

# AN INVESTIGATION OF THE CONDITION OF MAINTENANCE OF FACILITIES AT PUBLIC PRIMARY AND HIGH SCHOOLS IN ALFRED NZO EAST DISTRICT EASTERN CAPE PROVINCE SOUTH AFRICA: A LITERATURE REVIEW

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## Abstract

This paper reviews literature on the condition of maintenance of facilities at public primary and high schools (PPHS) at Alfred Nzo East District (ANED) in the Eastern Cape Province (ECP) in South Africa. Scoping review of accessible literature was the research approach used to collect data for the paper. Results of the study identified: overcrowding of facilities, poor design and planning of facilities, lack of facilities maintenance knowledge and skills of school governing bodies (SGBs), and lack of funding for facilities maintenance as main causes of the poor maintenance condition of facilities at PPHS in South Africa. It was revealed through the study also that poor maintenance of facilities at PPHS caused: poor learning and teaching environment; poor performance of learners and educators; scarcity of educators; and security, safety and health concerns at PPHS. Furthermore, the study identified: prioritization and provision of government funding for extension and construction of new school facilities, inclusion of well qualified facility managers and users at facility planning stage, and provision of facilities training to SGBs as main interventions that can be implemented to improve the condition of maintenance of facilities at PPHS in South Africa. Findings of this study will contribute towards the improvement of the condition of maintenance of facilities at PPHS, support high quality education delivery, reduce unemployment and poverty, and accelerate economic development at ANED and in other parts of South Africa in the future.

**Keywords:** Condition of Facilities Maintenance, Public Primary and High Schools, Learners and Educators, South Africa

## 1. INTRODUCTION AND RESEARCH PROBLEM

History shows Cloete (2001) defined facilities maintenance as actions that are taken to keep or restore a facility, be a site or a building to its acceptable standard and condition at a cost that is manageable. However, Mojela (2013) lamented that while facilities at PPHS at ANED in the ECP and in other areas of South Africa are very important places where the future of the country is engineered by moulding and shaping the children as future leaders, most of the school facilities are in poor condition of maintenance repair. Additionally, Mojela (2013) argued that this was unacceptable since the condition of the school facilities where this vital work is conducted has an impact on the quality of future leaders that are produced. Furthermore, Wall (2022) complained that there is abundant evidence of widespread poor maintenance of facilities at most PPHS in South Africa that are in a dilapidated state of repair. Therefore, this study is significant since it will ensure that school facilities at ANED and in other parts of South Africa are properly maintained and kept in good condition of repair to ascertain the safety and high quality of the learning environment for the learners and educators (Nhlapo, 2009) in the

country. According to the South African Schools Act of 1996, the task of ensuring that facilities at PPHS in South Africa are well maintained and in good condition of repair is in the hands of the Member of the Executive Council (MEC) for Education in the provinces. Through this Act, MEC for Education is empowered to provide conducive teaching and learning environment at PPHS in the provinces. In addition, the South African Schools Act of 1996 through the MEC for Education also gives SGBs the authority to implement and monitor maintenance work regardless of the fact that maintenance work implementation and monitoring requires skilled personnel with a very strong facilities technical background which the SGBs do not have. As a result of this, facilities at most PPHS in South Africa have ended up being poorly managed (Mojela, 2013). Nhlapo (2009) supported this observation by noting that SGBs in South Africa have neglected facilities maintenance at PPHS due to lack of maintenance knowledge and inadequate funding.

On top of the above reported policy and administrative problem, Gibberd (2007) and Chikafalimani, Kibwami and Moyo (2021) noted that historically, SGBs inherited schools with poor facilities maintenance condition from the previous apartheid government in South Africa, which had discriminatory policies that caused a huge difference between the schools for black and white people, whereby schools for black people were under resourced while schools for white people were well resourced. Khumalo and Mji (2014) shared the same sentiment by noting that during apartheid era black people were minimally or even not considered at all in developmental issues and as a result schools for black people especially in rural areas were neglected in the developmental initiatives of the country including provision of school facilities. This historical discrimination created a huge backlog of facilities maintenance at previously disadvantages schools in South Africa, which the current government is still struggling with to get cleared (Chikafalimani, Kibwami and Moyo, 2021).

In a study undertaken by Khumalo and Mji (2014) the importance of facilities at PPHS in South Africa was highlighted. They emphasised that facilities were an essential part of learning and teaching since they enabled the learners and educators to access resources, tools and services that supported them to learn and teach well. Unfortunately, Khumalo and Mji (2014) lamented that currently in South Africa, school resourcing remained unbalanced by favouring people living in the urban areas while disadvantaging people staying in rural areas. Similarly, results in a study by Olaniyan (2011) revealed that school facilities in rural areas are in unacceptable state of infrastructural decomposition and are not only a health peril but also a possible death trap for the learners and educators. To make matters worse, the unfair distribution of school resources including the facilities, has also caused rural and under-resourced schools to get lower passing rates of the learners and perform poorly over the years when compared to urban and well-resourced schools (Khumalo and Mji, 2014). These bad outcomes emerged because poor facilities disrupted education delivery in the classrooms for example through leaking roofs, broken windows and lack of chalk boards (Mojela, 2013). This observation indeed provides strong evidence by confirming that good facilities are required in order to have a positive impact on teaching and learning at PPHS in South Africa. Collin et al. (2021), concluded by noting that good maintenance of facilities at PPHS would eventually save the education system in South Africa and allow the Ministry of Education to effectively perform

its constitutional mandate of ensuring that high quality of education is offered to all learners equally. Furthermore, by maintaining facilities and school infrastructure, government will not only save the future of the users of the school facilities but will also save their lives (Collin et al., 2021).

Consequently, following from the above, Collin et al., (2021) and Khumalo and Mji (2014) proposed that in the future the availability of facilities and their condition of repair be considered and get equally investigated in the performance measurement processes of PPHS in different provinces and parts of South Africa. This was a significant suggestion and requirement since the execution and delivery of high quality education also depended on the availability of properly maintained facilities.

Khumalo and Mji (2014) went further and argued that one of the causes of poverty in the rural areas and under-resourced parts of South Africa is the lack of good school facilities in those areas. This challenge got more complicated with the fact that areas with schools that have poor facilities also faced the problem of attracting well qualified educators, which resulted into poor learners' performance and pass rates, living them with no qualifications and required workplace skills (Collin et al., 2021). Collin et al., (2021) further argued that poor allocation of school resources and poor maintenance of facilities damaged the future of the learners and stole away their opportunity to acquire the necessary skills, making them unemployable and live in poverty. This was unacceptable since the lack of good school resources and facilities created a solid foundation for poverty. Consequently, good learning facilities can support the interruption of the poverty cycle (Collin et al., 2021). Figure 1 below illustrates the cycle of despair and clearly shows how the lack of good school resources and facilities can cause poverty (Khumalo and Mji, 2014).



**Figure 1: The cycle of despair**

Source: Khumalo & Mji (2014)

Another significant fact worth noting is that good facilities at PPHS gave parents and guardians good peace of mind and the assurance not to worry as they go about doing their daily life tasks since good facilities at schools provided a safer and secure environment for the care of their children (Collin et al., 2021). As noted, by maintaining school facilities, South Africa will also secure health and safety of its learners and educators in the future (Lavy and Bilbo, 2009). Lavy and Bilbo (2009) added that this can only be achieved if the country avoids further deterioration and total extinction of the existing school facilities. Furthermore, Nhlapo (2009) indicated that failure to maintain facilities in condition at PPHS did not only hinder the capability of the South African Government Ministry of Education to perform its constitutional mandate to provide quality education but also caused health hazards to the learners and educators as users of the facilities. To address this, Lavy and Bilbo (2009) emphasised that PPHS must be encouraged to regularly conduct routine and unplanned facilities maintenance work as well as undertake systematic condition assessment of the facilities they are using. In the long run, this would be very helpful by reducing further deterioration of the existing school facilities and eradication of site accidents at the schools (Chikafalimani, Kibwami and Moyo, 2021). On top of health and safety concerns, Phathela and Cloete (2018) argued that failure to maintain facilities regularly caused building dilapidation that resulted into financial burdens, legal and industrial conflicts at the workplaces including schools.

Finally, the SGBs of PPHS in South Africa need to understand clearly the authority given to them by the South Africa Schools Act of 1996 of attending to general upkeep of the school facilities and infrastructure timeously in order for them to deliver high quality education. This study will specifically contribute to the current knowledge gap by reviewing the existing literature and propose possible solutions that can be used in order to improve the condition of maintenance of facilities at PPHS in ANED in Eastern Cape Province and in other parts of South Africa.

## **2. LITERATURE RESEARCH APPROACH**

The research approach that was used to collect data for this paper is the scoping literature review method. The method was used because it is the best method for identifying the gap in the existing reviewed literature and it clarifies the key concepts to be investigated in the proposed study (Arksey and Malley, 2005; Peters et al., 2015). The whole scoping review process steps followed in this study as recommended by Peters et al., (2015) are noted below:

(a) Identification of the main research questions:

- What is the condition of maintenance of facilities at PPHS in ANED, ECP and in other parts of South Africa?
- What are the causes of poor maintenance condition of facilities at PPHS in ANED, ECP and in other parts of South Africa?
- What is the impact of poor facilities on education at PPHS in ANED, ECP and in other parts of South Africa?

- What are the acceptable recommendations for the improvement of maintenance condition of facilities at PPHS in ANED, ECP and in other parts of South Africa?
- (b) Identification of key ‘terms’ used for searching relevant literature for the study. More specifically, the following relevant ‘terms’ were used for the paper: maintenance condition, poor maintenance, PPHS facilities maintenance, and school infrastructure.
- (c) Selection of relevant literature: a total of 25 relevant papers that were acquired from different literature sources including google scholar. Thereafter the papers were reviewed to obtain relevant data for the paper.
- (d) Extraction of the main ideas: main themes were extracted from the selected studies.
- (e) Consolidation, summarisation and reporting of the findings: This was the final step taken in the literature survey for the paper.

### **3. FINDINGS, ANALYSIS AND DISCUSSION**

This section summarizes key findings from the literature survey that was conducted in connection with the condition of maintenance of facilities at PPHS in South Africa and elsewhere. The results will support the formulation of acceptable recommendations for the improvement of maintenance condition of the facilities at PPHS in ANED, ECP and in other parts of South Africa.

#### **3.1 Existence of poor condition of maintenance of facilities at PPHS**

The study confirmed through the reviewed literature that facilities at PPHS in most parts of South Africa, particularly in the rural and under-resourced areas, including ANED are in poor maintenance condition (Khumalo and Mji, 2014). This was unacceptable since poorly maintained facilities created a bad learning and teaching environment for the learners and educators that disrupted efficient delivery of high-quality education at the affected schools. To address the situation, Lavy and Bilbo (2009) encouraged PPHS, supported by the Ministry of Education in South Africa, to regularly conduct routine and unplanned maintenance work and undertake systematic condition assessment of facilities they are using.

#### **3.2 Causes of poor condition of maintenance of facilities at PPHS**

##### **3.2.1 Overcrowding of facilities**

Overcrowding of facilities at PPHS is one of the major factors causing poor condition of facilities at the schools (Amsterdam, 2010; Chikafalimani, Kibwami and Moyo, 2021). Amsterdam (2010) added that overcrowding makes it hard to properly clean and do day to day maintenance of the facilities and creates high risks of increased facilities deterioration and vandalism at the schools. Of serious concern, Amsterdam (2010) lamented that overcrowded school facilities are stressful, unpleasing and so demotivating to the learners and educators at PPHS and negatively affected the concentration levels of the learners. As a consequence, educators are interrupted frequently and forced to consistently spend valuable time to maintain order and reduce noise levels in the learning facilities (Amsterdam, 2010). Chikafalimani,

Kibwami and Moyo (2021) recommended that government must provide funding for extension and provision of new facilities at schools where overcrowding of facilities was a challenge.

### **3.2.2 Poor design and planning of facilities**

Khalek (2019) emphasized that non-involvement of well qualified facility managers at planning stage of a construction project including school facilities results into poorly designed facilities that negatively affect the functionality, comfort and health of the users of the facilities. In the case of the Department of Education in South Africa, Nhlapo (2009) observed that facility managers are usually placed at the head office and their contributions to design decisions of school facilities are minimal. Khalek (2019) reported that it was critical for facility users and well qualified facility managers to be actively involved at the design and planning stage, because it is at this stage where future operating problems of the facilities are identified and appropriate decisions taken to ensure proper functioning and maintainability of the facility throughout its lifespan. To conclude, Dulaimi et al., (2015) indicated that, in the long run, the inclusion of facility users and well qualified facility managers at planning stage creates a solid base for project success of the proposed school facility.

### **3.2.3 Lack of facilities maintenance knowledge and skills**

Akinlolu et al. (2020) identified lack of facilities maintenance knowledge and skills by SGBs, who are the authorities involved in facilities maintenance as a barrier in achieving high quality maintenance condition of facilities at public schools in South Africa. Additionally, Akinlolu et al. (2020) argued that these SGBs lacked good planning skills and management commitment in order to perform their facilities maintenance duties diligently. Xaba (2012) agreed by noting that facilities maintenance work is a specialist function that needs technical knowledge and skills. However, Xaba (2012) lamented that it was unfortunate that SGBs, who do not have the required technical knowledge are responsible for facilities maintenance at schools. This was in line with the South African Schools Act (1996), which gave SGBs this responsibility. Xaba (2012) complained that this was not a good policy decision due to the lower level of understanding of facilities maintenance by SGBs, who are given this very key function. Furthermore, Nhlapo (2020) lamented on the danger of facilities maintenance work being managed by SGBs who received no formal training in this area. The consequence of this decision has been further deterioration of facilities at most of public schools in South Africa (Nhlapo 2020). Nhlapo (2020) added that this negative consequence gave valid reasons why it was important for South Africa's Ministry of Education to equip SGBs with facility maintenance knowledge and skills since failure to do so will result in the decay of education facilities that can lead to loss of lives of educators and learners at public schools. A summary of poor facilities maintenance actions taken by the SGBs at public schools was also given by Xaba (2012) and it includes: use of low-quality and incorrect building materials, poor choice of architectural design that turns out to be more costly to maintain facilities, poor control and workmanship during stages of facilities maintenance work, and general lack of facilities maintenance accountability and reporting.



### **3.2.4 Lack of adequate funding for facilities maintenance**

The Green Paper written in 2018 for South Africa's Ministry of Education in connection with guidelines for general upkeep and maintenance of education facilities identified insufficient funding as one of the challenges leading to deferred facilities maintenance work at public schools in South Africa that resulted into a huge facilities maintenance backlog over the years.

The Green Paper further highlighted that one size fit all budget approach is detrimental to proper school facilities maintenance as the funds are allocated based on percentage per child for the public schools. It was pointed out in the Green Paper that this system: disadvantaged public schools with low enrolment while it favoured schools with high enrolment and in the process worsened the facilities maintenance condition of small public schools.

The Green Paper also highlighted poor facilities maintenance financial accountability and reporting at public schools as a serious challenge that requires urgent attention. Chikafalimani, Kibwami and Moyo (2021) agreed with this Green Paper by noting that lack of funding was one of the major challenges of management of facilities that education institutions are facing in South Africa and recommendation that government must prioritize too the funding of school facilities maintenance.

### **3.3 The impact of poor condition of facilities maintenance at PPHS**

The purpose of maintenance of facilities at public schools is to create an environment that is conducive for effective teaching and learning (Wall, 2022). In addition, Asiyai (2012) recognised facilities maintenance at public schools as a back bone for effective teaching and learning. As a consequence, poor condition of maintenance of facilities at public schools similarly created a poor education system for the educators and learners at public schools that contributed towards poor performance of the learners (Asiyai, 2012).

A study by Nhlapo (2020) also revealed that facilities at public schools in most parts of the rural areas in South Africa are in unacceptable state of decomposition and are not only health peril but also possible death trap for the educators and learners. Nhlapo (2020) emphasized that poor facilities maintenance condition at these schools was one of the main causes for their underperformance.

More importantly, Khumalo and Mji (2014) identified lack of good school facilities and scarcity of well qualified educators as the main causes of poverty in most parts of the rural areas in South Africa. Khumalo and Mji (2014) argued that poor performance of the learners increased people with no qualifications and lack of necessary skills to be employed in the economy.

Based on this Khumalo and Mji (2014) linked poor school resourcing and maintenance of facilities as a direct or indirect contributor of poverty in the under-resourced areas in South Africa. Wall (2022) also stressed that poor maintenance of facilities including those at public schools can have negative impact on human development, poverty alleviation, addressing inequality and economic growth.

#### 4. CONCLUSION AND RECOMMENDATIONS

This paper has reviewed in detail available literature on the condition of maintenance of facilities at PPHS in South Africa. Scoping review was the research approach that was applied to collect data for the study.

The study confirmed that facilities at PPHS in most parts of South Africa, particularly in the rural and under-resourced areas are in poor condition of maintenance. Literature survey results revealed: overcrowding of facilities, poor design and planning of facilities, lack of facilities maintenance knowledge and skills of SGBs, and lack of government funding for facilities maintenance as the main causes of the poor maintenance condition of facilities at PPHS in South Africa.

The study also observed that poor maintenance of facilities at PPHS created a poor learning and teaching environment that resulted into the scarcity of educators and poor performance of learners at the public schools.

Additionally, the study noted that poor maintenance of facilities at PPHS was a serious concern since it could lead to the death of learners and educators at the schools due to facilities failure. More importantly, findings of the reviewed literature also indicated that there was a strong link between poorly maintained facilities and poverty. Poorly maintained school facilities disrupted the education of learners.

This made the learners to perform poorly and eventually be deprived of good educational qualifications and skills that made them unemployable and consequently poor due to lack of income. In response, the study identified that the role of SGBs in facilities maintenance at PPHS needs to be reviewed by the South African government. SGBs as the responsible authorities for the maintenance of facilities at PPHS in South Africa need good facilities maintenance exposure and be well supported by people that have facilities maintenance knowledge and skills.

Furthermore, the study identified: prioritization and provision of government funding for extension and construction of new school facilities, and inclusion of well qualified facility managers and users at facility planning stage as additional interventions that can be implemented to improve the condition of maintenance of facilities at PPHS in South Africa and elsewhere.

Finally, recommendations identified in this study will also support the improvement of education and eradication of unemployment and poverty in ANED and in other parts of South Africa. This will eventually uplift people's lives and boost the local economy in the area and rest of South Africa.



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