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IMPACT OF STAKEHOLDER AWARENESS ON ACHIEVING ENVIRONMENTAL SUSTAINABILITY THROUGH SUSTAINABLE HOUSING DEVELOPMENT

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ABSTRACT

This study provides a comprehensive analysis of the impact of stakeholder awareness on achieving environmental sustainability in Nigerian housing development. Through a survey-based approach, demographic data of participants were examined to understand stakeholders' perspectives on sustainable housing development. Findings reveal a predominance of male participants, suggesting a gender disparity in sustainability discussions, and underscore the influence of middle-aged stakeholders, highlighting the need for targeted engagement strategies with younger cohorts. Despite a solid academic foundation among participants, challenges such as upfront costs, lack of awareness, and insufficient government support hinder widespread adoption of sustainable practices. Recommendations are proposed to enhance sustainability, including promoting gender diversity, engaging younger cohorts, capacity building, collaborative approaches, policy support, standardization, technology adoption, and awareness campaigns. Overall, this study offers valuable insights for advancing environmental sustainability in Nigerian housing development, fostering resilient communities, mitigating climate change impacts, and promoting sustainable development for future generations.

KEYWORDS: Environmental sustainability, Housing development, Building, Stakeholder engagement.

1.0 INTRODUCTION

Housing construction in Nigeria is currently beset with serious issues, as the country experiences fast population expansion and urbanisation. In large cities like Lagos and Abuja, the situation is extremely bad. Sustainable practices in the real estate industry are one important issue that has come to light as being vital to solve. Since conventional home building techniques are linked to resource depletion and environmental damage, immediate action is required.

With an emphasis on two well-known cities, Lagos and Abuja, the study's goal is to investigate environmental sustainability in Nigerian housing development. The present study aims to investigate several facets associated with sustainable housing development, including but not limited to energy efficiency, waste management, water conservation, and green building materials. It hopes to highlight how crucial it is for Nigeria's real estate sector to embrace eco-friendly methods by doing this.

There can be no more disdain for sustainable home development standards as Nigeria's population grows and rises to become the third largest in the world. In addition to promoting economic growth in these two thriving metropolitan hubs, our research demonstrates how such measures can help alleviate negative impacts on people and the environment.

1.1. Stakeholder Awareness of Environmental Sustainability

Sustainable practices in the real estate industry must be understood and acknowledged by stakeholders, which calls for a sophisticated grasp of stakeholder awareness. According to Ade-Ojo (2022), Nigerian built-environment specialists are not well-versed in the LEED requirements for green home development. The study emphasises the value of stakeholder awareness in encouraging eco-friendly business practices. Consistent with this, Bohari *et al*. (2020) stress the importance of important stakeholder values in encouraging green orientation in construction procurement procedures. This demonstrates how stakeholders drive sustainability programmes and influence how environmental practices grow in the housing industry.

Identifying and comprehending environmental sustainability policies, efforts, and concepts in relation to housing development is a necessary component of stakeholder awareness. A thorough grasp of the many stakeholder viewpoints is crucial, as demonstrated by Dimitrovski *et al*. (2021), who highlight the complex nature of stakeholder participation in

the sustainability of coastal and marine tourism. The complexities of stakeholder relations are highlighted by this approach, which also emphasises how important it is to incorporate the opinions of different stakeholders into initiatives for sustainable housing development. Furthermore, in order to account for stakeholder variety, Fraussen *et al*. (2020) offer a framework for conceptualising consultation techniques, highlighting the need of choosing suitable consultation tools. These kinds of frameworks offer insightful information about raising stakeholder knowledge and involvement in environmental sustainability projects.

1.2. Factors Influencing Stakeholder Awareness

Stakeholder knowledge of environmental sustainability in housing development is influenced by a number of factors. In their discussion of the disconnect between professional practice and real estate research in Nigeria, Oyedokun *et al*. (2021) emphasise the necessity of closing this gap in order to promote increased stakeholder awareness and the adoption of sustainable practices. In addition, Salvioni and Almici (2020) investigate how stakeholder engagement affects sustainability culture as we move towards a circular economy, highlighting the critical role that stakeholders play in enacting systemic change. These studies highlight the impact of cooperation, communication, and education in raising stakeholder awareness and developing a sustainable culture in the real estate industry.

1.3. Impact of Stakeholder Awareness on Achieving Environmental Sustainability

In the real estate development industry, especially in Nigeria, attaining environmental sustainability depends on the knowledge and cooperation of multiple stakeholders. Stakeholder theory provides an appropriate perspective to examine this dynamic connection. To maintain long-term viability and success, this approach suggests that organisations should take into account the interests and concerns of all stakeholders involved, including communities, investors, employees, and regulatory bodies, in their decision-making processes (Freudenreich *et al*., 2020). Stakeholders are key players in driving the adoption of green practices and policies that support environmental sustainability in housing development.

Understanding the complex relationships between stakeholders and environmental sustainability in housing development is made easier by the solid theoretical foundation offered by stakeholder theory. The necessity of integrated research in this field is highlighted by Aguilera *et al*. (2021), who stress the role of corporate governance in guaranteeing environmental sustainability. Stakeholder theory proposes that organisations should take into account the interests of all parties involved, including those impacted by

their environmental policies. This viewpoint is consistent with this idea. According to Freudenreich *et al*. (2020), stakeholder theory is based on the idea that organisations function as part of a network of interrelated interactions. It highlights the significance of attending to stakeholders' interests and concerns in order to guarantee organisational legitimacy and long-term sustainability. This framework highlights the interdependence between real estate developers, investors, governments, communities, and environmental advocates within the context of environmental sustainability, emphasising the necessity of group action to reduce environmental impact and advance sustainable development.

1.4. Empirical Evidence on the Influence of Stakeholder Awareness

Stakeholder awareness is critical to promoting sustainable practices in the real estate industry, as supported by empirical research. Malik *et al*. (2020) emphasise the significance of stakeholder engagement in promoting environmentally conscious behaviours as they examine the function of green intellectual capital and green human resource management practices in organisational sustainability. Research shows that integrating sustainability concepts into company models and implementing green initiatives are favourably correlated with stakeholder engagement (Aguilera *et al*., 2021). In order to effectively address difficulties, real estate developers' thoughts on crucial impediments to the delivery of sustainable housing are highlighted in a study by Oluleye *et al*. (2021), which emphasises the necessity for stakeholder collaboration. These results highlight the necessity of identifying and utilising stakeholders' influence to promote environmental sustainability within the Nigerian housing development context.
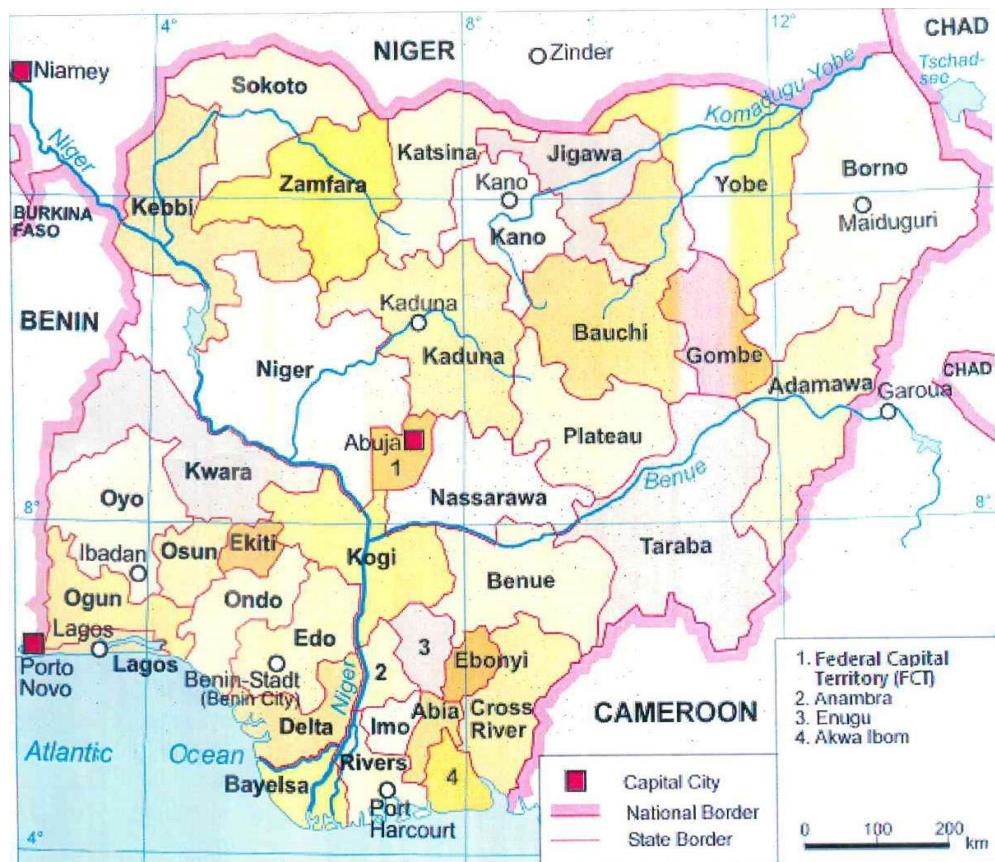
Fig. 1: Map of Nigeria.

2.0 Methodology

This study employed a mixed method research design: The descriptive design collected information regarding infrastructure and financing models in the study area through a questionnaire (field survey) while the structure, operation and weaknesses of these models were obtained via interview and focus group discussion. The target population comprises contractors, end users, government regulatory agencies for infrastructural-related matters, and users of the infrastructures.

3.0 RESULTS

Table 1: Cronbach Alpha Analysis

Scale	N	p Value
Level of Awareness	3	0.885
Impact of Stakeholder Awareness	3	0.908
The requirements for implementing environmental sustainability in housing development	3	0.827
Benefits and Challenges	8	0.972
Perceptions and Attitudes Toward Environmental Sustainability in Housing Development	2	0.946

3.1 Regression Analysis Finding

Two regression models were constructed to examine the impact of stakeholder awareness on achieving environmental sustainability through sustainable housing development. The first model yielded an adjusted R-squared value of 0.576, indicating that approximately 57.6% of the variance in the dependent variable, namely the increase in the adoption of environmentally sustainable practices in housing development in Nigeria, could be explained by the predictors included in the model. The second model, focusing on the willingness of Nigerians to invest in sustainable housing development initiatives, exhibited an adjusted R-squared value of 0.525, suggesting that approximately 52.5% of the variance in this dependent variable was accounted for by the predictors.

For both models, the ANOVA results demonstrated significant relationships between the predictors and the dependent variables. In the first model, the regression analysis revealed a significant F-value of 45.321 ($p < .001$), indicating that the model was statistically significant in predicting the increase in the adoption of environmentally sustainable practices in housing development. Similarly, in the second model, the regression analysis yielded a significant F-value of 37.124 ($p < .001$), indicating that the model significantly predicted the willingness of Nigerians to invest in sustainable housing development initiatives.

Table 2: Impact of stakeholder awareness on the adoption of environmentally sustainable practices in housing development in Nigeria.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.767[a]	0.589	0.576	0.37747

a. Predictors: (Constant), 10. Increasing stakeholder awareness can lead to greater investment in sustainable housing development initiatives, 8. Stakeholder awareness positively influences the adoption of environmentally sustainable practices in housing development, 9. Stakeholders who are more aware of environmental sustainability are more likely to prioritize it in their housing development projects

Table 3: ANOVA[a] on the impact of stakeholder awareness on the adoption of environmentally sustainable practices in housing development in Nigeria.

	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	19.373	3	6.458	45.321	<0.001[b]
	Residual	13.536	95	0.142		
	Total	32.909	98			

a. Dependent Variable: 23. There is an increase in the adoption of environmentally sustainable practices in housing development in Nigeria

b. Predictors: (Constant), 10. Increasing stakeholder awareness can lead to greater investment in sustainable housing development initiatives, 8. Stakeholder awareness positively influences the adoption of environmentally sustainable practices in housing development, 9. Stakeholders who are more aware of environmental sustainability are more likely to prioritize it in their housing development projects.

Table 4: Impact of stakeholder awareness on investment in sustainable housing development initiatives

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.735[a]	0.540	0.525	0.41567

a. Predictors: (Constant), 10. Increasing stakeholder awareness can lead to greater investment in sustainable housing development initiatives, 8. Stakeholder awareness positively influences the adoption of environmentally sustainable practices in housing development, 9. Stakeholders who are more aware of environmental sustainability are more likely to prioritize it in their housing development projects

Table 5: ANOVA[a] on the Impact of stakeholder awareness on investment in sustainable housing development initiatives.

	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	19.243	3	6.414	37.124	<.001[b]
	Residual	16.414	95	.173		
	Total	35.657	98			

a. Dependent Variable: 22. Nigerians are willing to invest in sustainable housing development initiatives

b. Predictors: (Constant), 10. Increasing stakeholder awareness can lead to greater investment in sustainable housing development initiatives, 8. Stakeholder awareness positively influences the adoption of environmentally sustainable practices in housing development, 9. Stakeholders who are more aware of environmental sustainability are more likely to prioritize it in their housing development projects.

4.0   DISCUSSIONS

Using a purposeful sampling technique, the study collected opinions from 504 respondents. The results obtained were analyzed using SPSS version 22 and presented in Tables and

figures.

The Cronbach alpha analysis, employed to assess the internal consistency reliability of the scales utilized in the study, yielded insightful results, as summarized in Table 1. The scale assessing the level of awareness regarding environmental sustainability in housing development demonstrated a high level of internal consistency reliability, with a Cronbach's alpha coefficient of 0.885. Similarly, the scale gauging the impact of stakeholder awareness on environmental sustainability exhibited a commendable level of internal consistency, with a Cronbach's alpha coefficient of 0.908. The items within all the scales consistently measured the participants' awareness levels with minimal measurement error.

5.0 CONCLUSION

The study underscores the importance of stakeholder awareness and engagement in driving environmental sustainability in housing development. Practitioners, including developers, architects, engineers, and policymakers, are encouraged to prioritize stakeholder involvement throughout the project lifecycle. By fostering collaboration and communication among diverse stakeholders, project teams can leverage collective expertise and perspectives to implement effective sustainability strategies.

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