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Evaluating the Condition of Hostel Building Components in Kaduna State University

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Abstract

This study examines the condition of hostel building components at Kaduna State University using a descriptive quantitative design. The research assessed structural and functional elements of the hostels, identified maintenance challenges, and proposed strategies for improvement. Data were collected from all 32 professionals in the university's Physical Planning Department across the Kaduna and Kafanchan campuses, using standardized questionnaires. The Analytic Hierarchy Process (AHP) was applied for multi-criteria evaluation, supported by descriptive statistics and mean score rankings analyzed with SPSS. Findings indicate that structural elements such as lintels and columns are in good condition, while ceilings, roofs, and plumbing systems present significant maintenance problems. Electrical and lighting systems showed moderate performance but require enhancement. Key challenges were linked to delayed repairs, budgetary limitations, and material acquisition constraints, while shortages of skilled personnel were secondary. The study recommends increased maintenance budgets, preventive maintenance schedules, regular inspections, staff training, transparent planning, and the exploration of external funding. Overall, a multifaceted approach integrating financial investment, capacity building, and preventive strategies is essential to enhance hostel safety, functionality, and living conditions for students.

Key words; Structural elements, Maintenance practice, Physical planning, Mitigation strategies, and University hostels.

Introduction

University buildings are diverse in function, ranging from academic and administrative structures to residential hostels that provide essential accommodation for students. Hostels, in particular, play a crucial role in ensuring student welfare, comfort, and productivity by offering safe and conducive living environments (Chen & Chou, 2019;

Madison & Klein, 2018). Their construction involves multiple stages from planning, design, and execution to post-construction inspections each of which requires strict adherence to quality standards and regulatory guidelines (Cheng et al., 2016; Xue et al., 2018). However, inadequate maintenance practices often lead to deterioration of building components, compromising both safety and habitability (Izobo-Martins et al., 2018).

Effective facilities management, with emphasis on operation and maintenance, is critical for prolonging building lifespan and enhancing user satisfaction (Nafrizon, 2020; Alsayyari et al., 2019). Poor maintenance of university hostels has been linked to structural decay, unsatisfactory living conditions, and reduced student performance (Sanusi, 2019, and Adewunmi, 2011). Budgetary constraints, limited skilled personnel, and poor planning often exacerbate these issues, leading to deferred repairs and service disruptions (Omar et al., 2017, and Afolabi, 2022).

Despite the importance of hostel maintenance in higher education institutions, limited research has specifically examined the condition of hostel building components in Nigerian universities. Previous studies have assessed student housing quality in other contexts (Bichi et al., 2018; Farahani et al., 2019), but little attention has been given to Kaduna State University hostels. Addressing this gap is necessary to ensure a safe, functional, and supportive living environment for students, which directly impacts their academic performance and well-being (Velasco & Mezzi, 2018).

This study, therefore, evaluates the physical condition of hostel building components at Kaduna State University, identifies the challenges faced by the Physical Planning Department in maintenance delivery, and proposes strategies to enhance hostel maintenance practices. By doing so, it contributes to improved resource allocation, policy formulation, and sustainable facility management in higher education and seeks to achieve the following objectives:

i. To assess the current physical conditions of the hostel building components within the University
ii. To assess the challenges faced by hostel physical planning department in response to maintenance.
iii. To establish strategies that will improve the maintenance policy for hostel building components.

The Condition of the Hostels Building Components

In general term, higher institution is based known according to its function and standards. The structural integrity of higher institution buildings is a vital part of their overall condition regular inspections guarantee that buildings are safe and capable of withstanding environmen tal and usage-related pressures stated by (Wang & Jalloh 2018). Mahmoud & Khoury (2017) stated,

in higher education facilities, maintaining the state and functionality of fire protection syste ms is essential for safeguarding people and property. Then in the following year Fisher & Newton (2018) building element aesthetic and functional qualities have a big impact on how the campus on how it feels and how it satisfies its users.

Infrastructure development in Nigeria Universities requires government funding. The Nigerian government introduces different strategies to improve infrastructure in universities, focusing on modernizing universities facilities and increasing access to higher education (Adedeji & Olaniyan 2019). And Ogunyemi et al. (2018) states that public-private partnership helps in developing Universities infrastructures, proving them with alternative funding and professional advice regarding construction and renovation of academic buildings.

Hostel accommodation in Nigerian Universities changes, with the current issue of overcrowding, inadequate facilities and poor maintenance is the present issue (Adebayo & Olatunde 2018). Onyeji & Igwe (2020) added that quality hostel has significant impact on students' academic performance, mental health, and overall University experiences. Nigeria government addresses higher institution on accommodation issues involving policies reforms, infrastructure investment and public-private partnership to improve hostel conditions (Abubakar 2019). And Olaniyan & Ojo (2018) stated that private sector involvement in hostel accommodation that led to the construction of modern, well-maintained hostels, creating a disparity in access among students.

Maintaining hostel building components requires a systematic and comprehensive approach to ensure the safety, functionality, and longevity of the facilities. Effective maintenance involves routine inspections, preventive measures, timely repairs, and the use of appropriate technologies and strategies. Below is a detailed guide on how to maintain various components of hostel buildings, also supported by recent literature.

Table 1. The University Hostel Building Components

Building Components	Sub-building Components	Reviews
Roof	Roofing Roof frame Roof gutter	1. Damages as a result of roof failure (Michelsen, 2016). Roof generally is a very important component of a building 2. Delay in fixing or replacing damaged roof can leads to greater damage to the wall structures (Adesogan, 2018).
Wall	Lintel and column Brick masonry wall Paint	(i) Wall partitions a building into multi-spaces and provides privacy (Ugwu, Okafor and Nwoji, 2018). (ii) In maintenance aspect, external walls should be inspected carefully at least once a year (Thohir et al. 2017).
Ceiling	Frame of ceiling Ceiling cover Paint	1. They control the spread of light and sound in a room as well as prevent the passage of sound system, accommodate construction offers such as vents, lighting and sprinklers, conceal different fittings or service such as ducts, pipes and wiring (Sanford, 2014).

Building Components	Sub-building Components	Reviews
		2. Proper ceiling maintenance is essential as it improves indoor air quality (Odeyemi et al., 2019).
Door and Window	Sill Door Window	1. They direct the measure of air and daylight that enters a building as well as secure the property of the occupants (Ugwu et al., 2018). 2. Windows and doors deteriorate over time due to age, use, wear and exposure to the weather (Odeyemi et al., 2019).
Floor	Structure Floor finishes	1. Floor includes a wide variety of different types of surfaces, which meet both human and natural environments (Tena-Colunga et al., 2015). 2. It experiences the most action, inhabitants stroll on the floor and substantial moveable burdens are positioned to remain on the floor on a specific spot for quite a while without repositioning, every one of these causes wear and tear to the floor (Ugwu et al., 2018). 3. Floor maintenance emphasizes on the aspects of safety, appearance and cleanliness, as well as following a routine maintenance programme that helps shield the floor area (Amos et al., 2021).
Utilities	Electrical Water supply Internet network	1. Utilities in university hostels encompass electrical system, power supply system and internet network system to cater the needs of students. Water supply frameworks need to convey satisfactory measures of water to meet consumer utilization, and in the meantime be dependable and accessible to give the required water 24 hours, 365 days in a year (Mwanza & Mbohwa, 2016). And also Inspect pipes, faucets, and drainage systems for leaks and blockages (Usman & Ali, 2019). Check water pressure and flow to ensure optimal performance. 2. Internet significantly affects the educational process (Siddiquah & Salim, 2017).

Challenges Faced by Hostel Physical Planning

Adebayo & Olatunde, (2018) drafted out some maintenance culture and procedures used during execution. Recently Okolie & Omole (2019) stated the reasons why there's frequent breakdown of hostel facilities and stated how to mitigate those reasons. Ojo & Ogundele, (2020) drafted that lack of regular inspection is another challenge faced by facilities management and advice that regular inspections should be done and actions should be taken

when a default is noted. Under the Impact of hostel accommodation on students' academic performance. A study of tertiary institutions in South-East Nigeria. Insufficient capacity leading to overcrowding is another problem faced by facility management in higher institutions (Nwachukwu & Nwokoro, 2019).

The effect of hostel accommodation on student's psychological well-being by Onyeji & Igwe (2020). Stated that Health and safety risks associated with overcrowding is also a problem faced today in hostels accommodation which he suggests there should be reasonable number of students living in every hostel depending on the hostel capacity. And overcrowding also reduced student comfort and productivity in terms of Influence of living conditions on students' academic performance and well-being. (Uwaezuoke & Okeke 2021).

Challenges like inadequate funding for maintenance and upgrades are discussed. Abubakar (2019) Government policies and the provision of hostel accommodation in Nigerian universities can help in term of this challenge. And Adeniran & Akindele (2020) Public-private partnerships in university hostel development helps in addressing and assisting in terms of inadequate funding for maintenance and upgrades. Eze & Okeke (2021) Stated that limited resources for renovations is one of the major challenges which he suggests government intervention in hostel accommodation in Nigerian University. Olaniyan & Ojo (2018) stated that inadequate security measures are a key challenge for facility management which added that private sector involvement in providing hostel accommodation in Nigerian universities should cover for this challenge. High incidence of theft and vandalism was also discussed by (Adewale 2019). And Lack of security personnel and surveillance systems (Nwosu 2020).

According to Adeyemi & Ilesanmi (2019), Poor waste management systems is a critical challenge that leads to hostel abandonment which has to be taken very seriously. And Inadequate sanitation facilities by Obi & Nwankwo (2020). While Health risks due to poor hygiene in the hostels building as a result of negligence to adapting sanitation/cleaning routine is causing a lot of issues today (Okafor & Okonkwo 2020). Nwachukwu & Emoh (2020), added that lack of trained facility management staff affects hostel facility management, finances are misused. Ineffective management practices where there are poor strategies for sustainable infrastructure development in Nigerian universities (Okolie & Okoye 2018). And bureaucratic delays and lack of accountability by addressing policies and practices (Omole & Olaniyan (2019).

Table 2. CHALLENGES FACED BY HOSTEL FACILITY MANAGEMENT

Category	Challenges	Reviews
Maintenance Issues	Poor maintenance culture	Adebayo & Olatunde, (2018).
	Frequent breakdown of facilities	Okolie, & Omole (2019).
	Lack of regular inspections	Ojo, O., & Ogundele, A. (2020).
Overcrowding	Insufficient capacity leading to overcrowded rooms	Nwachukwu & Nwokoro (2019).
	Health and safety risks associated with overcrowding	Onyeji & Igwe (2020).

	Reduced student comfort and productivity	Uwaezuoke & Okeke (2021).
Funding Constraints	Inadequate funding for maintenance and upgrades	Abubakar (2019).
	Dependence on government funding	Adeniran & Akindele (2020).
	Limited resources for renovations	Eze & Okeke (2021).
Security Issues	Inadequate security measures	Olaniyan & Ojo (2018).
	High incidence of theft and vandalism	Adewale (2019).
	Lack of security personnel and surveillance systems	Nwosu (2020).
Hygiene and Sanitation	Poor waste management systems	Adeyemi & Ilesanmi (2019).
	Inadequate sanitation facilities	Obi & Nwankwo (2020).
	Health risks due to poor hygiene	Okafor & Okonkwo (2020).
Management Inefficiencies	Lack of trained facility management staff	Nwachukwu & Emoh (2020).
	Ineffective management practices	Okolie & Okoye (2018).
	Bureaucratic delays and lack of accountability	Omole & Olaniyan (2019).

Mitigating Strategies

Adebayo & Olatunde (2018) discussed that to solve maintenance Issues regular maintenance schedules must be implemented in all hostel accommodations. Training and empowering maintenance staff of the University is a good way of solving this issue (Okolie & Omole 2019). Utilizing technology for monitoring and early detection of issues in the hostel buildings (Ojo & Ogundele 2020). Hostel capacity can be expanded through construction of new facilities will help mitigate the issue of overcrowding according to (Nwachukwu & Nwokoro 2019). And implementing room allocation policies to optimize space utilization (Onyeji & Igwe 2020). And Uwaezuoke & Okeke (2021) Improve security to manage increased occupancy.

Seeking alternative funding sources such as partnerships and grants under Government policies and the provision of hostel accommodation in Nigerian universities. (Abubakar 2019). While Optimizing budget distribution through economical management practices in the University hostel development (Adeniran & Akindele 2020). And setting infrastructural priorities in accordance with urgent needs (Eze & Okeke 2021). According to Olaniyan & Ojo (2018) install and keep up access control and security camera systems to promote students' safety. While increasing personnel and patrols unit in the hostels (Adewale 2019). And perform routine security evaluations and exercise at intervals (Nwosu 2020).

Adeyemi & Ilesanmi (2019) putting in place waste management systems in hostels also helps in prolonging hostel life-span. While upgrading sanitary appliances in terms of replacing the spoilt/outdated appliances with the new and modern ones will help (Obi & Nwankwo 2020). And encouraging students to practice good hygiene is another way mitigating those challenges (Okafor & Okonkwo 2020). Nwachukwu & Emoh (2020) stated that employing staff that undergo all form training regarding hostel maintenance is the best thing to do. While simplifying administrative procedures to cut down delays in hostel management (Okolie & Okoye 2018). And enabling transparency and also boost resource management accountability (Omole & Olaniyan 2019).

Table 3. Mitigating Strategies

Challenges	Mitigating Strategies	Reviews
Maintenance Issues	Implement regular maintenance schedules	Adebayo & Olatunde (2018).
	Train and empower maintenance staff	Okolie & Omole (2019).
	Utilize technology for monitoring and early detection of issues	Ojo & Ogundele (2020).
Overcrowding	Expand hostel capacity through construction of new facilities	Nwachukwu & Nwokoro (2019).
	Implement room allocation policies to optimize space utilization	Onyeji & Igwe (2020).
	Improve security to manage increased occupancy	Uwaezuoke & Okeke (2021).
Funding Constraints	Seek alternative funding sources such as partnerships and grants	Abubakar (2019).
	Optimize budget allocation through cost-effective management practices	Adeniran & Akindele (2020).
	Prioritize infrastructure upgrades based on critical needs	Eze & Okeke (2021).
Security Issues	Install and maintain security cameras and access control systems	Olaniyan & Ojo (2018).
	Increase security personnel and patrols	Adewale (2019).
	Conduct regular security assessments and drills	Nwosu (2020).
Hygiene and Sanitation	Implement waste management systems	Adeyemi & Ilesanmi (2019).
	Upgrade sanitation facilities	Obi & Nwankwo (2020).
	Promote hygiene awareness among students	Okafor & Okonkwo (2020).
Management Inefficiencies	Provide continuous training for staff	Nwachukwu & Emoh (2020).
	Streamline administrative processes to reduce delays	Okolie & Okoye (2018).
	Enhance transparency and accountability in resource management	Omole & Olaniyan (2019).

The Impact of Good Hostel Maintenance Practice

Maintenance plays a critical role in determining the quality of hostels at Kaduna State University. According to Oladokun & Emmanuel (2018) Maintenance ensures that all hostel premises, including rooms, common areas, and sanitary facilities, are clean and hygienic. Regular cleaning and pest control prevent health hazards and create a conducive living environment. Akinlolu (2019) added that Regular maintenance to structural components like walls, roofs, and foundations ensures the safety of buildings. Addressing issues such as cracks,

leaks, and structural weaknesses promptly prevents accidents and ensures the physical safety of residents. And Ede (2020) discuss the importance of maintaining electrical systems to prevent fire hazards in student hostels in term of wiring and electrical fixtures. While, Omole & Akinwale (2016) found a positive relationship between maintenance practices and student satisfaction in university hostels due to the student's level of satisfaction. And Adebayo & Yusuf (2018) highlight that good hostel maintenance contributes to better academic performance by providing a stable and supportive living environment for its occupants. Again Adejumo & Akinlabi (2017) argue that preventive maintenance is more cost-effective than reactive maintenance, leading to long-term savings and sustainability.

Methodology

This study employed a quantitative research approach using a descriptive research design to evaluate the condition of hostel building components at Kaduna State University. The design was appropriate as it enabled systematic assessment of existing conditions and identification of areas requiring improvement (Afolabi, 2022). To guide structured decision-making, the Analytic Hierarchy Process (AHP) was applied, allowing the evaluation of multiple criteria such as durability, safety, aesthetics, and functionality (Kumar, 2019; Al-Harbi, 2001).

The study relied on **primary data**, collected through a structured questionnaire survey. The instrument was designed to capture expert opinions and physical assessments of hostel facilities.

The target population comprised all personnel of the Physical Planning Department at Kaduna State University, covering both the Kaduna and Kafanchan campuses. The department consists of 32 professionals and non-professionals with diverse expertise. Given the manageable population size, a census sampling technique was adopted, ensuring that all members of the population were included in the study (Trochim & Donnelly, 2020).

The sample frame was obtained from the Kaduna State University Physical Planning Registry (2024), which confirmed the total of 32 staff members. As the entire population was surveyed, the sample size was also 32 respondents.

Data were analyzed using descriptive statistical methods with the aid of SPSS software. Mean score ranking was employed to interpret responses and prioritize issues across the objectives of the study (Gravetter & Wallnau, 2017). Specifically:

1. The physical condition of hostel building components was assessed using mean score rankings.
2. Challenges faced in hostel maintenance were identified and ranked.
3. Strategies for improving hostel maintenance policies were prioritized.

The combined use of descriptive statistics and AHP provided a robust framework for evaluating hostel facilities and formulating evidence-based recommendations.

Results and Discussion

This study analyzed the demographic profile of respondents, the current condition of hostel building components at Kaduna State University, challenges faced in maintenance, and strategies for improvement.

Table 4: Respondents Profile

Respondents Profile	Frequency	Percentage
Gender		
Male	**30**	**93.8**
Female	**2**	**6.3**
Total	32	100
Profession		
Quantity Surveyor	**1**	**3.1**
Architect	**1**	**3.1**
Building Engineer	**5**	**15.6**
Services Engineer	**19**	**59.4**
Structural Engineer	**1**	**3.1**
Others	**5**	**15.6**
Total	32	100.0
Years of Experience		
0-5	**13**	**40.6**
5-10	**10**	**31.3**
10 and above	**9**	**28.1**
Total	32	100.0
Qualification		
OND	**1**	**3.1**
HND	**6**	**18.8**
BSc	**15**	**46.9**
MsC	**9**	**28.1**
PhD	**1**	**3.1**
Total	32	100.0

Table 5. The Current Condition of Hostel Building Components

Questionnaire Item	1	2	3	4	5	M.S	Ranking
The lintels and column are in good condition.	1	5	3	21	2	3.56	1st
The electrical wiring and outlets are in good condition.	1	4	10	15	2	3.41	2nd
The lighting system is adequate and functional throughout the building.	0	11	9	9	3	3.13	3rd
The walls and floors are free from cracks and structural damage.	2	9	11	8	2	2.97	4th
Windows are intact and function properly (open/close smoothly).	1	16	2	13	0	2.84	5th
Doors are secure and locks are functioning well.	4	10	8	9	1	2.78	6th

Questionnaire Item	1	2	3	4	5	M.S	Ranking
The plumbing system is reliable, with no frequent leaks or blockages.	2	16	4	9	1	2.72	7th
Sanitary facilities (toilets, showers) are clean and in good working order.	5	13	6	6	2	2.59	8th
There are no visible signs of roof leakage or damage.	3	17	4	7	1	2.56	9th
The ceilings are in good condition, without stains or sagging.	4	19	4	4	1	2.34	10th

(Survey 2024).

Based on the respondent's feedback, Top-Ranked Components includes Lintels and Columns. With the highest mean score of 3.56, indicating respondents largely agree these structural elements are in good condition. While Electrical Wiring and Outlets also received positive feedback (3.4), suggesting reliability and safety in this area. And Lighting System is Ranked third with a mean score of 3.13, showing general satisfaction with the lighting quality and functionality.

Mid-Ranked Components explained that the Walls and Floors of this buildings whilst achieving a mean score of 2.97, indicating minor issues might exist, but they are not a primary concern for most respondents. Follow by the Windows and Doors which Windows scored 2.84 and doors 2.78, reflecting moderate functionality; however, these may need minor maintenance to improve ease of use and security.

Low-Ranked Components comprises of Ceilings and Roofs. The roof's condition scored 2.56, while ceilings were rated lower (2.34), hinting at potential concerns with leaks, stains, or sagging, which could impact the building's durability. While Sanitary Facilities and Plumbing is Scoring 2.59 and 2.72 respectively, which mean the plumbing and sanitation systems were identified as needing improvement to address issues with cleanliness, leaks, or blockages.

Now, while structural elements and electrical systems are perceived as reliable, the data suggests a need for improvements in areas related to water and sanitation, as well as the ceiling and roof conditions. Addressing these lower-ranked components could enhance the overall habitability and safety of the hostel building.

Table 6. The Challenges Faced by the Physical Planning

Questionnaire Item	1	2	3	4	5	M.S	Ranking
Maintenance requests often take too long to be addressed.	0	0	1	15	16	4.47	1st
Budget limitations prevent timely maintenance and repairs.	1	2	12	17	0	4.38	2nd
There are frequent delays in acquiring necessary repair materials.	0	0	4	13	15	4.34	3rd
There is insufficient funding for upgrading hostel facilities.	1	1	2	12	16	4.28	4th

Questionnaire Item	1	2	3	4	5	M.S	Ranking
There is lack of proper planning and scheduling for maintenance activities.	0	1	4	14	13	4.22	5th
Resources are not adequately prioritized for critical maintenance tasks.	0	1	5	14	12	4.16	6th
The current staff lacks the necessary skills for specialized repairs.	0	4	10	14	4	3.56	7th
There is a shortage of qualified maintenance staff.	0	1	16	12	3	3.53	8th

(Survey 2024).

Challenges in Physical Planning, the most significant challenge identified is timely maintenance and repair (mean score 4.47), followed by delays in acquiring repair materials (4.34) and budget limitations (4.38). Insufficient funding for upgrades and lack of proper planning were also notable issues, underscoring resource-related challenges.

Lower-ranked challenges include staff shortages and skill gaps, which, although significant, are rated lower, suggesting that budget and material availability are seen as the primary limitations.

Table 7. Strategies for Improving the Maintenance Policy

Questionnaire Item	1	2	3	4	5	M.S	Ranking
Maintenance budget allocation would improve hostel component upkeep.	0	0	1	9	22	4.66	1st
Regular training and workshops for staff can improve maintenance quality.	0	1	1	11	19	4.50	2nd
Creating a preventive maintenance schedule would reduce long-term costs.	0	1	1	11	19	4.50	2nd
Regular inspections of hostel components can preempt major issues.	0	1	0	13	18	4.50	2nd
A transparent maintenance schedule would improve planning and execution.	0	0	4	15	13	4.28	5th
Seeking external grants can help fund maintenance projects effectively.	0	0	4	17	11	4.22	6th
Updating maintenance policies to reflect best practices would improve outcomes.	0	0	5	18	9	4.13	7th
Hiring more skilled maintenance personnel is essential for efficient repairs.	0	2	4	14	12	4.13	8th
Regularly reviewing and revising of the policy is crucial for adaptation.	0	0	6	19	7	4.03	9th

(Survey 2024).

This analysis highlights the priority actions that could improve hostel maintenance based on respondents' ratings. Top Priority deals with Maintenance of Budget Allocation which was

Ranked the highest with a score of 4.66, indicating strong agreement that increasing budget allocation is key to improving upkeep.

High-Priority Actions; Regular Training and Preventive Measures. Staff training and a preventive maintenance schedule both received high scores (4.50), suggesting these are effective strategies to reduce costs and improve maintenance quality. Regular Inspections: Also scoring 4.50, inspections are viewed as essential for identifying and addressing issues early.

Moderate-Priority Actions involve Transparent Maintenance Schedule Scoring 4.28, a clear maintenance schedule would help with better planning and execution.

External Funding and Skilled Personnel. Both received positive feedback, with scores of 4.22 and 4.13, showing these are considered important also but slightly less urgent.

Lower-Priority Suggestions; Policy Review and Adaptation. While still important, revising policies regularly scored 4.03, suggesting respondents see it as valuable but not immediately critical implement.

In addition, the analysis shows that budget allocation, staff training, regular inspections, and preventive scheduling are top priorities for enhancing maintenance, while funding, skilled personnel, and policy updates also play supportive roles.

DISCUSSION OF FINDINGS

The findings on the conditions of different hostel building components within the University. Structural elements like "Lintels and Columns" are set to be functionable, showing general satisfaction, while "Electrical Wiring and Outlets" is also in good condition. This assured confidence in the stability and safety of these critical elements, which aligns with findings that prioritize structural soundness in building maintenance (Hameed, 2023). Therefore, the lower ratings for "Ceilings" and "Roofs" highlight concerns about potential leaks or sagging, which could compromise the hostel's durability. Such issues could necessitate regular inspections to ensure safety, as emphasized by past studies on preventive maintenance strategies (Ali, 2021).

The main challenges revolve around "Timely Maintenance and Repair" (mean score: 4.47), "Material Acquisition Delays" (4.34), and "Budget Limitations" (4.38). Unlike the concern supported by research on the economic impact of maintenance (Smith, 2021). These findings underscore the importance of efficient resource allocation and prompt repair processes, as delays in maintenance often lead to compounded structural issues. Where cases of "Shortage of Skilled Maintenance Staff" and "Skill Gaps," is rated low. And relevant suggestions on the perception that financial and resource constraints are more pressing than staff shortages. This perspective aligns with studies indicating that, while skilled personnel are crucial, effective maintenance often hinges on budgetary provisions (Demircioglu, 2020).

The must rate strategy, "Maintenance Budget Allocation," this highlights the need for increased in financial resources, which respondents believe would significantly enhance maintenance outcomes (Shaikh, 2023). Other high-ranking strategies include "Regular Training and Workshops" and "Preventive Maintenance Schedules," both scoring 4.50, reflecting and recognizing the value of skill development and preventive care in reducing long-

term repair costs. Regular inspections are also important, as they help preempt major issues a practice that aligns with effective maintenance management principles (Hameed, 2023). Lastly, updating policies and seeking external grants are viewed as supportive strategies, showing that respondents consider funding, planning, and preventive actions as foundational to improving hostel maintenance quality.

Recommendation:

Based on the findings from the analysis, here are key recommendations to improve the maintenance and management of the hostel building components.

a. Increase Maintenance Budget Allocation: The most pressing challenge identified is the lack of sufficient funds to conduct timely repairs and upgrades. It is recommended that a larger portion of the budget be allocated specifically for routine maintenance and emergency repairs.
b. Establish a Preventive Maintenance Schedule: Shifting from reactive to preventive maintenance can reduce long-term costs and prevent minor issues from escalating. Regular checks on plumbing, electrical systems, and structural components like ceilings and walls should be scheduled. This approach can help to detect and address maintenance needs early, improving facility conditions over time.
c. Conduct Regular Facility Inspections: Routine inspections should be scheduled to monitor the condition of hostel components like plumbing, sanitary facilities, and the lighting system.

Conclusion

The results underscore an urgent need for improved financial commitment, strategic resource allocation, and enhanced technical capacity within the Physical Planning Department. A holistic approach combining preventive maintenance, regular inspections, and transparency in planning is essential. Such measures not only address immediate deficiencies but also establish a sustainable framework for long-term hostel facility management.

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