
ASSESSMENT OF MAINTENANCE CULTURE ON PUBLIC BUILDINGS: A CASE STUDY OF BAUCHI STATE SECRETARIAT

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ABSTRACT

A sustainable maintenance cultural policy integrated on a public asset is critical towards ensuring its continuous utilization before the end of its estimated life-cycle. Poor or inadequate maintenance culture is a peculiar feature with evidence on almost every building in Nigeria. This present study assessed the maintenance culture on public buildings: a case study of Bauchi State secretariat. A descriptive survey using structured questionnaire was used to collect data. A purposive sampling technique was used to select 150 respondents who staff in the case study area. SPSS version 24.0, a social science statistical tool was used for data analysis. Findings revealed that, the attitude towards maintenance of public buildings is quite positive. Routine service maintenance is carried out very often (32.6%). While sometimes in a range (34.8-54.0%) rectification, replacement and general renovation work are carried out on public building in the case study area. Also, finishes and services are the building elements most impacted due to poor maintenance culture. Therefore, it is recommended that, the government should set up a maintenance budget from which all maintenance activities will be drawn, and national maintenance policy should be formulated to compel users of public buildings to observe good maintenance culture on the buildings they occupy.

Keywords: Maintenance, culture, public building, Bauchi state, case study

INTRODUCTION

A sustainable maintenance cultural policy integrated on a public asset is critical towards ensuring its continuous utilization before the end of its estimated life-cycle. Maintenance involves all activities initiated with the aim of preserving an asset in its state of continuous use and function throughout its life-cycle, this view aligns with Aliyu et al. (2025). However, in Nigeria, there is an absence of any definite and effective maintenance strategy put in place by authorities of public buildings which led to their poor performance at carrying out the required maintenance of works on the buildings, as claimed by Aluko et al., (2024). Public building project in a developing economy like Nigeria, are projects initiated and funded by either the federal, state and or local government council authorities, corporate organizations among others across the country for the

good of the public (Shehu, 2024; Shehu & Shehu, 2023; Shehu et al. 2023). The lack of maintenance culture among stakeholders (Government, maintenance manager, maintenance personnel, and users) of these public buildings often lead to wastages and reduced lifespan (Annies, 2007; Aliyu et al. 2025).

Statement of the Problem

An effective maintenance management culture initiated on public buildings is essential in prevent health and safety concerns; minimized operating costs; ensure structural stability; improved the life of an asset and increase satisfaction by end-user's among others. Maintenance culture is the values, way of thinking, behaviour, perception and the underlying assumptions of any person or group or society that considers maintenance as a matter that is important (priority) and practices it in their life (Suwaibatul-Isamiah et al. 2012). However, neglect of maintenance has accumulated consequences with rapid increase in the deterioration of the fabric and finishes of a building, accompanied by a harmful effect on the contents to its occupants (Seeley, 1987). Poor or inadequate maintenance culture is a peculiar feature with evidence on almost every building in Nigeria, this view is supported by scholars including (Mbamali, 2003; Usman et al. 2012). On his part, Gurjit (1990) asserted that lack of proper maintenance culture will bring the life of a building last before reaching the total obsolescence state. Though, effective rectification, repairs, and rehabilitation activities on public buildings are critical to sustainable growth and development of any emergent nation, according to (Shehu, 2021; Shehu, 2024; Shehu, Ali, Shehu et al. 2025). There is a declining maintenance culture in Nigeria and its effect on public buildings is now a major concerned that need to be tackled.

Research Questions

- i. What is the level of satisfaction with maintenance culture on public buildings in the case study area?
- ii. What is the impact of poor maintenance culture on public buildings in the case study area?
- iii. What are the types of maintenance work being carried out in the case study area?

Aim and objectives

Basically, stakeholder's perception of the maintenance culture on public buildings: a case study of Bauchi State secretariat is the main purpose for this survey. The objectives of the study are thus:

- i. To assess the level of satisfaction with maintenance culture on public buildings in the case study area
- ii. To find out the impact of poor maintenance culture on public buildings in the case study area.
- iii. To find out the types of maintenance work being carried out in the case study area.

Significance of the Study

The end result of this study will help Nigerian government, law makers and the general public to know the importance of maintenance as it affects quality, function and lifespan of a building and

the need to imbibe good maintenance culture so as to improve the quality of public buildings and sore cost.

LITERATURE REVIEW

The Concept of Building Maintenance

In Nigeria, attitude to maintenance is basically an afterthought, often embarked upon in response to failure or total breakdown of parts (Nwachukwu et al. 2016). In addition, maintenance, whether planned, corrective or emergency must always emerge from the management planning desk where adequate provision of fund should be made in order to respond accordingly should the need arise. British Standard (BS 3811: 1992) defines maintenance as ‘a combination of any actions carried out to retain an item in or to restore it to an acceptable standard’. Maintenance management is aimed at ensuring the condition of the structures and administrations to guarantee the necessary prerequisites for proper operation (Aliyu et al. 2025). It has been established that, building maintenance increases the building life cycle and improves its longevity as well as ensures users safety (Tan et al. 2014).

Causes of non-adherence to Maintenance Culture of Public Buildings in Nigeria

Below are some of the identified factors responsible for the poor maintenance culture in the country according to Tijjani (2016), they are: Leadership: Good and effective leadership is essential to national development. Ability to formulate policy, transform potential to reality and proper leadership to subordinate are the major features of a sound leader. Leadership is a process of facilitating individual and collective efforts to accomplish shared objective (Yukl, 2006). Majority of our leaders have no ingredient of effective leadership which may account for why most of the Nation’s facilities are in bad conditions. Most of our leaders’ lack maintenance culture, vision, passion and empathy (Omotehinshe et al. 2015) which are some of the leadership ingredients required to influence and stimulate people’s behavior towards maintaining and sustaining existing facilities. Table 1 shows summary of factors causing non-adherence maintenance culture and policies in Nigeria.

Table 1: Factors causing non-adherence maintenance culture of public building in Nigeria

Variables	Factors
Institutional Factors	Lack of maintenance policy and framework
	Lack of maintenance organizations and institutions
	Lack of maintenance standards and regulations
	Lack of monitoring and evaluation of maintenance
Financial Factors	Lack of funds for maintenance
	Lack of access to funds for maintenance
	Lack of affordability of funds for maintenance i
Technical Factors	Low quality of design and construction of public housing
	Lack of appropriate and adequate materials and equipment for maintenance

Variables	Factors
	Lack of skilled and competent personnel and contractors for maintenance
	Lack of effective and efficient techniques and methods for maintenance
Socio-cultural Factors	Poor maintenance culture and awareness among public housing residents and society at large

Source: Ajayi et al., (2023)

Types of Building Maintenance

Basically, Kampamba and Bakae (2022) outlined the various mode of carrying out maintenance of public buildings, as thus: unpredictable maintenance, schedule, condition based, corrective, emergency, and preventive maintenance respectively. Aliyu et al. (2025), and BS 3811 (1984) categorizes building maintenance by means of the following terms and definitions, as thus:

- Planned maintenance: "The maintenance organized and carried out with forethought, control and the use of records to a predetermined plan."
- Unplanned maintenance: "The plan carried out to No predetermined plan." It refers to work necessitated by unforeseen breakdown or damages. For example, the ripping-off of a building, through the action of a storm, and its Remedial action constitutes unforeseen damages. It can also be termed unexpected and unavoidable maintenance.
- Preventive maintenance: "The maintenance carried out at predetermined intervals or corresponding to prescribed criteria and intended to reduce the probability of failure or the performance degradation of an item."
- Corrective maintenance: "The maintenance carried out after a failure has occurred and intended to restore an item to a state in which it can perform its required function."
- Emergency maintenance: "The maintenance which it is necessary to put in hand immediately to avoid serious consequences." This is referred to as day-to-day maintenance, resulting from such incidents as gas leaks and gale damage.
- Condition-based maintenance: "The preventive maintenance initiated as a result of knowledge of the condition of an item from routine or continuous monitoring."
- Scheduled maintenance: "The preventive maintenance carried out to a predetermined interval of time, number of operations, mileage, etc."
- Running maintenance: "Maintenance which can be carried out whilst an item is in service."

Public Buildings in Nigeria

According to Shehu (2024) public buildings in Nigeria, are characterized by project initiated and funded by either the federal, state and or local government council authorities across the country, for example major public buildings and facilities include: Administrative complex and office for ministries, agencies and parastatals; public schools; hospitals; libraries, auditoriums; staff quarters etc. Additionally, as part of their corporate and social duties, donor groups and corporations occasionally participate in the provision of public construction projects to communities as part of their corporate social responsibilities (Shehu, 2025).

RESEARCH METHODOLOGY

This study adopted a quantitative research approach, using questionnaire as the instrument for data collection. Literature review was carried out to obtained information on maintenance culture of building projects which were presented in the questionnaire. Prior to choosing a research design, a researcher should consider the purpose, objectives, hypotheses, and questions of the study (Shehu & Shehu, 2023a; Shehu et al., 2023; Shehu, 2024). A 5-point Likert scale (1-5) was use to rate the main research questions. The survey was conducted in Bauchi State, Nigeria which in limited in scope to the perceptions of One Hundred and Fifty (150) staff of Bauchi state secretariat purposely selected as the respondents this method was used by scholars including Shehu and Shehu (2023b). The questionnaire attains 61.33% response rate equivalent to 92 number correctly completed and returned. The data obtained was analysed using statistical package for social science (SPSS) software. According to Shehu et al. 2020), Umar et al., (2025) the SPSS is being the most widely used tool because it is easy to operate and present data in various forms. The results were presented in tables, chart, frequencies and percentages. Figure 1 indicates the research methodological flow chart adapted for this study.

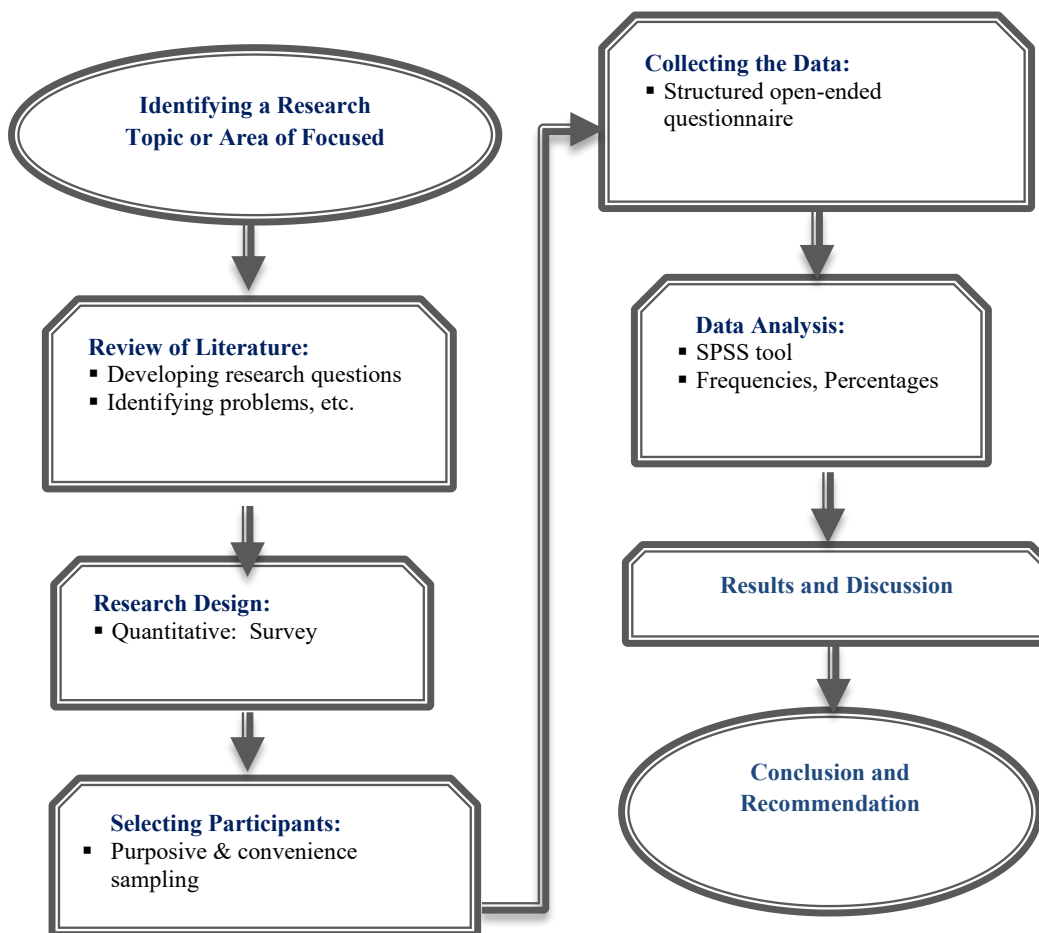


Figure 1: Research Methodology Flow Chat
Adapted: Shehu, Ali, Shehu et al. (2025)

RESULTS AND DISCUSSIONS

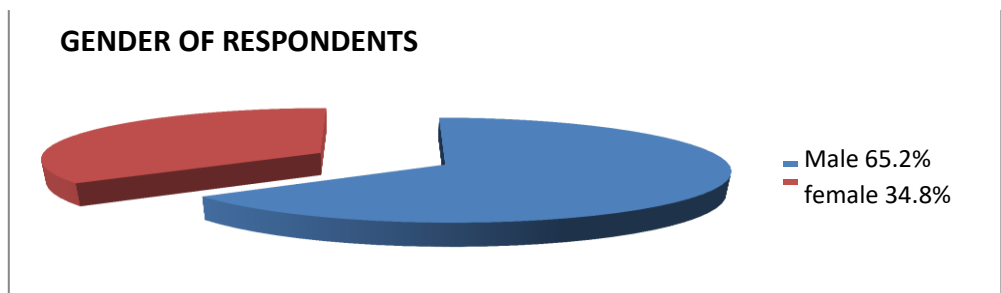


Figure 2: Show the number of respondent's base on gender
Source: Authors' field survey (2024)

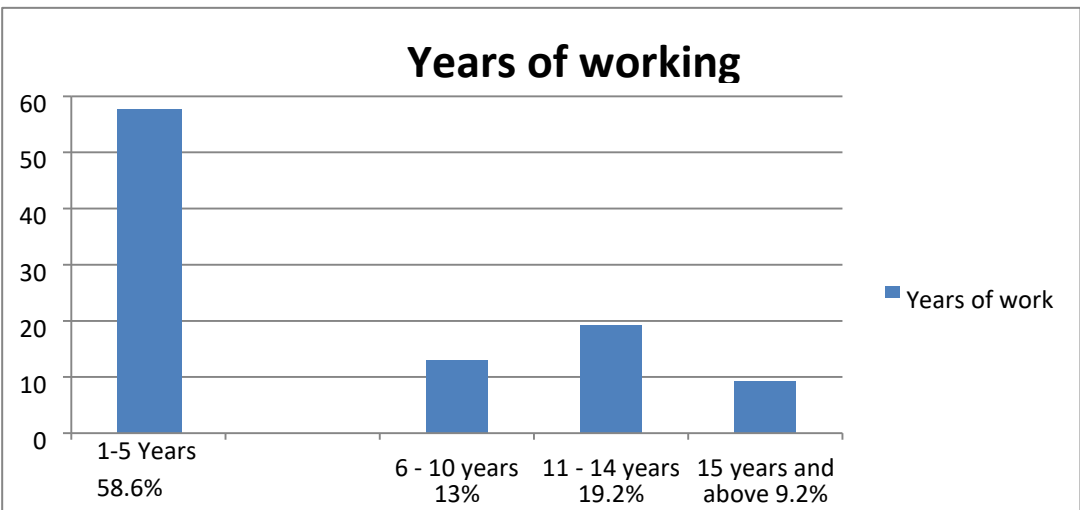


Figure 3: Years the respondent has been working in the case study
Source: Authors' field survey (2024)

Main research Objectives of the Study

What is the level of satisfaction with maintenance culture on public buildings in the study area?

Table 2: Ratings on the level of satisfaction with maintenance culture

Variables	Very Satisfied (%)	Satisfied (%)	Moderately Satisfied (%)	Dissatisfied (%)	Very Dissatisfied (%)
How satisfied are you with the current maintenance policies?	10.0	50.0	16.0	16.0	8.0
How satisfied are you with timely response to requests for maintenance activities?	8.0	15.0	26.0	32.0	19.0
How satisfied are you with the level of maintenance activities?	15.4	54.7	19.5	4.3	6.1

Variables	Very Satisfied (%)	Satisfied (%)	Moderately Satisfied (%)	Dissatisfied (%)	Very Dissatisfied (%)
How satisfied are you with the quality or state of the office which you occupy?	8.2	52.3	17.4	13.5	8.6

Table 2 shows the results on the perceptions of respondents on their level of satisfaction on maintenance culture in the case study. Findings revealed that, majority of the respondents claimed to be satisfied in range (50.0-54.7%) with maintenance policies, the quality and level of maintenance activities respectively. Meanwhile, majority 32.0% said they were dissatisfied with timely response to maintenance request and 26.0% claimed they were moderately satisfied.

How would you rate the attitudes of user toward maintenance of the building?

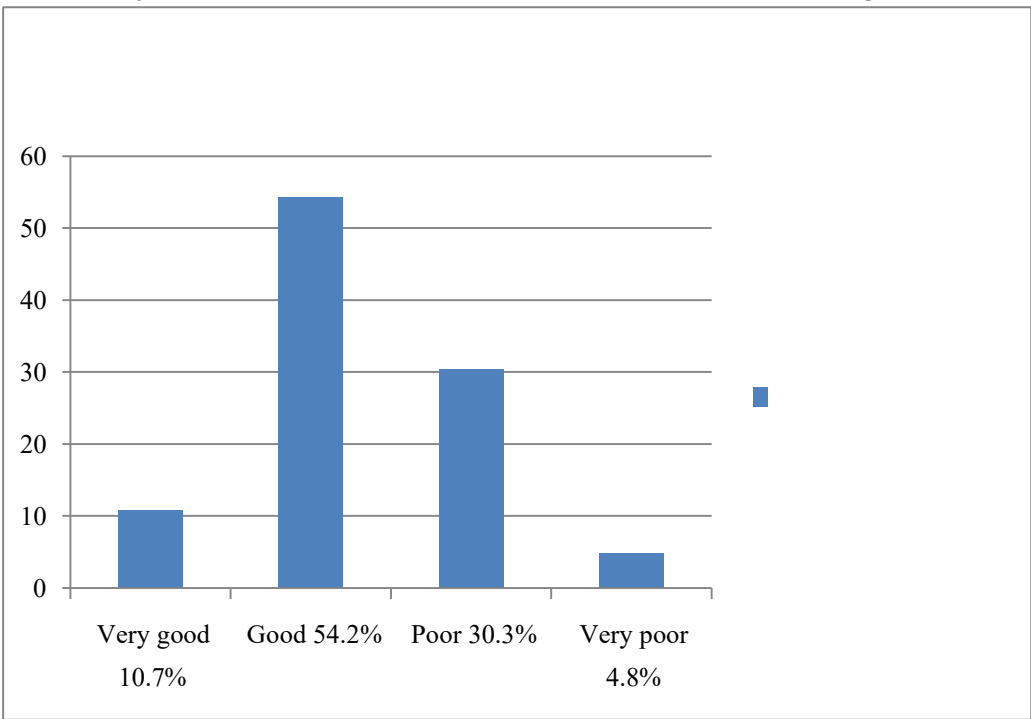


Figure 4: General attitudes of users towards maintenance of public building facilities

Source: Authors field survey (2024)

The results as presented in Figure 4, revealed 54.2% of the respondents claimed there is a good attitude by user's towards building maintenance in the case study, while 30.3% claimed the attitude towards building maintenance by users was poor.

This finding didn't too align with scholars including Usman et al., (2012), (Omotehinshe et al. 2015) who claimed the maintenance cultural attitude among Nigerians when occupying public utilities is very discouraging.

What is the impact of poor maintenance culture on public buildings?

Table 3: Ratings on the impact of poor maintenance culture on public buildings

Variables	Very High (%)	High (%)	Moderately (%)	Low (%)	Very Low (%)
Finishes (wall, ceiling, floor)	52.0	21.2	12.7	10.1	4.0
Services (Electrical/Mechanical)	22.8	38.2	20.5	13.2	5.3
Structural components	32.6	26.4	15.0	12.2	13.8
General property economic value	45.3	21.6	16.4	3.5	13.2

The results on the impact of poor maintenance culture in the case study is presented in Table 3. Findings revealed that, building finishes will be the very high impacted by poor maintenance as rated by 52% of the respondents. general property economic value will also be very severely impacted as claimed by 45.3% of the respondents, while 38.2% claimed building services will be severely impacted. The structural building components will be very severely impacted as claimed by 32.6% of the respondents respectively. Usman et al. (2012) in their studies claimed that, 88% of the respondents were unanimous that lack of proper maintenance was a serious husk in the pipeline of maintenance culture of public buildings in Nigeria. Aliyu et al., (2025) the most prevalent maintenance problems in a range of 31.74-38.88% are partly broken windows, cracks in walls, faded paintings, cracks foundation, cracked floors and leaking roofs respectively.

What are the types of maintenance work being carried out on the case study?

Table 4: Rate of conducting maintenance work

Variables	Very Often (%)	Often (%)	Sometimes (%)	Rarely (%)	Very Rarely (%)
Daily routine checking	32.6	13.1	30.4	19.6	4.3
Rectification work	8.6	10.9	34.8	34.8	10.9
Replacement work	28.1	14.9	42.0	12.8	2.2
General renovation work	4.3	15.8	54.0	21.6	4.3

Table 4 present results on the frequency of conducting various types of maintenance work. Findings revealed, 32.6% of the respondents claimed 'Daily routine checking' is very often carried out in the case study public building. 34.8% of the respondents each claimed 'Rectification work' is done sometimes and rarely respectively. 'Replacement work' is sometimes carried out as attested by 42.0% of the respondents, and sometimes 'General renovation work' is conducted as claimed by 54.0% of the respondents.

CONCLUSION AND RECOMMENDATIONS

Basically, this study concludes that, the attitude towards maintenance of public buildings is quite positive. Routine service maintenance is carried out very often (32.6%). While sometimes in a range (34.8-54.0%) rectification, replacement and general renovation work are carried out on public building in the case study area. Also, finishes and services are the building elements most impacted due to poor maintenance culture. Therefore, it is recommended that,

- The government should set up a maintenance budget from which all maintenance activities will be drawn, and
- National maintenance policy should be formulated to compel users of public buildings to observe good maintenance culture on the buildings they occupy.

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