

Assessment of Maintenance Culture of Public Buildings in Ogun State, Nigeria (A Case Study Ilaro, Yewa South Local Government Area)

ABODUNRIN RAHMON ABIOLA¹, TAIYE ALAGBE², OLABODE OYEDELE³

^{1, 2, 3} Bells University of Technology, Ota Ogun State, Nigeria

Abstract- *In Nigeria, shortages of funds and complete carelessness have made it difficult to maintain public buildings. The emphasis on infrastructure and aesthetics is so great that maintenance suffers as a result. This study uses the Ilaro, Yewa South Local Government Area as a case study to analyze the maintenance culture of public buildings in Ogun State, Nigeria. Additionally, the study evaluates the aspects taken into account during the design and construction phases as well as the scope of maintenance tasks on public structures. A systematic questionnaire that discusses the connection between factors and elements was used to identify and classify these factors. Case study initiatives served to validate and support the findings. This study also suggested approaches for organizing maintenance tasks in the building sector with a view to comprehending the occurrence.*

I. INTRODUCTION

Many of the nation's resources have been allocated to transportation infrastructure, government administrative buildings for ministries and departments and agencies, colleges of education, universities, primary and secondary schools, despite the appalling condition of public buildings throughout the nation for decades. They are all intended to reposition the undeveloped economy.

The correct and sufficient attention has not been paid to how to carry out the maintenance operations for one noteworthy action that is required to ensure the sustainability of these different types of infrastructure. Public buildings, according to Adenuga and Iyagba (2005), are in extremely bad and abhorrent structural and aesthetic state.

Despite the millions of Naira invested to construct each structure, they are all left to succumb to an early but continuous and quick degradation, decay, and dilapidation once they are completed (Adenuga, 2012).

II. RESEARCH METHODOLOGY

This study used a survey design, and the data was gathered by using questionnaires and by watching public buildings in Ogun State, Nigeria. 125 questionnaires were distributed as part of the sampling process. Based on the claim made by Moser and Kalton (1999) that a survey's findings might be skewed and insignificant if the return rate was lower than 20–30%, 100 questionnaires were found, or around 88–90% of the total population. Simple statistical methods, such as mean item score, percentage, and frequency, were used to assess the collected data.





Picture 1: Showing Existing Condition of The Nigeria Police force Residential Quarters in Yewa South, Ogun State



Picture 2: Showing Existing Condition of Gateway Multipurpose Hall Ilaro, Ogun State.



Picture 3: Showing Existing Condition of United Methodist Multipurpose Hall in Ilaro, Ogun State.





Picture 4: Showing Existing Condition of A Public Primary School in the remote Area of Yewa South, Ogun State.

III. ANALYSIS OF DATA AND RESULTS

In this section, results of data analysis that was retrieved from the groups of respondents was presented.

Table 1 Sex of Respondents

| Sex | Frequency | Percent |
|--------|-----------|---------|
| Male | 60 | 60.0 |
| Female | 40 | 40 |
| Total | 100 | 100.0 |

Source: Author’s Field Survey, 2022.

The gender distribution of the respondents used in this study is shown in Table 1 above. 50% of the population is men. 50% of the population is women.

| Age | Frequency | Percent |
|----------------|-----------|---------|
| below 20 years | 5 | 5.0 |
| 21-30 years | 17 | 17 |
| 31-40 years | 33 | 33.0 |
| 41-50 years | 30 | 30.0 |
| 51-60years | 15 | 15.0 |
| Total | 100 | 100.0 |

Source: Author’s Field Survey, 2022.

According to Table 2, 5% of the population, are under the age of 20, 17% of the population, are between the ages of 21 and 30, 33.0% of the population are between the ages of 31 and 40, 30% of the population, are between the ages of 41 and 50, and 15% of the population, are between the ages of 50 and 60.

| Educational Qualification | Frequency | Percent |
|---------------------------|-----------|---------|
| WASSCE/SSCE | 12 | 12.0 |
| OND/HND/BSC | 34 | 34.0 |
| PGD/MSC/PHD | 30 | 30.0 |
| OTHERS | 24 | 24.0 |
| Total | 100 | 100.0 |

Source: Author’s Field Survey, 2022.

The educational background of the respondents used in this study is shown in Table 3 above.

12% of the population, had either an SSCE or WASSCE, 34.0% of the population, have an OND, HND, or BSC, MSC, PGD, or PhD degrees are held 30.0% of the population, 24.0% of the population, reported having other sorts of certificates.

Table 4 Marital status of respondents

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|----------|-----------|---------|---------------|--------------------|
| single | 30 | 30.0 | 30.0 | 30.0 |
| married | 60 | 60.0 | 60.0 | 90.0 |
| divorced | 7 | 7.0 | 7.0 | 97.0 |
| widowed | 3 | 3.0 | 3.0 | 100.0 |
| Total | 100 | 100.0 | 100.0 | |

Source: Author’s Field Survey, 2022.

The marital status of the respondents used in this investigation is displayed in Table 4 above.

30.%of the population are single, 60.0% of the population, reported being married, 7.0% of the population, reported being divorced, 3% of the population, are widowed.

Table 5 Position of respondents

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|--------------------|-----------|---------|---------------|--------------------|
| Valid junior staff | 62 | 62.0 | 62.0 | 62.5 |
| senior staff | 30 | 38.0 | 37.0 | 100.0 |
| Total | 32 | 100.0 | 100.0 | |

Source: Author’s Field Survey, 2022.

The level or position of respondents used in this study is shown in Table 5 above. 62.0% of the total, are junior staff, senior staff are 38% of the total population.

Table 6 Years of service of respondents

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|-----------------|-----------|---------|---------------|--------------------|
| Valid 0-2 years | 24 | 24.0 | 24.0 | 25.0 |
| 3-5 years | 33 | 33.0 | 33.0 | 57.0 |
| 6-11 years | 30 | 30.0 | 30.0 | 87.0 |
| above 12 years | 13 | 13 | 13 | 100.0 |
| Total | 100 | 100.0 | 100.0 | |

Source: Author’s Field Survey, 2022.

The years of experience of the respondents considered in this study are displayed in Table 5 above. 24.0% of the population, have no more than two years of job experience, 33.0% of the population, have experience ranging from three to five years, 30%of the population, have experience between 6 and 11 years, 13% of the population, have more than 12 years of experience.

TABLES BASED ON RESEARCH QUESTIONS

Table 7 NIGERIANS EXHIBIT POOR MAINTENANCE CULTURE

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|----------------------|-----------|---------|---------------|--------------------|
| Valid strongly agree | 54 | 54.0 | 54.0 | 54.0 |
| Agree | 30 | 30.0 | 30.0 | 84.0 |
| Undecided | 8 | 8.0 | 8.0 | 92.0 |
| Disagree | 8 | 8.0 | 8.0 | 100.0 |
| Total | 100 | 100.0 | 100.0 | |

Source: Author's Field Survey, 2022.

The responses of respondents, as seen in Table 7 above, indicate that Nigerians have a poor maintenance culture. 54.0% of the population, firmly agreed that Nigerians had a poor maintenance culture, 30% of the population, agreed that the support culture in Nigeria is unfortunate, 8% of the population, were unsure, while the remaining 8% of the population, disagreed that Nigerians had a poor maintenance culture.

Table 8 GOVERNMENT SHOULD DO MORE IN THE MAINTENANCE OF PUBLIC PROPERTIES

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------------------|-----------|---------|---------------|--------------------|
| Valid Undecided | 14 | 14.0 | 14.0 | 14.0 |
| Disagree | 54 | 54.0 | 54.0 | 68.0 |
| strongly disagree | 32 | 32.0 | 32.0 | 100.0 |
| Total | 100 | 100.0 | 100.0 | |

Source: Author's Field Survey, 2022.

The responses of responders to the statement that administration should promote public properties more strongly are shown in Table 8 above. 14% of the population, expressed uncertainty, 32% of the population, firmly disagree that administration should do more to support public properties, while 54% of the population, disagree that administration should do more to maintain public properties.

Table 9 THERE ARE CHALLENGES TO EFFECTIVE MAINTENANCE CULTURE IN NIGERIA

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|----------------------|-----------|---------|---------------|--------------------|
| Valid strongly agree | 45 | 45.0 | 45.0 | 45.0 |
| Agree | 30 | 30.0 | 30.0 | 75.0 |
| Undecided | 9 | 9.0 | 9.0 | 84.0 |
| Disagree | 8 | 8.0 | 8.0 | 92.0 |
| strongly disagree | 8 | 8.0 | 8.0 | 100.0 |
| Total | 100 | 100.0 | 100.0 | |

Source: Author's Field Survey, 2022.

Table 9 above displays respondents' opinions regarding the challenges of maintaining a strong culture in Nigeria. It was unanimously agreed upon by 45% of the population, that it is difficult to sustain culture in Nigeria. 30% of the population agreed that it is difficult to maintain a strong culture in Nigeria, 9% of the population, expressed uncertainty, while the remaining 8% of the population, strongly disagree that it is difficult to persuade people to support culture in Nigeria, 8% of the population disagree that it is difficult to sustain culture in Nigeria.

Table 10: EFFECTIVE MAINTENANCE OF PUBLIC PROPERTIES IS CAPITAL INTENSIVE

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|----------------------|-----------|---------|---------------|--------------------|
| Valid strongly agree | 45 | 45.0 | 45.0 | 45.0 |
| Agree | 30 | 30.2 | 30.2 | 75.0 |
| Undecided | 9 | 9.0 | 9.0 | 84.0 |
| Disagree | 8 | 8.0 | 8.0 | 92.0 |
| strongly disagree | 8 | 8.0 | 8.0 | 100.0 |
| Total | 100 | 100.0 | 100.0 | |

Source: Author's Field Survey, 2022.

Table 9 above shows the reactions of respondents that powerful support of public properties in capital

concentrated. 45 respondents which address 45.0 percent of the populace unequivocally concurred that compelling upkeep of public properties in capital intensive. 30 respondents which address 75.0 percent of the populace concurred that powerful support of public properties in capital escalated. 9 respondents which address 84.0 percent of the populace were uncertain. 8 respondents which address 8% of the populace differ that successful upkeep of public properties in capital concentrated while the leftover 8 respondents which address 8% of the populace firmly differ that powerful support of public properties in capital serious.

RESEARCH HYPOTHESIS

Ho: Effective maintenance of public properties is not capital intensive.

Hi: Effective maintenance of public properties is capital intensive.

Level of significance: 0.05

Decision rule: reject the null hypothesis if the p-value is less than the level of significance.

Table 11: Test Statistics

| | |
|-------------|---|
| | Effective maintenance of public properties is capital intensive |
| Chi-Square | 15.250 ^a |
| Df | 2 |
| Asymp. Sig. | .000 |

a. 0 cells (.0%) have expected frequencies less than 5. The minimum expected cell frequency is 10.7.

Conclusion based on the decision rule:

Since the p-value (0.000) is less than the level of significance (0.05), we accept the null hypothesis therefore concluding that effective maintenance of public properties is capital intensive.

DISCUSSION

The principal conclusion from a recent study conducted at the University of Lagos was that

maintenance issues with buildings might be avoided or reduced by optimizing design procedures and adopting specific tried-and-true components that give buildings maintenance strength. The architects can fully equip the buildings against upcoming maintenance issues by appropriately resolving these components as design inputs at the planning stage. Here, it is recommended that architects employ twelve of these components—identified and tested—as design questions to ensure a high level of building maintainability.

i. Past Efforts Made on Maintenance Culture

Pre-Colonial Era: Traditional homes were erected in the West African region before the arrival of the Europeans, for both public and private purposes. The majority of these homes were built using materials that could be found nearby, on land that was readily available to the family, and with the assistance of friends and family who could be contacted quickly. They were constructed using mud, thatch, bamboo, wood, and other locally accessible materials, but there were no apparent upkeep issues at this time. (Akin, 2005) Foreign architectural designs first appeared throughout the colonial era. These came in a variety of shapes and designs that appeared to be too intricate for the local contractors and property owners to handle in terms of replicating or maintaining. With a few skilled local craftsmen's aid, Europeans constructed and maintained these buildings. The technology of these buildings ended up giving some of the craftspeople certain talents. When compared to the duplication of such foreign structures, which was only done in few glorified native civil servants' mansions and the homes of Europeans who frequented the Government Rest Houses, this technology transfer was, however, insignificant. Post-colonial era: In Lagos and many other State capitals, high-rise and skyscraper buildings of diverse modern and postmodern designs began to appear with the oil boom of the 1970s. Most of the equipment and materials utilized in their construction were imported. The country had a population surge at the same period, from which she has never fully recovered.

ii. The Concept of Building Maintenance

According to (Anderson, 1996; Lee, 1991) as stated by (Owolabi, 2014), maintaining the building is a crucial but frequently overlooked part of managing the facility. Buildings' economic life can be prolonged

through maintenance. A high degree of productivity is also needed for this activity on both the private and the national levels. At the individual level, good upkeep results in fewer depreciation costs (owing to a longer economic life) and, as a result, increased profitability. While at the national level, good upkeep results in cheaper replacement costs. Thus, allowing more expenditure on expansion into new productive investment. Executing maintenance tasks According to Odediran (2012), a significant portion of building tenants perform regular maintenance tasks in the form of weekly, daily, monthly, quarterly, and yearly "servicing." While most do this unknowingly, maintenance is still carried out through routine painting and decorating, cleaning, and window washing. This study fully supports this claim, with servicing, rectification, replacement, and remodeling all receiving good marks. While Alteration is ranked poorly, Conversion and Extension are both above average. The sizes, types, and numbers of the buildings that need to be maintained will always define the source of labor, whether it comes from in-house staff or external contractors, according to the Chartered Institute of Building (1975), which was quoted by Adenuga (2012). The argument presented by Lee (1987) that the decision that must be made

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