

Maintenance of Residential Buildings: Users' Practices in Nigeria

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Abstract

The sustainability of infrastructure demands an attention. One of the ways to achieve this is the adoption of maintenance as essential practice. The level of this practice among various users demands urgency for policy formation. The study examined the maintenance practice among users of residential buildings in Nigeria. The study data were collected through questionnaire administered on the users of residential buildings in the study area. The data collected were subjected to descriptive statistical tool. The study found out that all the respondents carried out one form of maintenance activities to other. Majority does not have maintenance manual and economic is the major factor that affects the practice of maintenance among users of residential buildings. The study recommends a need for more advocacy, policy and awareness on the essence of maintenance as a practice for national sustainability.

Keywords: maintenance, users' practice, residential building, sustainability, Nigeria

INTRODUCTION

Sustainability of capital investments of any nation has been a major and global dialogue most especially in developing countries where infrastructural development is still at the infancy. This is because most of government expenditures and investments focus on infrastructural development such as road, power, water and housing even though the challenges in the developed nations is sustainability. One of the ways for sustainability is the maintenance of the existing stock of infrastructural facilities and services. Maintenance according to BS 3811 is the construction 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. Oladimeji (1996) further described maintenance as the combination of any actions carried out to retain an item in or restore it to an acceptable condition. Onwuka (1989) stated that maintenance management is concerned with the planning and control of construction resources to ensure that necessary repairs and renewal are carried out with maximum efficiency and economy.

Hence, 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. Odediran (2002) also emphasized that

the technological development around the world is having aesthetic effect on the construction industry. These innovations of new technologies to the residential buildings are beauty to behold after their completion. He further emphasized that there are lots of technical and administrative actions to ensure the sustainability of the intrinsic and extrinsic values of each of the components of the buildings. The physical environment forms the principal dictator of the well-being of man (Williams, 2006). Hence, maintenance like the last leg of a relay team and the lubricating oil of an engine is a component of a conclusive phase of sustainable development.

Nigeria has experienced periods of economic prosperity and adversity in the last few decades which has witnessed massive investment in property development both in the public and the private sectors of the economy (Yusif, 1998). Then, the emphasis was on the development of new properties with little attention paid to the maintenance of the existing stock and the future maintenance needs of the proposed ones. This attitude seems to have been carried over into the current period of economic adversity with the result that while the volume of new development has fallen drastically the existing stock is deteriorating at an alarming rate due to inadequate maintenance (Yusif, 1998). The general belief now is that the present very prohibitive cost of new buildings has imposed on individuals, corporate bodies and the nation as a whole the need to invest more in maintenance. Hence, the situation has not changed in the twenty-first century with the current effect of the

global economic depression on economy system. The problem may not be lack of funds alone but also inadequate allocation of funds as a result of the general lack of appreciation of the need for maintenance and the low priority accorded it. This therefore prompted the need to appraise the maintenance culture with emphasis on the practices of the users of residential buildings in Nigeria.

MATERIALS AND METHODOLOGY

Studies on Previous Maintenance Activities

Yusif (1998) stated that though highly desirable, it has not yet been feasible to produce maintenance free buildings. The reality is that all the elements and components, which make up a building unavoidably deteriorate with time due to the inherent defects in design and construction and the effects of environmental agents and user activities. Buildings are basically required to provide a conducive and safe environment for the performance of various human activities. The ability of a building to provide the required environment for a particular activity is a measure of its functionality. As the components and elements of a building begin to deteriorate, it becomes necessary to take measures aimed at ensuring that the desirable characteristics, which enable the building to provide convenience and safety are retained. This is the basic philosophy of maintenance.

The built environment expresses in physical, forms the complex social and economic factors, which shape the structure of and give life to a community (Lee, 1987). The condition and quality of buildings reflects public concern or indifference, the level of economic prosperity in an area as well as social values and behaviour. Against this background, Yusif (1989) appraised corporate property maintenance practice in Nigeria and established that maintenance has become a big issue in the world of property and building. In 1985 alone, the total housing repair needs in Britain was estimated to be in the order of 45 billion pounds (Seeley, 1986) and 25.9 billion pounds in 1995 (Olubokun, 1996). In Singapore, the estimated cost of property maintenance in 1990 was as 1 billion Singapore dollars (Harrison, 1990). Here in Nigeria, the Federal Government in its 1987 budget allocated 590 million naira for the maintenance of public buildings (Udechukwu, 1989). This amount when considered against the fact that it represents just a small fraction of the total needed for public buildings alone, excluding the needs of the private sector, is a pointer to the enormity of the property maintenance needs of Nigeria as a whole in economic terms (Yusif, 1998). The situation has not gone better with present challenges confronting the country in terms of infrastructural development. Jagboro (2008) further emphasized that cost in use i.e. maintenance cost, is another aspect of quantity surveying (cost management) practice that has not

been given adequate attention in Nigeria, bearing in mind the poor maintenance culture syndrome.

Against this background, this study appraised maintenance practices among users of residential buildings in Nigeria. The scope examined research questions including: have they ever carried out any maintenance work, do they have maintenance plans and how often do they carry out maintenance; what are the types of maintenance activities they carried out and what are the factors affecting maintenance practice in the study area? This formed the basis of research objectives.

METHODOLOGY

This paper was part of the outcome of research conducted on maintenance of residential buildings in Osun state Nigeria. The study area for this research was Osogbo, the state capital city and Ede, annex town to the capital of Osun state in Nigeria. Osogbo and Ede have two (2) local government areas each. This gave a survey of four (4) local government areas out of 30 in the state representing 13%. A survey of the users of residential buildings was conducted and the respondents were randomly selected from the low, medium and high density zones of the study area. Household units were selected from each zone representing the study population. The low density is an area with little number of residential buildings that accommodate essential facilities; high density has large number of residential dwellings where basic amenities are inadequate in supply compared with low density while medium density is an intermediate between the low and high density zones. In Osogbo, the low density area surveyed was Ring Road; while Alekuwodo and Oke-Bale were surveyed for medium and high density zones respectively. In Ede as well, Country Home, Oke-Gada and Timi-Agbale Market Area were visited for low, medium and high density zones respectively. The data for this study was collected through a well structured questionnaire that was divided into two sections accompanied by a covering letter to introduce the topic and instructions to be followed by the respondents.

Section A comprised of the demographical information of the respondent such as their ages, sex and annual income. Section B featured research questions on maintenance activities among users of residential buildings in the study area which included; have they ever carried out any maintenance work, do they have maintenance plans and how often do they carry out maintenance; what are the types of maintenance activities they often carried out and what are the factors affecting maintenance practice?. A sample size of 115 copies of questionnaire was administered on the users and a total of 84 copies of questionnaire out of the 105 retrieved were appropriate for analysis. The data collected were analyzed using the descriptive statistical tool.

RESULTS

Tables 1 to 7 below gave the result of respondents' opinion on the questions administered. Among questions raised that addressed the specific objectives of this study include:

1. Have they ever carried out any maintenance work?
2. Do they have maintenance plan/manual?
3. How often do they carry out maintenance?
4. What are the types of maintenance activities they often carried out?
5. What are the factors affecting maintenance practice?

Table 1: Socio-Economic Characteristics of the Respondents

Variables	Variable Values	Frequencies	Percentage
Age	less than 21 yrs	-	-
	21-30 yrs	12	14
	31-40 yrs	29	35
	41-50 yrs	36	43
	Above 50 yrs	7	8
	Total	84	100
Gender	Male	62	74
	Female	22	26
	Total	84	100
Annual Income (N)	less than N60, 000	-	-
	60,000 – 120,000	5	6
	120,001 – 360,000	24	29
	360,001- 600,000	38	45
	Above 600,000	17	20
	Total	84	100

Table 2: Types of Residential Building

Type	Frequency	Percentage (%)
Bungalow (Flat)	19	23
Bungalow (Face to face)	43	51
Duplex	5	6
Storey Building	17	20
Total	8	100

Table 3: Have you ever carried out any maintenance work before?

Option	Frequency	Percentage
Yes	84	100
No	-	-
Total	84	100

Table 4: Do you have maintenance manual or plan for this building?

Option	Frequency	Percentage
Yes	12	14
No	72	86
Total	84	100

Table 5: How often do you carry out maintenance work?

Practice	Frequency	Percentage
Daily	48	57
Weekly	29	23
Monthly	10	12
Quarterly	2	2
Yearly	5	6
Total	84	100

Note: Daily & Weekly = often
Monthly = rarely, Quarterly & Year = never

Table 6: What type of maintenance work(s) have you carried out on the building?

Type	Frequency	Percentage
Day to Day Sweeping /Mopping of the floor	36	43
Drainage clean-up	10	12
Weekly cleaning of floor and windows	17	20
Services clean up and replacement	12	14
Elemental (ceiling, door, roof et al.) replacement	7	8
All the above	2	3
Total	84	100

Table 7: What are the factors affecting the practice of maintenance of the Residential building?

Factors	Frequency	Percentage
Economic	48	57
Political	-	-
Ecological	24	29
Socio-Cultural	12	14
Total	84	100

DISCUSSION

Socio-Economic Characteristics of the Respondents

The socio-economic characteristics of the respondents for this study were described as shown in Table 1. The age group of the users of residential buildings was categorized and none was less than twenty one (21) years and more than eighty percent (80%) were above thirty (30) years of age. This shows that the majority are mature adults. The study also showed that more than seventy percent (70%) of the users are male. The respondents' monthly incomes were also assessed and none earn less than N60,000 while more than sixty percent (60%) earn N360, 000 and above per annum. The result showed that most of the respondents earned far above the Nigerian newly approved annual minimum wage (N216, 000) of 2011. The results pointed to the fact that the majority of the respondents are above thirty (30) years of age, male gender and middle income earners who earn not less than N360, 000 as annual income.

Types of Residential Buildings

The types of residential buildings occupied by the users in the study area were examined in Table 2. The findings showed that more than seventy percent (70%) of the residential buildings are bungalow either flat or face to face while less than thirty percent (30%) are duplex or storey buildings. Hence, with respect to their monthly income, the result showed that most of the users are middle income earners who could only afford a livelihood. This therefore makes it possible for them to occupy or live in a bungalow and not a high rise structure. This established the acceptability and reliability of the information provided by the users of the residential buildings in the study area.

Maintenance Practices in Residential Buildings

Table 3 asked questions on whether they have carried out any maintenance activities since they occupied the building. All respondents indicated that they have carried out maintenance work at one time or the other. And Table 4 pointed to the fact that more than eighty percent (80%) of the residential buildings in the study area do not have maintenance manual or plan. In Table 5, the respondents were also asked how often they carry out maintenance works on the residential buildings they occupied. Eighty (80%) indicated daily and weekly while others indicated monthly, quarterly and yearly. This showed that majority of the users often carried out maintenance activities with fewer rarely and never carried out maintenance activities.

Table 6 described the nature and types of maintenance works often carried out by the users of residential buildings. The result showed that out of eighty-four (84) respondents, 36(43%) carried out daily sweeping or mobbing of floors, 10(12%) drainage clean-up and 17(20%) carried out weekly cleaning of floor and windows. Also, 12(14%) carried out services clean up and replacement, 7(8%) ensured elemental replacement and 2(2%) agreed that they do all activities indicated above. In Table 7, the respondents were asked to assess those factors that affect the practice of maintenance of residential buildings in the study area. The result showed that out of eighty four (84) respondents, 48(57%) indicated economic, 24(29%) ecological, 12(14%) socio-cultural and none indicated political.

CONCLUSION AND RECOMMENDATIONS

The achievement of an efficient construction industry and sustainability of its products has been the major debates for the professionals and other stakeholders in the industry. Eventhough, the argument of government (public) as the major client of construction activities is how capital projects could be sustained and avoidance of repetitive capital expenditures. This prompted advocacy for sustainability at every sector most especially construction which contribute a significant quota to Gross Domestic Product (GDP). Maintenance has been described as an essential variable in infrastructural sustainability with housing as an essential need of man could not be over-emphasized; hence this study appraised the practice of maintenance among users of residential buildings Nigeria.

The study revealed that most of the residential buildings in the study area are bungalow either flat or face to face. The users reported that they have carried out maintenance activities at one time or the other and that most of the residential buildings in the study area do not have maintenance manual; users often carried out maintenance activities and daily sweeping

or mobbing of the floor, drainage clean up and weekly clean up of floor and windows among others are maintenance activities carried out by the users. The major factor among other that affect maintenance activities is economic. The study recommends that individual should embrace maintenance as a practice and government should engineer action towards more advocacy, policy and awareness on the essence of maintenance as a practice for national sustainability.

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