EVALUATION OF MAINTENANCE PRACTICES ON LOCAL GOVERNMENT SECRETARIAT BUILDINGS IN OYO STATE, NIGERIA

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Abstract
The purpose of this paper is to assess the maintenance practices on selected local government secretariat buildings in Oyo State, Nigeria. This is with a view to advocate for the needed attention to be giving to local government secretariat buildings in order to make them more befitting and functional. The study used purposive sampling method to select eighteen local governments (six from each of three senatorial districts) out of thirty-three in the study area. A total of 160 Questionnaires were distributed to obtain information from construction professionals in the employment of works departments of selected local government in Oyo State but one hundred and eleven (111) were retrieved and used for analysis. Both descriptive and inferential statistical methods of analysis were used to analyse the data. From the results of the analysis, it was established that servicing, annual planned and rectification maintenance respectively were the most prominent maintenance practices and that cost implication and policy implementation respectively were the most prominent consideration in embarking on maintenance within the study area. The study concluded that the use of planned preventive maintenance is recommended and that budgetary provision should be made for unplanned maintenance in case it occurs so as to enhance rapid response to any sign of dilapidation or failure in any part of the building. A situation where cost of maintenance is the main consideration should be amended by making adequate budgetary provision for maintenance works.

Keywords: Local Government, Maintenance Practices, Nigeria, Secretariat Buildings

Introduction

Maintenance can be defined as the action or process of preserving an object, activity etc. Maintenance can also been defined as all actions taken to retain material in or to restore it to a specified condition. It includes inspection, testing, servicing, and classification as to serviceability, repair, rebuilding, and reclamation.

BS 3811(1974), define maintenance as the combination of all technical and associated administrative actions intended to retain an item in, or restore it to a state in which it can perform its required function. Maintenance is an action taken to prevent a device or component from failing or repair normal equipment degradation experienced with the operation of the device to keep it in proper working order (Kumar & Suiesh, 2008). According to Adenuga and Iyagba (2003) it is impossible to produce buildings which are maintenance free, but maintenance work can be minimized by good design

and proper workmanship carried out by skilled experts or competent craftsmen using suitable codes of installation, requisite building materials and methods. Physical infrastructure constitutes a high proportion of every country's investment (Jude, 2010). It is therefore of primary importance that these facilities which include public buildings are maintained in order that they can serve both the architectural and aesthetical functions for which they are built. While the requirements for good practice in maintenance management of building stock have been established over a considerable period, the achievement of good practice is by no means universal (Turrell, 1997). The physical appearance of buildings housing public institutions in part constitutes the basis upon which the society makes their initial judgment of the quality of services to be offered. However, in spite of the heavy investment in public buildings, public institutions allow their structures to care for themselves without any sustainable maintenance plan to preserve the quality of the buildings. The continued efficient and effective performance of public institutions depends on the nature of their buildings in addition to other factors such as enhanced conditions of service, provision of the requisite tools, etc.

Public Institution buildings consist of both dwelling (residential accommodation) and non-dwelling (office accommodation). Both residential buildings as well as office buildings are prone to defects due to their permanent and lengthy usage. All elements of buildings deteriorate at a greater or lesser rate dependent on materials and methods of construction, environmental conditions and the use of the buildings. On personal

levels, we must imbibe maintenance culture in order to enjoy the best of our money, for us to enjoy the best of life, for how well we use and enjoy our building, machines, cars, households equipment, furniture, and all other personal and public physical assets and indeed our bodies is dependent on how well we have imbibed the culture of maintenance (Ajibola, 2009). Therefore, buildings are too valuable assets to be neglected in this way. However, the project maintenance problem has become an important agenda for the country and pressure on the government aspect of managing its assets and facilities (Annies, 2007).

Maintenance brings about improved utilization of buildings ensuring the highest safety standards. It must be emphasized that more rather than less maintenance work is necessary if the value and amenity of the nation's building stock was to be maintained. A good maintenance system is also a good disaster mitigation system. Maintenance, which can also be explained as the continuous protective care of the fabric, contents and settings of a place can be categorized according to why and when it happens, as Corrective Maintenance(CM), which is necessary to bring a building to an accepted standard. Planned maintenance (PM) is work carried out to prevent failure, which recurs predictably within the life of a building such as cleaning gutters or repainting. Emergency Corrective Maintenance (ECM) deals with work that must be initiated immediately for health, safety, security reasons or that may result in the rapid deterioration of the structure or fabric if not undertaken (for example, roof repairs after storm damage or repairing broken glasses).

Another approach to maintenance

classification has been adopted by Seeley (1987), who 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.

Kolawole (2002) advocated that maintenance culture requires the correct diagnosis of defects, current remedial measures, sound technical knowledge of material usage, management resources as well as the formulation and implementation of integrated plan and policies to sustain utility. The absence of these qualities has led to the decay of the nation's physical, social, aesthetic and economic environment. When buildings are neglected, defects can occur which may result in extensive and avoidable damage to the building fabric or equipment. Poor maintenance has resulted in damage and deterioration to some public buildings in local government areas. The present state of this public building could be attributed to lack of maintenance and neglect after being put into use. Some residential and office buildings of public institutions have not seen any significant maintenance or shown little signs of maintenance since they were constructed. This has resulted in such buildings being in a dilapidated state with some being abandoned.

According to Adenuga and Iyagba (2003), public buildings are in very poor and deplorable conditions of structural and decorative disrepairs. In spite of millions of Naira spent to erect all these buildings, they are left, as soon as commissioned to face premature but steady and rapid deterioration, decay and dilapidation. This lack of maintenance by the authorities and occupants of these facilities often leads to reduced lifespan of these buildings (Melvin, 1992), which invariably defeat the purpose for which they are built. The physical environment forms the principal dictator of the well-being of man (Williams, 2006). In view of the forgoing, it has been considered necessary to study the maintenance practices on local government secretariat buildings in Oyo State in order to identify the factors contributing to the current status of maintenance practices on the local government buildings since building owners are increasingly beginning to accept that it is not in their best interest to carry out maintenance in a purely reactive manner but that it should be planned and managed as efficiently as any other corporate activity.

Research Methodology
The study used purposive sampling method to select eighteen local governments (six from each of three senatorial districts) out of thirty-three in the study area. A total of 160 Questionnaires were distributed to obtain information from construction professionals (Architects, Quantity Surveyors, Builders, Civil Engineers, Services Engineers and Estate Surveyors) in the employment of works departments of selected local government in Oyo State, asking the respondents to identify the maintenance practice in use in the area and factors responsible for their

use. One hundred and eleven (111) questionnaires were returned, properly filled and fit for analysis. This represents 69 percent response rate. Likert scale type 5-1 was used to determine the Mean Item Score (MIS) and Relative Importance Index (RII) of Maintenance Practice (MP) used and factors responsible for its adoption.

Data Analysis and Discussion of Findings
Reliability of data collected
Out of 160 questionnaires administered, 111 were filled and retuned and were fit for analysis. This represents 69 percent return rate of the total questionnaires sent out which was considered adequate for the study based on the assertion of Oke and Ogunsemi (2009) that the result of a survey could be considered as biased and of little significance if the return rate was lower than 20-30 percent.

Table 1: Profession of Respondents

Professionals	Frequency	Percentage
Civil Engineers	19	17
Quantity Surveyors	11	10
Architects	7	6
Builders	10	9
Services Engineers	28	25
Estate Surveyors	22	20
Others	14	13
Total	**111**	**100.0**

Source: Field Survey (2015)

Table 1 shows the profession and the number of respondents, civil engineers (17 percent), quantity surveyors (10 percent), architects (6 percent), builders (9 percent), services engineers (25 percent), estate surveyors (20 percent) and others 13 percent. This showed a good representation from all the professions in the built environment.

Table 2: Education Qualification of Respondents

Qualification	Frequency	Percentage
OND	10	9.1
HND	28	25.2
B.Sc./B.Tech	50	45.0
PGD	16	14.4
M.Sc./M.Tech	7	6.3
Total	**111**	**100.0**

Source: Field Survey (2015)

From Table 2, it can be seen that majority of the respondents are B.Sc/B.Tech holders with a percentage of 45.0. This is closely followed by respondents with HND representing 25.2 percent, while the third category has PGD certificates as their highest qualification obtained with 14.4 percent. Analysis of Table 3 reveals that 8.1 percent of the respondents are corporate members of NIQS and NIA, 38.7 percent are members of NSE, 9 percent are members of NIOB, while NIESV and other professional bodies are 18 percent respectively. Table 4 shows that majority of respondents(38.7 percent) have working experience between 11 and 15 years. Considering the professions involved, their academic background and years of working experience in the works departments of local governments, it can be deduced that data obtained for this study can be relied upon

Table 3: Membership of Professional Bodies of Respondents

Professional Bodies	Frequency	Percentage
NIQS	9	8.1
NIA	9	8.1
NSE	43	38.7
NIOB	10	9.0
NIESV	20	18.0
Others	20	18.0
Total	**111**	**100.0**

Source: Field Survey (2015)

Table 4: Year of Working Experience of Repondents

Years	Frequency	Percentage
0-5	15	13.5
6-10	32	28.8
11-15	38	34.2
16-20	13	11.7
Over 20	13	11.7
Total	**111**	**100.0**

Source: Field Survey (2015)

Identifying maintenance practice in use
From Table 5, Servicing maintenance was ranked first with RII of 0.622, Annual planned maintenance was ranked second with RII 0.584, Rectification maintenance was ranked third with RII 0.580, Daily planned maintenance was ranked 10th with RII 0.508, Avoidable maintenance was ranked 11th with RII 0. 488, and Unplanned maintenance was ranked 12th with RII 0.474. The results revealed that servicing maintenance is the most common maintenance practice, follow by annual planned maintenance and unplanned maintenance practice is least undertaken on local government secretariat buildings.

Table 5: Identification of Maintenance Practices on Local Government Secretariat Buildings

S/ N	Maintenance Types	5	4	3	2	1	Mean Score	RII	Rank
1	Servicing Maintenance	18	31	21	27	14	3.108	0.622	1
2	Rectification Maintenance	6	20	49	29	7	2.901	0.58	3
3	Renovation Maintenance	9	21	33	32	16	2.775	0.555	8
4	Replacement Maintenance	10	31	26	25	19	2.892	0.578	4
5	Planned Preventive Maintenance	14	26	20	30	21	2.838	0.568	6
6	Planned Corrective Maintenance	14	20	23	39	15	2.811	0.562	7
7	Unplanned Maintenance	7	16	23	30	35	2.369	0.474	12
8	Avoidable Maintenance	5	13	33	35	25	2.441	0.488	11
9	Daily Planned Maintenance	10	21	19	30	31	2.541	0.508	10
10	Predictive Maintenance	7	23	20	40	21	2.595	0.519	9
11	Annual Planned Maintenance	15	29	20	26	21	2.919	0.584	2
12	Emergency Planned Maintenance	18	19	26	27	21	2.874	0.575	5

Source: Field Survey (2015)

Identifying the reason for adoption of maintenance practice in use

Table 6 showed the identified reasons for the adoption of servicing maintenance practices by the respondents, cost implication recorded 42.34 percent, effectiveness on buildings recorded 22.52 percent, aesthetic appearance recorded 5.41percent, longetivity on buildings' life recorded 21.62 percent, and policy implementation recorded 8.11%. This showed that cost implication was considered as the main reason for the adoption of servicing maintenance practices in local government secretariat buildings.

Table 6: Reason for Adoption of Servicing Maintenance

Servicing Maintenance	Frequency	Percentage
Cost implication	47	42.34
Effectiveness of buildings	25	22.52
Aesthetic appearance	6	5.41
Longevity on buildings' life	24	21.62
Policy implementation	9	8.11
Total	**111**	**100.0**

Source: Field Survey (2015)

Table 7: Reason for Adoption of Annual Planned Maintenance

Annual Planned Maintenance	Frequency	Percentage
Cost implication	28	25.23
Effectiveness of buildings	19	17.12
Aesthetic appearance	16	14.41
Longevity on buildings' life	19	17.12
Policy implementation	29	26.13
Total	**111**	**100.0**

Source: Field Survey (2015)

Table 7 showed the identified reasons for the adoption of annual planned maintenance practices by the respondents, Cost implication (25.23 percent), effectiveness on buildings (17.12 percent), aesthetic appearance (14.41 percent), longetivity on buildings' life (17.12 percent) and policy implementation (26.13 percent). The findings showed that policy implementation was considered the main reason for the adoption of annual planned maintenance practices in local government secretariat buildings.

Table 8 showed the reason for adoption of rectification maintenance. Cost implication recorded 24.32 percent, effectiveness on buildings recorded 35.14 percent, aesthetic appearance recorded 18.92 percent, longetivity on buildings' life recorded 13.51 percent and policy implementation recorded 8.11%. Findings showed that cost Effectiveness on building was considered as the main reason for the adoption of rectification maintenance practices in local government secretariat buildings.

Table 8: Reason for Adoption of Rectification Maintenance

Rectification Maintenance	Frequency	Percentage
Cost implication	27	24.32
Effectiveness of buildings	39	35.14
Aesthetic appearance	21	18.92
Longevity on buildings' life	15	13.51
Policy implementation	9	8.11
Total	**111**	**100.0**

Source: Field Survey (2015)

Table 9 showed the identified reasons for non adoption of unplanned maintenance practices, cost implication (33.33 percent), effectiveness on buildings (18.92 percent), aesthetic appearance (9.01 percent), longetivity on buildings' life (9.01 percent) and policy implementation (29.73 percent). This showed that cost implication was considered as the main reason for non adoption of unplanned maintenance practices in local government secretariat buildings.

Table 9: Reason for Non Adoption of Unplanned Maintenance

Unplanned Maintenance	Frequency	Percentage
Cost implication	37	33.33
Effectiveness of buildings	21	18.92
Aesthetic appearance	10	9.01
Longevity on buildings' life	10	9.01
Policy implementation	33	29.73
Total	**111**	**100.0**

Source: Field Survey (2015)

Conclusion

This study has explored the various areas of maintenance practices as applicable to Local Government Secretariat buildings in Oyo state, Nigeria towards enhancing improved maintenance practices and from the analysis carried out, one can summarily make inference concerning the maintenance practices that:

1) Servicing, annual planned and rectification maintenance respectively were the most frequently used maintenance practices on Local Government Secretariat buildings in Nigeria.

2) Cost implication was the most prominent consideration in embarking on maintenance within the study area and this account for why unplanned maintenance practice was rarely carried out.

3) Policy implementation and effectiveness on buildings were other major consideration in embarking on maintenance practice after cost.

In order to achieve improved maintenance practices in our built environment and especially on our local government secretariat buildings, the following recommendation are suggested:

1) In addition to the existing maintenance practices, the use of planned preventive maintenance and unplanned maintenance are recommend so as to enhance rapid response to any sign of dilapidation or failure in any part of the building.

2) Adequate budgetary provision should be made for maintenance work so as to avoid a situation in which cost to be incurred was a major obstacle to executing required maintenance exercise.

3) More attention should be paid to strict adherence to implementing maintenance policy and implementing maintenance policy consideration should be the first consideration rather than maintenance cost consideration.

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