



**ASSESSMENT OF THE BUILDING MAINTENANCE PRACTICES IN  
PUBLIC INSTITUTIONS (A CASE STUDY OF KUJE CORRECTIONAL  
FACILITY, ABUJA.)**

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**Abstract**

The study is on the assessment of building maintenance practice of public institutions in Abuja with reference to kuje correctional facility. The study stems from the deplorable state of public building which accounts for a fund chunk of our national asset. The study assessed the maintenance approach of public institutions if any and the qualifications of maintenance department. Data collated for the research included both qualitative and quantitative data. The latter, which comprises the condition of the physical building component, was analysed using simple statistical tool. Findings from the study indicate that the government do not have a clear cut maintenance programme for public buildings. Recommendations emphasises the need for adequate budgeting for maintenance and a planned maintenance schedule that should be carried out by professional maintenance personnel.

**Keywords:** Maintenance, Public structures, Building component

**Introduction**

Buildings housing public institution are capital asset of the nation, hence the need to ensure that they are effectively and efficiently maintained over time. According to Raymond, (2019) maintaining correctional facilities will help enhance the living standard of the prison inmate and also generate more resources for the Government. Maintenance of public institution are not only made to preserve the building but also for the sake of public safety, including safe consumer building occupants and the prison inmates.

According to Adejimi (2015), neglect of maintenance of public institutions has compounding effect, fast degradation of a building's structure and finishes, along with negative repercussions on its contents and occupants. Public institutions and structures are therefore too precious of an asset to be ignored in this manner.

Howbeit, despite the enormous capital outlay in public buildings and institutions, public institutions allowing their buildings to be maintained sustainably with minimal financial investment would help them maintain the quality of the structures. Except for few public institutions in Abuja, inadequately maintenance of the buildings housing these public institutions

is preponderant. The windows, doors, and other amenities and parts of the structure frequently display signs of wear and tear.

Kuje area council is one of the six area council within the federal capital territory with relatively fewer government buildings with includes public schools, hospital, police stations, area council secretariat, correctional facility among others. However, much research works has been carried on maintenance of public institutions with reference to public schools and hospitals with fewer or non on correctional facility hence the need for the research.

In Kuje Area Council of Federal Capital territory, In addition to satisfying the minimum standards for health, ventilation, floor space, heat, and lighting, prison facilities must also be in excellent condition, safe from assault, and aid in the rehabilitation of offenders before to their release (United Nations Office on Drugs and Crime [UNODC], 2018). Numerous detention facilities in Nigeria have maintenance-related issues, including decrepitude of the facility, sick building syndrome (itchy skin, headaches, stuffy nose, etc.), inadequate ventilation, subpar standards of hygiene, and a dearth of cell block repairs. Due to insufficient financing from the appropriate authorities, it frequently happens that facility maintenance is not carried out in accordance with real maintenance policy. Reactive maintenance approach syndrome is the major cause of these issues. Therefore, in this study the context or research question is, what physical conditions exist at Kuje Correctional Facility that is not being maintained and what are the reasons that have contributed to the prisons' lack of maintenance?

The study aims to evaluate the building maintenance practices being employed in public institutions with particular reference to Kuje correctional facility, Abuja. To achieve this, to assess the current state of structures or physical facilities in Kuje correctional facility; to analyse the maintenance policy and practice and capacity of the maintenance department of public institutions.

### **Literature Review**

According to the British Standard Glossary of Maintenance Management Terms in Terotechnology (BS 3811: 1993), maintenance is "a combination of all technical and administrative actions, including supervisory actions, intended to retain items in, or restore it to, a state in which it can perform its required function." The initiation, organization, and implementation-related acts are those being discussed. Two procedures are contemplated: retaining, which is work done in prolepsis of failure and is sometimes referred to as preventive maintenance, and restoring, which is work done after failure and is also referred to as corrective maintenance. There is also the idea of an Acceptable Standard, which can be seen as acceptance by the party paying for the labor, the party getting the benefit, or a third party charged with upholding minimal standards.

Additionally, it might be understood more broadly as acceptance by the general public or by particular demographic groups. However, it is obvious that no ultimate criterion exists that would be equally acceptable to everybody in the same group over a period of time. The

standards that are considered acceptable at the time the work is started may be higher or lower than the standards used in the initial design. In many instances, the work would include an element of enhancement and the standards considered acceptable would be greater than those initially offered. However, with time, buildings undergo modifications to meet new purposes, making it becomes harder and harder to imagine preserving or reestablishing the original design. As a consequence, the standards would be established by the amount of money allotted rather than by evaluating the advantages of preserving the building to a given state, and they would be tied to safety, efficiency and legal requirement. (Ade, 2017).

Maintenance, as described by the British Standard (B. S. (3811) 1974), as stated in Afranie and Osei-Tutu (1999), is labour done to maintain or repair every facility, which includes every component of the site, building, and content, to an acceptable standard and cost:

- (i.) To maintain here is to stop any potential flaws from arising.
- (ii.) If small flaws are permitted to develop, restoration entails correcting them;
- (iii.) An acceptable standard and an affordable price show that maintenance work is tailored to each customer's demands and circumstances.

### **Needs for Maintenance**

Managers can concentrate on capitalization by preventing facility breakdown or malfunction through strict adherence to a well-defined and designed maintenance strategy. (Omotehinshe et al., 2015a; Akinyemi, Gambo, Ankeli, and Dabara, 2016). In its absence, a maintenance strategy will need to be developed and defined, communicated, and finally focused on the tactical option on how to do it. The actual implementation of the strategy, which focuses on the management of people, processes, and physical asset infrastructure, requires tactics. (Campbell and Reyes-Picknell, 2006). The management's goals must be accomplished while adhering to health, safety, environmental, and budget. It takes essential managerial skill to integrate machines, people, processes, and means into a well-designed strategy. (Waeyenbergh and Pintelon, 2002).

Below are some of the accruable benefits if maintenance culture is embraced in our society:

- (i.) Keeping assets in utmost working condition in order to minimize downtime and disruption to services
- (ii.) Keeping facilities in a state of good repair for the owner's health and safety
- (iii.) Keeping assets from deteriorating in appearance and aesthetics
- (iv.) Keeping facilities so as to optimally achieve their full potential service life
- (v.) Leveraging efficiencies that can be reflected on the owner's statement of financial position
- (vi.) Satisfying a legislated duty that is owed to owners, occupants and guests on the property
- (vii.) Preventing unnecessary damage to assets or facilitation that may result in their performance failure

Another classification for maintenance work is "predictable" and "avoidable."

Predictable maintenance is routine maintenance that may be required to preserve a product's performance qualities as well as to replace or repair the product once its usable lifespan has passed. Avoidable maintenance is the work necessary to fix failures brought on by subpar design, improper installation, or the use of subpar materials.

Even a little carelessness with building maintenance might lead to danger. The term "appropriate condition" can be understood as the preservation of a structure in a condition that

enables its usage for the intended purpose with the least amount of capital outlay. The use of the building, its reputation in the community, and even its stature on the international stage will all have an impact on the proper condition. Getting good value for the money spent on maintenance should be the major goal of building maintenance. Another approach to maintenance classification has been adopted by Speight (1982) as cited in Seeley (1987), subdivided maintenance into three broad categories:

1. Major repair or restoration: such as re-roofing or rebuilding defective walls and often incorporating an element of improvement.
2. Periodic maintenance a typical example being annual contracts for decorations and the like.
3. Routine or day-to-day maintenance: This is largely of the preventive type, such as checking rainwater gutters and servicing mechanical and clerical installations.

### **Factors Influencing Maintenance Decision**

Derek Miles and Paul Syagga, (1987), identify the following factors as influencing the decision to carry out maintenance on a building:

**(i.) Inadequate Finance:** -it is generally believed that inadequate finance is a major constraint on effective property management, partly because maintenance budgets are the easiest to cut when money is scarce. According to him, maintenance expenditure can be absorbed more easily in commercial and industrial organizations where it may account for as little as 0.5% of turnover, but even in these cases maintenance is taken for granted except when it threatens production or profitability. However, the situation is more serious in the public sector where damaging effects of poor maintenance are less immediately obvious. Also in the case of housing estates, it is common for organizations to emphasize the provision of new houses, with little funding provided for maintaining existing stock. Not are day-to-day repairs neglected, but efforts at improvements and rehabilitation are considered lower priority than new construction. This problem of inadequate finance indeed result in rapid deterioration of existing stock resulting in increases in the demand for new houses because poorly maintained houses are not only unpopular; but they soon reach the stage where the structure itself deteriorates and rebuilding has to be considered.

**(ii.) Bad Management:** -This refers to the idleness, waste and incompetence among maintenance personnel.

**Poor Building Design:**-it is not uncommon to find that buildings are inherently expensive to maintain because of inappropriate priorities applied during the design phase. Poor detailing and the specification of unsuitable components and materials are common complaints. In addition, construction errors arising from inadequate drawings and specifications, coupled with poor workmanship because of contracts awarded to incompetent contractors are frequent causes of rapid physical deterioration in buildings. Good design should allow accessibility and adequate working space for essential maintenance such as cleaning, and minor repairs to pipes, ducts and cables.

**Methodology**

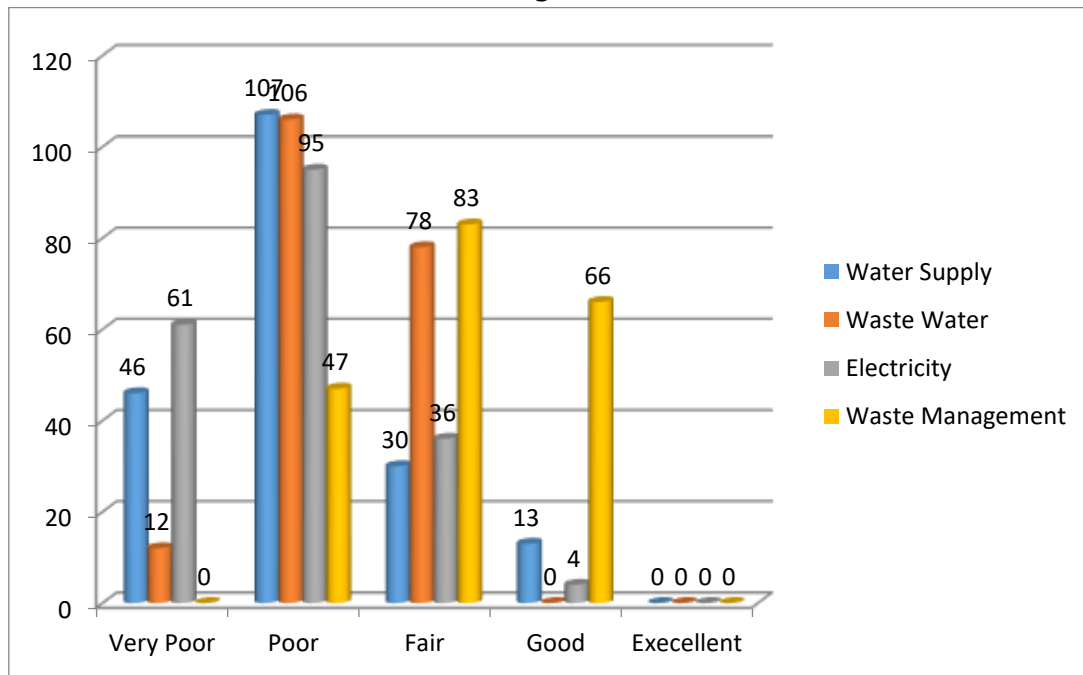
The study used quantitative research and used first-hand information that was directly gathered from the case study location. A closed-ended questionnaire and organised observation were used in this. In order to determine the maintenance state of the structures, a physical observation in the form of structural inspection was conducted using a structured observation sheet as shown in appendix x. Some of the variables taken into cognizance just to mention a few were leakage, rust and damage in the roof, condition of the windows and doors, painting state and the physical appearance of the floors and walls.

To determine the structural state of buildings in the facility, a total of Two Hundred and Fifty - Five (255) of General Duty Officers from different departments was sampled, an allowance of 30% was included to take care of non response of respondent. Self-administered, closed-ended questions were used to gauge respondents' opinions of the buildings' structural health. The questionnaires were physically handed out to participants, who then had enough of time to complete them after being clearly informed of the objective of the questionnaire and how to complete it.

The frequency of each category found was qualified in percentage terms and, when appropriate, rendered in a pie or bar chart using Microsoft Excel Software 2010. Data gathered via field observation and closed-ended questionnaires were represented in a tabular manner.

**Findings and Result**

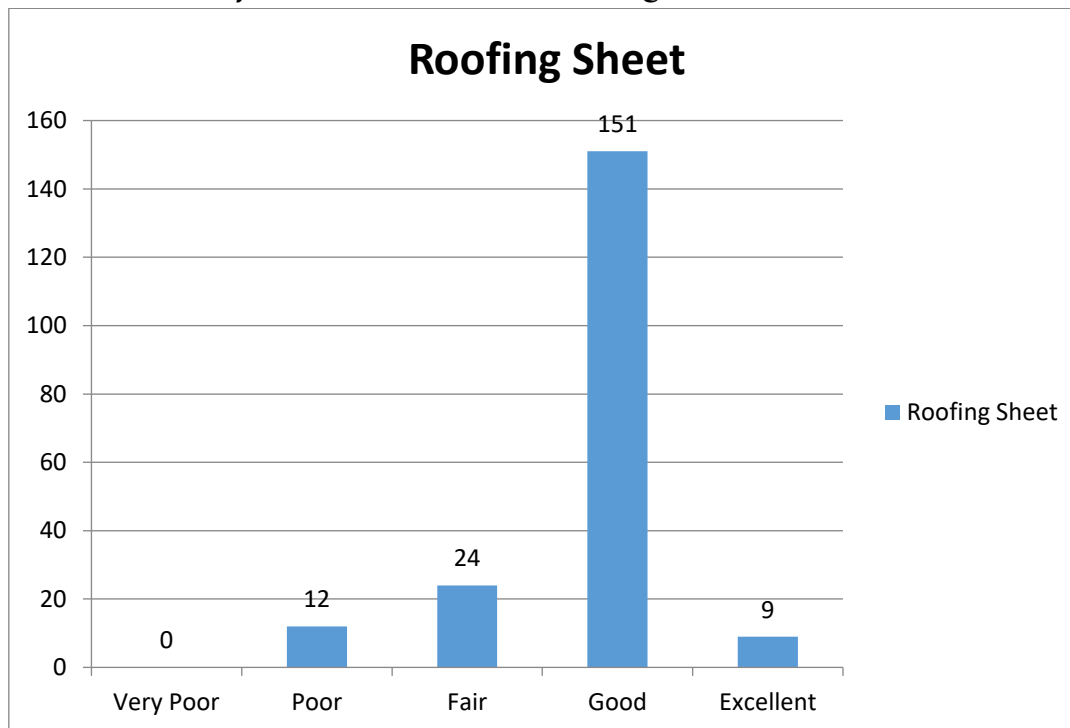
**Table 1: Condition of the Building Services**



Source: Author's data analysis, 2022

Figure 4.6 above shows that from the study population of 196, the condition Water Supply was rated as follows; 46(23.5%) as Very Poor; 107(54.6) as Poor; 30(15.3) as Fair and; 13(6.6) of the participants consider the Water Supply as Good. For the condition of waste water handling, the study participants rated as follow: 12(6.1) consider it Very Poor; 106(54.1%) rated it Poor while; 78(39.7%) consider the condition of waste water handling to Fair. In the case of Electricity, the study population rated as follow: 61(31.1%) participants consider it to be Very Poor; 95(48.5%) thought Electricity Supply was Poor; 36(18.4%) consider it Fair while; 4(2%) of the study participants rated Electricity Supply as Good. Figure also shows rating of the study population Waste Management Services as follow: 17(8.7%) thought it was poor; 83(42.3%) consider it Fair while; 66(33.7%) consider the Waste Management Services as Good.

**Table 2: Physical Condition of the Roofing Sheet**



Source: Author's data analysis, 2022

From Figure 4.1 above, the 196 study population for the purpose of this analysis showed that 151 of them (which signifies 77% of the total population) rated the roofing sheet of the Kuje Prison as Good in relation to its physical condition; 24 participants (12.2%) consider the physical condition of the roofing sheet to be fair; 12 participants (6.1%) thought the roofing sheet of the

prison to be in a poor physical condition while; 9 of the study population, which represent 4.6% consider the roofing sheet to be in an excellent physical condition.

### **Findings**

Findings from the research reveals that the environmental envelop of the facility are structurally sound however; the rate of deterioration is high chiefly because of no or lack of maintenance policy and program within the facility, poor maintenance of sound structure would result into fast deterioration of the same because of usage over time, environmental factors and differing lifespan of building component. Delay in fixing leaking roofing sheet early had resulting effect on other building components. Also, the facility is overstretched as it was redesigned to accommodate 560 inmates but currently accommodates an approximately 900 inmates. Users above the occupancy capacity exact pressure on buildings. There is correlation between density ratio and the quality of services as the services is designed for a specific number.

### **Conclusion and Recommendations**

The analysis has shown that there is a significant issue with maintenance in public buildings for the government, with no maintenance program for public buildings which is a national asset, large amount of resources would be used for emergency maintenance. Building maintenance problems are very pronounced in public institutions in Abuja. There are two basic reasons why this happened: absences of building maintenance plan and the administrative bottleneck of the procurement system in Nigeria. In addition maintenance culture of the users or occupants of the buildings is relatively poor as they lack the sense of ownership and need to ensure basic or routine simple activity is carried out.

### **Recommendations:**

1. Public institutions must adopt preventative maintenance practices as a high priority rather than adhoc maintenance. To gain optimum benefits from preventive maintenance, professional from the built environment should incorporate preventive maintenance tasks into a work-order system and keep systematic maintenance records with the aid of information and communications technology. The expert should assess the preventative maintenance programme so that it may be improved over time.
2. Public institutions should ensure that their maintenance department is adequately staffed with the requisite manpower and that employees have appropriate training and competence to safely undertake and complete the maintenance tasks expected of them.
3. Professional from the built environment should carry out, at regular interval inspections for assessing the buildings conditions and create an inventory of buildings' components and equipment. They should plan building inspection, since proper

planning of inspection is a sure way to reduce maintenance cost since doing so can provide insight into future maintenance needs and avoid unplanned maintenance.

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