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The Influence of Infrastructure Financing on Rural Municipalities in Limpopo Province, South Africa: Issue for Consideration

Mphoreng Magdeline Mmako; Polaki Plaatjie Maribe

Department of People Management and Development, Tshwane University of Technology, South Africa

E-mail: MmakoMM@tut.ac.za; MaribePP@tut.ac.za

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Abstract

Infrastructure financing in an important source of funding for rural municipalities. The introduction of private financing in the South African region is a significant paradigm from which the rural municipalities pursue infrastructure investments. However, rural municipalities find it increasingly complicated to secure infrastructure funding from the private sector. Infrastructure financing constraints, including those exacerbated by economic, educational, social and political factors, are some of the many accelerating challenges facing rural municipalities in the Limpopo Province, South Africa. This analysis aims to identify and investigate the root cause of the lack of infrastructure financing and the challenges related to infrastructure financing at rural municipalities in South Africa. The challenge is to design ways to manage these constraints with infrastructure development effectively. Rural municipalities in South Africa face a significant infrastructure finance and investment gap. The study adopted a conceptual approach to analyse the effects of infrastructure financing on rural municipalities in the Limpopo Province. A literature study revealed that some of the challenges were linked to infrastructure development and financing mechanisms. Specific constraints include issues of transparency and autonomy and key provincial transitions. This study concludes with the mechanisms that can be applied to raise external funding for infrastructure development.

Keywords: *Challenges; Financing; Infrastructure; Local Government; Rural Municipalities*

1. Introduction

Infrastructure is the method that enables a country, occupancy or an inhabitancy to operate flawlessly. It incorporates operational techniques and facilities to manage shifting of individuals, information, goods and services, health, water, sewerage, and waste matters (Gesellschaft 2021). It also contributes in fiscal policy in South Africa. For example, the National Development Plan (adopted in 2011) sets forts an obscure aim to attain an infrastructure financing of 30% of GDP by 2030 (National Treasury 2020). Neally all the government's industrial strategies highligt infrastructure investment as an essential job growth enricher. McGaffin, Viruly and Boyle (2021) posit that infrastructure is a prinicipal component in stimulating economic recovery and alleviating in poverty. In addition, equitable shares enable municipalities to provide municipal services to households with limited resources so they can enjoy affordable basic services and enhance the governance capacity to perform core municipal functions adequately (National Treasury, Republic of South Africa 2018). South Africa has an internationally respected fiscal framework for local governance (National Treasury, Republic of South Africa 2018). Notwithstanding all that has been accomplished, and though this requires response, there is not doubt South Africa is acquaintance with dreadful infrastructure scantiness or deficiency. A focus on infrastructure is echoed in infrastructure expense in Africa, that exhibits notable advancement (ICA 2019). Although investments in infrastructure promote economic growth, many municipalities in the country continue to face funding difficulties due to the country's growing need for infrastructure development (Dithebe, Aigbavboa & Thwala 2019; Gorelick & Walmsley 2020). This is specifically appropriate in rural areas with socio-economic conditions of overcrowding, yawning poverty levels, in along with scanty access to basic public services such as water and sanitation (National Treasury 2020). Declined levels of infrastructure amount is perceived as the compelling root of inadequacy, as their continued expansion restrict municipalities to expand basic service delivery, and repeadtedly, rural communities (Bureau for Economic Research 2021). Limpopo province is no exception; the restrictions on infrastructure spending impede the attainment of economic growth (Makhathini 2020); economic growth is essential as well for those living in urban poverty in the province. Access is constrained due to limited access to basic infrastructure and high extent of population density in some parts of the country. As a result, it is often not feasible to implement the necessary changes to everyday life to ensure that modern operations, such as industrialisation and urbanisation, can be edged to design substantial and constant use for rural, regions, and global networks.

The contemporary narratives on the Infrastructure Fund neglects the main traditonal frustrations in 'mega-projects' that became, communially and ecologically damaging. Topical monetary integrated programmes erose government's capacity to finance infrastructure. Rather, they will unfold economy to the financial perils connected with major private sector assistance (Phalatse 2021). McKinsey (2020) Defferal infrastructure funding in Africa is amid top difficulties to legislaters to corroborate economic exchange of products. According to the World Bank (2018), budgetary policy, revenue policy and the judicious statutes of banking sector contrive to infrastructure investment (Auditor-General of South Africa 2021). These disclosures are disturbing given that rural municipalities are foremost positioned to provide expeditious public service essentials; thus, its financial affordability is an appropriate.

Though municipalities play a critical role in investing in infrastructure (Delmon 2021), they follow a "pecking order" similar to corporate firms to raise infrastructure funding (Qin & Luo 2022). The Pecking Order Theory implies that when raising capital for projects, a hierarchy of securing internal resources, debt financing, and equity should be followed (Frank, Goyal & Shen 2020). Additionally, municipalities recognise the municipal infrastructure investment framework (MIIF) as a guide for providing details on the methods for assessing the infrastructure investment needs, including ways to finance these needs (Development Bank of Southern Africa 2021). However, they are still faced with the challenge of accelerating economic growth and reducing poverty. This notion is supported by Gorelick and Walmsley (2020), who point out that municipalities borrow for infrastructure investments, smaller or rural municipalities need help securing financing from the private sector for new infrastructure, and this inadequate state of financial resources causes the private sector to participate in infrastructure investment (Delmon 2022).

Empirical studies on infrastructure expenditures is approximately narrow, causing consolidated current literature demanding. Subsequently, this research subscribes to the analysis by broadening scrutiny of the influence of infrastructure financing on rural municipalities in South Africa. Besides, the robustness of this manuscript is a peculiar focus on South Africa, which tends to possess excessive investment hazard and a paucity of avenue to the nature of infrastructure in rural municipal areas.

Against this background, this paper endevours to address gaps research on infrastructure administration in rural communities by concentrating on municipal context on financing infrastructure controversies, accountabilities, and development actions. The essence is on difficulties through the duties of municipal functions and infrastructure issues of being a rural municipality, contrastingly, and the approaches the municipalities are planning for advancement. Notably, the plan is to unfold the rigorious challenges that might be discovered among those ideas, and propose solutions.

2. Methodology

This inquiry followed the conceptual approach and considered desk research. This approach is an amalgamation of research work pertaining to past research and associated publications. This approach is entrenched on existing literature and studies from which inferences were drawn and explains the phenomenon that occurs.

3. Challenges of Infrastructure Financing in Rural Municipalities in Limpopo, South Africa

Referring to infrastructure financing, there is diverse challenges that are obliged to be scrutinised and issues to be addressed to optimise financing.

3.1 Poor Internal Controls of Revenue Management

The Auditor General of South Africa (AGSA) records disclosed a downward coil of local government financial management. Audit reports continued to be imperfect or defective and have retrogressed for the previous four years, internal controls are unrestored, and the reactions to solidify internal controls and fill up demanding positions has been impassive (AGSA 2021). Merten (2021) revealed that only 27 of South Africa's 257 municipalities had faultless statement of monetary health, regarding local government 2019–2020 audit. Section 65(2)(a) of the Municipal Finance Management Act, 2003 (Act 56 of 2003) (MFMA) requested municipalities to initatie constructive consumption control techniques designed to expound approval funding procedures. Additionally, Section 65(2)(b) involves establishing modes that attend experienced costs and account for creditors and payments belonging to municipalities. Internal controls are aggregrates of policies obligatory to managers for verifying financial transactions implemented if they are organised in a seqential order, fairlly, economically, lawfully, and appropriately to economise, and create a culture of sustainability for resources (Abdulai, Salakpi & Nassè 2021)

3.2 Rural and Cultural-Based Service Maintenance Processes

In rural domain, there is the probability of not maintaining and preserving state sector and commercial sector services, for example, retail stores, pharmacies, healthcare, schools and other public services, and restaurants (Syssner 2020); operationality and maintenance are constantly the enormous challenge in rural municipalities. This is the consequence of having fewer staff/professionals accessible to explicate different matters associated with the maintenance or preservation of rural services. Statistics or evidence impediments to a great extent sophisticate the concerns. Expressly, data on general or all-inclusive local government lending or loaning finances is normally convenient, funds owing explicitly raised for infrastructure development are frequently mixed in totality and ineligible to be splited precisely.

3.3 Lack of a Consistent Professional Financial Management Framework

Hardly many municipalities are capable of participating in the capital market long standing (6 years or more) for rasing the funds. Enwereji and Uwizeyimana (2020), the level of municipal consumer debt in South African municipalities is quite alarming. National Treasury Report (2018) states that the hassle for various municipalities is having inadequate or insufficient sources of community generated revenue and, in essence depend on grant moneys from the national government. Municipalities can raise funds, but for microscopic local or rural municipalities with a low tax base, it is an extensive struggle to get larger amounts of money for projects underway as well as future projects. The composition of local government funding structure grants that, due to their lower revenue-raising capacity, numerous rural municipalities will hinge on transfers for the majority of their subsidies (National Treasury 2023).

3.4 Lack of Project Preparation Capacity, Implementation Capability and the Absence of Risk Mitigation Mechanisms

Implementing a risk management program in rural communities is hampered by the absence of established risk management tools. Mubangizi (2019) proclaims that seeing that rural municipalities are sited in economically gloomed regions and have awkwardness hiring and retaining competent managers and professionals, these municipalities are severly questioned to conform to obligations. The study of Musongole (2023) refers that there is a necessity for an awareness of potential high-risk areas where there is a susceptibility to or history of waste, fraud, or errors. Municipal accounting officers and senior municipal management must execute cautious strategies to determine risks and confirm that they are mitigated by implementing preventative controls. Audit action plans must be developed, per the auditor-general's recommendations (Auditor-General South Africa 2021).

3.5 Ethics and Accountability

Officials in the municipality at times malfunction and were unable to submit as planned the appropriate and accurate proof of illegitmate or erratic expenditure, fraudulence and bribery. Geldenhuys (2021) and Mahlala and Netswera (2020) established that corruption, nepotism and fraud in municipalities have become havens of unfair or irregular practices, including irregular awarding of tenders to companies or entities whose directors are in the employed of the municipalities or to incompetent service providers who lack the skills and capacity to deliver. A lagging response by municipal governance to build up or encourage internal controls, a cultivation of absence of repurcussions and functioning beyond entirely assimilated information technology systems aggravate the existing conditions of municipal financial performance (Auditor-General South Africa 2021). Because of failure to implement budget-related, ethics and accountability and other policies, these financial management issues continue to hinder municipalities' positive progress (Mishi, Mbaleki & Mushonga 2022).

3.6 Challenge of Management of Existing Infrastructure

Petchrompo and Parlikad (2019) point out that the issues of incapacity, poor infrastructure allocation and operations bestow to inadequate prioritisation of municipal assets. Municipalities urgently need re-investment and upgrading (Pike, ÓBrien, Strickland, Thrower &Tomaney 2019). South Africa endures agony of inadequacy of infrastructure in rural areas where a considerable size of population inhabit (Maharjan, Agüero, Lippitt & Moreu (2019), and it is worth mentioning that approximately 33% of the South African population lives in rural settlements as of 2019 (World Bank Group 2019). Because the infrastructure development in South African rural areas are still predominantly funded by national and provincial governments, the deduction is that government statutes and intervention are demanded.

3.7 Influence of Leaders that Impact Negatively on Institutional Ability and Expertise

Several officials assigned to leading positions do not match all the prerequisites and obligatory skills and proficiency to perform their duties (Abdulai *et al.*, 2021). The AGSA (2021), substantiates that municipalities frequently depend on specialists or guidance to produce fiscal reports and records and scrutinise elementary documents for significant budgetary miscalculations. Thusi and Selepe (2023) mentioned that the consolidation of plausible financial records and annual reports was obstructed by significant jobs and staff that need required skills and potentialities or aptitudes. Without personnel with management adequacy or knowledge, ability to recruit individuals with multiskills, municipalities will stumble to align, organise, strategise, and maneuver budgeting processess and formula, which will hinder them from accomplishing their duties and delivering their directives (Magagula, Mukonza, Manyaka & Moeti 2022). Moreover, the regional job market, from which municipalities human resources prevails, is restricted more advantageously in rural than in urban sphere, hampering the municipalities to employ individuals with the indispensable or needed skills (Local Government Sector Education and Training Authority (LGSETA), Sector Skills Plan 2022/2023).

3.8 Lack of Digital Infrastructure and Energy

Marivate, Aghoghovwia, Ismail, Mahomed-Asmail and Steenhuisen (2021) claim that South Africa makes no attempt to compete the altitudes to set up an conditions for the advancement of the web-based economy. There is insubstantial authentication on how aggregrate procedure is transcribed into applied schemes and strategies that devote to liberate involvment of rural residents in the digital economy. Some other difficulty is that various modes progressively confide or commit on AI technologies, particularly distinct structures of automation instructions (Sung, Hong, Cho & Choi 2020; Suresh, Renukappa, Abdul-Aziz, Paloo & Jallow 2020). Habiyaremye (2020) accentuates that the significance of generating restructuring capacities and promoting local modifications to confront difficulties particular to local contexts, specifically in rural areas fail due to insufficiency of digital infrastructure and energy in rural areas. Magoro, Abrahams, Burke, Magoro, Masonta, Milne and Shilenge (2023) rural residents encounter access constraints to the enjoyment of the tech ecosystem. This prohibition to the innovation hubs impedes rural communities' capabilities, specifically youth, to engage in digital economy. Insufficiency of digital competency restrains connectivity satisfaction to technological innovations like social media and online transactions. Consequently, narrowing rural residents to digital benefits, as perceived by the (Internet Governance Forum 2022). Most of the rural communities are still relying on traditional methods of newspapers.

4. *Mechanisms That Possibly Address Infrastructure Financing in South Africa*

Infrastructure is a permanent, enduring contribution, recurrently continuing innumerable years with minimal options for later exploit or recourse, so arrangments invented currently will comprise supreme inferences for present and succeeding lifetime. There is an apparent call for data gathering, retention, and sharing systems that are booming, comprehensable, and unambigious.

4.1 Creating an Internal Control System

Taufik (2019) recommends that an internal control system enables early detection of financial and operational misconduct and drives an organisation towards good governance and accountability. An internal control system consisting of both traditional methods and ana consists of both traditional methods and effective (AI) artificial intelligence (AI) methodologies will benefit rural municipalities. AI algorithms perform better than traditional statistical techniques when modelling credit risk. Machine learning formulas can scrutinise fiscal data to discern perculiarities and centainly counterfeit schemes; platforms such as FraudLens and Oracle Financial Crime and Compliance Management illustrates how Artificial Intelligence (AI) aids local governments in precluding financial misplacements and reputational anguish by distinguishing and recompensing speedily to fraud activity; examples of AI-powered platforms, such as Xero and IBM Watson, that auto-mate financial management tasks, improve risk identification, and guarantee tax compliance (Chiancone 2023). Governing guidelines will help guide the usage of GenAI functionalities and operations by national government, however, provisional actions are crucial. GenAI use needs adjacent human supervision equivalent with the threats that could transpire from using technology in organisation' functioning (Shabsigh & Boukherouaa 2023). AI will need human capital with AI and financial infrastructure dedicated expertise, and the municipalities will be compelled to supervise their personnel's new art or technical knowledge to confirm that it is trained with the knowledge and abilities essential to outline or configure, use and be in charge of AI systems. The municipalities are obliged to evolve and authorise sectoral-specific legislation, statutes, and policies to handle the sophistications of AI in financial infrastructure, distinctly concerning practical principles and explicitness, voluntary action, safety and security, obdience and liability.

4.2 Education/Skills

Local Government Sector Education and Training Authority (LGSETA) analysis recommends that a more compelling investment in structuring adquacy of municipal officials is imperative or vital and that a holistic system for local government skills development be generated, which accentuates constant training, ethical values, and skills improvement. It also highligts the necessity for emloyees to obtain the technical skills to complete the duties allocated to them and culture of dedication and involvement to the public service (Dullar Omar Institute 2020). In developing countries like South Africa, the Skills Development Act 97 of 1998 aims to increase the skill set of the South African labour force and enhance the quality of life for South African employees. It centers outrightly on enlarging skill set of employees and augmenting their well-being and living standards. The Act offers opportunities to employees to obtain new skills and use the workplace as a platform of learning. The Act envisages to promote the development of new skills and intensifying service delivery effectiveness by investing in education (South Africa 1998).

Regarding education and upskilling, it is impossible for a single governmental body to effectively cater to all its citizens' needs (Masiya, Davids & Mangai 2019). Local government, including rural municipalities, and rural municipalities cannot operate optimally without provincial and national governments. Chron (2020), training aims to offer employees an opportunity to grow their skill sets and mastery base. It presents opportunities for municipality staff, that will help them to acquire suitable skills to minimise essential services outsourcing because of personnel incompetence. According to the LGSETA's Work Skills Plan (WSP) (2021), the most significant segment of employers in the sector is local municipalities (LGSETA 2021).

4.3 Credit Rating and Government Interventions

Mathiba (2020), the National Treasury's Practice Notes (No. 8 of 2007–8) mandate an accounting officer to notify all purchases of goods and services above R1m to the relevant AGSA provincial treasury within 10 working days. National Treasury and Auditor General indicated that there is an universal lack of investment in e-government infrastructure, including at provincial and municipal levels where there is greater autonomy (Global Programme for Measuring Corruption'. It is recommended by Thobakgale and Mokgopo (2018) that laws should be centralised to combat corruption, as present legislation is too wide to be enforced, allowing for corruption to flourish. The Audit Action Plans created should be explicitly implemented to eliminate an inherent risk that the financial and performance reports are submitted without mistakes and oversights (Chartered Institute of Internal Auditors 2020). Reasonable proper proof is a requisite to qualify professional auditors or consultants to declare on authenticity of financial reports (Mosweu & Ngoepe 2021). External auditors will not locate financial ommissions if documentary evidence are inaccessible. Effective debt and credit rating strategies should be in place.

4.4 Optimising and Re-Engineering Operational Processes

The National Local Government Anti-Corruption Strategy aims to expose corrupt activities and unethical behaviour, actions and conduct, and ensure that the local government is monitored properly (Department of Cooperative Governance Strategic Plan 2020-2025:54). Optimising and re-engineering operational processes will result in operational efficiency, improved sustainability, and rapid performance improvement (EY 2023; PWC 2023). The small inconsistencies and holes in the processes must be addressed when re-engineering operational processes. Process optimisation refers to ''all focused changes of essential procedures that aim to increase productivity and reinforce the connection of particular business processes with overarching company objectives and goals''(Cflowapps 2023). It requires a deep understanding of the organization's goals, receptivity to change, and a focus on continuous improvement. Local government systems operators must be accountable and effective. This is because the local government system is in close proximity to communities (Schoeman & Chakwizira 2023). A successful democracy like South Africa with its trials of high rise of population growth, unemployment, and practices of fraud and crime in financial infrastructure demands mechanisms. On that account, re-engineering operational processes can refine financial infrastructure constraints, and eventually it be an incentive for external investment in South Africa and other developing countries.

4.5 Strengthening Municipal Financial Accountability

The intractable financial accountability failures of municipalities in Limpopo are evidenced by lack of accountability, which is the root cause of the current state of undesirable audit outcomes. The Auditor-General (2021) has persistently cautioned that the responses to intervention trying to solve municipal financial accountability should not be about short-term solutions but efforts to restore accountability. Thus, the persistent deleterious municipal fiscal governance and failures needs the development of a norm of financial management accountability that nurture governance of financial capital. Therefore, arranging and preserving a culture of discipline, ethics, control and accountability should be one's duty and be pivotal to the municipal financial management (Selepe 2022). It is key to make safe that there are indesctructable conclusions and that coherent corrective measures are taken against municipalities that neglect obligations on financially accountability. Krah and Mertens (2023) recommended that if municipalities are to strengthem financial accountability, each municipality needs to not any time take financial reporting as accustomed work but preferably be cautious with outstanding, comprehensible and access to financial information. This should entail elements relating to socio-economic challenges for example, broader unemployment patterns, crime, substance abuse, human trafficing, which require municipal intervention. Continous training should be offered to ward councillors on how to evaluate or review community needs, compile community profiles and communicate municipal issues to wards.

Conclusion

The approach of this study was to adopted a conceptual approach to analyse the effects of infrastructure financing on rural municipalities in the Limpopo Province. Municipalities across South Africa function effectively on the basis of investment and financial resources. Devicing mechanisms to attract external funding for the purpose service enhancement is key. Municipality should be able to provide a financial environment to attract external funders. However, most of them are still experiencing the challenges regarding the inftrastructure and financing mechanisms. These challenges empede expediation of external funder intergration. Literature has revealed that some of the challenges were linked to infrastructure development and financing mechanisms. Specific constraints include issues of transparency and autonomy and key provincial transitions. This study concludes with the mechanisms that can be applied to raise external funding for infrastructure development.

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Competing Interests

The authors declare that this is original work and never been submitted to other journals for publication. This research has not been funded by any government or private institution. The authors have equal contribution in conducting this research. The authors declare no much competing interest.

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