



Evaluation of Factors affecting Student Hostel Maintenance in a Tertiary Institution in Kaduna South, Kaduna State, Nigeria

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ABSTRACT: Building maintenance can help it retain or regain its useful capabilities and hence maintenance culture is essential in the prolong life span or aesthetics of the building. Therefore, objective of this paper as to evaluate the factors affecting student hostel maintenance in a tertiary institution in Southern Kaduna, Kaduna State, Nigeria using appropriate standard procedure. Maintaining a building can help it retain or regain its useful capabilities. Results obtained demonstrate the poor state of the hostel facilities. The most serious causes of deterioration were found to be age-related natural deterioration, a lack of funding for maintenance, a lack of a maintenance policy framework, a lack of a planned maintenance programme, a lack of a schedule of maintenance, and management issues. Additionally, it has been determined that hiring more technical staff, increasing funding, improving the effectiveness of the budget, and providing technical staff training are all ways to enhance the maintenance culture in higher education and create a more efficient and effective maintenance department.

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Research studies have shown (Ugwu *et al.*, 2018; Okosun and Olagunju, 2017; Kenneth and Chukwunwike, 2020) that the building industry's most neglected component has been home maintenance, namely in the majority of government policy creation and execution in Nigeria. The upkeep of the dorms in Nigeria's numerous public post-secondary institutions reflects this situation (Lovina and Fidelis, 2021). Therefore, Bakhary and Othman (2008) believed that one of the main causes of construction difficulties is building faults, which calls for immediate care. In Nigeria, the majority of public and private buildings have maintenance issues that lead to deteriorations and, eventually, failures of varying degrees (Olanrewaju *et al.*, 2015). According to Wahab *et al.*, (2013), maintenance is the process of keeping a facility in good condition so that its value is preserved.

Agboke (2014) further stated that maintenance is the provision of services aimed at safeguarding, maintaining, and improving the facilities and operations of a facility. When several flaws that could jeopardise a facility's survival or the lives of its users are found during maintenance assessments, the facility must be maintained (Adeniji, 2003). Building owners are frequently reluctant to invest in their constructed asset in order to sustain its condition due to the associated costs, even if maintenance helps restore all of the structure's components and supporting structures to their original state (Marissa, 2021).

According to Ajayi *et al.*, (2015), a substantial portion of the assets of higher education institutions are their fundamental physical structures. Because there is fierce competition among public and private

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institutions to draw in more students, they take advantage of this and increase their investments in the physical infrastructure that is necessary for their operations (Michael *et al.*, 2012). Effective and accommodating facilities in their dorms are among the most crucial things that students require. This is because, as noted by Agboke (2014) and Ugwu *et al.*, (2018), students are expected to be in good mental health in order to succeed in their numerous academic endeavours. Only a well-run dorm system can help students achieve this goal.

In Nigeria's public higher education institutions (HEIs), student hostel management is a major problem. To support effective learning environments and the general calibre of graduates produced from Nigeria's High Institutions, it is imperative to evaluate the current state of hostels, hostel management practices, as well as challenges affecting effective management of students' hostels in Nigerian tertiary institutions (Isaac *et al.*, 2015). Inadequate maintenance and a lack of a sustainable maintenance strategy result in numerous infrastructure structures in Nigeria's public higher education institutions falling entirely into disrepair (Michael *et al.*, 2020). As a result, many of the facilities in Nigeria's higher education institutions are rapidly depreciating in value while also endangering the lives of their occupants.

The situation is more unstable, even dangerous, in metropolitan tertiary institutions. The large number of students enrolled in mainstream programmes cannot be accommodated by the available places (Sunday and Fatima, 2019). Most colleges accept more applicants than they have space to accommodate (Lovina and Fidelis, 2021). According to Oluwunmi *et al.*, (2012) research, all 36 states in Nigeria including the Federal Capital Territory have at least one postsecondary school inside their borders. Additionally, the annual increase in applicants seeking high-quality education has resulted in a tremendous surge in the number of new higher education institutions, including privately owned ones. The productivity of a group of students may not be entirely unrelated to the state of their hostel because dorms offer not only a place to live but also a foundation for stable social and behavioural dynamics (Lovina and Fidelis, 2021). But times have changed, and now corrective maintenance systems are used to oversee physical inspections for the maintenance of these physical educational facilities (Yakub and Zaid, 2017). According to Lateef (2009), in order to make the most use of the resources at hand, maintenance management of the facilities at higher education institutions should be focused on innovative ideas and improved thinking. Several higher institutions in Nigeria still uses their hostel and class room facilities

built many years ago, however, the student's population has taken a geometric increase since inception without attendant increases in hostel facilities, which has affected the hostel space and strained the maintenance of the buildings. Therefore, objective of this paper as to evaluate the factors affecting student hostel maintenance in a tertiary institution in Southern Kaduna, Kaduna State, Nigeria.

MATERIAL AND METHODS

Description of Study Area: Kaduna Polytechnic was established in 1956, as Kaduna Technical insitutue. It is one of the oldest polytechnics in Nigeria, located at Tudun Wada area of Kaduna South local government of Kaduna state; with satellite campuses located at Unguwan Rimi and Barnawa areas of Kaduna, the polytechnic offers National Diploma and Higher National Diploma courses. As at 2021, it has a student population of over 21,000 with 4,000 capacity student hostels of 18 blocks across the three campuses.

Procedure: The data gathering was accomplished by administering 163 questionnaires to the maintenance management department of the institution and students residing in the hostels in all three campuses of the institutions. A total of 156 questionnaires were returned and were used for the analysis of this study representing 96% response rate. Questionnaires distributed to the maintenance department were retrieved representing a 100% response rate. The education qualification of the respondents was all HND students. Data collected was presented using tables to rank variables and charts. They were analysed using the descriptive analysis of data involving frequency distribution, relative importance index (RII) and building condition assessment.

RESULTS AND DISCUSSION

Conditions of Students' Hostel Facilities: According to the replies as seen in table 1, the majority of the fans in the dorm rooms are broken or nonexistent, and the worst features are the windows, the lavatories, the electrical outlets, and the lightbulbs in the bedrooms. The hostels' common areas and roofs are still in good shape; among the hostel amenities, the roof is thought to be in the best condition. According to Adamu and Shakantu's (2016) research, deteriorating, unhealthy, and unsafe hostel conditions validate and elucidate a research problem that attempts to give a fundamental understanding of the maintenance management systems of on-campus hostel buildings in Nigerian tertiary institutions. Akinpelu (2015) discovered in the study that some facilities were in deplorable conditions, while some were grossly absent, others were not sufficiently provided.

Table 1: Conditions of Students' Hostel Facilities

S/N	Hostel facilities	MIS	Remark
1	Electric Fans in the Bedrooms	1.23	Very poor
2	Windows	1.57	Poor
3	Toilet facilities	1.60	Poor
4	Electric Wall Sockets in the Bedrooms	1.80	Poor
5	Electric Bulb in the Bedrooms	1.96	Poor
6	Paint Condition	1.96	Poor
7	Wardrobe	2.00	Poor
8	Courtyard	2.10	Poor
9	Electrical Wiring	2.15	Poor
10	Response of maintenance staff when notified of defects?	2.2	Poor
11	Plumbing	2.26	Poor
12	Recreational facilities	2.3	Poor
13	Floor Condition	2.34	Poor
14	Condition of External Walls	2.4	Poor
15	Rate of quality of work when maintenance is carried out?	2.4	Poor
16	Water collection/Drainage System	2.46	Poor
17	Condition of Internal Walls	2.46	Poor
18	Doors	2.5	Good
19	Stairs	2.65	Good
20	Common room	3.00	Good
21	Roof Condition	4.00	Fairly good

Source: Field Survey, 2022

Evaluation of Causes of Deterioration of Hostel Buildings: Table 2 shows that the most serious factors contributing to the hostel building's deterioration at Kaduna Polytechnic were found to be age-related natural deterioration, a lack of funding for maintenance, a lack of a planned maintenance programme, a lack of a maintenance policy framework, management issues, and a lack of a schedule for maintenance. According to Chanter and Swallow (2008), a significant amount of building deterioration can be attributed to inadequate maintenance practices. These practices include inadequate routine maintenance, the failure to implement an ineffective replacement plan, the absence of regular and appropriate inspections, and the lack of data that would enable the maintenance to be carried out properly during the post-occupancy period.

The lack of a maintenance schedule at Kaduna Polytechnic supports the study's conclusions regarding the insufficiency of routine maintenance. In addition, environmental and climatic issues, a lack of funding, and inadequate maintenance skills were mentioned by Lovina and Fidelis (2021) as contributing causes to the deterioration of hostel structures. A similar conclusion was reached in this study, when it was noted that one of the main factors influencing the decline of hostels is Kaduna Polytechnic's financial situation. In his research, Borku (2020) also determined that subpar building materials, subpar construction methods, subpar supervision, subpar workmanship, subpar maintenance when problems arise, and subpar management systems are all contributing factors to building flaws.

Table 2: Evaluation of Causes of Deterioration of Hostel Buildings

S/N	Causes of dilapidation/deterioration of buildings	MIS	Remark
1	Natural deterioration due to age	1.2	Strongly agree
2	Insufficient fund for maintenance work	1.2	Strongly agree
3	Lack of maintenance policy framework	1.2	Strongly agree
4	Absence of form of planned maintenance programme	1.2	Strongly agree
5	Absence of schedule of dilapidation	1.2	Strongly agree
6	Management problems	1.2	Strongly agree
7	Frequent shortage of materials	1.8	To a good extent
8	Use of poor-quality materials	2.0	To a good extent
9	Negative attitude of students	2.0	To a good extent
10	Inadequate training and development of maintenance staff	2.0	To a good extent

Source: Field Survey, 2022

Evaluation of challenges faced by maintenance management departments: Amongst all the challenges being faced by the maintenance department as shown in table 3, “lack of adequate staff”, “lack of training of maintenance staff”, and “poor (unsafe and unhealthy)

working condition of maintenance staff” ranked highest, with MIS of 1.3 and 1.6 and 2.4 respectively. “Inadequate utilization of the budget”, “insufficient budget”, and “Lack lack of adequate technical staff”, equally having MIS of 5.0.

Table 3: Evaluation of challenges faced by maintenance management departments

S/N	Challenges faced by maintenance department	MIS	Remark
1	Is the department properly staffed to do the job?	1.3	Strongly agree
2	Are maintenance/technical staff adequately trained?	1.6	To a good extent
3	How safe is the working condition of maintenance staff?	2.4	To a good extent
4	Is there an effective budget for maintenance?	5.0	Disagree
5	Is the budget sufficient?	5.0	Disagree
6	Is there enough technical staff?	5.0	Disagree

Source: Field Survey, 2022

The three biggest issues facing the maintenance department were "poor (unsafe and unhealthy) working conditions of maintenance staff," "lack of adequate staff," and "lack of training of maintenance staff." According to Osuagwu *et al.*, (2021), there are numerous issues with maintaining buildings and other infrastructure in Nigeria. One of the most significant issues is money; there is little management financing available for building upkeep. According to Lovina and Fidelis (2021), the apparent impact of insufficient maintenance workers and delayed management decisions on the upkeep of institutional hostel buildings can also be attributed to a lack of sufficient funding.

Solutions to maintenance management challenges: As indicated in table 4, It has been determined that in

order to create a more effective and efficient maintenance department, the following urgent priorities should be given top priority: improving funding, improving the effectiveness of the budget, hiring more technical staff, improving the safe and healthy working conditions of maintenance staff, and hiring more maintenance staff. In addition, Lovina and Fidelis (2021) noted in their work that budgetary allotment for facility and other infrastructure maintenance should be periodically reviewed to account for inflationary trends. These are some of the identified solutions to maintenance challenges, which include encouraging adequate training among maintenance department staff to acquire the necessary skills for continual maintenance of the hostel facilities in the institution.

Table 4: Solutions to maintenance management challenges

S/N	Solutions to challenges	MIS	Remark
1	Employment of more maintenance workers	1.0	Strongly agree
2	Employment of more technical staff	1.0	Strongly agree
3	Training of technical/maintenance staff	1.0	Strongly agree
4	Improvement in healthy and safe working condition of staff	1.0	Strongly agree
5	Improvement in effectiveness of budget	1.0	Strongly agree
6	Improvement in funding/budget	1.0	Strongly agree

Source: Field Survey, 2022

Current Maintenance management system: The institution's maintenance management section uses direct workers for small maintenance tasks and contracts out larger renovations. The outcome of this investigation aligns with the conclusions of Ikediashi *et al.*, (2012), who noted that institutions are increasingly turning to outsourcing as a means of executing facilities management services in addition to the more conventional insourcing approach. In order to capitalise on manpower synergies between the institution and the contracting firm, tertiary institutions in Nigeria typically combine the use of direct workers with outsourcing in executing maintenance services (Latif *et al.*, 2010).

Frequency of Maintenance Works: The maintenance officers responded that it is only when fault has been detected that maintenance work is carried out.

Conclusion: Buildings are only worth something if they can continue to function as planned, failing which

their existence will become meaningless, if not downright unimportant. When maintenance staff don't have the necessary supplies, they become less motivated to perform their jobs well. Therefore, maintenance is unavoidable and needs to be properly handled in order to enhance and maintain productivity, service delivery, and user pleasure. At Federal Polytechnic, Kaduna, hostel building repair needs to be given top priority.

Declaration of Conflict of Interest: The authors declare no conflict of interest

Data Availability Statement: Data are available upon request from the first author or corresponding author.

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