



ISSN 2278 – 0211 (Online)

Extensiveness of School Board Supervision on Maintenance of Infrastructure in Public Secondary Schools in Moshi District Council, Tanzania

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Abstract:

The study investigated the extensiveness of school board supervision in the maintenance of infrastructure in public secondary schools in Moshi district council, Tanzania. This study was guided by the systems theory. The study employed a convergent research design using mixed methods, with a target population of 1,187 teachers, 61 school board chairpersons, and 61 school heads. A sample of 144 teachers, 12 school board chairpersons, and 12 school heads from 12 schools was used. The study employed both probability and non-probability sampling procedures to select the participants. The study used simple random sampling for sampling schools, stratified sampling for sampling teachers and a total population sampling technique when sampling heads of schools. Both the content and face validity were established by the research experts to ascertain the credibility and soundness of the research instruments by the experts in the field of education. Questionnaires for teachers, interview schedules for heads of schools and interview guides for school board chairpersons were used to collect data during the data collection process. The pilot testing of the research instruments was conducted in two secondary schools that were not included in the actual data collection. Quantitative data was analyzed using descriptive statistics analysis, while qualitative data was analyzed thematically. The researcher adhered to ethical principles, ensuring confidentiality, anonymity, and informed consent, and citations were made using the APA style. The study found out that school board supervision moderately contributes in maintenance of infrastructure in public secondary schools. The study concluded that school board supervision has a great impact on the maintenance of infrastructure in public secondary schools. The study recommended that Ministry of Education Science and Technology should support school boards to supervise projects in maintenance of infrastructure in public secondary schools.

Keywords: School infrastructure, school boards, supervision of school projects, public schools

1. Introduction

The maintenance of school infrastructure has been widely recognized as the key factor in enhancing the sustainability of the provision of education. Hofmeyr (2023) emphasizes that well-maintained school buildings and facilities are essential for creating safe and conducive learning environments, which ultimately contribute to better academic outcomes. Additionally, a study by Makhanu (2023) highlights the significant impact of infrastructure maintenance on student attendance and engagement, as students are more likely to attend and actively participate in schools with well-kept facilities. Despite the importance of maintaining school infrastructure, the supervision process by school boards in many public education institutions worldwide remains questionable.

School boards in the USA bear the primary responsibility of overseeing budgets and making decisions regarding the allocation of funds for infrastructure maintenance and repairs (Henrikson, 2021). However, concerns arise due to insufficient financial reporting and communication between schools and boards, raising questions about the effective supervision of financial resources for infrastructure improvements. Similarly, in Canada, Walker (2021) argues that school boards need effective systems for monitoring and evaluating fund allocation, which impacts the tracking of maintenance projects and the appropriate allocation of financial resources for infrastructure upkeep.

In the context of African countries, the issue of poor school infrastructure continues to be a significant concern among education stakeholders. However, there are concerns about whether school boards are effectively mobilizing financial resources to enhance the maintenance of school infrastructure. In South Africa, the unequal distribution of funds to public schools raises concerns about deteriorating buildings due to limited access to sufficient funds for infrastructure maintenance (White & Lineburg, 2021). Despite significant investments in education, Somalia faces challenges of

insufficient funding allocation and mismanagement of resources. School boards in Somalia struggle to secure adequate funds, resulting in dilapidated buildings, inadequate sanitation facilities, and a lack of essential learning resources (Kamau et al., 2021).

These concerns highlight the need for school boards in African countries to prioritize the mobilization and effective utilization of financial resources for the improvement and maintenance of school infrastructure. While East African countries like Kenya, Uganda and Tanzania emphasize professional development for school board members to address school management challenges such as resource mobilization, Kenya's lack of adequate training opportunities hinders their ability to effectively manage school projects and mobilize financial resources (Kioni et al., 2023). Similarly, public schools in Uganda face difficulties in actively involving school board members in various aspects of school governance, including property administration, fundraising, welfare, and student and staff discipline (Balikoowa et al., 2023). Despite the recognition of the importance of professional development for school board members in East African countries, there remains a need to prioritize it further to effectively address school management issues, particularly in terms of mobilizing financial resources.

In Tanzania, poor physical infrastructure is prevalent in public educational institutions, with many schools having inadequate facilities (Issa et al., 2023). To address this, Education Circular No. 4 of 2016 outlines comprehensive guidelines for the formation of school boards in public secondary schools. According to these guidelines, school boards must consist of a chairperson, vice chairperson, secretary (head of school), academic teacher, one teacher's representative, Ward Executive Officer, two representatives from community leaders, and five parent representatives. The circular also highlighted several responsibilities of school boards, one of which was to supervise the construction and maintenance of school infrastructures (URT, 2016). These guidelines aim to ensure broad representation and collaboration within the school boards, with various stakeholders working together to address the challenges of poor infrastructure in Tanzanian public schools.

Despite the clear emphasis given in the circular, there are doubts surrounding the extent to which school boards fulfill their responsibilities in supervising the maintenance of school infrastructure. The research conducted by Ali and Sani (2023) reveals that school boards in Nachingwea district have limited involvement when it comes to overseeing the renovation or construction of school infrastructure. This raises concerns about the inadequate fulfillment of the role of school boards in supervising and improving school infrastructure, despite the guidelines provided by the education circular and the urgent need for better facilities in public educational institutions in Tanzania.

In the Moshi district council, the limited mobilization of financial resources in schools leads to insufficient involvement of school boards in overseeing the maintenance of school infrastructures (Njau et al., 2022). Additionally, Liguluka and Onyango (2020) found that although school boards engage in discussions regarding school financial matters, they often lack the necessary expertise and qualifications to effectively mobilize school financial resources. The concern lies in the limited mobilization of financial resources in schools, leading to inadequate involvement of school boards in overseeing the maintenance of school infrastructures. This situation raises concerns about the ability of school boards to effectively mobilize funds required for the maintenance and improvement of school infrastructures. In this regard, the current study investigated the extensiveness of school board supervision in the maintenance of infrastructure in public secondary schools in Moshi district council, Tanzania.

2. Statement of the Problem

Poor school infrastructure is not a new phenomenon in Tanzanian secondary schools. Poor practices by school boards resulted in poor infrastructure development, which lowered the quality of education (Ali & Sani, 2023). Education circular number 4 of 2016 highlighted the need for the school board to supervise the construction and infrastructure maintenance of the schools (URT, 2018). Heads of schools, quality assurances, and other education stakeholders complained that public schools have inadequate infrastructure that affects the teaching and learning process (Liguluka & Onyango, 2020). Studies like Msuya (2023) and Taiwo (2022) have focused on the importance of maintenance and rehabilitation of school infrastructure for effective academic performance. Ahmad (2021) and Nhlapo (2020) have explored the leadership role of principals in sustainable maintenance, while Adangabe (2020) examined infrastructural maintenance practices in selected schools in the Builsa South district. Existing studies provide awareness of maintenance culture in educational settings, influencing academic performance, leadership dynamics, and overall education delivery. However, they have not focused on school boards' roles in overseeing infrastructure maintenance. In response to this oversight, the current study specifically investigated the extensiveness of school board supervision in the maintenance of infrastructure in public secondary schools in Moshi district council, Tanzania.

3. Research Question

- To what extent does school board supervision contribute to the maintenance of infrastructure in public secondary schools in Moshi District Council?

4. Significance of the Study

The study findings provide teachers with awareness of the importance of school board supervision in the maintenance of infrastructure. The study findings also provide knowledge to heads of schools on the importance of cooperation and transparency during school board supervision, which contributes to the maintenance of infrastructure. The study findings further inform school board chairpersons' importance of monitoring and evaluating the maintenance of infrastructure in public secondary schools in Moshi District Council. The study can contribute to the theoretical understanding of educational administration by exploring the role of school boards in infrastructure maintenance projects

within the context of secondary education. Findings from the study can inform the development and implementation of policies related to educational infrastructure maintenance, guiding policymakers in establishing effective oversight mechanisms and allocating resources efficiently.

5. Theoretical Framework

This study was guided by the systems theory, which was developed by Ludwig von Bertalanffy in 1968. The theory states that a system is an organized whole consisting of interrelated and interdependent parts. These parts interact and influence each other, creating a complex network of relationships. The theory emphasizes that the behavior of the whole system cannot be understood merely by examining its individual components in isolation. The systems theory has the following assumptions:

- Firstly, systems are composed of interrelated parts, and the interactions among these parts are fundamental to the system's behavior.
- Secondly, it posits that systems are open, meaning they interact with their environment and are influenced by external factors.
- Thirdly, systems are dynamic and constantly evolving, adapting to changes both within and outside the system.
- Lastly, the theory assumes that systems are goal-oriented, striving to achieve equilibrium or homeostasis through feedback mechanisms and self-regulation.

The systems theory promotes a holistic approach to problem-solving, encouraging consideration of the broader context and interdependencies. The theory supports the development of interdisciplinary research, fostering collaboration among different fields to address complex issues. The theory's emphasis on complexity and interdependencies can sometimes result in overly complicated models that are difficult to analyze and interpret. Systems theory encourages a comprehensive assessment of maintenance needs, coordination among different departments, and effective communication between the school board, administrators, and maintenance teams. It also underscores the importance of feedback mechanisms for continuous improvement, ensuring that maintenance activities are systematically planned, monitored, and adjusted based on ongoing evaluation and stakeholder input. This integrated perspective can lead to more efficient and sustainable maintenance practices, ultimately enhancing the educational environment for students.

6. Review of Related Empirical Studies

A favorable learning environment is reliant on the maintenance of school facilities. School boards play a critical role in providing effective supervision that directly affects the quality and sustainability of educational facilities. It is the responsibility of school boards to maintain infrastructure. Managing maintenance operations, ensuring that resources are distributed and used appropriately, and establishing policies that promote routine maintenance are a few of these responsibilities. This section provides an overview of empirical research from around the world, with a focus on ways Tanzania might benefit from it.

Yanto (2021) conducted a study about the role of school boards in infrastructure management at public schools in Indonesia. The authors used a qualitative approach. The subjects in this study were school board members, principals, teachers, and students' guardians. The results of the article show that the facilities and infrastructure at the Karang Jaya 1 public secondary school were generally adequate. However, there was still a shortage of supporting media, such as projectors, and the teaching and learning process was still not available. This study contributed much to the current study on the aspect of methodology and findings. However, the study focused more on the role of school boards towards the management of school infrastructures and left out to provide detailed information about how the school board members supervise the maintenance of school infrastructures. Therefore, the current study focused on how the school boards supervise the maintenance of the schools' infrastructure in public secondary schools.

Manga (2019) conducted a study about the approaches for maintenance of school facilities in secondary schools in Nigeria: Implications for school managers. Physical facilities constitute a very critical input towards the provision of quality education in secondary schools in Africa. School administrators have the statutory responsibility of adopting preventive maintenance approaches to ensure the sustenance of a conducive teaching and learning environment. School plant maintenance activities should be comprehensive and touch on the maintenance of school buildings, furniture, playgrounds, laboratories, libraries, and school infrastructure. Among the basic problems affecting school plant maintenance in Africa include lack of adequate finance, poor supervision, inadequate tools, negligence and poor maintenance culture. This study contributed much to the current study on the aspect of methodology and findings. However, the study findings have limited information about the school board members who are part of the supervision process. Therefore, the current study included the school board members to check their contribution to the supervision and maintenance of the schools' infrastructures.

Ayeni and Bamire (2022) investigated the key functions of school-based management (SBM) in secondary schools in Owo Local Government, Ondo State, Nigeria. The descriptive survey research design was used for the study. A random sample of 99 important SBM participants from nine public secondary schools made up the respondents. Questionnaires were used to gather the data. Multiple regression, percentage, and mean analyses were used to analyze the data. The findings showed that the school-based management committee contributed only slightly to each of the key functions carried out in secondary schools. The study found that the School Based Management Committee (SBMC) made a limited contribution to the management of the school, which was responsible for a low contribution to the academic performance of the students. The SBMC also made a limited contribution to the selection of student textbooks, teacher capacity building, and school projects. In light of that, it is difficult to determine the extent to which school board supervision contributes to the maintenance of infrastructure. One of the limitations of the study is the focus, as it contributes to the academic

performance of the students and not how the maintenance is conducted. The current study was conducted to investigate the efficiency of school board supervision in the maintenance of infrastructure in public secondary schools in Moshi District Council.

Odhier et al. (2019) conducted a study on the investigation of the contributions of heads of schools on school machinery and equipment management in secondary schools in Kenya. The study adopted concurrent triangulation within a mixed-method approach. The convenience sampling technique was used to sample 31 principals, 31 deputy principals, 31 Boarding/Senior Masters, 31 Parents Association Chairpersons, 31 Board of Management Chairpersons, and 1 Quality Assurance and Standards Officer, totalling 156. Data collection instruments were questionnaires and interview schedules. Quantitative data were analyzed using descriptive statistics such as frequency counts, percentages and means. Qualitative data was transcribed, put into various categories and reported in an ongoing process as themes and sub-themes emerged. The study found that heads of schools contribute to school building management by ensuring proper supervision of the buildings, appropriate repairs are done, approved physical plans are available in the schools where they work, and budget management is organized, which includes school maintenance. Budgeting for school maintenance is a crucial component of managing school buildings. These needs must be given priority by school administrations when creating the budget. It might look at how schools' administrators collaborate with local and district authorities to ensure approved plans are available and implemented. It would be beneficial for the study to consider other ways that school administrators support sustainable and energy-efficient practices and involve school board members. Thus, the study was conducted to examine the contribution of school board supervision in maintaining infrastructure in public secondary schools in Moshi District Council.

Issa and Mhagama (2022) conducted a study about the effectiveness of secondary school heads in supervising school resources in Shinyanga District Council, Tanzania. The paper adopted a mixed research approach and convergent parallel mixed design. The sample size comprised 83 participants, including 1 District Secondary Education Officer, 4 heads of public secondary schools and 78 teachers. Data were gathered through questionnaires and interviews. The findings indicate that most of the school heads do not conduct effective supervision of school resources due to challenges such as misallocation of resources, inadequate resources, lack of supervision skills, and poor cooperation among staff members. This study sheds light on the importance of the supervision of school resources by the heads of schools for the improvement of the provision of quality education. However, the earlier study findings have ignored the views of the school board members, who are the key informants and can provide information on how they participate in the supervision of school resources through heads of schools. Therefore, the current study filled the gap left out by including the views of the school board members about their supervision of school infrastructures.

7. Research Gap

Various reviewed studies, like Yanto (2021), investigated the role of school boards in infrastructure management. Manga (2019) researched the approaches for the maintenance of school facilities. Ayeni and Bamire (2022) investigated key functions of school-based management, Odhier et al. (2019) researched the contributions of principals to school machinery and equipment management, and Issa and Mhagama (2022) investigated the effectiveness of secondary school heads in supervising school resources in public secondary schools. However, none of the reviewed studies have explained the role of school board supervision in the maintenance of infrastructure in public secondary schools. Therefore, the current study investigated the extensiveness of school board supervision in the maintenance of infrastructure in public secondary schools in Moshi district council, Tanzania.

8. Research Methodology

A convergent research design using a mixed research method was employed in this study. According to Creswell and Creswell (2018), a convergent research design is a mixed research method that involves the simultaneous collection and analysis of both qualitative and quantitative data in a study. The use of a convergent research design in this study allowed for triangulation of data. The target population for this study consisted of three main groups: 1,187 teachers, 61 school board chairpersons, and 61 heads of schools. These individuals were selected from a total of 61 public secondary schools within the Moshi District Council (Moshi District Office, 2024). According to Cohen et al. (2018), a sample size ranging from 10% to 30% is representative of the study population. The sample size consisted of 144 teachers, 12 school board chairpersons, and 12 heads of schools from 12 public secondary schools in Moshi District Council, totalling 168 respondents. The study employed both probability and non-probability sampling procedures to select the participants. The study used simple random sampling for schools, stratified sampling for sampling teachers, and a total population sampling technique when sampling heads of schools and school board chairpersons.

Both the content and face validity were employed by the research experts in the field of planning and administration to ascertain the credibility and soundness of research instruments by the experts in the field of education. Questionnaires for teachers, interview schedules for heads of schools and interview guides for school board chairpersons were used to collect data during the data collection process. The pilot testing of the research instruments was conducted in two secondary schools that were not included in the actual data collection. The sample for pilot testing included 24 teachers, 2 heads of schools, and 2 school board chairpersons. The researcher used Cronbach Alpha to measure the reliability of the Likert scale question of 10 items, which obtained $\alpha = .837$. The quantitative data was analyzed using descriptive analysis with the assistance of statistical software known as the Statistical Package for Social Science (SPSS) version 26. The quantitative data were presented in the form of tables. Thematic analysis was employed to analyze the qualitative data. The researcher pays careful attention to research ethical principles throughout the entire process, from preparation to

data collection and reporting, ensuring confidentiality, anonymity, and use of informed consent. All cited authors or texts were acknowledged by using the American Psychological Association (APA) style.

9. Findings and Discussions

This study investigated the extensiveness of school board supervision in the maintenance of infrastructure in public secondary schools in Moshi district council, Tanzania. The frequency and percentage distribution of responses were categorized as follows: ≤ 20 =extremely minority; 21-49=minority; 50-59=moderate; 60-69=majority; 70-89=very high majority; 90-99=extremely majority; 100=overwhelming majority (Taherdoost, 2019). The responses of the teachers are presented in table 1.

S/N	Statement	VSE		SE		ME		LE		VLE		Mean
		f	%	f	%	f	%	f	%	f	%	
i	The school board's supervision of budget allocation ensures excellent maintenance of school infrastructure.	21	14.8	22	15.5	60	42.3	21	14.8	18	12.7	2.95
ii	Regular inspections conducted by the school board effectively maintain the quality of school infrastructure.	24	16.9	26	18.3	46	32.4	34	23.9	12	8.5	2.89
iii	The school board's prioritization of maintenance needs guarantees prompt resolution and upkeep of infrastructure.	19	13.4	29	20.4	47	33.1	32	22.5	15	10.6	2.96
iv	Effective coordination between school board members ensures seamless collaboration and efficient infrastructure maintenance.	19	13.4	24	16.9	47	33.1	33	23.2	19	13.4	3.06
v	Regular reporting provided by the school board fosters transparency and ensures effective supervision of infrastructure maintenance.	19	13.5	33	23.4	40	28.4	41	29.1	8	5.7	2.90
vi	The school board's monitoring of project outcomes demonstrates their commitment to the effective maintenance of school infrastructure.	16	11.3	32	22.5	52	36.6	27	19.0	15	10.6	2.95
vii	The school board's engagement of stakeholders promotes inclusive decision-making in infrastructure maintenance projects.	17	12.4	35	25.5	43	31.4	27	19.7	15	10.9	2.91
viii	Environmental sustainability considerations in infrastructure maintenance projects highlight the school board's responsible supervision and maintenance practices.	18	12.8	34	24.1	44	31.2	30	21.3	15	10.6	2.93
ix	The school board's defined responsibilities facilitate effective supervision and maintenance of infrastructure projects.	18	12.9	28	20.1	43	30.9	27	19.4	23	16.5	3.06
x	Regular review of infrastructure maintenance policies by the school board ensures effective supervision and adherence to best practices.	20	14.1	32	22.5	44	31.0	26	18.3	20	14.1	2.96
	Grand Mean											3.0

*Table 1: Teachers' Response to the Extent of School Board Supervision Contribute to Maintenance of Infrastructure in Public Secondary Schools (n=144)
Source: Field Data (2024)*

Key: 1= Very Small Extent (VSE), 2= Small Extent (SE), 3=Moderate Extent (ME), 4=Large Extent (LE), 5=Very Large Extent (VLE), F=frequencies, P=Percentages

Data in table 1 show that a minority (27.5%) of teachers indicated that school board supervision of budget allocation ensures excellent maintenance of school infrastructure to a large extent and a very large extent, 30.3% of teachers indicated to a very small extent and small extent while 42.3% of teachers indicated to a moderate extent. The mean score of 2.95 implies that the supervision by the school board is not successfully supporting the maintenance of

school infrastructure. The data imply a lack of agreement among teachers, with a large number responding to a moderate extent of agreement regarding the school board's supervision of budget allocation in maintaining infrastructure maintenance. The findings are supported by the arguments of school board chairperson "9", who, through face-to-face interviews, shared the views:

"The current state of supervision of the allocated budget for maintenance of school infrastructure is a matter of concern. We have observed that there is a lack of effective oversight and monitoring, which has led to misallocation and underutilization of funds" (Personal Communication with SBCP₉: 20th March, 2024).

Another school board chairperson, "3", shared:

"...without a proper mechanism of tracking and reporting system in place, it becomes difficult to monitor the allocation and utilization of funds effectively. This lack of transparency can result in mismanagement and insufficient supervision" (Personal Communication with SBCP₃: 4th March, 2024).

The information from the school board chairpersons (SBCP₃ and SBCP₉) implies there is a low supervision of the allocated budget for the maintenance of school infrastructure. Both chairpersons express a shared sentiment that there is a lack of effective oversight and monitoring, leading to misallocation and underutilization of funds. The findings are in line with the study by Yanto (2021) in Indonesia, which found the absence of a proper mechanism for tracking and reporting, which makes it difficult to monitor the allocation and utilization of funds effectively in public schools. This lack of transparency leads to mismanagement and insufficient supervision of the budget allocated for maintenance purposes.

The data in table 1 also show that a minority (30.6%) of teachers indicated the school board's engagement of stakeholders promotes inclusive decision-making in infrastructure maintenance projects to a large extent, and very large extent, 37.9% of teachers indicated to a small extent and very small extent to the item while 31.4% of teachers indicated to a moderate extent to the item. A mean score of 2.91 indicates that stakeholder engagement is perceived as moderately supportive in decision-making processes. The data imply that there is variability in teachers' response regarding the effectiveness of the school board's engagement of stakeholders in promoting inclusive decision-making for infrastructure maintenance projects, with a large number of teachers feeling that the decision-making process lacks inclusivity and that the involvement of stakeholders is limited or ineffective. The findings concur with what was reported in the study by Manga (2019) in Nigeria, which revealed that engaging stakeholders ensures that diverse perspectives are considered, leading to better-informed decisions and increased public trust. The engagement of stakeholders by school boards is essential for promoting inclusive decision-making in infrastructure maintenance projects. Data in table 1 show that a minority (32.4%) of teachers indicated to a large extent and very large extent that regular inspections conducted by the school board effectively maintain the quality of school infrastructure, 35.2% of teachers indicated to a very small extent and small extent to the item while 32.4% of teachers to a small extent to the item with a mean score of 2.96. This indicates a moderate level of effectiveness in policy review and adherence. The data imply that a considerable number of teachers perceive the inspections to have limited effectiveness in maintaining the quality of the infrastructure. They may feel that the inspections are not thorough, comprehensive, or adequately address the maintenance needs. This finding was in line with what was shared by the school board chairperson "1", who said:

"Currently, we conduct semi-annual inspections of school infrastructure, focusing on various aspects such as safety, functionality, and overall quality. These inspections are scheduled systematically for each school within the district" (Personal Communication with SBCP₁: 28th February, 2024).

Another school board chairperson, "4", shared:

"The insufficient regular inspections have allowed certain maintenance issues to go unnoticed or unattended. This poses risks to the safety and functionality of our school facilities. It's crucial for us to rectify this situation and ensure that our inspections are more effective in maintaining the quality of our infrastructure" (Personal Communication with SBCP₄: 7th March, 2024).

The information from school board chairpersons (SBCP₁ and SBCP₄) implies that school boards once annually conduct the inspection of school maintenance of infrastructure. The implication is that conducting inspections only once a year may not be sufficient to adequately address all maintenance needs and ensure the highest standards of quality. It indicates a need for more frequent and comprehensive inspections to bridge this gap and ensure that the infrastructure remains in optimal condition throughout the year. By doing so, the school board can proactively identify and address maintenance issues, thereby promoting a safer and more functional environment for students and staff.

Data in table 1 show that a minority (31.9%) of teachers indicated to a large extent and very large extent that environmental sustainability considerations in infrastructure maintenance projects highlight the school board's responsible supervision and maintenance practices, 36.9% of teachers indicated to a small extent and very small extent to the item and 30.9% of teachers indicated to a moderate extent to the item with a mean score of 2.93, suggesting moderate recognition of responsible supervision and maintenance practices by the school board. The data infers that there are differing viewpoints among teachers regarding the extent to which environmental sustainability is prioritized in infrastructure maintenance projects and the school board's overall responsible supervision and maintenance practices, with most of them indicated to be a small extent. These findings echo what is suggested by Issa and Mhagama (2022) in Tanzania, which highlights the positive correlation between environmental sustainability initiatives and cost savings in long-term maintenance expenditures, demonstrating the economic benefits of responsible supervision practices. This highlights the economic benefits of adopting responsible supervision practices. Therefore, it is important for the school boards to consider these viewpoints and explore strategies to enhance environmental sustainability in maintenance projects, not only from an ecological perspective but also from an economic standpoint. By doing so, they can promote both responsible supervision practices and cost-effective maintenance strategies, ultimately benefiting the school community and the environment. Data in table 1 show that a minority (36.6%) of teachers indicated to a large extent and

very large extent that effective coordination between school board members ensures seamless collaboration and efficient infrastructure maintenance, 30.3% of teachers indicated to a small extent and very small extent to the item and 33.1% indicated to a moderate extent to the item. With a mean score of 3.06, the data imply that there is a neutral perception of coordination effectiveness in infrastructure maintenance. Furthermore, the minority 35.9% of teachers indicated to a large extent and very large extent that the school board's defined responsibilities facilitate effective supervision and maintenance of infrastructure projects, 33% of teachers indicated to a small extent and very small extent to the item and 30.9% of teachers indicated to a moderate extent to the item. A mean score of 3.06 implies a neutral perception of the effectiveness of defined responsibilities in facilitating maintenance. The data implies that most of teachers recognize school boards have effective coordination in defined responsibilities to facilitate effective supervision and maintenance of infrastructure projects.

These findings are in line with the information provided by school board chairperson "8" during a face-to-face interview, who claimed:

"Our school board has established clear procedures for assigning responsibilities and coordinating efforts related to infrastructure maintenance. This includes outlining responsibilities among board members, administrators, maintenance staff, and external contractors to ensure accountability and effective oversight of maintenance projects" (Personal Communication with SBCP₈: 18th March, 2024).

Another school board chairperson, "12", shared:

"Effective coordination requires clear communication channels and collaboration among board members. We have designated committees or task forces that oversee specific aspects of infrastructure projects, such as budgeting, planning, and monitoring. This division of responsibilities ensures that each area receives appropriate attention and expertise. Regular reporting and feedback mechanisms are also in place to keep everyone informed and to address any issues promptly. By coordinating our efforts, we can ensure that the supervision and maintenance of infrastructure projects are carried out efficiently and effectively" (Personal Communication with SBCP₁₂: 28th March 2024).

The information from school board chairpersons (SBCP₈ and SBCP₁₂) implies that the school board has implemented structured procedures and practices to facilitate effective coordination in infrastructure maintenance efforts. These practices include clear assignment of responsibilities among board members, administrators, maintenance staff, and external contractors to ensure accountability and oversight. The results are consistent with the research conducted by Odhier et al. (2019) in Kenya, which highlighted the establishment of designated committees or task forces overseeing specific aspects of infrastructure projects, coupled with regular reporting and feedback mechanisms, underscores the importance of communication and collaboration in ensuring efficient and effective maintenance supervision.

Data in table 1 show that a minority (34.8%) of teachers indicated to a large extent and very large extent that regular reporting provided by the school board fosters transparency and ensures effective supervision of infrastructure maintenance, 36.9% of teachers indicated to a small extent and very small extent to the item and 28.4% indicated to a moderate extent to the item. The mean score of 2.90 suggests that regular reporting is not perceived as highly effective. Again, the minority 29.6% of teachers indicated to a large extent and very large extent that the school board's monitoring of project outcomes demonstrates their commitment to the effective maintenance of school infrastructure, 33.8% of teachers indicated to a small extent and very small extent to the item and 36.6% of teachers indicated to a moderate extent to the item. The mean score of 2.95 reflects a perception of moderate commitment to infrastructure maintenance. Data implies that there is an inefficiency of agreement among teachers regarding the effectiveness of transparency, supervision, and commitment in the context of school board supervision of infrastructure maintenance.

The findings concur with the views given by the board chairperson "7," who said:

"We have established protocols for regular reporting on infrastructure maintenance activities and outcomes. This includes detailed reports on inspection findings, maintenance projects, budget allocations, and any challenges or concerns that arise" (Personal Communication with SBCP₇: 15th April, 2024).

Another board chairperson, "6," said:

"Transparency is achieved through open communication and documentation of all maintenance-related activities. We ensure that stakeholders have access to relevant information and are kept informed about the status of maintenance projects. By providing regular updates and reports, we demonstrate our commitment to transparency and accountability in maintenance supervision" (Personal Communication with SBCP₆: 13th March, 2024).

Also, board chairperson "2" shared:

"Effective supervision is ensured through proactive monitoring and follow-up on reported maintenance issues. We track the progress of maintenance projects, address any delays or obstacles that arise, and hold responsible parties accountable for meeting maintenance objectives. By closely monitoring maintenance activities, we can identify areas for improvement and take corrective actions as needed to ensure the quality and safety of school infrastructure" (Personal Communication with SBCP₂: 2nd February, 2024).

The information board chairpersons mean that the board chairpersons (SBCP₂, SBCP₆ and SBCP₇) recognize the significance of regular reporting, transparency, and effective supervision in maintaining school infrastructure. Their statements indicate a structured approach to reporting, communication, and monitoring aimed at promoting accountability and addressing maintenance-related challenges. These findings reflect what was proposed by the study of Ayeni and Bamire (2022) in Nigeria, which emphasized the importance of transparent communication, proactive monitoring, and accountability mechanisms in infrastructure maintenance within the educational context. This suggests that similar principles and practices are valued across different contexts and settings, highlighting their universal

relevance in ensuring the effective management and upkeep of school infrastructure. Furthermore, the heads of schools were also asked to indicate how school board supervision of the maintenance of school infrastructure impacts their effectiveness. Their responses are presented in table 2.

s/n	School Boards Monitor the Supervision of Infrastructure Projects	Responses	
		f	%
i	Regular inspections	11	22.0
ii	Reporting mechanisms	8	16.0
iii	Performance metrics	5	10.0
iv	Stakeholder engagement	9	18.0
v	Budget allocation review	10	20.0
vi	Accountability and compliance	7	14.0

Table 2: Heads of Schools' Responses about School Board Supervision on Maintenance of School Infrastructure (n=12)

Source: Field Data (2024)

Data in table 2 show responses of the heads of schools about how school boards monitor the supervision of infrastructure project maintenance. The data showed that 11(22%) of heads of schools responded to regular inspections, 8(16%) of heads of schools responded to reporting mechanisms, 5(10%) of heads of schools responded to performance metrics, 9(18%) of heads of schools responded in stakeholders' engagement, 10(20%) of heads of schools responded in budget allocation review, and 7(14%) of heads of schools responded to accountability and compliance. The data implies that the heads of schools understand various methods the school board employs to monitor the supervision of infrastructure project maintenance. These monitoring approaches collectively contribute to effective supervision and maintenance of infrastructure projects within the school system. The findings reflect what was explained by school board chairperson "4" during the interview, who claimed:

"Heads of schools receive comprehensive training and orientation sessions where they are briefed on the monitoring methods utilized by the school board. We provide detailed information on regular inspections, reporting mechanisms, performance metrics, stakeholder engagement, budget allocation review, and accountability measures to ensure they have a thorough understanding of our approach to infrastructure project maintenance supervision" (Personal Communication with SBCP₄: 7th March, 2024).

The information from the school board chairperson (SBCP₄) generally implies a structured and comprehensive approach to training heads of schools on monitoring methods for infrastructure project maintenance. It suggests that the school board prioritizes equipping heads of schools with the knowledge and understanding necessary to effectively oversee maintenance activities within their respective institutions. By providing detailed information on various monitoring methods such as regular inspections, reporting mechanisms, performance metrics, stakeholder engagement, budget allocation review, and accountability measures, the school board ensures that heads of schools have the tools and resources needed to uphold maintenance standards and address infrastructure needs. This approach reflects a commitment to transparency, accountability, and collaboration in maintaining school infrastructure to ensure a safe and conducive learning environment for students and staff.

Generally, the study found that school board supervision contributes to the maintenance of infrastructure in public secondary schools to a moderate extent, as indicated in the total mean score of 3. The study has found a lack of consensus regarding the effectiveness of the school board's supervision of budget allocation for infrastructure maintenance, with many teachers expressing concerns over misallocation and underutilization of funds. The study also found that school board chairpersons highlight a need for improved oversight and monitoring to address these issues. Additionally, while teachers recognize the importance of stakeholder engagement in decision-making for maintenance projects, it was found that there is variability in their perception of its effectiveness, indicating a need for enhanced inclusivity in the decision-making process.

The study found that most teachers perceive regular inspections conducted by the school board as ineffective in maintaining infrastructure quality, suggesting a need for more thorough and frequent inspections. Moreover, there is variation in teachers' viewpoints regarding the prioritization of environmental sustainability in maintenance projects, highlighting a potential area for improvement. The study found that most teachers acknowledge the school board's effective coordination and defined responsibilities in facilitating supervision and maintenance of infrastructure projects, reflecting a structured approach endorsed by school board chairpersons. They also found that heads of schools mentioned regular inspections, reporting mechanisms, performance metrics, stakeholder engagement, budget allocation review, and accountability and compliance measures collectively contribute to effective project supervision within the school system.

10. Conclusion and Recommendation

The researcher found that the effectiveness of the school board's supervision of budget allocation for infrastructure maintenance is contentious, with significant concerns over misallocation and underutilization of funds. Enhanced oversight and monitoring are necessary to address these issues. It was also concluded that stakeholder engagement in maintenance project decision-making must be more inclusive to improve effectiveness. Regular inspections by the school board were found to be insufficient in maintaining infrastructure quality, indicating the need for more thorough and frequent inspections. Additionally, prioritizing environmental sustainability in maintenance projects requires improvement. However, the study acknowledged the school board's effective coordination and defined responsibilities in

facilitating infrastructure supervision and maintenance. Finally, regular inspections, reporting mechanisms, performance metrics, stakeholder engagement, budget allocation review, and accountability measures collectively contribute to effective project supervision within the school system.

It is recommended that the effectiveness of the school board's supervision of budget allocation for infrastructure maintenance be improved through enhanced oversight and monitoring to mitigate concerns regarding misallocation and underutilization of funds. Moreover, stakeholder engagement in maintenance project decision-making should be more inclusive to enhance effectiveness. Regular inspections by the school board need to be supplemented with more thorough and frequent inspections to ensure infrastructure quality is adequately maintained. Prioritizing environmental sustainability in maintenance projects should be emphasized and improved. Despite these challenges, the study acknowledged the school board's effective coordination and defined responsibilities in facilitating infrastructure supervision and maintenance. Therefore, implementing regular inspections, establishing reporting mechanisms, defining performance metrics, enhancing stakeholder engagement, conducting budget allocation reviews, and enforcing accountability measures are crucial for effective project supervision within the school system.

11. References

- i. Ali, M. M., & Sani, M. (2023). Assessment of school-based management committees' involvement in managing public primary schools in Maiduguri Metropolis, Borno State, Nigeria. *Kashere Journal of Education*.
- ii. Ayeni, A. J. & Bamire, F. B. (2022). The Role of School-Based Management and Students' Academic Performance in Secondary Schools in Owo Local Government Area of Ondo State, Nigeria. *International Journal of Education, Teaching, and Social Science*, 2(3), 49–63.
- iii. Balikoowa, R., Ojiambo, D., Emuron, L., Siu, G., Mbabazi-Mpyangu, C., Kikooma, J. F., Mugambwa, J., Nuwagaba, R. D., Baluku, M. M., & Onen, D. (2023). Children's Lived Experience and Perceptions of Community Members' Influence On Their Schooling: A Study in Uganda. *Frontiers in Psychology*, 14, 1045737.
- iv. Bowden, A. B., Danks, A., Rodriguez, V., Yang, H., & Davis, R. (2023). Examining State and District Policy and Resource Allocation to Support Digital Learning. *Peabody Journal of Education*, 98(1), 6–25.
- v. Creswell, J. W. & Creswell, J. D. (2018). *Research Design: Qualitative, Quantitative and Mixed Methods Approaches (5th Ed)*. SAGE Publications, Inc.
- vi. Henrikson, R. (2021). Reflections on School Board Evaluation Practices to Support Meaningful Feedback for Superintendent Growth and Improvement. *Journal of Research on Leadership Education*, 17, 265–290.
- vii. Hofmeyr, A. S. (2023). Intercultural Competence Development Through Cocurricular and Extracurricular At-Home Programs in Japan. *Journal of Studies in International Education*, 27(3), 363–386.
- viii. Issa, I. M., Matuga, R. S., Muhina, K. S., & Makassyt, L. (2023). Factors Constraining Purchasing of Teaching and Learning Materials in Public Primary Schools in Dar Es Salaam-Tanzania. *International Journal of Social Science Research and Review*, 6(7), 7.
- ix. Kamau, S. J., Rambo, C., & Mbugua, J. (2021). *Primary schools' development in Somaliland – The role of Community Education Committees*. 2, 6–24.
- x. Kioni, E. W., Njoka, J., & Gachahi, M. W. (2023). Determinants Influencing Provision of Financial Resources for Infrastructure in Early Years Education in Nyeri County, Kenya. 6(9).
- xi. Liguluka, A., & Onyango, D. (2020). Effectiveness of Secondary School Boards in Managing Students' Discipline among Public Secondary Schools in Ulunga District, Morogoro Tanzania. *East African Journal of Education and Social Sciences*, 1, 184–190.
- xii. Makhanu, E. S. (2023). Principals' Literacy in Information and Communication Technology (ICT): Towards Improving Secondary School Performance in Kenya [Thesis].
- xiii. Msuya O. W. (2023). The Struggle to Improve Quality of Public Secondary Education in Tanzania: Rethinking on the Culture of Maintenance and Rehabilitation of Furniture and Infrastructure. *East African Journal*. 123–142.
- xiv. Njau, L. K., Lyamtane, E., & Ogoti, E. (2022). Conceivable Challenges Heads of Schools Face in Managing School-Based Income-Generating Activities Among Public Secondary Schools in Kilimanjaro Region – Tanzania. *International Journal of Education, Learning and Development*.
- xv. Root, D. J. (2023). *A Qualitative Analysis of the Impact of School Board Training as Perceived by Public School Board Members*.
- xvi. TAIWO (2022). Maintenance of school infrastructure for effective academic performance.
- xvii. The United Republic of Tanzania (URT) (2016), Ministry of Finance and Planning, Tanzania National Bureau of Statistics and President's Office - Finance and Planning, Office of the Chief Government Statistician, Zanzibar. The 2022 Population and Housing Census: Administrative Units Population Distribution Report; Tanzania Mainland, December 2022.
- xviii. Walker, K. (2021). Engaging with Community: Exploring the Role of Primary School Governing Boards in Developing and Implementing a "Vision" for Special Educational Needs.
- xix. White, R. S., & Lineburg, M. Y. (2021). Backtalk: School boards and superintendents should work in concert. *Phi Delta Kappan*, 103, 67–68.