

## Evaluation of Strategies for Sustainable Property Management in Maiduguri, Borno State, Nigeria

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**Abstract:** *The real estate sector account for one of the major emission of carbon dioxide globally which results to global warming, which calls for urgent need for sustainability in the real estate sector; especially in the area of property management. This study evaluates the strategies for sustainable property management in Maiduguri, Borno State Nigeria. Quantitative research approach was used in collecting data from 19 practicing estate surveyors and valuers through questionnaire administration the study found out that reduce water wastage, waste recycling, energy efficiency and conservation, use of renewable resources and incorporating sustainability clause in tenancy agreement were some of the strategies that can be adopted in sustainable property management as some of the benefit of sustainable property management are increase in habitation of property, increase return on property investment, minimizes time spend on management and reduce operating cost. The study therefor recommends that, there is an urgent need for government and professional bodies to encourage sustainable property management practice through public sensitization, capacity building and also strong financial support, also more advance strategies especially the use of artificial intelligence should be developed to capture the sustainability impact in to real estate practice, by so doing, estate surveyors will be well armed with sustainable building information and knowledge, allowing them to deliver an effective, efficient and clear sustainable property management*

**Keywords:** *Sustainability, Strategies, Property, Management.*

### Introduction

Ensuring sustainability in all sectors has become a global issue. It is also inevitable to the real estate sector (Zhang, Shen, Wu & Qi 2011). Real estate accounts for around 40% of all carbon dioxide emissions worldwide, about 70% of these emissions are produced by building activities, and the remaining 30% are created by construction. Global and national climate targets necessitate considerable reforms in the real estate sector in order to achieve steep emissions reductions in development and management of properties (United Nation Environmental Programme, 2022), there has therefore been increase awareness on sustainability, which is due to global warming and its resultant effect on planet earth.

Likewise there is a rise in understanding and awareness of climate change science, energy usage and costs, and potential impacts of environmental and social sustainability on property management. It was opined by Chikwuado and Uchenna, (2020), that Sustainable management now encompasses more than just controlling, directing, and coordinating in the practice of real

estate management and valuation. Property professionals now need to improvise, re-invent, and apply technicalities to further increase property values without harming the environment because it has transformed into sustainable management. In the same vein the property market is becoming more sophisticated and competitive with the advent of smart building and modern building technology which also require sustainable management strategy to ensure maximum return.

Energy consumption, water use, indoor air quality, material use (including waste reduction), land use, and education of the homebuilder and end user are among the sustainability needs for modern property management. (Bond & Devine, 2015). Also Warren-Myers, (2019), suggest that sustainability in the built environment involve reducing green house gas emission, ensure natural resources such as gas, electricity and water are not being waste, minimize waste production and increase recycling, ensure the health, comfort and safety of the building occupants, device means of producing renewable resources, sewage and waste water recycling and treatment. Rent increment have been considered a way to offset costs, however they impede long-term profitability due to tenant turn over, gentrification, and legal restrictions. (Easthope, 2014). With the high rising cost of property maintenance, property owners through their property managers need strategies for risk management budgeting to achieve sustainable profit.

While there is sufficient body of knowledge on sustainability and different property management methods, there is however shortage of knowledge on sustainability strategies application on property management that enhance profitability while ensuring highest and best use amongst estate surveyors and valuers within Maiduguri, Borno state Nigeria. Therefore study into the implementation of environmental friendly and acceptable property management strategies within the wider context of sustainable development has become an issue of fundamental importance to the understanding of the concept of sustainability if appropriate action is to be taken. In this study appropriate consideration is given as to how a practical realization of such a system might be applied to the lifecycle of a building.

## **Literature Review**

Sustainable property management simply implies locating, designing, developing and handling property that is economically viable, environmentally friendly and has a positive and significant impact on quality of life of the inhabitant and the environment at large. (Keeping & Shiers, 2004). The Property managers are employed by property owners to perform the management of their properties based on their training. Lutzkendorf and Lorenz (2007) classified sustainable buildings and their management, in terms of overall areas of protection, which can be understood from the three dimensions of sustainable development; protection of the natural environment/ecosystem; protecting basic natural resources; protection of human health and welfare; protection of social values and public goods; protection and preservation of capital and tangible property . This was further revealed by Royal Institution of Chartered Surveyors (2009), that sustainable building management envisage a minimize building life cycle costs by analyzing all building-related impacts, from raw material extraction to manufacturing, use, repair, maintenance, disposal and recycling.

According to Oladokun (2010). Property management is a comprehensive subject that requires the application of skills and knowledge to exploit the potential value of real estate assets. The main aim of property management is to maximize the owner's investment for a maximum return through the application of appropriate skills in caring for the property. Sustainable property management within existing stock has a great emphasis on effectiveness and efficiency of resources such as energy and water. The economic link between sustainability and real estate is the focus of many

academic papers on the subject, and investors are encouraged to make sustainable investments based on their value proposition (Piller & Nyoni, 2022).

Thompson (2015), found out that Sustainability is also linked in numerous ways to property management; a culture of sustainable strategies in property management needs to be strengthened by taking risks and experimenting, and this can reduce costs, increase productivity and improve clients satisfaction. d'Amato and Kauko (2012), opined that in principle, local data on management strategies in line to net operating income, cap rate and discount rate can be used to assess the sustainability of small areas or single buildings.

Kauko, (2018), in his study on innovation in urban real estate: the role of sustainability Property Management, he argued that from a more general point of view, apparently there has been a perception change in the real estate industry from green characteristics to full and complete sustainability out of which property management cannot be left out. Sustainability criteria are seen as integral part of modern management strategies due to the benefit they accord the property occupier. Trinkūnas *et al.* (2018), opined that effective construction and real estate management strategies must be developed taking into account economic, social, demographic, political, technological, environmental, psychological, and other indicators of the country. They also suggest a decision support model for real estate development and that could help Lithuania during economic crises.

Kaklauskas *et al.* (2021), in a research on Sustainable Construction Investment, Real Estate Development, and COVID-19, they found out that investor activity in the construction business has been impacted by COVID-19. Evidence of these behavioral shifts was provided to show that COVID-19 did have an impact on real estate investment. It had a wide range of effects on different types of property. These procedures have an impact on modifications to strategic investment portfolios and property management plans. The analysis presented was related to three hypotheses: the study took a clear perspective on pre-, during, and after epidemic sustainable management of real estate investment.

In an effort to extract information about residents' satisfaction and willingness to pay in a sustainable real estate project in Beijing china, Zhang, Fan, Yang and Zhang (2021), in a face-to-face interviews conducted with 614 households in Qingtangwan, With regard to satisfaction of management strategies, the operation and maintenance of residential areas, indoor and outdoor comfort, building quality, sustainable community attachment, and public facility accessibility (this last category showed lower satisfaction) were the five primary components that were discovered. In terms of willingness to pay, residents' mean willingness to pay was found to be CHY 204.23 per month, which is approximately USD 31.19. Also Abidin, (2010), in an attempt to create a sustainability model that can be used by Malaysian real estate firms with further modifications. He believed that by adopting different customs and characteristics, other countries could adopt it.

In Nigeria Oladokun (2010). found out that alot of property managers, although they had graduated from universities or polytechnic, they were not well grounded or educated in the science of green building, nor were professional institutions taking steps to educate them in line with sustainable building. Due to its profitability-focused practices, the industry has yet to develop adequate answers to the theme of sustainability. As a result, activities and efforts are overly focused on real estate agents, meaning property management is becoming globally uncompetitive. Chikwuado and Uchenna (2020), found out that state of the infrastructure, poor attitudes of property owners in the surveyed areas towards sustainable management of commercial properties, resulting in lower property investment returns. They further argued that it is very important that the estate surveyors and valuers should rise on their feet, as their skill and

competence in the area of sustainable property management will preserve our national environment, boost our social heritage and increase our economy strength.

As to benefit of sustainability in the real estate and property management sector Kats and Capital (2003), were of the opinion that sustainable features can drastically reduce the cost of water/waste and energy, reduce emissions and environmental costs, reduce maintenance and operating costs while improving productivity and resident health. They also suggested that this could reduce the total cost of ownership. Other studies such as Ding, (2005), Lutzkendorf and Lorenz (2006), Mathur, Price and Austin, (2008), and also Lai and Lorne (2019), all agreed that the benefit of sustainability in the real estate sector is important not only for environmental protection, but also for the internal and external interests of real estate firms: employees, owners and investors. This combination of benefits reflects social, economic and environmental benefits while minimizing input costs while maximizing profits. To achieve better sustainability returns in property management.

## **The Study Area, Methodology and Data Requirement**

### **The Study Area**

The study covers Maiduguri and Jere Local Government Areas (LGA). These Local Governments, until 1991 were administered as one Local Government Council, but for effective administration they were separated into Maiduguri Metropolitan Council (MMC) and Jere LGA respectively (Aliyu *et al*, 2015; Mallo & Anigbogu, 2009). Maiduguri Metropolitan Council has a population of 521,492 and Jere Local Government has a population of 211,204 (NPC, 2006). For the purpose of this research, both Maiduguri Metropolitan Council and Jere Local Government Areas are referred to as “Maiduguri Metropolis”.

The types of properties located within the study area are predominantly residential and commercial properties. The growing population of Maiduguri metropolis calls for urgent urban sustainability which can be achieved through sustainable property management to preserve the value of real estate investments and other heritage sites within the study area. In order to make effective, efficient and adequate coverage, the research is limited to Maiduguri metropolis. It is also limited to estate surveying and valuation firms within Maiduguri metropolis who constitute the potential respondents in the study.

### **Methodology**

The study solely relied on primary source of data to get first hand information on the strategies of sustainable property management in Maiduguri Metropolis of Borno state, Nigeria. The main study data were obtained through a structured questionnaire to obtain the needed information from Twenty Estate surveying and valuation firms that are expose and have experience in different types of property management strategies and real estate investments considering the objective of the study which required a basic survey approach.

A purposive sampling technique is suitable for this study because it deliberately considered the twenty branches of the registered practicing Estate firms within Maiduguri branch. The entire population was adopted as the sample size since the population is small. At such twenty questionnaires were administered out of which nineteen were retrieved. The data obtained were analyzed using descriptive statistics, while findings were displayed with the use of tables.

## Data Analysis, Presentation, and Discussion

**Table 1: Do you have sustainability in your management plan?**

Option	Frequency	Percent
Yes	8	42.1
No	11	57.9
Total	19	100.0

Source: Field Survey, 2023

From Table 1, it can be seen that out of the 19 Estate management firms 8(42.1%) have sustainability management plan while 11(57.9%) of the respondents do not have sustainability in their property management plan. This implies that majority of the estate surveyors in the study area do not consider sustainability in their property management strategies.

**Table 2: If No, kindly indicate how soon you wish to incorporate sustainability in your management plan**

Option	Frequency	Percent
Later	2	10.5
Soon	7	36.9
Very Soon	2	10.5
Total	11	57.9

Source: Field Survey, 2023

Out of the 11(57.9%) that reported that they do not have sustainability management plan, 7(36.9%) indicates that they will soon incorporate sustainability in their management plan and 2(10.5%) each indicates later and very soon.

**Table 3: Mean ranking of the factors that encourage/enhance sustainable property management?**

Statement	Mean	Std. Dev.	Ranking
Economy stability	4.26	1.240	1 <sup>st</sup>
Technological knowhow	4.05	.911	2 <sup>nd</sup>
Government policy on sustainability	3.95	1.026	3 <sup>rd</sup>
Sustainable Building Design	3.84	.898	4 <sup>th</sup>
Incorporating sustainability in management plan	3.68	1.108	5 <sup>th</sup>
Availability of finance	3.58	1.058	6 <sup>th</sup>

Source: Field Survey, 2023

Table 3 presents the mean ranking of the factors that encourage/enhance sustainable property management. The economy stability was ranked first, technological knowhow was ranked second, government policy on sustainability was ranked third which agrees with Kaklauskas *et al* (2021) who revealed that government policies on sustainability has an impact on all aspects of the economy including the real estate sector, sustainable building design was ranked fourth which concur to findings by Lai and Lorne (2019) that sustainable features in properties design have made its management practice more dynamic and strategic than the conventional property management practice., incorporating sustainability in management plan was ranked fifth which is in line with Dawidowicz *et al* (2020) who opined that Sustainable management requires the

appropriate property managers organizational solutions, efficient decision-making and the involvement and active participation of residents, and the availability of finance was ranked sixth.

**Table 4: Mean ranking of strategies for sustainable property management**

Statement	Mean	Std. Dev	Rank
Reduce water wastage	4.21	.976	1 <sup>st</sup>
Waste recycling	4.16	.958	2 <sup>nd</sup>
Energy efficiency and conservation	4.00	1.106	3 <sup>rd</sup>
Use of renewable resources	3.89	1.049	4 <sup>th</sup>
Enhancing Tenants safety	3.74	1.195	5 <sup>th</sup>
Ecofriendly material used by tenants	3.47	1.124	6 <sup>th</sup>
Incorporating sustainability clause in tenancy agreement	3.37	.895	7 <sup>th</sup>
Waste management	2.95	1.311	8 <sup>th</sup>
Consideration of the environment in property operation	2.95	1.311	9 <sup>th</sup>

Source: Field Survey, 2023

Table 4 present the mean rank of strategies for sustainable property management within the study area in which reduce water wastage was ranked first, waste recycling was ranked second, energy efficiency and conservation was ranked third, use of renewable resources was ranked fourth, tenant's safety was ranked fifth, ecofriendly material used by tenants was ranked sixth, incorporating sustainability clause in tenancy agreement was ranked seventh and waste management and consideration of the environment in property operation are ranked eighth and ninth respectively. All the above strategies are ranked to fall above 2.50 within the mean, which implies the acceptability of the suggested strategies of sustainable property management. Sustainable property management if implemented by property managers will ensure harnessing the property sector, this implies maximization of the financial benefits and risk reduction potential of property that are manage in a way that ensure sustainability.

**Table 5: Mean ranking of benefits of strategic property management**

Statement	Mean	Std. Dev.	Rank
Increases habitability of property	4.21	.713	1 <sup>st</sup>
Increase return on property investment	3.79	.855	2 <sup>nd</sup>
Minimizes time spend on management	3.58	.838	3 <sup>rd</sup>
Reduce operating cost	3.43	.902	4 <sup>th</sup>
Elongate building life span	3.42	.961	5 <sup>th</sup>
Good indoor environmental and air quality	3.41	.942	6 <sup>th</sup>

Source: Field Survey, 2023

Table 5 presents the mean ranking of benefits of strategic property management. Increases habitability of property was ranked first, followed by increase return on property investment which was ranked second, minimizes time spend on management was ranked third, reduce operating cost was ranked fourth and elongate building life span was ranked fifth. These benefits are in line with the findings of Fateye *Et al*, (2023) which revealed that The effective and efficient sustainable management practice of property not only contributes significantly to solving social, economic, and environmental sustainability issues, but sustainable management practice also is key to

optimizing the earning capacity of a property, prolonging the building's economic lifecycle, enhancing the building performance and improve user's experience and satisfaction. Also there will be a reduction of running and maintenance costs by about 25-30% (Nallathiga Et al, 2022)

## **Conclusion and Recommendation**

Despite growing awareness on sustainability and the identified benefit that will accrue to property managers, their clients and the environment at large by embracing sustainable property management practice, it is evident from the result that must of the practicing estate surveyors in the study area have not incorporate sustainability into their property management practice and are not ready to incorporate it very soon. There is an urgent need for government and professional bodies to encourage sustainable property management practice through public sensitization, capacity building and also strong financial support from the public and private institutions, and to ensure professionalism. It is also necessary to reach a more symbiotic relationship between human economic activity and nature through sustainable property management in order to reduce the emission of CO<sub>2</sub> from the real estate sector thereby sustaining the viability of the Earth's ecosystems

Also, more advance strategies especially the use of artificial intelligence should be developed to capture the sustainability impact in to real estate practice, by so doing, estate surveyors will be well armed with sustainable building information and knowledge, allowing them to deliver an effective, efficient and clear sustainable property management. Finally Laws should also be enacted by both State and Federal government to serve as a necessary guideline for the incorporation of sustainability into property management practice

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