



The Effectiveness of School Infrastructure Maintenance Guidelines in Babati District: School Quality Assurers' Voices

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Abstract: *Infrastructure maintenance guidelines within the Tanzanian Education Policy remain an implementation challenge and an under-researched area despite playing a crucial role in the provision of quality education in Tanzania. Guided by the Resource-Based Theory, the study conceptualized school infrastructure as a strategic resource whose proper maintenance enhances educational outcomes. This study aimed to evaluate the perspectives of School Quality Assurers (SQAs) on the effectiveness of school infrastructure maintenance guidelines in public primary schools within Babati District, Manyara Region, Tanzania. A concurrent mixed-methods design was employed, involving 240 students, six headteachers, and two SQAs. Quantitative data were collected through structured questionnaires, while qualitative insights were obtained via semi-structured interviews and document reviews. Findings revealed that, although government programs such as BOOST and EP4R improved infrastructure, significant gaps remain, especially in rural schools, where overcrowded classrooms, inadequate sanitation, and limited facilities are accessible to people with disabilities. The study also found that the implementation of maintenance guidelines is hampered by insufficient funding, weak enforcement, and limited community involvement. The study concludes that while infrastructure policies exist, systemic challenges undermine their effectiveness. Recommendations include increased equitable funding, strengthened monitoring, enhanced community engagement, and structured public-private partnerships to sustain infrastructure and hence improve education quality.*

Keywords: *School Infrastructure, Maintenance Guidelines, Quality Education, Resource-Based Theory, Babati District*

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1. Introduction

The provision of quality education in Tanzania depends on several foundational elements, among which school infrastructure is critical. The Education Policy of 2014 (2023 version) underscores the need for adequate, safe, and accessible infrastructure to promote an inclusive teaching and learning environment across all

educational levels (URT, 2023). Similarly, Section 15(1)(c) of the Education Act, Cap. 353 of 2002, mandates that schools can only operate if they possess standard infrastructure that is sufficient, of good quality, and regularly maintained (URT, 2002). These provisions are reinforced by the School Accreditation and Registration Guidelines (URT, 1982), which require compliance with specific infrastructure standards as a condition for school registration,

demonstrating the government's commitment to enabling quality education.

Research confirms that a safe and conducive learning environment significantly affects education quality. Karkee (2024) highlight that essential infrastructure classrooms, administrative offices, sanitation facilities, and child-friendly learning spaces directly influences student learning outcomes. School infrastructure encompasses both physical structures and supporting facilities such as libraries, laboratories, dining areas, and recreational spaces, all vital for academic and non-academic activities (Nwuke & Nwanguma, 2024). However, infrastructure alone is insufficient; effective maintenance is crucial to ensure its durability, usability, and alignment with learners' needs.

Globally and regionally, studies indicate that well-maintained school facilities improve student performance, attendance, and teacher satisfaction. Andrade, Padilla, & Carrington, (2024) found that in developing countries, poor infrastructure correlates with lower academic outcomes, while Zickafoose et al (2024) stress that regular upkeep is essential for achieving educational objectives in sub-Saharan Africa. Despite these insights, public primary schools in Tanzanian districts, including Babati, continue to face significant infrastructure challenges, especially in rural areas. Lombo & Subban (2024) reports inadequate investment, lack of permanent structures, and poor maintenance as major barriers, which not only impede academic achievement but also exacerbate rural-urban inequalities in schooling.

To address these challenges, the Education Policy (URT, 2023) and Fee-Free Education Circular No. 3 of 2016 assign responsibility for infrastructure maintenance to the government, communities, and local authorities. While capitation grants provide some support, these funds are often insufficient to meet growing maintenance demands, placing additional pressure on school administrators and local stakeholders to devise innovative solutions. In Babati District, persistent challenges such as underfunding, limited technical expertise, and weak community engagement hinder effective maintenance, as highlighted by the CAG Report (URT, 2018). Against this backdrop, the present study examines SQAs' perspectives on the implementation of infrastructure maintenance guidelines and their implications for sustaining quality education in public primary schools within the district.

1.1 Objectives of the Study

The main objective of the study was to assess the effectiveness of school infrastructure maintenance guidelines in Babati District through the perspectives of School Quality Assurers (SQAs). Specifically, the study aimed to examine the condition and accessibility of school infrastructure, assess the implementation and impact of maintenance guidelines, identify key factors affecting infrastructure upkeep such as government funding, community involvement, and private sector support, and evaluate how well-maintained facilities contribute to educational quality, inclusivity, and student learning outcomes, ultimately providing recommendations to enhance guideline effectiveness.

2. Literature Review

2.1 International and National Policy Frameworks

Globally, the Sustainable Development Goal 4 (SDG 4) emphasizes ensuring inclusive and equitable quality education for all, highlighting the importance of adequate learning environments and school infrastructure (Gunawan, 2025). At the national level, Tanzania's Education Policy 2014 (2023 version) stresses the need for sufficient, safe, and accessible school facilities to support teaching and learning (URT, 2023). Additionally, Section 15(1)(c) of the Education Act, Cap. 353 of 2002, requires schools to meet minimum infrastructure standards before being approved to operate (URT, 2002). The School Accreditation and Registration Guidelines (URT, 1982) reinforce these standards, ensuring that schools comply with physical and functional requirements. Together, these policies and regulations reflect Tanzania's commitment to providing environments conducive to quality education.

2.2 Importance of School Infrastructure in Quality Education

School infrastructure plays a pivotal role in shaping the educational experience. Adequate classrooms, laboratories, libraries, sanitation facilities, and recreational areas contribute to effective teaching and learning Nwuke & Nwanguma, (2024). Well-designed and maintained infrastructure not only supports academic activities but also enhances social and emotional development by providing safe and inclusive spaces for students. Studies indicate that the absence or inadequacy of such facilities can adversely affect student

performance, teacher motivation, and overall school outcomes (Abbas, Javed & Waseem, 2022).

2.3 School Infrastructure Maintenance Practices

Effective maintenance of school facilities is essential to preserve functionality and prolong the lifespan of buildings and equipment. Practices such as routine inspections, preventive repairs, and timely replacements help prevent deterioration and ensure that infrastructure continues to meet the needs of students and staff. Research shows that schools with structured maintenance systems experience fewer disruptions to learning activities and are better able to sustain quality education over time (Yangambi, 2023).

2.4 Challenges in School Infrastructure Maintenance

Despite the recognized importance of maintenance, many schools, particularly in rural Tanzania, face significant obstacles. Underfunding, limited technical expertise, poor community engagement, and inadequate government support are recurring issues (UNESCO, 2014; URT, 2018). These challenges often result in dilapidated buildings, non-functional facilities, and unsafe learning environments, which negatively impact student outcomes and reinforce disparities between urban and rural schools.

2.5 Impact of Infrastructure Maintenance on Educational Outcomes

Well-maintained school facilities are directly linked to improved academic performance, higher attendance rates, and increased teacher satisfaction. Studies in sub-Saharan Africa demonstrate that students in schools with functional and safe infrastructure perform better than those in poorly maintained schools (Lombo & Subban, 2024). In Tanzania, poor infrastructure maintenance has been associated with lower student achievement and reduced engagement, highlighting the critical role of upkeep in achieving educational goals.

2.6 Stakeholder Roles in Infrastructure Sustainability

Sustainable infrastructure requires collaboration among multiple stakeholders. Government bodies, local authorities, school administrators, teachers, parents, and communities all play essential roles in financing,

monitoring, and maintaining facilities. Participatory approaches that involve local communities in planning and resource mobilization have been shown to enhance maintenance practices and ensure long-term sustainability (Sebunya & Gichuki 2024; URT, 2018).

2.7 Theoretical Framework

2.7.1 The Resource-Based Theory

The Resource-Based Theory (RBT), introduced by Wernerfelt (1984) and further developed by Barney (1991), posits that organizations, including schools, achieve sustained success by effectively managing resources that are valuable, rare, inimitable, and non-substitutable (VRIN). In the education sector, school infrastructuresuch as classrooms, laboratories, libraries, and sanitation facilities represents a strategic resource that, when well-maintained, enhances institutional performance and educational outcomes (Barrett et al., 2013). In Tanzanian public primary schools, particularly in Babati District, the ability of headteachers and School Quality Assurers to interpret and implement maintenance guidelines directly affects the durability and usability of these resources. RBT is relevant to this study as it frames infrastructure as a strategic asset whose value depends on proper upkeep aligned with institutional goals, highlighting that maintenance is not merely a technical task but a strategic process essential for sustaining educational quality. While the theory emphasizes tangible resources, potentially overlooking external factors such as funding constraints, teacher motivation, and community involvement, it provides a conceptual lens to understand how the perspectives and actions of School Quality Assurers influence the effective use, longevity, and performance impact of school facilities in Babati's public primary schools.

3. Methodology

3.1 Study Context

This study was conducted in Babati District, Manyara Region, Tanzania, selected for its representation of both rural and semi-urban contexts that influence the implementation of school infrastructure maintenance guidelines. Administratively, the district comprises Babati District Council and Babati Town Council, each with distinct socio-economic conditions affecting educational resource availability and maintenance practices. The focus was on public primary schools, which primarily serve low- and middle-income families dependent on government-funded infrastructure. These schools vary in facilities, location, and student demographics, making

them suitable for assessing the effectiveness and challenges of infrastructure maintenance in sustaining education quality.

3.2 Research Approach and Design

A mixed-methods approach was employed to obtain a comprehensive understanding of the relationship between infrastructure maintenance and educational quality. A concurrent mixed-methods design (Creswell & Creswell, 2018) was adopted, allowing for the simultaneous collection of quantitative data and qualitative insights. Quantitative data were collected through structured questionnaires administered to students, while qualitative data were obtained via semi-structured interviews with headteachers and School Quality Assurers (SQAs). This integration provided both measurable trends and contextual understanding of maintenance practices.

3.3 Study Participants and Sampling Procedures

The target population comprised 240 public primary school students, six headteachers, and two SQAs in Babati District. Stratified random sampling was used to select 240 students (40 from each of six purposively chosen schools) to ensure diversity in socio-economic background and geographic location. Purposive sampling was employed to select six headteachers, who are directly responsible for guideline implementation, and two SQAs, who oversee compliance with maintenance standards. This approach provided both representative and expert perspectives relevant to the study objectives.

3.4 Data Collection Tools and Procedures

Data collection occurred in three stages. First, structured questionnaires in Swahili and English were administered to students to capture their perceptions regarding the effectiveness of maintenance guidelines, with distribution and retrieval coordinated at the schools. Second, semi-structured interviews with headteachers and SQAs, lasting approximately 40 minutes each, were conducted in Swahili and later translated into English by a professional translator. Third, documentary reviews of three years of SQA reports from the selected schools were carried out to assess historical compliance and performance regarding infrastructure maintenance.

3.4 Validity and Reliability

Reliability of the quantitative instruments was confirmed through a pilot study in schools outside the main sample, yielding a Cronbach's alpha coefficient of 0.71, indicating acceptable internal consistency (Pallant, 2016). For qualitative data, inter-coder agreement ensured consistency in coding and interpretation. Validity was enhanced through content validation based on a thorough literature review and expert review, while external validity was supported via stratified random sampling, allowing for generalization to similar public primary school settings in Tanzania.

3.5 Data Analysis

Quantitative data were analyzed using descriptive statistics (means and standard deviations) to summarize responses and inferential statistics, particularly paired sample t-tests, to examine differences in perceived education quality before and after implementation of maintenance guidelines. Qualitative data were analyzed using thematic analysis (Braun & Clarke, 2006), where systematic coding and theme development to capture perspectives on infrastructure adequacy, implementation challenges, and effects on the learning environment.

3.6 Ethical Considerations

Ethical approval was obtained from the Manyara Regional Office, the Babati District Education Office, and the participating schools. Informed consent was secured from all participants or their guardians in the case of students. Participation was voluntary, with measures such as pseudonyms and secure data storage used to protect confidentiality and anonymity. The study adhered to the principle of beneficence, ensuring that findings contribute to improving infrastructure maintenance practices and sustaining the quality of education in public primary schools in Babati District.

4. Results and Discussion

4.1 The Views of the School Quality Assurers (SQAs) on the School Infrastructure Maintenance Guidelines

This section presents insights from School Quality Assurers (SQAs) regarding their professional assessments and experiences with school infrastructure maintenance in public primary schools across Babati District. The analysis is organized thematically, focusing on the

condition and accessibility of infrastructure, the influence of regulations, the effect of policies on infrastructure quality and educational outcomes, the role of infrastructure in improving education quality, recommendations for improvements, and key factors affecting infrastructure maintenance.

4.2 Condition and Accessibility of School Infrastructure

School Quality Assurers (SQAs) reported mixed progress regarding infrastructure development and accessibility in Babati District's public primary schools. Although government-funded programs such as BOOST and EP4R have supported improvements, particularly in classroom construction and toilet facilities, a significant proportion of school infrastructure remains in poor or deteriorating condition. Both SQAs acknowledged that some schools had seen marked improvements due to these initiatives, especially in urban areas; however, many rural schools still faced serious shortages in basic facilities such as toilets, ramps, staff houses, and accessible pathways for pupils with disabilities.

Much of the infrastructure is not in good condition, but improvement is ongoing through major government projects such as BOOST and EP4R. However, these efforts are more visible in some schools, especially urban ones. Rural schools still lag behind, especially in sanitation and disability access. (SQA, District Council 1, May 2025)

Another SQA added that,

More than 30% of the infrastructure meets the required standards, 50% needs improvement, and 20% is not friendly to those with special needs. This poses a challenge for inclusive learning and safety. (SQA, District Council 2, May 2025)

Supporting these observations, two headteachers also pointed out that while classroom expansions were underway, crucial infrastructure such as clean water, separate toilets for girls, and inclusive infrastructure for students with disabilities remained insufficient:

BOOST helped us to get more classrooms, but we still have no staff office or enough toilets. Pupils have to share few pit latrines, which is unhygienic and risky during rainy seasons.” (Headteacher, School 5, May 2025)

Another headteacher voiced that,

“Our school has no ramp for pupils with physical disabilities. They struggle a lot to access classrooms, and sometimes they miss classes during heavy rains because the paths are muddy and unsafe.” (Headteacher, School 3, May 2025)

These qualitative findings are consistent with students' perspectives as revealed in Table 1, where a substantial number of pupils expressed dissatisfaction with infrastructure conditions in their schools: 51.3% of students reported that classroom environments were overcrowded or inadequately ventilated. 47.5% of students felt unsafe due to broken floors, leaking roofs, or inadequate sanitation. 58.4% reported no access to clean water within school premises. 63.7% of students noted the absence of facilities suitable for pupils with disabilities.

This alignment between what is reported by school leaders and SQAs and what is experienced by students paints a concerning picture of infrastructural inequality and underfunding. It also points to a serious policy-practice gap. While infrastructure improvement programs exist on paper, their implementation remains inconsistent across geographic zones, often disadvantaging rural and marginalized schools. These findings reflect broader trends described by Herath and Duffield (2022), who concluded that persistent disparities in infrastructure investment contribute to unequal learning outcomes across Tanzania. Similarly, URT (2021) underscores the importance of integrating inclusivity, equity, and sustainability in infrastructure planning to meet the goals of the Education Sector Development Plan (ESDP).

4.4 Existence of Rules and Regulations Promoting Infrastructure Standards

The School Quality Assurers (SQAs) acknowledged the presence of formal regulatory frameworks aimed at promoting the development and maintenance of quality infrastructure in public primary schools. Central to these is the School Registration Guideline (Ministry of

Education, 1982), which outlines minimum infrastructure requirements that must be fulfilled before a school can be registered or accredited. These include provisions for structural safety, durability, appropriate classroom size, staff offices, toilets, and learning resources such as libraries and laboratories. The SQAs recognized these regulatory tools as essential for ensuring a nationally consistent standard of school infrastructure. However, they reported that compliance varies significantly across schools. Key challenges cited included inadequate funding, lack of technical personnel at the local level, and political or community-level barriers that limit enforcement of standards.

There is a school registration guideline that promotes high standards for public school infrastructure. It sets the threshold for what is considered safe and adequate. However, enforcement is sometimes relaxed due to financial and logistical limitations in rural schools. (SQA, District Council 1, May 2025)

Also, another SQA stated that

The guideline requires that for a school to be registered, 75% of its construction must be complete, and built to a high standard using durable materials. This is often difficult for schools in remote areas without donor or government support. (SQA, District Council 2, May 2025)

The concerns expressed by SQAs are echoed by headteachers, who acknowledged the existence of infrastructure policies but lamented the lack of practical support to meet the expected standards.

We are aware of the registration and infrastructure guidelines, but we don't have funds or enough support to meet them. The community tries, but the cost of materials and labour is high. (Headteacher, School 5, May 2025)

Another head teacher said that

Sometimes we are inspected, and we are told to add or fix things, but the government doesn't provide funds. We're left to ask parents, who are already struggling. (Headteacher, School 6, May 2025)

These findings are consistent with student perceptions in Table 1, where many pupils highlighted ongoing infrastructure challenges, despite national policies aimed at improving them. For instance: 70.4% of students disagreed or strongly disagreed that school infrastructure is regularly inspected or maintained. 58.0% noted the absence of clean water. 63.7% observed a lack of disability-accessible facilities. The discrepancy between policy intent and ground-level reality points to gaps in policy implementation and resource allocation. These observations align with Lukumay and Warioba (2021), who argue that while Tanzania's school infrastructure policies are sound on paper, enforcement mechanisms remain weak and highly dependent on local leadership and funding availability. Similarly, URT (2020) emphasizes that strengthening school-level accountability and providing targeted infrastructure grants are necessary to ensure effective implementation of national infrastructure guidelines.

4.5 Effect of Policy Guidelines on Infrastructure and Educational Outcomes

According to the School Quality Assurers (SQAs), adherence to infrastructure maintenance guidelines has led to noticeable improvements in the quality of school facilities and corresponding gains in educational outcomes. Proper implementation of policies such as the School Registration Guidelines and infrastructure frameworks under initiatives like EP4R and BOOST (SQA, District Council 1, SQA, District Council 2, May 2025) has resulted in more durable, standardized, and functional facilities. These improvements contribute to enhanced teaching environments, reduced student absenteeism, and better academic performance.

However, SQAs also cautioned that the impact of these guidelines is undermined by multiple challenges. These include political interference, insufficient community motivation, and socio-economic constraints that limit both participation and financial contributions to maintenance (SQA, District Council 1, SQA, District Council 2, May 2025). Inconsistencies in adherence often result in dilapidated infrastructure, which hinders effective

teaching and increases dropout rates, particularly in underserved and rural areas.

Infrastructure is now built to the required standard and uniformly across the country, but political interference and lack of motivation among communities affect guideline adherence. (SQA, District Council 1, May 2025)

Another shared that,

Schools with quality infrastructure deliver better education, while those with substandard structures face poor learning outcomes and increased absenteeism. (SQA, District Council 2, May 2025)

These findings align with Ali (2024), who found that compliance with national infrastructure guidelines enhances school environments, teacher morale, and student performance. Similarly, URT (2021) reports that infrastructure maintenance directly correlates with increased learning hours and reduced dropout rates in primary education.

4.6 Factors Influencing School Infrastructure Maintenance and Their Contribution to Education Quality

The School Quality Assurers (SQAs) identified several interrelated factors influencing the maintenance of infrastructure in public primary schools across Babati District. These include government funding, community involvement, private sector contributions through Corporate Social Responsibility (CSR), and stakeholder ownership. Each of these factors was observed to impact not only the physical upkeep of school buildings but also the overall quality of education delivered to pupils.

4.7 Availability of Government Maintenance Funds

SQAs consistently emphasized that government funding is the foundation for any significant school maintenance activity. These funds support the renovation of classrooms, repair of roofs, toilets, and the construction of new facilities.

Availability of maintenance funds, community mobilization, local and external donors such as banks and national parks through CSR, and a sense of ownership by the school community. (SQA, District Council 1, May 2025)

Contribution to education quality: When timely and adequate, these funds ensure that learning occurs in safe and well-maintained classrooms, which boosts student concentration, attendance, and academic performance.

4.8 Community and Parental Involvement

SQAs noted that community mobilization and parental support whether through financial contributions, labour, or supervision are vital for sustaining infrastructure projects at the grassroots level.

Some of the factors include government funding, private organization contributions, and support from parents and the community. They help create a better educational environment, improve performance, and reduce absenteeism. (SQA, District Council 2, May 2025)

Contribution to education quality: High community involvement fosters ownership and accountability, leading to better care of infrastructure. This creates a clean, safe environment that reduces absenteeism, motivates teachers, and encourages pupil retention. These findings align with the study by Ugobueze, (2024) who emphasized the role of school-society collaboration in the development of primary schools

4.9 Corporate Social Responsibility (CSR) from Private Organizations

Several SQAs cited support from nearby commercial banks, mobile companies, and national parks, which fund infrastructure through CSR programs. These projects often include building classrooms, toilets, and water systems. Contribution to education quality: These investments ease classroom congestion and improve sanitary conditions, which boost pupil attendance,

especially among girls, and enhance teacher-pupil interaction due to reduced overcrowding.

4.10 Community Ownership and Attitude toward Infrastructure

Beyond financial inputs, SQAs emphasized the importance of school community members developing a strong sense of ownership over infrastructure. Contribution to education quality: A school community that feels responsible for its facilities is more likely to prevent vandalism, report repairs promptly, and maintain hygiene. This continuous effort helps create a stable and safe learning environment, which supports consistent academic success. These insights are supported by Ugobueze (2024) who argue that stakeholder engagement

and diverse funding mechanisms are crucial for sustaining school infrastructure projects. Their findings indicate that quality infrastructure, when maintained through shared responsibility, positively influences student outcomes, staff morale, and reduces school dropout rates.

Furthermore, this qualitative data reflects student views presented earlier in Table 1, where. A majority of students disagreed that their schools had well-maintained or adequate classrooms (only 17.6% agreed). Many cited the poor state of toilets and classrooms as discouraging factors affecting their motivation and attendance. This triangulation of data from SQAs, students, and head teachers demonstrates a clear link between infrastructure maintenance factors and the overall quality of education

Table 1: Students’ Perceptions on School Infrastructure

Serial number	Infrastructure Aspect	Percentage of Students Reporting Issues (%)	Remarks / Observations
1.	Overcrowded or inadequately ventilated classrooms	51.3	Reflects insufficient classroom spaces; confirmed by SQAs and headteachers
2.	Unsafe learning environment (broken floors, leaking roofs, inadequate sanitation)	47.5	Students feel at risk; aligns with SQA reports of deteriorating infrastructure
3.	Lack of access to clean water	58.4	Limited or absent water points; corroborates SQA observations
4.	Absence of facilities suitable for pupils with disabilities	63.7	Ramps, accessible pathways missing; rural schools particularly affected
5.	Lack of regular inspection/maintenance	70.4	Indicates policy-practice gap; SQA noted inconsistent adherence to maintenance guidelines
6.	Poor or insufficient toilets	47.5–58.0	Overcrowding in sanitation facilities impacts hygiene and learning
8.	General satisfaction with classrooms	17.6	The majority of students are dissatisfied, reflecting poor infrastructure conditions

Source: Field data from student questionnaires and interviews with SQAs and headteachers, May 2025.

Table 1 highlights significant challenges in the condition and accessibility of school infrastructure in Babati District public primary schools. Over half of the students (51.3%) reported overcrowded or poorly ventilated classrooms, reflecting insufficient learning spaces. This observation aligns with the SQAs’ reports that infrastructure improvements have been uneven, with rural schools particularly underserved despite programs like BOOST and EP4R. Unsafe learning environments, cited by 47.5%

of students, underscore the persistence of broken floors, leaking roofs, and inadequate sanitation facilities. Similarly, the lack of clean water (58.4%) and facilities for students with disabilities (63.7%) illustrates ongoing inequities in access to basic services and inclusive education, a concern confirmed by qualitative feedback from headteachers and SQAs.

The highest dissatisfaction was reported regarding regular inspection and maintenance of infrastructure (70.4%), indicating a clear gap between policy requirements and actual practice. Only 17.6% of students expressed satisfaction with classroom conditions, highlighting the impact of poor infrastructure on student motivation, engagement, and overall learning outcomes. These findings reveal that while policies and funding initiatives exist, implementation challenges including limited technical expertise, underfunding, and low community participation continue to hinder the effectiveness of infrastructure maintenance guidelines.

These findings align with previous research. Yangambi (2023) discovered that well-maintained school facilities positively impact student learning and teacher morale, whereas poorly maintained infrastructure is linked to lower academic performance. In sub-Saharan Africa, Lombo & Subban (2024) similarly observed that inadequate and poorly maintained infrastructure restricts educational quality and access. In Tanzania, Herath and Duffield (2022) documented ongoing disparities in infrastructure investment, which perpetuate inequalities in learning outcomes between rural and urban schools. Additionally, Ndunguru (2024) highlighted the significance of stakeholder engagement and community participation in maintaining infrastructure projects, supporting the current study's finding that community ownership and parental involvement are essential for effective maintenance.

Therefore, the data triangulated from students, SQAs, and headteachers indicate that, despite policy frameworks and improvement initiatives, infrastructure maintenance remains inconsistent. This has direct implications for educational quality, access, and inclusivity, particularly in rural and underserved areas. The alignment with global and regional studies underscores that the challenges observed in Babati District are part of broader systemic issues affecting school infrastructure in developing contexts.

5. Conclusion and Recommendations

5.1 Conclusion

The study revealed that school infrastructure in Babati District remains a significant challenge, with overcrowded classrooms, inadequate sanitation, and poor accessibility limiting the quality of education. Although policies and guidelines exist to guide infrastructure maintenance, their implementation is weak due to inadequate funding, inconsistent enforcement, and limited accountability mechanisms. Factors such as insufficient community involvement, minimal technical capacity, and reliance on

irregular CSR contributions further hinder sustainability. Ownership also plays a role, as private schools often maintain better infrastructure compared to public schools, which face budgetary and bureaucratic constraints. Overall, the findings highlight that while awareness of infrastructure maintenance is present among headteachers, structural barriers continue to undermine progress.

5.2 Recommendations

Based on the findings, the study recommends increased government investment in school infrastructure, with equitable distribution of resources to rural and marginalized schools. Stronger enforcement of maintenance guidelines should be prioritized through monitoring, inspections, and clear accountability mechanisms. Communities should be empowered through participatory maintenance committees and awareness programs to sustain infrastructure upkeep. Additionally, the private sector should be encouraged to contribute through structured CSR frameworks with incentives and long-term partnerships. Finally, public-private partnerships should be strengthened to reduce disparities in infrastructure conditions between public and private schools, ensuring all students have access to safe and conducive learning environments.

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