Infrastructure-led Development and Quality Education: Implications for uMzumbe Local Municipality in KwaZulu-Natal

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Abstract

In South Africa, efficient, effective and responsive delivery of basic services has always been one of the yardsticks of good governance and development. Constitutionally, government is mandated to advance and protect the marginalised and disadvantaged. From a rural development perspective this necessitates the commitment of local government to promote rural infrastructure development to ensure inclusive and quality service delivery such as quality education. This paper reports on a study which aimed to explore how the development of rural infrastructure affects the quality of education in rural schools using ULM as a case study. The study was qualitative in nature and data were collected through focus group discussions and semi-structured in-depth interviews. A Non-probability sampling approach using a purposive sampling technique was adopted to identify three Umzumbe Local Municipality (ULM) officials and four Headmasters in the DoE. Study participants also included four focus groups from selected High Schools, with each focus group comprising six Grade 12 learners. The findings of the study suggest that the delivery of quality education within ULM is limited by infrastructural inadequacy, poor institutional capacity and limited revenue that limit the possibility for improvement. This paper concludes by advancing policy directives to counteract the situation.

Keywords: Rural infrastructure, Rural education, Inclusivity, South Africa

Introduction

The efficient, effective and responsive delivery of basic services has always been one of the yardsticks of good governance and development. This is essential for developing nations (Mamabolo 2016:31; Spaull 2013:2). However, Agbor, (2019:167) argues that conditions in the rural areas in terms of development infrastructure remain precarious. For example,

in Africa including South Africa, rural areas are still besieged by rural infrastructure constraints that are interlinked with poor universal access to education.

Rural infrastructure development challenges pose a threat to the development of rural inhabitants and they impact negatively on the delivery of and access to education. Umzumbe Local Municipality (ULM) is no exception. This is despite various policy initiatives including the National Development Plan (NDP), Vision 2030 adopted in 2012, which oulines South Africa's long-term development perspective (RSA 2016:54). The NDP conceives the development challenges faced by rural areas as being linked to the marginalisation of the poor. Moreover, infrastructure development and education are some of the basic pillars identified in the Sustainable Development Goals (SDGs) and Global Competitiveness Index (GCI) used to measure countries' competitiveness (*World Economic Forum*, 2016/2017:35). While available research has been conducted on the challenges facing education, emphasis is frequently on the internal environment and its impact on quality education. Thus, the effect of infrastructure as an external environment of quality education in a rural context is rarely highlighted (Setpati and Sharma 2022:4). This paper reports on a study that reviewed the prevailing institutional arrangements for infrastructure delivery to determine the likely impact of this on the quality of education within the ULM. The study further determined how the delivery of infrastructure affects the quality of education and the study provides recommendations for future policy directions to improve infrastructure and education quality.

Methodology and Study Context

From a qualitative approach, the primary aim of the study was to determine how the delivery of rural infrastructure affects the quality of education in schools within the ULM of Ugu District in KwaZulu-Natal. The target population for this study was drawn from Wards 11, 16, 18, and 19 in the ULM. These wards were selected on the basis of their secluded and isolated location from social and economic amenities. The target population also comprised Ward Councillors, Managers, Headmasters and Grade 12 learners within the ULM. A Non-probability sampling approach using purposive sampling was adopted to select study participants who shared their perceptions of the rural infrastructure and quality of the education within the ULM. A total of three ULM officials, four Headmasters of the Department of Education (DoE) and four focus groups, comprising six Grade 12 learners from each participating school, including Luthuli, Kwafica, Sbongimfundo and Bonguzwane High Schools participated in the study.

The ULM is predominantly rural with an estimated population of 151 676 and it covers a vast rural area of 1 221 sq. km, with approximately 1 per cent being semi-urban. The municipality incorporates 12 traditional council areas and comprises 20 municipal wards and 20 Ward Councillors. There are 140 schools within the ULM. 11 are combined and

there are 96 primary schools and 7 high schools (ULM Spatial Development Framework, 2017:63).

The study had five secondary objectives. Firstly, it determined how the delivery of rural infrastructure affects the quality of education in schools within the ULM. Secondly, it evaluated the extent to which national development policies on rural infrastructure development have been implemented in the ULM to improve the quality of education in schools. Thirdly, it identified the institutional arrangements that the ULM has put in place to advance the rural infrastructure required to improve the quality of education.

Statement of the Problem and the need for the study

Despite several attempts by the democratic government to accelerate infrastructure improvements since 1994, the impact of infrastructure inadequacies has been most visible in the South African rural spaces (RSA, 2016:16). The inadequacies in social and economic infrastructure have had a significantly negative impact on the quality of basic services, particularly in the education sector and particularly in the rural settings. The demands for infrastructure development within South African rural communities are so vast that the investment initiations have not yet matched such demands (Hlalele, 2014:462). *Statistics South Africa* (2015:16) affirms that KZN has the highest percentage of children aged 14-19 residing far away from schools. In addition, most of this province's population have limited access to internet, with only 5.3 per cent of households having such access at home. Therefore, in an attempt to bridge the social and economic infrastructure gaps, the key priority of the democratic government has been to attempt to eliminate the marginalisation of the rural people and to promote equitable education. Nurhayati, (2021:8) argues that equitable education in the sense of equal opportunity to obtain education has long been a problem that has received attention, especially in developing countries. This is inseparable from the growing awareness that education has an important role to play in nation building, along with the development of democratisation of education with the slogan 'Education for All'.

Literature Review and Theoretical Framework

This empirical study was grounded on the Inclusive Rural Development Theory, which draws its strength from the notion that the critical objective of rural development is to advance the quality of life of rural citizens.

According to Fernando (2008:9), the Inclusive Rural Development Theory embraces three different but correlated dimensions:

1. **The economic dimension:** involves providing both capability and opportunities for low-income and poor rural inhabitants;

2. **The social dimension:** supports social development of low-income and poor households, disadvantaged groups, and low-income and poor inhabitants in order to significantly reduce social inequalities for susceptible groups;
3. **The political dimension**: advances opportunities for the low-income people and poor inhabitants of rural areas to evenly participate in political processes.

Each of these dimensions is further elucidated below.

The economic dimension

Fernando (2008:9) remarks that the economic dimension of inclusive rural development represents the capacity and opportunity afforded to the marginalised to participate in and benefit from the growth processes. The economic dimension encompasses infrastructure such as transport, roads, energy, and Information and Communication Technology (ICT). These economic aspects of physical infrastructure are fundamental in affording rural inhabitants better and improved access to essential services that have a significant impact on their sustainable livelihoods. Consequently, the Inclusive Rural Development Theory suggests that with improved physical infrastructure, the benefits of economic growth are evenly distributed among rural inhabitants as they participate in it. Deficiencies in physical infrastructure need to be addressed to create economic opportunities for rural inhabitants and to make economic growth inclusive (Fernando, 2008:9).

Bila (2013:12) observes that the capacity of the rural sector is critical in sustaining and accelerating rural development. The author laments that educational opportunities in rural areas lag behind those of cities and, this results in infrastructural and capacity constraints involving as roads, transport and ICT. Therefore, development efforts should be steered towards investment in the education of rural communities. Similarly, Van Dyk (2015:246) affirms that poor economic infrastructure and capacity constraints in rural schools have a detrimental effect on education outcomes. Restricted levels of resources in rural areas contributes to low standards of education and learner performance while inhibiting educators from developing their skills (Van Dyk 2015:246). Rahman and Akter (2014:21) conclude that rural infrastructure influences rural livelihood, while investment in education influences assets and resources, and therefore, boosts economic efficiency and productivity for rural inhabitants.

The social dimension

The social dimension of inclusive development requires investing in social services such as education to eliminate inequalities in society. Fernando (2008:17) comments that this

dimension of development is imperative for inclusive rural development since it embraces social development while eliminating inequalities in social indicators for rural inhabitants. Sapkota (2018:1) accentuates that infrastructure variables such as energy, transport and roads have significant impacts on human development processes such as education. Thus, the author suggests that there should be future research undertaken on the creation of a framework to eliminate infrastructure inadequacy effectively to reduce inequality and to accelerate inclusive development.

The political dimension

There is an urgent need to strengthen political institutions in order to promote inclusive rural development in the delivery of basic services such as education. The problems confronting rural development should be addressed in a coherent and reinforcing manner (Fernando, 2008:14). Mikulcak, Haider, Abson, Newig, and Fischer (2015:248) argue that rural development models to date have failed to explain why development stagnates in certain regions and focuses on single policy areas. This study revealed that rural development barriers are multiple and that they are impacted by a deliberated institutional context. As such, development barriers cannot be addressed by one-sided interventions but should be resolved through a coherent and multidimensional approach (Mikulcak *et al.*, 2015:248). Naldi, Wilson, Westland, and Wixe (2015:90) add that rural development is not a one-size-fits-all approach and its application should be combined with a place-based approach adjusted to fit the specifics of rural contexts.

Theoretically, rural development is a flexible concept, a multidimensional process that is deep in impact and wide in scope; hence, everyone interprets it in their own way. But the broad accord is that more importance should be given to development activities that are most concerned with the rural areas to enhance the quality of life of the rural poor (Fernando, 2008:10). In accordance with this theory, Gnade (2013:56) maintains that the primary mission of government is to improve the standard of living of its rural poor. The most sustainable and effective means of improving the welfare of society is by providing basic services such infrastructure, which is the core concern of government. To achieve this development imperative, it will require a social commitment, economic capacity and political determination from government. In this context, infrastructure plays a dominant role in making the development process more inclusive, and the lack of infrastructure creates bottle necks for sustainable growth and development while lowering the standard of living.

Shucksmith and Brown (2016:431) highlight how the multifaceted nature of infrastructure contributes to equitable growth, development and social empowerment. The general belief is that the economic and social components of infrastructure equally contribute to equitable growth and development as well as to social empowerment. At the helm of

progressive, inclusive rural development is the availability of well-crafted interventions for rural infrastructure to improve rural development. This political or institutional dimension of rural development involves decision-making through policy making and implementation. Since rural infrastructure is regarded as a public good, it is imperative for government to take the initiative to augment and improve rural infrastructure. Government should therefore establish accountable and transparent decision-making practices where rural communities are fairly represented to participate in the processes. This will ensure that appropriate policies and programmes are effectively implemented for universal coverage and access to infrastructure for rural households (Ghosh 2017:20).

Findings

According to Paxton (2015:226), literature on rural education in South Africa suggests that rural schools are positioned on the periphery. The system they operate in has traditionally placed them on the margin of thought, meaning they were a low priority item on the national agenda and budgets. As a point of departure, this study sought to ascertain the probable effect of infrastructure as an external environment for quality education in rural schools within the ULM. This study sought to ascertain the root cause of faltering service delivery in line with the delivery of rural infrastructure in improving the quality of education in such localities.

The findings garnered from the thematic analysis showed that there is a gap in the scale at which rural infrastructure is being delivered within the ULM. Based on the narratives of the key informants interviewed, and the data analysis conducted, the following main themes emerged using a thematic analysis technique:

- Infrastructure supply;
- Rural infrastructure development initiatives; and
- Institutional arrangements.

Each of these main themes and subthemes supported by direct responses from the study participants are presented in the ensuing section.

Poor and inadequate infrastructure supply

The Constitution of RSA (1996) provides that all South African learners should have access to the same quality of learning and teaching as well as similar educational opportunities. However, the socio-economic realities including lack of infrastructure facing rural areas places the learners in these communities at a disadvantage and this has a direct influence on the quality of education acquired by rural learners.

To confirm this as a reality, the study found that the inadequacies in social and economic infrastructure have a significant impact on the quality of basic services, particularly on

health, education and recreation. From a policy perspective, the study found that 25 years after 1994 there is still much to be accomplished in pursuit of rural infrastructure development including energy, road networks, library facilities, public transport and telecommunication systems needed to promote the quality of education. The national development policies such as the Infrastructure Master Plan are outdated, creating a bottleneck and policy gap in responding to the increasing infrastructure requirements. This results in the inadequacies inherent in social and economic infrastructure being most visible in rural spaces. One participant admitted that:

> *"There is a gap in policy development to address existing rural infrastructure challenges."*

Gnade (2013:6) established that when designing and prioritising basic infrastructure to address inequality, policy makers should consider the unique needs of rural as opposed to urban areas. In this context, such awareness could inform policy decisions on how and where to direct potential infrastructure investment and warrant the direction of basic infrastructure delivery to the most deprived segments of the community.

The ULM is predominantly rural and is characterised by scattered settlement patterns that result in the costly connections of energy, roads and public transport. One study participant reiterated that:

> *"ULM is characterised by inland areas with sparsely populated households, which makes infrastructure connections costly."*

Lack of other social amnesties such as public libraries is also evident within the ULM (ULM IDP, 2018/2019-2019/2020: 47).

Poor energy supply

In general terms, infrastructure signifies access to social and economic resources such as energy, together with other public facilities for education, health and recreation in order to promote the general wellbeing of the populace. Increased access to infrastructure directly benefits individuals and households by increasing the quality of life including education (Freeman, Fisher, Baum and Friel, 2019:1414). The study found that because of the nature of the difficult geography and dispersed settlement of rural communities, energy connections are costly, resulting in illegal energy connections. One participant confirmed that:

> *"There is an urgent need for energy infills as a result of the vast population increase in the area."*

The study by Anyanwu, and Erhijakpor, (2009:2) corroborate that the level of access to electricity in Africa is only about 30 percent, while for other Less Developed Countries (LDCs) it accounts for over 75 percent. Again, the study by Sapkota (2018:182) in Nepal found a more varied level of well-being in less remote communities.

Poor road infrastructure

The World Bank Transport Business Strategy (2008-2012) observes that about 1.2 billion people of the world mostly of the poor do not have access to an all-weather road. Again, in some regions less than 15 percent of roads are paved. An effective rural transport system is a sine qua non for rural development and poverty reduction. From an education perspective, the solution for meeting basic education needs begins with opening road access (Nurhayati, 2021:7). Poor access roads limit accessibility to schools for learners within the ULM. One learner participant commented that:

> *"The bad condition of access roads in this area limits accessibility to schools"*

This restriction results in the rural people being marginalised and socially excluded in terms of social mobility, which in turn limits the opportunities for socio-economic development and to access other social facilities such as schools (Iversen, Krishna, and Sen, 2019:241).

A lack of libraries

According to recently issued national policy in China, a school library is defined as the literature and information centre of a school (both primary and secondary). Furthermore, it is considered a significant education space for teaching, education, and research. It is vital to the development of school culture and curriculum resources; and is a valuable platform for promoting the all-around development of a learner and the professionalisation of educators (Zhang, Lin, Madden & Zhang, 2019: 233).

From the context of this definition the study found that the ULM is characterised by the lack of proper infrastructure for potential community facilities such as School libraries. One participant noted that:

> *"There is no library available in ULM for us as learners to conduct research for our school work."*

Effective schools should be equipped with adequate infrastructures such as libraries, which can allow for and facilitate the effective teaching and learning process and the cognitive development of the youths (Assoumpta, & Andala, 2020:61).

Inadequate transport services

Carvalho, Yamashita, & de Aragão, (2016:6) define rural school transportation as a free service offered for students living in low-density areas. It is also implied that a great number of families have low income. Thus, providing free transport is of great financial and social help for the target population. Viewed from this definition this study found that ULM has a fragmented transport system that makes it difficult for the learners to commute from one area to another, as a result of dispersed households. One participant asserted that:

> *"Most learners in the area drop out of school as a result of long distances they have to walk to school."*

This finding affirms that rural children in developing countries face many problems in getting to and staying in school. For example, in analysing the availability and conditions of public school transportation for students with special educational needs (SEN) in São Paulo, Caiado, Gonçalves (2014) in Mounce, Wright, Emele, Zeng, and Nelson, 2018:178). concluded that precarious school transport conditions interfere with the students' access, attendance and permanence, especially among rural residents. Among other aspects and conclusions, this highlights that developing the school transportation system is key to at least lessening the difficulties faced by such a population (Carvalho, et al., 2016:8).

Poor telecommunication services

Umzumbe Local Municipality is characterised by low lying, inland areas with scattered settlement patterns (ULM IDP, 2018/2019-2019/2020:65). Thus, adequate provision of telecommunication infrastructure in this municipality remains a challenge. Even though cell phone companies provide coverage in some areas of ULM, Internet access is not available in most areas. One participant reiterated that:

> *"Lack of Internet connectivity and network reception makes it difficult for us as learners to conduct research for our school projects.*

Sarencheh, and Bigham, (2011:842) stressed that Internet network contributes significantly to human wellbeing and sustainable livelihood (HWSL). Therefore, some features such as access to Internet from everywhere, connection bandwidth and minimum necessary devices to connect and use the network are important in creating greater satisfaction in the people.

From the finding above, infrastructure development in rural areas of ULM, which is a prerequisite for the delivery of quality education, remains a cause for concern. Du Plessis (2014:1109), confirms that rural areas are characterised by remoteness and underdevelopment; therefore, schools in these areas remain disadvantaged and marginalised. It is in this context that this study accentuates that rural infrastructure

should form a foundation for social and integrated economic activities that are recognised as being interrelated and mutually supportive (Srinivasu & Srinivasa-Rao, 2013:3) in order to advance equity education in rural areas.

Rural infrastructure development initiatives

Globally, rural infrastructure development programmes are undertaken by governments to improve physical infrastructure. In Malaysia, for instance, the matter of infrastructure development, specifically those projects that pertain to the provision and improvement of basic amenities in rural areas have long been considered by the government. *The 11th Malaysia Plan* (RMK-11), among other government initiatives, was adopted and has allocated a huge portion of the budget to improve and upgrade current basic facilities in the rural areas to ensure that the wellbeing of the rural communities is addressed (Manggat, Zain, and Jamaluddin, 2018:639). Generally, governments' programmes on rural infrastructure development provide direction to achieve spatial balance in the social and economic development of rural areas including quality education. Likewise, the study found that the ULM in its attempt to improve the quality of life for rural populace has adopted several infrastructure development initiatives, which are presented below.

Maintenance of existing infrastructure

Poor maintenance of infrastructure at community level is a global problem. In the Philippines, for example, centralised repair models assume that the majority of infrastructure knowledge exists outside the community. But the community does have technical knowledge, especially regarding consumer electronic equipment (Jang, Barela, Johnson, Martinez, Festin, Lynn, Dionisio & Heimerl, 2018:3).

Also, in the Philippines, the social layers of infrastructure become even more important for system functioning as infrastructural failure due to sabotage or theft is also prevalent (Jang, et al., 2018:3). Proper maintenance of infrastructure increases a community's returns in quality of basic services such as education, while it reduces the inequality and social exclusion of rural communities (Shaghlil & Khalafallah, 2018:1).

This study found that the infrastructure challenges facing the ULM include poor maintenance, destruction of or the dilapidating state of infrastructure. For example, it was confirmed in the study that:

> *"Resulting from poverty the existing infrastructure including water standpipes is vandalised and stolen with the aim of stealing copper material.*

In addition, the maintenance of infrastructure in the ULM is generally poor because of high service costs and financial constraints facing this municipality (ULM IDP, 2018/2019–2019/2020:67). One participant noted that:

"Budget allocation is not sufficient while the IDP depends on the availability of budget for implementation."

The inadequacy of infrastructure facilities in South African rural communities can be attributed to poor funding models while the developmental outcomes of various infrastructures depend on their management, quality and maintenance in order to keep up with service delivery standards (Ghosh, 2017:286).

Intergovernmental relations

The Intergovernmental Relations Framework Act 13 of 2005 was passed in South Africa to ensure that the principles of cooperative governance espoused in the *South African Constitution* are implemented (RSA 2005). The aim was to devise mechanisms to coordinate the work of all spheres of government to provide effective services and to promote development. In line with the *Constitution,* cooperative governance means that the local, provincial and national spheres of government should collaborate and support each other by coordinating their efforts in providing services to the citizens. At least half of the municipal infrastructure is funded by grants from the national fiscal authority, and the rural, local and district municipalities solely depend on these grants to finance their infrastructure needs (RSA 2005).

Regarding rural infrastructure development, the study found that ULM works with other spheres of government to address its infrastructure backlogs. This include obtaining funding from various sectors of government to fund infrastructure requirements. This was confirmed by participants that:

"Our municipality is working in partnership with the Department of Economic Development to advance the development of small businesses in order to eradicate poverty"

"Our municipality is working jointly with Eskom to increase the number of households with electricity.

According to the ULM IDP (2018/2019–2019/2020:106) ULM collaborates well with structures such as Intergovernmental Relations and *Operation Sukuma Sakhe* with the aim of providing better solutions to fast track the delivery of basic services. Furthermore, the provision of infrastructure is shared among the local, provincial and national spheres of government (Nzimakwe & Ntshakala, 2015:833). In developing countries such as South Africa, intergovernmental relations require all levels of government to adopt service standards and central regulations that require coordinated planning and co-financing since they are subject to standards of access, quality and quantity as established by higher levels of government (Freinkman, 2007:1).

Short-term versus long-term interventions

Girard (2013: 4329) believes that infrastructure delivery projects should be sustainable if the anticipated impact is to benefit the target community. This study found that owing to poor planning and designing of infrastructure projects some of the infrastructure projects delivered by the ULM are not sustainable. For example, some of the projects delivered are interim solutions that do not permanently address infrastructural challenges. For example, participants mentioned that:

> *"Umzumbe Local Municipality is reactive and some of the interventions are short term. For example, using quarry material instead of concrete material to fix damaged roads is not sustainable."*

The sustainability of infrastructure projects is determined by the integration of projected short, medium- and long-term capacity and maintenance requirements at the planning and designing stages. Thus, the type of material, material availability, technical capacity and the intended life span of the material should be predetermined before infrastructure projects are implemented (Hall, Thacker, Ives, Cao, Chaudry, Blainey, and Oughton, 2017:39).

Institutional arrangements

Institutional arrangements are the policies, systems and processes that organisations use to legislate, plan and manage their activities efficiently and to effectively coordinate with others in order to fulfil their mandate. Such arrangements may include the involved responsible organisations, their human resources, funding, equipment and supplies, leadership, effectiveness, and the communication links among organisations (*United Nations Economics Commission for Africa,* 2016:1**)**. In pursuit of enabling government institutions to collaborate in delivering the objectives of the 2030 Agenda for Sustainable Development, most countries, including South Africa, have initiated efforts to configure their institutional arrangements to complement the SDGs (Zhou & Moinuddin, 2017).

The ULM has adopted a number of policies and programmes to address infrastructure challenges. The municipality has embarked on policies, processes and systems to address the prevailing infrastructure constraints and backlogs it faces. Among the policies and systems in place are *Operation Sukuma Sakhe, The Infrastructure Master Plan, service delivery war-rooms, public participation and The Local Area Plan*.

Operation Sukuma Sakhe (OSS)

Operation Sukuma Sakhe (OSS) is an initiative by government to overcome issues that affect the most vulnerable and deprived communities in an attempt to make rural development sustainable and to fast track service delivery (Annual Report, KZN Premire's Office, 2010:9).

From the study, one participant corroborated that:

> *"ULM adopted OSS in an effort to improve its functioning in addressing infrastructure challenges.*

The adoption of the OSS, as the Flagship Project of the KwaZulu-Natal Province, (Ndlovu & Msweli, 2016:162) affirm the ULM intention to promote redressing of past inequities including unequal delivery of socio-economic infrastructural services.

The Infrastructure Master Plan

The Infrastructure Master Plan provides strategic and integrated planning for government on infrastructure requirements. These master plans are intended to sustain and direct growth, to provide the infrastructure needed to service this growth and to create a synergistic, cohesive set of infrastructure projects (Meyers, Dijkema, Weijnen & Brown, 2008:26). Similarly, Oppenheim, (1985) cited in Meyers et al., (2008:29) defines master planning as a process that "involves the definition of the principles which will guide the evolution of the area, towards desired objectives, in a comprehensive, long range and coordinated manner".

According to the ULM IDP (2018/2019–2020/2021:68), one of the institutional constraints facing the municipality is that the current Infrastructure *Master Plan* is outdated as confirmed by one of the participants that:

> *"Even though ULM has adopted the Infrastructure Master Plan, this plan is outdated to address the contemporary infrastructure requirements."*

The finding above highlights the need to rethink the local government infrastructure-led development planning model.

Service delivery war-rooms

Service delivery war-rooms are a component of *Operation Sukuma Sakhe* that serve as vehicles to facilitate rapid response to service delivery needs whilst targeting the most deprived segments of society (*Annual Report, KZN Premire's Office,* 2010:12). One participant stated that:

> *"Our municipality makes use of service delivery war-rooms as a platform to identify priority infrastructure needs of the community for accessibility of quality services."*

The establishment of service delivery war-rooms aligns with the international practice. Moloney, Fitzgibbon, and McKeogh, (2017:189) affirm that, internationally, there is a growing move towards the establishment of Infrastructure 'units' within governments, and the establishment of data collection standards, which can provide the evidence for infrastructure decision-making.

Public participation

According to Longa (2018:380), public participation entails engaging the public in decision-making so that they may give input that may influence decisions. From a project management perspective, Li, Ng, Skitmore, and Li (2016:2) argue that developing major infrastructure projects is a complicated process since it involves multifaceted policy issues. Consequently, appropriate participatory mechanisms have been increasingly employed to improve the legitimacy of the project decision process. This study found that:

> *"Ward Councillors interact with the community with the aim of gathering infrastructure needs that are essential to the community."*

Li, et al., (2016:2) and Faizal, Trigunarsyah, and Wong, (2010:258) warn that while public participation in project delivery is encouraged, it cannot always warrant a mutually acceptable solution given the diverse and even conflicting project expectations and requirements of multiple stakeholders involved. De Bruijn and Ten Heuvelhof (2000) criticized the rational approach to planning for two important reasons:
Firstly, decisionmakers do not plan on their own, but in cooperation with many other stakeholders. Secondly, between these parties there is no consensus over norms and values or facts and figures. For Mubangizi (2019) an ideal M & E system should be integrated into policy processes by nurturing an organisational culture and institutional framework that engenders the interaction between rural citizens and local government.

With the critiques above, project planning requires a thorough identification and careful analysis of the needs of all stakeholders.

The Local Area Plan

Historically, municipal planning including infrastructure plans was largely fragmented and unconcerned with the social and economic dimensions of development. The aim of the IDP process is therefore to address these inefficiencies and to transform the municipal planning process into one that pursues sustainability. Integrated development planning is regarded as one of the key tools for local government to cope with its new developmental role (Mufamadi, 2000). The IDP process is meant to arrive at decisions on issues such as local economic development in a more consultative, systematic, and strategic manner.

The *Local Area Plan* (LAP) is the level of planning that is closest to local communities because they are based on public consultation. One participant mentioned that:

> *"ULM uses LAP to identify development nodes in order to develop frameworks to determine the type of infrastructure required to develop such areas."*

From the context of the *integrated development planning* (IDP), as witnessed from the ULM, LAP is a more consultative, systematic, and strategic way of addressing municipal inefficiencies and to transform the municipal planning process including infrastructure development.

Discussion

The provision of basic infrastructure services is regarded as a prerequisite for rural development and the well-being of the populace (Ghosh, 2017:1). As such, people need access to basic economic infrastructure services such as energy, roads, and telecommunications, and to social infrastructure services such as schools and libraries – all functioning as a system or as a set of interrelated and mutually beneficial services provided for the improvement of the general well-being of the population (Olaseni & Alade, 2012:65)

From an economic perspective and as advocated by the *Inclusive Rural Development Theory* infrastructure development involves providing capability and opportunities for the general welfare of the rural populace (Ghosh, 2017:1). For example, the empirical data revealed that budgetary constraints facing the ULM contribute to infrastructure inadequacies. Such inadequacies limit the accessibility of schools for learners residing within the ULM.

The social dimension of the *Inclusive Rural development Theory* entails the support rendered by government in an attempt to significantly reduce social inequalities for all rural inhabitants (Gnade *et al.,* 2016:2). This support extends to promoting infrastructure accessibility to bring about socio-economic changes in rural communities. However, evidence from the empirical data reveals a lack of universal access to basic services such as water, energy and roads as a result of dispersed settlements. In turn, the inaccessibility challenges pose a threat to development initiatives such as education.

The political dimension of the *Inclusive Rural Development Theory* espoused the urgent need for well-crafted policy interventions and legislation if progressive, inclusive rural development is to be embraced (Ghosh, 2017:20). Therefore, appropriate policies that are pertinent to the needs of rural communities must be adopted, with the community being fairly represented to participate in such decision-making, if rural development is to be

inclusive. In this context, the empirical data reveals that the ULM provides a platform for the community to participate in decision-making through Ward Councillors, Ward Committees and service delivery War Rooms.

In line with the *Inclusive Rural Development Theory*, the delivery of both economic and social infrastructure could be the solution to eliminate inequality in society. However, the adequacy of economic and social infrastructure alone is insufficient to eradicate inequality (Gnade, 2013:1). Thus, legislation and policies have to be implemented in order to achieve the desired economic and social goals. As Mubangizi (2021:186) observes, all these legal and policy expectations of rural municipalities require funding, and a good revenue base is vital for municipalities to function effectively and efficiently. Although ruralbased Municipalities are very vulnerable both from a revenue generation and from an institutional development perspective (Mubangizi,2021:186) this study advances a range of recommendations that could contribute to inclusive rural development.

Recommendations

Based on the study findings this article provides the following recommendations:

Intergovernmental Relations

Despite local municipalities being funded through the Municipal Infrastructure Grant (MIG), the rural local municipalities remain unable to meet all rural infrastructure demands because of high maintenance costs and a growing population. In this regard, the review of MIG conducted by the Department of Cooperative Governance and Traditional Affairs (COGTA) (RSA 2015:3) revealed that even though the MIG has changed the context of service delivery, there is an urgent need for government to consider increasing acknowledgement of municipal differences in terms of spatial and performance realities. The findings of the study showed an urgent need for enhanced partnership between the local, provincial and national spheres of government in the rural infrastructure development initiatives to improve education quality. This study recommends improved intergovernmental relations to assist in boosting the potential and capacity of local municipalities to fund and address the increasing rural infrastructure demands.

Poverty Tackling and Fundraising Strategies

The high rate of poverty and unemployment in the ULM means that a large proportion of the community is indigent. Thus, this municipality is unable to collect revenue to fund the provision of rural infrastructure and other basic services to the populace. The findings of the study pointed to poverty as a contributing factor to the financial incapacity of rural local municipalities to meet rural infrastructure requirements. Therefore, the study recommends that municipalities embrace poverty tackling strategies to address the high rate of unemployment. Such strategies should be reinforced with fundraising initiatives

from the business sector in a quest to raise funds to supplement the limited revenue to fund infrastructure requirements.

Quality Standards in Local Government

The findings of the study revealed that the material used to build roads and bridges is not of good quality and therefore this infrastructure does not last long. Thus, the study recommends that the material used to build roads and bridges should meet reasonable quality standards. In essence, there is an urgent need to promote quality assurance in rural infrastructure delivery when choosing material for sustainable infrastructure projects.

Community Consultation in Local Government

In responding to the needs of the community, Municipal Councils should always use the platform of Councillors and Ward Committees to identify community needs in order to ensure that service delivery is improved (Khawula, 2016:138). The municipality will only know the needs and problems of the community when their needs are identified through these structures. The findings of the study revealed that even though the community consultation platforms are in place, the community is not involved and it is not consulted in decision-making regarding rural infrastructure requirements. The study therefore recommends that local municipalities must promote the use of the existing community consultation platforms to identify and gather the realistic rural infrastructure prerequisites that will address the plight of rural learners to access quality education.

Subsidised Learner Transport Policy

Du Plessis (2014:1109) established that rural schools are mostly located on the periphery and are difficult to reach because of infrastructure challenges such as roads and transport. Thus, it is the social disparities facing rural areas that limit the interaction between schools and the community. Furthermore, the social disparities facing rural municipalities in turn limit the opportunity for equality and quality outcomes in education.

The empirical findings of the study revealed that learners have to walk long distances to reach schools, which results in learning time being lost since they arrive late for classes. This study recommends that local municipalities reconsider the introduction of a subsidised learner transport policy to ensure that none of the rural learners are prevented from accessing schools. This would assist in ensuring that learning time is not wasted while walking to school and this should improve the quality outcomes of education.

Conclusion

Rural local municipalities are not capacitated to meet the increasing infrastructure backlogs to advance the quality of education. Thus, the poor supply of rural infrastructure in local municipalities, particularly in the ULM, affirms that the provincial and national

spheres of government should devise alternative techniques to enhance rural infrastructure development in local municipalities in order to upscale the quality of education for rural learners.

Despite several attempts by local municipalities to boost infrastructure inadequacies since 1994, the inadequacies in social and economic infrastructure still have a significant impact on the quality of basic services, particularly on health, education and recreation. Inadequate infrastructure has been visible mostly in rural space and none of the initiatives used by the ULM have succeeded in augmenting rural infrastructure development to improve the quality of education in this municipality. The capability of local municipalities to promote effective rural infrastructure development for enhanced quality of education is not only dependent on the institutional arrangements but also on the capacity of local government to respond to the increasing demands for rural infrastructure facing the ULM as a result of the increasing population. Henceforth, there is an urgent need for the financial feasibility of the municipality to finance the adopted mandate in response to rural infrastructure delivery to improve the access to quality education. The infrastructural constraints prevailing in the ULM impact negatively on the quality of service delivery of social services such as education. From the empirical findings of the study, it can be concluded that the vast service delivery constraints facing the ULM are exacerbated mainly by budgetary constraints, dispersed households, policy gaps, poor project management capacity, lack of public consultation, as well the high rate of poverty facing the community of the ULM. Overall, the scale at which rural infrastructure is delivered to improve the quality of education in South African rural municipalities is still a hurdle to advance inclusive rural development and for rural transformation to become a reality. From a transformation perspective, providing rural basic infrastructure is seen as a holistic approach which in turn addresses the problems of inequality and social justice for rural areas in general (Manggat, et al., 2018:641).

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