

Towards Sustainable Urbanisation: An Evaluation Of Green Building Rating System In Nigeria

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Abstract

This paper assesses how well sustainable urbanisation is promoted in Nigeria using green building rating systems. A survey of construction industry professionals and a study of a sustainable building project in Lagos are among the mixed-methods research techniques used in this study. The results show that while sustainable building assessment systems can promote sustainable building practices, their application in Nigeria is constrained by several challenges. These include financial limitations, a lack of understanding and awareness of the rating system, and a lack of government support. The report suggests adopting a more thorough approach to sustainable urbanization, resolving financial restrictions, raising awareness and expertise of green building rating systems, and doing additional research. The results of the study have global significance for sustainable urbanization and green building rating systems, emphasizing the necessity for place-specific strategies that take the environmental, economic, and social facets of sustainability into account. These insights can be used by policymakers, practitioners, and researchers to create more efficient strategies and policies for encouraging sustainable construction practices and sustainable urbanization. Ultimately, the paper adds to the increasing reservoir of knowledge on sustainable building grading systems and sustainable urbanisation in developing nations, giving both scholars and practitioners useful new information.

Keywords: Green Building, Nigeria, Rating System, Sustainability; Urbanization

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I. INTRODUCTION

1.1 Introduction: Overview of Sustainable Urbanization and its Importance

The importance of sustainable urban development has increased as our globe becomes more urbanised. Sustainable urbanisation is the process of creating cities that are socially, ecologically, and economically viable. It is necessary to build urban communities that are resilient to environmental hazards, inclusive of everyone, and affluent economically (The World Bank, 2022)

The importance of sustainable urbanisation cannot be overstated. Because they provide access to essential services like healthcare and transportation as well as employment opportunities, educational opportunities, and cultural resources, cities are the engines behind economic development. Nonetheless, cities are particularly vulnerable to the consequences of climate change and also make major contributions to global greenhouse gas emissions (Delbridge, Harman, Oliveira-Cunha, & Venables, 2022).

To ensure that cities continue to provide a high quality of life for their residents, it is essential to promote sustainable urban development (Kacyira, 2012). This calls for a multifaceted strategy that incorporates the use of sustainable building techniques, the encouragement of the use of public transportation and active transportation, the development of green spaces, and the implementation of rational use and sustainable water management systems.

The purpose of this essay is to discuss the contribution of sustainable building grading models to the promotion of sustainable urbanisation, with a special emphasis on Nigeria. The idea is to offer insights into how such systems might assist sustainable urban development in the nation and outside by assessing the efficacy of a sustainable building grading system in Nigeria.

1.2 Brief Background on Green Building Grading Models and Their Role in Advancing Sustainable Urbanisation

Systems for evaluating green buildings are an essential tool for advancing sustainable urbanization. These systems offer a framework for assessing a building's sustainability based on several aspects, such as water conservation, the use of sustainable materials, and energy effectiveness (Pan, Yu, & Du, 2022).

Leadership in Energy and Environmental Design (LEED), the first sustainable building grading system, was created in the 1990s in the US. The Global Sustainability Assessment System (GSAS) in Qatar, Green Star in Australia, BREEAM in the United Kingdom, and other systems have since been developed (Dawodu, Cheshme, Cheshmehzangi, Sharifi, & Oladejo, 2022).

By encouraging developers and building owners to incorporate sustainable practices into their buildings, green building rating systems play a critical role in developing sustainable urbanization (Oguntuase & Windapo, 2021). These systems promote the use of energy-efficient technologies, renewable energy sources, and water-saving practices by serving as a baseline for sustainable building design.

Moreover, green building rating systems help to raise public awareness of sustainable building practices and their benefits. By certifying buildings as green, these systems provide a visible demonstration of the benefits of sustainable building design, encouraging others to adopt similar practices (Cao, Xu, Kamaruzzaman, & Aziz, 2022).

In summary, green building rating systems are a special tool in advancing sustainable urbanisation. By providing a platform for evaluating the sustainability of buildings as well as encouraging the adoption of sustainable practices, these systems play a vital role in creating cities that are resilient to environmental challenges, socially inclusive, and economically vibrant.

1.2 Green Building Rating Systems and Their Role in Promoting Sustainable Urbanisation'

Systems for evaluating green buildings are an essential tool for advancing sustainable urbanisation (Bungau, Bungau, Prada, & Prada, 2022). These systems offer a framework for assessing a building's sustainability based on several aspects, such as energy effectiveness, the use of sustainable materials, and water conservation.

By encouraging developers and building owners to incorporate sustainable practices into their buildings, green building rating systems play a critical role in developing sustainable urbanisation (Ankeli, 2023).

Moreover, green building rating systems help to raise public awareness of sustainable building practices and their benefits. By certifying buildings as green, these systems provide a visible demonstration of the benefits of sustainable building design, encouraging others to adopt similar practices (Novieto, Kulor, Apprey, & Ayeke, 2023).

In summary, green building rating systems are a crucial tool in promoting sustainable urbanisation. By providing a platform for assessing the adoption of sustainable practices and encouraging the sustainability of buildings, these systems play a vital role in creating cities that are resilient to environmental challenges, socially inclusive, and economically vibrant.

1.3 Introduction To The Study And Its Aims

This study's objective is to assess how well a green building rating system works to encourage sustainable urbanisation in Nigeria. Our specific goals are to evaluate the rating system's effect on the sustainability performance of buildings in Nigeria and to pinpoint the variables that affect the system's efficacy.

To accomplish these goals, a thorough literature analysis on sustainable urbanization and green building grading systems will be conducted. Also, we will assess the sustainability efficacy of structures that have received rating system certification and contrast it with non-certified buildings.

For the advancement of sustainable urbanization in Nigeria and elsewhere, this study has several significant ramifications. First of all, it will shed light on how well sustainable building grading systems work to encourage environmentally friendly building designs and building methods. Second, it will pinpoint the elements that affect the effectiveness of sustainable systems, giving practitioners and policymakers useful data.

In the end, the research hopes to support ongoing initiatives to develop cities that are socially, environmentally, and economically sustainable. Green building grading systems can play a crucial role in reaching this aim by promoting sustainable building design and construction techniques.

II. LITERATURE REVIEW:

2.1 The Concept of Sustainable Urbanization and its Key Elements

The concept of sustainable urbanisation consists of a wide range of social, economic, and environmental variables. Creating cities that are resilient to environmental difficulties, inclusive of all people, and economically vibrant is at the heart of sustainable urbanisation (Momoh, et al., 2022).

Fundamental components of sustainable urbanization consist of the development of compact, interconnected, and livable cities that support sustainable mobility, the supply of cheap housing, the preservation and restoration of natural ecosystems, and the advancement of social fairness and inclusion.

A major obstacle to sustainable urbanisation is striking a balance between the demands of society, the economy, and the environment. This necessitates a multidisciplinary strategy that incorporates environmental science, engineering, urban planning, and architecture (Bibri, Krogstie, & Karrholm, 2020).

Green building grading systems play a critical role in developing sustainable urbanisation by encouraging developers and building owners to implement sustainable practices in their buildings (Saka, Olanipekun, & Omotayo, 2021). These systems encourage the adoption of renewable energy sources, energy-efficient technologies, and water-saving techniques by acting as a foundation for sustainable building design.

In general, the idea of sustainable urbanisation is crucial for the planet's future. By supporting sustainable building design and construction techniques, we can establish sustainable cities. When established, Such cities would be environmentally, socially, and economically sustainable and they can offer their citizens a high quality of life

2.2 Overview of Green Building Rating Systems and Their Role in Promoting Sustainable Urbanization Globally

Green building rating systems have gained increasing popularity globally as a means of promoting sustainable urbanisation (Doan, et al., 2022). These systems offer a framework for assessing a building's sustainability based on a number of aspects, such as water conservation, energy effectiveness, and the use of sustainable materials.

Leadership in Energy and Environmental Design (LEED), which was created in the United States in the 1990s, is the green building grading system that is used the most frequently worldwide. The Global Sustainability Assessment System (GSAS) in Qatar, Green Star in Australia, BREEAM in the United Kingdom, and other rating systems have since come into existence.

By offering a standardized platform for evaluating the sustainability of buildings, green building rating systems have proven successful in encouraging sustainable construction practices globally. This enables building owners and developers to compare their buildings to others and to identify areas for improvement (Vierra, 2023).

Moreover, green building rating systems have performed an important role in raising public awareness of sustainable building practices and their benefits (Liu, et al., 2022). By certifying buildings as green, these systems provide a visible demonstration of the benefits of sustainable building design, encouraging others to adopt similar practices.

Overall, green building rating systems are an important tool in promoting sustainable urbanisation globally. They incentivise sustainable building practices, provide a benchmark for assessing building sustainability, and raise public awareness of sustainable building practices and their benefits.

2.3 Review of Existing Studies About Green Building Rating Systems In Nigeria

The value of green building grading systems in promoting environmentally friendly construction has been the focus of several types of research in Nigeria (Alohan & Oyetunji, 2021; Wahab & JEGEDE, 2021). Yet, the study that has been done has produced inconsistent results since there has not been much of it.

In research by Ezema and Maha, the environmental impact of LEED-certified buildings in Lagos, Nigeria, was evaluated (Ezema & Maha, 2022). The study found that certified buildings utilized less energy and water than non-certified buildings, highlighting the potential for green building rating systems to enhance environmentally friendly building practices in Nigeria.

Although there is increased interest in sustainable construction techniques, Oladoja and Ogunmakinde's study on the application of green building rating systems in Nigeria revealed that there was a considerable barrier to the adoption of these systems among stakeholders (Oladoja & Ogunmakinde, 2021).

Ibok, et.al assessed the influence of BREEAM on building design in Nigeria in a separate study. The study discovered that while BREEAM had the potential to promote sustainable construction practices in Nigeria, there were substantial obstacles due to the prohibitive cost of certification as well as a dearth of local expertise (Ibok, Udomiaye, Patrick, & Ukpong, 2021).

The research that is now available on green building grading systems in Nigeria indicates both the potential advantages and the difficulties of putting such systems in place. Although there is evidence that green building grading systems can be useful in encouraging sustainable building practices, further research is required to assess their efficacy and determine ways to overcome the difficulties involved in putting them into reality (Alohan & Oyetunji, 2021).

III METHODOLOGY

3.1 Methodology: Description Of The Research Design And Methods Used In The Study

This study's objective is to assess how well green building rating systems work to encourage sustainable urbanization in Nigeria. A mixed-methods study approach was employed to accomplish this goal, using both quantitative as well as qualitative data gathering techniques.

First, a survey was carried out to gather quantitative information on players in the Nigerian construction industry's awareness and perception of green building grading systems. An online questionnaire was used in the survey, which was directed at building owners, contractors, architects, and engineers in Lagos, Nigeria.

Second, extensive interviews with major players in the Nigerian construction sector, including those from governmental and non-governmental organizations as well as professional groups, were done. The goal of the interviews was to gather qualitative information on the opportunities and obstacles related to the adoption of green building rating systems in Nigeria.

Descriptive statistics were used to analyse the survey data, while theme analysis was used to analyse the interview data. A thorough assessment of the efficiency of green building grading systems in promoting sustainable urbanisation in Nigeria was produced by triangulating the data obtained from the survey and the interview processes.

All individuals gave their informed consent before participating in the study, which was carried out in compliance with ethical standards. In order to guarantee that the study complied with all ethical standards and procedures, it was also given the go-ahead by the pertinent ethical review board.

Ultimately, the blended research approach employed in this study offers a thorough evaluation of how well green building grading systems support sustainable urbanisation in Nigeria, integrating qualitative as well as quantitative data-gathering techniques to offer a strong and sophisticated evaluation of the subject.

3.2 Overview of The Rating System Evaluated In The Study

Leadership in Energy and Environmental Design (LEED) is the green building rating system that was examined in this study. LEED is one of the most well-known and commonly applied green building rating systems in the world with a set of standards for the operation, construction, maintenance, and design of green buildings.

Buildings are awarded points under the LEED rating system, which is based on a point system, for a variety of sustainable features and procedures, including indoor air quality, energy efficiency, and water conservation. Depending on how many points they receive, buildings can acquire one of four certification levels: Platinum, Gold, Silver, or Certified.

LEED certification is voluntary and can be obtained by any building, regardless of its size or type. The rating system has been adopted in over 167 countries and territories, including Nigeria, where it has gained popularity in recent years.

Due to the fact that LEED certification offers a recognized standard for sustainable building practices and can increase a building's marketability and value, it is sought after by many players in the construction industry, including architects, building owners, and builders.

By a survey and in-depth consultations with actors in the building industry, the usefulness of the LEED rating system in fostering sustainable urbanisation in Nigeria was assessed in this study. The results of this study add to a better understanding of the efficacy of LEED in fostering sustainable urbanisation in the Nigerian context by offering insights into the potential and constraints connected with the adoption of rating systems for green buildings in Nigeria.

3.3 Sample Selection And Data Collection Methods

Entities within the construction industry in Nigeria, such as contractors, architects, building owners, and engineers in Lagos, Nigeria, served as the sample for this study. These participants were selected because they have a direct impact on the planning, development, and maintenance of buildings. As a result, they are essential to advancing sustainable urbanisation through the use of green building grading systems.

A combined strategy was used to acquire the data, integrating quantitative as well as qualitative data-gathering techniques. First, 200 actors in the Nigerian construction industry participated in a survey utilising an online questionnaire. The purpose of the study was to gather quantitative information on people's knowledge of and opinions of green building grading systems, with a particular emphasis on the LEED system.

Second, extensive interviews with major players in the Nigerian construction sector, including those from governmental and non-governmental organizations as well as professional groups, were done. The goal of the interviews was to gather qualitative information on the opportunities and obstacles related to the adoption of rating systems for green buildings in Nigeria.

Both qualitative data and thematic analysis were used in the data analysis of the survey and interview data, respectively. In order to give a thorough assessment of the efficiency of rating systems for environmentally friendly buildings, with a focus on the LEED rating system, in promoting sustainable urbanization in Nigeria, the data gathered from the survey and the interviews were triangulated.

All in all, the blended approach used in this paper offers a thorough and nuanced analysis of the subject, with both quantitative and qualitative data collection methods revealing information about the awareness, perception, and difficulties surrounding the adoption of rating systems for environmentally friendly buildings in Nigeria.

IV. RESULTS

4.1 Findings, Including an Evaluation of The Green Building Rating System in Nigeria

The results of this study provide significant light on how well LEED and other environmentally friendly rating systems, in particular, promote sustainable urbanization in Nigeria. Here are the findings from the survey and interviews that were conducted for this study.

Understanding and Attitudes Toward Green Building Rating Systems

The US Embassy Building, Abuja, Nigeria is illustrated in Figure 1 below. It is a good example of a LEED-Certified building. The question is, how many urban dwellers have anything to do with the US Embassy building?



Figure 1. United States Embassy Building – LEED Certified; *Source: Author's Personal Collection*

While 63% of participants knew of green building rating systems, only 38% knew about the LEED rating system specifically, according to the poll results. This indicates the need for more information and instruction on green building grading systems, with an emphasis on the advantages of putting such systems in place in order to promote sustainable urbanization. Figure 2 below is Microsoft Office Building, Lagos, Nigeria, another illustration of a LEED-Certified Building. Being a corporate building means they are detached from most members of the public.



Figure 2: LEED-Certified Microsoft Office Building, Lagos, Nigeria; *Source: Author's Private Collection*

The Adoption of Green Building Rating Systems in Nigeria: Barriers and Opportunities

The interview process carried out for this research revealed a number of issues with the adoption of sustainable building grading systems in Nigeria, such as a shortage of incentives and government assistance, high certification costs, and a lack of knowledge and education regarding the advantages of sustainable building practices.

Alternatives were also noted, such as the potential for the green building sector to grow economically and create jobs, as well as the possibility for buildings with green certificates to be more marketable and valuable.

Assessment of the Nigerian LEED Rating System

Ultimately, it was discovered that the LEED rating system could encourage sustainable urbanization in Nigeria. The system's adoption faced several difficulties, though, including high certification fees, a lack of knowledge about the advantages of green construction methods, and the requirement for more government incentives and support.

Despite these obstacles, the study concluded that the LEED rating system is an effective strategy for fostering sustainable urbanisation in Nigeria because it offers a recognized benchmark for eco-friendly construction methods and has the potential to raise the commercial viability and importance of certified structures.

The results of this study, with an emphasis on the LEED rating system, offer significant new insights into the prospects and obstacles related to the adoption of rating systems for green buildings in Nigeria. The study emphasizes the need for improved support from the government as well as incentives to encourage the adoption of such methods in the Nigerian construction industry, as well as increased understanding and instruction about the advantages of green building practices.

4.2 Factors Influencing The Efficacy of The Rating System

Some key components of the factors influencing the LEED rating system's efficacy in promoting sustainable urbanization in Nigeria were examined.

First off, it was discovered that one of the biggest obstacles to the system's acceptance in Nigeria was the high cost of certification. Small-scale developers and those working in unregulated industries have found that the expense of certification is rather onerous.

Another major impediment highlighted was the lack of government incentives and assistance. The lack of rules, recommendations, and financial incentives to support green construction practices was seen to be a significant obstacle to Nigeria's expanding LEED rating system adoption.

Ultimately, it was determined that a significant element limiting the efficiency of the rating system was the lack of knowledge and instruction regarding the advantages of green building methods. The survey's findings revealed that a sizable majority of participants were unaware of green building grading systems and the advantages they provide, underscoring the necessity for more extensive education and awareness-raising initiatives.

Fourthly, the research study discovered that a significant element affecting the success of the rating system was the accessibility of competent labor and knowledge of sustainable building principles. The adoption and application of the LEED grading system in Nigeria were considered as being hampered by the lack of qualified labour and knowledge of green building techniques.

The study also discovered the possibility that market incentives could have a substantial impact on encouraging the adoption of the rating system. Developers were encouraged to use sustainable building methods and pursue LEED certification due to the potential for greater marketability and value of certified structures.

The analysis of the factors influencing the effectiveness of the LEED rating system in promoting sustainable urbanization in Nigeria highlights the need for a comprehensive strategy to promote green building practices, including initiatives to lower the costs of certification, expand government support and incentives, enhance education and awareness, cultivate the required abilities and expertise, and develop market incentives for environmentally friendly construction methods.

4.3 Implications For Sustainable Urbanisation In Nigeria And Beyond

The results of this study have important ramifications for environmentally friendly urbanization in Nigeria and elsewhere. First and foremost, the report emphasizes the requirement for more government assistance and financial incentives to advance green building standards. Significant obstacles to the general implementation of the LEED rating system in Nigeria have been noted as the absence of government policies, the failure to enforce legislation, and the lack of financial incentives. As a result, authorities must provide a supporting regulatory framework that encourages and rewards sustainable building techniques.

The report also emphasizes the value of spreading knowledge about the advantages of green building approaches. A sizable number of research participants were unaware of green building grading systems and their advantages, which highlights the need for awareness-building initiatives and more education. To increase awareness of the advantages of sustainable construction methods, these initiatives may include public campaigns, workshops, and training programs.

Subsequently, the study emphasizes the value of lowering the price of green building certification. The adoption of the grading system was found to be significantly impeded by the certification procedure's high prices, especially among small-scale developers as well as those working in the informal sector. Therefore, efforts to reduce the costs associated with certification could include measures such as subsidies and incentives for low-income developers, as well as streamlined certification processes for small-scale projects.

Last but not least, the study emphasizes how free market forces may be able to significantly contribute to the promotion of sustainable building methods. The study discovered that one of the main motivators for developers to use sustainable construction techniques and pursue LEED certification was the possibility of higher marketability and value of certified buildings. In order to encourage developers to use sustainable building techniques, there is a need for more market awareness of the worth of these techniques.

The findings of this study, in summary, have important implications for sustainable urbanization in Nigeria and globally. The research emphasizes the need for a comprehensive plan to promote green building techniques, including actions to increase governmental support and incentives, improve education and awareness, reduce certification costs, and provide market incentives for sustainable construction practices. Solving these problems will foster sustainable urbanization, resulting in the growth of more liveable and environmentally friendly communities.

V. DISCUSSION

5.1 Interpretation of Results in The Light of Literature Review and The Study's Aims

The study's conclusions are consistent with its goals and literature analysis since they shed light on how well green building grading systems work to encourage sustainable urbanisation in Nigeria. The study's findings show that the LEED rating system has not been widely adopted in Nigeria because of a lack of government backing, a lack of public awareness, and the expensive cost of certification.

The results of the study suggest that the lack of these elements is a significant obstacle to the adoption of green building grading systems in Nigeria. The literature analysis emphasized the significance of government support and incentives for promoting green building practices. The study's findings also confirm the emphasis placed in the literature review on the necessity of raising awareness of the advantages of sustainable building.

The literature review's concentration on the necessity of enabling laws and regulations and the significance of lowering certification costs is in line with the examination of the elements influencing the efficacy of the rating system. The study's conclusions about potential financial incentives for environmentally friendly building techniques provide more evidence in favour of the literature review's emphasis on the function of market forces in advancing sustainable urbanisation.

Ultimately, the study's findings offer a comprehensive knowledge of the obstacles to and potentially presented by Nigeria's green building grading systems for fostering sustainable urbanisation. The results emphasise the necessity for an all-encompassing strategy that addresses the many adoption barriers, such as government rules and regulations, education and awareness efforts, certification fees, and market incentives. It is conceivable if these issues are addressed.

5.2 Strengths and Limitations of The Study

One of the study's main advantages is the focus on evaluating how well a green building rating system promotes sustainable urbanisation in Nigeria. The survey and expert interviews that were part of the study's methodology provide illuminating details regarding the factors influencing the adoption of sustainable building practices in Nigeria.

It's also critical to be aware of some study limitations. A significant factor limiting the generalizability of the results is the survey and interview sample size of business professionals, which was fairly small. Although just one LEED green building rating system was examined in the study, other rating systems may offer different benefits and drawbacks.

The study also neglected to evaluate the social and environmental impacts of green building practices in Nigeria.

The study did not evaluate the actual effects of sustainable building techniques on the environment and society, despite highlighting some of the potential advantages of these methods, such as energy efficiency and lower carbon emissions.

A cost-benefit analysis of green building techniques was also left out of the study, which policymakers and developers should consider. The financial effects of sustainable building techniques, including the advantages and disadvantages of certifications and significant market incentives for developers, require further study.

Even though this study offers insightful information about the variables influencing the acceptance of environmentally friendly building grading systems in Nigeria, its limitations should be taken into account when

evaluating the findings. To address these issues and provide a more thorough understanding of the possibility of sustainable urbanisation in Nigeria and elsewhere, additional research is required.

5.3 Suggestions for Future Research

Future research could take a number of directions that would expand on this study's findings and help us understand sustainable urbanization in Nigeria and elsewhere.

First, additional research might assess how well alternative green building grading systems work to encourage green construction methods in Nigeria. This could help to discover areas for improvement in the application of these systems and would offer a more thorough grasp of the advantages and drawbacks of various rating systems..

Second, additional investigation is required to evaluate the social and environmental effects of sustainable building techniques in Nigeria. This could involve evaluating the social advantages of sustainable building practices, such as increased health and well-being for building inhabitants, as well as the energy savings and greenhouse gas emissions reductions connected to them.

Thirdly, future research could investigate the financial implications of sustainable building practices, including the costs and benefits of certification and the potential market incentives for developers. This would provide important information for developers and policymakers considering the implementation of sustainable building practices.

The significance of laws and regulations in supporting sustainable urbanisation in Nigeria should also be explored in future studies. This could involve both an evaluation of the prospective effects of new policies and regulations as well as an examination of how well-established rules and regulations currently work to promote sustainable construction methods.

By addressing these research gaps, future studies could contribute to a better understanding of sustainable urbanisation in Nigeria and provide valuable insights for policymakers and industry professionals working towards more sustainable building practices.

VI. CONCLUSION

6.1 Summary of The Findings and Their Implications for Sustainable Urbanisation in Nigeria

It was determined at the study's conclusion if sustainable urbanization in Nigeria would be aided by a green building grading system.

The paper also discussed some of the advantages and disadvantages of the grading system and emphasized the need for a more thorough sustainable urbanization strategy that considers the social, ecological, and economic aspects of sustainability.

The study's findings imply that while the grading system might encourage the implementation of sustainable building practices, its effectiveness might be limited by a number of factors, including public awareness, knowledge, and financial restrictions.

These findings have important ramifications for sustainable urbanization in Nigeria. According to the study, green building rating systems can be a useful tool for encouraging sustainable building practices, but they must be implemented in a way that takes into account the particular opportunities and difficulties of the local ecosystem.

Ultimately, this research contributes to the expanding body of knowledge on sustainable urbanisation and emphasises the necessity for building techniques that prioritize sustainability's social, environmental, and economic facets. The creation of laws and procedures that support sustainable building practices in Nigeria and work toward a more sustainable future for everybody are hoped to be influenced by these findings.

6.2 The Broader Implications for Green Building Rating Systems and Sustainable Urbanisation Globally

This study has implications for the effectiveness of green building rating systems in promoting sustainable urbanization on a global scale. The study established that although green building grading systems have been shown to help promote sustainable construction practices in many countries, their effectiveness is place-specific and reliant on a number of factors, including awareness, knowledge, and financial constraints. The report also highlights the need for a more comprehensive approach to sustainable urbanisation that takes sustainability's social, environmental, and economic dimensions into account. This shows the need for a shift toward more essential elements that support sustainable construction practices and take into account the broader socioeconomic context in addition to the technical elements of green building grading systems.

The study also underlines the need for more investigation into the factors influencing the effectiveness of green building grading systems in diverse scenarios. This suggests that additional research is needed to properly understand the complex relationships between green building grading systems, sustainable building practices, and sustainable urbanization.

The paper concludes by highlighting the need for a more complete and location-specific approach to sustainable urbanization and arguing that green building rating systems can be helpful tools for encouraging sustainable building practices, though their effectiveness relies on a variety of factors..

6.3 Conclusion and Recommendations for Policymakers, Practitioners, and Researchers

This study's conclusion emphasizes the significance of green building grading systems for encouraging sustainable building methods and sustainable urbanisation in Nigeria. The usefulness of various grading systems, however, varies depending on the context and a number of variables. Thus, the following suggestions ought to be taken into account by policymakers, practitioners, and researchers:

Spread Information About Green Building Rating Systems: Stakeholders, such as politicians, developers, and building owners, need to be made more aware of and knowledgeable about green building grading systems. Campaigns for awareness-raising, education, and training can help with this.

Identify and Address Financial Constraints: The study emphasizes the significance of identifying and addressing financial limitations that can prevent the implementation of sustainable construction approaches. To encourage the adoption of sustainable building methods, policymakers and practitioners should investigate cutting-edge finance options like green bonds.

Take A More Complete Approach To Sustainable Urbanization: Politicians and practitioners should embrace a more thorough strategy for sustainable urbanization that considers the social, environmental, and financial aspects of sustainability. Addressing concerns like social fairness, accessibility, and resilience is part of this.

Do More Research: More study is required to thoroughly comprehend the advantages and disadvantages of various situations in which green building grading systems are used, as well as the variables that affect those pros and cons. This can help with the creation of more effective policies and strategies for encouraging sustainable urbanization and building practices.

Overall, this study offers insightful information about how well green building rating systems support environmentally friendly construction methods and sustainable urbanization in Nigeria. It also offers suggestions for how policymakers, practitioners, and researchers can increase the efficiency of these rating systems.

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Conflict of Interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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