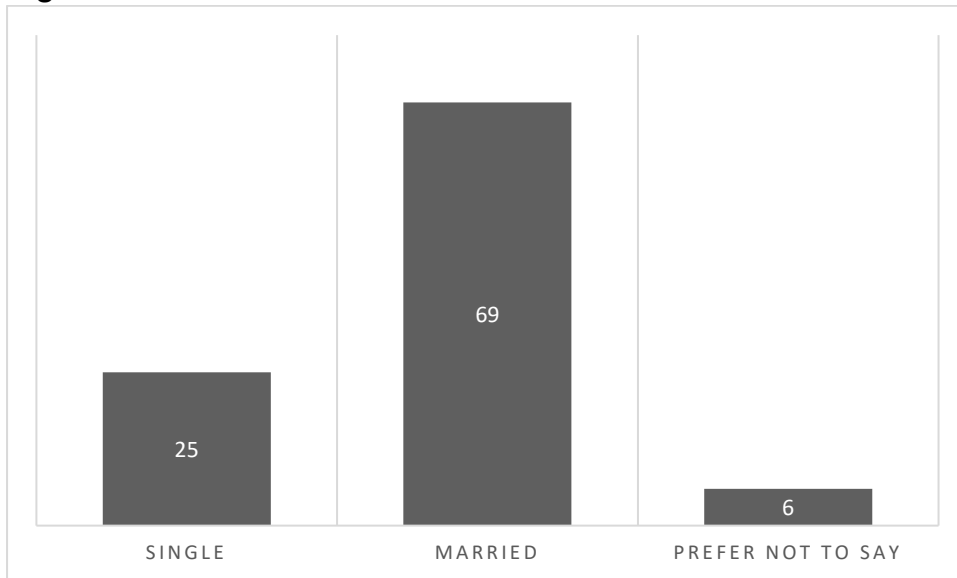


The data collection instrument had eleven South African official languages for respondents to choose from. Out of eleven official languages in South Africa, only three of them had representation in the study. The respondents were speaking Sepedi, Xitsonga, and Isizulu. Sepedi-speaking respondents made up 73%, Xitsonga-speaking respondents made up 20%, and Isizulu made up 7%. By the look of the statistics in the above figure, one can conclude that the majority of the respondents were Sepedi-speaking respondents.

5.2.1.6 Marital status

Marital status helps establish the marital status of the respondents. The respondents were given four choices to choose from. These choices were single, married, divorced, and widowed. The following figure illustrates the marital status of the respondents in Molemole, Blouberg, and Polokwane Local Municipalities.

Figure 5.5: Marital status

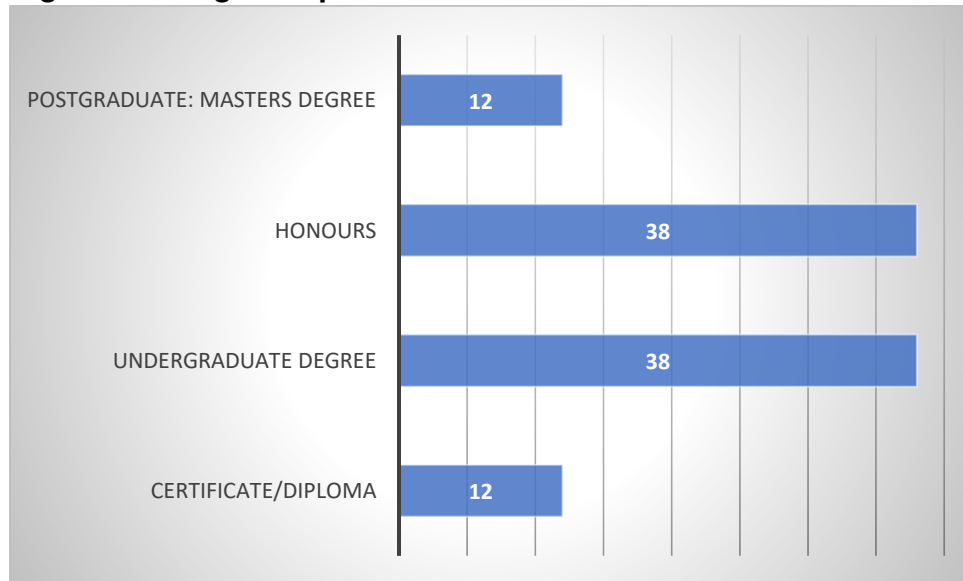


The above figure illustrates the marital status of those who participated in the study. The study notes that 25% of the respondents from the three selected local municipalities were single, and 69% of them were married. Meanwhile, 6% of the respondents preferred not to indicate their marital status at the time of data collection. There are various reasons that could cause the respondents not to indicate their marital status. One of the reasons could be that they mistakenly forgot to indicate their marital status or that they did not feel comfortable revealing it. Nevertheless, the study concludes by stating that, making reference to the above figure, the majority of the respondents were married.

5.2.1.7 Education and training / Highest qualification

Investigating the highest qualification in this field was also crucial. The study sought to establish the educational profile of the respondents he was dealing with. Educational background also influences the level of engagement between the researcher and the respondents. The perceptions of a respondent with a diploma certificate differ from those of a respondent with a postgraduate qualification. Educational background could also limit the respondent's ability to express themselves on the questions of concern. The figure below shows the educational background of the respondents.

Figure 5.6: Highest qualification



Respondents had five options to choose from for this question. These choices were matriculation, certificate or diploma, undergraduate degree, honours degree, masters degree, and lastly, a doctoral degree. In this case, 12% of the respondents have certificates and diplomas, and 38% of them have undergraduate and honours degrees. Meanwhile, those with a master's degree were represented by 12%. It is also worth highlighting that none of the respondents in the study hold a doctoral degree. According to the findings displayed in the above figure, one could say that the majority of the respondents were in possession of a postgraduate qualification. The statistics for honours and postgraduate master's degrees support this. Additionally, the study could argue that the majority of the respondents in the municipality hold postgraduate qualifications, which shows how the respondents value education.

5.2.1.8 Sections which respondents work within

The researcher deemed it important to also investigate the sections within which the respondents work. This was necessary to determine if respondents had the information the researcher needed. Arguably not everyone who works in the three selected local municipalities would be able to provide opinions and views on the implementation of roads, water and sport infrastructure projects. Hence, it was necessary to probe the sections that respondents work within as a way of ensuring that the researcher collects data from the correct respondents. The figure below shows the designations of the 16 respondents in the three selected local municipalities.

Table 5.1: Sections which respondents work within

	Number of participants per section
Budget and Treasury: Finance	1
Building infrastructure	1
Economic development and planning	3
Economic development and tourism	1
Facilities management: Sport infrastructure	1
Office of the Municipal manager	2
Project implementation unit/Project management unit	5
Roads and storm water: Technical services	1
Water and sanitation: Water infrastructure	1
Total	16

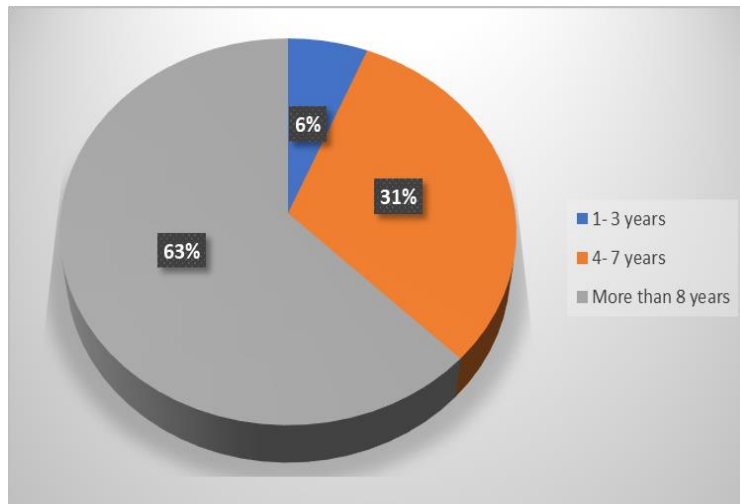
The study wanted to know which sections the respondents worked in. This measure was taken with the expectation that not all municipal officials would be able to provide answers about the implementation of public infrastructure projects. The researcher was also trying to avoid a situation whereby the findings or results would be too generalised. The above findings indicate that the majority of the respondents were associated with the project management unit. The researcher can conclude that the majority of the respondents had sufficient knowledge about the way in which roads, water and sport infrastructure projects were implemented in their respective municipalities.

5.2.1.9 The duration or period the respondents have been working

Respondents were also asked to indicate their duration or period of employment in their respective sections, units, or divisions. The researcher holds the view that probing this question is also important. In the sense that it allowed the researcher to know the type of respondents the researcher was dealing with at the time of data collection in terms of the experience and knowledge the respondents possessed about roads, water and sport infrastructure projects. Secondly, the researcher has established that the responses which were given by the respondents in the three selected local municipalities were also influenced by their years of experience and knowledge in the field of project management. In other words, a respondent with two

years of experience in the field of project management would not have the same views as a respondent who has been involved in the implementation for eight years.

Figure 5.7: Duration of employment service

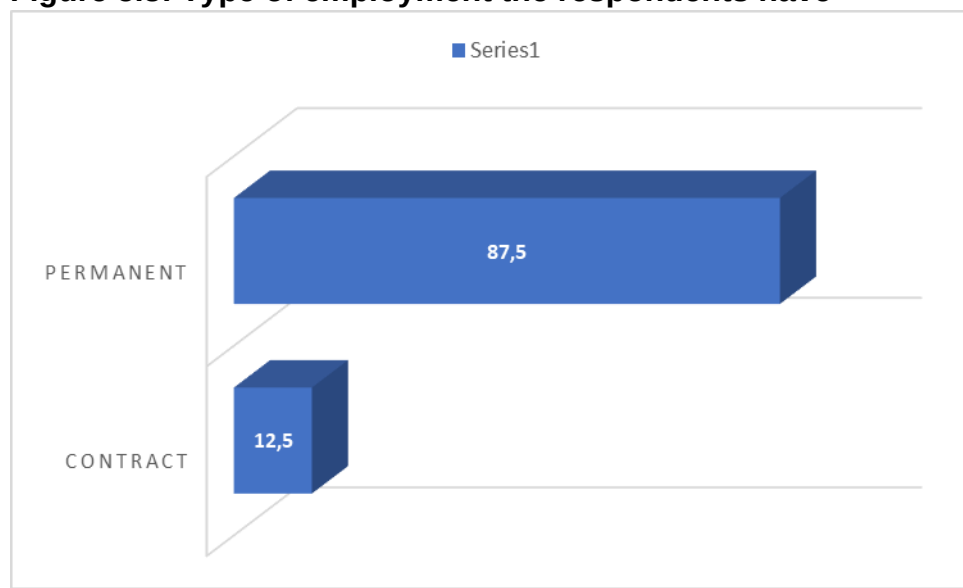


The above figures show the duration of employment for the respondents in the units of roads, water and sport infrastructure. The researcher probed a set of questions that were guided by the following themes: the state and quality of constructing public infrastructure projects; the causes of abandoning the construction of roads, water, and sport infrastructure projects; the impact of roads, water and sport infrastructure projects on municipal financial viability; the challenges hindering the successful completion of roads, water and sport infrastructure projects; and lastly, socio-economic opportunities that could emanate after the successful completion of roads, water and sport infrastructure projects. Looking at the above findings, the majority of the respondents (62.5%) have been dealing with infrastructure projects for more than eight years. Secondly, the study included respondents (31,3%) who had been working on infrastructure projects for four to seven years, while a minority of respondents (6,2%) had been involved in project implementation for one to three years. However, none (0%) of the respondents had worked with infrastructure projects for between zero to five months and five to twelve months. In closing, the majority (62.5%) of the respondents have been involved in the implementation of roads, water and sport infrastructure projects for more than eight years. This was also an advantage for the researcher because the majority of the respondents had sufficient experience, which ultimately influenced their perceptions of the questions under concern.

5.2.1.10 The type of employment the respondents have

The researcher also sought to establish the type of employment the respondents have in the three selected local municipalities. The researcher probed whether the respondents were on probation, part-time, contract, or on a permanent basis. The findings are presented below.

Figure 5.8: Type of employment the respondents have



The researcher wanted to establish the employment conditions of the respondents in the three selected local municipalities. The researcher provided the respondents with four options to choose from. The study's findings reveal that none (0%) of the respondents held probationary or part-time employment. Therefore, the majority of the respondents worked on a permanent basis, with a figure of 87.5%. Lastly, a minority of the respondents were working on a contract basis, and their representation in terms of figures was 12.5%. In conclusion, the researcher has discovered that the majority of the respondents who deal with the implementation of roads, water and sport infrastructure projects are working on a permanent basis. This is a positive observation in the sense that respondents who were involved in the implementation of these projects are on a full-time basis in the municipality, and their employment loyalty and knowledge could assist their respective municipalities in successfully implementing public infrastructure projects.

5.3 THE STATE AND QUALITY OF CONSTRUCTING PUBLIC INFRASTRUCTURE PROJECTS IN THE THREE SELECTED LOCAL MUNICIPALITIES

One of the research questions was to ask municipal officials in the three selected local municipalities about their satisfaction with the state and quality of roads, water and sport infrastructure construction. The respondents' opinions differed. As a result, the findings are presented below.

5.3.1 The level of satisfaction regarding the state and quality of constructing roads, water and sport infrastructure in the three selected local municipalities

One of the objectives of the study was to assess the state and quality of the construction of roads, water and sport infrastructure in Molemole, Blouberg, and Polokwane Local Municipalities. The researcher aimed to determine the quality of infrastructure services that contractors provide within the three local municipalities. According to the findings, the responses range from dissatisfaction due to contractor incompetence and lack of funding to satisfaction with project quality and adherence to specifications. Most of the respondents mentioned dissatisfaction with the quality of work due to contractor incompetence. The contractors' lack of expertise or capability is evident in issues like late completion of work, poor workmanship, and the need to redo some work.

One of the respondents stated, *“No, due to the incompetence of contractors, the quality of the work is not up to standard. We have to re-do some of the work sometimes. The quality of work is a big issue. Contractors run out of money, which affects the quality of the work”*.

Another respondent said:

“No, I am not satisfied. The roads don't last for five years. We start to see potholes; the problem could be the design and material used. With sport facility, we have one that I was not satisfied with at Ben Seraki Stadium. It was blown by wind, and insurance claimed that it's because of the cheap material that was used.”

Another respondent added that:

“Partly yes; in terms of technicality, I am not that impressed. The quality of the contractors is regressing a lot. The construction industry is still lacking; maybe we need to professionalise the industry. Hence we also hear things on the news about construction cartels or mafias. The poor quality is a trend in the industry, and our municipality is not immune. The Daily Maverick has been doing investigations about construction cartels. The type of quality is not really good, especially in rural areas.”

One of the respondents provided a different perspective, stating, *“Yes, it was good. We were not going to pay the contractor if the work was of poor workmanship.”*

Another seconded that they are satisfied with the state and quality of constructing roads, water and sport infrastructure:

“Yes, it’s monitored; the quality is good because the municipality follows the standard. If it’s material, we make sure it’s in line with the specifications. We make sure the material is South African Bureau of Standards (SABS) approved.”

Conclusively, the majority of the respondents were satisfied with the state and quality of the work delivered by the contractors within the three chosen local municipalities. The findings suggest that, to a certain extent, some of the contractors are providing quality work, depending on the nature of the project. However, there were a minority of the respondents who were not satisfied with the state and quality of constructing roads, water and sport infrastructure projects. These respondents cited poor workmanship, lack of adherence to project specifications, and contractor incompetence. There were also concerns about the quality of infrastructure, especially in terms of roads not lasting as long as expected, water infrastructure issues such as lack of water flow despite laying pipes, and questions about the durability of sports facilities. Therefore, respondents had different views about the state and quality of the infrastructure.

5.3.2 Value for money on the construction of roads, water and sport infrastructure

According to the Office of the Auditor-General of New Zealand (2008), value for money in the context of procurement and public infrastructure means using resources

effectively, economically, and without waste, with due regard for the total costs and benefits of an arrangement and its contribution to the outcomes the entity is trying to achieve. This office emphasised that value for money does not always imply choosing the lowest price, but rather the best feasible result for the total cost of ownership. According to Barnett, Barr, Christie, Duff and Hext (2010), the phrase "value for money" refers to a clear commitment to making sure that the funds spent on implementing public infrastructure yield the best benefits possible. In light of these definitions, the researcher saw it as important to also determine the state and quality of the work of the contractors by probing whether there is value for money in the construction of roads, water and sport infrastructure. Respondents show different perceptions about value for money, according to the results. However, the majority of the respondents have indicated that there is value for money in the roads, water and sport infrastructure projects that the municipalities are providing to the communities in the three selected local municipalities.

One of the respondents articulated: *"Yes, there is value for money; we get what we appointed people or contractors for. If it's a sports complex or road ward, councillors would also confirm that there is value for money."*

Another respondent said: *"Yes, with roads, there is value for money. People are able to use the roads, and they are connecting. There is a sidewalk. There is value for money in the water treatment."*

Another respondent also claimed that *"it is there, but not that much, but not with the anticipation that someone can expect. We (the municipality) spend a lot of money, but the quality does not match the spending."*

However, another respondent shared a different view, specifically on sports infrastructure, by arguing that:

"No, we construct sports facilities in rural areas where communities don't use them. The construction of sports infrastructure in villages while people don't have water and tarred roads to access sports facilities. The municipality spends 30 million on sports infrastructure that is not used."

From the findings, there are various perceptions about the value of money on roads, water and sport projects. In line with the findings, the researcher argues that there is value for money on certain projects, such as water and roads, while there is no value for money on sports infrastructure. Some municipalities agreed on value for money, while others disagreed. This depends on the municipality where the projects took place. Therefore, the geographical locations of the infrastructure also influenced the respondents' perceptions of value for money.

5.3.3 Roads, water and sport infrastructure projects which were poorly/inadequately constructed and the interventions

Among other factors, inadequate construction supervision and a shortage of skilled technical personnel might be the causes of inadequate construction of roads, water and sport infrastructure projects (ERF, 2014). The researcher sought to establish whether the three selected local municipalities have had roads, water and sport infrastructure that was poorly or inadequately constructed in the past. The aim was to establish the extent to which contractors concerned deliver quality roads, water and sport infrastructure. Additionally, the researcher examined the steps taken to rectify past projects that were either poorly or inadequately executed. Most of the respondents have agreed that they have not had roads, water and sport infrastructure that was poorly or inadequately constructed in the past. However, a small number of respondents did identify and mention some poorly constructed projects. It is worth mentioning that, according to the findings, there were specific projects, such as sport and water in specific municipalities that were poorly constructed.

One of the respondents mentioned that:

“Yes, Ben Seraki Stadium is a good example of a poorly constructed stadium because it could not withstand a simple wind. The roof was blown away and fell apart. Internal streets have potholes. Therefore, in terms of interventions, we use a retention strategy by taking a portion of 10% of the total value of the project. We use the money to rectify the mistakes on the project. We also have the option to call another contractor if the first one fails to rectify the mistakes. The 10% is deducted from each and every payment. Then after 12 months, if there are no errors on the project, we release the

whole money to the contractor. This 10% is applicable to all projects (roads and sports)."

Another respondent said, "Yes, Mankweng sports complex. Softball Stadium is next to Peter Mokaba. The Mankweng sports complex, the intervention was the termination of the contractor, and another contractor had to be appointed. Some project managers in the municipality were suspended and dismissed."

Another respondent added that "yes, sports facilities were not designed in line with sport, arts and culture standards. For example, the measurements of the field were not meeting the standards. Therefore, if the national and provincial were to choose sport facilities for sport purposes, ours would not be chosen. The municipality had to source out money to re-do the project or rectify it so that the facility could meet the standards and project specifications."

Another respondent said:

"Yes, we have had projects that were poorly or inadequately constructed. The contractor, engineer and project team had to be terminated and a new team appointed. The engineer underestimated the value of the athletic tracks and gave it a fixed amount on the bill of quantities, and the contractor could not purchase material due to underpricing. The other reason is that the engineer gave wrong estimates of the project materials. Therefore, this kills the project because the contractor thought the engineer knew how to do the quote estimates. We therefore terminated the engineer, which resulted in the project stopping. The contractor signed to do the project for a certain amount, and as a result, the municipality was not going to afford new prices."

Another respondent claimed that "I have never been not happy with the final product, but during construction there were corrections to the specifications or the project itself."

In conclusion, the challenges that the three local municipalities have experienced in terms of roads, water and sport projects that were inadequate are not the same. This depends on the nature and type of the projects. Some of the municipalities have problems with sports infrastructure, while another municipality has challenges with road infrastructure. However, most of the respondents have indicated their dissatisfaction with sports infrastructure, outlining various factors that they have

encountered. As a result, all respondents indicated that their respective municipalities were able to implement interventions to resolve the challenges. Generally, respondents have indicated that they had to fix, rectify, or redo some of the mistakes. Another common intervention was to terminate and re-appoint new contractors. The study argues that there is a lot that needs to be done. Some contractors still lack the ability to adequately do the work assigned to them. The study further acknowledges that most of the respondents agreed that they have never had projects which were poorly constructed.

5.3.4 Community members level of satisfaction about the state of constructing roads, water and sport infrastructure in your municipality

Results that the public finds pleasing are indicative of good governance (Sebola, 2021). The researcher used a number of questions to verify whether constructors deliver quality roads, water and sport infrastructure in the three selected municipalities. Checking whether community members were satisfied with the state and quality of constructing roads, water and sport infrastructure was another approach to confirming whether contractors were providing quality roads, water and sport infrastructure. It was also necessary to check the level of satisfaction of community members since they are the daily users of roads, water and sport infrastructure. The study found that the majority of the respondents indicated that community members were satisfied with the state and quality of constructing roads and sports infrastructure. Responses generally indicated a positive perception of community satisfaction with infrastructure projects, particularly roads and sports facilities. Community members were often described as appreciative of the improvements to their environment and the opportunity to use upgraded facilities.

One of the respondents argued that *“yes, they are happy with both sport and road infrastructure. Regarding water infrastructure, they are not happy.”*

Another respondent mentioned that:

“Yes, for sure. Because on a quarterly basis we (the municipality) have Imbizo, the municipality also has outreach programmes where communities make comments about the projects delivered to them. The community loved the projects, and we never

had problems. The mayor gives feedback to communities, and communities are able to comment about their happiness and dissatisfaction.”

However, another respondent argued that *“in essence, they are satisfied because of a lack of infrastructure knowledge and designs.”*

This was a clear admission that sometimes a lack of knowledge about project specifications and designs could make community members unable to see a good and bad implemented project.

Most of the respondents stated that community members were satisfied with the contractors' work in terms of road and sports infrastructure quality. Therefore, the findings also suggested that the respondents were not satisfied with the quality of the water infrastructure.

5.3.5 The ways in which municipalities manage the construction of roads, water and sport infrastructure projects to ensure quality

One way to ensure quality in the construction industry is to have a variety of measures in place to commit contractors to providing perfect service. The researcher wanted to know the ways in which municipalities manage the construction of roads, water and sport infrastructure to ensure quality work on the part of the contractor. The researcher probed this question to find out about some of the measures that the three selected local municipalities have in place to ensure quality roads, water and sport infrastructure. The study also wanted to establish whether the municipalities under concern were taking measures as part of committing contractors to provide roads, water and sport infrastructure that are centred around quality. According to the findings, all respondents have outlined some of the measures that the three selected municipalities have in place. Generally, municipalities use project monitoring and oversight, community members, contractor compliance, and quality assurance measures such as appointing professional service providers, conducting site visits, and evaluating both contractors and consultants to ensure project deliverables meet expectations. Municipalities also employ legal and contractual compliance, implementing procedures to handle issues with incompetent contractors. These

procedures include providing notice of intention to terminate contracts and seeking legal opinions to prevent contract breaches. Compliance with legal requirements and contract terms was emphasised to ensure that projects are completed according to specifications and within budgetary constraints.

One of the respondents mentioned that *“the municipality ensures quality by making sure contractors adhere to project specifications. Consultants and engineers do site visits every day to ensure the contractor adheres to the specifications. The municipality conducts random site visits. Monthly technical meetings are held to determine the status and progress of the project and check if there is nothing that is compromising the project. This is to correct things that are not going according to plan on site. All these measures are effective. There is no way we (the municipality) can fail.”*

Another respondent said: *“We also use guarantee strategies wherein the contractor is liable for any damage to the infrastructure for 12 months after the project is done.”*

In conclusion, there are a number of measures in place to ensure that roads, water and sport projects are completed according to project specifications, contract agreements, and project deadlines. The study holds the view that if all these measures are applied correctly, all infrastructure, roads, water and sport projects could be delivered according to client expectations while also displaying quality.

5.4 THE CAUSES OF ABANDONING THE CONSTRUCTION OF ROADS, WATER AND SPORT INFRASTRUCTURE PROJECTS

The main objective of the study was to establish the causes of abandoning the construction of roads, water and sport infrastructure in the three selected local municipalities.

5.4.1 The causes of abandoning the construction of roads, water and sport infrastructure in your municipality

In 35% of all cases, mishandling of resources was the most prevalent type of corruption in municipal offices. Whistleblowers (Accram, 2020) allege that municipal personnel plundered and misused funds intended for service delivery and

development. A question was probed to the municipal officials (respondents) to establish the causes of abandoning infrastructure projects in their municipalities. The responses to abandoned projects reveal a number of challenges. The study has identified the following challenges: underestimating costs, leading to cash flow issues. Contractors are running out of money and requesting release from the municipality. There is a lack of budget allocation for projects. Community protests due to job openings. Political interference is causing disputes over appointments and laborers. Various political parties are involved in subcontracting, disputes, and interference. Contractors display incompetence and misuse of funds. Contractors' poor performance, inadequate cash flow management, and substandard work quality are all contributing factors. Underquoting by contractors leads to financial mismanagement and delays. Contractors often lack experience and capital. Late payments, contract terminations, and difficulties obtaining construction permits cause delays. Lack of planning and budgeting causes delays and terminations.

One of the respondents said:

“For us, it is not necessarily abandonment; for example, we build sports projects in phases. So the phases might have different contractors. In each phase, we have to re-advertise and appoint another contractor for the next phase. So in the face of the community, it may look like abandonment, but other than that, we don't have such problems with abandoning projects. In terms of supply chain management policy, the municipality cannot appoint a contractor for more than three years. With the stadium, it took us 6 years because this depended on the duration of the contractor's appointment for a specific phase. The phases of projects are applicable to roads and sport infrastructure.”

Another respondent stated, *“Lack of budget allocation to implement the project (under budgeting) leads to abandonment of the projects. Lack of experience among contractors also causes the abandonment of projects. Another cause is the lack of capital from the contractor. He or she fails to deliver the project. Sometimes they even request upfront, which is not possible to pay. Community disruptions and local Small and Medium Enterprises (SMEs) want to be forcefully involved in the projects even when they don't qualify. Strikes and protests also stop the work at the site.”*

Despite these challenges, some respondents noted that their municipality had not experienced any abandoned projects, attributing their success to rigorous vetting of service providers, ensuring financial resources, and managing community

expectations effectively. Overall, these responses show that there are so many challenges that the three selected municipalities are facing during project implementation.

5.4.2 Any roads, water and sport infrastructure projects which were abandoned in the past and the interventions

The study wanted to check whether there were roads, water and sport infrastructure projects that were abandoned in the past. This was to confirm whether the three selected municipalities had previously had projects that were abandoned. According to the findings, the majority of the respondents have dismissed that they have abandoned roads, water and sport infrastructure projects in the past. However, there are a few respondents who acknowledged that there were some abandoned projects in their municipalities. Therefore, the study found that some projects experience delays due to contractors not performing as expected, especially sports infrastructure projects. Budgetary constraints result in incomplete project phases, where contractors may not be available or there is insufficient funding. Project abandonment was also caused by contractors lacking experience or under pricing their bids, resulting in termination and re-advertisement for new contracts. Legislative weaknesses allow councillors to prioritise their own projects, leading to the abandonment of previous term projects. Underperforming projects, particularly in water and sports infrastructure, have resulted in contracts being terminated and new service providers being appointed. Penalties were imposed on contractors for cash flow challenges, and they are not allowed to abandon project sites. Interventions such as terminating contracts, appointing new contractors, and re-advertising projects have been successful in addressing abandonment issues and ensuring project continuity.

One of the respondents stated, *“I won’t say abandoned. Sometimes you find that projects are done in phases. You find that phase 3 of the project is not complete; no contractor comes to do phase 3. Sometimes there is no budget to do the phase of the project. What we do as the municipality is that we work in isolation with the budget unit. There is no communication between the budget unit and the facilities management: sport infrastructure. We want a four million budget; they give us one million. As a result this makes some of the phases of the project not to be completed”*.

Another respondent argued: *Yes, the Mankweng sports complex was abandoned. We terminated and appointed a new service provider.*”

The aforementioned findings reveal varying perspectives on project abandonment. Some respondents strongly agreed that they had never abandoned projects in their municipalities, while others acknowledged that they had previously abandoned roads, water and sport infrastructure projects for various reasons, such as underperformance and inexperienced contractors. In closing, some of the projects were abandoned in certain selected municipalities. Therefore, the researcher was able to achieve the objectives of the inquiry. Additionally, the respondents identified some of the measures implemented for abandoned projects..

5.4.3 Monitoring measures selected local municipalities have in place to prevent the abandonment of constructing these projects

The best way to avoid abandoned projects is to have monitoring measures in place. The selected local municipalities can develop these measures based on their previous experiences. Again, the municipalities under concern may learn from other municipalities' experiences to avoid abandoning public infrastructure projects. The study probed the monitoring measures the three selected local municipalities had in place to prevent abandoning roads, water and sport infrastructure projects. All respondents have provided some of the monitoring measures the three municipalities have in place. Amongst other measures, the study discovered that there are project managers, consultants, public participation officers, and concerned councillors who conduct regular site visits to monitor progress and address challenges. Additionally, technical service departments and engineers are also involved in monitoring contractors' adherence to project scopes and specifications. Laws and regulations such as the General Conditions of Contract (GCC) and FIDICO govern contracts, requiring contractors to meet minimum requirements during adjudication. Community members and ward councillors form project steering committees to represent community interests and monitor project progress. Contract agreements are established to manage contractors' conduct, and project meetings are held to discuss challenges and escalate them for resolution. Support is provided to contractors as

needed, in accordance with the General Conditions of Contracts of 2015. Furthermore, weekly reports and updates, as well as quarterly reporting through project management systems, help track progress and adherence to targets. Contract breaches incur penalties, while service level agreements (SLAs) delineate milestones and conditions of appointment. Contract termination may occur to ensure project integrity in cases where contractors are unable to continue.

One of the respondents said, *“Weekly reports and updates. There is a project management system where we report quarterly. We have to report the progress and upload proof of the work done on the system. But this is guided by the targets we set before the project starts.”*

In essence, the study found that there are monitoring measures in place to prevent the abandonment of road, water and sport infrastructure projects. According to the respondents, these measures seem to be helpful towards ensuring project completion and integrity.

5.4.4 Roads, water and sport infrastructure projects in your municipalities completed on the agreed time

Arguably, there are internal and external factors that may disrupt project completion on time. The purpose of this question was to confirm whether contractors were able to deliver roads, water and sport infrastructure on time. The majority of the respondents concurred that certain projects failed to meet their completion deadlines. The respondents have mentioned various causes, such as weather conditions, like rain, that can affect the progress of projects, especially road construction. Community protests and disruptions can delay projects, impacting the contractor's ability to work. Cash flow management issues on the contractor's side can lead to delays. Conflict between contractors and subcontractors over financial matters can halt project progress. Some of the contractors faced liquidation by authorities like the South African Revenue Service (SARS), which resulted in project delays or abandonment. Again, delays in the supply of materials have affected project timelines. Labour-related matters, such as disputes over payment, halt work on projects.

A respondent has indicated that: *“No, due to a lack of budget, the municipality does not have money to pay the contractor. It is not actually the contractor, but on the municipality’s side. Therefore, this makes the contractor not to work or continue with the work.”*

Another respondent claimed that *“yes, we have never had one that runs beyond time.”*

Therefore, the above-mentioned factors cause some of the roads, water and sport infrastructure projects to not be completed on time. Despite Service Level Agreements (SLA) requiring contractors to meet completion deadlines, late completion of projects can have significant consequences. Contractors lose a portion of money for failing to complete projects on time, especially if the challenges are within their control. However, this does not necessarily imply that contractors are solely to blame for delayed project completion. The findings have indicated that municipalities may also contribute to failure to meet project deadlines due to insufficient budgets. Weather conditions were also mentioned as some of the contributing factors for projects that were not completed on time. The study also acknowledges the timely completion of some projects.

5.4.5 Contractors deliver these projects according to contract agreements

The study wanted to check whether the appointed contractors delivered roads, water and sport infrastructure in line with contract agreements. The intention was to confirm whether contractors were compliant with contract agreements or not. In terms of the research findings, the majority of the respondents indicated that contractors do deliver roads, water and sport infrastructure according to contract agreements. Nevertheless, the respondents argued that some of the contractors do not adhere to contract agreements. For instance, various factors such as changes in designs, a lack of experience by contractors, and challenges in accessing required materials resulted in the delivery of projects not always on time or in line with contract agreements. Some projects experience delays or complications that lead to increased construction costs for both the contractor and the municipality. However, the respondents have mentioned that non-compliance with contract agreements may lead to penalties or termination of contracts by the municipalities.

One of the respondents articulated:

“Both yes and no. The reason for saying no is because of changes in terms of designs during project implementation to mitigate faults, which were done by the contractor. Sometimes it’s because of a lack of experience. Contractors fail to do some things according to project specifications. Lack of access to material required for the project also makes the project not be delivered according to contract agreements. You resort to alternative equivalents. Sometimes there would be an addition of material required to the specifications during implementation, just to rectify a fault by the contractor. Therefore, this results in higher construction costs for both the contractor and the municipality. In terms of yes, the project is delivered according to the contract agreement if it’s not complicated.”

Above all, some projects deliver according to contract agreements, while others encounter challenges that result in delays, cost overruns, or non-compliance with specifications. Municipalities usually employ various measures to ensure contractor accountability and project quality.

5.4.6 There is consequence management system for contractors who fail to deliver roads, water and sport infrastructure projects

Generally, the construction industry is complex. Municipalities use large amounts of capital to fund projects. At the end of the day, they need to have a consequence management system to ensure value for money. Secondly, they must address dishonest and incompetent contractors. The researcher probed a question to check whether the three selected municipalities have a consequence management system for contractors who fail to deliver roads, water and sport infrastructure. This system may help municipalities be more efficient when implementing infrastructure projects. Based on the findings, respondents have outlined various consequence measures utilised by the three selected local municipalities for the successful implementation of roads, water and sport infrastructure. The respondents identified some of these consequence measures, including the possibility of blacklisting contractors who fail to deliver, thereby preventing them from future business with municipalities. Contractors who fail to meet project deadlines or specifications may also face legal action,

including court intervention, to recover funds or resolve disputes. Contract termination may occur in severe cases, and penalties may include withholding payments or charging penalty fees. A retention strategy may be employed, where a portion of the contractor's payment is retained until the project is satisfactorily completed. SLAs and GCCs include clauses for penalty imposition and consequence management in case of project delays or non-compliance. Typically, contractors receive warnings and opportunities to improve before termination. Should there be no improvement, the national Treasury may terminate the contracts and potentially blacklist the contractors.

A respondent mentioned: *“Yes, if contractors don’t deliver according to the agreed time, the municipality will impose penalties. The municipality starts claiming or charging money to the contractor for targets that were not met on time. If that fails, we then terminate the contract with the contractor.”*

Another respondent submitted that:

“Termination of the contract is part of the consequence management system. We also impose penalties against the contractor. Alternatively, we appoint another contractor to continue with the outstanding work. We also use a retention strategy, whereby the standard norm is 10% for every payment made to the contractor.”

In short, respondents have outlined some of the consequence management systems they have in place to smoothly run roads, water and sport infrastructure projects. These consequence management are necessary for ensuring project integrity, adherence to project deadlines, and compliance with contract agreements and specifications. In conclusion, there is no infrastructure project that can run without a consequence management system; otherwise, that would lead to contract breaches.

5.4.7 The extent which political interference in the construction of these projects have negative impact towards successful completion of these projects

According to the International Federation of Accountants (2013), it is unrealistic to assume impartial oversight of public administration's excellent governance without

prejudiced political meddling or interventions. A question was then brought to the attention of the respondents to check whether there was political interference hindering the successful implementation of public infrastructure projects. The intention was to check the extent to which political interference can have a negative impact on the successful completion of roads, water and sport infrastructure. Considering the findings, the majority of the respondents strongly agreed that political interference in the construction of roads, water and sport infrastructure can have a negative impact on the smooth completion of these projects. While a few of the respondents strongly disagreed that politicians do not have room for interference in the construction of these projects. However, interference from different political parties at the ward level can lead to tensions and conflicts, resulting in project delays as communities wait for issues to be resolved. Ward councillors may seek to appoint their own local people, labourers, or sub-contractors, leading to delays and dissatisfaction among community members who may feel excluded. Political promises made to the community may conflict with agreements between contractors and municipalities, causing delays or changes to project plans. Interference can result in delays, causing financial losses for contractors and consultants, especially when projects involve costs that accrue daily.

On a particular note, some of the selected local municipalities experience political interference during the implementation of roads, water and sport infrastructure. Subsequently, this poses serious challenges to the successful completion of projects, often leading to non-compliance with project deadlines and project instability.

5.4.8 Roads, water and sport infrastructure projects awarded to contractors who have a good track record of rendering these projects

The study posits that prospective contractors must fulfill specific requirements to secure contracts. As a result, municipalities may sometimes appoint contractors who are not suitable to implement projects. As a result, this may have a negative impact on projects. According to Mlambo, Zubane and Thusi (2022), political deployment has fostered corruption through tenderpreneurs, cronyism, favouritism, money laundering, nepotism (for example, family members received R3.274 billion in contracts in 2012/2013), fraud, and pricing collusion. In local government, corrupt activities include money misappropriation, unapproved conveyance of municipal funds to external

entities, partiality in procurement processes, and offering bribes to obtain services. On the other hand, the appointment of contractors with a good record gives the three selected local municipalities the opportunity to implement infrastructure projects successfully. It is for these reasons that the study sought to confirm whether roads, water and sport projects are awarded to contractors with integrity, a good record, experience, knowledge, and skills of rendering these projects. This question was necessary because municipalities sometimes award contracts to individuals who are not qualified to perform the work. This may be influenced by political affiliations, friendships, religious affiliations, and intimate relationships, to name a few. Nevertheless, the majority of the respondents have agreed that their respective municipalities consider contractors with a good record. For example, contractors' track records are considered part of the evaluation criteria during the tendering process. Reference letters from previous projects, completion certificates, and completion letters are requested from contractors. Reference checks with other municipalities or institutions are also conducted to verify the information provided. Tender documents outline specific requirements related to contractors' experience and previous project records. Experience is a key factor looked into during the evaluation and adjudication process. Internal municipal processes consider fraudulent documents submitted by prospective contractors null and void and check their track records. Lastly, the study found that contractors are graded according to their project experience, and higher-graded contractors are preferred for projects.

One of the respondents argued that: *“Yes, as part of the evaluation criteria, we consider their records, where they are also expected to attach a reference letter to the projects they have completed somewhere else previously. We also make emails and calls for reference checks with departments and municipalities where the projects were rendered.”*

Another respondent said, *“In my experience, no, they fail to complete the projects.”*

Furthermore, a certain respondent said, *“I am not part of the SCM; I don't know to what extent they look at the record.”*

The majority of respondents indicated that their respective municipalities award contracts to eligible and suitable contractors, in line with the above findings. However, a few respondents disputed the notion that the right people receive contracts. The study concludes that the three selected local municipalities have multiple ways to ensure the award of contracts to suitably qualified individuals. In conclusion, it is always important to award contracts based on merit and professionalism. This may help minimise challenges like having inexperienced, unskilled, and financially unstable contractors who may abandon projects at any given time.

5.4.9 Disputes between contractors and the municipality may affect the success of these projects

The study also wanted to check whether disputes between contractors and the municipality may affect the successful construction of roads, water and sport infrastructure in Molemole, Blouberg, and Polokwane Local Municipalities. Most of the respondents agreed that disputes between the concerned parties could affect the successful implementation of these projects. According to the study, disputes have the potential to affect project success, particularly if they lead to delays or stoppages in project implementation. Disputes may arise due to financial issues, such as underquoting or underpricing by contractors. This can lead to requests for adjustments to contract prices, which may not be permissible under municipal policy. Additionally, in some cases, disputes may lead to contract termination, particularly if the contractor fails to adhere to the terms of the agreement. Disputes may also escalate to legal proceedings, resulting in interdicts that halt project progress. Legal processes can further delay projects and complicate resolution efforts.

In view of the above findings, disputes between contractors and municipalities have a huge impact on the success of roads, water and sport infrastructure projects.

5.4.10 The municipality have skilled and competent project stakeholders to coordinate these projects during implementation

Municipalities with weak administrative and political capabilities have a negative impact on service delivery and good governance (Masuku & Jili, 2019). Hough (2008) found that political infighting and incompetent personnel are the main causes of local

government demonstrations. In light of this, the study wanted to check whether the three selected local municipalities normally hire skilled and competent project management teams to facilitate and monitor the implementation of roads, water and sport infrastructure. This question was also crucial to ask. The capacity of municipal personnel also plays a crucial role in the success of projects. For argument's sake, unskilled, inexperienced, and knowledge limited (in terms of infrastructure projects) personnel in project management may fail to identify whether the contractor follows the project specifications and designs. Therefore, for a project management team that is well skilled and experienced, it might be simple to identify and correct the mistakes during the project. Given this background, all respondents have agreed that the three selected local municipalities consider skilled and competent project management personnel to coordinate these projects. The municipality appointed qualified and experienced personnel and engineers to form the Project Management Unit (PMU), a key office responsible for project management. The municipality specifically mentioned the involvement of PMU technicians in project supervision and implementation. There is a focus on ensuring that PMU personnel are skilled and well-trained to effectively manage projects.

One of the respondents said: *"Yes, there is no way PMU can run with unskilled personnel."*

Another respondent seconded: *"We have a PMU team that is qualified. They also have civil engineering qualifications. We also have consultants."*

From a general point of view, the findings suggest that the municipalities have invested more in personnel with the necessary skills and qualifications to effectively manage and coordinate projects during implementation. This is a positive move in the sense that roads, water and sport infrastructure projects require skilled and capable municipal personnel to promote project efficiency and effectiveness. The findings are supported by the Local Government Sector Education and Training Authority (LGSETA) analysis, which indicated that it is imperative or vital to make a more compelling investment in structuring the adequacy of municipal officials. It is also recommended that a comprehensive system for local government skills development be created, emphasising ethical values, continuous training, and skill improvement. It

also highlights the need for employees to acquire the technical skills necessary to fulfil their assigned responsibilities and a culture of dedication and involvement in the public sector (Dullar Omar Institute, 2020).

5.5 THE IMPACT OF ROADS, WATER AND SPORT INFRASTRUCTURE ON MUNICIPAL FINANCIAL VIABILITY

The next section discusses the impact of roads, water and sport infrastructure on municipal financial viability. The researcher probed two questions in this section, and the findings are presented as follows.

5.5.1 Roads, water and sport infrastructure generate money for the municipality

A question was posed to the respondents in three selected local municipalities to confirm whether roads, water and sport infrastructures generate money for the municipality. Most respondents indicated that infrastructure projects, such as roads and water infrastructure, do not directly generate revenue for the municipality. While roads and water infrastructure may not directly generate revenue, there's recognition of their role in facilitating economic activity and indirectly contributing to municipal revenue. Roads were seen as enabling business opportunities and attracting investors, which can lead to increased rates and taxes for the municipality. Water projects were mentioned as a source of revenue through the collection of water rates and taxes from communities connected to municipal water services. Some respondents emphasised the significance of communities funding water services, suggesting that residents generate revenue through water rates and taxes. This suggests that while infrastructure projects may not directly generate income, ongoing service provision may contribute to municipal revenue through user fees. While certain projects, such as sports facilities, may generate income, the primary focus remains on improving community living conditions, with revenue generation being a secondary consideration in many cases.

One of the respondents claimed that: *“Water we do, people or communities must pay for water services. Sports facilities generate revenue as and when they are used.*

There is a fee to be paid. Roads has indirect revenue for the municipality. The municipality attracts investors by having roads. Business opportunities would not come where there are no roads."

One of the respondents said, "No, the money we spent on building roads, water and sport infrastructure cannot be equivalent to what community members and people pay to hire the facilities. The municipality is not making any money from these facilities. For example, we can't charge people in rural villages. Another example is that we can't charge people in Ga Molepo. Maybe in cities or urban areas. We can charge when Kaizer Chiefs come to use Peter Mokaba Stadium, and this is once in a while."

In conclusion, there were mixed opinions about whether the local municipalities under concern generate revenue from roads, water and sport infrastructure. The study found that, in most cases, roads and water infrastructure may indirectly generate revenue within the three selected local municipalities. It was also noted that rural municipalities are less likely to generate revenue from water, roads and sport infrastructure since the usage of facilities is minimal. Even though sports infrastructure is seen as the only one that generates revenue whenever the facility is rented or hired out for various purposes. Therefore, the majority of the respondents have clarified that the main reason for providing this infrastructure is not to generate revenue but to provide services to community members in Molemole, Blouberg, and Polokwane Local Municipalities.

5.5.2. Financial sustainability of municipalities with the money generated from the usage of these projects

A question was asked to confirm whether the three municipalities can sustain themselves with the money or revenue generated from the use of roads, water and sport infrastructure. All respondents said the local municipalities under concern cannot sustain themselves with the money or revenue generated from the usage of roads, water and sport infrastructure. Respondents generally agree that the income from infrastructure, including roads, sports facilities, and water infrastructure, is not sufficient to sustain the municipality financially. However, there were reasons mentioned that prevented the municipalities from collecting sufficient revenue. These

include rural-based municipalities, where the population may not be able to afford to pay for services, limiting revenue potential. Minimal usage of sporting activities. Some respondents note that there are not enough sporting activities to generate a substantial income from sports facilities. Several respondents highlighted the reliance on government grants, such as the Municipal Infrastructure Grant and equitable shares, for financial sustainability.

One of the respondents said, *“No, Polokwane Local Municipality mostly has rural areas or people who use indigent policies.”*

Another respondent said, *“No, the money is too little, and the purpose of these projects is just for service delivery.”*

In conclusion, the revenue or money generated from the usage of roads, water and sport infrastructure is not enough to sustain the three local municipalities. As a result, these municipalities rely heavily on other sources of revenue from the National Treasury to maintain municipal services in their territories. While infrastructure development remains vital for service delivery and community well-being, additional revenue sources and government support are necessary for financial sustainability.

5.6 CHALLENGES HINDERING THE SUCCESSFUL CONSTRUCTION OF ROADS, WATER AND SPORT INFRASTRUCTURE PROJECTS

This section wanted to get an in-depth understanding of challenges hindering the successful completion of roads, water and sport infrastructure. The researcher asked the respondents questions to learn about the challenges the three local municipalities usually face, the interventions that the municipalities usually put in place, and the extent to which those challenges negatively impact the successful implementation of roads, water and sport infrastructure. The section below discusses the findings.

5.6.1 The kind of challenges the three selected local municipalities encounter the construction of roads, water and sport infrastructure

One of the sub-objectives of the study was to determine the challenges faced by Molemole, Blouberg, and Polokwane Local Municipalities during the implementation

of roads, water and sport infrastructure projects. The researcher's prior experience and observations in the media and surrounding areas, which typically show municipalities struggling to successfully complete projects, sparked this research objective. The study found that tribal authorities often demand payment before projects can commence on their land. Municipalities may not own the land where they undertake projects, which can complicate the process of obtaining occupation certificates and complying with town planning regulations. Budgetary constraints pose significant challenges to project implementation. Cash flow management issues, such as delays in payments to subcontractors and a lack of financial capacity among contractors, also impede project progress. Community disputes and protests arise over issues such as fair employment practices, subcontracting, and perceived nepotism in hiring. Contractors may face challenges related to obtaining required gradings, a lack of necessary equipment, and financial instability. Some contractors engage in unethical practices, such as paying external entities for required gradings or running multiple projects without adequate capital. Political interference and conflicts among community leaders also hinder project progress. Multiple leaders within communities can also lead to division and delays in project implementation. Other challenges include demarcation issues, lack of compliance with contractual agreements, and delays due to natural factors like weather conditions.

One of the respondents said:

"The first challenge is contractors who pay money to get required gradings. They pay the external council for building constructors. This is because they want a project they do not qualify for. For example, there are grading levels in terms of projects that the contractor should have done before doing other big projects. Another challenge is a lack of plants and equipment to do the job. Such as trucks and excavators. Another issue is contractors who run multiple projects in different municipalities without adequate capital. Some contractors would even wait for one municipality to pay them so that they could go and carry on with another project in another municipality. Sometimes contractors would even apply for big projects even if they did not qualify because they bought gradings fraudulently. For example, you find a contractor who has always been a sub-contractor being awarded a big project without the experience of a main contractor."

All respondents have acknowledged that there are challenges during public infrastructure project implementation. Therefore, these challenges show how complex it is to implement roads, water and sport infrastructure in the three selected local municipalities. The study further states that some of the challenges, like community protests, non-compliance with contractual agreements, financial instability by contractors, and political interference, have implications for the project timeframe. The challenges also negatively impact project labourers. In the sense that labourers are paid according to daily rates, meaning when the project pauses for any of the above reasons, their rates (income) also get affected.

5.6.3 The ways in which the three selected local municipalities deal with challenges

In the previous question, the respondents mentioned the challenges they normally encounter during project implementation. In this question, the researcher wanted to establish how the three selected municipalities usually handle some of the challenges they had mentioned. The aim of the question was to determine whether the concerned parties in the three local municipalities have the capacity to handle challenges during project implementation. According to the findings, respondents were able to identify some of the solutions they normally employ to address challenges. Among other things, ward councillors engage with communities to ensure transparency in recruitment processes. The National Treasury conducts annual audits to identify and address fraudulent activities by contractors, enforcing penalties and blacklisting. Municipalities engage affected communities and stakeholders to resolve disputes. Concerned groups, politicians, and affected parties hold meetings and negotiations to resolve conflicts and challenges. In cases of prolonged disputes between the contractors and the concerned municipalities, municipalities seek interventions from the court by placing interdicts. Municipalities encourage subcontracting in the areas where roads, water and sport projects are taking place, even for projects below the threshold requiring it, to promote local involvement and economic development. Municipalities communicate with contractors to consider subcontractors and ensure compliance with subcontracting regulations.

In closing, these solutions show the efforts that the three local municipalities are making to ensure that roads, water, and sport infrastructure projects are successfully completed.

5.6.4 The extent of these challenges negatively impacting their successful construction

A question was also raised about the extent of these challenges negatively impacting the successful construction of roads, water and sport infrastructure. Therefore, the respondents have indicated that challenges such as delays and price escalations can cause project timelines to overlap and budgets to be exceeded. Contractors may request additional funding or charge for project stoppage time, especially if challenges are beyond their control. Challenges may also lead to non-compliance with grant conditions, affecting the municipality's ability to receive further funding transfers. Unresolved problems affecting the community cause communities to go against the project, impacting the success of projects. In view of all this, these challenges have an impact on project completion, affecting service delivery, budgets, deadlines, and community satisfaction. Nonetheless, sometimes municipalities can successfully address these issues, which ultimately leads to the successful completion of the projects.

5.7 SOCIO-ECONOMIC OPPORTUNITIES FOR ROADS, WATER AND SPORT INFRASTRUCTURE PROJECTS AND SERVICES

The section provides the findings of the respondents regarding the socio-economic opportunities for constructing roads, water and sport infrastructure. The purpose of this section was to establish how roads, water and sport infrastructure could promote socio-economic development in the three chosen local municipalities.

5.7.1 Socio-economic opportunities for communities post the construction of roads, water and sport infrastructure

It is believed that the construction of roads, water and sport infrastructure may assist community members in various ways. The study probed this assumption, and all respondents (municipal officials) agreed that there are socio-economic opportunities for building roads, water and sport infrastructure. Among other things, the study found

that road infrastructure provides accessibility for people to reach their destinations. This reduces maintenance costs for both motorists and public transport. Roads encourage business investment opportunities and attract investors to build malls, creating employment opportunities. This promotes the free flow of money within the community. It enhances mobility and streamlines the delivery of basic necessities and food supplies. Sport infrastructure promotes a healthy lifestyle through sports activities. Organise tournaments and events that present chances for local businesses to sell food and beverages. Also, take children off the streets and provide social cohesion by bringing people together for sports.

One of the respondents claimed:

“Employment. Closer access to hardware and shops because investors will bring shops closer to community because of roads. Attraction of government services such as clinics because of roads and water infrastructure. The government will not build clinics where there is no water or road infrastructure. Closer access to services cuts the costs of travelling for communities to get to hospitals that are far away. Taxis are able to enter villages because of the road infrastructure. Community members will no longer push their wheelbarrows because the water will be in their homes (taps). Roads also cut maintenance costs for car owners. Roads also encourage young people to go home. Some used to say, I can’t go home with my car because of gravel roads.”

On the other side, water infrastructure provides access to clean and reliable water, improving social life and livelihoods. Additionally, it serves as a tool for subsistence farming, thereby mitigating poverty and unemployment. On a particular note, these infrastructures show how helpful roads, water and sport infrastructure are for promoting social and economic development in communities.

5.7.2 Benefits community members get during the construction of these projects

The researcher wanted to know the benefits community members get from the construction of roads, water and sport infrastructure. The researcher found that there are job opportunities for skilled and unskilled labour during construction. There are opportunities for students to gain practical experience and receive stipends as part of their training. Local labourers can find employment, which also includes selling food.

Also, opportunities for subcontracting and procurement from local suppliers. Training in various skills such as bricklaying, entrepreneurship, and occupational health and safety. Skills transfer from experienced personnel to local labourers, empowering communities beyond the project duration. The local economy benefits from the acquisition of new knowledge and skills. Respondents also highlighted business opportunities for landlords, to accommodate contractors, and for food vendors to sell to workers at project sites. Contractors donate sports equipment to communities, promoting community engagement and well-being.

One of the respondents stated:

“Communities can get job opportunities during the construction or implementation of roads, water and sports infrastructure. The municipality aligns itself with the Extended Public Works Programme (EPWP), where there are targets or thresholds for people to be employed in the projects. The local community can benefit during the implementation of projects by supplying water and sand in the area where the project takes place. Communities can also provide accommodation to contractors since they are encouraged to source from local communities.”

Another respondent added:

“Jobs and skills transfer. Skills that communities can retain even after the completion of the projects. Even the issue of laying pipes during water projects. It requires skills that can assist them beyond the project. Communities supply the contractors with toilets. Local businesses sell food to the workers at the project. Some would not come with a lunchbox to work; therefore, they can always support local businesses. Ambulances will come and pick up patients because of road infrastructure.”

In short, there are plenty of socio-economic opportunities that communities may make use of during the construction of roads, water and sport infrastructure projects. These benefits may be useful to various groups of people, such as community members, students, graduates, businesses, and skilled people.

5.7.3 The relationship between the construction of roads, water and sport infrastructure and local economic development

Any continent's economic growth and expansion are mostly reliant on the presence of top-notch infrastructure that can draw in foreign investors. Africa's economy will benefit from the critical infrastructural development and expansion that the continent needs. Every continent's population has several economic opportunities as a result of the growth and development of infrastructure. Nonetheless, Africa has some of the lowest rates of infrastructure investment, development, and preservation worldwide. In addition to drawing in business and investment from abroad, infrastructure development will improve trade between the region's nations (Thusi & Mlambo, 2023). The concept of local economic development has become common in South African communities and academia. The researcher probed a question to determine the relationship between the construction of roads, water and sports infrastructure. In terms of road infrastructure, respondents strongly agreed that there may be improved access for taxis while generating income from passengers. Accessible roads enable the establishment of businesses and attract government services like Home Affairs offices. Nevertheless, water infrastructure also has a relationship with local economic development in the sense that it is essential for businesses to function as they assess water availability before establishing operations.

One respondent asserted, "Yes, there is a serious relationship between local economic development (LED) and the construction of roads, water and sport infrastructure. Without it, we won't have LED. They give life to LED. Roads will connect or provide access to villages. The market depends on mobility, and the more LED will boom. Water is a basic human right. For urbanisation to happen, they will need water. Water improves human life and economic activities. Sport facilities also prevent children at an early age from participating in drugs."

Another respondent indicated that:

"Yes, a big relationship. The status of the ward or village can change when businesses start to be established along the roads. Ambulances being able to enter communities. Taxis and buses can be able to enter villages. Taxis and buses can expand their businesses in the villages because of the existence of roads. Some taxis can take

people to funerals. Some community members can buy fridges, kettles, and take children to school.”

Conclusively, these findings confirm that there is a relationship between roads, water and sport infrastructure and local economic development. Therefore, the study argues that the importance of roads, water and sport infrastructure in the promotion of local economic development cannot be overemphasised. Makalima (2022) supported this by stating that public infrastructure investment is crucial in addressing the main socio-economic problems of high unemployment, income inequality, and poverty. The nation's economic growth has not created enough jobs to address these issues. This scholar holds the view that labour-absorbing development may be accomplished by investing more in public infrastructure.

5.8 SECTION B: DATA COLLECTED FROM COMMUNITY MEMBERS

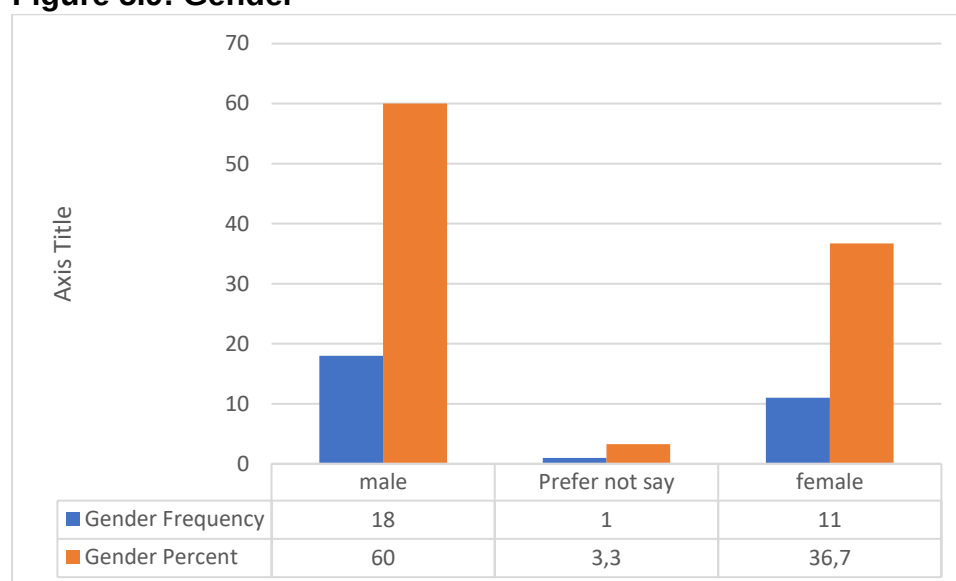
In this section, the researcher presents the data, which was collected from community members in Molemole, Blouberg, and Polokwane Local Municipalities. These were community members from the communities of Dendron, Bochum location and Mankweng (Zone 1) in Turfloop. The study employed semi-structured questionnaires, whereby the respondents were given open-ended and closed-ended questions to respond to. The researcher distributed ten (10) questionnaires to each of the three selected communities. Therefore, all 30 questionnaires were returned for analysis. The intention of the semi-structured questionnaire was to identify socio-economic opportunities that community members in the three selected local municipalities could get from the successful implementation of roads, water and sport infrastructure projects. The questionnaire also probed the demographic information of the respondents. The next section presents the demographic findings of the respondents from the three communities.

5.8.1 Gender

The researcher probed the gender of the respondents from the three selected communities. The study aimed to understand the gender profile of the respondents.

The figure below provides the gender representation profile of the respondents within the three selected local municipalities.

Figure 5.9: Gender

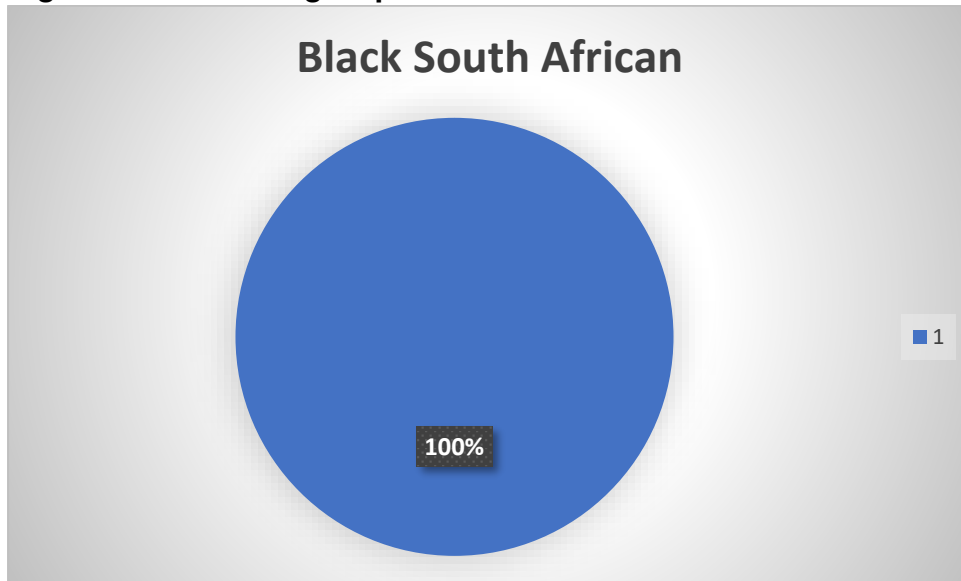


The above figure portrays the gender profile of the respondents in the three chosen communities. Among other reasons, the researcher wanted to establish the gender representation of the respondents. The study found that 60% of the respondents were males and 36.7% were females. Furthermore, 3.3% of the respondents preferred not to indicate or mention their gender status on the data collection instruments for reasons that are unknown to the researcher. Nonetheless, the study found that the majority of the respondents were males within the three selected communities. This could suggest that male respondents showed more interest than females in the study, or maybe the researcher randomly sampled more male respondents than females.

5.8.2 Ethnic/historical racial group

The study also sought to probe the ethnic group of the respondents in the three selected communities of Molemole, Blouberg, and Polokwane Local Municipalities. The findings are provided below.

Figure 5.10: Ethnic group

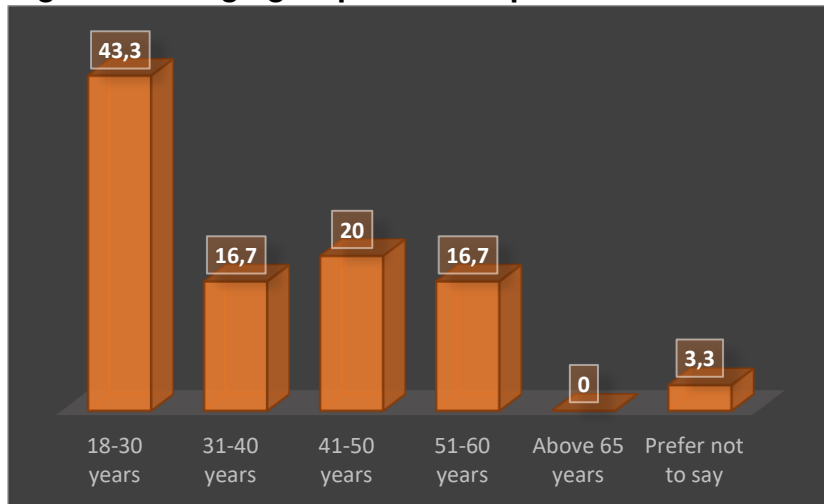


The researcher probed the ethnic group of the respondents. The data collection instrument had four choices, namely, African/Black South African, White South African, Coloured South Africa, and Indian South African, for the respondents to choose from. According to the results, the study included 100% black South Africans. None (0%) of the respondents were coloured, white, or Indian South Africans. In conclusion, the study only had a representation of black South Africans. This is because the three selected local municipalities are dominated by black people.

5.8.3 Age group

The study included age as one of its demographic questions. Variety in terms of age group could influence the person's responses to the questions regarding the socio-economic opportunities that community members could benefit from after roads, water and sport infrastructure projects have been completed in the three selected local municipalities. The figure below demonstrates the age profile of the respondents.

Figure 5.11: Age group of the respondents

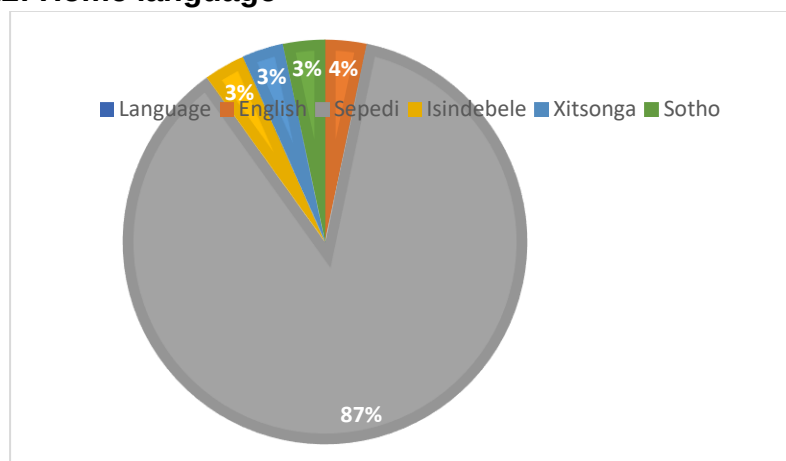


According to the respondents' age profiles, 43.3% were between 18 and 30 years old, followed by 16.7% between 31 and 40 years old. Additionally, the study had 20% of the respondents between 41 and 50 years old, while those between 51 and 60 years old were at 16.7%. The study recorded 0% of the respondents above 65 years old. On a particular note, 3.3% of the respondents did not indicate their age group on the questionnaire. Therefore, respondents aged 18–30 dominated the study. This suggests that the majority of the respondents were young people who showed interest in the study that was conducted in their respective communities.

5.8.4 Home language of the respondents

The researcher saw it as relevant to ask a question about the home languages of the respondents. The aim was to establish the official languages that the respondents were speaking. The results are presented below.

Figure 5.12: Home language

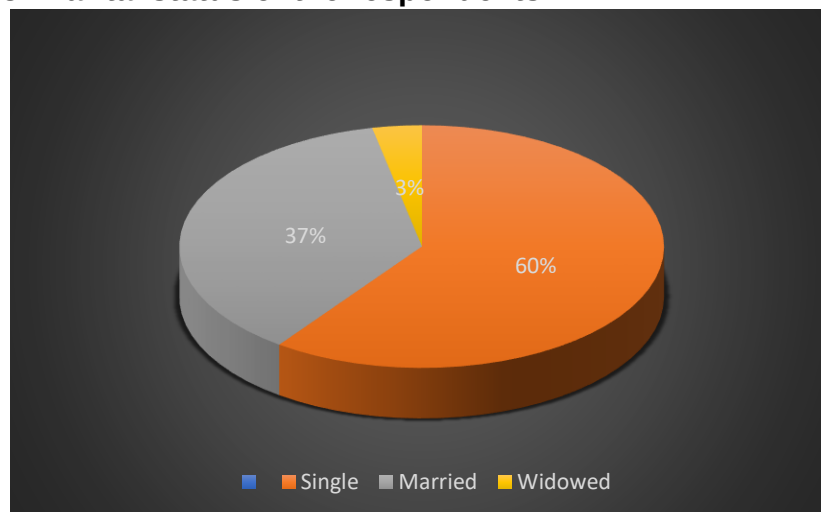


The pie chart above presents the findings of the respondents' home languages. According to the results, the majority of the respondents were Sepedi-speaking people. Xitsonga, IsiNdebele, and Sotho-speaking people came next, accounting for 3% of the respondents. English-speaking people were recorded at 4%. In other words, the study did not have representation of Afrikaans, Swati, Xhosa, Isizulu, Tshivenda, or Setswana-speaking people. Therefore, it can be stated that the study was dominated by Sepedi-speaking people. This makes sense because the study was conducted in three selected local communities, which are mostly dominated by Sepedi-speaking people.

5.8.5 Marital status

It was also crucial to probe the marital status of the respondents in the study of this nature. The researcher wanted to know the kind of respondents he was dealing with at the time of data collection in terms of their marital profile. The respondents have indicated their marital status on the questionnaire, and the results are presented below.

Figure 5.13: Marital status of the respondents



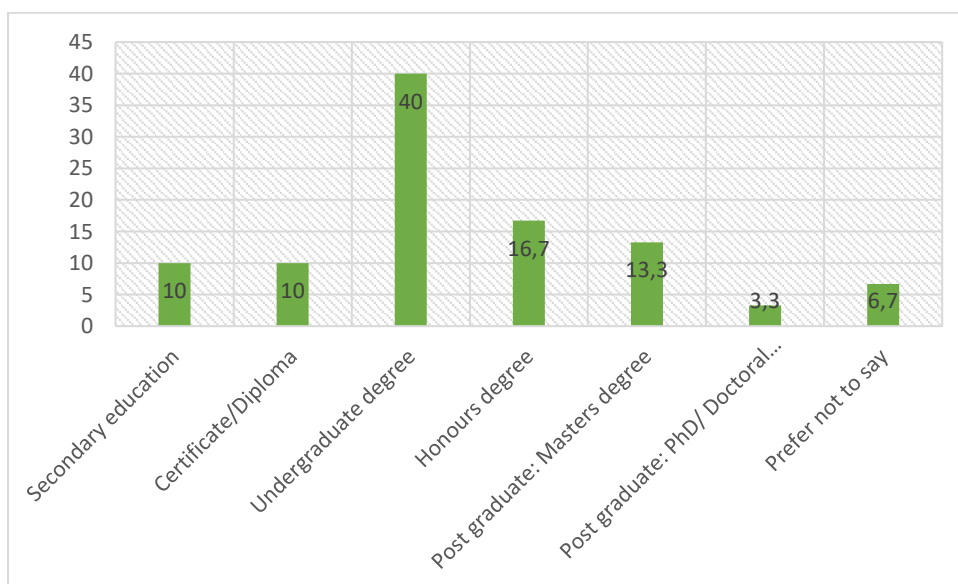
The above pie charts show the marital status of the respondents from the three selected communities located in Molemole, Blouberg, and Polokwane Local Municipality. Based on the above figure, 60% of the respondents were single, and they were dominant in the study. Married people followed, accounting for 37% of the respondents. Finally, 3% of the respondents were widows from the three chosen communities. The study did not have a representation of divorced respondents. In

summary, the majority of participants were single, likely due to their young age range of 18 to 30 years.

5.8.6 Education and training/ Highest qualification

The study also asked about the educational backgrounds of the respondents in the three chosen communities. This was significant because the researcher aimed to understand the educational profiles of the respondents. This was also to determine the extent to which community members value education in the three selected areas.

Figure 5.14: Education and training/ Highest qualification



According to the above findings, 40% of the respondents were in possession of undergraduate degrees. They are followed by 10% of the respondents who hold certificates or diplomas. In the same vein, 10% of the respondents had secondary education. Meanwhile, those with honours qualifications were at 6.7%, and those with master's degrees were at 3.3%. Additionally, the study recorded that 3.3% of the respondents had doctoral degrees. Nevertheless, 6.7% of the respondents preferred not to indicate their educational background. In conclusion, the results suggest that the majority of the respondents have an undergraduate qualification or beyond. Therefore, to a certain extent, it can be stated that the respondents perceived education as important.

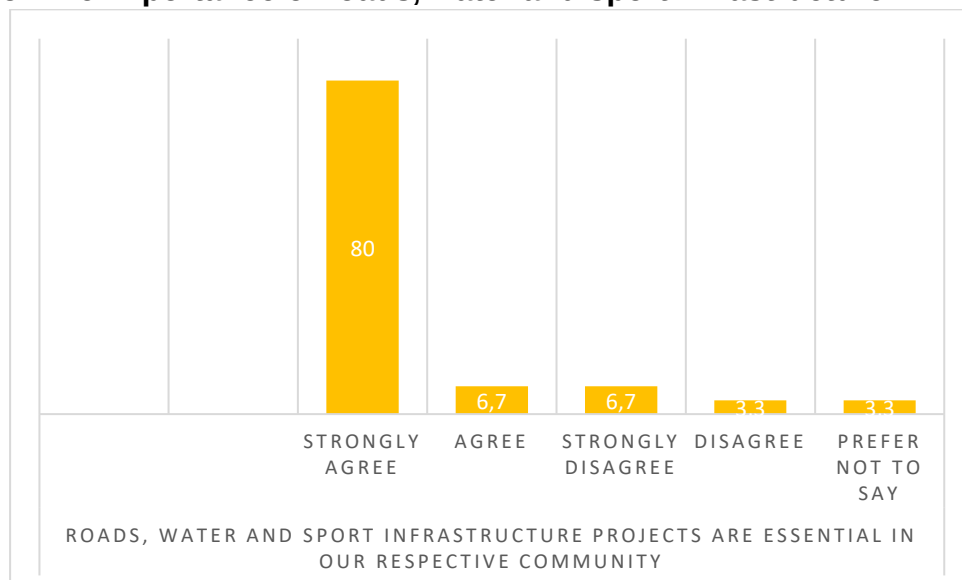
5.9 CLOSED-ENDED RESPONSES FROM COMMUNITY MEMBERS

The following section presents the data that was collected from community members. The study employed a semi-structured questionnaire with both open-ended and closed-ended questions. The researcher distributed thirty (30) questionnaires to the three selected local communities and returned all of them for analysis. The study probed the socio-economic opportunities that could emanate because of the successful implementation of roads, water and sport infrastructure projects in Molemole, Blouberg, and Polokwane Local Municipalities. The section below starts by analysing data from the closed ended questions and there after the study will present the data that was collected using open ended questions.

5.9.1 Roads, water and sport infrastructure are essential in our respective communities

The researcher probed the importance of water, roads and sport infrastructure in the three selected local municipalities. The researcher wanted to establish the extent to which community members perceive roads, water and sport infrastructure projects as important. The findings are discussed below.

Figure 5.15: The importance of roads, water and sport infrastructure

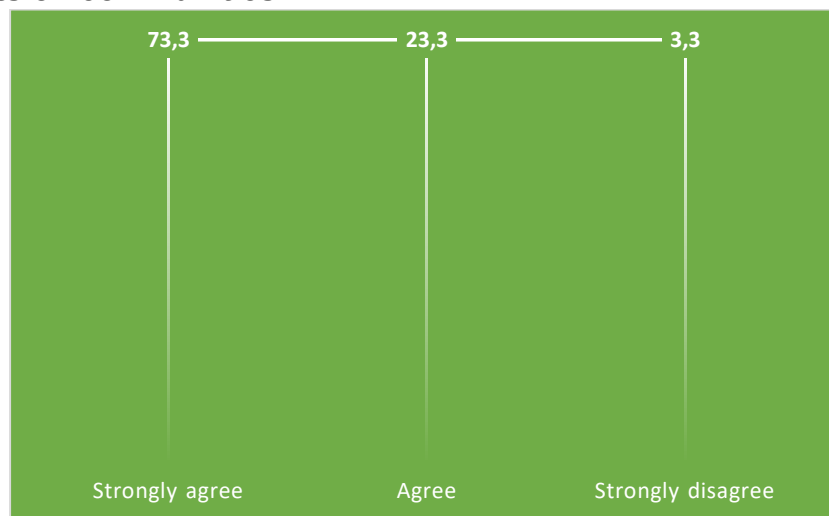


The above figure shows the perceptions and views of the respondents in the three selected local municipalities regarding the importance of roads, water and sport infrastructure in their communities. According to the findings, 80% of the respondents strongly agreed that roads, water and sport infrastructure are essential in their communities, while 6.7% agreed that roads, water and sport infrastructure are essential in their places of residence. Furthermore, 6.7% of the respondents strongly disagreed that roads, water and sport infrastructure are essential for their communities, and 3.3% of the respondents disagreed with the view that roads, water and sport infrastructure are essential for community members. However, 3.3% of the respondents preferred not to indicate their views on the question asked of them. Also, none (0%) of the respondents were not sure whether roads, water and sport infrastructure were essential. In conclusion, the majority of the respondents agreed that roads, water and sport infrastructure are essential to their communities. It can then be stated that communities perceive roads, water and sport infrastructure as essentials. Communities rely on these infrastructures to meet their diverse needs. Therefore, the study concludes by stating that local municipalities must continue to provide roads, water and sport facilities in the communities since they are regarded as essentials.

5.9.2 The abandonment of constructing roads, water and sport infrastructure projects negatively impact community members

The study sought to probe whether the abandonment of constructing roads, water and sport infrastructure can negatively impact the lives of communities in the three selected local municipalities. Below are the findings.

Figure 5.16: The abandonment of roads, water and sport infrastructure projects on communities



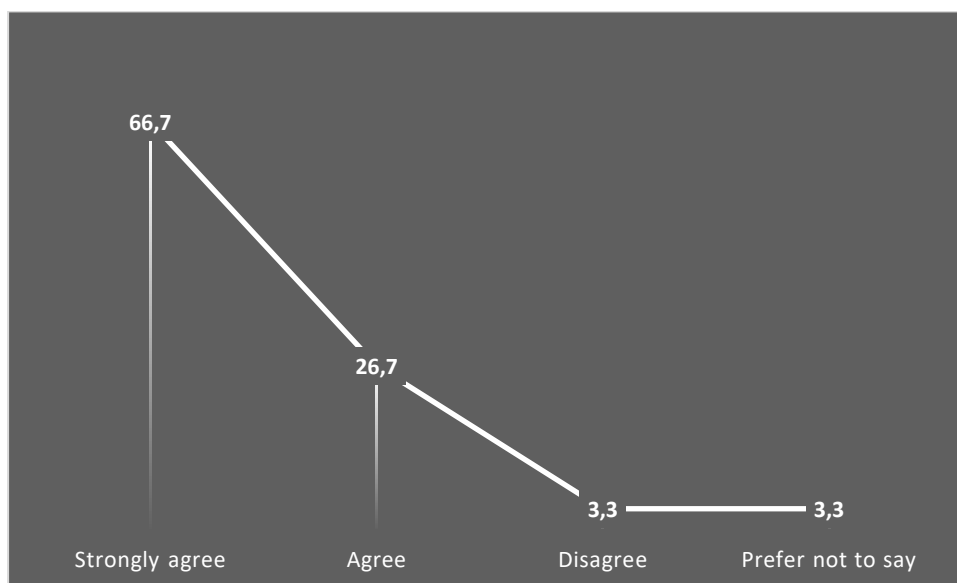
In developing nations such as South Africa, infrastructure development is essential to reducing poverty and creating jobs. However, sophisticated economies cannot expand sustainably without quickly modernising their infrastructure. A developed infrastructure improves both the living conditions of the general public and the competitiveness of private businesses. Given this background, the abandonment of constructing roads, water and sport infrastructure projects may deny community members an opportunity to get out of poverty and have access to jobs (Makalima, 2022). The researcher wanted to confirm whether the abandonment of constructing roads, water and sport infrastructure can negatively impact communities. The study found that 73.3% of the respondents strongly agreed that the abandonment of constructing roads, water and sport infrastructure could negatively impact their daily routines. Furthermore, 23.3% of the respondents agreed that abandoning the construction of roads, water and sport infrastructure could negatively affect their daily activities. However, 3.3% of the respondents strongly disagreed with the view that abandoning the construction of roads, water and sport infrastructure could negatively impact them. None (0%) of the respondents were not sure while none (0%) of the respondents disagreed with the question that was asked of them. In conclusion, the majority of the respondents hold the view that the abandonment of roads, water and sport infrastructure projects could have a negative impact on their daily routines. Therefore, the researcher holds the view that roads, water and sport infrastructure play a significant role in the community. Ultimately, community members would want to make use of roads, water and sport infrastructure to fulfil their needs on a daily basis. Flowing from this statement, the

researcher concludes by stating that local municipalities are encouraged to successfully implement roads, water and sport infrastructure projects as they are considered important.

5.9.3 The construction of roads, water and sport infrastructure promotes community development

The researcher wanted to confirm whether roads, water and sport infrastructure can promote community development. The findings are presented below.

Figure 5.17: Roads, water and sport infrastructure on community development



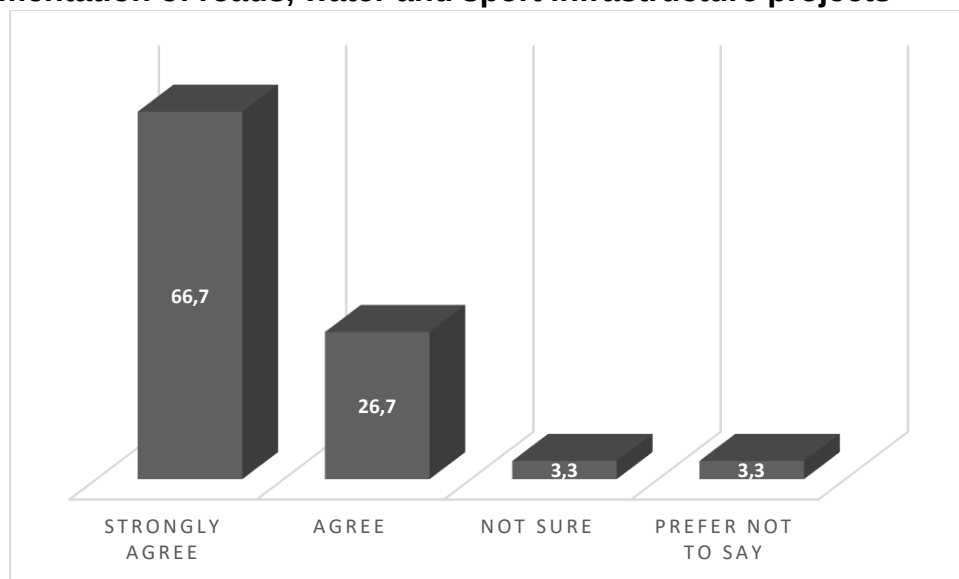
Based on the above findings, 66.7% of the respondents strongly agreed that roads, water and sport infrastructure promote community development. On the other hand, 26.7% of them agreed with the assertion that roads, water and sport infrastructure promote community development. While 3.3% of the respondents disagree with the opinion that community development promotes community development. A group of respondents (3.3%) expressed a preference to remain neutral on the question under consideration. It is also worth highlighting that none (0%) of the respondents strongly disagreed, and none (0%) of the respondents were not sure whether roads, water and sport infrastructure promote community development. In light of these findings, it can be stated that the majority of the respondents supported the view that roads, water and sport infrastructure promote community development. The study argues that roads, water and sport infrastructure have different roles to play in communities. In

tRoads can foster community development by establishing connections and drawing investments into the community, whereas water enables communities to carry out their daily activities, particularly those requiring water resources. hermore, sport infrastructure could promote community development by creating social cohesion through sport activities and other forms of entertainment activities that can take place because of the existence of sport infrastructure.

5.9.4 Opportunities that communities could benefit from during the implementation of roads, water and sport infrastructure projects

The researcher probed whether there are opportunities that communities could get during the implementation of roads, water and sport infrastructure projects. The intention was to establish some of the opportunities that community members usually get from the implementation of these projects. The results are presented below.

Figure 5.18: Opportunities that community members could get during the implementation of roads, water and sport infrastructure projects



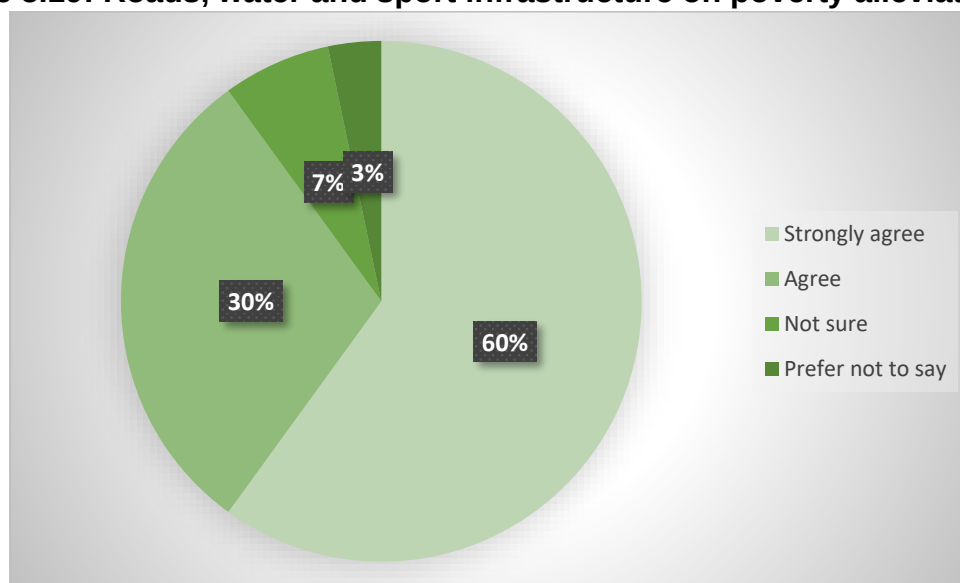
Among other opportunities, community members could get employment opportunities during the construction of roads, water and sport infrastructure projects. Hence, the researcher probed the question with the intention of establishing a number of opportunities that could be brought to the community by implementing roads, water and sport infrastructure projects in the three selected local municipalities. The study has discovered that 66.7% of the respondents strongly agreed, while 26.7% agreed that there are opportunities that could arise during the construction of roads, water and

sport infrastructure. However, 3.3% of the respondents were not sure, while another 3.3% of the respondents preferred not to share their views about whether the implementation of roads, water and sport infrastructure could provide opportunities to community members. It is also worth sharing that none (0%) of the respondents strongly disagreed and disagreed with the assertion that there are opportunities that community members could get during the implementation of roads, water and sport infrastructure. This indicates that the majority of respondents agree that the implementation of roads, water, and sport infrastructure projects presents opportunities for community members. In closing, the researcher argues that roads, water and sport infrastructure projects have a number of opportunities that community members could benefit from, including job opportunities, work experience, and a source of income to sustain their household demands.

5.9.5 Roads, water and sport infrastructure have the potential to alleviate poverty

The researcher wanted to determine whether the existence of roads, water and sport infrastructure in the three selected local municipalities has the potential to alleviate poverty. Respondents have provided different perceptions, and the findings are discussed below.

Figure 5.19: Roads, water and sport infrastructure on poverty alleviation

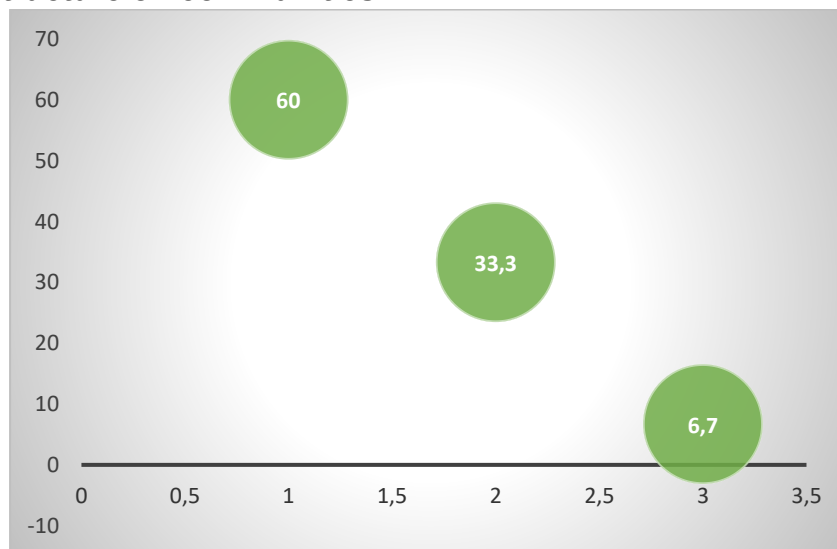


According to Thusi and Mlambo (2023), it plays a significant role in alleviating poverty. Therefore, the researcher wanted to confirm whether their view was correct. Based on the above figure, 60% of the respondents strongly agreed that roads, water and sport infrastructure have the potential to alleviate poverty. In the same way, 30% of the respondents agreed, while 7% were not sure whether roads, water and sport infrastructure have the potential to alleviate poverty. Conversely, 3% of the respondents chose not to express their opinions on the posed question. However, no (0%) respondents have strongly disagreed and disagreed with the question that was under investigation. Therefore, this means that the majority of the respondents believe that roads, water and sport infrastructure have the potential to alleviate poverty in their communities. This confirms the correlation between the findings and the statements made by Thusi and Mlambo (2023). In conclusion, roads infrastructure could alleviate poverty by allowing business opportunities to take place in communities, while water infrastructure could also be used for both social and economic services in various communities. Again, sport infrastructure is key to alleviating poverty in the sense that sport facilities could attract various activities (soccer, netball, and gospel festivals), which ultimately open a space for business opportunities for people in the communities under concern.

5.9.6 The absence of roads, water and sport infrastructure poses serious socio-economic problems for communities

The researcher probed whether the absence of roads, water and sport infrastructure could create socio-economic implications within the three selected communities. Below is what the study has discovered.

Figure 5.20: The consequences of not having roads, water and sport infrastructure on communities



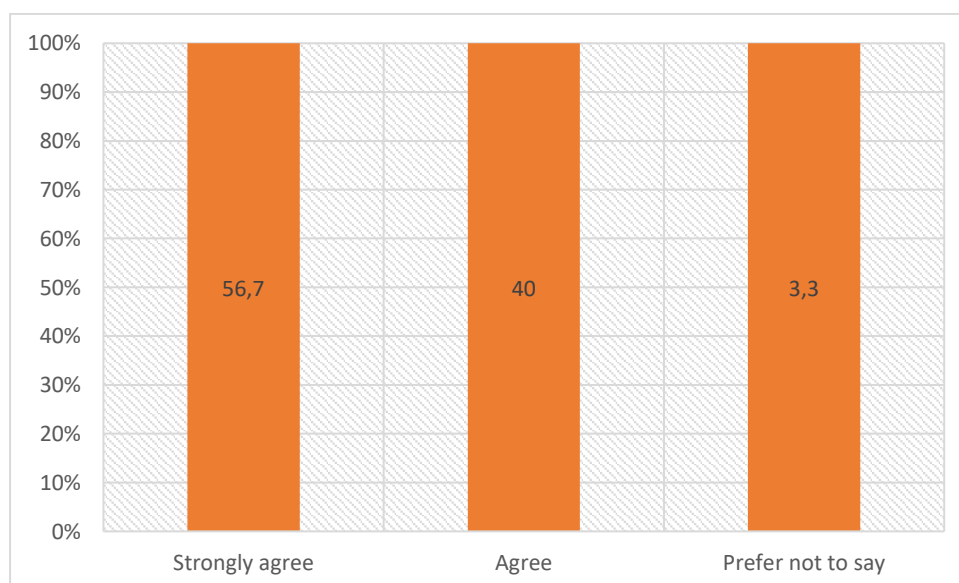
Typically, infrastructure projects in rural areas aid the local community by providing access to resources and aiding in the resolution of rural issues. This improves the overall rural environment (Wahid, Ahmad, Abu, Talib, Shah, Tahir, Jan & Saleem 2016) and aids in the achievement of many community goals and objectives (Tan, Hou & Zhang, 2020; Sinakou, Pauw, Goossens & Van Petegem, 2018). Unfortunately, the lack of these initiatives will cause serious socio-economic issues for the surrounding areas, such as a severe impact on living standards, a negative impact on quality of life, higher costs for healthcare and education, slower economic growth, and higher unemployment (Hussain, FangWei, Ali & Xu, 2017). The study wanted to test whether the absence of roads, water and sport infrastructure can pose socio-economic problems for community members in the three selected local municipalities. The findings are presented in the above figure, and the study found that 60% of the respondents strongly agreed while 33.3% agreed with the view that the absence of roads, water and sport infrastructure could pose socio-economic challenges for community members in the communities where the data was collected. Furthermore, 6.7% of the respondents preferred not to provide views on whether the absence of roads, water and sport infrastructure could create socio-economic problems for community members. The study did not have respondents who were strongly disagreeing and disagreeing with the question that was posed to them. Additionally, none (0%) of the respondents were not sure. These findings suggest that the majority of the respondents believe that the absence of roads, water and sport infrastructure could

lead to socio-economic problems in their communities. Moving from this perspective, it can be deduced that the absence of roads, water and sport infrastructure could create socio-economic challenges for communities. In this way, the absence of water infrastructure and services could deprive community members of the opportunity to do daily routines that require water while also limiting their ability to perform subsistence farming. On the other hand, roads allow the movement of goods and services from suppliers to communities; in the absence of road infrastructure, community members could find themselves isolated from accessing their needs and wants. Additionally, the absence of roads could lead to a decrease in community development. For example, community members would not have shopping complexes and other important services that they would like to get from various shops. Although the study acknowledges that sport infrastructure is not a basic need, the researcher holds the view that, to a lesser extent, the absence of it could deprive communities of the opportunity to participate in sports activities and business opportunities.

5.9.7 The construction of roads, water and sport infrastructure respond to our basic needs

The study sought to determine whether the construction of roads, water and sport infrastructure responds to the basic needs of community members in the areas where the data was collected. The findings are provided below.

Figure 5. 21: The construction of roads, water and sport infrastructure respond to our basic needs

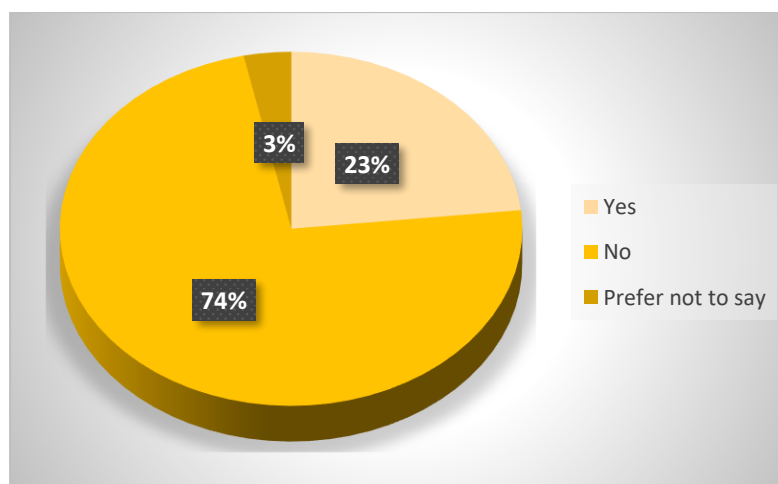


In line with the above findings, 56.7% of the respondents strongly agreed, while 40% agreed that the construction of roads, water and sport infrastructure is part of responding to the basic needs of community members. However, 3.3% of the respondents limited the findings of the researcher in such a way that they preferred not to share their thoughts on the question under investigation. Nevertheless, none (0%) of the respondents were not sure, and in the same way, none (0%) of the respondents were strongly disagreeing and disagreeing about whether the construction of roads, water and sport infrastructure responds to the basic needs of community members. In light of this, it can be concluded that the majority of the respondents agreed that roads, water and sport infrastructure respond to their basic needs. Therefore, this suggests that community members perceive roads, water and sport infrastructure as basic needs, even though another person could argue that roads and sport infrastructure are not basic needs.

5.9.8 Have you ever participated in the construction of roads, water and sport infrastructure projects

The study also probed whether the respondents had ever participated in the construction of roads, water and sport infrastructure projects. A person who has participated and someone who has never participated in the construction of roads, water and sport infrastructure projects would never share the same experience and knowledge about the implementation of these projects. Therefore, the results are presented below.

Figure 5.22: Respondent's participation in the construction of roads, water and sport infrastructure

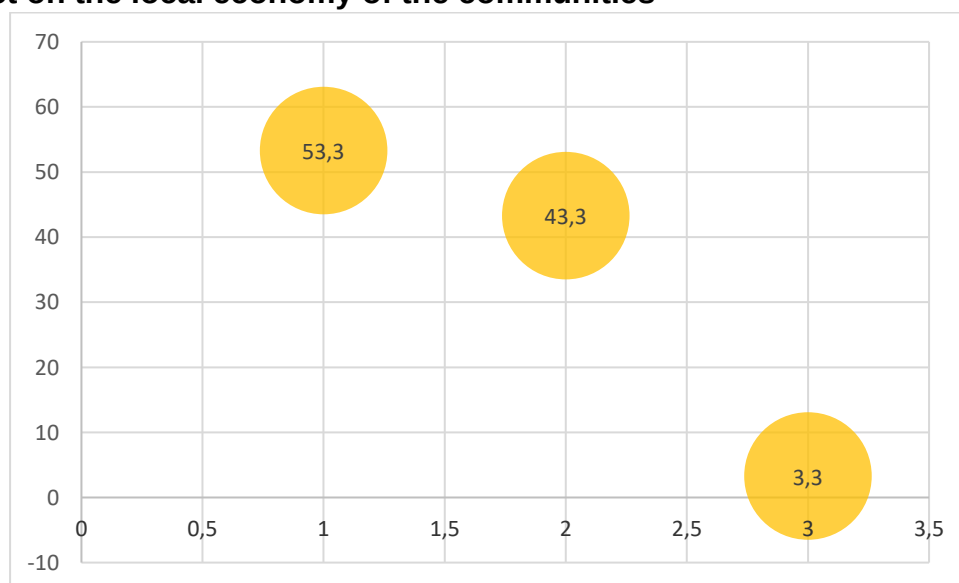


A question was posed to the respondents to indicate whether they have ever participated in the construction of roads, water and sport infrastructure projects. The respondents were expected to choose one option from a yes or no question. The responses of the respondents are as follows. The study recorded that 74% of the respondents said they had never participated in the construction of roads, water and sport infrastructure projects, while 23% of the respondents agreed that they had once participated. However, there were also 3% of the respondents who did not indicate whether they had participated in the construction of roads, water and sport infrastructure or not. Therefore, a conclusion can be drawn from the findings that the majority of the respondents have never participated in the construction of roads, water and sport infrastructure projects. Therefore, if even they were to be asked about their experiences in the implementation of such projects, they would likely be unable to share their thoughts.

5.9.9 The absence of roads, water and sport infrastructure services have negative impact on the local economy of our communities

The findings of the study demonstrated that the absence of roads, water and sport infrastructure could have a direct impact on the economies of the three selected communities. The researcher obtained opinions from various respondents, and the results are presented as follows.

151Figure 5.23: The absence of roads, water and sport infrastructure and its impact on the local economy of the communities

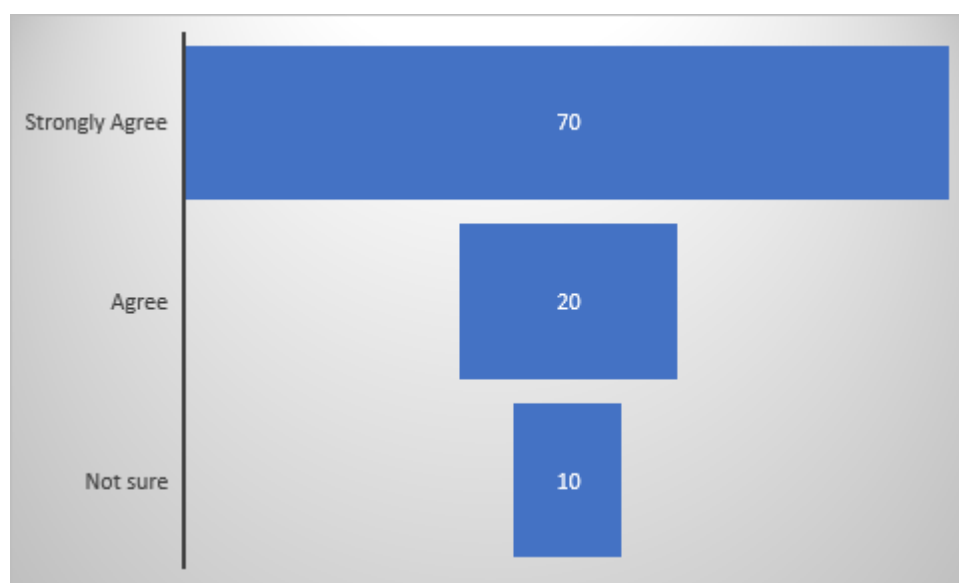


The above graph shows that 53.3% of the respondents strongly agreed and 43.3% agreed that the absence of roads, water and sport infrastructure could have a negative impact on the three selected communities' economies. While 3.3% of the respondents were not sure whether the absence of roads, water and sport infrastructure could have a negative impact on the economies of the communities. Therefore, majority of the respondents agreed that the absence of roads, water and sport infrastructure could have negative impact on the economy of the three selected local communities. In conclusion, the absence of roads could limit business investment opportunities and the flow of people's movements into and out of communities. While the lack of water infrastructure could potentially result in an inadequate water supply, which could indirectly affect business investment opportunities, the daily routines of local residents heavily rely on water services. The absence of sport infrastructure would mean no small businesses for local people around the sport facilities during sport activities and other forms of excursions, which ultimately limit prospective small businesses from generating revenue.

5.9.10 Roads, water and sport infrastructure services are capable of attracting investors

A question was posed to the respondents to check whether roads, water and sport infrastructure services can attract investors. The findings are presented below.

Figure 5.24: Roads, water and sport infrastructure on attracting investors

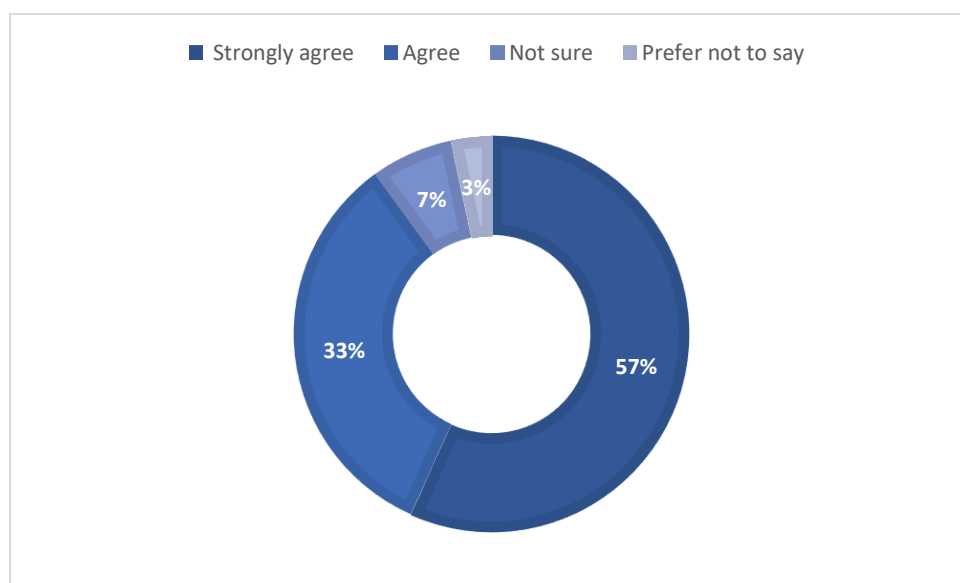


Thusi and Mlambo's (2023) study reveals that countries with stronger economic structures and infrastructure tend to attract more direct foreign investment (Barzelaghi, 2012:1061) It is for this reason that the study has probed whether roads, water and sport infrastructure are capable of attracting investors into the local economies of the three selected communities. Nonetheless, 70% of the respondents strongly agreed while 20% agreed that roads, water and sport infrastructure are capable of attracting investments into the communities. But 10% of the respondents were not sure whether the above-mentioned infrastructure was capable of attracting investments. Therefore, the study recorded 0% of the respondents who strongly disagreed and disagreed with the statement that roads, water and sport infrastructure can influence investment in the communities where the study was undertaken. Therefore, the majority of the respondents were of the view that roads, water and sport infrastructure are capable of attracting investors. Their thoughts could have been influenced by the respondent's personal experience, history, knowledge, and perceptions.

5.9.11 Adequate roads, water and sport infrastructure remain the contributors to long-term growth of communities

The study sought to establish whether there is a link between adequate roads, water and sport infrastructure and the long-term growth of communities. The next section discusses what the study has found.

Figure 5.25: Adequate roads, water and sport infrastructure in terms of contributing to long-term growth of communities

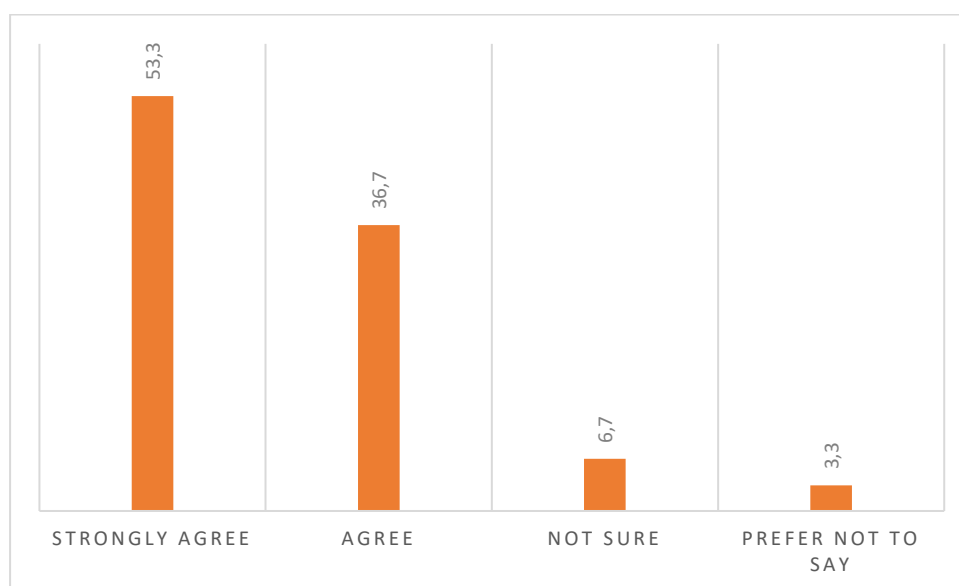


The UN set the Millennium Development Goals (MDGs) in 2000, and developing countries must invest in infrastructure to either maintain or accelerate their growth (Makalima, 2022). The study concludes that sport, roads and sport infrastructure could contribute to the growth of communities in the long term. The realisation of these infrastructures' contribution might not occur immediately upon their implementation but rather in the future. Considering this assertion, respondents were then asked whether adequate roads, water and sport infrastructure remain significant contributors to the long-term growth of communities. The study wanted to confirm whether these assertions were correct. The study found that 57% of the respondents strongly agreed that roads, water and sport infrastructure remain contributors to the long-term growth of the communities. While 33% of the respondents agreed, 7% were not sure, and 3% preferred not to indicate their standing position about whether roads, water and sport infrastructure remain contributors to the long-term growth of the communities. It is also important to mention that none (0%) of the respondents strongly disagreed and disagreed with the question posed to them. Guided by the findings, it can be stated that the majority of the respondents hold the view that roads, water and sport infrastructure remain contributors to the long-term growth of their place of residence. As a result, the study argues that road infrastructure can contribute to long-term community development by attracting business opportunities, allowing migration, and bringing government services such as Home Affairs offices and health care services closer to the communities. While water infrastructure can allow farming activities while also creating food security in communities, sport infrastructure could indirectly attract other forms of community development, such as building more roads in the communities for better access to the sport facilities.

5.9.12 Roads, water and sport infrastructure make it possible for community members to trade

Some community members are business-minded, and the existence of roads, water and sport infrastructure could work in their favour. The researcher wanted to establish whether roads, water and sport infrastructure could allow community members to trade. The findings are presented below.

Figure 5.26: Roads, water and sport infrastructure on allowing communities to trade



The study aimed to confirm Thusi and Mlambo's (2023) claim that infrastructure development not only attracts foreign business and investment but also enhances trade among the region's nations. In an attempt to verify their belief, the study probed whether roads, water and sport infrastructure can allow communities to trade with one another. Based on the findings above, 53.3% of the respondents strongly agreed, while 36.7% agreed that roads, water and sport infrastructure make it possible for community members to trade. However, 6.7% of the respondents were not sure, and 3.3% of them did not indicate whether roads, water and sport infrastructure make it possible for community members to trade. However, none (0%) of the respondents strongly disagreed and disagreed with the question that was brought to their attention. Therefore, the majority of the respondents in the three selected communities were of the view that roads, water and sport infrastructure could make it possible for them to trade. In light of this, the study asserts that road infrastructure can facilitate easy access into communities, enabling clients and customers to reach suppliers of food and refreshments. On the other side, roads infrastructure can allow suppliers to deliver basic needs like bread to local businesses in the communities daily. Therefore, in the absence of road infrastructure, it could be difficult for suppliers to transport basic needs to local businesses. Once again, the presence of water infrastructure will facilitate the provision of bulk water to communities. This could potentially stimulate the growth of accommodation businesses, laundry services, saloons, shopping complexes, and agricultural activities, all of which rely on water services for daily operations.

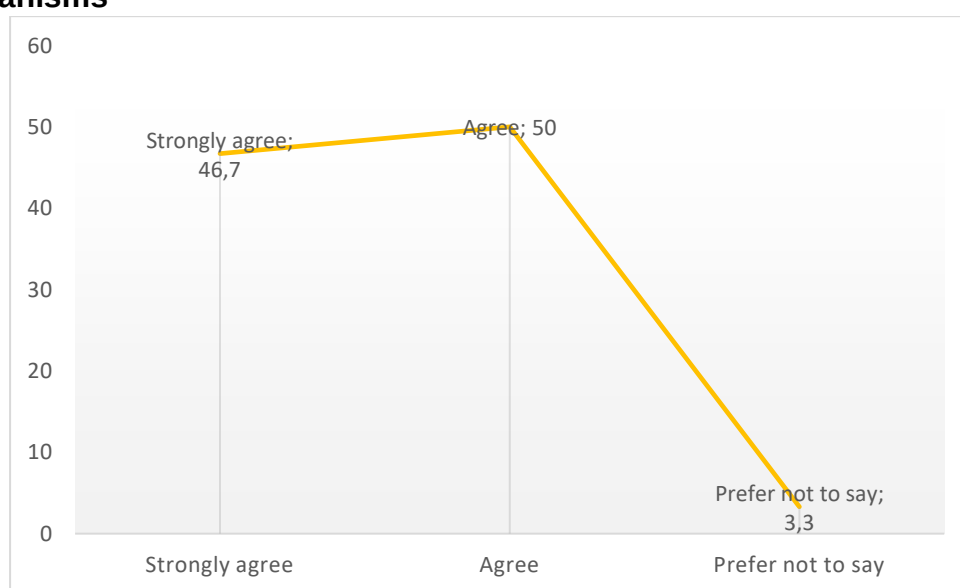
Furthermore, sport infrastructure could create an opportunity for people to sell food, refreshments, and sport attire around the sport facilities during sporting events.

5.9.14 Roads, water and sport infrastructure can be used as local economic growth mechanism to boost South Africa's development

The study probed whether roads, water and sport infrastructure can be used as local economic growth mechanisms and strategies to boost South Africa's development.

The findings are presented as follows.

Figure 5.27: Roads, water and sport infrastructure as local economic growth mechanisms



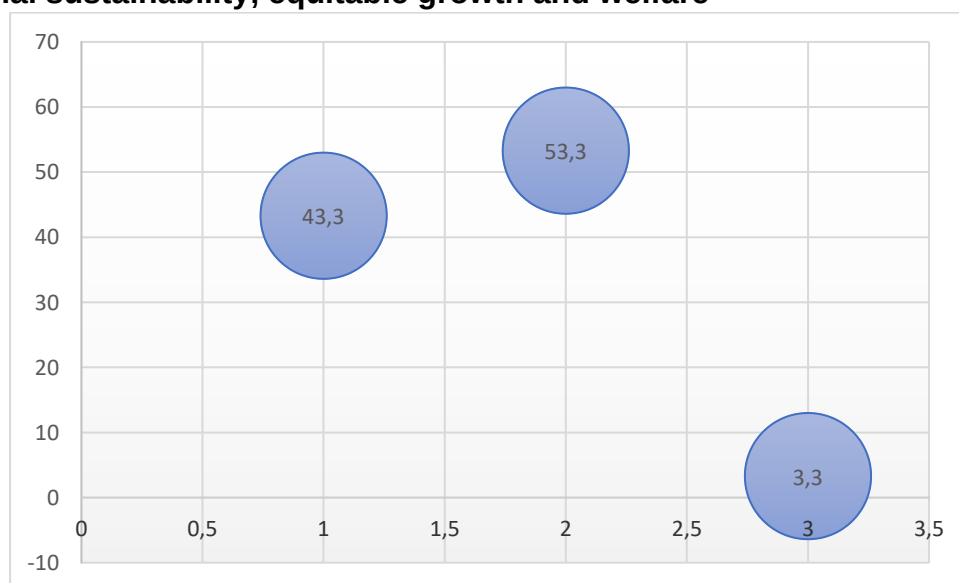
The study holds the view that roads, water and sport infrastructure can be used as local economic growth strategies to boost the country's development. In the sense that for South Africa to have economic growth, development should begin in our local communities, building up to the entire nation. The researcher wanted to establish whether roads, water and sport infrastructure in the three selected communities can contribute to local economic growth by boosting South Africa's development. Based on the above figure, 46.7% of the respondents strongly agreed and 50% agreed that roads, water and sport infrastructure can be used as local economic growth mechanisms by making a contribution to the country's development. While 3.3% of the respondents preferred not to indicate their thoughts on the question under concern. However, none (0%) of the respondents strongly disagreed and disagreed with the

question that was posed to them at the time of data collection. This means the majority of the respondents agreed that roads, water and sport infrastructure can be used as local economic growth mechanisms and ultimately contribute to the overall development of South Africa. In conclusion, South Africa's development depends on the economic activities that are taking place in the communities. For the country to alleviate poverty and create job opportunities, economic growth must begin in the communities, building up to the national level. To achieve this, roads, water and sport infrastructure are needed as part of strategies that can contribute to the development of the entire nation.

5.9.15 Roads, water and sport infrastructure are important to national sustainability, equitable growth and welfare

The study probed the perceptions of various respondents in terms of whether roads, water and sport infrastructure are important to national sustainability, equitable growth, and welfare. The findings are discussed below.

Figure 5.28: Roads, water and sport infrastructure and their contribution on national sustainability, equitable growth and welfare



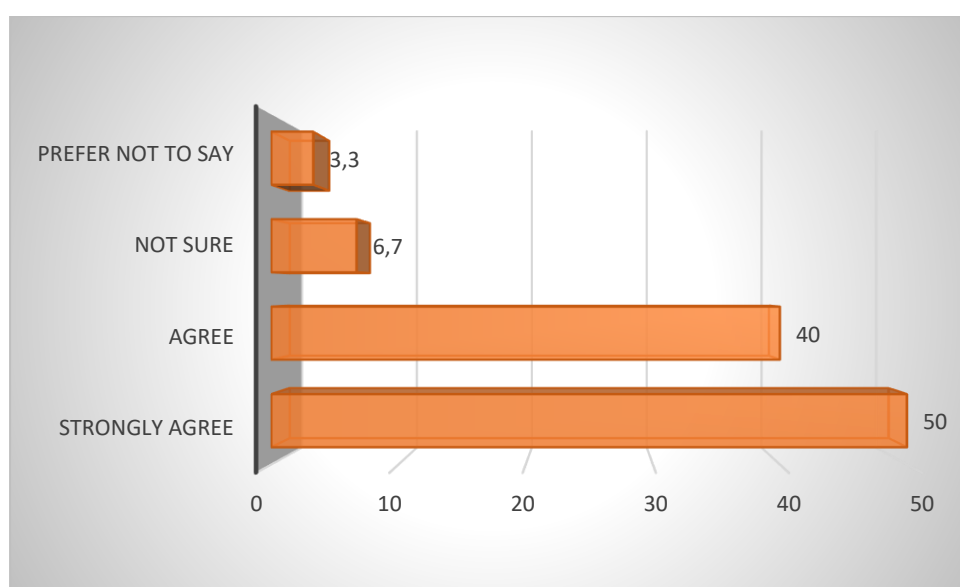
According to Dithebe, Aigbavboa and Thwala (2019), and Gorelick and Walmsley (2020), infrastructure expenditures support economic expansion. The findings show that roads, water and sport infrastructure are important for national sustainability, equitable growth, and welfare. To be specific, 53.3% of the respondents strongly agreed and 43.3% of them agreed. Only 3.3% of the respondents preferred not to share their perceptions on whether roads, water and sport are important for national

sustainability, equitable growth, and welfare. Nonetheless, none (0%) of the respondents have indicated whether they strongly disagree or disagree. This then suggests that the majority of the respondents agreed that roads, water and sport infrastructure are important for national sustainability, equitable growth, and welfare. It can be deduced that roads, water and sport infrastructure are essential for creating national sustainability, equitable growth, and welfare. Therefore, the findings support what Dithebe, Aigbavboa and Thwala (2019) and Gorelick and Walmsley (2020) accentuated.

5.9.16 Roads, water and sport infrastructure are catalysts for local economic growth

A common assumption is that infrastructure, in general, is a catalyst for local economic growth. The researcher wanted to test whether the assumption was true by probing whether roads, water and sport infrastructure are catalysts for local economic growth. The section that follows shows the findings of the study.

Figure 5.29: Roads, water and sport infrastructure as catalysts for local economic growth



There is a trend to say that roads, water, sport infrastructure, and other forms of infrastructure are catalysts for economic growth. The study wanted to check whether the respondents would say roads, water and sport infrastructure are important for local economic growth. The study found that 50% of the respondents strongly agreed and

40% agreed that roads, water and sport infrastructure are catalysts for local economic growth. There were 6.7% of the respondents who were not sure while 3.3% of them decided not to indicate whether roads, water and sport infrastructure are catalysts for local economic growth. Furthermore, there were no (0%) respondents who strongly disagreed and disagreed with the question that was brought to their attention for comments. Therefore, the study found that the majority of the respondents agreed that roads, water and sport infrastructure are catalysts for local economic growth. This then suggests that the three selected local municipalities must continue investing more in building roads, water and sport infrastructure as part of the process of building the local economy.

5.10 OPEN-ENDED QUESTIONS FOR COMMUNITY MEMBERS

The next section presents, analyses, and interprets the findings of the study. The researcher utilised open-ended questions to establish the socio-economic opportunities that communities could get during and after the implementation of roads, water and sport infrastructure projects. The study employed a semi-structured questionnaire to collect the required data. The results are presented below.

5.10.1 socio-economic opportunities for roads, water and sport infrastructure projects and services

In this section, the researcher wanted to establish the socio-economic opportunities for having roads, water and sport infrastructure services and projects. The study has discovered the following.

5.10.1.1 Roads, water and sport infrastructure are essential in your respective community

Public infrastructure initiatives, through coercion, aid in the development of rural areas worldwide (Ahmad & Abu Talib, 2016). Infrastructure in rural areas, such as roads and water supply, supports the region's growth and satisfies its needs for basic services and practical activities (Shen, Asce, Lu, Peng & Jiang, 2011). The researcher probed whether the respondents believed roads, water and sport infrastructure were essential in their respective communities. The researcher wanted to check the extent to which community members perceive the value and significance of roads, water and sport infrastructure in their communities. According to the findings, all of the respondents

said yes, roads, water and sport infrastructure are essential in their respective communities and emphasised how crucial infrastructure for sports, water, and roads is to local communities. In the case of water infrastructure, the vast majority of responses emphasise how important these facilities are to community growth, transportation, economic activity, and meeting fundamental human needs. People perceive water as a basic need for life and sanitation, and roads as necessary for convenient travel and access to essential services. Sport infrastructure is seen as a means of encouraging young participation in constructive activities and fostering both physical and mental health. Most people agree that these infrastructures are essential for raising living standards and encouraging community growth.

One of the respondents said, *"The absence of roads will cause less accessibility to our community for investors, while water is a basic need for most of the activities, and sports infrastructure promotes a healthy lifestyle."*

Another respondent said, *"People need roads to travel to different areas or places for businesses and many other reasons. Water is a source of life. Without water, there is no life. Sport facilities keep people active, healthy and strong."*

In conclusion, roads, water and sport infrastructure were all perceived as essential in the communities since they promote community development and support the daily routines of community members. Therefore, the absence of roads, water and sport infrastructure would have a negative impact on the communities.

5.10.1.2 Roads, water and sport infrastructure services impact your life positively

Community members would never share the same perception about the positive impact of roads, water and sport infrastructure on their daily activities. Their perceptions will always be influenced by their experiences, history, and daily needs. The study sought to establish whether roads, water and sport infrastructure impact the lives of communities positively. The intention was to check the extent to which roads, water and sport infrastructure play a positive role in the community. The majority of respondents point out the benefits of sports facilities, water, and roads for people's

lives. The respondents recognise the significance of these components for a variety of facets of their own development as well as that of their community. The respondents bring up how convenient and easily accessible decent roads are. Road infrastructure makes it easier and safer to access basic services, commute to work, and transfer commodities.

One of the respondents said: *"The above mentioned services impact my life positively as access to clean drinkable water protects my health, access to proper roads allows me travel safely and conveniently as poor road infrastructures lead to lethal car accidents, sport infrastructure contributes to my health overall as participating in sports talent in the community, keeping the youth away from the streets"*

In closing, the roads, water and sport infrastructure play a positive role in the lives of community members. Therefore, it is important for municipalities to continue investing in these types of infrastructure.

5.10.1.3 The construction of roads, water and sport infrastructure promote community development

The researcher wanted to establish whether the construction of roads, water and sport infrastructure promotes community development. All respondents emphasised the role of roads, water, and sports facilities in promoting community development within communities. They highlight how these infrastructures create job opportunities, attract investments, and stimulate local businesses. Access to clean water is associated with improved health outcomes and quality of life. Clean water is essential for drinking, sanitation, and hygiene, while sports facilities promote physical activity and help combat health issues such as obesity and chronic diseases. The role of sports infrastructure in youth development is particularly noteworthy. It provides opportunities for physical activity, skill development, and social engagement, helping to steer young people away from negative influences like substance abuse and delinquency. Well-developed infrastructure, such as good roads and sports facilities, can attract tourists and investors, leading to further economic growth and development in the community. This suggests a positive cycle where infrastructure improvements lead to increased opportunities and prosperity. In conclusion, roads, water and sport infrastructure

promote community development. In the sense that it could lead to increased opportunities in the community.

5.10.1.4 Opportunities that the communities could benefit from during the implementation of roads, water and sport infrastructure projects

There are several opportunities community members could get during the construction of roads, water and sport infrastructure projects. The researcher conducted a thorough investigation to identify some of these opportunities. The intention was to determine the extent to which roads, water and sport infrastructure could have a socio-economic impact on community members during implementation. Based on the findings, all of the respondents highlighted how important infrastructure projects such as new roads, water infrastructure, and sports facilities are to the development of jobs in local communities. These projects help to improve livelihoods and local economic growth by providing jobs to both skilled and unskilled workers. Infrastructure projects often provide opportunities for training and skill development. Long-term employment prospects for community members may improve, and they may gain important experience and knowledge from this.

One of the respondents stated that "roads, water and sport infrastructure projects could benefit community members by creating employment opportunities for local people. The projects could also help local recipients network with the right and connected people."

From the above findings, it can be concluded that there are a number of opportunities during the construction of roads, water and sport infrastructure projects. Other opportunities include securing jobs, establishing connections with contractors, and gaining insight into the management and execution of construction projects. Therefore, to a certain extent, these opportunities could be helpful to community members in the short and long term.

5.10.1.5 Roads, water and sport infrastructure have the potential to alleviate poverty

There is a common assumption that roads, water and sport infrastructure have the potential to alleviate poverty. The researcher probed this question to confirm whether roads, water and sport infrastructure can alleviate poverty. According to the findings, the majority of the respondents indicated that infrastructure initiatives, such as building new roads, water systems, and sports facilities, may boost local economies by generating jobs. The creation of jobs is viewed as a crucial tool for reducing poverty since it gives community members sources of income. Conversely, people perceive the availability of clean water as a means of mitigating poverty. Community members would not need to travel to neighbouring communities to obtain water. Additionally, roads, water and sport infrastructure can attract tourism and investment, further contributing to poverty alleviation by creating additional employment and economic opportunities for local residents. However, a minority of the respondents claimed that roads, water and sport infrastructure are just services to the community; therefore, they cannot alleviate poverty.

This was emphasised by one of the respondents, who claimed that:

"No, I personally do not think it will alleviate poverty because those are the basic services that the community provides and will remain unemployed even after the provision of those services by the government. Only job creation will alleviate poverty."

Looking at the findings above, it can be stated that the majority of the respondents were of the view that roads, water and sport infrastructure could alleviate poverty. Since the delivery of roads, water and sport infrastructure could indirectly alleviate poverty by attracting different forms of investment in the communities, which ultimately will generate jobs for communities to get a source of income.

5.10.1.6 The absence of roads, water and sport infrastructure can pose serious socio-economic problems for communities

The National Development Plan (NDP) of South Africa acknowledges the role that public infrastructure, including roads and water, plays in promoting economic expansion (Watermeyer & Phillips, 2020). Watermeyer and Phillips (2020) draw

attention to the fact that inadequately planned and executed infrastructure projects have the potential to inhibit economic growth. The study wanted to establish whether the absence of roads, water and sport infrastructure can pose serious socio-economic problems for community members, either in the short or long term. The intention was to check whether community members could cope without roads, water and sport infrastructure. Considering the findings, all of the respondents expressed concerns about the socio-economic problems that can arise in the absence of essential infrastructure like roads, water, and sports facilities. These problems include limited accessibility, health hazards, economic stagnation, and increased vulnerability to crime and substance abuse. Furthermore, a lack of roads, water and sport infrastructure is viewed as impeding economic development and progress because it restricts access to markets, discourages investment in communities, and stunts the expansion of local residents. This keeps community members in the cycle of poverty and underdevelopment.

One of the respondents argued that "It can pose serious socio-economic problems because businesses will not effectively run or operate when there are problems with the road, and clean water may mean a lot of diseases that may affect people, therefore leading to poverty".

Another respondent added, "Yes, as they affect many activities that are essential for community members in various ways."

Based on the above findings, it can be concluded that the absence of roads, water and sport infrastructure can result in a number of socio-economic implications for communities.

5.10.1.7 The construction of roads, water and sport infrastructure responds to your basic needs

More high-quality infrastructure is required to boost employment and offer affordable access to basic utilities like water and electricity. Infrastructure is not vital in and of itself; rather, it supports a variety of economic activity (Phalatse, 2022). Therefore, respondents were asked whether the construction of roads, water and sport infrastructure responds to their basic needs. The aim was to check whether community

members view and perceive roads, water and sport infrastructure as basic needs. All of the respondents emphasised the importance of roads, water, and sports infrastructure in meeting basic needs and providing essential services to communities. Clean water was particularly highlighted as a fundamental requirement for life and health. Good roads are seen as essential for facilitating access to services, schools, workplaces, and neighbouring communities. They enable mobility and connectivity, essential for economic and social interactions. While access to clean water is recognised as significant for maintaining health, preventing illness, and ensuring good hygiene practices within communities.

One of the respondents emphasised that *“yes, everyone in South Africa is entitled to basic rights, and one of them is to have access to clean water.”*

Therefore, most of the respondents considered the construction of roads, water and sport infrastructure as part of responding to their basic needs.

5.10.1.8 Participation of community members in the construction of roads, water and sport infrastructure, and the benefits thereof

The researcher deliberately probed this question to establish whether the respondents had previously participated in the construction of water, roads and sport infrastructure. The intention was to determine how the projects had impacted their lives. According to the findings, a minority of the respondents have previously participated in construction projects, while the majority have never been exposed to the construction of roads, water and sport infrastructure projects in their communities.

One of the respondents claimed that: *“Yes, I got employed to be a general worker, which helped me to better my life”*

On that note, few respondents have previously participated in the construction of roads, water and sports infrastructure, and their involvement in the projects was helpful.

5.10.1.9 The absence of roads, water and sport infrastructure services can have negative impact on the local economic development of your communities

According to Todes & Turok (2018) and Makamo (2020) cited in Kgobe, Mabeba and Mamokhere (2023), local economic development (LED) has been more popular in recent years to improve local communities. It is a multifaceted and multisectoral process with end goals such as job creation, poverty eradication, and wealth redistribution. The study probed whether the absence of roads, water and sport infrastructure can have a negative impact on the local economic development of the communities in the three selected local municipalities. The majority of the respondents highlighted the significant economic impact of the absence of proper roads, water, and sports infrastructure in their communities. Lack of roads, water and sport infrastructure was seen as hindering trade, discouraging investment, and limiting economic growth opportunities. The absence of infrastructure was linked to various negative consequences for community well-being. This includes challenges in accessing essential services, increased poverty, health complications, and limited opportunities for social and recreational activities.

One of the respondents mentioned that *“the absence of proper roads, water and sport infrastructure results in the majority of local people leaving their homes to seek better opportunities in other places.”*

Another respondent said, *“Yes, it does because no investor can bring about investments in the area, once the local economy becomes stagnant, this leads to unemployment and poverty, which are likely to result in the practice of criminal activities.”*

In conclusion, the absence of roads, water and sport infrastructure in communities can result in criminal activities, an inability to attract investments, poverty, and rural-urban migration. Therefore, roads, water and sport infrastructure could be used to promote local economic development.

5.11 SECTION C: DATA COLLECTED FROM POLITICAL OFFICE BEARERS

Among other respondents in the study, three politicians (one ward councillor from the Economic Freedom Fighters and two from the African National Congress) were able to share their perceptions, experiences, and knowledge about the state and quality of constructing roads, water and sport infrastructure in the three chosen local municipalities. The above-mentioned target population was also expected to make comments about the causes of abandoning public infrastructure projects and the impact of water, roads and sport infrastructure on municipal financial viability. Lastly, challenges hindering the successful completion of public infrastructure projects and socio-economic opportunities emanating from roads, water and sport infrastructure projects were also probed. To collect the required data, the researcher employed a semi-structured questionnaire with both open-ended and closed-ended questions. The next section discusses the demographic profile of the respondents.

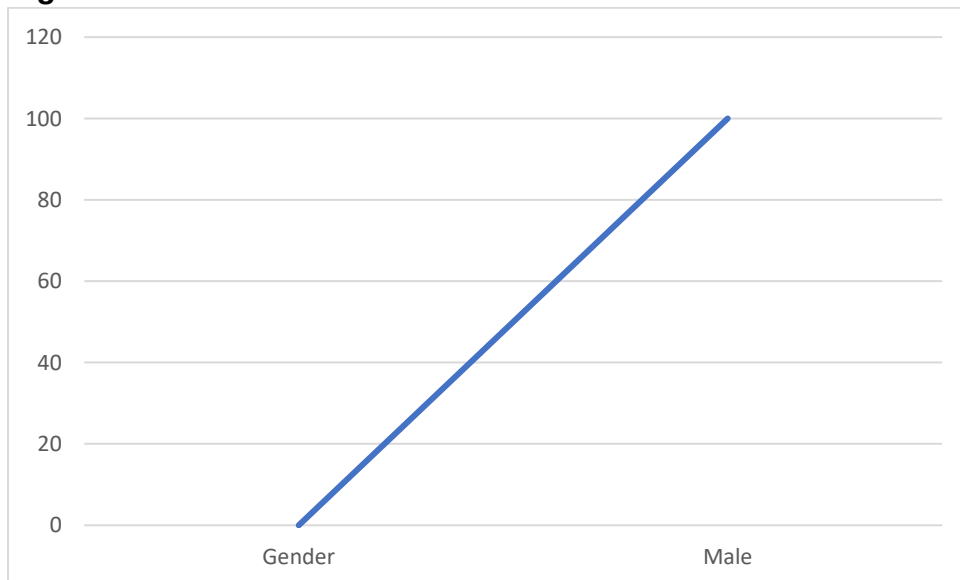
5.11.1 Demographic Information

The researcher began by probing the respondents' demographic questions. The researcher expected the respondents to provide their gender, ethnic status, age category, home language, marital status, educational background, and employment status, among other things. Demographic information has assisted the researcher in having a clear picture of the demographic information of the respondents that the researcher was interacting with during data collection.

5.11.2 Gender

The researcher sought to probe the gender of the respondents in the three selected local municipalities. The study has successfully done that, and the findings are presented below.

Figure 5.30: Gender

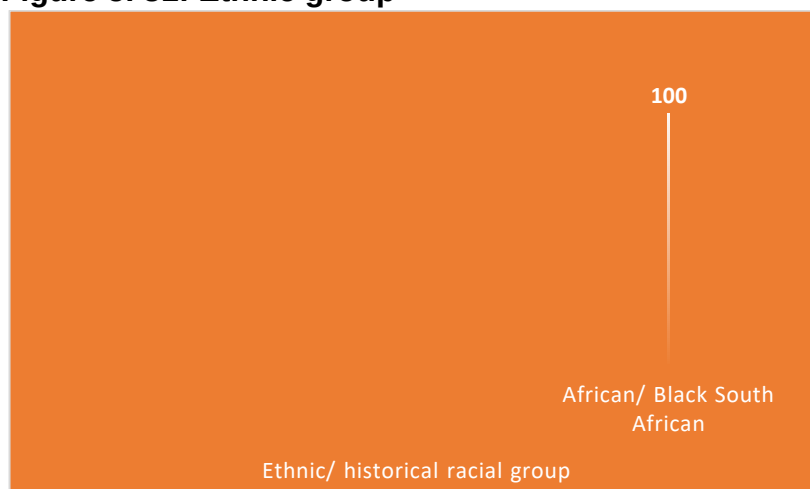


Looking at the above line graph, 100% of the respondents were males. One factor that could have contributed to this finding is the limited number of male politicians who expressed interest in participating in the study. Also, female politicians were given the opportunity to participate in the study, but their questionnaires were not returned for analysis. Ultimately, this has had an impact on the representation of women among the study's respondents. In closing, none (0%) of the female respondents participated in the study.

5.11.3 Ethnic /historical racial group

The study wanted to determine the ethnic profile of the respondents. Hence, a question was asked about ethnicity. The results are provided below.

Figure 5. 31: Ethnic group

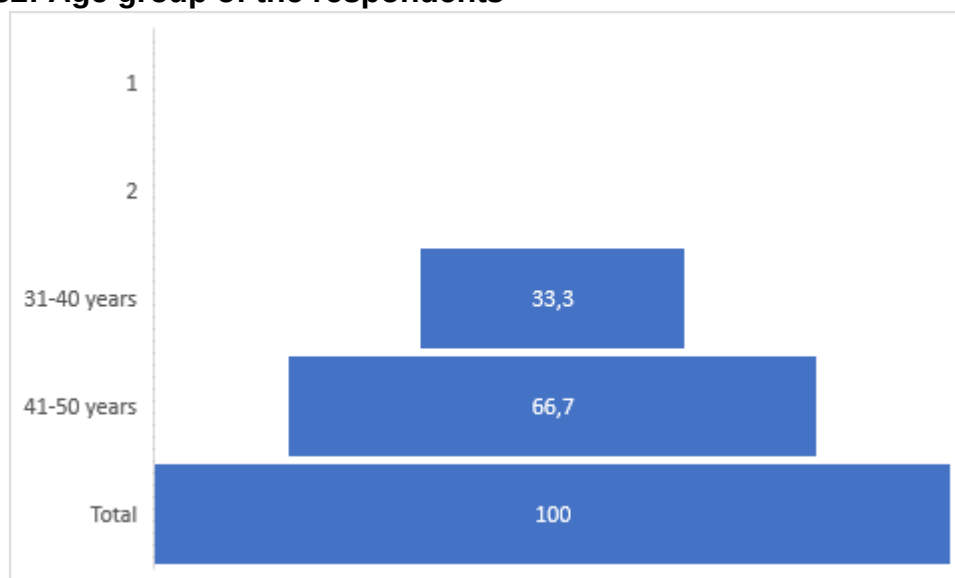


According to the findings presented in the above figure, the study only had 100% representation from black South Africans. This means that the study did not include any representation of white, coloured, or Indian South Africans. Therefore, it is correct to conclude that only black South African respondents shared their experiences and knowledge about the implementation of roads, water and sport infrastructure in their respective municipalities.

5.11.4 Age group

The study also investigated the respondents' age categories in order to determine their age profile within the three selected municipalities. The findings are as follows.

Figure 5.32: Age group of the respondents

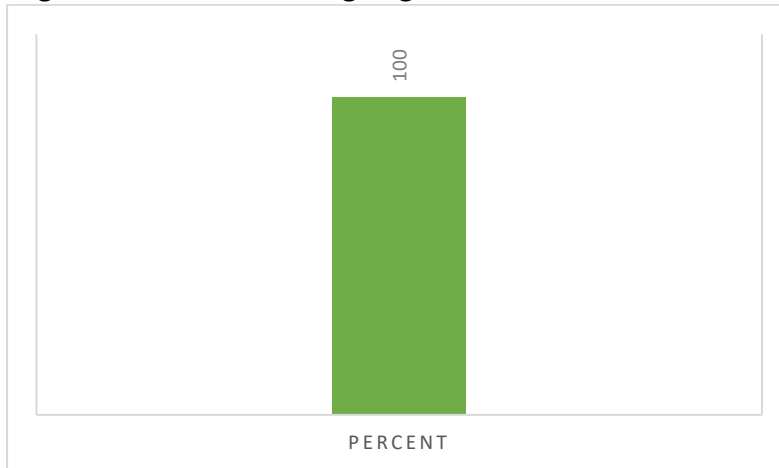


The above diagram presents the findings from the study, which probed the age group of the respondents. The study found that 66.7% of the respondents were between the ages of 41 and 50, while 33.3% were between the ages of 31 and 40. In addition to that, the study recorded 0% of the respondents between the ages of 18–30, 51–65, and above 65 years. In conclusion, the majority of the respondents were between the ages of 41 and 50.

5.11.5 Home language

The study also probed the home languages of the targeted respondents in the study. Their language profile is indicated in the figure below.

Figure 5.33: Home language



There are eleven official languages in South Africa, namely: English, IsiXhosa, IsiZulu, Tswana, Swati, Sepedi, IsiNdebele, Afrikaans, Xitsonga, Sotho, and Tshivenda. Respondents were expected to choose one of those. According to the findings, 100% of the respondents were Sepedi-speaking people. In other words, the study did not have representations of the respondents speaking the rest of the other languages. In view of all this, it can be concluded that the three selected communities are dominated by Sepedi-speaking people.

5.11.6 Marital status

Community members have different marital statuses. The researcher probed a question on marital status to establish the marital profile of the respondents. The information is presented below.

Figure 5.34: Marital status

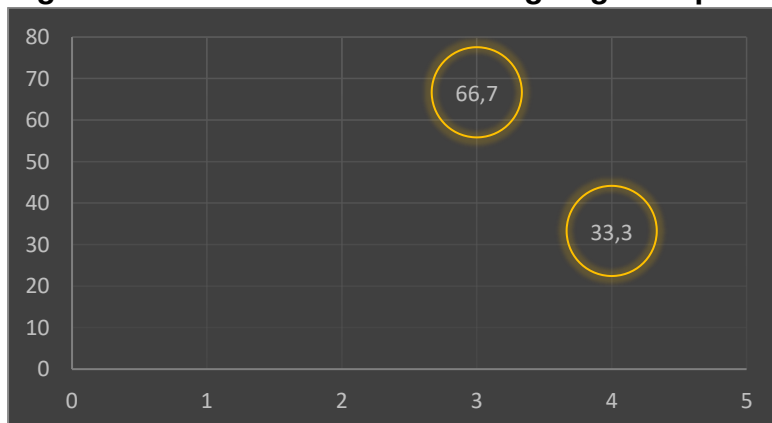


Based on the above findings, 66,7% of the respondents were married while 33,3% of them were single. Then the study did not have respondents who were widowed nor divorced. Therefore, the single respondents were dominated by married respondents in the study.

5.11.7 Education and training / Highest qualification

The level of education and training the respondents received has influenced their understanding, perceptions, knowledge, and experience about the implementation of roads, water and sport infrastructure projects. The researcher saw it appropriate to probe a question about the educational background of the respondents. The following figure shows the results.

Figure 5.35: Education and training/ highest qualification of the respondents



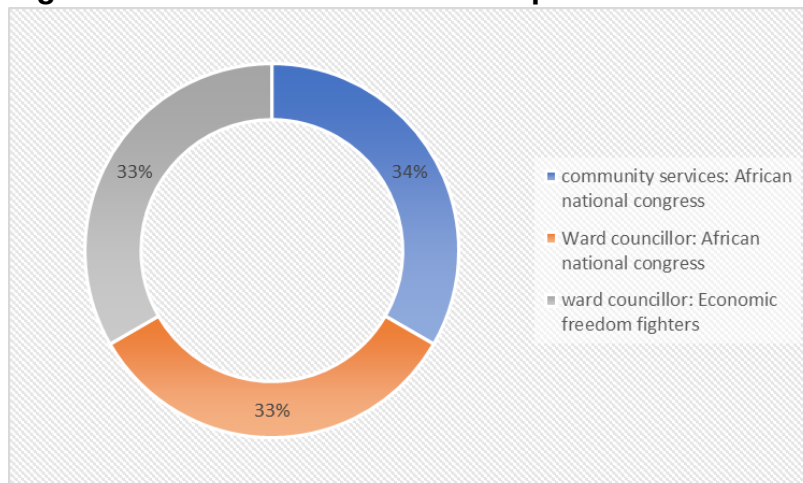
In accordance with the above figure, 66.7% of the respondents were in possession of matric certificates at the time of data collection, while 33.3% of the respondents were holding certificates or diplomas. While the study acknowledges that only a small number of respondents returned their questionnaires for analysis, it is important to highlight that the majority of respondents lack undergraduate qualifications or higher. This is concerning because these respondents were public servants and must invest more in education. Formal education will empower them to deal with the day-to-day needs of community members. Therefore, the majority of the respondents were in possession of matric certificates.

5.11.8 Employment status

5.11.8.1 The section which respondents work within

Respondents were asked to mention the sections that they were working within at the time of data collection. The researcher wanted to establish the employment profile of the respondents and also ensure that they were the relevant people to be involved in the study. The findings are presented below.

Figure 5.36: The section which respondents work within



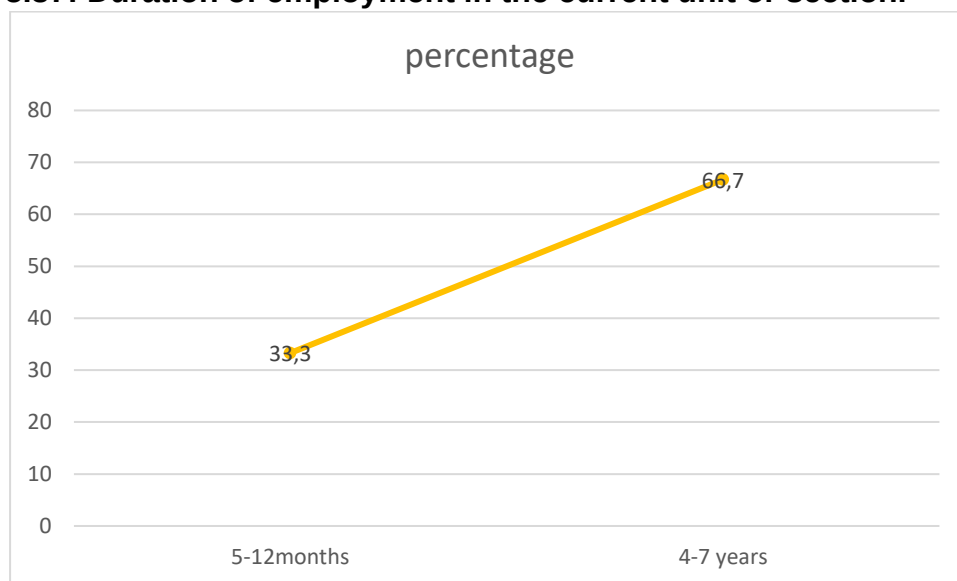
The researcher initially targeted respondents from the Democratic Alliance (DA), the African National Congress (ANC), and the Economic Freedom Fighters (EFF). However, due to a lack of interest from the other prospective respondents from the DA, the study did not have any respondents from the DA. Therefore, 66% of the respondents were from the ANC, while 34% of them were affiliated with the EFF.

Therefore, the majority of the respondents were from the ANC. This could have been affected by the fact that participants from other political parties, such as the DA, did not return their questionnaires for analysis. Hence, the ANC participants have dominated the study.

5.11.9 Duration of employment in the current unit, section or division

The researcher probed the duration of employment in the current unit, division, or section. The intention was to understand the period of time the respondents have been working in their respective local municipalities. Additionally, the researcher aimed to determine whether the respondents, given their years of work experience at that time, would be able to share their experiences and perceptions regarding the topic at hand. Therefore, the study has found the following results.

Figure 5.37: Duration of employment in the current unit or section.



The study found that 66.7% of the respondents have been working in their section for 4–7 years. While 33.3% of the respondents have been working for 5–12 months, Therefore, none (0%) of the respondents have been working in their unit for 0–5 months, 1-3 years, or more than 8 years. Therefore, the majority of the respondents have been working in their sections for 4–7 years. This was an advantage for the researcher since it allowed interactions with experienced respondents at the time of data collection. A respondent with 0–5 months of work experience will never share the same perceptions as a person who has worked for 4–7 years in the field of project implementation and management.

5.12 CLOSED ENDED RESPONSES FROM POLITICAL OFFICE BEARERS

This section presents the data collected from political office bearers in the two selected local municipalities, as the study did not include representation from political office bearers in Blouberg. The study used closed-ended questions to probe a set of questions that arose from the study's five research objectives. The section below presents the results for closed ended questions.

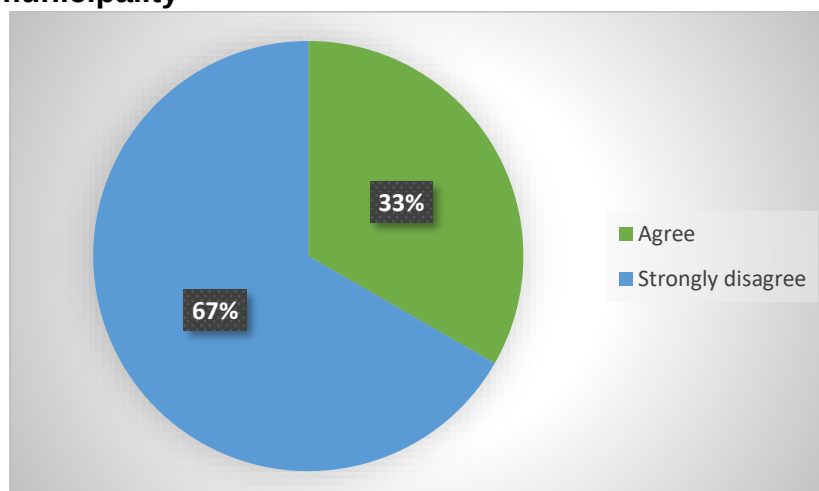
5.13 THE STATE OF CONSTRUCTING ROADS, WATER AND SPORT INFRASTRUCTURE PROJECTS

In this section, the researcher probed questions to determine the level of satisfaction among the respondents within the three selected local municipalities. The findings are presented below.

5.13.1 The state and quality of constructing roads, water and sport infrastructure in your municipality

The researcher probed whether the respondents were satisfied with the quality and state of the construction of roads, water and sport infrastructure in the three selected local municipalities. The aim was to establish whether the respondents were satisfied with the roads, water and sport infrastructure that the contractors delivered in terms of quality. The results are as follows.

Figure 5.38: The state of constructing roads, water and sport infrastructure in your municipality

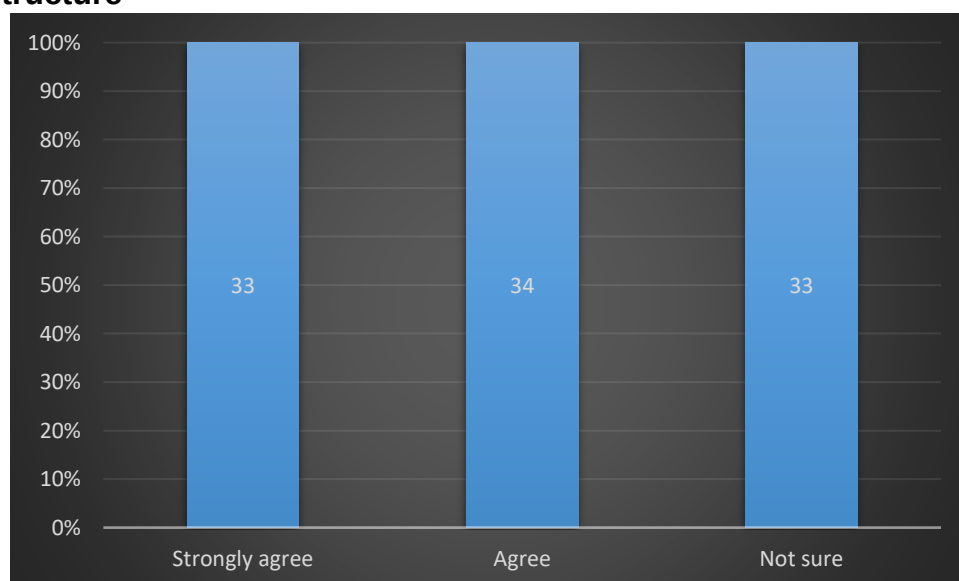


Based on the above findings, the researcher found that 67% of the respondents strongly disagreed that they were satisfied with the state and quality of constructing roads, water and sport infrastructure. Meanwhile, 33% of the respondents agreed that they were satisfied with the quality and state of the construction of roads, water and sport infrastructure. However, none (0%) of the respondents strongly agreed and disagreed. On the other hand, none (0%) of the respondents were not sure whether they were satisfied with the state and quality of constructing roads, water and sport infrastructure. Therefore, the majority of the respondents were not satisfied with the quality and state of the construction of roads, water and sport infrastructure. To a certain extent, the findings suggest that contractors do not deliver quality infrastructure. Therefore, the state and quality of roads and sports infrastructure could also shorten the lifespan of the infrastructure.

5.13.2 Value for money on the construction of roads, water and sport infrastructure

The study also sought to determine whether there is value for money in the construction of roads, water and sport infrastructure projects. The intention was to establish the maximum efficiency that the municipality and community members could achieve in the construction of these projects. The study found the results below.

Figure 5.39: Value for money on the construction of roads, water and sport infrastructure

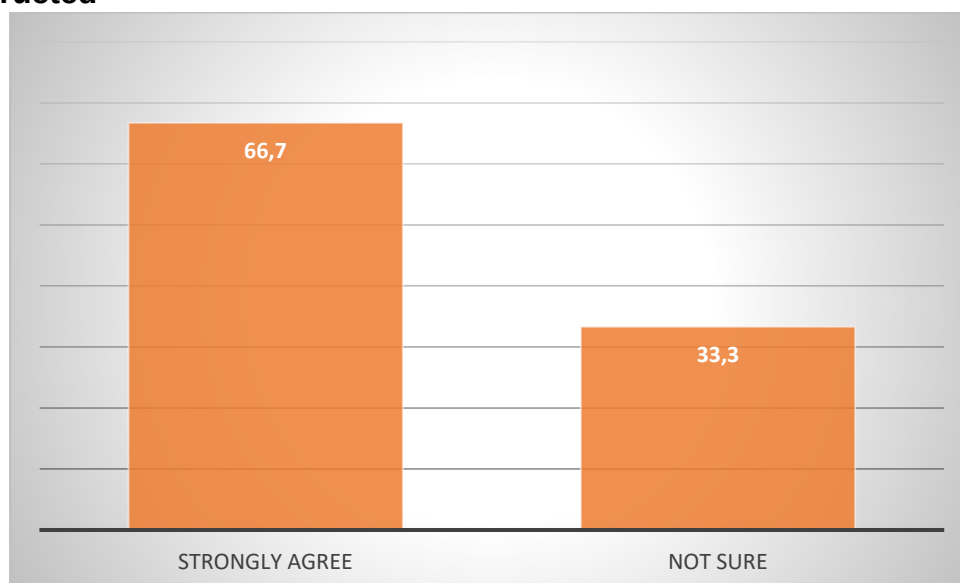


The value for money could mean different things to different people. Others could argue that it refers to efficiency and effectiveness. While others could say it means not paying more for roads, water and sport infrastructure service than appears to be justified by its quality and availability. According to the findings, 33% of the respondents strongly agreed, and 34% of the respondents agreed that there is value for money in the construction of roads, water and sport infrastructure. Furthermore, 33% of the respondents were not sure whether there was value for money. The study recorded 0% of the respondents who strongly disagreed and disagreed. In view of all this, the majority of the respondents agreed that there is value for money in the construction of roads, water and sport infrastructure projects. These findings suggest that the municipality and contractors under concern use the limited resources efficiently and effectively.

5.13.3 Roads, water and sport infrastructure projects which were poorly or inadequately constructed

The study wanted to check whether the three selected local municipalities have roads, water and sport infrastructure that was poorly constructed in the past few years. The intention was to check whether contractors delivered the infrastructure according to the project specifications and expectations of the municipalities. The results are as follows.

Figure 5.40: Roads, water and sport infrastructure projects which were poorly constructed

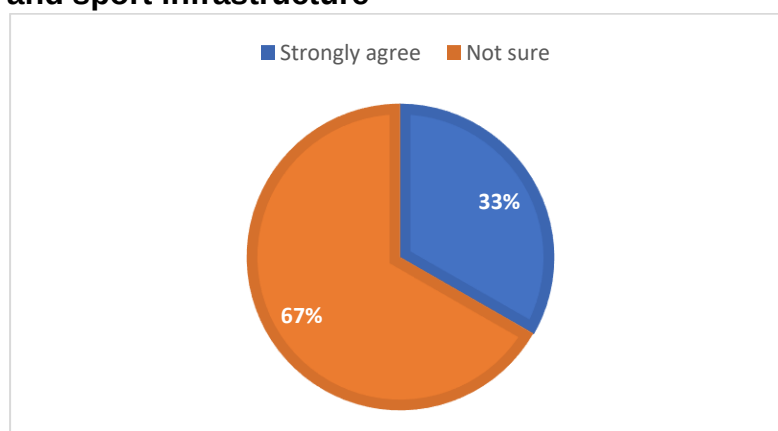


The study argues that sometimes contractors inadequately construct roads, water and sport infrastructure. This could have implications for the lifespan of the infrastructure. Secondly, it can have implications for the cost of re-doing and maintaining the infrastructure. The above figure portrays the findings. According to the results, 66.7% of the respondents strongly agreed that there were roads, water and sport infrastructure that were poorly or inadequately constructed. On the other side, 33.3% of the respondents were not sure whether there were roads, water and sport infrastructure that were poorly constructed. The study had 0% of the respondents who strongly disagreed and disagreed. The study also revealed that there were no respondents who expressed agreement. Flowing from this, the majority of the respondents indicated that there were roads, water and sport infrastructure that were poorly or inadequately constructed. This could suggest that there is a need for proper monitoring of the work done by contractors. Also, it could mean that contractors do not deliver projects according to project specifications while also suggesting the usage of cheap material, which contributes to the lack of quality in the infrastructure.

5.13.4 Political interference has negative impact on the construction roads, water and sport infrastructure

The study wanted to check whether political interference has a negative impact on the construction of roads, water and sport infrastructure. The findings are presented below.

Figure 5.41: The impact of political interference on the construction of roads, water and sport infrastructure

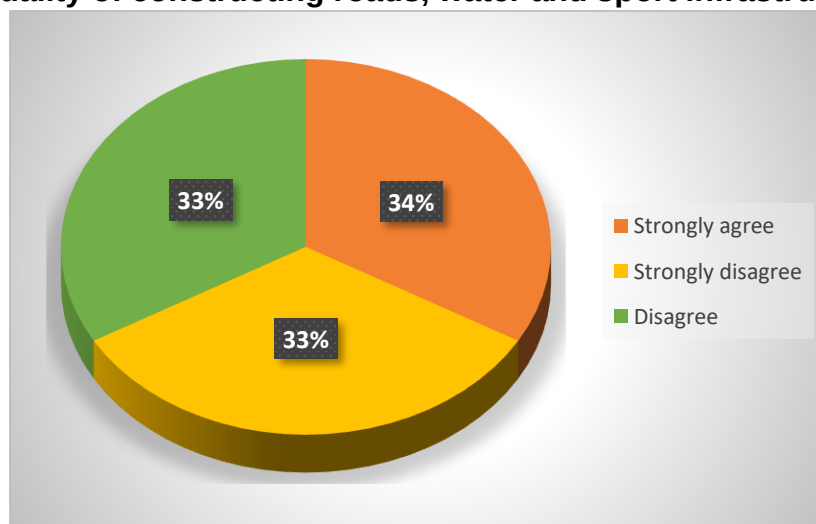


Based on the above findings, 67% of the respondents were not sure whether political interference has a negative impact on the construction of roads, water and sport infrastructure. 33% of the respondents strongly agreed that political interference has a negative impact. None (0%) of the respondents strongly disagreed and disagreed. While the study also recorded 0% of the respondents who agreed that political interference has a negative impact on the construction of roads, water and sport infrastructure. Given the above findings, it can be stated that the majority of the respondents were not sure whether political interference negatively impacted the implementation of roads, water and sport infrastructure. It could be that the respondents do not have a reference to a project that was negatively impacted by political interference.

5.13.5 Community members are satisfied with the state and quality of constructing roads, water and sport infrastructure in their municipality

Knowing whether community members were satisfied with the quality and state of construction of roads, water and sport infrastructure projects was important. The findings are discussed below.

Figure 5.42: The level of satisfaction of community members about the state and quality of constructing roads, water and sport infrastructure



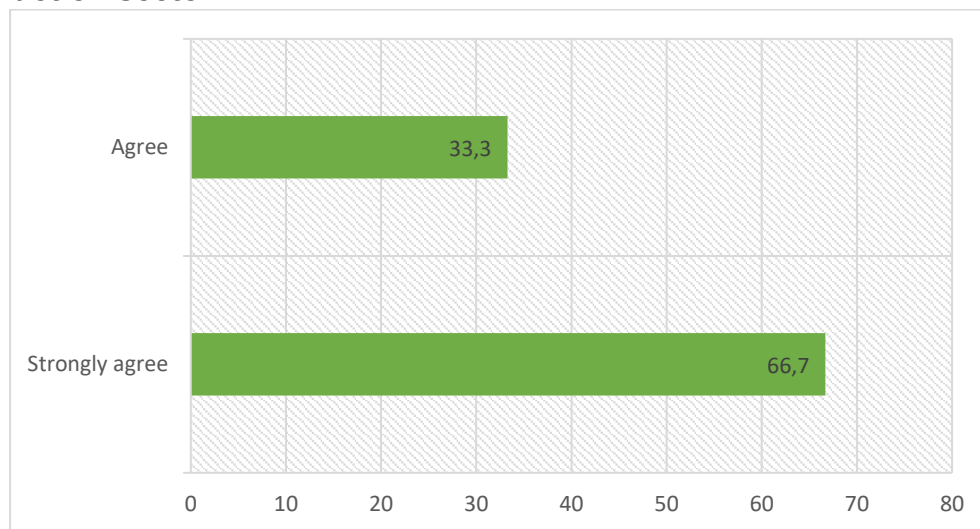
Community members are the end users of roads, water and sport infrastructure. As such, they must have a sense of ownership over the roads, water and sport infrastructure. Therefore, there was a need to check whether community members were satisfied with the state and quality of constructing roads, water and sport

infrastructure projects. Municipalities could use municipal imbizo, consultation meetings, and social media platforms to establish whether communities were satisfied. So, the aim of the question was also to establish whether the three selected local municipalities go back to the community to establish their level of satisfaction with the quality and state of the construction of roads, water and sport infrastructure. Therefore, 34% of the respondents strongly agreed, while 33% strongly disagreed that community members were satisfied with the state and quality of constructing the above-mentioned infrastructure. Another 33% of the respondents disagreed that they were satisfied. None (0%) of the respondents were not sure, while none (0%) of the respondents agreed that they were satisfied. The findings show that the majority of the respondents disagreed that community members were satisfied. In conclusion, community members did not find satisfaction with the state and quality of constructing roads, water and sport infrastructure. Therefore, the findings could suggest that contractors were delivering poor infrastructure, or maybe communities were not satisfied because these infrastructures were not what they had anticipated.

5.13.6 The appointment of contractors with good track record can positively impact the quality of constructing roads, water and sport infrastructure

The success of constructing roads, water and sport infrastructure depends on a number of factors. One of them is the appointment of a contractor who has previously delivered quality infrastructure. The researcher wanted to establish whether the respondents were aware that the appointment of contractors with a good track record can determine the quality and state of constructing roads, water and sport infrastructure in their respective municipalities. Therefore, the results are portrayed below.

Figure 5.43: The appointment of contractors with good track record in the construction sector

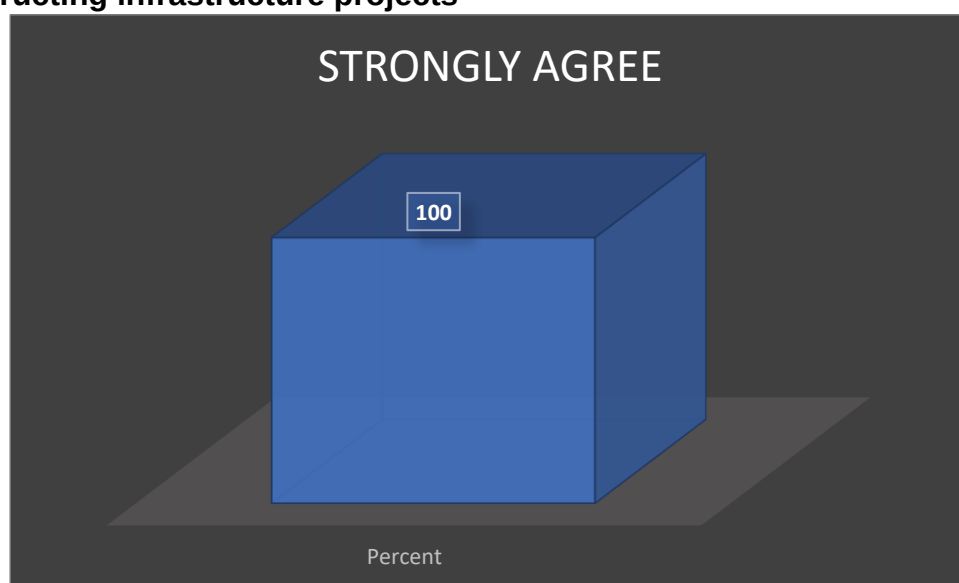


According to Geldenhuys (2021) and Mahlala and Netswera (2020), corruption, nepotism, and fraud in municipalities have turned into safe havens for unfair or irregular practices. These include the irregular awarding of infrastructure tenders to businesses or entities whose directors work for the municipality or to unqualified service providers who are incapable of completing the job. In terms of the findings, 66.7% of the respondents strongly agreed and 33.3% agreed that the appointment of contractors with a good track record in the construction sector can in one way or another determine the state and quality of the infrastructure. None (0%) of the respondents were not sure. Furthermore, neither a single respondent strongly disagreed nor strongly agreed. In light of this, the majority of the respondents agreed that the appointment of contractors with a good track record can positively affect the quality and state of constructing roads, water and sport infrastructure. Therefore, this shows that the respondents know that it is important to consider contractors who have a good track record when attempting to award roads, water and sport infrastructure projects to contractors for implementation. In conclusion, the study states that the appointment of contractors with a good track record is necessary because it saves costs, allows contractors to meet deadlines, promotes value for money, and, to a certain extent, demonstrates the work ethic of those awarding contracts.

5.13.7 Corruption affects the quality of constructing roads, water and sport infrastructure services

The researcher probed whether corruption negatively affects the state and quality of construction of roads, water and sport infrastructure. The results are presented in the figure below.

Figure 5.44: The negative impact of corruption on the quality and state of constructing infrastructure projects



According to Mabeba (2021), citizens, scholars, opposition groups, and possibly the ruling party now inevitably worry about corruption. This is because there have been occasional media reports about unethical (or corrupt) activities in South African local government. As a result, these behaviours have an impact on residents' access to services like roads, water and sport infrastructure. Corruption and inefficiency plague municipal governance in South Africa. Corruption is a fundamental danger to democracy and the rule of law because it represents a lack of ethical leadership and a collapse of institutions meant to enforce good governance practices (Skenjana, Ngamlana, Mabhula, Mgwebi, Sokupa, & Kimemia, 2019). The study wanted to establish whether the respondents were of the view that corruption could also be a contributing factor to the state and quality of constructing roads, water and sport infrastructure. According to the results, 100% of the respondents strongly agreed that corruption can negatively affect the quality and state of construction of roads, water and sport infrastructure. The study also recorded 0% of respondents who either

agreed, strongly disagreed and disagreed. While none (0%) of the respondents were not sure. All of the respondents agreed that corruption can negatively influence the quality of roads, water and sport infrastructure. Therefore, it is commendable that the respondents recognize the detrimental impact corruption can have on the implementation of the aforementioned public infrastructure. Their level of awareness could mean that the respondents know some of the factors that can hinder the successful implementation of roads, water and sport infrastructure.

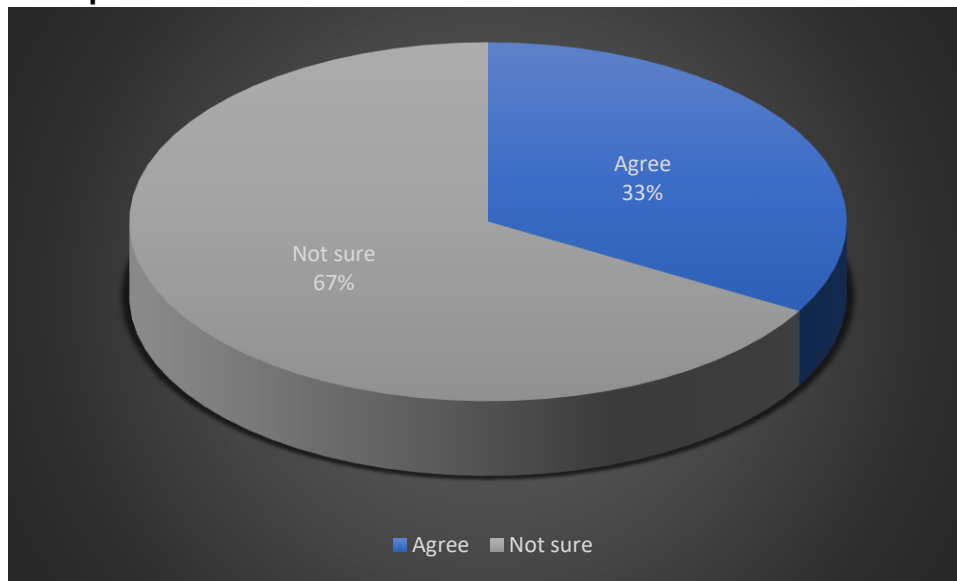
5.14 THE CAUSES OF ABANDONING THE CONSTRUCTION OF ROADS, WATER AND SPORT INFRASTRUCTURE PROJECTS

The section wanted to establish an in-depth understanding of the causes of abandoning the construction of roads, water and sport infrastructure projects in the three selected local municipalities. The results below show the perceptions of the respondents about the causes of abandoning the construction of roads, water and sport infrastructure projects.

5.14.1 Corruption causes the abandonment of constructing roads, water and sport infrastructure in our municipality

According to Thusi and Selepe (2023), corrupt practices are especially destructive because they undermine public trust in the government, especially in developing nations like South Africa, where resources are scarce and must be used as efficiently as possible. This frame of view makes it possible to argue that the public sector's fight against corruption has as its main objective enhancing service delivery. This could be achieved by progressively lessening corruption and enhancing governance. The government will successfully and efficiently eradicate corruption, saving a substantial amount of money designated for the delivery of public services such as roads, water and sport infrastructure. The purpose of probing this question in this section was to establish whether corruption causes the abandonment of constructing roads, water and sport infrastructure in Molemole, Blouberg, and Polokwane Local Municipalities. The findings are discussed below.

Figure 5.45: Corruption as a contributing factor to the abandonment of roads, water and sport infrastructure.

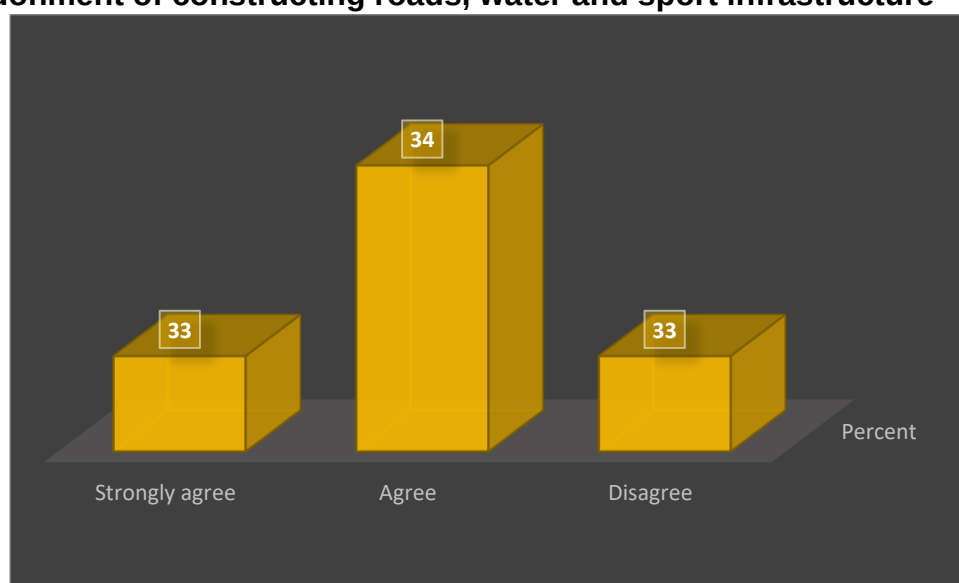


Some of the local municipalities in South Africa abandon the construction of roads, water and sport infrastructure for various reasons. The researcher asked a question to check whether corruption could be one of those reasons. This is due to Enste and Heldman's (2017) assertion that corruption is a pervasive issue across all nations, refuting the conventional belief that corruption is solely a problem in less developed nations. Even though developing nations consistently perform worse in terms of corruption, these indices also demonstrate that over two-thirds of all countries, including half of the G20, struggle with corruption, and that there is not a single country in the world where the problem does not exist. Corruption reduces investment in public infrastructure. Based on the findings, 67% of the respondents were not sure whether corruption causes the abandonment of constructing roads, water and sport infrastructure projects. While 33% of the respondents agreed that corruption contributed to the abandonment of constructing roads, water and sport infrastructure projects. None of the respondents (0%) strongly agreed, strongly disagreed, or disagreed. Therefore, a few respondents claimed that corruption caused the abandonment of constructing roads, water and sport infrastructure in their local municipalities. To a lesser extent, corruption could have been one of the contributing factors to the abandonment of constructing roads, water and sport infrastructure.

5.14.2 Price escalation by suppliers causes the abandonment of constructing roads, water and sport infrastructure in our municipality

Generally, price escalation by suppliers may contribute to the abandonment of constructing roads, water and sport infrastructure. Therefore, this may have implications for the total costs of roads, water and sport infrastructure projects. This view is seconded by Hammad, Ali, Sweis, and Bashir (2008), who imparted that, depending on the nature and extent of the project, delays and higher expenses might have a substantial impact on project success. However, it is crucial to determine who is accountable for these occurrences. The study sought to determine whether price escalation by suppliers contributes to the abandonment of projects in the three selected local municipalities. The findings are presented below.

Figure 5.46: Price escalation by suppliers as a contributing factor to the abandonment of constructing roads, water and sport infrastructure



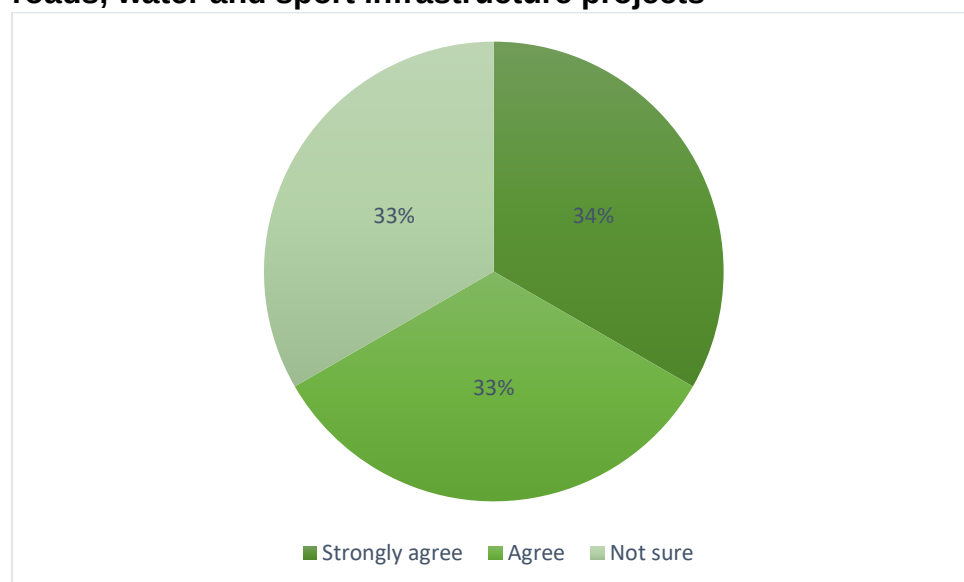
It was crucial for the researcher to probe whether price escalation by suppliers contributed to the abandonment of roads, water and sport infrastructure. Respondents had different perceptions of the question under consideration. 33% of respondents strongly agreed, while 34% agreed that price escalation by suppliers contributed to the abandonment of constructing roads, water and sport infrastructure. On the other hand, 33% of the respondents disagreed. However, none (0%) of the respondents strongly disagreed. While none (0%) of the respondents were not sure that price escalation by suppliers caused the abandonment of roads, water and sport infrastructure. The majority of the respondents agreed that price escalation by suppliers caused the

abandonment of constructing roads, water and sport infrastructure. In conclusion, price escalation had a negative impact on the construction of roads, water and sport infrastructure.

5.14.3 Ineffective governance mechanisms for public infrastructure projects causes the abandonment of constructing roads, water and sport infrastructure in our municipality

A question was posed to check whether ineffective governance mechanisms have contributed to the abandonment of constructing roads, water and sport infrastructure. The results are presented below.

Figure 5.47: Ineffective governance mechanisms as a cause for abandoning roads, water and sport infrastructure projects



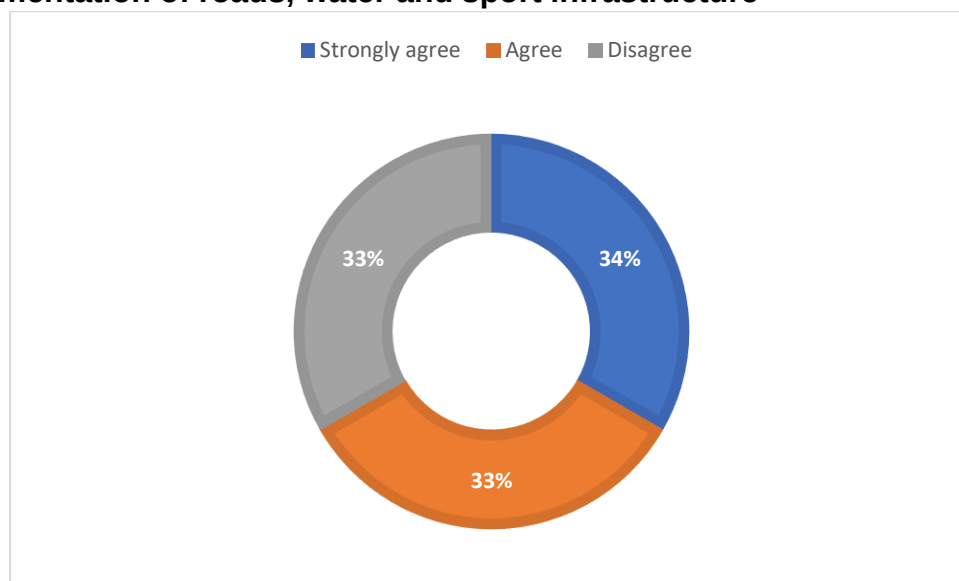
Local municipalities in South Africa are considered the most important sphere of government due to their close proximity to community members. Their failure to provide roads, water and sport infrastructure could have a negative impact on the communities. Lack of effective governance mechanisms is one of the factors hindering the successful implementation of roads, water and sport infrastructure (Nzama, 2022). The study found that 34% of the respondents strongly agreed and 33% agreed that ineffective governance mechanisms caused the abandonment of constructing roads, water and sport infrastructure. While 33% of the respondents were not sure. Respondents who strongly disagreed and disagreed were recorded at 0%. The majority of the respondents have agreed that ineffective governance mechanisms

have contributed to the abandonment of the three infrastructure projects. It can be concluded that ineffective governance mechanisms exist in the three local municipalities since respondents have indicated that they played a role in abandoning roads, water and sport infrastructure projects. Therefore, municipalities must establish effective governance mechanisms that will allow the successful implementation of roads, water and sport projects.

5.14.4 Inappropriate costing causes the abandonment of constructing roads, water and sport infrastructure in our municipalities

The study probed whether inappropriate costing causes the abandonment of road, water and sport infrastructure projects. It is always important for contractors to estimate project costs accurately. This will have a positive impact on the success of infrastructure projects because inappropriate costs delay and complicate the project's overall phases. The results are presented below.

Figure 5.48: Inappropriate costing as a cause for abandoning the implementation of roads, water and sport infrastructure



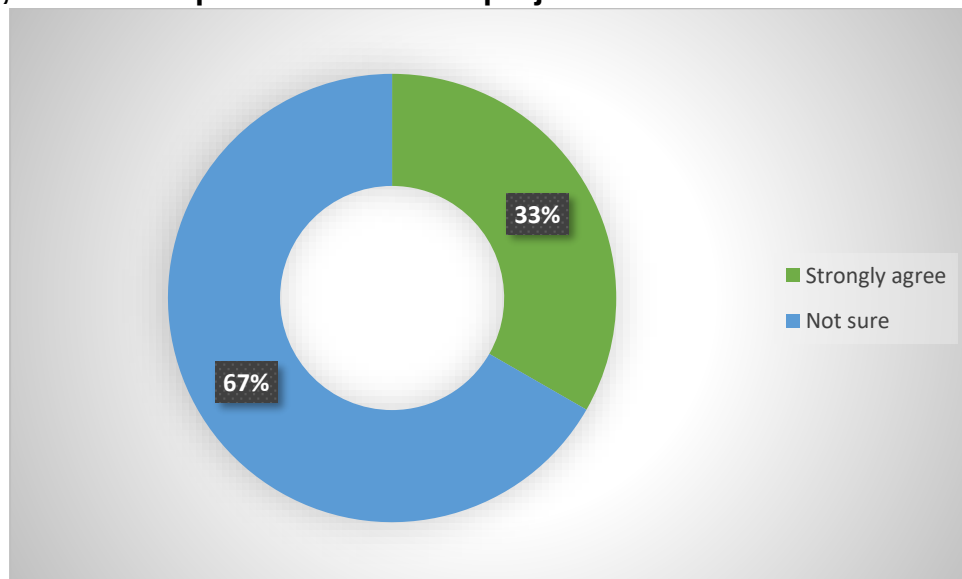
The figure above shows that 34% of the respondents strongly agreed, 33% agreed, and 33% disagreed. None of the respondents were not sure (0%) and another 0% was recorded for those who strongly disagreed. In conclusion, the majority of the respondents said that inappropriate costing contributed to the abandonment of constructing roads, water and sport infrastructure, making the projects not to be implemented smoothly. Therefore, it is the responsibility of the contractors to ensure

that they do accurate and appropriate costing of roads, water and sport infrastructure. This also requires contractors who are well-versed and experienced to run roads, water and sport infrastructure projects.

5.14.5 Lack of project management skills causes the abandonment of constructing roads, water and sport infrastructure in our municipality

The study investigated whether a lack of project management skills led to the abandonment of road, water and sport infrastructure projects in three local municipalities. The results are shown in the figure below.

Figure 5.49: Lack of project management skills as a cause for abandoning roads, water and sport infrastructure projects

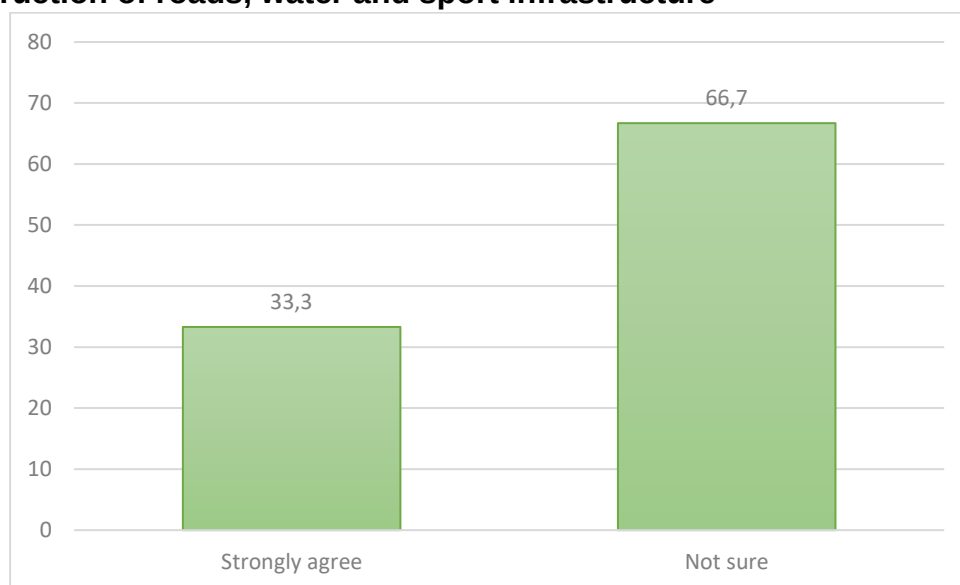


Project management skills are a prerequisite for the successful implementation of road, water and sport infrastructure projects. Both the contractor and the municipal officials in charge of the project management unit must have these skills. Based on the findings, 33% of the respondents strongly agreed, and 67% were not sure whether a lack of project skills contributed to the abandonment of constructing roads, water and sport infrastructure. None (0%) of the respondents strongly disagreed and disagreed. Another (0%) of the respondents were recorded at 0%. Looking at the findings, it can be inferred that the majority of the respondents were not sure whether a lack of project management skills caused the abandonment of constructing roads, water and sport infrastructure projects. Therefore, it cannot be concluded that a lack of project management skills causes the abandonment of projects since the majority of the respondents were not sure.

5.13.6 Poor financial management contributes to the abandonment of constructing roads, water and sport infrastructure in our municipality

Amongst other things, poor financial management is generally considered one of the contributing factors to the abandonment of roads, water and sport infrastructure projects. The study sought to determine whether poor financial management causes the abandonment of implementing roads, water and sport infrastructure projects.

Figure 5.50: Poor financial management as a cause for abandoning the construction of roads, water and sport infrastructure

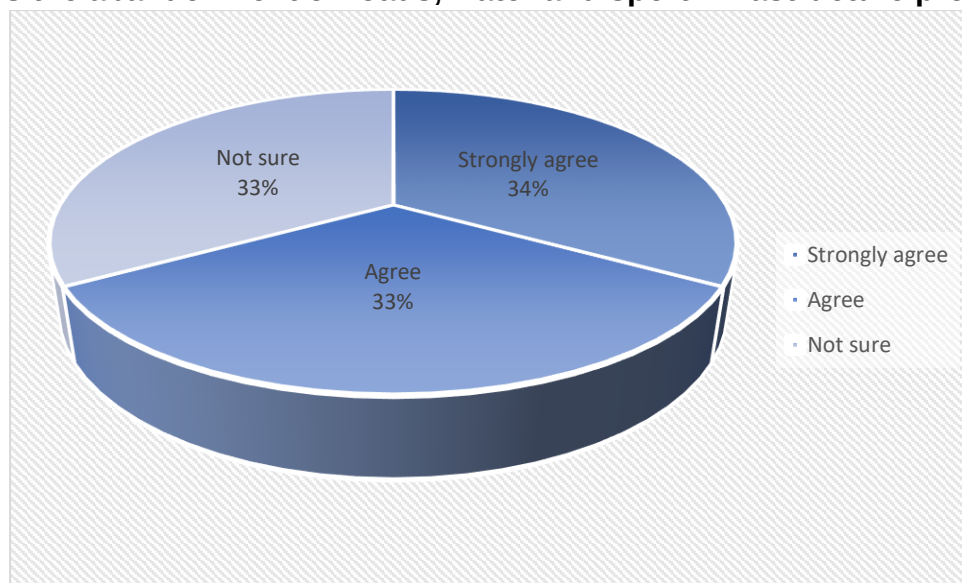


Poor financial management occurs when the municipality or the contractor misuses money that was budgeted for the construction of roads, water and sport infrastructure. The municipality or the contractor may misuse the money for various reasons. Looking at the causes for abandoning the construction of roads, water and sport infrastructure projects, respondents were asked whether poor financial management causes the abandonment of constructing roads, water and sport infrastructure projects. According to the findings, 33.3% of the respondents strongly agreed while 66.7% were not sure. The majority of the respondents were not sure. It cannot be concluded that poor financial management could be a contributing factor to the abandonment of implementing roads, water and sport infrastructure. Therefore, this could mean that respondents have never experienced a situation where poor financial management was a cause for abandoning roads, water and sport infrastructure projects.

5.14.7 Incompetent, unskilled contractors and project stakeholders cause the abandonment of constructing roads, water and sport infrastructure in our municipality

The construction of roads, water and sport infrastructure requires competent, skilled and experienced project stakeholders. The study wanted to check whether the appointment of incompetent, unskilled project stakeholders could be one of the causes for abandoning the construction of roads, water and sport infrastructure projects.

Figure 5.51: Incompetent, unskilled contractors and project stakeholders causes the abandonment of roads, water and sport infrastructure projects



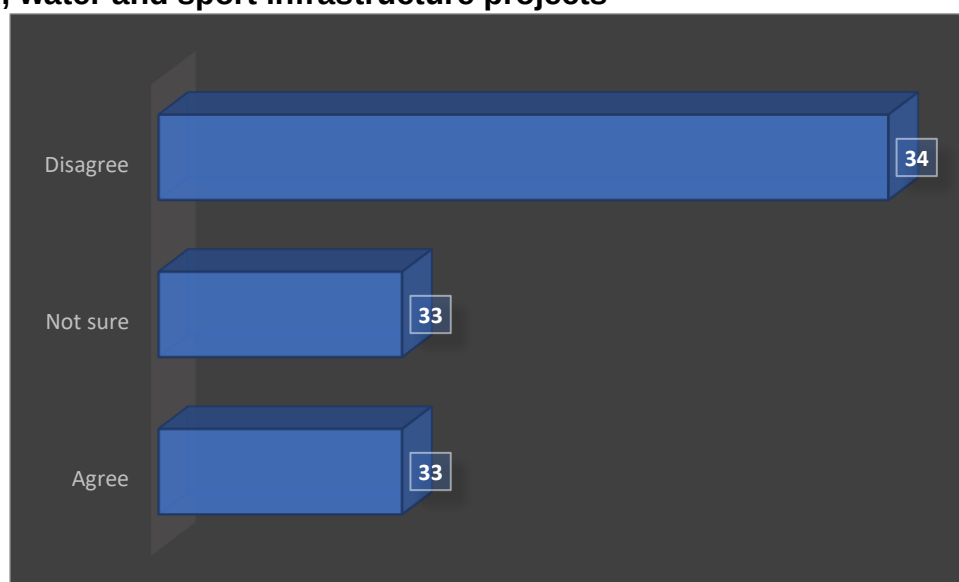
There are different reasons why roads, water and sport infrastructure projects are sometimes abandoned in South African local municipalities. Incompetent, unskilled contractors and project stakeholders could potentially be among the causes of these abandonments. The researcher probed a question to establish whether incompetent, unskilled, and project stakeholders could have also caused the abandonment of implementing roads, water and sport infrastructure in the three selected local municipalities. Based on the above figure, 34% of the respondents strongly agreed and 33% agreed, while another 33% were not sure. The study recorded (0%) of the respondents who strongly disagreed or disagreed. Considering these findings, the majority of the respondents agreed that incompetent and unskilled contractors and project stakeholders cause the abandonment of constructing roads, water and sport infrastructure projects. This suggests that the three selected local municipalities do not hire competent and skilled contractors and project stakeholders. Ultimately, this has

negative consequences for the smooth implementation of roads, water and sport infrastructure projects. Therefore, the appointment of skilled and competent contractors and project stakeholders could allow the smooth running of the projects while also ensuring that the projects done by both the municipalities and contractors have quality.

5.14.8 Non-compliance with contract agreements between the municipality and contractors causes the abandonment of constructing roads, water and sport infrastructure

Dealing with the construction of roads, water and sport infrastructure requires compliance with contract agreements between the three selected local municipalities and contractors. The study posed a question on whether non-compliance with contract agreements between the two parties causes the abandonment of constructing roads, water and sport infrastructure projects. The findings are discussed in the figure below.

Figure 5.52: Non-compliance with contract agreements between the municipality and the contractor as a contributing factor to the abandonment of roads, water and sport infrastructure projects



Public officials should behave themselves in a way that is guided by good governance, which is essential to a country's success. Morality, ethics, honesty, and integrity are among the core values that underpin good governance. Globally, concerns about governance are now at the forefront of measuring success in both the public and private sectors (Mungiu-Pippidi, 2020). Roads, water and sport infrastructure projects

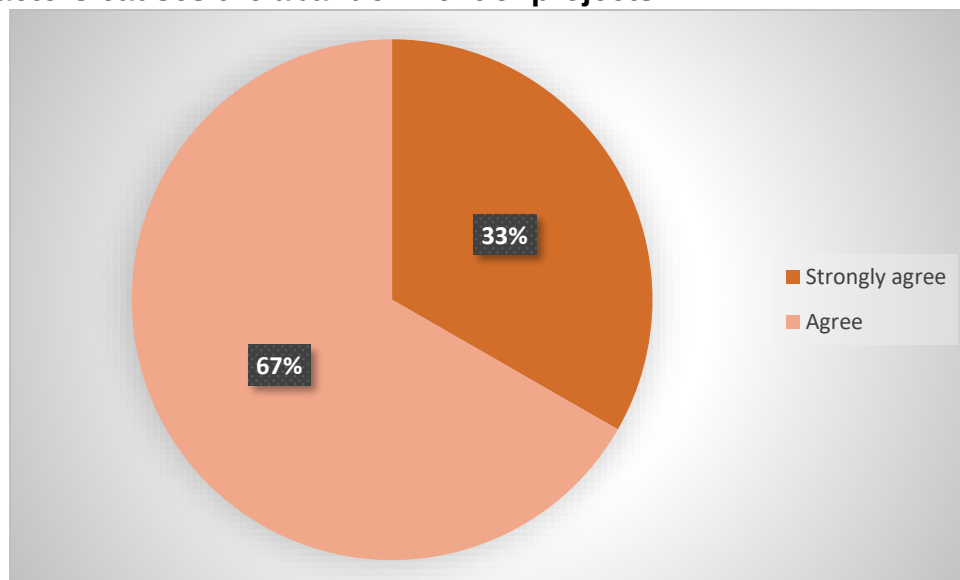
require compliance with contract agreements between the appointed contractor and the three chosen local municipalities. Contract agreements are a binding instrument between the two parties; they facilitate the smooth implementation of roads, water and sport infrastructure projects. Contract agreements also clarify expectations between the contractor and the three selected local municipalities. Additionally, they outline the dos and don'ts between the two parties. Therefore, the study wanted to establish whether non-compliance with contractor agreements contributes to the abandonment of constructing roads, water and sport infrastructure projects. In light of the findings, 34% of the respondents disagreed and 33% agreed. Meanwhile, 33% of the respondents were not sure. The study also found that 0% of the respondents strongly agreed or strongly disagreed. Therefore, the findings suggest that the majority of the respondents disagreed that non-compliance with contract agreements between the contractor and the municipalities contributes to the abandonment of constructing roads, water and sport infrastructure projects. In conclusion, it can be stated that non-compliance with contract agreements between the two parties does not really have a negative impact on the implementation of roads, water and sport infrastructure projects. Therefore, it could also be argued that, to a certain extent, there is compliance with contract agreements between the appointed contractors and the three chosen municipalities. Furthermore, compliance with contract agreements also minimises disputes between the contractors under concern and the municipalities.

5.14.9 Lack of consequence management for incompetent and unskilled contractors causes the abandonment of constructing roads, water and sport infrastructure

In order to ensure hands-on performance by political leaders, service providers, government departments, municipalities, and public service office bearers, as well as to expedite service delivery, Monitoring and Evaluation (M&E) has emerged as a key component of the new management and accountability (Dlamini & Migro, 2016). The study argues that lack of consequence management is important in the construction sector. It allows efficiency and effectiveness in the implementation of roads, water and sport infrastructure projects. The imposition of penalties on the contractors is one of the consequences of management measures. The study wanted to determine to what extent a lack of consequence management for incompetent and unskilled contractors

causes the abandonment of infrastructure projects. The results are presented in the pie chart below.

Figure 5.53: Lack of consequence management for incompetent and unskilled contractors causes the abandonment of projects

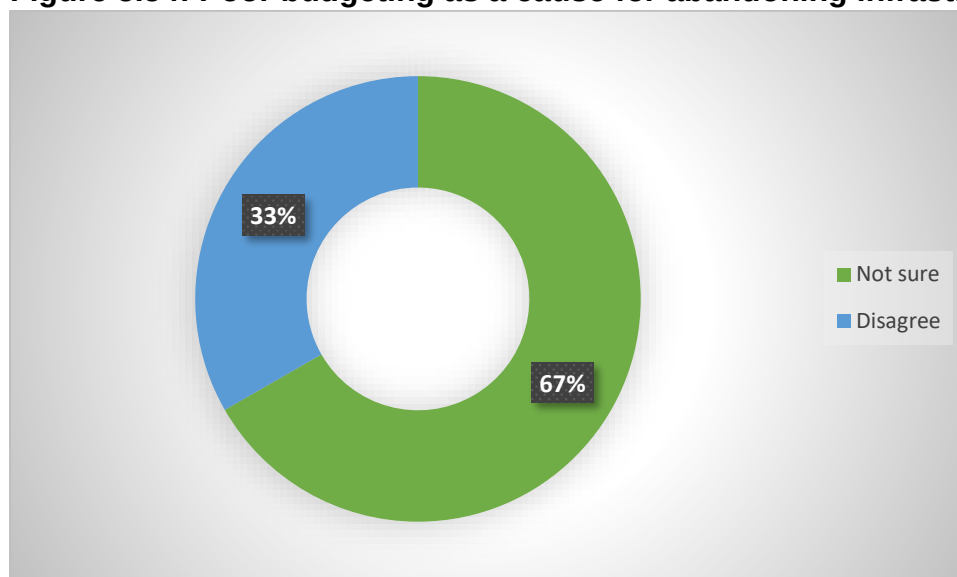


Lack of consequence management for incompetent and unskilled contractors could cause the abandonment of constructing roads, water and sport infrastructure projects. There were 67% of the respondents who agreed and 33% of the respondents who strongly agreed. While none (0%) of the respondents were not sure. Furthermore, another 0% of the respondents were recorded as strongly disagreeing or disagreeing. Given the results, all the respondents agreed that a lack of consequence management causes the abandonment of roads, water and sport infrastructure projects. This may suggest that the municipalities do not implement consequence management. Failure to do this will affect the overall success of roads, water and sport infrastructure projects.

5.14.10 Poor budgeting causes the abandonment of constructing roads, water and sport infrastructure

The study wanted to confirm whether poor budgeting also causes the abandonment of roads, water and sport infrastructure projects in Molemole, Blouberg, and Polokwane Local Municipalities. The findings are presented below.

Figure 5.54: Poor budgeting as a cause for abandoning infrastructure projects

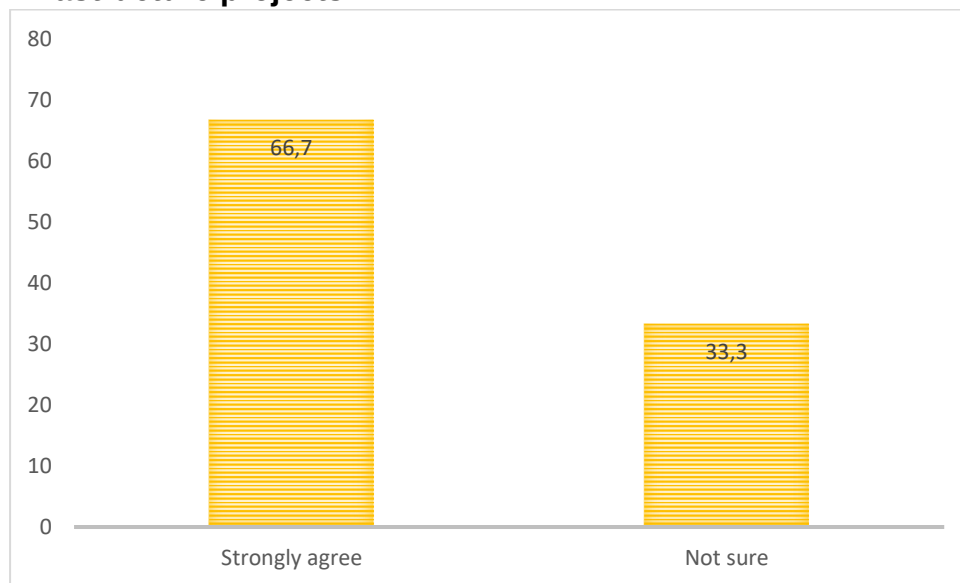


The respondents were asked to check whether poor budgeting could be another cause for abandoning roads, water and sport infrastructure projects in the three selected municipalities. The intention was to establish whether poor budgeting could be among the other reasons for abandoning infrastructure projects. According to the findings, 67% of the respondents were not sure and 33% disagreed. The study recorded 0% of respondents who strongly agreed, agreed, or strongly disagreed. The majority of respondents were not sure whether poor budgeting causes the abandonment of roads, water and sport infrastructure projects in the three selected local municipalities. As a result, it is possible to conclude that poor budgeting could not have contributed to the abandonment of roads, water, and sports infrastructure projects.

5.14.11 Political interference causes the abandonment of constructing roads, water and sport infrastructure

The researcher also probed whether the interference of politicians in the construction of roads, water and sport infrastructure has caused the abandonment of constructing road, water and sport infrastructure. The results are presented below.

Figure 5.55: Political interference as a cause for abandoning roads, water and sport infrastructure projects

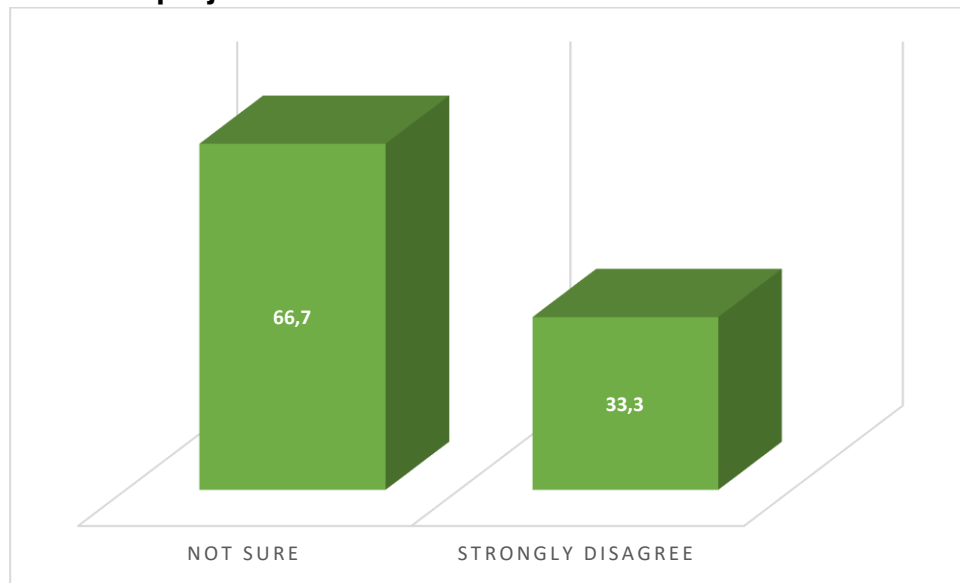


Based on the findings, 66.7% of the respondents strongly agreed and 33.3% were not sure. During the study, 0% of the respondents strongly disagreed, disagreed and agreed. Therefore, the majority of the respondents agreed that political interference in the construction of roads, water and sport infrastructure in Molemole, Blouberg, and Polokwane Local Municipalities causes the abandonment of successfully constructing roads, water and sport infrastructure projects. This suggests that political interference exists in the three local municipalities, and to a large extent, it hinders the successful implementation of infrastructure projects.

5.14.12 Conflicting priorities of the municipality and contractors contribute to the abandonment of constructing roads, water and sport infrastructure

Sometimes roads, water and sport infrastructure projects may be abandoned because of conflicting priorities between the municipalities and contractors. For instance, municipalities may prioritise other matters, while contractors consistently prioritise specific tasks, such as generating funds for the projects. To determine if this was also the case in three selected local municipalities, the researcher asked a question. The findings are discussed below.

Figure 5.56: Conflicting priorities as another cause for abandoning infrastructure projects

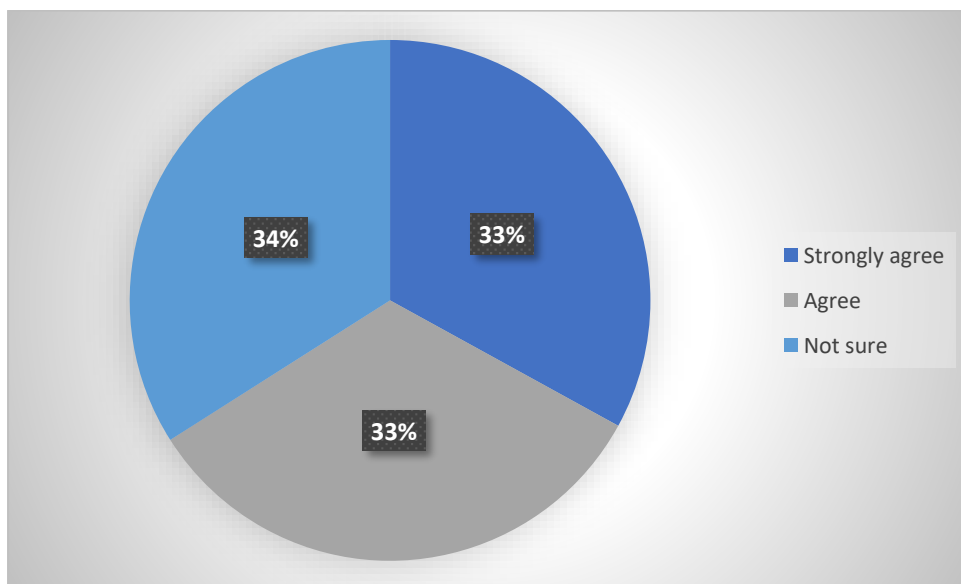


The above figure shows the results of how respondents perceived conflicting priorities as one of the contributing reasons for abandoning roads, water and sport infrastructure projects during their implementation. According to the data collected, 66.7% of the respondents were not sure and 33.3% strongly disagreed with the question that was brought to their attention. Nonetheless, 0% of the respondents strongly agreed and agreed. While another 0% disagreed. Therefore, the findings suggest that the majority of respondents were not sure whether conflicting priorities were one of the contributing factors for abandoning the construction of roads, water and sport infrastructure projects. In conclusion, it can be stated that roads, water and sport infrastructure projects are abandoned because of conflicting priorities. Furthermore, it may seem like there are no conflicting priorities, which could have a negative impact on the successful implementation of roads, water and sport infrastructure in the three chosen local municipalities under Capricorn District municipality.

5.14.13 Environmental factors contribute to the abandonment of constructing roads, water and sport infrastructure projects

There are several environmental factors, such as rain and community protests, that could cause the abandonment of constructing roads, water and sport infrastructure projects. The study wanted to determine whether the three selected local municipalities have any environmental factors that may have pushed the contractors and the three municipalities to abandon the construction of roads, water and sport infrastructure projects. The findings are discussed below.

Figure 5.57: Environmental factors causes the abandonment of constructing roads, water and sport infrastructure projects

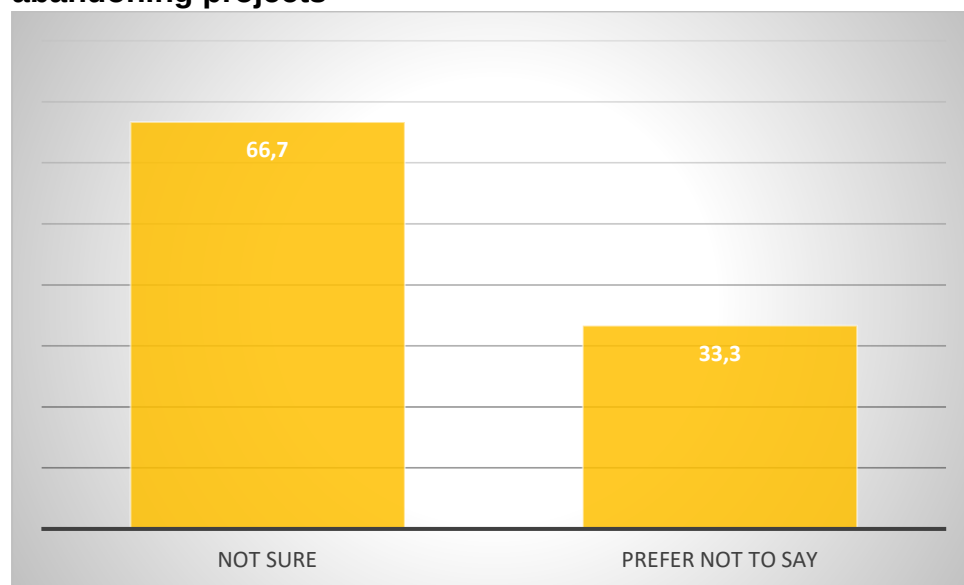


As shown above, 33% of the respondents strongly agreed and 33% agreed, while 33% were not sure. The study did not have any respondents (0%) who strongly disagreed and disagreed. Therefore, the majority of the respondents have indicated that environmental factors have contributed to the abandonment of constructing roads, water and sport infrastructure projects within the three selected municipalities. This means there are environmental factors that hinder the successful implementation of public infrastructure projects in Molemole, Blouberg, and Polokwane Local Municipalities. Therefore, generally, these factors emanate from the areas where roads, water and sport infrastructure construction are taking place.

5.14.14 Inaccurate projections of goals and deliverables contribute to the abandonment of constructing roads, water and sport infrastructure

The study established results about whether inaccurate projects of goals and deliverables contribute to the abandonment of constructing roads, water and sport infrastructure projects. The findings are presented as follows.

Figure: 5.58: Inaccurate projections of goals and deliverables as a cause for abandoning projects



It is always necessary for the municipalities under concern and the appointed contractors to have accurate project goals and deliverables. This will allow both parties to have a clear understanding of what the goals of constructing roads, water and sport infrastructure are. If project goals and deliverables are inaccurate, both parties may be unaware of the necessary actions during the implementation of public infrastructure projects. The study gathered information from respondents in accordance with the objectives and research questions. Therefore, 66.7% of the respondents were not sure and 33,3% of the respondents preferred not to mention their perceptions and experiences about the question under concern. The study had 0% of the respondents who strongly agreed, agreed, strongly disagreed and disagreed. Therefore, the majority of the respondents were not sure. This means that the researcher cannot establish whether inaccurate project goals and deliverables is one of the reasons for abandoning roads, water and sport infrastructure projects in the three chosen institutions.

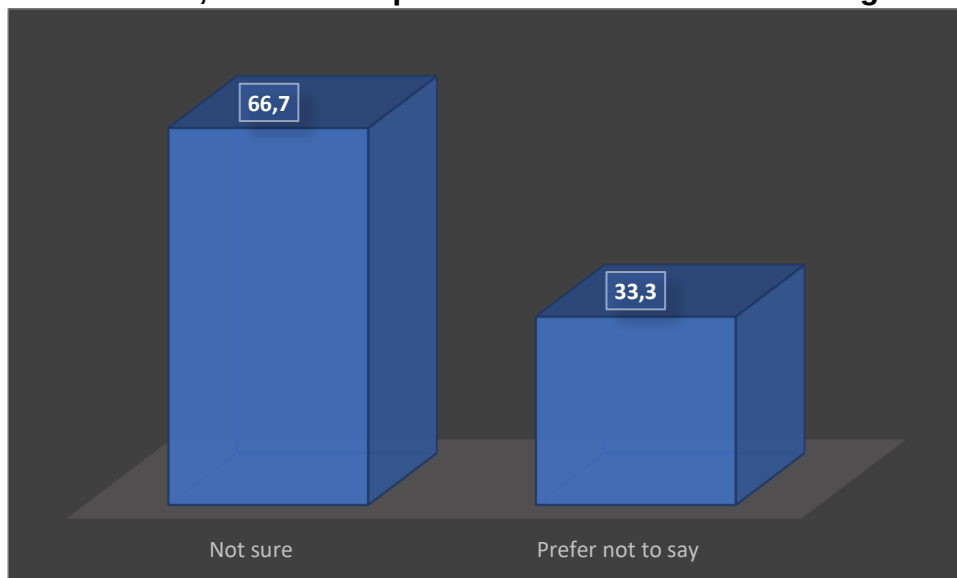
5.14 THE IMPACT OF ROADS, WATER AND SPORT INFRASTRUCTURE ON MUNICIPAL FINANCIAL VIABILITY

Generally, people often ask themselves whether municipalities generate money from the construction of roads, water and sport infrastructure. One of the purposes of this section was to establish whether the three selected local municipalities generate revenue or not. The section below provides the findings.

5.15.1 The construction of roads, water and sport infrastructure generate revenue for the municipality

The researcher probed whether the construction of roads, water and sport infrastructure generates revenue in the three selected local municipalities. The results are discussed below.

Figure 5.59: Roads, water and sport infrastructure on revenue generation



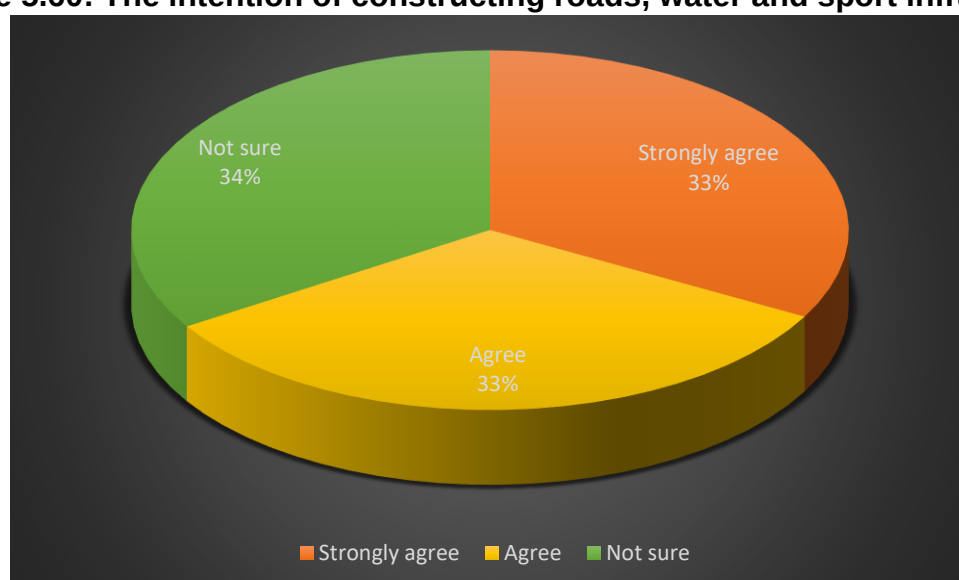
The researcher wanted to establish whether the construction of roads, water and sport infrastructure generates revenue in the three selected local municipalities. Based on the findings, 66,7% of the respondents were not sure while 33,3% of the respondents preferred not to mention their views on the question under investigation. Nonetheless, none (0)% of the respondents strongly agreed and agreed. Additionally, none (0%) of the respondents strongly disagreed and disagreed. However, based on the above findings, it can be concluded that none of the respondents mentioned whether roads, water and sport infrastructure generate revenue. Therefore, maybe the respondents

did not have any idea about the revenue generated from this infrastructure. The findings could also suggest that the researcher probed the question with inappropriate respondents, since none of them agreed nor disagreed that roads, water and sport infrastructure generate revenue.

5.15.2 The municipality constructs these projects with the intention to generate revenue

The study also probed the intention of constructing roads, water and sport infrastructure to check whether the aim is influenced by revenue collection. The findings are presented as follows.

Figure 5.60: The intention of constructing roads, water and sport infrastructure



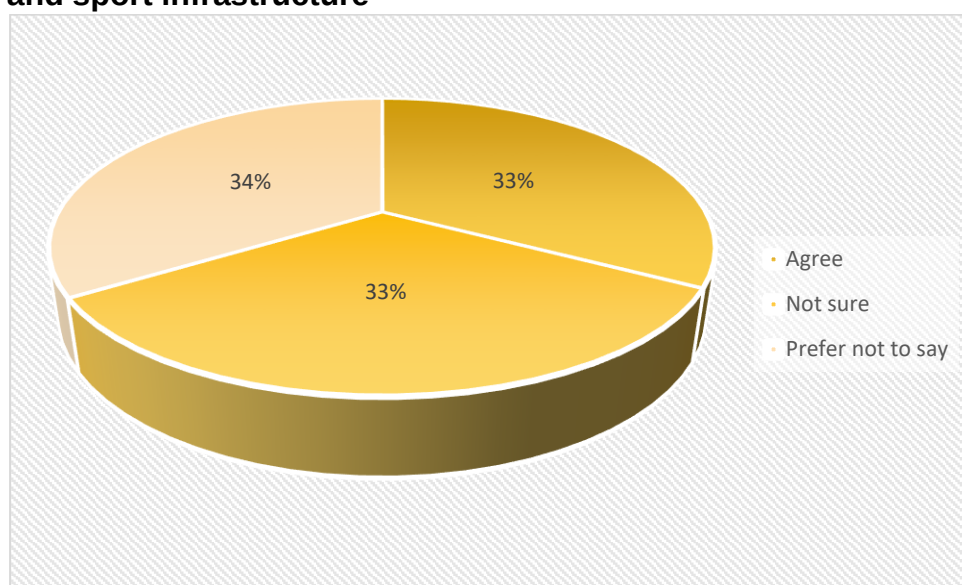
There are various reasons why municipalities in South Africa construct roads, water and sport infrastructure. Some municipalities may construct these projects as part of service delivery, while others may implement them to meet community demands. Also, some of the municipalities may implement the above-mentioned strategies for generating revenue. The researcher investigated the purpose of constructing these infrastructures. According to the findings, 33% of the respondents strongly agreed and 33% of them agreed that the intention is influenced by revenue collection. Then 34% of the respondents were not sure that the intention of implementing roads, water and sport infrastructure projects was to generate revenue. None (0%) of the respondents strongly disagreed or disagreed. Given the above results, the majority of the respondents agreed that their respective municipalities were implementing roads, water and sport infrastructure projects to generate revenue. Therefore, this suggests

that the three selected local municipalities were implementing roads, water and sport infrastructure to generate revenue rather than fulfilling the service delivery demands of the constituencies. The study further states that the generation of revenue from the three infrastructures could also assist the municipalities concerned to sustain their services. Additionally, when community members who can afford municipal services use these infrastructures, revenue collection could alleviate service delivery backlogs. Therefore, in the presence of community members who depend largely on indigent services, it would be difficult to generate revenue since community members would not be able to pay for water and sports infrastructure services. However, road infrastructure can only generate revenue indirectly. For instance, by attracting investors.

5.15.3 The municipality can sustain the provision of services through the revenue generated from the construction of roads, water and sport infrastructure

The study wanted to check whether the three selected local municipalities could sustain their financial status through revenue generated from roads, water and sport infrastructure. The intention was to also check whether these municipalities under concern were generating sufficient revenue from those infrastructure.

Figure 5.61 Sustainability of municipalities with revenue collected from roads, water and sport infrastructure



According to the findings of the study, 33% of the respondents indicated that they were not sure whether the revenue generated from roads, water and sport infrastructure could sustain the three selected local municipalities. While 33% of the respondents agreed with the question that was probed. Nonetheless, 34% of the respondents preferred not to indicate whether the three selected local municipalities could sustain the provision of their services with the use of revenue collected from roads, water and sport infrastructure. None (0%) of the respondents strongly agreed. On the other hand, none (0%) of the respondents strongly disagreed and disagreed. In closing, it can be argued that a minority of the respondents were of the view that the local municipalities could sustain service delivery with the revenue collected from the three infrastructures.

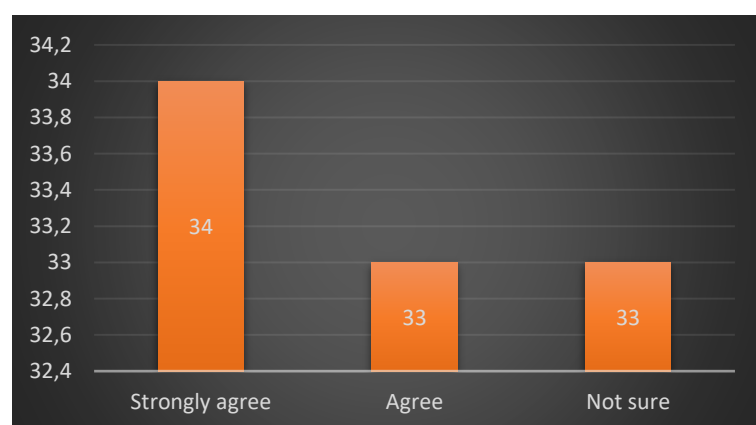
5.16 CHALLENGES HINDERING THE SUCCESSFUL CONSTRUCTION OF ROADS, WATER AND SPORT INFRASTRUCTURE PROJECTS

The section provides an in-depth understanding of the challenges that hindered the successful implementation of roads, water and sport infrastructure projects.

5.16.1 The municipality encounter challenges during the construction of these projects

The researcher wanted to establish whether the three municipalities encounter challenges during the construction of roads, water and sport infrastructure. The figure below makes a representation.

Figure 5.62: The three selected local municipalities encounter challenges during the construction of roads, water and sport infrastructure

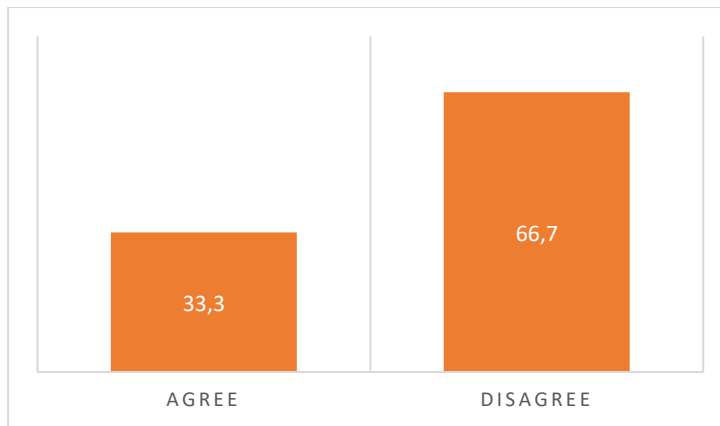


Generally, there is a consensus that the implementation of roads, water and sport infrastructure projects comes with challenges. These challenges may emanate from the communities where the projects are being implemented. While some of the challenges may come from the side of the contractors who are appointed to render roads, water and sport infrastructure. Furthermore, some of the challenges may come from the side of the three selected local municipalities. It is for these reasons that the study wanted to establish whether there are challenges that the three selected municipalities encounter during project implementation that may hinder the successful execution of roads, water and sport infrastructure. According to the findings, 34% of the respondents strongly agreed and 33% of the respondents agreed. Another 33% of the respondents were not sure. None (0%) of the respondents strongly disagreed and disagreed. Many of the respondents agreed that there are challenges that are encountered during the implementation of roads, water and sport infrastructure. Therefore, the study argues that challenges vary. Some challenges have the potential to halt projects, while others may have a less significant impact on the implementation of public infrastructure initiatives. However, in one way or another, challenges affect the project in a number of ways.

5.16.2 The municipalities are able to deal with such challenges

One of the required skills during project implementation is problem-solving. Both the municipalities and appointed contractors must have the ability to solve and deal with problems that may arise at any time. The researcher wanted to establish whether the three municipalities have the capacity to solve problems. The findings are presented in the figure below.

Figure 5.63: Municipalities can deal with challenges encountered during roads, water and sport infrastructure implementation



The results show that 33.3% of the respondents agreed and 66.7% disagreed. While the study did not have respondents (0%) who strongly disagreed and strongly agreed. Another 0% was recorded for respondents who were not sure. According to the results, the majority of the respondents indicated that the three selected local municipalities are unable to deal with challenges encountered during the implementation of roads, water and sport infrastructure. The researcher believes that a lack of ability to solve problems could have implications for the project's success. In the sense that some of the projects may be abandoned while others may be delayed, which ultimately makes the communities suffer since they are the users of roads, water and sport infrastructure.

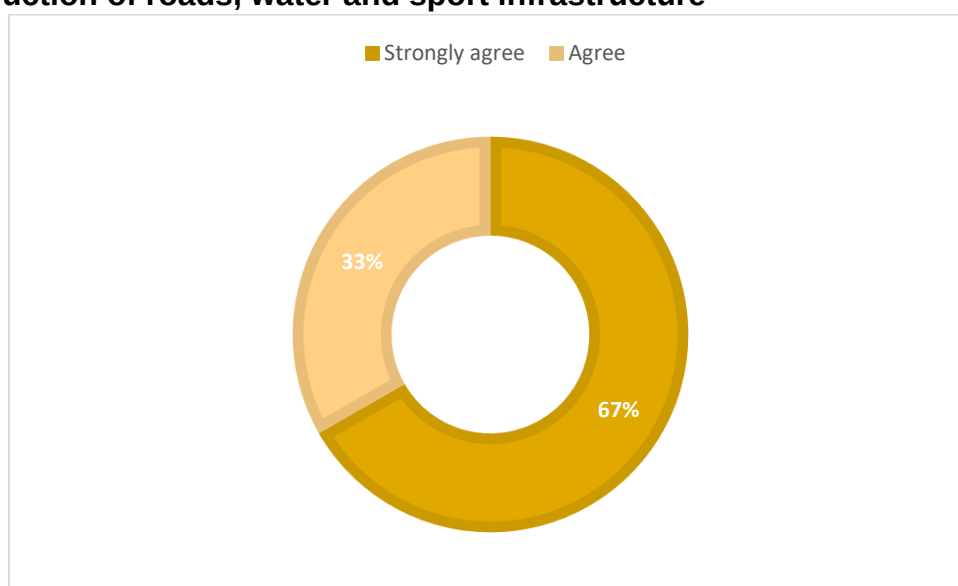
5.17 SOCIO-ECONOMIC OPPORTUNITIES FOR ROADS, WATER AND SPORT INFRASTRUCTURE PROJECTS AND SERVICES

One of the objectives of the study was to check whether there are socio-economic opportunities that community members may benefit from during and after the construction of roads, water and sport infrastructure projects in the three selected local municipalities.

5.17.1 There are socio-economic opportunities that communities can benefit from the construction of roads, water and sport infrastructure

The study wanted to establish whether there are socio-economic opportunities that communities can get after the implementation of roads, water and sport infrastructure. The results are discussed below.

Figure 5.64: Socio-economic opportunities available for communities post the construction of roads, water and sport infrastructure



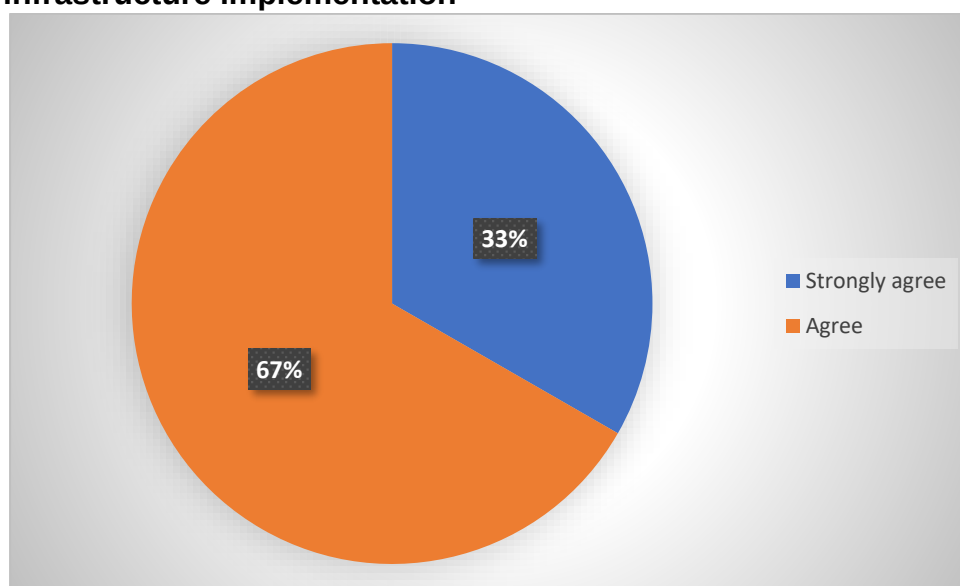
The study is of the opinion that there are socio-economic opportunities that community members in the three chosen local municipalities may get after roads, water and sport infrastructure have been implemented. The National Planning Commission (2011) concurs, asserting that infrastructure significantly influences economic policy in South Africa. For instance, the 2011 National Development Plan (NDP) established the lofty objective of attaining a 30% Gross Domestic Product (GDP) share in infrastructure investment by 2030 (National Planning Commission, 2011). The majority of the government's industrial strategies emphasise infrastructure spending as a key factor in economic expansion and employment creation (Phalatse, 2022). The study wanted to get perceptions and verify whether there are socio-economic opportunities that communities may get after the construction of roads, water and sport infrastructure. Taking a look at the results, 33% of the respondents strongly agreed, and 67% of the respondents agreed. While none of the respondents (0%) were not sure, strongly disagreed and disagreed that there are socio-economic opportunities that community members in the three local municipalities may get post-implementation of roads, water and sport infrastructure. Given this information, all the respondents agreed that there are socio-economic opportunities post implementation of roads, water and sport infrastructure. These results suggest that it is important to construct roads, water and sport infrastructure within communities since they come with a number of benefits and opportunities for community members in the three selected communities. In

conclusion, these perceptions may have been guided by the history and knowledge of the respondents.

5.17.2 There are benefits community members can get during the construction of these projects

The study determined whether there are benefits that community members can get from the construction of roads, water, and sport infrastructure.

Figure 5.65: Benefits community members may get during roads, water and sport infrastructure implementation

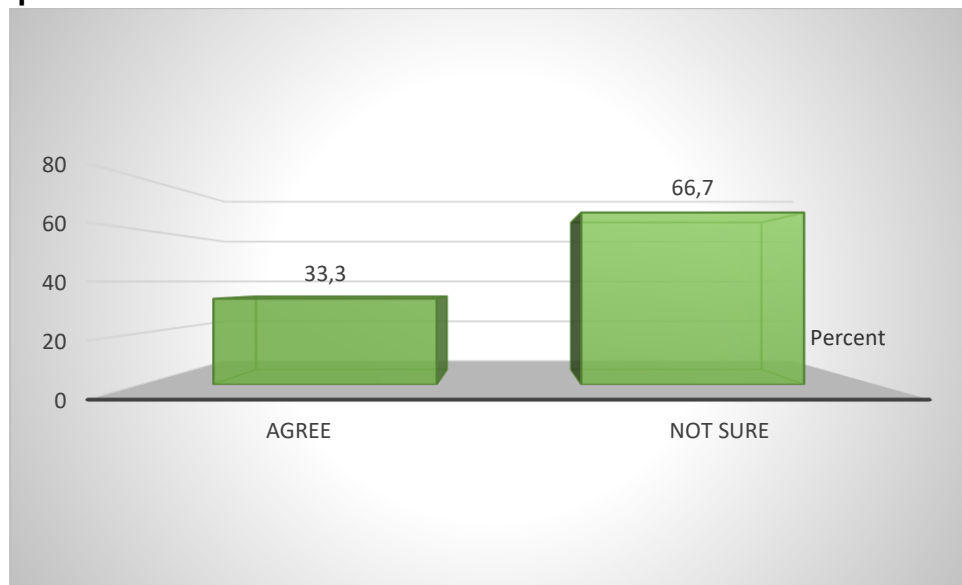


The above figure shows the results and perceptions of the respondents. 67% of the respondents agreed, and 33% of them strongly agreed. None of the respondents (0%) were not sure, and another 0% was recorded for respondents who strongly disagreed and disagreed. Therefore, all respondents agreed that there are benefits and opportunities for community members during the implementation of roads, water and sport infrastructure projects. In conclusion, it can be stated that there are benefits for community members, and this is also important for community development. On the other hand, such opportunities could be helpful for livelihoods and community upliftment. Therefore, it is important to realise that public infrastructure projects present a number of benefits to the communities where they are implemented. In conclusion, these benefits may assist community members in a number of ways.

5.17.3 There is a relationship between the construction of roads, water and sport infrastructure and local economic development in our municipality

The study wanted to establish the relationship between the construction of roads, water and sport infrastructure and local economic development in the areas where the study was conducted.

Figure 5.66: The relationship between the construction of roads, water and sport infrastructure and local economic development in the three municipalities



The researcher found that 33.3% of the respondents agreed and 66.7% were not sure. The study also found that none (0%) of the respondents strongly agreed and strongly disagreed. While the study also recorded 0% of respondents who disagreed. The findings suggest that the majority of the respondents were not sure whether the construction of roads, water and sport infrastructure contributes to local economic development in Molemole, Blouberg, and Polokwane Local Municipalities. Therefore, the researcher is not sure whether there is a relationship between roads, water, sport infrastructure, and local economic development in the three selected local municipalities.

5.18 OPEN ENDED QUESTIONS FOR POLITICAL OFFICE BEARERS

This section showcases the data gathered from political office holders in the two chosen local municipalities, as the study did not include any representation from political office holders in Blouberg. The study wanted to have an in-depth understanding of the state and quality of constructing roads, water and sport infrastructure, the causes of abandoning the construction of roads, water and sport infrastructure projects, the impact of roads, water and sport infrastructure on municipal financial viability, challenges hindering the successful completion of roads, water and lastly, sport infrastructure projects, and socio-economic opportunities for roads, water and sport infrastructure projects and services.

5.19 THE STATE AND QUALITY OF CONSTRUCTING ROADS, WATER AND SPORT INFRASTRUCTURE PROJECTS

One of the objectives of the study was to assess the state and quality of the construction of roads, water and sport infrastructure. This section reports on the perceptions and experiences of the respondents about the state and quality of constructing roads, water and sport infrastructure.

5.19.1 The level of satisfaction about the state and quality of constructing roads, water and sport infrastructure in your municipality

One of the research questions in the study probed whether the respondents were satisfied with the state and quality of constructing roads, water and sport infrastructure in the three selected local municipalities. Not all respondents were satisfied. The majority of the respondents were not satisfied. Therefore, it seems like there is dissatisfaction with the state of roads, with two-thirds of respondents expressing negative views about the construction of roads, water and sport infrastructure. Therefore, it can be concluded that the respondents were not satisfied with the contractor's work due to their dissatisfaction with the quality and state of the end product. This suggests that the contractors who were responsible for those projects did not do a perfect job.

5.19.2 Value for money on the construction of roads, water and sport infrastructure

Although value for money depends on the nature of a project, the findings show that there are varying perspectives on the value of money in road projects, with some expressing dissatisfaction with the quality and durability of the roads, while others attribute it to the municipality's resources and project management.

One of the respondents claimed that *“there is no value for money as they do a tar road that doesn't last 3 years.”*

Therefore, respondents emphasised value for money on road infrastructure rather than water and sports infrastructure, which limited the findings of the study for the purpose of analysis.

5.19.3 Roads, water and sport infrastructure projects that were poorly or inadequately constructed

Although the results of this study are limited, one of the questions under investigation was to establish whether there were roads, water and sport infrastructure that were poorly or inadequately constructed. The aim was to check whether there were contractors who did not adequately implement roads, water and sport infrastructure in the past. Based on the findings, it appears that respondents were highlighting various stalled projects within the municipality, expressing concerns about delays, inefficiencies, and mismanagement in the project implementation of roads, water and sport infrastructure.

One of the respondents said, *“The Makgato road didn't last, and it cost the municipality a lot of money. Ramokgopa Stadium is not functional, and the municipality has spent a lot of money on constructing the stadium.”*

Consequently, these findings indicate that the two local municipalities did not implement all projects adequately. Some of the projects, such as roads, were inadequately or poorly constructed. However, inadequately constructed projects indicate a lack of effectiveness and efficiency in the construction of roads, water and sport infrastructure.

5.19.4 Political interference has negative impact during the construction of roads, water and sport infrastructure

The researcher wanted to establish whether political interference had a negative impact on the construction of roads, water and sport infrastructure during their implementation. The study found that respondents have different views on the extent of political interference in roads, water and sport infrastructure projects, with some denying any interference while others believe it leads to delays in the projects because of some politicians who are fighting for subcontracts.

One of the respondents claimed that *“in the years I have been at the municipality, there has not been political interference in projects.”*

Another respondent stated, *“Yes, during the establishment of projects, politicians fight for subcontracts, which delays the project.”*

The researcher argues that, to a certain extent, there is political interference in the construction of roads, water and sport infrastructure, which has a negative impact on the successful implementation of the projects.

5.19.5 Community member’s satisfaction with the state and quality of constructing roads, water and sport infrastructure in our municipality

A question was posed to the respondents to confirm whether community members were satisfied with the quality and state of constructing roads, water and sport infrastructure. The intention was to determine to what extent contractors deliver quality infrastructure. According to the findings, all of the respondents indicated that community members were satisfied with the state and quality of constructing roads, water and sport infrastructure.

Consequently, one of the respondents made the following argument: *“Yes, there are no complaints about the quality of projects; the problem remains the backlog.”*

In conclusion, community members were satisfied with the state and quality of constructing roads, water and sport infrastructure.

5.19.6 Political office bearers are responsible for ensuring that the state of roads, water and sport infrastructure meet client expectations

The researcher wanted to check whether respondents were of the view that political office bearers in the local municipalities have the mandate to ensure that the state of roads, water and sport infrastructure projects meet community expectations. According to the findings, all the respondents acknowledge the role of political office bearers in overseeing projects and ensuring proper utilisation of allocated budgets.

One of the respondents said that *“political office bearers act through administration to ensure that projects meet client satisfaction; their oversight role ensures that administration performs their duties to complete projects.”*

Therefore, the majority of the respondents were of the opinion that political office bearers have the responsibility to ensure that the appointed contractors deliver quality roads, water and sport infrastructure that meet the expectations of community members.

5.19.7 It is important to appoint contractors with a good track record of constructing roads, water and sport infrastructure

The researcher wanted to check to what extent political office bearers value the appointment of contractors with a good track record of constructing in the roads, water and sport infrastructure sectors. Based on the findings of the study, it shows that all respondents have the same perspectives on the importance of selecting contractors with good records.

One of the respondents mentioned that *“appointing contractors with good records will help the municipality finish projects on time.”*

Another one added, “Because it shows he or she can do proper work.”

Therefore, all the respondents have indicated that they value and support the appointment of contractors with a good record of implementing roads, water and sport infrastructure. The researcher argues that the appointment of contractors with a good

record will assist the municipality in being efficient in the process of constructing projects while also meeting client expectations.

5.20 THE CAUSES OF ABANDONING THE CONSTRUCTION OF ROADS, WATER AND SPORT INFRASTRUCTURE PROJECTS

This section discussed the findings about the causes of abandoning the construction of roads, water and sport infrastructure projects. The results are presented below.

5.20.1 Corruption in your municipalities causes the abandonment of constructing roads, water and sport infrastructure in your municipality

The study probed whether corruption is one of the causes for abandoning the construction of roads, water and sport infrastructure in their municipalities. According to the study, respondents have different perspectives on the potential reasons for abandoning project construction.

However, a respondent stated, *“No, how can the municipality sabotage its own infrastructure projects.”*

Another respondent had a different view by stating that *“the contractor you find is a friend to the municipality.”*

The other respondent said, *“I’m not sure of corruption, but I see only poor management on projects.”*

In view of all these findings, it can be stated that the majority of the respondents did not believe that corruption could be one of the causes for abandonment of constructing roads, water and sport infrastructure.

5.20.2 Price escalation by suppliers cause the abandonment of constructing roads, water and sport infrastructure in your municipality

It is argued that price escalation by suppliers causes the abandonment of constructing roads, water and sport infrastructure. The study probed this belief, and the majority of the respondents strongly agreed that price escalation causes the abandonment of constructing roads, water and sport infrastructure in their municipalities. While few of the respondents disagreed that price escalation could be a contributing factor in the abandonment of projects in their municipalities.

One of the respondents said, *"No, I don't think so."*

Another respondent argued that *"on some projects yes, but the majority of projects in the municipality are completed within schedule and budget."*

The other respondent stated: *"Yes, if this is R5,00 at the market, they sell it for R200,00 to the municipality."*

However, the majority of the respondents believed that price escalation caused the abandonment of projects in their municipality. Therefore, the study concludes by stating that price escalation could be one of the possible factors contributing to the abandonment of roads, water and sport infrastructure. Additionally, price escalation could affect the project in various ways, including causing delays and making adjustments to the initial budget in order to get project materials.

5.20.3 Ineffective governance mechanisms for infrastructure projects cause the abandonment of constructing roads, water and sport infrastructure in your municipality

The study sought to determine whether ineffective governance mechanisms were among the contributing factors to the abandonment of road, water and sport infrastructure projects in the three selected local municipalities. As a result, none of the respondents could provide an answer that corresponded to what the question stated. Respondents deviated from the question. As a result, the respondents may have misunderstood the question. In conclusion, the researcher had nothing to analyse in this question.

5.20.4 Inappropriate costing cause the abandonment of constructing roads, water and sport infrastructure in our municipality

One of the research questions in this study was to check the causes for abandoning the construction of roads, water and sport infrastructure projects in the three selected local municipalities. The findings show that the majority of the respondents agreed that inappropriate costing contributes to the abandonment of projects, while a few of the respondents disagreed.

A respondent said, *"Yes, people just price in order to get a tender."*

Another respondent stated, *"No."*

In conclusion, the respondents expressed a variety of opinions regarding the posed question. Therefore, the majority agreed that inappropriate costing is another cause for concern as it leads to the abandonment of projects.

5.20. 5 Lack of project management skills cause the abandonment of constructing roads, water and sport infrastructure in our municipality

Generally, there is a consensus that projects such as roads, water and sport infrastructure require project management skills for proper and efficient implementation. Therefore, the study wanted to check if a lack of project management skills could be one of the causes of abandoning projects. The majority of the respondents expressed confidence in the municipality's abilities to carry out road, water and sport infrastructure.

One of the respondents argued that *“no, Polokwane Municipality has the capacity to undertake large scale projects.”*

Looking at the above findings, it can be argued that the respondents were aware that roads, water and sport infrastructure require project management skills. Therefore, most of the respondents disagreed that a lack of project management could be a cause for the abandonment of projects.

5.20.6 Poor financial management contributes to the abandonment of constructing roads, water and sport infrastructure in your municipality

Poor financial management could be one of the contributing reasons for abandoning roads, water and sport infrastructure within the three chosen municipalities. The study wanted to confirm this assertion by probing a question about whether poor financial management causes the abandonment of projects. Most of the respondents agreed that poor financial management could be the reason for abandoning projects in their municipalities.

One of the respondents mentioned, *“Yes, failing to manage finance.”*

Although the findings were limited by the lack of participation of the respondents, a conclusion can be drawn that most of the respondents indicated that poor financial management is also a problem during the rollout of roads, water and sport

infrastructure. Even though the respondents did not indicate whether poor financial management is a challenge on the contractor or the municipality side.

5.20.7 Non-compliance with contract agreements between the municipality and contractors cause the abandonment of constructing roads, water and sport infrastructure

The problem statement of this study indicates that non-compliance with contracts between the municipality and appointed contractors could be a contributing factor to the abandonment of roads, water and sport infrastructure. The study wanted to verify or dismiss this belief by asking whether non-compliance with contract agreements between the two parties could be a cause for abandoning projects in the three selected municipalities. A few of the respondents agreed that non-compliance with the contract agreement between the contractor and the municipality could be a contributing factor in abandoning projects. However, some of the participants preferred not to share their thoughts on the question that was probed. In conclusion, although the findings were limited due to a lack of participation by the respondents, it can be argued that, to a lesser extent, non-compliance with contract agreements between the contractor and the municipality under concern was perceived to be another reason for abandoning projects.

5.20.8 Lack of consequence management for incompetent and unskilled contractors cause the abandonment of constructing roads, water and sport infrastructure

Respondents were asked whether lack of consequence causes the abandonment of roads, water and sport infrastructure in their municipalities. All respondents agreed that a lack of consequence management causes the abandonment of constructing roads, water and sport infrastructure projects.

One of the respondents asserted: "Yes, because when the contractor abandons the work, his friend, the municipality doesn't force her to finish the work; they advertise again."

Another respondent expressed a different opinion, saying, "Yes, that has an impact on a limited number of projects, but generally projects finish on time."

In conclusion, to a certain extent, lack of consequence management causes the abandonment of projects, while on the other hand, some projects are completed on time.

5.20.9 Poor budgeting causes the abandonment of constructing roads, water and sport infrastructure

The researcher wanted to check whether poor budgeting was among the factors that contributed to the abandonment of roads, water and sport infrastructure in the three local municipalities. The researcher asked a question to confirm whether poor budgeting was a contributing factor. The majority of the respondents dismissed the claim that poor budgeting causes the abandonment of projects. While a minority of the respondents were of the belief that poor budgeting was a cause for abandonment of roads, water and sport infrastructure projects.

Another respondent said, *“I don’t think so because the allocated money must finish the work.”*

In conclusion, the majority of the respondents were against the view that poor budgeting causes the abandonment of roads, water and sport infrastructure projects.

5.20.10 Political interference causes the abandonment of constructing roads, water and sport infrastructure

The literature says political interference has manifested in South African municipalities. The researcher probed a question to check whether political interference causes the abandonment of constructing roads, water and sport infrastructure. A few of the respondents dismissed the view that political interference was one of the reasons for abandoning projects. While other respondents held the view that political interference is another cause for the abandonment of projects. On the other hand, some of the respondents preferred not to share their perceptions on the question under investigation for reasons unknown to the researcher.

One of the respondents articulated: *“No, projects in Polokwane are a function of administration; political office bearers only play oversight. There is no political interference.”*

Conclusively, the respondents had mixed opinions on the question of whether political interference causes the abandonment of implementing roads, water and sport infrastructure.

5.21 THE IMPACT OF ROADS, WATER AND SPORT INFRASTRUCTURE ON MUNICIPAL FINANCIAL VIABILITY

This section aimed to understand the impact of roads, water and sport infrastructure on municipal financial viability. The researcher wanted to check if the three infrastructures could generate money for the three selected municipalities in the short and long run. The researcher also investigated whether the revenue from the three infrastructures could maintain the delivery of municipal services. The findings are presented below.

5.21.1 The construction of roads, water and sport infrastructure could generate revenue for the municipality

The researcher wanted to establish whether the construction of roads, water and sport infrastructure has the potential to generate revenue for the three selected local municipalities. The majority of the respondents have indicated that the construction of roads, water and sport infrastructure does not have the potential to raise revenue for the three local municipalities. However, the construction of these infrastructures is intended to deliver services to community members.

One of the respondents mentioned that *“no, the municipality is not generating revenue.”*

In closing, the local municipalities do not generate revenue from the construction of roads, water and sport infrastructure. These infrastructures are meant for service delivery for citizens in the communities.

5.21.2 Your municipality construct these projects with the intention to generate revenue

The researcher wanted to establish the intention of implementing roads, water and sport infrastructure in the three local municipalities. The respondents have provided their perceptions of the question that was asked of them. Most of the respondents

have agreed that their municipalities construct roads, water and sport infrastructure with the intention of generating revenue. However, some respondents believed that certain projects aim to generate revenue, while others prioritize the benefit of community members.

One of the respondents indicated that *“it depends on the nature of the project; there are projects intended for raising revenue, and there are projects intended for the benefit of the community.”*

In light of the above findings, it can be deduced that there were different perceptions about the intention of constructing roads, water and sport infrastructure. This is due to the fact that some of the respondents stated that their perceptions vary depending on the type of infrastructure being constructed. While some infrastructures aim to generate revenue, others serve the community's needs. In conclusion, respondents have different views about the intention of providing roads, water and sport infrastructure. Therefore, the researcher argues that the findings suggest that the benefits favour both the municipality and community members. In the sense that the money could be used to raise money while community members could use the infrastructure for various purposes.

5.21.3 The municipality can sustain the provision of services with the revenue generated from roads, water and sport infrastructure

Sustainability in the context of roads, water and sport infrastructure simply means whether the municipalities under concern can consistently provide services without any challenges about financial constraints. The study probed whether the municipalities under concern can sustain the provision of services with the revenue generated from roads, water and sport infrastructure. In other words, the researcher wanted to determine whether the municipalities under concern generate less or enough revenue from the use of roads, water and sport infrastructure. Most of the respondents agreed that the municipalities under concern can sustain their municipal services with the revenue they collect from the use of roads, water and sport infrastructure. However, a minority of the respondents expressed a different view by saying the municipalities do not depend only on one source of revenue. There are other sources of revenue.

These findings suggested different opinions. Different sources of revenue enable the municipality to maintain its service provision. Therefore, the municipality cannot rely solely on one source of revenue to sustain its service delivery. Hence, South African local municipalities depend on various sources of revenue for service provision.

5.22 CHALLENGES HINDERING THE SUCCESSFUL COMPLETION OF ROADS, WATER AND SPORT INFRASTRUCTURE PROJECTS

The researcher wanted to have an in-depth understanding of the challenges hindering the successful completion of roads, water and sport infrastructure. In short, the respondents were expected to make comments about some of the challenges they normally encounter that hinder the successful completion of roads, water and sport infrastructure. The results are presented below.

5.22.1 The kind of challenges your municipality encounter during the construction of roads, water and sport infrastructure

A question was asked of the respondents to check some of the challenges that their respective municipalities normally face during the construction of roads, water and sport infrastructure. The aim was to have a clear picture of some of the challenges that could deprive the three selected local municipalities of completing their projects on time. Regrettably, all respondents chose not to express their opinions on this specific question. Therefore, there was nothing to interpret and analyse since there were no answers from the respondents.

5.22.2 The way in which the municipalities address such challenges

The researcher also wanted to understand how the municipalities under concern normally address the challenges they come across during the construction of roads, water and sport infrastructure. However, none of the respondents were able to share their views on the question under investigation. As a result, the researcher had no data to analyse for this particular question. Conclusively, this limited the researchers' findings on the question under concern.

5.23 SOCIO-ECONOMIC OPPORTUNITIES FOR ROADS, WATER AND SPORT INFRASTRUCTURE PROJECTS AND SERVICES

In general, it is believed that the construction of roads, water and sport infrastructure will create socioeconomic opportunities. The researcher sought to verify and confirm this by investigating the socioeconomic opportunities following the implementation of road, water, and sport infrastructure. Thus, the findings are discussed below.

5.23.1 There are socio-economic opportunities that communities can benefit from the construction of roads, water and sport infrastructure

The United Nations' 2000 Millennium Summit in September 2015 established the Millennium Development Goals, emphasising the importance of public infrastructure development and delivery (United Nations, 2015). UN-Habitat (2011) asserted that these objectives aimed to unite the global community around a shared vision of pro-poor growth and poverty reduction while upholding the role of human development in the social and economic advancement of global society. In this section, the researcher wanted to know about some of the socio-economic opportunities that the community members can benefit from after the three local municipalities have successfully completed roads, water and sport infrastructure projects. Based on the findings, the respondents have claimed that there are opportunities that community members can benefit from after constructing roads, water and sport infrastructure. However, none of the respondents disputed the existence of socio-economic opportunities. In this regard, respondents were of the opinion that the construction of roads, water and sport infrastructure comes with socio-economic opportunities at a later stage. Among other opportunities, respondents have mentioned business and employment opportunities.

5.23.2 Benefits community members can get during the construction of these infrastructure

Arguably, the researcher holds the view that there are benefits community members could get from the construction of roads, water and sport infrastructure projects. The study wanted to verify or dismiss this assertion by asking about some of the benefits community members could get during the implementation of roads, water and sport infrastructure projects. All respondents have indicated that there are benefits for community members. The benefits extended beyond skills, employment opportunities,

and salaries until the completion of the projects. These perceptions imply a variety of benefits. It can be concluded that the respondents were aware of some of the benefits that community members can benefit from during roads, water and sport projects. Therefore, these benefits are both social and economic. In the sense that employment opportunities are part of improving the standard of living, while business opportunities are categorised under economic development.

5.23.3 The relationship between the construction of roads, water and sport infrastructure and local economic development in your municipality

During the data collection process, respondents were also asked about the relationship between road, water and sport infrastructure construction and local economic development. The researcher asked respondents to confirm whether there is a link between local economic development and road, water and sport infrastructure in the three selected local municipalities. The majority of respondents agreed that there is a relationship because these infrastructures improve the quality of life in their communities. However, respondents did not share much information about the relationship between local economic development and the construction of roads, water and sport infrastructure.

5.24 CHAPTER SUMMARY

The chapter has presented, analysed, and interpreted both qualitative and quantitative data. The primary data was collected from 16 municipal officials in the three selected local municipalities. Meanwhile, the study has also presented, analysed, and interpreted data for 30 communities from Dendron, Bochum (Senwabarwana), and Mankweng communities. Due to a lack of interest in participating in the study, three political office bearers from within Molemole and Polokwane Local Municipality have managed to participate in the study. Therefore, questionnaires were also distributed to politicians in Blouberg Local Municipality; however, they were not returned for analysis even after several follow-ups. The study has established some of the contributing factors to the abandonment of roads, water and sport infrastructure projects. The next chapter presents a model that the researcher has developed with a view to addressing challenges faced by the three selected local municipalities during the construction of roads, water and sport infrastructure.

CHAPTER SIX: PROPOSED INTEGRATED MODEL FOR IMPLEMENTATION OF ROADS, WATER, AND SPORT INFRASTRUCTURE

6.1 INTRODUCTION

Good governance involves citizens, lawmakers, public servants, and service providers (Maduku & Enafoghe, 2018). Hence, the purpose of this chapter is to present a proposed integrated model which the researcher has developed for the purpose of successfully implementing roads, water and sport infrastructure projects. The model is guided by the findings of the study in the three selected local municipalities and the application of the Principal-Agency theory in the study. The theory was used to come up with this model, since it outlines the relationship and responsibilities of project stakeholders (municipalities and contractors) and how they ought to work together towards achieving targeted objectives and mutual interests. Although the model comes as a proposal, the study holds a view that the model could help address some of the challenges that were noted during data collection and analysis. The model is presented below.

Figure 6.1: INTEGRATED MODEL FOR IMPLEMENTATION OF ROADS, WATER, AND SPORT INFRASTRUCTURE PROJECTS



Source: Researcher (2024)

6.2.1 Supply chain management unit

One of the findings of the study revealed that the three local municipalities sometimes hire incompetent service providers for roads, water and sport infrastructure services. It was discovered that some of these contractors lack the required and sufficient experience to run and implement roads, water and sport infrastructure services. The researcher posits that the supply chain management unit shortlists, interviews, and hires contractors, not the contractors themselves. Therefore, it can be further argued that the successful implementation of roads, water and sport infrastructure projects also depends on the integrity, honesty, and work ethic of the personnel in supply chain management (SCM). Therefore, SCM has the responsibility to run all the SCM

processes fairly and transparently until they award a contract to a service provider who has proven himself previously. Given this context, SCM has the responsibility to contribute to the successful implementation of roads, water and sport infrastructure by awarding contracts to capable, experienced, skilled, and financially established service providers. It is also worth sharing that the implementation of roads, water and sport infrastructure projects requires an integral approach in the sense that all the stakeholders, including SCM, must carry out their responsibilities fairly and with honesty and integrity. Therefore, none of the local municipalities would have incompetent and inexperienced contractors if the SCM was doing their work to the best of their ability with honesty, fairness, objectivity, transparency, and merit. The SCM could be contributing to some of the reasons and causes for abandoning the construction of roads, water and sport infrastructure projects by awarding contracts to incapable contractors. In conclusion, the unit for project management does not have the authority to award roads, water and sport infrastructure contracts; they only work with any contractor who is handed to them by the SCM. Therefore, supply chain management processes should address challenges such as inexperienced and incompetent contractors. However, this also suggests that local municipalities should not interfere with the responsibilities of the personnel in the SCM.

6.2.2 Project management unit

In this section, the study argues that the unit for project management also has the responsibility to ensure that the appointed contractors deliver roads, water and sport infrastructure according to contract agreements and specifications. The study found that there are some contractors who often omit project specifications and designs, especially with sports infrastructure projects. The proposed integrated model for the implementation of roads, water and sport infrastructure projects holds the view that the only way to have successful implementation of these projects is to have the most experienced, capacitated, skilled, and capable contractors. This model emphasises the importance of considering highly capable personnel for the project management unit. In the absence of suitable project management personnel, municipalities roads, water and sport infrastructure would be compromised. This model holds the view that the project management unit is the pillar of infrastructure projects, since they should by principle have qualified, skilled, experienced, and knowledgeable personnel that

enable them to monitor and promote the successful implementation of roads, water and sport infrastructure. In essence, roads, water and sport infrastructure projects require project management personnel that are competent and skilled to deliver quality outcomes in line with Service Level Agreement.

6.2.3 The external council for building constructors

In pursuit of its objectives, the study has discovered that some contractors fraudulently purchase gradings for building constructors in South Africa from an external body. Considering this, roads, water and sport infrastructure projects require grading. These gradings differ according to the magnitude of the project. Therefore, the integrated model for the implementation of roads, water and sport infrastructure projects is of the opinion that the external council for building constructors in South Africa contributes to some of the irregularities during the implementation of roads, water and sport infrastructure projects. The submission of fraudulent documents leads to issues like project abandonment and substandard workmanship. Therefore, this model suggests that there is a need for this body to self-correct. Integrity, professionalism, work ethic, and objectivity must be the core values of the body. Therefore, this model also proposes that South African municipalities must work closely with the council in pursuit of discouraging some of the unethical practices, such as grades buying. The model also suggests that there is a need for the government to regulate the external body for building constructors in South Africa. This may promote integrity and professionalism. The model also proposes prosecuting all those involved in the body's fraudulent practices. Therefore, ensuring the presence of ethical personnel is the best course of action. In conclusion, the council compromises the quality of roads, water and sport infrastructure by fraudulently awarding gradings to contractors who do not have the quality to run specific and large projects. Therefore, this model also suggests that local municipalities should do verification checks of all the necessary documents prior to the appointment of contractors. This will assist in picking up some of the false information submitted to local municipalities for bidding and consideration of contracts.

6.2.4 Community members

Community members are an integral part of where roads, water and sport infrastructure projects are taking place. During the presentation, analysis, and

interpretation of the data, it was found that one of the causes of abandoning the construction of roads, water and sport infrastructure projects is community protests. To a large extent, community protests were noted to have a negative impact on the successful construction and completion of roads, water and sport infrastructure projects because of community protests that abandoned and delayed infrastructure projects. Generally, community protests occur because of politicians' unfair labor recruitment processes. Therefore, this model proposes a fair and transparent recruitment process, which demonstrates objectivity on the part of politicians. The study found that the most common challenge across the three selected local municipalities was community members' protests. Therefore, the study argues that ward councillors, who are politicians, can effectively manage this type of challenge in the context of ongoing projects. In closing, the proposed models view politicians as one of the important stakeholders in the implementation of roads, water and sport infrastructure. Therefore, the success of these infrastructure projects depends on their work ethic and willingness to conduct recruitment processes in such a way that they may not raise concerns from community members.

6.2.5 Politicians

The proposed integrated model for the implementation of roads, water and sport infrastructure views politicians as another important stakeholder during the construction of roads, water and sport infrastructure. The model mandates politicians with the responsibility to promote stability during the implementation of roads, water and sport infrastructure. When looking for project labourers, politicians should, among other things, demonstrate their willingness to tolerate and consider community members who are affiliated with other parties. Therefore, the role of politicians in this regard is to ensure the smooth running of roads, water and sport infrastructure, thereby demonstrating fairness and transparency. Politicians are also responsible for creating awareness about roads, water and sport infrastructure projects that must take place in the communities. Additionally, politicians must give community members information about recruitment processes and expectations for the projects. Clarification of project scope and expectations allows community members to have detailed ideas about what is happening in their communities. This would minimise some of the community protests because, according to the findings, they are common

in the areas where roads, water and sport infrastructure projects are taking place. So, there is a need for transparency between political leaders and their constituents.

6.2.6 Services providers (contractors)

The proposed integrated model for the implementation of roads, water and sport infrastructure projects considers service providers as another important component in the construction of roads, water and sport infrastructure projects. Therefore, they need to do their work with honesty, transparency, and integrity. This model states that it is also the responsibility of service providers to ensure the successful implementation of roads, water and sport infrastructure projects. The work of service providers is to render infrastructure projects with honesty, professionalism, transparency, and integrity by demonstrating maximum compliance with contractual obligations and service level agreements.

6.2.7 Municipalities

The proposed integrated model for the implementation of roads, water, and sport infrastructure projects views municipalities as the custodians of their successful completion. As a result, this model contends that, while service providers must deliver infrastructure projects and services in an efficient and effective manner, South African municipalities must also create a favourable environment for service providers. Local municipalities, for example, must promote work ethics by ensuring that service providers receive the maximum and necessary support during the construction of roads, water and sport infrastructure. In situations where tribal authorities demand a "lotsha/greeting fee" from service providers, municipalities have the authority to intervene whenever possible to ensure that service providers complete their work peacefully and successfully. Municipalities must also support service providers by ensuring that adequate budgetary resources are available to build and complete infrastructure projects. Insufficient budgets and under budgeting are issues that the three local municipalities and others should consider and correct in the future.

6.3 CHAPTER SUMMARY

The chapter has proposed an integrated model for implementing roads, water and sport infrastructure projects. This model views the unit for supply chain management,

politicians, municipalities, an external body for building constructors in South Africa, community members, and the project management unit in the municipalities as important components for the successful implementation of roads, water and sport infrastructure. The proposed model further stated the various responsibilities of each component prior to and during infrastructure project implementation. Therefore, the study's findings served as the basis for the proposed model. The chapter below will present conclusions, findings, and possible recommendations. Before that, the chapter begins by presenting a summary of six chapters.

CHAPTER SEVEN: CONCLUSION AND RECOMMENDATIONS

The purpose of this chapter is to present a summary of all the chapters that make up the study, discuss the research findings, and lastly, provide possible recommendations. The study also discusses how each chapter was structured to accomplish its goals. The researcher begins by giving a summary of Chapter 1, which consisted of a problem statement, a theoretical framework, and the research methodology that the study has employed. In this section, the researcher also discusses the research findings, which were guided by the following objectives: the state and quality of constructing roads, water and sport infrastructure; the causes of abandoning the construction of these projects; the impact of roads, water and sport infrastructure on municipal financial viability; challenges hindering their successful completion; and socio-economic opportunities for roads, water and sport infrastructure projects.

7.1 SUMMARY OF CHAPTERS

The study was carried out in three selected local municipalities: Molemole, Blouberg, and Polokwane, all of which are part of the Capricorn District Municipality. The study centred on the implementation of road, water and sport infrastructure projects. The researcher chose these municipalities because they frequently undertake road, water, and sport infrastructure projects. The implementation of roads, water and sport infrastructure appears to be a challenge for South African local governments. The researcher wanted to gain a thorough understanding of the reasons behind the abandonment of road, water, and sports infrastructure projects in the aforementioned municipalities. The study was based on five research questions, each with a set of questions to ask the research respondents. Thus, the study met its objectives. Thus, the study was built on the following chapters.

Chapter One

The chapter was divided into three sections: introduction, orientation, and study background, in which the researcher provided a background for the study using both international and national contexts. The study also addressed the problem statement by highlighting what is happening in some of South Africa's local municipalities in terms of road, water and sport infrastructure development. The researcher deliberated

extensively on the research problem because it was critical for readers, academics, municipalities, and researchers to understand what prompted the study. Furthermore, the chapter included the research hypothesis and alternative research hypothesis, research questions, study objectives, study significance, central theoretical statement, theoretical framework, study limitations, study scope, literature review, research design, and methodology that supported the study. This chapter also described the steps involved in sampling respondents and collecting data to answer research questions. As a result, the chapter was guided by the problem statement to assess the causes of abandoning the construction of roads, water and sport infrastructure projects in the three chosen local municipalities.

Chapter Two

This section provided a theoretical framework that the researcher used to strengthen the scientific component of the thesis. As a result, the study applied principal-agency theory to explain how South African municipalities (principal) must collaborate with their agents (contractors/service providers). The aforementioned theory was also applied to better understand the relationship between the municipality and contractors during the construction of roads, water and sport infrastructure projects. The theory has also been useful in explaining the contractual obligations in the Principal-Agency theory for implementing public infrastructure. This theory emphasises the importance of contractual obligations and administration in ensuring that both municipalities and contractors successfully implement road, water and sport infrastructure projects. Again, the Principal-Agency theory has clarified the responsibilities of municipalities and contractors. Nonetheless, the second chapter included a review of secondary literature, which used the study's objectives to write a literature review in a global context. This was necessary because the researcher demonstrated how roads, water, and sports infrastructure projects are managed around the world.

Chapter Three

The third chapter reviewed relevant to the research objectives. The secondary information was extracted from books, journal articles, dissertations, theses, and government documents. The chapter was guided by the following research objectives: the causes of abandoning the construction of roads, water, and sport infrastructure projects in the three selected local municipalities in Limpopo Province under Capricorn

District Municipality; the state of constructing public infrastructure projects; the impact of roads, water and sport infrastructure on municipal financial viability; and challenges hindering the successful completion of roads, water and sport infrastructure projects. Lastly, socio-economic opportunities exist for the successful construction of roads, water and sport infrastructure. All these objectives were used to write the literature review in this chapter, following the South African context. Through a literature review, it was discovered that a number of construction projects have encountered challenges that have resulted in project abandonment, delays, and rising costs. According to literature, a lack of skills in the South African construction sector has also contributed to some of the challenges during the implementation of roads, water and sports infrastructure.

Chapter Four

The fourth chapter discussed the research design and methodology that the researcher used to achieve the study's objectives. To gather the necessary data, the study used a mixed-methods research approach in Molemole, Blouberg, and Polokwane Local Municipalities. A mixed method was informed by several factors, including the nature of the questions developed by the researcher prior to data collection, the nature of the study, the characteristics of the respondents, and the size of the study's population. The data was collected using purposive and random sampling techniques. The purposive sampling technique was used to identify municipal officials and political office holders with significant knowledge and information about the implementation of road, water and sport infrastructure projects. Random sampling techniques were used to select community members from the three local municipalities. Using random sampling techniques, community members were asked about socioeconomic opportunities available during and after the implementation of road, water and sport infrastructure projects. Using a mixed method enabled the researcher to interact with 49 respondents during data collection. However, the study's initial target was 84 respondents, including municipal officials, political office bearers (councillors), and community members from the three chosen municipalities. A semi-structured interview guide was used to collect the required data, while semi-structured questionnaires (with both open and closed-ended questions) were used to collect data from political office holders and community members.

Chapter Five

The fifth chapter presented, interpreted, and analysed the results of the study. The findings were collected in three selected local municipalities in Limpopo Province. The study had three groups of respondents (municipal officials, political office bearers and community members) who participated in the study. The researcher employed a semi-structured interview guide to get the data from municipal officials, while a semi-structured questionnaire was used to get data from both politicians and community members. The researcher used the following research objectives to get the necessary data: the causes of abandoning the construction of roads, water and sport infrastructure projects in the three selected local municipalities in Limpopo Province under Capricorn District Municipality, the state of constructing public infrastructure projects, the impact of roads, water and sport infrastructure on municipal financial viability, challenges hindering the successful completion of roads, water and sport infrastructure projects, as well as socio-economic opportunities for successful construction of roads, water, and sport infrastructure. This chapter has also presented, interpreted, and analyzed the demographic information of municipal officials, community members, and politicians as part of the research findings. The researcher required this information to determine the demographic profile of each respondent. Therefore, the researcher presented, interpreted, and analysed both demographic and quantitative data using pie charts, graphs, statistics, and words. The researcher used words and quotations to present, interpret, and analyse the qualitative data. In certain sections of this chapter, the researcher employed citations to enhance the significance of the research findings. Therefore, primary data was helpful in the sense that the respondents provided answers to all the research questions that were developed in this study.

Chapter Six

The purpose of the chapter was to develop a model that could be used to minimise roads, water and sport infrastructure implementation challenges. The researcher has developed an integrated model for the implementation of roads, water and sport infrastructure. The model was built based on the findings of the study. The researcher holds the view that roads, water and sport infrastructure practically require an integrated approach. In other words, their implementation requires the effort of various

stakeholders both inside and outside the municipality. Hence, somewhere in the chapter, the researcher has indicated the responsibilities that should be carried out by all parties concerned (different stakeholders) to smoothly implement roads, water and sport infrastructure projects. Nevertheless, the chapter proposes potential measures that local government can apply to successfully implement public infrastructure projects. In closing, the chapter has presented some of the solutions that may be employed in the South African local government sphere prior to and during the implementation of public infrastructure projects.

7.2 THE FINDINGS OF THE STUDY

The study sought to establish the state and quality of constructing roads, water and sport infrastructure, the causes of abandoning the construction of roads, water and sport infrastructure, the impact of roads, water and sport infrastructure on municipal financial viability, and challenges hindering the successful completion of roads, water, and sport infrastructure projects. Lastly, there are socio-economic opportunities for roads, water and sport infrastructure projects and services. Therefore, all these objectives were achieved by probing questions of municipal officials, political office bearers and community members in the three selected local municipalities. The next section outlines and discusses what the study has discovered during data collection.

7.2.1 Lack of sufficient project capital (money) and contractors over committing their limited resources

The study has discovered that some of the contractors do not have sufficient capital to run roads, water and sport infrastructure projects in the three selected local municipalities. Some of the respondents (municipal officials) have shifted the blame to the contractors, who lack financial muscle. This is one of the challenges that the respondents mentioned when the researcher probed a question to establish some of the causes of abandoning roads, water and sport infrastructure projects. Some respondents have emphasized that certain contractors manage multiple projects concurrently in two or more municipalities, thereby supporting this finding. Another respondent noted that some contractors would even wait for payment from one municipality before proceeding with another project in a different municipality. Subsequently, contractors would request release due to insufficient funds to continue

their work on site. Therefore, this suggests that some of the contractors are overcommitting themselves to roads, water and sport infrastructure projects in multiple municipalities while lacking sufficient capital to finance the projects under concern. In conclusion, this finding could be attributed to some of the causes of abandoning roads, water and sport infrastructure projects, as well as challenges hindering the successful completion of infrastructure projects in the three selected municipalities.

7.2.2 Contractors fraudulently buy gradings

In pursuit of its objectives, the study has also established that some of the contractors often buy gradings fraudulently. This was discovered when one of the respondents highlighted that they have a challenge with contractors who buy gradings. These contractors make payments to the External Council for Building Constructors to obtain the necessary gradings, enabling them to comply with the requirements and conduct business with municipalities. The findings indicate that a contractor must meet certain project grading levels before being eligible to undertake other projects. In other words, the size of the projects differs; therefore, a contractor must have completed several projects before applying for bigger ones. One of the respondents has explained that sometimes contractors would even apply for big projects even if they did not meet the requirements because they fraudulently bought gradings. This is evident when a contractor, who has consistently served as a sub-contractor, secures a major project in a municipality, despite possessing the expertise of a main contractor. Therefore, a challenge of this nature could be attributed to the External Council for Building Constructors, given their lack of integrity and honesty. On the other side, the researcher also attributes the finding to the supply chain management of these municipalities. It appears that their system for verifying documents and the contractors' prior work experience is ineffective. If their system was effective, they would be able to pick up contractors who bought gradings during the evaluation and adjudication of applications to get the suitable contractor.

7.2.3 New political leadership abandons projects of the previous political leadership

One of the objectives of the study was to establish the contributing factors to the abandonment of roads, water and sport infrastructure projects in the three selected

local municipalities. Given this background, the study has found that when new councillors get into office, they sometimes abandon either roads, water or sport infrastructure projects that were yet to be completed by the previous councillors. This usually happens after local government elections, when newly elected councillors come up with their own projects instead of working on unfinished ones left by the previous political leadership (councillors). In other words, new councillors don't usually continue with roads, water and sport infrastructure projects that were left unfinished by the previous councillors. Rather than focusing on projects started by their predecessors, the new political leadership opts to start their own projects. One of the respondents mentioned that this happens as a result of weaknesses in legislation because the legislation allows new councillors to come up with their own projects once they assume office. This challenge arises because of the different priorities of previous and new political leaders. Therefore, this finding, in the eyes of community members and other concerned stakeholders, often suggests that the municipality under concern has abandoned the project.

7.2.4 Community protests in areas where projects are taking place

The researcher has found that community protests are generally another cause for abandoning roads, water and sport infrastructure projects for various reasons. According to some of the respondents, community protests occur when members perceive a lack of transparency, fairness, and honesty in the labor recruitment processes. Therefore, some of the respondents, who are municipal officials, assert that the municipality cannot control the issue of recruiting labourers for projects, as the political leaders (ward councillors) handle the recruitment and employment processes of laborers. Therefore, the study has also found that labourers were often appointed based on their political party affiliation and membership, meaning that ward councillors were giving jobs to people who were in the same political party with them. In conclusion, community protests were found to be affecting the successful completion of road, water and sport infrastructure projects.

7.2.5 Tribal authority demanding money (Lotsha / greeting fee) from contractors

The study found that there is a trend for tribal authorities (Magoshi) to demand a certain amount of money from contractors. The respondents (municipal officials) have explained that some of the challenges during the construction of roads, water and sport infrastructure projects are tribal authorities who demand money prior to the implementation of infrastructure projects. The respondents have described the money as a “lotsha fee” in the sense that it’s a fee contractors must pay for rendering roads, water and sport infrastructure projects in their territories. According to the findings, tribal authorities have a sense of entitlement, as this lotsha fee has become a trend across the three local municipalities. Therefore, this trend often delays progress during the implementation of roads, water and sport infrastructure.

7.2.6 Underpricing, underquoting, underbudgeting and underestimating of projects by contractors

During the data collection process, respondents identified underpricing or underquoting of roads, water, and sport infrastructure projects as one of the reasons for the abandonment of public infrastructure construction. Residents in Molemole, Blouberg, and Polokwane have contended that certain contractors in their areas lack experience, resulting in their inability to provide accurate cost estimates for road, water, and sports infrastructure projects. Thus, in the implementation phase, some organisations experience a depletion of financial resources, while others face a shortage of funds to consistently acquire project equipment and materials. As a result, challenges like this often result in the selection of a new contractor to continue the projects. One respondent noted that inexperienced contractors who frequently provide low quotes or prices often request municipalities to release them. This challenge highlights the tendency of these municipalities to grant projects to inexperienced contractors who lack the ability to accurately forecast final outcomes. As a result, underquoting hinders the progress of the municipality, as they must seek an alternative contractor to complete the project.

7.2.7 Roads, water and sport infrastructure do generate revenue

Although the main objective of the study was to establish the causes for abandoning the construction of roads, water and sport infrastructure projects, the research also had a sub-objective that sought to assess the impact of roads, water and sport infrastructure on municipal financial viability.

The researcher aimed to assess the potential of roads, water and sport infrastructure to generate revenue for the three selected municipalities. The researcher also wanted to confirm whether the existence of these infrastructures was beneficial to both municipalities and community members. The study found that, to a limited extent, these three selected municipalities generate revenue from water, roads and sport infrastructure. However, the respondents have indicated that roads and sports infrastructure indirectly contribute to municipal revenue. Their existence could potentially draw in local economic growth and various types of investment to the three chosen communities. Ultimately, this presence could lead to revenue generation for the three selected municipalities.

Moreover, the three selected municipalities found that only sports infrastructure directly generates revenue. Since this type of infrastructure is often hired or rented out for sports, political, and church events. Despite its infrequent use, the respondents have acknowledged that sports infrastructure occasionally generates revenue. In conclusion, it can be stated that the three selected municipalities agreed that they collect revenue both directly and indirectly from the construction of roads, water and sport infrastructure. Although the respondents have agreed that the revenue is not sufficient for financial sustainability because these municipalities are dominated by rural communities that are unable to afford municipal services.

7.2.8 Local business forums and Small and Medium Enterprises (SMEs) demand sub-contracts

Construction mafias, also known as business forums, are a group of people who use violence and other illicit tactics to deny people access to public sector procurement opportunities. Usually, these people break into buildings and demand cash or a share of development initiatives. In 2019, the construction mafia impacted at least 183 infrastructure and construction projects valued at more than R63 billion. Since then,

invasion incidents at construction sites have persisted in South Africa (Organised Crime and Corruption Reporting Project, 2022). Furthermore, the South African Police Service (SAPS) reported that construction mafias use a variety of strategies, such as threatening public infrastructure projects with violence and large weapons and demanding a portion of money without showing any real interest in the work. In certain instances, the mafias may even resort to killing project staff members and leaders on the premises, in addition to intimidating, threatening, and attacking them. When disruptive strategies are employed to impede the development of building projects, theft is frequently involved. Gang leaders go further by registering firms in gang-ridden areas such as Cape Town, in the Western Cape. If their demands for a 30% stake remain unfulfilled, they threaten construction projects with mafia techniques (Inclusive Society Institute, 2023).

The study discovered that there are business forums (construction mafias) and SMEs that often disrupt the successful implementation of roads, water and sport infrastructure projects in the three selected local municipalities. Based on the findings, community business forums and SMEs usually demand to be sub-contracted by the contractors. Some of the respondents have mentioned that business forums and SMEs lack understanding of when and how contractors award sub-contracts. According to the respondents (municipal officials), business forums and SME's can only benefit from 30% of the contract if the projects are worth 30 million and above. In other words, there is a trend that in every project that the municipalities are implementing business forums and SMEs must have 30% benefits from that project, it can be either road, water and sport infrastructure. However, some of the respondents said that the 30% thing is not reserved for projects below 30 million. However, community business forums (construction mafias) still want the 30% even when the projects are worth below 30 million. In other words, it is stated that business forums and SMEs can only be sub-contracted if roads, water and sport infrastructure projects are worth 30 million and above. The contractor must not award subcontracts for anything less than that. Essentially, there is a deficiency in understanding the procedures and prerequisites for subcontracting. Therefore, this has been delaying the progress of projects during their implementation, as some of the business forums and SMEs would normally resort to disrupting the projects until their demands are met

7.2.9 Lack of quality work on certain infrastructure projects

One of the objectives of the study was to establish the state and quality of construction projects for roads, water and sport infrastructure. The study noted that not all contractors are able to deliver quality work. Some of the respondents have mentioned that some contractors would implement project specifications and designs that do not correspond with contract agreements and Service Level Agreements (SLAs). Therefore, this has often led to the re-doing of the work, the termination of contracts, and additional unnecessary costs for both the municipalities and contractors. Furthermore, the study has revealed that contractors frequently use low-quality materials to save money, thereby compromising the quality of the work they perform in the three selected local municipalities. Therefore, a lack of quality infrastructure was common, specifically in sports infrastructure. Consequently, this finding has implications for the lifespan of the infrastructure.

7.2.10 Unfair and bias recruitment processes when awarding tenders (contracts)

The study also probed the question of whether political interference affects the successful implementation and completion of roads, water and sport infrastructure. It was noted that sometimes there is political interference, even during the awarding of contracts. Political affiliations of contractors often influence the outcome of who should be awarded contracts for roads, water and sport infrastructure projects. Politicians in some municipalities, for instance, choose which contractor to appoint based on their political affiliations. One of the respondents even mentioned that the African National Congress (ANC) led government cannot award tenders and projects to prospective Economic Freedom Fighters (EFF) contractors. Therefore, this shows the unfair awarding of projects.

7.2.11 Weather conditions

Weather conditions and rain were mentioned as some of the external factors that often disrupt the successful implementation and completion of roads, water and sport infrastructure projects. Respondents have stated that rainy days lead to the suspension of some of these projects. This is because contractors and labourers cannot work in rainy conditions. Therefore, this leads to temporary delays, as

contractors are forced to take some days off work due to natural factors (weather conditions) beyond their control. However, it was highlighted that weather conditions affect these projects occasionally.

7.3 THEORETICAL IMPLICATIONS OF THE STUDY

The Principal-Agency theory was operationalised in Chapter 2. To understand the interaction between municipalities and contractors (service providers), it is necessary to first break down the principal-agency theory and how it is applied.

Furthermore, it is critical to look into the national and international relationships between PPPs and the principal-agency theory. This is because understanding how PPPs function in many contexts, including South African municipalities, requires an understanding of the reductionist dichotomy between the "principal" (state and government) and "agent" (private organisations, contractors, and service providers). PPPs are theoretically and conceptually grounded in principal-agent theory according to the Smithian philosophy of new public administration (Nayak, 2018).

The theory was also significant because it provided a detailed account of the concept of principal agency link relationships. It looked at their nature, legal obligations and contractual basis, roles and responsibilities between municipalities and service providers, the need for principal agency in public infrastructure projects, the theory as a way to make infrastructure projects less problematic, and ways for municipalities and agents to evaluate public infrastructure projects to make sure they are carried out successfully. Given this narrative, the study found that the three selected local municipalities apply contractual bindings and legal practices to run public infrastructure projects.

This is seconded by the fact that respondents have indicated that there are contracts and service level agreements (SLA) that the contractor (service provider) must sign before commencement of roads, water and sport infrastructure projects. Conversely, some respondents stated that they terminated contractors for non-compliance with project specifications and service level agreements. In other words, the study found that there was a consequence management system for contractors who failed to adhere to contract agreements.

Therefore, all these efforts support what the principal-agency theory and respondents said about the use of contract agreements to minimise challenges that may jeopardise and delay the successful implementation of roads, water and sport infrastructure projects. In closing, the study found that there is a link between what the principal-agency theory narrates and what the respondents communicated at the time the data was collected.

7.4 RECOMMENDATIONS

The study has achieved its objectives by establishing the state and quality of constructing roads, water and sport infrastructure, the causes of abandoning the construction of roads, water and sport infrastructure, the impact of roads, water and sport infrastructure on municipal financial viability, and challenges hindering the successful completion of roads, water, and sport infrastructure projects. Lastly, there are socio-economic opportunities for roads, water and sport infrastructure projects and services. Therefore, the study recommends the following possible measures that could assist the three selected local municipalities in successfully implementing roads, water and sport infrastructure projects.

7.4.1 Promotion of fair recruitment processes when awarding infrastructure tenders (contracts)

In pursuit of its objectives, the study has discovered instances of unfair and biased recruitment processes when awarding tenders (contracts) to prospective service providers. Considering this, the study recommends that the three selected local municipalities be objective when awarding contractors; this will help mitigate some of the challenges that the municipalities are facing during infrastructure project implementation. The study further states that the recruitment processes should be fair, starting with the Supply Chain Management Unit. Their task is to ensure that they award contracts to suitable contractors, and this must be guided by previous accomplishments in the construction sector, skills, capacity, experience, and knowledge to handle infrastructure projects. Therefore, the researcher emphasises that the awarding of contracts should not hinge on nepotism, political affiliations, or social capital. All these factors are contributing to the challenges and causes of abandoning roads, water and sport infrastructure. Fundamentally, the supply chain

management unit should award contracts based on merit. Therefore, the study also recommends the appointment of ethical personnel in the supply chain management unit who can award contracts based on ethics and according to codes of conduct.

7.4.2 Provision of proof of project capital prior appointment of the prospective contractors

The study has also found that there are contractors who do not have sufficient capital to run roads, water and sport infrastructure projects. To a certain extent, some of the contractors end up committing themselves with limited capital. Going forward, local municipalities should request proof of available capital from prospective service providers prior to awarding them contracts. This will ensure that municipalities do not just award contracts to service providers who lack financial muscle. The study also recommends that municipalities should award infrastructure projects to contractors who have successfully completed projects with a value comparable to the projects they intend to award to prospective contractors. For example, a prospective contractor should be given a contract worth 80 million provided they have previously completed multiple projects that were equivalent to the one that the municipality wants to award in terms of project value. Therefore, municipalities should also target contractors who have proven to be good in terms of financial management.

7.4.3 Dealing with contractors who fraudulently buy gradings

The study recommends that local municipalities should do thorough verification and background checks of documents submitted by prospective contractors. This is the responsibility that should be carried out by the Supply Chain Management unit. This process can be done with previous and recent municipalities where the prospective contractors have undertaken certain roads, water and sport projects. The aim of this process is to check and confirm whether these prospective contractors have indeed run the projects outlined in their submissions in the capacity of a main contractor. The study has observed that contractors, who have never held the role of a main contractor, occasionally assert their ability to manage projects as main contractors, despite their prior experience solely suggesting sub-contractor roles. Second, the government must deal harshly with the personnel who fraudulently sell gradings to contractors.

7.4.4 New political leadership abandoning projects of previous political leaders

Perhaps the municipality should not allow the outgoing political leadership to implement projects if they are aware that their time is quickly coming to an end. Alternatively, the outgoing political leadership must carry out projects while they still have sufficient time to complete them. For example, municipalities should not allow outgoing political leaders to implement a project that can take them two years to complete while their term of office is coming to an end in the next 12 months. Therefore, the number of days left before the outgoing leadership can exit or finish their office should determine the project's initiation and implementation. Furthermore, the government can manage this issue by making it clear that communities cannot undertake any projects while the outgoing political leadership is still in office. Also, local municipalities can prioritise projects in terms of their duration. For example, a project that can last for two years should be implemented at the beginning of the term of political leadership, followed by other small projects in terms of their duration towards the end of their term of office.

7.4.5 Community education and awareness regarding projects

Political leaders, especially the mayor and ward councillors, should create awareness of projects that the municipalities under concern intend to pursue. Essentially, political leaders must raise awareness about these projects prior to their implementation. Political leaders should demonstrate transparency to their constituents by elucidating the nature of the projects and the anticipated number of local labourers required for their implementation. This could potentially reduce the frequency of community protests during the implementation of infrastructure projects. This is because some respondents during data collection have indicated that one of the causes of community protests is a lack of knowledge on the part of the communities about the projects that will be implemented in their respective areas. Therefore, one of the possible solutions is to create awareness of all projects prior to their implementation. Secondly, political leaders should use a fair process to award jobs to community members. For instance, all community members must be informed that on a particular date, the political leadership is going to be general workers who are going to be part of either roads, water or sport infrastructure projects. Therefore, this process must be done in a fair and transparent manner by using a yes-or-no approach for community members to

choose from the box. Political leaders should also minimise awarding jobs to community members based on political affiliations; they need to know that infrastructure projects must fairly benefit all community members, irrespective of their political affiliations.

7.4.6 Municipalities must act as mediators on the lotsha /greeting fee

The study has also discovered that there is a trend among tribal authorities, who have developed a tendency to demand *lotsha* (a greeting fee) from contractors before they could start implementing roads, water and sport infrastructure projects in certain areas. The study recommends that the municipalities under concern make it a point that they act as mediators between tribal authorities and contractors regarding the lotsha fee matter. Municipalities work closely with tribal authorities; therefore, they must discourage this common trend of tribal authorities demanding money from contractors. Secondly, the government may regulate this trend by ensuring that it is well gazetted and protecting contractors against tribal institutions.

7.4.7 The use of financially experienced contractors

One of the findings of the study was that some of the contractors underquote, underprice, and underestimate projects. Therefore, this could be attributed to a lack of knowledge about financial literacy. Therefore, one possible measure is to use the services of experienced contractors who have always managed to successfully implement roads, water and sport infrastructure projects without the challenges of underbudgeting. Municipalities may prioritise this requirement when conducting background checks with other municipalities and public institutions where the contractors have previously provided infrastructure services. Therefore, municipalities should avoid using contractors who have a negative reputation in terms of quoting or pricing infrastructure projects. Preference must be given to those who have been doing well in the construction industry without facing the challenges of underquoting.

7.4.8 Clarification of when local business forums and SME's can be sub contracted

The study has noted that there is a knowledge gap among local business forums and SMEs in terms of when and how local business forums and SMEs are awarded sub-contracts during the implementation of roads, water and sport infrastructure. Data

collection revealed that to award subcontracts to local business forums and SME's in communities undergoing infrastructure projects, the project value must exceed 30 million rands. Therefore, the study recommends that local municipalities should have regular meetings with local business forums and SME's to educate and clarify the processes and requirements for one to be sub-contracted during the implementation of infrastructure projects. Currently, the stakeholders mentioned above lack a clear understanding of the requirements for awarding subcontracts to local businesses and SMEs. The study further recommends that the government should deal harshly (prosecution) with disruptive business forums (construction mafia) and SMEs. Alternatively, the government must deploy law enforcement officers on site from the beginning until the last day of public infrastructure projects. This will ensure that project staff members and leaders work in a safe and peaceful environment while the projects are underway. Therefore, the government must prioritise the safety of the project environment. This will also reduce project completion delays, as well as unnecessary project abandonment.

7.5 CHAPTER SUMMARY

The intention of the study was to determine the causes for abandoning the construction of roads, water and sport infrastructure projects within the three selected local municipalities under Capricorn District Municipality. The study has successfully accomplished its main objective. The respondents have provided sufficient information on the research questions under consideration.

It was discovered that underquoting of projects, inexperienced contractors, weather conditions such as rain, and community protests because of unfair recruitment processes of local labourers in the projects contribute to the causes of abandoning the construction of roads, water and sport infrastructure projects. However, during the data collection process, positive aspects were also observed.

The researcher has noted that there are plenty of socio-economic benefits and opportunities that community members may benefit from during and after the construction of roads, water and sport infrastructure projects. While specific challenges impede the successful completion of these infrastructure projects, they also present socio-economic opportunities.

In conclusion, this study could make a meaningful contribution to the body of knowledge in Public Administration and policymaking. The study may also provide clarity to researchers and academics regarding the causes for abandoning the construction of roads, water and sport infrastructure, the state and quality of constructing roads, water and sport infrastructure in the three selected local municipalities, the impact of roads, water and sport infrastructure on municipal financial viability, challenges hindering the successful completion of roads, water and sport infrastructure, as well as the socio-economic opportunities that come with the construction of these infrastructure projects and services.

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ANNEXURES

HEAD OFFICE 303 Church Street Private Bag X 44 MOGWADI 0715 Telephone: (015) 501 0243/4 Fax no : (015) 501 0419 E-mail: info@molemole.gov.za	 Molemole Municipality ALL CORRESPONDENCE TO BE ADDRESSED TO THE MUNICIPAL MANAGER	MOREBENG BRANCH OFFICE 25 Cnr. Roets & Viviers Street MOREBENG 0810 Telephone : (015) 501 2371 Fax no : (015) 397 4334 www.molemole.gov.za
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Enquiries: Mahlake MV **Reference: 4/3/2**

MABEBA JOHN SELAELO
PO Box 320
Dendron
0715
01 September 2023
ENQUIRIES: MR SELAELO JOHN MABEBA (079 098 7234)

Dear Sir/Madam

RE: REQUEST FOR PERMISSION TO CONDUCT A RESEARCH STUDY IN MOLEMOLÉ MUNICIPALITY

This letter serves to confirm receipts of your letter regarding the request to conduct a research study in Molemole Municipality "Towards a model for implementation of public infrastructure projects in selected local municipalities in Limpopo Province".

We want to place it on record that all information provided for during the research process should be kept confidential and in line with the ethical considerations when conducting a research.

We hereby advise that your request has been granted and approved. Please let us know of the dates that you'll be visiting our municipality to conduct research.

We wish you good luck in your research journey.

Yours Sincerely


KE Makgatho
Municipal Manager

Vision: A developmental people driven organization that serves its people"

Mission: To provide essential and sustainable services in an efficient and effective manner.

Blouberg Municipality



P.O. Box 1593
SENWABARWANA 0790
Tel: No.: 015 505 7100
Fax: No.: 015 505 0568 / 0296
E-mail: sebolav@blouberg.gov.za

Sebola HV
015 505 7100

13 September 2023

Att: Municipal Manager

Re: REQUEST FOR THE APPROVAL OF ACEDMIC RESEARCH

We received a request letter from University of North West Student who is requesting for space to do his academic research in the Municipality.

Attached please receive the student's request letter

Surname & Initials	Field of study	Student No.	Gender
1. Mabeba SJ	Public Management and Administration	44693605	Male

We therefore request Municipal Manager to approve the research request for Mr Mabeba SJ

Approved / ~~Not Approved~~


R. J. MAKHWALA RJ
MUNICIPAL MANAGER



Enq: Mr. Jerry Manyama
Tel: 015 290 2701
Email: JerryM@polokwane.gov.za
Date: 06 September 2023

To: Prof. MT Lukamba
North West University
P.O. Box 1174
Vanderbijlpark
1900

Attention: Prof. MT Lukamba
Tel: 016 910 3374
Email: MT.lukamba@nwu.ac.za

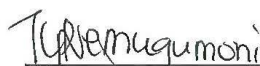
Dear Sir/Madam

RE: CONFIRMATION FOR MR. SELAELO JOHN MABEBA TO CONDUCT RESEARCH IN POLOKWANE MUNICIPALITY

This letter serves to confirm that Mr. Selaelo John Mabeba has been granted permission to conduct research at Polokwane Municipality as per the research topic titled: "Towards a model for implementation of Public Infrastructure Projects in selected Local Municipalities in Limpopo Province".

Please note that the findings emanating from the research must be shared with the municipality before they can be published.

Kind Regards,


MS. THUSO NEMUGUMONI
MUNICIPAL MANAGER

OFFICE OF THE MUNICIPAL MANAGER

- P.O BOX 111 POLOKWANE, 0700
- CIVIC CENTRE, CNR LANDDROS MARE & BODENSTEIN STREETS
- POLOKWANE, 0699, SOUTH AFRICA
- TEL: +27 15 290 2106
- FAX: +27 15 290 2106





PO Box 1174, Vanderbijlpark
South Africa 1900
School of Government
Studies
Department of Public
Management and
Administration
Tel: +27169103374

18/08/ 2023

ATTENTION TO: Ms TLP Nemugumoni

Municipal Manager

Polokwane Local Municipality

TO WHOM IT MAY CONCERN

This certifies that Mr Selaelo John Mabeba student number 44693605 is a PhD candidate in Public Management and Administration in the School of Government Studies at the North-West University/ Vaal Triangle Campus. Mr Mabeba is conducting research to complete a Dissertation degree entitled:

Towards a model for implementation of public infrastructure projects in selected local municipalities in Limpopo Province.

It would be appreciated if permission would be granted to Mr Mabeba to conduct research on the matter. The purpose of the research is mostly academic.

Yours sincerely,

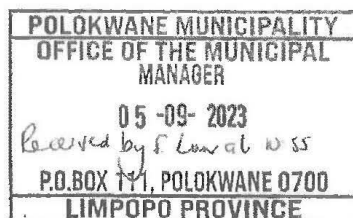
A handwritten signature in black ink, appearing to read 'MT. Lukamba', is written over a horizontal line.

Prof. MT. Lukamba

Email: MT.lukamba@nwu.ac.za

Supervisor

Director: Corporate
Services f/A - Amm



STAND NO 135
WERDEN FARM C
SENWABARWANA
0790

To: To Whom it may concern

From: Mr SJ Mabeba

PhD student at North-West University (Vaal Triangel Campus)

Date: 18 August 2023

Subject: Request to collect data in Polokwane Local Municipality

Dear Sir/ Madam

The above subject refers:

I Mr Selaelo John Mabeba student number (44693605) a PhD candidate in Public Management and Administration in the School of Government Studies at the North-West University/ Vaal Triangle Campus. Mabeba is conducting research to complete a Dissertation degree entitled:

Towards a model for implementation of public infrastructure projects in selected local municipalities in Limpopo Province.

It would be appreciated if permission would be granted to Mr Mabeba to conduct research on the matter. The purpose of the research is mostly academic. However, the following are the people I would to engage with during data collection in Polokwane Local Municipality:

Participants	Number of participants
Chief financial officers (CFO)	01
Municipal manager	01
Manager of / Head for Local Economic Development	01
Members of the Mayoral Committee (for infrastructure)	02

Manager of / head for Integrated Development Plan (IDP)	01
Members of Municipal Council from three political parties (EFF, ANC and DA) in the municipality	The researcher will choose two participants from each political party within the municipality. Which makes it 06.
Office of public infrastructure in the municipality	Five (05) from the municipality
Manager of /head for community services in the municipality	One (01) from the municipality

Signature:



18/08/2023

0790987234/selaelojohnmabeba@gmail.com

06 November 2023

ETHICS APPROVAL LETTER OF STUDY

Based on approval by the **Basic and Social Sciences Research Ethics Committee (BaSSREC)** on **02/11/2023**, the Basic and Social Sciences Research Ethics Committee hereby **approves** your study as indicated below. This implies that the North-West University Senate Committee for Research Ethics (NWU-SERC) grants its permission that, provided the special conditions specified below are met and pending any other authorisation that may be necessary, the study may be initiated, using the ethics number below.

Study title: Towards a model for implementation of public infrastructure projects in selected local municipalities in Limpopo province.																														
Study Leader/Supervisor (Principal Investigator)/Researcher: Prof M.T. Lukamba & Dr T. Molokwane																														
Student/Research Team: S.J. Mabeba (44693605)																														
Ethics number:	<table border="1"> <tr> <td>N</td><td>W</td><td>U</td><td>-</td><td>0</td><td>1</td><td>0</td><td>4</td><td>3</td><td>-</td><td>2</td><td>3</td><td>-</td><td>A</td><td>7</td> </tr> <tr> <td colspan="3">Institution</td> <td></td> <td colspan="4">Study Number</td> <td></td> <td colspan="2">Year</td> <td></td> <td colspan="2">Status</td> </tr> </table> <i>Status: S = Submission; R = Re-Submission; P = Provisional Authorisation; A = Authorisation</i>	N	W	U	-	0	1	0	4	3	-	2	3	-	A	7	Institution				Study Number					Year			Status	
N	W	U	-	0	1	0	4	3	-	2	3	-	A	7																
Institution				Study Number					Year			Status																		
Application Type: Single study																														
Commencement date: 02/11/2023	Risk: Low risk																													
Expiry date: 02/11/2024																														
Approval of the study is initially provided for a year, after which continuation of the study is dependent on receipt and review of the annual (or as otherwise stipulated) monitoring report and the concomitant issuing of a letter of continuation.																														

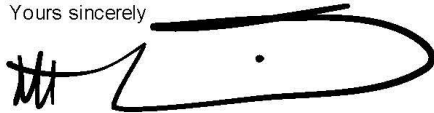
Special in process conditions of the research for approval (if applicable):

General conditions: <i>While this ethics approval is subject to all declarations, undertakings and agreements incorporated and signed in the application form, the following general terms and conditions will apply:</i> • <i>The study leader/supervisor (principal investigator)/researcher must report in the prescribed format to the BaSSREC:</i> – <i>annually (or as otherwise requested) on the monitoring of the study, whereby a letter of continuation will be provided, and upon completion of the study; and</i> – <i>without any delay in case of any adverse event or incident (or any matter that interrupts sound ethical principles) during the course of the study.</i> • <i>The approval applies strictly to the proposal as stipulated in the application form. Should any amendments to the proposal be deemed necessary during the course of the study, the study leader/researcher must apply for approval of these amendments at the BaSSREC, prior to implementation. Should there be any deviations from the study proposal without the necessary approval of such amendments, the ethics approval is immediately and automatically forfeited.</i>
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- Annually a number of studies may be randomly selected for an external audit.
- The date of approval indicates the first date that the study may be started.
- In the interest of ethical responsibility, the NWU-SCRE and BaSSREC reserves the right to:
 - request access to any information or data at any time during the course or after completion of the study;
 - to ask further questions, seek additional information, require further modification or monitor the conduct of your research or the informed consent process;
 - withdraw or postpone approval if:
 - any unethical principles or practices of the study are revealed or suspected;
 - it becomes apparent that any relevant information was withheld from the BaSSREC or that information has been false or misrepresented;
 - submission of the annual (or otherwise stipulated) monitoring report, the required amendments, or reporting of adverse events or incidents was not done in a timely manner and accurately; and / or
 - new institutional rules, national legislation or international conventions deem it necessary.
- BaSSREC can be contacted for further information or any report templates via [BaSSREC-Admin@nwu.ac.za](mailto:Admin@nwu.ac.za).

The BaSSREC would like to remain at your service as scientist and researcher, and wishes you well with your study. Please do not hesitate to contact the BaSSREC or the NWU-SCRE for any further enquiries or requests for assistance.

Yours sincerely



Prof. E. Idemudia

Chairperson NWU Basic and Social Sciences Research Ethics Committee

DATE:06 November 2023

BaSSREC Authorisation



PARTICIPANT INFORMATION LEAFLET AND CONSENT FORM

Title of the research project	TOWARDS A MODEL FOR IMPLEMENTATION OF PUBLIC INFRASTRUCTURE PROJECTS IN SELECTED LOCAL MUNICIPALITIES IN LIMPOPO PROVINCE
Ethics number	NWU-01043-23-A7
Principal investigator	Selaelo John Mabeba
Student number	44693605
Address	PO BOX 320 DENDRON 0715
Email address	Selaelojohnmabeba@gmail.com
Contact number	0790987234

You are being invited to take part in a research project that forms part of my **PhD study**. Please take some time to read the information presented here, which will explain the details of this project. Please ask the researcher any questions about any part of this project that you do not fully understand. It is very important that you are fully satisfied that you clearly understand what this research is about and how you could be involved. Also, your participation is **entirely voluntary** and you are free to decline to participate. If you say no, this will not affect you negatively in any way whatsoever. You are also free to withdraw from the study at any point, even if you do agree to take part. Prior to publication of the study's results (or the point that publication is in process), you may also withdraw the data you generate.

This study has been approved by the **Basic and Social Sciences Research Ethics Committee (BaSSREC) of the Faculty of Humanities of the North-West University (NWU.....)** and will be conducted according to the ethical guidelines and principles of the international

Singapore Statement on Research Integrity (2010) and the ethical guidelines of the National Health Research Ethics Council. It might be necessary for the research ethics committee members or relevant authorities to inspect the research records to make sure that we (the researchers) are conducting research in an ethical manner.

What is this research study all about?

- This study is an investigation of **the cause of abandoning the construction of public infrastructure projects in the three selected local municipalities?**and will involve the use of **mixed methods research** (*methods*)
- The researcher has been trained to use the methods mentioned in the previous sentence.
- Approximately **84** (*number*) participants will be included in this study.
- The objectives of this research are:
 - To determine the causes of abandoning the construction of public infrastructure projects in the three selected local municipalities.
 - To investigate the state of constructing public infrastructure projects in the three selected local municipalities,
 - To evaluate the impact of public infrastructure projects on financial viability in the South African local municipalities,
 - To establish challenges hindering the successful completion of public infrastructure projects
 - To identify the socio-economic opportunities for successful construction of public infrastructure projects in the selected municipalities
 - To develop possible and practical recommendations to address the challenges hindering the successful implementation of public infrastructure projects in South African local municipalities.

Why have you been invited to participate?

- You have been invited to participate because you have the knowledge of the topic under investigation. Also, public infrastructure projects can impact your daily routines as community members.
- You have also complied with the following inclusion criteria: you are between 18-65 years and above, you are black, you are in the middle class
 - You will be excluded if you do not fall in any of the mentioned categories

What will your responsibilities be?

- You will be invited to participate in the noted study **by face to face questionnaires and interviews**
- You will have **a weeks** to indicate whether you would be willing to participate.
- You will be requested to sign this Informed Consent Statement before the commencement of the study.

Will you benefit from taking part in this research?

- The direct benefits for you as a participant will probably be contribution of your knowledge to the study (*e.g. skill development*).
 - The indirect benefit will probably be selected to make this study a success

Are there risks involved in your taking part in this research and how will these be managed?

The possible risks in this study, and how these will be managed, are summarised in the table below:

Possible risk	Mitigation strategy
COVID 19 risk during face-to-face interviews.	Due to the potential of Covid-19 infection, the researcher will observe the following rules during in-person/face-to-face data collection: • If the current Covid-19 restriction levels do not allow for such in-person meetings, the interviews will not take place. • That all persons wear a three-ply mask throughout the interview. • That the researcher takes the temperature of the participants before the start of the interview and FGD. If this is too high, then you will not be allowed to participate. • That hand-sanitizer (with 70% alcohol-content) be used <i>before, during and after</i> the interview. • That social-distancing of 1.5-2 meters be observed between all persons <i>before, during and after</i> the interview. • If the participants do not have a three-ply mask or hand-sanitizer, this will be provided cost-free by the researcher. (<i>Apply to your study</i>)
Emotional distress of the participants.	E.g. counsellor; psychologist, psychiatrist. <i>Provide their details; the process of contacting these persons; payment (the first session should be paid for by the researcher, thereafter the participant takes responsibility for that).</i>
Tiredness and discomfort.	Comfort breaks of 10 minutes.
Lack of privacy and comfort during interviews due to the location	This will be addressed by choosing a convenient place
<i>Please add/edit based on your study. Be very specific. All of this information must be copied into the research proposal and ethics application form.</i>	<i>Please add/edit based on your study. Be very specific. All of this information must be copied into the research proposal and ethics application form.</i>

- However, we do believe that the benefits to you and to science (as noted in the previous section) outweigh the risks we have listed. If you disagree, then please feel free not to participate in this study. We will respect your decision.
- Should we learn, in the course of the research, that someone is harming you, or that you are intending to harm someone, then we must tell someone who can help you/warn the person you are intending to harm.

Who will have access to the data?

The following procedures will be observed in line with the Protection of Personal Information Act (POPIA):

Principle	How will this be done?	When will this be done?
Anonymity	Anonymity will be ensured by choosing your own fictitious names/I (the principal investigator) will assign a fictitious name/code to you before the interview starts. Only this name will be used in the research process. <i>(Apply to your study)</i>	Before the interview commence. After the interview has been conducted. Other (please explain). <i>(Apply to your study)</i>
Confidentiality	Confidentiality will include the use of pseudonyms/codes <i>(apply to your study)</i> for participants, organisations and locations. It involves not disclosing any information gained from an interviewee deliberately or accidentally in ways that might identify an individual, organisation and location.	During the recruitment process. Before the fieldwork commences. During the fieldwork. After the fieldwork has been completed During analysis and the write-up of findings. During the reporting of findings. During the publication of findings in the form of articles, books, conference proceedings, etc. <i>(Apply to your study)</i>
De-identification of data	All identifiable personal information will be de-identifies to ensure that no information identifies any participants, organisations and locations.	After the fieldwork has been completed. After you, as participant, has signed-off on the interview transcripts/responses/any other relevant information sent to you to check. Before data analysis and the write-up of findings start. <i>(Apply to your study)</i>
Data storage	All data collected for the purpose of the research will be stored safely in electronic format/hardcopy format for a period of five years after which it will be destroyed. The primary investigator will ensure data that both hard-(printed) and soft copy (electronic) are safely locked away and password-protected, respectively. Only approved people in my research team <i>(if applicable)</i> will/may have access to my raw data where the need arises. At the analysis stage, as will be the case throughout, the use of coding will reinforce participants' non-identification, hence upholding the assurance of confidentiality and anonymity.	During the recruitment process. Before the fieldwork commences. During the fieldwork. After the fieldwork has been completed During analysis and the write-up of findings. During the reporting of findings. During the publication of findings in the form of articles, books, conference proceedings, etc. <i>(Apply to your study)</i>

	(Apply to your study)	
Privacy	Privacy will be ensured by not probing unnecessarily if you do not wish to discuss particular matters. (Apply to your study)	During the fieldwork. During follow-up fieldwork. (Apply to your study)
Transcription/coding of data	I will/will not use a <i>transcriber</i> for the purpose of the transcripts after the interview. I will/will not use a <i>statistician/coder</i> for the purpose of the transcripts after the interview. (Apply to your study)	If the primary investigator is responsible for transcribing/coding the data: The primary investigator will be responsible for transcribing the data. Therefore, no other person will have access to the data. The primary investigator will be required to sign a NWU Confidentiality Agreement before the study commences. If a subject expert (e.g. transcriber/language editor/coder/statistician) assists with/takes responsibility for transcribing/coding the data: This/These persons /s will be responsible for transcribing the data. Therefore, no other person will have access to the data. This/These persons /s will be required to sign a NWU Confidentiality Agreement before the study commences. (Apply to your study)
Translation/interpreter services	I will/will not use a <i>translator/interpreter</i> for the purpose of the interviews/explaining the informed consent, etc. (Apply to your study)	This person will be required to sign a NWU Confidentiality Agreement and will not be permitted to share any information relating to the study with anyone else. (Apply to your study)

Collection of only relevant personal information:

Collection of only relevant personal information	I, the principal investigator and members of the research team (if applicable), will only collect personal biographical and opinion-related data about the topic I/we are studying.	Shortly list the <i>biographical</i> and <i>opinion-related</i> (main themes) information that will be collected for the purpose of the study. (Apply to your study)
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What will happen to the data?

The data from this study will be reported in the following ways: In all of this reporting, you will not be personally identified. This means that the reporting will not include your name or details that will help others to know that you participated.

This is a once-off study, so the data may be re-used in the form of journal articles

Will you be paid/compensated to take part in this study and are there any costs involved?

No you will not be paid/compensated to take part in the study. If participating in the research means that you have to travel especially for the purpose of participating, then your travel costs will be paid. **There will thus be no costs involved.** *(Apply to your study)*

How will you know about the findings?

- The general findings of the research will be shared with you by email
- If you would like feedback on your personal results, then you can inform the researcher *(Apply to your study)*

Is there anything else that you should know or do?

- You can contact the (researcher) at 0790987234 (cell phone number) and selaelojohnmabebe@gmail.com (email address) if you have any further queries or encounter any problems.
- You can contact the chair of the Basic Social Sciences Research Ethics Committee (Prof Erharbor Idemudia) at 018 389 2899 or Erharbor.Idemudia@nwu.ac.za if you have any concerns or complaints that have not been adequately addressed by the researcher.
- You will receive a copy of this information and consent form for your own records.

Declaration by participant

By signing below, I _____ agree to take part in a research study entitled: "...". (*Apply to your study*)

I declare that:

- I provide *informed consent*.
 - Thus, I have read and understood this information and consent form and it is written in a language with which I am fluent and comfortable.
 - Thus, I have had a chance to ask questions to both the person obtaining consent, as well as the researcher (if this is a different person), and all my questions have been adequately answered.
- I provide *voluntary consent*.
 - Thus, I understand that taking part in this study is voluntary and I have not been pressurised to take part.
 - Thus, I may choose to leave the study at any time and will not be penalised or prejudiced in any way.
 - Thus, I am aware of the fact that I may request that the researcher does not continue with said recording if I request it.
- I provide *specific consent*.
 - Thus, I understand that what I contribute (what I report/say/write/draw/produce visually) could be reproduced publically and/or quoted, but without reference to my personal identity.
 - I provide *specific consent*. Thus, I consent to an audio and/or audio-visual recording of the ... (*Apply to your study*).

Signed at (*place*) _____ on (*date*) _____ 20 _____

Signature of participant

Signature of witness

- | | |
|--|--|
| • You may contact me again | ☐ Yes ☐ No |
| • I would like a summary of the findings of this research | ☐ Yes ☐ No |
| • I would like feedback on my functioning/wellbeing as reflected in the questionnaires I completed | ☐ Yes ☐ No |

The best way to reach me is:

Name & Surname: _____
Postal Address: _____
Email: _____
Phone Number: _____
Cell Phone Number: _____

In case the above details change, please contact the following person who knows me well and who does not live with me and who will help you to contact me:

Name & Surname: _____

Phone/ Cell Phone Number /Email: _____

Declaration by person obtaining consent (if not the researcher/primary investigator)

I (*name*)..... declare that:

- I explained the information in this document to _____
- I encouraged him/her to ask questions and took adequate time to answer them.
- I am satisfied that he/she adequately understands all aspects of the research, as discussed above
- I did/did not use an interpreter.

Signed at (*place*) _____ on (*date*) _____ 20 _____

Signature of person obtaining consent

Signature of witness

Declaration by researcher/primary investigator

I (*name*) _____ declare that:

- I explained the information in this document to _____
- I encouraged them to ask questions and took adequate time to answer them.
- I am satisfied that they adequately understand all aspects of the research, as discussed above
- I did/did not use an interpreter.

Signed at (*place*) _____ on (*date*) _____ 20 _____

Signature of researcher

Signature of witness

Declaration by researcher and participant

Personal face-to-face interviews during Covid-19 restrictions (*if applicable*)

Additional declaration by participant in those instances where the participant requests to participate in a personal face-to-face semi-structured interview:

By signing below, I _____, acknowledge the following information related to the required measures regarding Covid-19:

I declare that:

- It is my personal choice and preference to participate in a personal face-to-face semi-structured interview with the researcher.
- This requires that I consent to the following strict measures to safeguard the personal health and safety of myself and that of the researcher/interviewer/primary investigator:
 - I consent to the researcher taking my temperature before the interview using a thermometer. ☐ Yes ☐ No
 - I confirm that my temperature measured at _____ degrees. ☐ Yes ☐ No
 - I consent to use the three-ply mask provided by the researcher. ☐ Yes ☐ No
 - I consent to wear the three-ply mask for the full duration of the interview. ☐ Yes ☐ No
 - I consent to the researcher sanitising the interview context using a sanitiser with an 80% alcohol content before the commencement of the interview. ☐ Yes ☐ No
 - I consent to the researcher using a sanitiser with an 80% alcohol content before and during the interview if required. ☐ Yes ☐ No

Signed at (*place*) _____ on (*date*) _____ 20 ____

Signature of participant

Signature of researcher

SEMI-STRUCTURED INTERVIEWS FOR MUNICIPAL OFFICIALS

I Selaelo John Mabeba, student number (44693605) a registered student of Doctor of Philosophy in Social Sciences with Public Management and Governance at North-West University (Vaal Campus). I am conducting a research project on **"TOWARDS A MODEL FOR IMPLEMENTATION OF PUBLIC INFRASTRUCTURE PROJECTS IN SELECTED LOCAL MUNICIPALITIES IN LIMPOPO PROVINCE"**. The purpose of this interview guide is to get an in-depth understanding of the socio-economic opportunities that community members can benefit from during and after the implementation of public infrastructure projects namely: roads, sport and water infrastructure. Secondly, to determine the causes of abandoning the construction of public; To investigate the state of constructing public infrastructure projects in the three selected local municipalities; to evaluate the impact of public infrastructure projects on financial viability; to establish challenges hindering the successful completion of public infrastructure projects in the three selected local municipalities. This interview will require **10 to 15** minutes of your time. Please note that all information collected will be used for academic purposes only and will be treated confidential in accordance with the ethical standards of the North-West University, South Africa. Your name will not be recorded and will not appear in any report. If you need any assistance in answering the questions, please do not hesitate to ask. We appreciate your participation in this research project, Thank you.

Contact details: 0790987234

Email address: selaelojohnmabeba@gmail.com

NB: CIRCLE YOUR CHOICE WHERE IT IS NECESSARY

A. Demographic Information

1. Gender

Male	1	Female	2
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2. Ethnic /historical racial group

African/ Black South African	White South African	Coloured South Africa	Indian South African
1	2	3	4

3. Age group

18-30 years	31-40 years	41-50 years	51-65 years	Above 65 years
1	2	3	4	5

5. Home language

English	IsiXhosa	IsiZulu	Tswana	Swati	Sepedi	IsiNdebele	Afrikaans	Xitsonga	Sotsho	Tshivenda
1	2	3	4	5	6	7	8	9	10	11

6. Marital status

Single	Married	Divorced	Widowed
1	2	3	4

B. Education and training / Highest qualification

Matric	Certificate/ Diploma	Undergraduate degree	Honours degree	Post graduate: Masters degree	Post graduate: PhD/ Doctoral
1	2	3	4	5	6

C. EMPLOYMENT STATUS

1. Under which section are you working in?

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2. How long have you been working in the current unit, section or division?

0-5 months	5-12months	1-3 year	4-7 years	More than 8 years
1	2	3	4	5

3. What type of employment do you have?

Still on probation	Part –time	Contract	Permanent
1	2	3	4

SECTION A**THE STATE OF CONSTRUCTING PUBLIC INFRASTRUCTURE PROJECTS IN
THE THREE SELECTED LOCAL MUNICIPALITIES**

1. Are you satisfied with the state of constructing roads, water and sport infrastructure in your municipality? Justify

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2. Is there value for money on the construction of roads, water and sport infrastructure? Justify

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3. Have you ever had roads, water and sport infrastructure projects which were poorly/inadequately constructed? And what were the interventions?

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4. Are community members satisfied with the state of constructing roads, water and sport infrastructure in your municipality? Justify

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5. How does the municipality manage the construction of roads, water and sport infrastructure projects to ensure quality?

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SECTION B

THE CAUSES OF ABANDONING THE CONSTRUCTION OF ROADS, WATER AND SPORT INFRASTRUCTURE PROJECTS

1. What causes the abandonment of constructing roads, water and sport infrastructure in your municipality?

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2. Have you ever had any road, water and sport infrastructure projects which were abandoned in the past? What were the interventions?

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3. What kind of monitoring measures does the municipality have in place to prevent the abandonment of constructing these projects?

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4. Are roads, water and sport infrastructure projects in your municipality completed on the agreed time? Justify

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5. Do contractors deliver these projects according to contract agreements? Justify

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6. Is there a consequence management system for contractors who fail to deliver roads, water and sport infrastructure projects? Justify

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7. Toward extent can political interference in the construction of these projects have negative impact towards successful completion of these projects? Justify

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8. Are roads, water and sport infrastructure projects awarded to contractors who have a good track record of rendering these projects? Justify

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9. Does dispute between contractors and the municipality affect the success of these projects? Justify

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10. Does the municipality have skilled and competent project stakeholders to coordinate these projects during implementation? Justify

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SECTION C

THE IMPACT OF ROADS, WATER AND SPORT INFRASTRUCTURE ON MUNICIPAL FINANCIAL VIABILITY

1. Do you think roads, water and sport infrastructure generate money for the municipality? Justify

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2. Can the municipality sustain itself through the money generated from the construction of these projects? Justify

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SECTION D

Challenges hindering the successful completion of roads, water and sport infrastructure projects

1. What challenges does your municipality encounter during the construction of these projects?

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2. How does the municipality deal with such challenges?

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3. To what extent do these challenges negatively impact the successful construction of these projects?

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SECTION E

SOCIO-ECONOMIC OPPORTUNITIES FOR ROADS, WATER AND SPORT INFRASTRUCTURE PROJECTS AND SERVICES

1. What socio-economic opportunities can communities benefit from the construction of roads, water and sport infrastructure?

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2. What benefits can community members get during the construction of these projects?

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3. Is there a relationship between the construction of roads, water and sport infrastructure and local economic development? Justify

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**SEMI-STRUCTURED QUESTIONNAIRE FOR COMMUNITY MEMBERS IN THREE
SELECTED LOCAL MUNICIPALITIES**

I Selaelo John Mabeba, student number (44693605) a registered student in Doctor of Philosophy in Social Sciences with Public Management and Governance at North-West University (Vaal Campus). I am conducting a research project on **“TOWARDS A MODEL FOR IMPLEMENTATION OF PUBLIC INFRASTRUCTURE PROJECTS IN SELECTED LOCAL MUNICIPALITIES IN LIMPOPO PROVINCE**. The purpose of this questionnaire is to get an in-depth understanding of the socio-economic opportunities that community members can benefit from during and after the implementation of public infrastructure projects namely: roads, sport and water infrastructure. This questionnaire will require **10 to 15** minutes of your time. Please note that all information collected will be used for academic purposes only and will be treated confidential in accordance with the ethical standards of the North-West University, South Africa. Your name will not be recorded and will not appear in any report. If you need any assistance in answering the questions, please do not hesitate to ask. We appreciate your participation in this research project, Thank you.

Contact details: 0790987234

Email address: selaelojohnmabeba@gmail.com

NB: CIRCLE YOUR CHOICE WHERE IT IS NECESSARY

A. Demographic Information

1. Gender

Male	1	Female	2
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2. Ethnic /historical racial group

African/ Black South African	White South African	Coloured South Africa	Indian South African
1	2	3	4

3. Age group

18-30 years	31-40 years	41-50 years	51-65 years	Above 65 years
1	2	3	4	5

5. Home language

Engl sh	IsiXh osa	IsiZ ulu	Tswa na	Sw ati	Sep edi	IsiNde bele	Afrika ans	Xitso nga	Sot ho	Tshive nda
1	2	3	4	5	6	7	8	9	10	11

6. Marital status

Single	Married	Divorced	Widowed
1	2	3	4

B. Education and training / Highest qualification

Primary education	Secondary education	Certificate / Diploma	Undergraduate degree	Honours degree	Post graduate : Masters degree	Post graduate : PhD/ Doctoral
1	2	3	4	5	6	7

SECTION A: QUESTIONNAIRE FOR COMMUNITY MEMBERS**THEME 1: SOCIO-ECONOMIC OPPORTUNITIES FOR ROADS, WATER AND SPORT INFRASTRUCTURE PROJECTS AND SERVICES**

- 1. Roads, water and sport infrastructure projects are essential in our respective community**

Strongly agree	Agree	Not sure	Strongly disagree	Disagree
1	2	3	4	5

- 2. The abandonment of constructing roads, water and sport infrastructure projects negatively affect community members**

Strongly agree	Agree	Not sure	Strongly disagree	Disagree
1	2	3	4	5

3. The construction of roads, water and sport infrastructure promotes community development

Strongly agree	Agree	Not sure	Strongly disagree	Disagree
1	2	3	4	5

4. There are opportunities which the community could benefit from during the implementation of roads, water and sport infrastructure projects

Strongly agree	Agree	Not sure	Strongly disagree	Disagree
1	2	3	4	5

5. Roads, water and sport infrastructure have the potential to alleviate poverty

Strongly agree	Agree	Not sure	Strongly disagree	Disagree
1	2	3	4	5

6. The absence of roads, water and sport infrastructure poses serious socio-economic problems for communities

Strongly agree	Agree	Not sure	Strongly disagree	Disagree
1	2	3	4	5

7. The construction of roads, water and sport infrastructure respond to our basic needs

Strongly agree	Agree	Not sure	Strongly disagree	Disagree
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1	2	3	4	5
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- 8. Have you ever participated in the construction of roads, water and sport infrastructure?**

Yes	No
1	2

- 9. The absence of roads, water and sport infrastructure services have a direct impact on the local economy of our communities**

Strongly agree	Agree	Not sure	Strongly disagree	Disagree
1	2	3	4	5

- 10. Roads, water and sport infrastructure services are capable of attracting investors**

Strongly agree	Agree	Not sure	Strongly disagree	Disagree
1	2	3	4	5

- 11., Adequate roads, water and sport infrastructure remain the contributors to long-term growth of communities**

Strongly agree	Agree	Not sure	Strongly disagree	Disagree
1	2	3	4	5

- 12. Reliable roads, adequate water and sport infrastructure make it possible for community members to trade**

Strongly agree	Agree	Not sure	Strongly disagree	Disagree
1	2	3	4	5

13. Roads, water and sport infrastructure can be used as local economic growth mechanism to boost South Africa's development

Strongly agree	Agree	Not sure	Strongly disagree	Disagree
1	2	3	4	5

14. Roads, water and sport infrastructure are important to national sustainability, equitable growth and welfare

Strongly agree	Agree	Not sure	Strongly disagree	Disagree
1	2	3	4	5

15. Roads, water and sport infrastructure are catalysts for local economic growth

Strongly agree	Agree	Not sure	Strongly disagree	Disagree
1	2	3	4	5

SECTION B: OPEN-ENDED QUESTIONS FOR COMMUNITY MEMBERS

THEME 1: SOCIO-ECONOMIC OPPORTUNITIES FOR ROADS, WATER AND SPORT INFRASTRUCTURE PROJECTS AND SERVICES

1. Why do you think roads, water and sport infrastructure are essential in your respective community?

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2. Do you think roads, water and sport infrastructure services impact your life positively? Justify.....

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3. Do you think the construction of roads, water and sport infrastructure promotes community development? Justify

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4. What are the opportunities that the community could benefit from during the implementation of roads, water and sport infrastructure projects?

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5. Do you think roads, water and sport infrastructure have the potential to alleviate poverty? Justify

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6. Do you think the absence of roads, water and sport infrastructure can pose serious socio-economic problems for communities? Justify

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7. Do you think the construction of roads, water and sport infrastructure responds to your basic needs? Justify

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8. Have you ever participated in the construction of roads, water and sport infrastructure? If yes, what were the opportunities/benefits?

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**SEMI-STRUCTURED QUESTIONNAIRE FOR POLITICAL OFFICE BEARERS IN
THREE SELECTED LOCAL MUNICIPALITIES**

I Selaelo John Mabeba, student number (44693605) a registered student of Doctor of Philosophy in Social Sciences with Public Management and Governance at North West University (Vaal Campus). I am conducting a research project on **“TOWARDS A MODEL FOR IMPLEMENTATION OF PUBLIC INFRASTRUCTURE PROJECTS IN SELECTED LOCAL MUNICIPALITIES IN LIMPOPO PROVINCE**. The purpose of this questionnaire is to get an in-depth understanding of the socio-economic opportunities that community members can benefit from during and after the implementation of public infrastructure projects namely: roads, sport and water infrastructure. Secondly, to determine the causes of abandoning the construction of public infrastructure; To investigate the state of constructing public infrastructure projects in the three selected local municipalities; to evaluate the impact of public infrastructure projects on financial viability; to establish challenges hindering the successful completion of public infrastructure projects in the three selected local municipalities. This questionnaire will require **10 to 15** minutes of your time. Please note that all information collected will be used for academic purposes only and will be treated confidential in accordance with the ethical standards of the North West University, South Africa. Your name will not be recorded and will not appear in any report. If you need any assistance in answering the questions, please do not hesitate to ask. We appreciate your participation in this research project, Thank you.

Contact details: 0790987234

Email address: selaelojohnmabeba@gmail.com

NB: CIRCLE YOUR CHOICE WHERE IT IS NECESSARY

A. Demographic Information

1. Gender

Male	1	Female	2
------	---	--------	---

2. Ethnic /historical racial group

African/ Black South African	White South African	Coloured South Africa	Indian South African
1	2	3	4

3. Age group

18-30 years	31-40 years	41-50 years	51-65 years	Above 65 years
1	2	3	4	5

5. Home language

Engl sh	IsiXh osa	IsiZ ulu	Tswa na	Sw ati	Sep edi	IsiNde bele	Afrika ans	Xitso nga	Sot ho	Tshive nda
1	2	3	4	5	6	7	8	9	10	11

6. Marital status

Single	Married	Divorced	Widowed
1	2	3	4

B. Education and training / Highest qualification

Primary education	Secondary education	Matric	Certificate/ Diploma	Undergraduate degree	Honours degree	Post graduate: Masters degree	Post graduate: PhD/ Doctoral
1	2	3	4	5	6	7	8

C. EMPLOYMENT STATUS

1. Under which section are you working in?

.....

2. How long have you been working in the current unit, section or division?

0-5 months	5-12months	1-3 years	4-7 years	More than 8 years
1	2	3	4	5

SECTION A: QUESTIONNAIRE FOR POLITICAL OFFICE BEARERS**THEME 1: THE STATE OF CONSTRUCTING ROADS, WATER AND SPORT INFRASTRUCTURE PROJECTS**

1. Are you satisfied with the state of constructing roads, water and sport infrastructure in your municipality

Strongly agree	Agree	Not sure	Strongly disagree	Disagree
1	2	3	4	5

2. There is value for money on the construction of roads, water and sport infrastructure

Strongly agree	Agree	Not sure	Strongly disagree	Disagree
1	2	3	4	5

3. There are roads, water and sport infrastructure projects which were poorly/inadequately constructed.

Strongly agree	Agree	Not sure	Strongly disagree	Disagree
1	2	3	4	5

4. Political interference has negative impact on the construction roads, water and sport infrastructure

Strongly agree	Agree	Not sure	Strongly disagree	Disagree
1	2	3	4	5

5. Community members are satisfied with the state of constructing roads, water and sport infrastructure in our municipality

Strongly agree	Agree	Not sure	Strongly disagree	Disagree
1	2	3	4	5

6. The appointment of contractors with good track record can positively affect the quality of constructing roads, water and sport infrastructure

Strongly agree	Agree	Not sure	Strongly disagree	Disagree
1	2	3	4	5

7. Corruption affects the quality of roads, water and sport infrastructure services

Strongly agree	Agree	Not sure	Strongly disagree	Disagree
1	2	3	4	5

THEME 2: THE CAUSES OF ABANDONING THE CONSTRUCTION OF ROADS, WATER AND SPORT INFRASTRUCTURE PROJECTS

1. Corruption causes the abandonment of constructing roads, water and sport infrastructure in our municipality

Strongly agree	Agree	Not sure	Strongly disagree	Disagree
1	2	3	4	5

2. Price escalation by suppliers causes the abandonment of constructing roads, water and sport infrastructure in our municipality

Strongly agree	Agree	Not sure	Strongly disagree	Disagree
1	2	3	4	5

3. Ineffective governance mechanisms for infrastructure projects causes the abandonment of constructing roads, water and sport infrastructure in our municipality

Strongly agree	Agree	Not sure	Strongly disagree	Disagree
1	2	3	4	5

4. Inappropriate costing causes the abandonment of constructing roads, water and sport infrastructure in our municipality

Strongly agree	Agree	Not sure	Strongly disagree	Disagree
1	2	3	4	5

5. Lack of project management skills causes the abandonment of constructing roads, water and sport infrastructure in our municipality

Strongly agree	Agree	Not sure	Strongly disagree	Disagree
1	2	3	4	5

6. Poor financial management contributes to the abandonment of constructing roads, water and sport infrastructure in our municipality

Strongly agree	Agree	Not sure	Strongly disagree	Disagree
1	2	3	4	5

7. Incompetent, unskilled contractors and project stakeholders cause the abandonment of constructing roads, water and sport infrastructure in our municipality

Strongly agree	Agree	Not sure	Strongly disagree	Disagree
1	2	3	4	5

8. Non-compliance with contract agreements between the municipality and contractors causes the abandonment of constructing roads, water and sport infrastructure

Strongly agree	Agree	Not sure	Strongly disagree	Disagree
1	2	3	4	5

9. Lack of consequence management for incompetent and unskilled contractors causes the abandonment of constructing roads, water and sport infrastructure

Strongly agree	Agree	Not sure	Strongly disagree	Disagree
1	2	3	4	5

10. Poor budgeting causes the abandonment of constructing roads, water and sport infrastructure

Strongly agree	Agree	Not sure	Strongly disagree	Disagree
1	2	3	4	5

11. Political interference causes the abandonment of constructing roads, water and sport infrastructure

Strongly agree	Agree	Not sure	Strongly disagree	Disagree
1	2	3	4	5

12. Conflicting priorities of the municipality and contractors contribute to the abandonment of constructing roads, water and sport infrastructure

Strongly agree	Agree	Not sure	Strongly disagree	Disagree
1	2	3	4	5

13. Environmental factors contribute to the abandonment of constructing roads, water and sport infrastructure projects

Strongly agree	Agree	Not sure	Strongly disagree	Disagree
1	2	3	4	5

14. Inaccurate projections of goals and deliverables contribute to the abandonment of constructing roads, water and sport infrastructure

Strongly agree	Agree	Not sure	Strongly disagree	Disagree
1	2	3	4	5

THEME 3: THE IMPACT OF ROADS, WATER AND SPORT INFRASTRUCTURE ON MUNICIPAL FINANCIAL VIABILITY

1. The construction of roads, water and sport infrastructure generate revenue for the municipality

Strongly agree	Agree	Not sure	Strongly disagree	Disagree
1	2	3	4	5

2. The municipality constructs these projects with the intention to generate revenue

Strongly agree	Agree	Not sure	Strongly disagree	Disagree
1	2	3	4	5

3. The municipality can sustain the provision of services through the revenue generated from the construction of roads, water and sport infrastructure?

Strongly agree	Agree	Not sure	Strongly disagree	Disagree
1	2	3	4	5

THEME 4: Challenges hindering the successful completion of roads, water and sport infrastructure projects

1. The municipality encounter challenges during the construction of these projects?

Strongly agree	Agree	Not sure	Strongly disagree	Disagree
1	2	3	4	5

2. The municipality is able to deal with such challenges?

Strongly agree	Agree	Not sure	Strongly disagree	Disagree
1	2	3	4	5

THEME 5: SOCIO-ECONOMIC OPPORTUNITIES FOR ROADS, WATER AND SPORT INFRASTRUCTURE PROJECTS AND SERVICES

1. There are socio-economic opportunities that communities can benefit from the construction of roads, water and sport infrastructure?

Strongly agree	Agree	Not sure	Strongly disagree	Disagree
1	2	3	4	5

2. There are benefits community members can get during the construction of these projects

Strongly agree	Agree	Not sure	Strongly disagree	Disagree
1	2	3	4	5

3. There is a relationship between the construction of roads, water and sport infrastructure and local economic development in our municipality

Strongly agree	Agree	Not sure	Strongly disagree	Disagree
1	2	3	4	5

SECTION B: INTERVIEW QUESTIONS FOR POLITICAL OFFICE BEARERS

THEME 1: THE STATE OF CONSTRUCTING ROADS, WATER AND SPORT INFRASTRUCTURE PROJECTS

1. Are you satisfied with the state of constructing roads, water and sport infrastructure in your municipality? Justify

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2. Is there value for money on the construction of roads, water and sport infrastructure? Justify

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3. Are there roads, water and sport infrastructure projects which were poorly/inadequately constructed? Justify

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4. Do you think political interference has negative impact during construction of roads, water and sport infrastructure? Justify

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5. Are community members satisfied with the state of constructing roads, water and sport infrastructure in our municipality? Justify

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6. Do you think political office bearers are responsible for ensuring that the state of roads, water and sport infrastructure meet client expectations? Justify

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7. Why do you think it is important to appoint contractors with a good track record of constructing roads, water and sport infrastructure?

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**THEME 2: THE CAUSES OF ABANDONING THE CONSTRUCTION OF
ROADS, WATER AND SPORT INFRASTRUCTURE PROJECTS**

8. Does corruption in your municipality cause the abandonment of constructing roads, water and sport infrastructure in your municipality? Justify

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9. Does price escalation by suppliers cause the abandonment of constructing roads, water and sport infrastructure in your municipality? Justify

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10. Does ineffective governance mechanisms for infrastructure projects cause the abandonment of constructing roads, water and sport infrastructure in your municipality? Justify

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11. Do you think inappropriate costing cause the abandonment of constructing roads, water and sport infrastructure in our municipality? Justify

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12. Does lack of project management skills cause the abandonment of constructing roads, water and sport infrastructure in our municipality? Justify

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13. Do you think poor financial management contributes to the abandonment of constructing roads, water and sport infrastructure in your municipality? Justify

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14. Do you think non-compliance with contract agreements between the municipality and contractors cause the abandonment of constructing roads, water and sport infrastructure? Justify

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15. Do you think lack of consequence management for incompetent and unskilled contractors cause the abandonment of constructing roads, water and sport infrastructure? Justify

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16. Do you think poor budgeting causes the abandonment of constructing roads, water and sport infrastructure? Justify

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17. Do you think political interference causes the abandonment of constructing roads, water and sport infrastructure? Justify

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THEME 3: THE IMPACT OF ROADS, WATER AND SPORT INFRASTRUCTURE ON MUNICIPAL FINANCIAL VIABILITY

19.Do you think the construction of roads, water and sport infrastructure could generate revenue for the municipality ?

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18.Does your municipality construct these projects with the intention to generate revenue?

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19. Do you think the municipality can sustain the provision of services with the revenue generated from roads, water and sport infrastructure?

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THEME 4: Challenges hindering the successful completion of roads, water and sport infrastructure projects

21. What kind of challenges does your municipality encounter during the construction of roads, water and sport infrastructure?

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22. How does the municipality deal with such challenges?

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THEME 5: SOCIO-ECONOMIC OPPORTUNITIES FOR ROADS, WATER AND SPORT INFRASTRUCTURE PROJECTS AND SERVICES

23. Do you think there are socio-economic opportunities that communities can benefit from the construction of roads, water and sport infrastructure?

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