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Government Regulations in Promoting Green Building Practices and Delivery of Mass Housing Project in Ado Ekiti Metropolis, Nigeria

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Abstract

This paper assesses the influence of government policies in the provision of sustainable mass housing projects in Ado-Ekiti Metropolis with reference to green building practices. Through regression analysis the paper examines the role of government policies in project outcomes. The findings show that there is a positive but weak relationship between government policies and sustainable mass housing delivery with correlation coefficient R=0.228R = 0.228. The coefficient of determination (R 2 = 0.052 R 2 = 0.052) indicates that 5.2 percent of the variation in project delivery is explained by the government policies and thus there is another factor that has more influence. The perceptions of the stakeholders reveal that government policies are indeed a major factor but other issues including high initial costs of capital, limited sources of capital and availability of materials are also major obstacles. The most important factor in mitigating these challenges was financial incentives especially subsidies and grants with a mean of 4.93 (RII = 0.985). The perceived implications of green building practices on costs are high with an average RII of 0.83 indicating a high-cost impact, especially the initial capital cost and the high cost of green materials. These results highlight the value of enhancing government incentives, local governance, and local supply chains to address the financial obstacle to the adoption of green building. Also, the incorporation of financial instruments and capacity-building activities into government policies is essential in improving the provision of sustainable mass housing projects in Nigeria.

Keywords: Green Building, mass housing project, Delivery, Regulations, Policies.

Introduction

Background to the Study

The global momentum toward green building methods focused on environmental conservation alongside resource management alongside indoor air quality improvement has yet to significantly impact Nigeria's construction industry (Nduka & Ogunsanmi, 2015). The understanding of green buildings in Nigeria exists in early stages because most green initiatives occur only in urban areas and high-end development sites. The construction industry faces challenges because stakeholders display poor awareness followed by insufficient training and lacking technical abilities and regulatory agencies show weak enforcement towards sustainable design practices (Onuorah & Okonkwo, 2023). Although developers dismiss green technologies due to their presumed expensive deployment costs, they fail to recognize the reduced expenses and better building performance that research has confirmed (Ede & Nwachukwu, 2021).

The Nigerian Building and Road Research Institute (NBRRI) together with Green Building Council Nigeria (GBCN) operate under government authority to advance sustainable construction practices. These initiatives suffer because they exist without coordinated policy support together with insufficient public participation. Sustainability principles are included in the 2021 National Building Code (Federal Ministry of Works and Housing (2021) yet compliance difficulties persist. The construction sector of Ekiti State follows national trends by facing rising demands for residential properties and public sector facilities. The construction sector in Ekiti experiences sustainability issues because people break down forests for wood and clay to build structures and use ineffective power systems and improper waste management practices at building locations (Ajayi & Adebayo, 2020). Environmental degradation throughout Ekiti State remains high during rainy seasons because natural topographical conditions and climatic patterns make the state vulnerable to construction-damaging erosion and flooding (Fashola & Ogunbiyi, 2023).

The global spread of green building practices has not yet achieved full penetration into Nigerian construction activities. The adoption of green building practices remains slow because of insufficient policy direction and low public knowledge and strong opposition to new construction techniques (Ogunbiyi et al., 2023). The resolution of these obstacles demands a combination of policies from governmental bodies with monetary backing and suitable training initiatives together with open community information programs. Nigeria faces ongoing environmental damage because it lacks deliberate support for green building implementation which also leads to project operational costs rising as well as missing global sustainability benchmarks.

The assessment of green building practices on sustainable building results at Ekiti State must proceed so officials can understand the barriers as well as the opportunities for integrating green construction into local frameworks. Research evaluations provide vital information for policymakers and stakeholders and academic institutions to develop green construction as an effective sustainable solution. The initiative supports national and international objectives

especially United Nations Sustainable Development Goals (SDGs) where Goal 11 (Sustainable Cities and Communities) and Goal 13 (Climate Action) (United Nations, 2023) play key roles.

The southwestern Nigerian town of Ado Ekiti constitutes one of the fastest developing urban settlements which requires extensive housing construction to solve a growing home deficit. The uptake of green building practices remains limited because stakeholders view them as expensive to begin with while simultaneously demonstrating low awareness. The research focuses on measuring how green building practices or strategy affects the delivery of mass housing projects specifically in Ado-Ekiti Metropolis.

Statement of the Problem

The Nigerian construction industry confronts multiple environmental, economic and regulatory problems because of its current building practices which lack sustainability. The conventional construction methods create substantial carbon footprints through inefficient energy utilization and waste outcomes thus leading to environmental deterioration (Adebayo & Okafor, 2023). Nigeria faces delayed implementation of contemporary green building techniques while customers pay elevated energy expenses and live with inadequate indoor air standards and depend heavily on finite resources (Eze et al., 2023).

The path to green building standard implementation becomes more challenging because of inadequate regulatory and policy frameworks. Without a binding and thorough green building code in Nigeria private developers hold the power to determine sustainability initiatives independent of consistent regulations (Nwosu et al., 2024). The poor technical expertise and insufficient training programs prevent architect, engineers and contractors from successfully applying green building design principles to their projects and construction activities (Eze et al., 2023).

Mass housing delivery in Ado Ekiti faces barriers stemming from increasing construction expenses along with insufficient infrastructure and environmental protecting issues. The construction industry establishes a crucial position within global economic development because it supports employment creation and promotes infrastructure growth as well as urban development (World Bank, 2024). Traditional construction approaches produce major environmental damage because they lead to forest destruction while releasing high levels of carbon emissions and depleting essential resources (Adebayo & Okafor, 2023).

Research Questions

The following research questions were addressed in the study

i. What are the cost implications of green building practices on delivery of mass housing project in the study area?
ii. What is the role of government regulations/policies in promoting green building practices on delivery of sustainable mass housing projects in the study area?

Objectives of the Study The specific objectives are to:

i. evaluate the cost implications of green building practices on delivery of mass housing project in the study area; and
ii. investigate the role of government regulations/policies in promoting green building practices on delivery of mass housing project in the study area.

Hypothesis of the Study

The following hypothesis was tested in the study:

i. **$H0_1$:** Role of government regulations/policies in promoting green building practices do not have significant effect on delivery of sustainable mass housing projects; and

Scope of the Study

The research focused on green building regulations/policies and delivery of mass housing project in Ado-Ekiti Metropolis which holds status as the main administrative hub for Ekiti State. The chosen geographical boundary encompasses this metropolis because of its fast-growing urbanisation accompanied by rising construction activities and developing environmental problems that make it ideal for the delivery of mass housing project.The research examines AdoEkiti Metropolis as well as its central urban locations which consist of Ajilosun, Oke-Ila, Odo-Ado and Basiri alongside Fajuyi and Iworoko Road and their neighbouring districts that obey the planning authorities of the city. Years of active construction development and governmental infrastructure plans in combination with private real estate investments have led to the selection of these areas. The research area covers both residential, commercial and public/private as well as new housing estates (New Town) and educational buildings that are located in the metropolitan region.

LITERATURE REVIEW

Conceptual Review of Literatures

Concept of Green Building Practices

The regulatory framework that promotes the green building activities is not well developed in Nigeria. The Nigerian Building Code has provisions that are crucial to energy efficiency but does not have a federal regulation mandating green building practices (Adedeji 2023). The problem of sustainable construction standards is that they have to confront a poorly established system of enforcement, bureaucratic delays, and high levels of corruption in the country (Eze et al., 2023). Singapore and Germany have very tight national policies regarding green building practices that lead to developer compliance as per World Bank (2024). The government of Nigeria should establish powerful policies and financial incentives and more stringent enforcement instruments to promote green buildings in the country.

The understanding of the green building practices will define whether the people will adopt them or not. The owners and developers of the property in Nigeria still have a false belief about the green building because they perceive it as something that is expensive and takes a

long time to construct (Eze et al., 2023). The trend in Nigeria has been to use the established form of construction material like cement and iron roofing sheets as opposed to the eco-friendly alternative like clay blocks and bamboo (Nwosu et al., 2024). The reason why there is a lack of technical expertise regarding green building technology is among architects and engineers and construction workers in Nigeria. The process of providing specialized training sessions along with professional development practices should be initiated to educate professionals on the sustainable approach to the design and implementation of construction projects (Ogunbiyi et al., 2023).

In Nigeria, green building has many barriers but the following years are promising in terms of its sustainable development. Contemporary technology has helped designers to generate energysaving plans and erect structures with the help of prefabricated materials along with intelligent construction strategies that can support sustainable building strategies (Nwosu et al., 2024).

The green building standards design and operational stage of buildings is to reduce the harm to the environment and to provide more favourable conditions to the building residents (USGBC, 2023). Environmental factors constitute an essential element in any stage of building development, including selection, construction and operation and maintenance and ultimate deconstruction (World Green Building Council 2023). This is aimed at minimizing the effect of the building on nature and at the same time improving operational effectiveness and housing happy occupants.

The major elements of green buildings include power-saving structures coupled with water efficiency measures along with occupant comfort measures and choice of non-toxic sustainable materials as well as reduction of construction wastage. The design of the building revolves around maximising of natural lighting and ventilation and incorporating of renewable power systems based on solar and wind energy generation and minimum use of non-renewable energy sources. Two of the impacts that green buildings have in their mission to curb climate change are environmental sustainability and the reduction of greenhouse gases.

The adoption of green building construction comes with challenges that are a result of high initial costs of implementation and inadequate knowledge sharing and insufficient regulatory compliance programmes. This is more pronounced in developing countries according to Nduka and Ogunsanmi (2015), who reported that the affordability and awareness are wanting in these countries. Existing studies illustrate the contribution of green building to the health of the population by examining the indoor environment quality and building comfort and wellness impacts. According to the research findings, individuals occupying environmentally certified buildings have improved health conditions and increased productivity in their occupational endeavors (Allen et al., 2016). The evidence confirms green building as a holistic solution to the environmental issues and social well-being enhancement. Green building practices promote several United Nations Sustainable Development Goals in that they adopt SDG 11 (Sustainable Cities and Communities) and SDG 7 (Affordable and Clean Energy) and SDG 13 (Climate Action). The promotions activities are in line with the global sustainability initiatives and also community development objectives.

Sustainability and Mass Housing Delivery

Numerous obstacles prevent the use of green building methods in Nigeria's mass housing sector even though their advantages are evident. Building developers face discouragement because they view the initial expenses needed for green building materials along with renewable power technologies such as solar panel systems and water conservation systems as unreasonably costly. Despite creating financial benefits in the future these characteristics create major economic obstacles for short-term payment (Ogunleye & Adebayo, 2018).

Architects and engineers together with builders in Nigeria often show limited understanding about sustainable construction methods while lacking awareness about the future cost benefits of green buildings as indicated by Badejo et al. (2021). Developers find it challenging to execute sustainability measures adequately because there is not enough qualified labour trained in green construction techniques. The lack of enforceable green building codes shuts off developers from adopting sustainable practices because they receive no incentive advantages. Nigeria faces obstacles in adoption of green building practise because its regulatory frameworks operate poorly and enforcement systems are inadequate (Federal Ministry of Works & Housing, 2022).

Initial expenses for green buildings remain higher than average yet their reduced operational costs from energy conservation and water conservation do not reduce affordability for poor residents. The situation creates an essential problem throughout Nigeria because such housing is increasingly sought after yet remain expensive for many people (Owolabi & Fagbenle, 2020). Green homes have not gained widespread acceptance in Nigeria thus preventing their industry adoption. Homebuyers together with property investors generally value immediate low-cost living over delayed cost savings in utility payment and property care expenses. The restricted market for sustainable housing exists because of this situation (Adedokun et al., 2020).

Theoretical Review

Diffusion of Innovation Theory

Rogers (1962) established this explanation which demonstrates how new technologies including green building practices move through societies. Key factors influencing adoption include: Cost efficiency together with environmental advantages serve as relative benefits in the adoption process. Compatibility: Alignment with existing housing policies. Technical knowledge serves as a requirement for completing green building work at its highest level of complexity.

Empirical Findings

Green Building Regulations

Poor Policy and Control Systems. Oladokun and Oke (2023). There is no national green building code in Nigeria and none to implement it. There are several policies that are still in a fragmented state due to the lack of monitoring systems and the inadequate measures of enforcement. The existing green compliance level is largely voluntary since the various local

communities apply varied standards in the implementation process. A countrywide green building code should be created by establishing compulsory enforcement bodies with regulations of compliance.

Bamidele, (2021). Ekiti State's building policies demonstrate poor resistance to climate changes. Methodology: Content analysis of Ekiti State's physical development planning documents. Findings: No explicit references to climate resilience or green building standards in state policy (Bamidele, 2021). State legislation should be adjusted to contain guidelines about green building standards alongside climate adaptation requirements.

Lawal, and Osho, (2020). Education and Sustainability in Ekiti's Built Environment Curriculum. The assessment examined the curricula of universities which provide architecture and construction programs in Ekiti. Sustainability modules showed significant deficiencies because the lack of funding and training resources were identified by lecturers to be key restrictions (Lawal & Osho, 2020). Academics should adopt sustainability as a core teaching subject while simultaneously obtaining funding for professional training among faculty members.

Cost Implications of Green Building Practices

The high expenditures required initially to build green structures are documented in the study by Ede and Nwachukwu (2021). The costs of green construction appear too expensive to developers for energy-efficient systems as well as insulation and renewable technologies. The initial financial costs associated with green buildings create a main obstacle against their implementation despite future operational cost benefits. Few domestic sources of local green materials complicate sustainable building since infrastructure depends on high-priced imported components. To promote green material production governments should fund local manufacturing facilities through affordable loan programs aimed at reducing start-up expenses.

METHODOLOGY

This study utilised survey research design. The research was conducted in Ekiti State, located in the southwestern region of Nigeria. Ekiti State is experiencing rapid urban expansion, especially in Ado-Ekiti. The target population for this study consists of individuals and organizations involved in the construction and urban development sectors in Ekiti State. The following professionals were selected from MDAs and private sector firms (Builders, Quantity surveyors, architects, engineers). The population was divided into two main categories: public sector institutions (MDAs) and private construction firms. The Ministries, Departments, and Agencies (MDAs) responsible for urban planning, housing, and environmental sustainability in Ekiti State include: Ministry of Housing and Urban Development: Responsible for policy formulation, approval of building permits, and monitoring of construction projects in the state (123 Registered professionals). Ekiti State Building Control Agency (EKSBCA): Handles building regulations, enforcement of construction codes, and the certification of green building practices (34 Registered professionals). Private construction firms and professionals involved

in green building practices or those in the process of adopting such practices make up the second category of the target population. These include: Construction Firms (large and medium-sized): Includes developers, contractors, and project managers involved in both residential and commercial projects. Method of data analysis includes both descriptive and inferential statistics. Descriptive statistic adopted for this study include the following: frequency tables, percentages, mean and standard deviation. While inferential Statistic adopted includes ANOVA or t-tests and Regression analysis to test the significance level and relationships between the variables.

RESULTS AND DISCUSSION

Response Rate

This chapter presents the results and discussion of the study on the effect of green building practices on the delivery of sustainable mass housing projects in Ado-Ekiti Metropolis, Nigeria. Data were obtained from stakeholders directly or indirectly involved in mass housing delivery, including only registered professionals were selected: project managers, building contractors, architects, engineers, builders, project manager and other construction professionals. Out of a total of 216 questionnaire distributed, 143 copies were retrieved (66%).

Role of government regulations/policies in promoting green building practices on delivery of mass housing project

This research examines the role of government regulations and policies in promoting green building practices for sustainable mass housing delivery, given evidence that policy frameworks, enforcement mechanisms, and fiscal incentives are pivotal drivers of adoption in Nigeria's construction sector. The results in Table 4.1 highlight respondents' perceptions of the role of government regulations and policies in promoting green building practices for mass housing delivery in Ado-Ekiti. The overall average RII of 0.814 indicates a "High" level of agreement on the importance of government intervention, although variations exist across specific policy areas.

Updating policies to align with international standards emerged as the highest-rated item (Mean = 4.91, RII = 0.982, "Very High"), with 91.2% strongly agreeing and only 8.8% agreeing. This demonstrates strong stakeholder consensus on the need to modernise Nigeria's green building policies to match global benchmarks and climate commitments, in line with international best practices. Government policies as tools to overcome barriers such as high costs and lack of training also received a "Very High" rating (Mean = 4.74, RII = 0.949). With 74.4% strongly agreeing, the data affirm that stakeholders view policy reform as critical for addressing both economic and capacity-related obstacles, echoing earlier Nigerian studies that recommend targeted policies to stimulate sustainable construction.

Mandatory policies for energy-efficient designs in all new residential projects in Ado-Ekiti were rated highly (Mean = 4.26, RII = 0.851). A large majority (74.4%) agreed, and 25.6% strongly agreed, reflecting strong support for legislative enforcement of green design features. This supports that regulatory mandates are among the most effective mechanisms for

achieving sustainable building adoption. Public-private partnerships (PPPs) received a "High" rating (Mean = 4.20, RII = 0.840), with 80% agreement and 20% strong agreement. This reflects recognition that PPPs can mobilise shared financing and distribute project risks, a model that has shown success in sustainable infrastructure delivery in other Nigerian states.

Stricter government policies to ensure adoption of green practices were also rated highly (Mean = 4.18, RII = 0.837). This shows that stakeholders favour a more stringent regulatory environment, similar to the enforcement-led approach seen in South Africa's Green Star system, which has improved compliance rates. Lack of enforcement of existing green building codes was noted as a high-impact constraint (Mean = 3.98, RII = 0.797), with an overwhelming 99.2% agreement.

Government incentives such as tax breaks and subsidies were also rated "High" (Mean = 3.98, RII = 0.795), with 94.4% agreeing. A clear and effective local regulatory framework in Ado-Ekiti was the only item rated "Low" (Mean = 2.30, RII = 0.459), with 74.4% disagreeing or strongly disagreeing. This suggests a perceived absence of robust local-level frameworks for green building implementation, a gap also identified in similar studies of sub-national governance in Nigeria.

In summary, the findings indicate strong stakeholder endorsement of updated, enforced, and incentive-backed national policies, alongside the adoption of mandatory efficiency standards and PPP models. However, the low score for local regulatory frameworks points to an urgent need for state-level policy development and enforcement mechanisms in Ado-Ekiti to translate national aspirations into on-the-ground impact.

Table 4.1: Role of government regulations/policies in promoting green building practices on delivery of mass housing projects

Role of government regulations/policies in promoting green building practices on delivery of mass housing projects	SD (%)	D (%)	MA (%)	A (%)	SA (%)	Mean	RII	Remark
Government policies need to be updated to align with international green building standards and climate goals.	0	0	0	8.8	91.2	4.91	0.982	Very High
Government policies are key to overcoming barriers such as high costs and lack of training in green building practices.	0	0	0	25.6	74.4	4.74	0.949	Very High
Policies encouraging energy-efficient building designs should be mandatory for all new residential projects in Ado-Ekiti.	0	0	0	74.4	25.6	4.26	0.851	Very High
Public-private partnerships (PPPs) can effectively promote green building practices through shared financing and risk management.	0	0	0	80.0	20.0	4.20	0.840	High
The Nigerian government should create stricter policies to ensure the adoption of green building practices in housing projects.	0	0	0	81.6	18.4	4.18	0.837	High
The lack of enforcement of green building codes in Nigeria negatively affects the widespread adoption of sustainable construction practices.	0	0.8	0	99.2	0	3.98	0.797	High

Role of government regulations/policies in promoting green building practices on delivery of mass housing projects	SD (%)	D (%)	MA (%)	A (%)	SA (%)	Mean	RII	Remark
Government incentives, such as tax breaks or subsidies, are crucial for encouraging the adoption of green building practices in mass housing projects in Ado-Ekiti.	0	1.6	1.6	94.4	2.4	3.98	0.795	High
There is a clear and effective regulatory framework in Ado-Ekiti for implementing green building practices in mass housing projects.	18.4	56.0	3.2	22.4	0.0	2.30	0.459	Low
	Average RII						0.814	High

The regression analysis in Tables 4.2, 4.3, and 4.4 evaluates the effect of government policies in promoting green building practices on the delivery of sustainable mass housing projects in AdoEkiti Metropolis. The model summary (Table 4.2) indicates a correlation coefficient R=0.228R = 0.228, suggesting a weak but positive relationship between the role of government policies and project delivery. The coefficient of determination R^2 = 0.052 shows that government policies explain 5.2% of the variation in sustainable mass housing delivery. The adjusted R^2 of 0.044 confirms a slight reduction after adjusting for the number of predictors, implying that most of the variation in project delivery is explained by other factors. The standard error of the estimate (0.22417) suggests moderate variability in the predicted values.

The ANOVA results (Table 4.3) reveal that the model is statistically significant, with an FF-statistic of 6.723 and a p-value of 0.011 ($p < 0.05$). This indicates that government policies, despite their relatively small contribution to the variance in project delivery, still have a statistically significant effect on outcomes.

The Coefficients analysis (Table 4.4) shows that the unstandardized coefficient (B) for the role of government is 0.201, meaning that a one-unit improvement in government policy effectiveness is associated with an expected increase of 0.201 units in project delivery, holding other variables constant. The standardized coefficient (Beta) of 0.228 indicates a weak but positive effect size. The t-value of 2.593 and p-value of 0.011 confirm the statistical significance of this relationship at the 5% level. The constant term (B = 3.606) represents the baseline project delivery level in the absence of government policy influence.

Hypothesis Testing:

The null hypothesis (H02) stated that the role of government policies in promoting green building practices does not have a significant effect on the delivery of sustainable mass housing projects in Ado-Ekiti Metropolis. Since the p-value (0.011) is less than 0.05, the null hypothesis is rejected. This study therefore concludes that government policies have a statistically significant, albeit modest, positive effect on sustainable mass housing delivery in the study area.

Table 4.2: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.228[a]	0.052	0.044	0.22417
a. Predictors: (Constant), Role of Govern ment				

Table 4.3: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	0.338	1	0.338	6.723	.011[b]
Residual		6.181	123	0.050		
Total		6.519	124			

a. Dependent Variable: Project_Delivery

b. Predictors: (Constant), Role of Government

Table 4.4: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.606	0.316		11.43	0.000
	Role of Government	0.201	0.077	0.228	2.593	0.011

a. Dependent Variable: Project_Delivery

Source: Field Survey, 2025

These findings yield three clear empirical implications about the policy delivery nexus. First, perceptions are unequivocal: respondents strongly endorse updated, enforced, and incentivebacked policies (average RII = 0.814; items on aligning with international standards and overcoming cost/training barriers both "Very High"). This converges with Nigerian studies showing that policy clarity, fiscal support, and capacity measures are repeatedly named by practitioners as the most credible levers to unlock green uptake (Zen et al., 2025). In particular, the emphasis on incentives mirrors findings that tax reliefs, grants, and concessional finance can neutralise first-cost aversion and increase the probability of adoption in housing pipelines (AdeOjoco et al., 2019; Agboola et al., 2024). The strong support for mandatory efficiency standards also aligns with evidence that prescriptive codes raise minimum performance where voluntary schemes stall (UNEP, 2022).

Second, the regression shows policy matters but does not act alone ($R = 0.228$; $R^2 = 0.052$; $\beta = 0.228$; $p = 0.011$). Statistically, government policy is a significant but modest predictor of delivery outcomes, implying it is a necessary condition that operates through (or alongside) other binding constraints chiefly capital costs, materials markets, and contractor capabilities found earlier in this study (and widely reported nationally) (Abisuga & Okuntade, 2020). In other words, regulations and strategies are most effective when coupled with financing instruments (e.g., green credit lines, rebates), supply-chain interventions (local production of materials), and targeted capacity building an implementation bundle recommended across Nigerian scholarship (UNDP, 2024).

Third, the lowest rating for a "clear and effective local framework" in Ado-Ekiti (RII = 0.459, "Low") empirically substantiates a governance gap between national intent and sub-national execution. Similar state-level gaps weak by-laws, limited enforcement units, and sporadic compliance audits are recurrent themes in Nigerian studies and are associated with policy slippage in housing delivery (Ebekozien, 2021). Overall, the results affirm the national literature's core message: policy reform is impactful but must be paired with enforcement, incentives, and market/skills interventions to convert high awareness into large-scale, sustainable mass-housing delivery (Enwin & Kpobari Visigah, 2021).

Cost implications of green building practices in the delivery of mass housing project

This research evaluates the cost implications of adopting green building practices in mass housing delivery. Previous Nigerian studies show that high initial capital costs, coupled with limited financing options, remain major deterrents despite evidence of long-term operational savings from energy efficiency and reduced maintenance (Oluwabunmi Ade-Ojo, 2025, Akomea-Frimpong et al., 2022)

The results in Table 4.5 reveal stakeholders' perceptions of the cost implications of green building practices in the delivery of mass housing projects in Ado-Ekiti, with an average RII of 0.83, indicating an overall "High" level of perceived cost influence.

Government financial incentives emerged as the most critical factor (Mean = 4.93, RII = 0.985, "Very High"), with 92.7% strongly agreeing and only 7.3% agreeing. This overwhelming consensus underscores the view that state intervention, in the form of subsidies, grants, or tax reliefs, is essential to mitigate the high upfront costs of sustainable construction.

Higher completion costs of green building projects ranked second (Mean = 4.36, RII = 0.873, "Very High"), with all respondents agreeing or strongly agreeing. This reflects the reality that energy-efficient technologies, sustainable materials, and specialised labour often carry a price premium compared to conventional methods.

Long-term cost savings from energy efficiency and reduced maintenance scored a high mean of 4.14 (RII = 0.828, "High"), with 78.1% agreeing or strongly agreeing. This indicates recognition of potential operational benefits, consistent with Agboola et al. (2024), yet the slightly lower ranking compared to upfront cost concerns highlights that immediate expenses remain a stronger determinant of adoption decisions.

Table 4.5: Cost implications of green building practices in the delivery of mass housing project

Cost implications of green building practices on delivery of mass housing project	SD (%)	D (%)	MA (%)	A (%)	SA (%)	Mean	RII	Remark
The government should provide financial incentives to offset the high costs of implementing green building practices.	0	0	0.0	7.3	92.7	4.93	0.985	Very High
Green building projects tend to be more expensive to complete than traditional building projects.	0	0	0.0	63.7	36.3	4.36	0.873	Very High
The long-term cost savings from energy efficiency and reduced maintenance outweigh the initial investment in green building practices.	0	0	22.0	42.3	35.8	4.14	0.828	High
The cost of implementing green building practices significantly impacts the affordability of mass housing projects in Ado-Ekiti.	0	0	0.8	85.4	13.8	4.13	0.826	High
Developers are discouraged from adopting green building practices because of the financial burden of initial investments	0	0	0.8	87.0	12.2	4.11	0.823	High
The higher initial costs of green building materials are a major concern for developers in Ado-Ekiti.	0.8	0	0.8	91.9	6.5	4.03	0.807	High
Green building projects generate better returns in the long term compared to conventional building projects.	0.8	13.8	1.6	50.4	33.3	4.02	0.803	High

Cost implications of green building practices on delivery of mass housing project	SD (%)	D (%)	MA (%)	A (%)	SA (%)	Mean	RII	Remark
The adoption of green building practices results in lower operational costs for buildings in AdoEkiti.	13.8	26.0	4.9	28.5	26.8	3.28	0.657	Moderately High
	Average RII					**0.83**		**High**

Source: Field Survey, 2025

SD - Strongly Disagree; D – Disagree; MA – Moderately Agree; A – Agree; SA - Strongly Agree

Very Low = 1.00 - 1.80; Low = 1.81 - 2.60; Moderately High = 2.61 - 3.40; High = 3.41 - 4.20; Very High = 4.21 - 5.00

Impact on affordability was also rated high (Mean = 4.13, RII = 0.826), with 85.4% agreeing and 13.8% strongly agreeing. This reflects the tension between sustainable building goals and housing affordability in low- to middle-income contexts, echoing findings from Nigerian mass housing studies where green adoption risks pricing units beyond target market reach.

Discouragement from high initial investments scored similarly (Mean = 4.11, RII = 0.823), with 87% agreeing and 12.2% strongly agreeing. This mirrors developer behaviour, where perceived financial risk and lack of early returns limit willingness to adopt sustainable methods.

High cost of green materials (Mean = 4.03, RII = 0.807) was identified as a major concern, with over 91% agreeing. This reinforces observations that imported sustainable materials and weak local supply chains exacerbate cost challenges in Nigeria.

Better long-term returns ranked slightly lower (Mean = 4.02, RII = 0.803), with a more mixed distribution 13.8% disagreed, suggesting that while many recognise long-term benefits, scepticism remains. This reflects the lack of robust local data on return-on-investment timelines. Lower operational costs from green building adoption received the lowest rating (Mean = 3.28, RII = 0.657, "Moderately High"), with a notable 39.8% disagreeing or strongly disagreeing. This indicates that operational savings are either underestimated or not widely experienced in the local context, potentially due to inadequate post-occupancy performance tracking.

Overall, the results suggest that while stakeholders acknowledge long-term financial benefits, immediate cost concerns particularly high initial investments, expensive materials, and affordability impacts remain the most influential cost-related barriers. This reinforces the need for government-backed financial support, local material production, and comprehensive cost-benefit evidence to bridge the adoption gap.

CONCLUSION AND RECOMMENDATIONS

Conclusion

This paper explores how government policies influence delivery of sustainable mass housing projects in Ado-Ekiti Metropolis with regards to green building practices. The regression analysis indicates that the government policies have a statistically significant but a small effect on determining the delivery of such projects with a correlation coefficient of 0.228 and a coefficient of determination (R^2) of 0.052. The impact is quite small but still significant, the p-value is 0.011, which proves that policy does have a positive influence on the results of projects.

The results indicate that government policies help in the promotion of green building practices but they cannot do it on their own. The combination of financial incentives, local material production and capacity-building measures is very important to the successful implementation. The policy effectiveness is also perceived to be high especially with incentives such as tax reliefs and grants to counteract the high initial costs of using sustainable construction methods. Nevertheless, a local governance gap was also detected, where low scores were given to the presence of clear and effective local frameworks, which underlines the necessity of improved implementation and enforcement of policies at the local level.

On the financial implications, the study revealed that the initial capital costs of green building practices are a major impediment. The stakeholders stressed the need to have government financial interventions like subsidies and tax reliefs to reduce these costs. Although energy savings and maintenance savings were noted to be long-term, the financial cost in the short-term, including the cost of green materials and the effect on affordability, were identified as the main challenges.

Recommendations

i. Increase Government Incentives: Government incentives should be strengthened with more substantial financial incentives, including tax breaks, grants and subsidies, to help reduce the burdensome initial cost of green building.

ii. Enhance local governance and enforcement: There is an obvious lack of connection between national policy and local execution. An effective enforcement mechanism, more transparent frameworks, and capacity-building initiatives at the local government level are imperative to the successful implementation of policies.

iii. Expand Financing Options: Financial institutions are to be encouraged to come up with green financing products including green bonds and green credit lines to fund sustainable housing projects and assist the developers and home purchasers to embrace green building practices.

iv. Monitor Long-term Benefits: To overcome the skepticism on the long term financial gains of green buildings, it is important to carry out post occupancy performance monitoring and clearly demonstrate the ROI on a timeline. This will assist in the development of confidence among stakeholders with regards to the economic viability of sustainable housing.

v. Raise Awareness: Awareness creation should be done continuously to show the long term benefits of green building practices and the good effect of government policies to address the issue of immediate costs and improve the perception of people.

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