2025
September
coou African Journal of Environmental Research *Vol 6, No. 2 2025. pp 252-265*

EVALUATING ADOPTION OF GREEN CONCEPTS IN TOURIST RESORT DEVELOPMENT IN CALABAR

Mfonobong A. Eneh[1], Utibe E. Akah[2], Michael C. Oguike[3]

[1,2,3]Department of Architecture, University of Uyo, Nigeria.

Email: fonzie.eneh@gmail.com[1], utibeakah@uniuyo.edu.ng[2], michaeloguike@uniuyo.edu.ng[3]

Abstract

Regional development is fueled by tourism. Resorts are charming locations created to provide visitors with a tranquil experience. However, the local culture, community development plans, and the natural ecosystem are all impacted by the construction and operation of resorts. This introduces the concepts of green building, green resorts, and green tourism. Green building lessens its impact on the environment. Green tourism places a higher priority on community benefits, cultural sensitivity, and environmental preservation while green resorts employ green building practices. According to statistics, Nigeria and Africa have not embraced green tourism development very much. The majority of studies concentrated on entertainment and economic factors, leaving a gap in the study of green and sustainable issues. By assessing the adoption of green concepts in Calabar, Nigerian tourist resorts, this study fills that knowledge gap. The obstacles to implementing green building techniques include a lack of knowledge, a lack of funding, a shortage of environmentally friendly products, and a lackluster government effort. The study looks into how widely green ideas are being used in resort construction. Using a quantitative methods design, questionnaires were used to gather quantitative data on adoption levels, Seven hundred questionnaires were sent to resort developers, operators, legislators, and designers. The study's findings showed a low-to-moderate adoption level. According to this study, there is a moderate level of adoption of green building practices. Operators can increase the adoption of green resorts if they are educated of its low operating costs benefits and that eco-friendly travel is preferred by tourist. Particular obstacles to the adoption of green practices have been identified as Costly start off capital (84%) Insufficient incentives (79%) low awareness (68%) Eco-materials are scarce (62%). The discussion is moved from presumptions to data-driven understanding thanks to the quantifiable evidence and practitioner insights it offers. The Recommendations are Government Grants and Incentives, Mandatory Green Policy Framework, Training and Capacity Building, Local Manufacturing of Sustainable Materials, Marketing and Public Awareness and Public-Private Partnerships (PPPs). Future studies should examine the economic benefits of developing green resorts, visitor perceptions, and longitudinal adoption trends.

Keywords: Green building, Green tourism, Public Awareness. Resort development, Sustainable Materials

INTRODUCTION

One of the sectors with the fastest rate of growth in the world is tourism, which also stimulates economies, creates jobs, and fosters cross-cultural interactions. However, poorly run resorts frequently have negative effects like pollution of the environment, harm to the ecosystem, depletion of natural resources, and loss of cultural heritage (Tsypko, 2024). These issues are especially apparent in developing nations, where laws aimed at promoting green practices are either not implemented at all or are only partially enforced.

Nigeria, a country rich in biodiversity and cultural heritage, has made multiple attempts to turn tourism into a major source of income in addition to oil drilling. Calabar, located in Cross River State, is the nation's most popular tourist destination. Calabar is a lively city with rich cultural heritage, mild tropical weather and a unique and beautiful natural landscape. It is known as the home to major attractive sites like the Marina Resort, Tinapa Business and Leisure Resort, Obudu Mountain Resort, and Cross River National Park among others. The city also hosts the internationally renowned Calabar Carnival (Obong & Etim, 2019; Balogun & Nkebem, 2021; Odere & Ojong, 2021). The degree of sustainability of Calabar's tourism industry has been unclear, for example, the Tinapa project has experienced a significant decline, whereas the Obudu Mountain Resort has maintained certain ecotourism features. Around the world, green tourism which is, a type of travel experience that preserves the environment, preserves the culture of the destination, and helps the local economy has emerged as a key component of accomplishing the Sustainable Development Goals (SDGs) of the United Nation (UN). However, green tourism is still only being adopted on a surface level in Nigeria. Given the context of this study, some researchers opine that public knowledge and awareness, coupled with targeted education on the importance of sustainable buildings and their effect on climate change adaptation and mitigation is necessary (Akah et al., 2023). Akah et al. (2023) recommended that strategies to achieve such should entrench green building standards, obligations for energy efficiency, and mandatory integration of renewable energy into building codes and development planning systems. Also, some resorts have incorporated more strategies including greywater recycling, eco-certification, integration of renewable energy or green building design, although many follows regular practices like waste segregation and towel reuse (Adeniran et al., 2024). Thus, the need to evaluate the level of adoption of green concepts in resorts in Calabar is highlighted by this divergence between policy rhetoric and operational practice.

Tourism and Green Building Practices

Green tourism is built on the foundation of green building. Often validated by certifications like LEED, BREEAM, or EDGE, it is all about occupant well-being, waste reduction, eco-friendly material use, energy efficiency, water conservation, and site preservation (Adewolu, 2023). Research from Nigeria indicates that while these certification programs are promising, they are not well aligned due to a lack of technical capability, cultural context, and cost control. The adoption of green building practices is hindered by financial capacity, low availability of eco-friendly materials, and low awareness among tourism professionals (Agboola et al., 2024).

Research Deficit

Researchers have examined Nigeria's obstacles to green building (Agboola et al., 2024; Unegbu et al., 2024; Adewolu, 2023) and the potential for ecotourism in Cross River State (Aniah et al., 2009). The extent to which Calabar resorts are implementing green practices, the organizational and environmental factors influencing this adoption, and the ways in which these practices interact with local policy frameworks and community participation have not all been thoroughly examined in any study. This is the gap that is being filled by this study. Given that Calabar is regarded as Nigeria's tourism capital, Green building practices will be understudied in order to better understand this implementation gap because they are essential parts of the infrastructure of green resorts, this is significant for both theory and practice.

Green buildings are made up of multiple dimensions which make up the components of green buildings.

1. *Energy Efficiency:* This includes the use of good lighting, passive design techniques like natural sunlight, shading devices, cross-ventilation, high-efficiency HVAC systems, and renewable energy sources like solar panels in buildings.
2. *Water Efficiency*: This includes installing low-flow fixtures, collecting rainwater, reusing or recycling water (referred to as greywater), and using recycled water for irrigation.
3. *Material Selection*: This includes choosing eco-friendly materials, using recyclable or recycled materials, and sourcing materials locally rather than importing building supplies and eliminating materials that contain volatile organic compounds (VOCs).
4. *Indoor Environmental Quality (IEQ)*: Providing clean air, thermal and acoustic comfort, non-toxic material use, effective daylighting, and accomplishing cross ventilation in the structure
5. *Site Design & Habitat Preservation*: Selecting locations that minimize harm to ecosystems, maintaining open green areas, reducing the effects of heat islands, making up for habitat disturbance, and coordinating with the natural eco system.
6. *Waste Reduction & Recycling*: This involves managing construction waste produced on site during construction also promoting occupant recycling programs and encouraging the reuse and recycling of all kinds of waste.
7. *Health and Well-Being*: Using biophilic design to create a landscape that efficiently purifies the air, increases oxygen efficiency, and serves as a buffer, shade, sunscreen, and noise filter to promote the physical and mental well-being of occupants.
8. *Life Cycle Performance & Monitoring*: Gathering input from occupants, monitoring energy, water, and indoor air quality, and evaluating environmental impacts at every stage, from design to demolition.
9. *Certification & Recognition*: Seeking accredited green building standards like BREEAM, LEED (Leadership in Energy & Environmental Design), or locally customized systems.

Theoretical Framework

The Technology–Organization–Environment (TOE) framework is used in this study to investigate the factors that encourage and hinder the adoption of green tourism in Calabar resorts. The TOE model is especially appropriate since:

1. It emphasizes organizational adoption over personal attitudes, which is consistent with the study's resort-level focus.
2. It incorporates outside forces like supply chains, consumer demand, and governmental regulations, all of which are particularly pertinent in the Nigerian setting (Tornatzky & Fleischer, 1990).

By balancing organizational, environmental, and technological factors, it offers a comprehensive perspective. In contrast to other models like the Theory of Planned Behaviour (TPB), the Technology Acceptance Model (TAM), or TOE provides a more thorough framework for comprehending the complex obstacles of implementing sustainable practices in the tourism industry than the Diffusion of Innovation (DOI) theory (Islam, 2024; Satyro et al., 2024; Zeng et al., 2023). The findings of empirical research on green building certifications in Nigeria are not entirely consistent. For instance, Adewolu (2023) concludes that although LEED, EDGE, and BREEAM all have potential, none of them in terms of cost, sociocultural fit, or material/technological availability fully align with local contexts. Adoption obstacles include high upfront costs, little regulatory support, a lack of local supply chains for green materials, and a lack of knowledge of green building requirements, particularly among built-environment professionals (Ade-Ojo, 2022). It is crucial to conduct a systematic evaluation of the current state of green tourism adoption in Calabar's resort sector. This includes determining the extent to which practices align with sustainability and green building principles, identifying the factors that facilitate or impede adoption, and examining the ways in which institutional and local community structures mediate these processes. As a result, this study assesses Calabar's adoption of green tourism, emphasizing green building techniques, community involvement, environmental management, and resort infrastructure resilience. It attempts to shed light on the disparity between policy and practice and places Calabar within the larger Nigerian and international trajectories of green tourism.

The aim of this study is to evaluate the adoption of green concepts in tourist resort development in Calabar and to pinpoint the organizational, technological, and environmental elements that either facilitate or impede adoption.

It will evaluate how Calabar's tourism resort developers are currently using green building techniques. It will ascertain the extent to which Calabar's resort developers and operators have embraced green building practices. It will determine the factors influencing the adoption of Green Building Practices. In the end, it will create strategic recommendations for the establishment of Green Tourist Resort Centers in Calabar, Cross River State. This study not only closes a large research gap but also provides useful information for communities, resort operators, and policymakers by placing Calabar's tourism scene within national and international discussions on green tourism, attempting to match the demands of sustainability with the growth of tourism.

LITERATURE REVIEW

Although the literature is still dispersed across themes of ecotourism, hospitality practices, green building, and policy frameworks, the adoption of green tourism in Nigeria has drawn increasing scholarly attention. Five major research lines that are pertinent to assessing

adoption levels in the Calabar resort sector are summarized in this review. Nigeria's Ecotourism Prospects and Difficulties According to Mohammed (2022), Nigeria has a lot of potential for ecotourism, but there are recurring obstacles like fuelwood harvesting-related deforestation, poor institutional coordination, a lack of funding, and low community involvement. His narrative review, which draws from conservation literature, NGO reports, and peer-reviewed publications, emphasizes the potential of green tourism and community-based conservation while highlighting the need for grassroots involvement, policy support, and awareness-raising. This study compiles disparate ecotourism studies from Nigeria into a single framework, but it is devoid of empirical site-level adoption metrics, which is a crucial void that the current study fills in the context of the Calabar resort.

A regional review study by Mohammed (2022), balances the socioeconomic advantages of tourism like jobs and income against its environmental drawbacks, which include pollution, habitat pressure, and interpersonal conflicts. The results demonstrate how sustainability is weakened by poor planning and insufficient environmental monitoring. Additionally, the lack of standardized indicators in impact assessments frequently indicates the need for empirical research at the resort level. This review is directly related to the current study because it places Calabar's tourism industry in a larger state-level framework.

Based on the overarching problem stated as the obstacles to green construction in hospitality establishments, an empirical review classifying obstacles to the adoption of green buildings in Nigeria's tourism industry was carried out. Akerele et al. (2025) determined that the main obstacles were high upfront costs, restricted access to green financing, lax enforcement of rules, a lack of technical capacity, and low stakeholder awareness. They suggest government incentives, supply chain bolstering, capacity-building initiatives, and pilot projects. Because it provides an operational taxonomy of facility-level barriers that can be modified into survey tools for gauging adoption in Calabar resorts, the study is especially pertinent.

Green Transition and Hospitality's Reduction of Carbon Footprints In their systematic review of Nigerian hospitality sustainability literature, Adedara *et al*. (2024) mapped green practices like waste management, energy efficiency, and the use of renewable energy. According to their findings, capital-intensive interventions like solar photovoltaics or greywater systems are still uncommon, whereas low-cost practices like towel reuse and waste segregation are rather common. Benefits like lower expenses and higher visitor satisfaction have been reported. The obstacles, particularly the financial and technical ones, were in line with those noted by Akerele *et al*. (2025). Because it emphasizes quantifiable results that guide the indicators chosen to assess adoption in Calabar resorts, this review has direct relevance to the current investigation. According to Toubes and Araújo-Vila (2022), Green Economy and Tourism places tourism in the context of the green economy, highlighting the importance of green finance, policy integration, and technology adoption. Although tourism has the potential to promote green economic transitions, empirical evidence of uptake varies across contexts, according to their narrative review, which synthesizes cross-disciplinary insights from economics, policy, and tourism studies. In order to place Calabar's adoption of green tourism within international sustainability discourses, this review offers a useful policy-

oriented framework. Cross-cutting Gaps and Themes When combined, the reviewed studies share a number of commonalities. First, high costs, lax enforcement of policies, a lack of technical capacity, and low awareness are consistently obstacles to adoption. Second, community involvement shows up as a deciding factor: projects that involve local communities have better sustainability results. Third, although inexpensive Although practices are becoming more widely known, there has been little systemic adoption of high-impact measures (such as certification programs, renewable energy integration, and green building standards).

Another option Critical gaps are also revealed by the literature, though. There is a dearth of empirical, site-level data on adoption in Nigerian resorts; the majority of research uses qualitative or narrative methodologies. There is a dearth of economic return-on-investment analyses, longitudinal data, and standardized adoption metrics. Additionally, no study has systematically measured adoption rates in Calabar resorts to date, despite Cross River State being recognized as a high-potential tourism hub. Applicability to the Current Research By creating place-specific, quantitative adoption metrics (such as the percentage of resorts using energy efficiency, waste segregation, and certification programs) and filling them in with qualitative information from managers, employees, and community stakeholders, this study directly fills these gaps. By going beyond general narrative reviews and focusing on empirical measurement of the resort's adoption of green tourism, it advances the literature in this way.

Study Area

Calabar serves as the capital of Nigeria's Cross River State, it is surrounded by rivers and tropical rainforests,

People and Culture: Calabar is home to a diverse range of ethnic groups, primarily Efik, as well as tourists and locals from Nigeria and other countries. Calabar is renowned for its biodiversity and stunning landscapes, and it has a hot, rainy climate with two distinct seasons. With attractions like the Calabar Carnival, traditional arts, and music, tourism is the main driver of Calabar's economy. Tinapa Resort, Marina Resort, Obudu Mountain Resort, and Calabar Museum are well-known locations. Although Calabar has the potential to develop a sustainable tourism industry, it faces difficulties such as uneven policy enforcement.

Its, geographical location has Odukpani LGA to the northeast, Kwa River to the north, and a river to the south. Its ecosystem, contains riverine and hilly landscapes, as well as mangrove and tropical rainforest ecosystems. It provides a great deal of ecological diversity, which makes it appropriate for research on Green tourism.

Physical and Climatic Setting: The climate of Calabar is tropical, with two distinct seasons the rainy season (April to November) and the dry season (December to March). The terrain is mostly low-lying, with a few isolated hills, and riverbanks that are home to mangrove swamps and rainforests. Its environment promotes a high level of biodiversity and is appealing to tourists, but if not managed properly, it is also vulnerable to environmental disturbances from tourism activities.

Socio-Economic Setting: Calabar's economy is driven by tourism, which also increases employment, hospitality, and ancillary services like stores and eateries. Calabar is renowned for its traditional crafts, music, dance, art, festivals such as the Calabar Carnival, asorted traditional delicacies, all of which present chances for environmentally friendly and culturally sensitive practices.

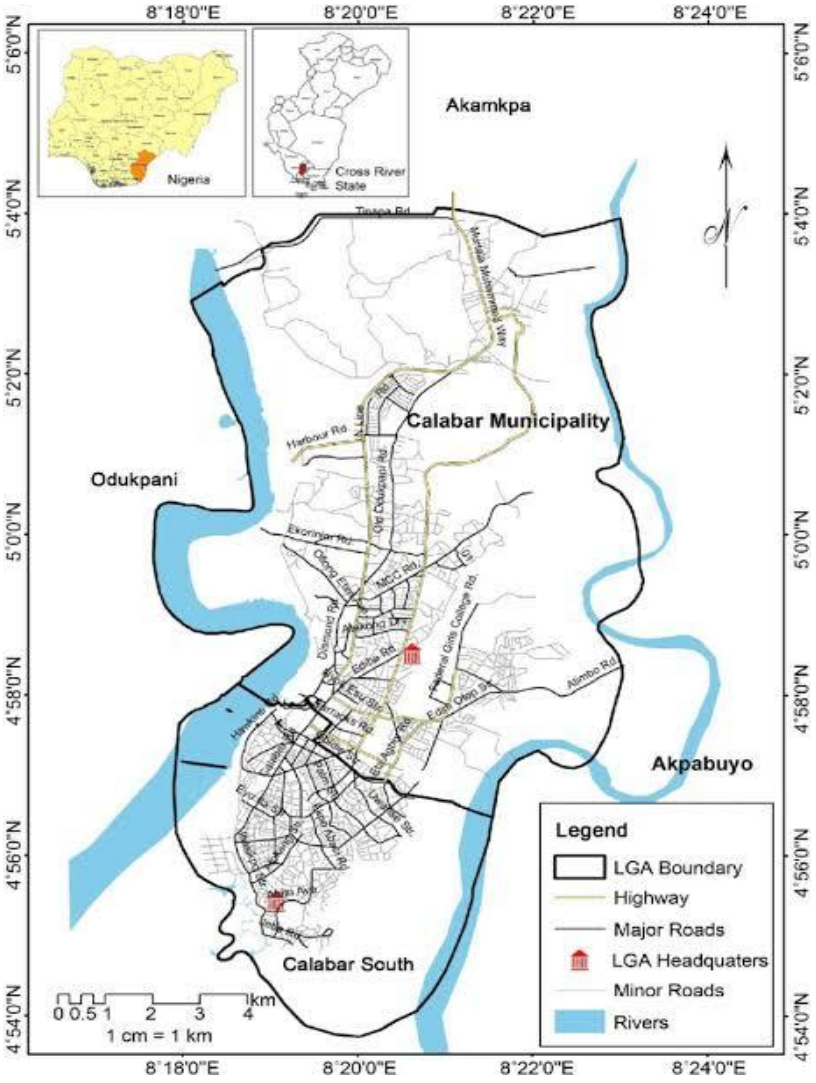

Figure 1: Showing the map of Calabar
Source: (RSIS International, 2025)

Local Ethos: Green building and eco-friendly tourism practices may be accepted by local communities thanks to traditional conservation methods like communal land management.

Notable Tourist Resorts in Calabar: Tinapa Business & Leisure Resort, Marina Resort, Obudu Mountain Resort, Calabar Museum, and Cross River National Park are just a few of Calabar's well-known resorts. There have been notable advancements by time in Calabar tourism sector

1970s–1980s, Ecotourism and natural attractions in riverine and forested areas were first marketed by the state. In the 1990s, Obudu Cattle Ranch was transformed into Obudu Mountain Resort, complete with eco-lodges and cable cars. In the 2000s, There were some sustainably blend businesses, leisure, and entertainment, Tinapa Business & Leisure Resort and Marina Resort were founded.

Between 2010s-2020s, in spite of international sustainability frameworks, resorts' green practices differed, Obudu preserved its ecotourism features, while Tinapa faced difficulties. Notably, since its founding in 2007, Tinapa Resort has had to deal with operational and regulatory problems, including disagreements regarding its status as a free trade zone. On the other hand, Marina Resort has grown in popularity due to its beautiful scenery, recreational amenities, and historical sites like the Slave History Museum.

Policy & Institutional Context: Cross River State has issued policy statements in favor of tourism and environmental conservation, though it is experiencing difficulties in implementing them due to inconsistent enforcement of regulations and unequal distribution of institutional, financial, and technical resources. The importance of policy environment planning, lies in recognizing the obstacles and enablers that resort operators encounter, to overcome this there should be an understanding of the policy context, which includes zoning, environmental regulations, incentives, planning, and monitoring.

METHODOLOGY

In this study the descriptive survey research design approach is used, research questions were structured in order to measure adoption levels and patterns, using a structured survey to collect and analyze quantitative data. This research design approach was chosen because this approach best fits the study's objectives of measuring adoption and comprehending the causes of reported patterns. The study was conducted in Calabar, key informants included resort general managers, facility and operations managers, maintenance supervisors, tourism-policy officers, construction professionals in the tourism industry, and chosen community representatives. The study population included, a selection of Calabar's registered resorts. A purposive Sampling of five resorts which were chosen from the Cross River State tourism registry, A structured questionnaire, both paper and electronic, was used to collect information from Calabar Urban Development Authority staff, resort managers, and employees. The questionnaire covered topics such as staff training, investment history, green practices, motivations, obstacles, and guest demand of Green building practices in Resorts.

Based on the literature and the five-point adoption domains which are energy, water, waste, procurement, and certification, a questionnaire was created.

Quantitative Analysis

Descriptive statistics such as means, percentages, and frequencies were used to develop adoption indicators such as energy-efficient lighting and waste-segregation systems. Analysis of reliability (Cronbach's $\alpha \geq .70$). To model the likelihood of adoption, cross-tabulations, logistic regression, and inferential tests (t-tests/ANOVA, chi-square) were used.

Validation and Credibility

Expert assessments and modifications from validated Green Resort surveys ensured the validity, reliability, and credibility of results and findings.

Ethical Considerations

Participants understood their voluntary participation, right to withdraw, and anonymization; they also provided informed consent and were guaranteed secure data management. Out of the 700 questionnaire surveys that were distributed, 612 valid responses were returned (response rate).

Out of the 700 surveys that were sent out, 612 (87.4% of the total) were returned or found to be valid. The response rates for the resorts vary (Akwa Vista Farms Resort: 88/110, Marina Resort: 85/110, etc.). CUDA: 172/150 (162 valid)

Study Findings

Green Building Practices

A Green Resort needs to engage in practices like Day lighting and natural ventilation serving energy, by using energy efficient lightening, natural plant landscaping to balance the ecosystem, micro climate control and erosion checks, water conservation and recycling to cater for irrigation and water needs, Green building material needs and provision, waste reduction and recycling, indoor environmental quality, site planning /landscaping, having a resort design that is climate compatible and a workable maintenance plan for the resort throughout its lifespan before it can be referred to as a Green Resort. Currently Green building practices in Calabar is moderate to low, this stems from the data gathered from the carried out survey, it was observed among the sampled resorts as the data from the survey findings showed that the resorts were more focused saving operational cost rather that offering ecofriendly and Green environment, however due to Calabar's location in the rain forest the reliance on natural ventilation, daylighting, shade covers over outdoor spaces enhances thermal comfort without taking so much energy of use of native vegetation for landscaping was 49% and waste recycling was 43% across the five resorts as demonstrated on the table below, however most of these resorts do not have Green certification and they relay 69% on generator as primary source of energy indicating weaker energy sustainability among the resorts, the findings shows that the adoption of Green building practices among the resorts is moderately low.

Current Green Practices in Calabar

The Table 1 and Figure 1 indicated the current levels to which Green building practices are currently practiced across the tourism resorts in Calabar as at the time this survey was carried out, the findings gathered from the returned questionnaires shows that Rainwater harvesting and reuse was 30%, use of solar/renewable energy was 38% Waste segregation & recycling was 43%, use of eco-friendly building materials was 32%, landscaping with native vegetation was 49%, Green building certification was 14%, Reliance on generator as primary source of

power was 69% these data shows that the current level of Green practices in Calabar is moderately low.

Table 1: Current Green Building Practices

S/N	Practice	Resorts (avg %)	CUDA (%)	Overall (%)
1.	Rainwater harvesting	32%	28%	30%
2.	Use of solar/renewable energy	36%	40%	38%
3.	Waste segregation & recycling	41%	46%	43%
4.	Use of eco-friendly building materials	29%	35%	32%
5.	Landscaping with native vegetation	47%	52%	49%
6.	Any green building certification attained	11%	18%	14%
7.	Reliance on diesel generator as primary energy source	72%	65%	69%

Source: Field Survey (2025)

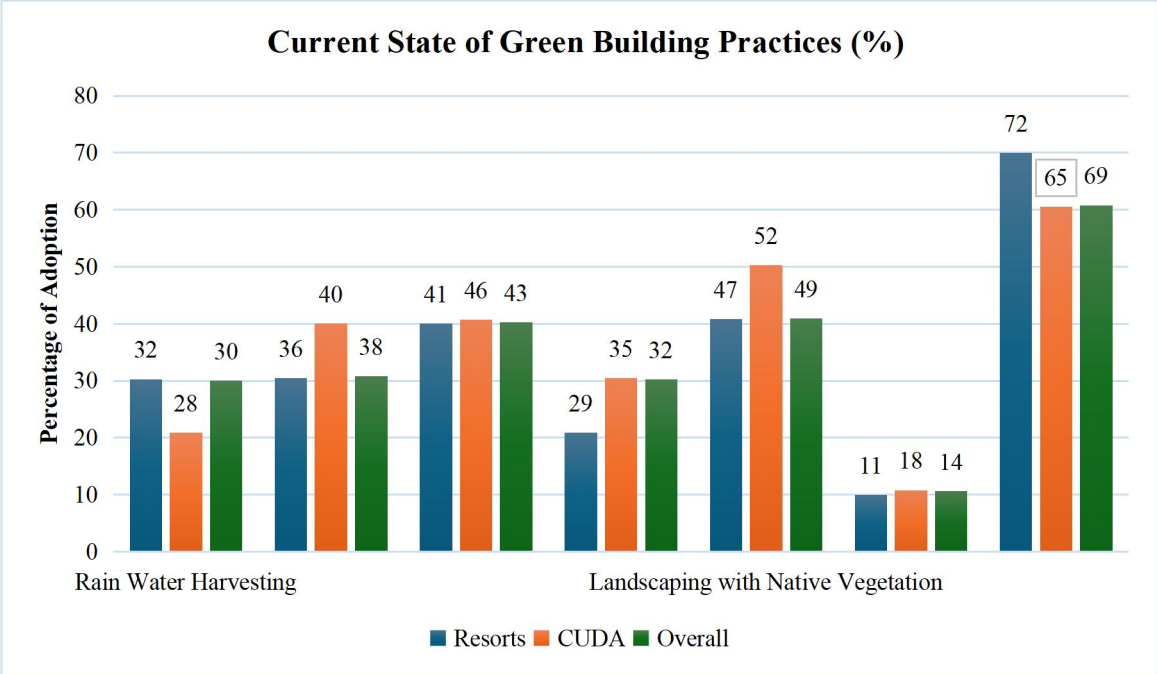

Figure 1: Bar Chart illustrating current green practices (Resorts vs CUDA vs Overall)
Source: Field Survey (2025)

The key factors that influence the adoption of Green building practices and the major barriers as reported by resorts operators, developers, workers, host communities, tourist and Calabar Urban Development Authority staff (CUDA) are as follows, the data collected revealed that the respondents feared that Green technology was expensive to adopt, so High cost of Green technologies emerged as the most significant barrier, with 84%, the next factor was lack of government incentives which 79%, then followed by low awareness 68%, Lack of technical expertise 64%, Limited availability of eco-materials 62%, some tourist prefer luxury over sustainability

38%, Resistance to change from existing practices 33%. This findings, reveals that High initial cost of initiating Green Resort is the highest factor that influence the adoption of Green Building practices, if the government give grants and incentives to resort developers it may boost the increment on Green Resort adoption, the next factor is ignorance, most resort stakeholders are not aware of how beneficial Green building Practices are, they don't also know that apart from the initial execution cost the cost of running the Green resort is lower than running a conventional resort, it is therefore necessary to create this awareness among the Resort stakeholders so they can be encouraged to engage in creating Green Resorts in Calabar. Other factors are lack of technical experts, Customers ignorance about Green Resorts, limited Eco materials and fear of change, not knowing if the Green resort will work and bring in the desired profit or not all of this is illustrated on the table 2 and figure 2.

Table 2: Factors Influencing Adoption and Top barriers reported

S/N	Factor	Resorts (%)	CUDA (%)	Overall (%)
1.	High cost of green technologies	82%	88%	84%
2.	Lack of government incentives/support	77%	81%	79%
3.	Low awareness among stakeholders	65%	72%	68%
4.	Lack of technical expertise	61%	69%	64%
5.	Customers prefer luxury over sustainability	43%	32%	38%
6.	Limited availability of eco-materials	59%	66%	62%
7.	Resistance to change from existing practices	37%	28%	33%

Source: Field Survey (2025)

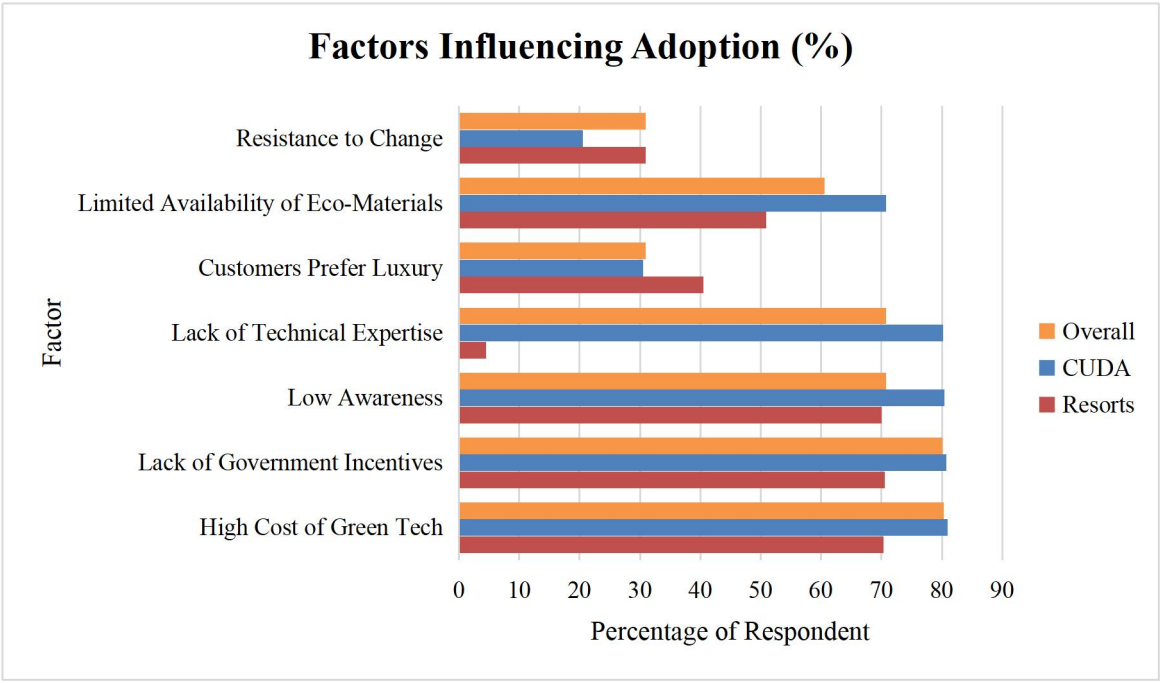

Figure 2: Horizontal bar Chart illustrating Adoption barriers.
Source: Field Survey (2025)

The result shows that top barriers are

i. initial capital cost (84%),
ii. lack of incentives (79%),
iii. awareness gaps (68%).
iv. limited availability of eco-materials (62%).
v. Many tourists still value luxury over sustainability (38%).
vi. Resistance to change from existing practices (33%)

Contribution to Knowledge

Particular obstacles to the adoption of green practices have been identified as Costly start off capital (84%) Insufficient incentives (79%) low awareness (68%) Eco-materials are scarce (62%). The discussion is moved from presumptions to data-driven understanding thanks to the quantifiable evidence and practitioner insights it offers.

A thorough understanding that takes into account the opinions of all parties involved, including operators and legislators Calabar Urban Development Authority (CUDA) professionals, offered a more thorough comprehension of adoption opportunities and obstacles. Governmental rewards and trainings on Eco-materials from the area is recommended. Consciousness Stakeholder preferences are used to rank eco-branding, which provides useful policy recommendations for Calabar and Cross River State. In order to close the gap, the emphasis was shifted from theoretical discussions to evidence-based insights on adoption rates, current practices, challenges, and strategies. Bridged the gap between theory, policy, and practice by offering the first comprehensive, quantitative evaluation in this field.

Recommendations

1. Government Grants and Incentives: Provide tax exemptions, low-interest green loans, and subsidies for environmentally friendly Resorts investments. The initial high-cost barrier should be subsidized, according to 84% of respondents.

2. Mandatory Green Policy Framework: Create and execute green tourism policies for resorts. Calabar Urban Development Authority (CUDA) will oversee compliance and link it to the renewal of licenses and permits.

3. Training and Capacity Building: Plan frequent workshops, seminars, training sessions, and courses. To combat ignorance, emphasize energy efficiency, Green and sustainable operations, and Green design for Resorts (68% of respondents).

4. Local Manufacturing of Sustainable Materials: Promote trainings on and promote generally the local production of reasonably priced environmentally friendly construction materials. Lessen reliance on pricey imports (62% of respondents mentioned having limited access to eco-materials).

5. Marketing and Public Awareness: Start campaigns to inform stakeholders and visitors about the advantages of green resorts. Resorts ought to employ eco-branding techniques, such as showcasing their green certifications.

6. Public-Private Partnerships (PPPs): Encourage cooperative partnerships between private resorts and public organizations. To Share technical expertise, best practices, and finance green projects.

REFERENCES

Adedara, A. A., Ojo, A. A., & Alabi, T. (2024). Drivers and inhibitors of sustainable building adoption in West Africa: A hospitality industry perspective. *Journal of Sustainable Built Environment Research, 12*(2), 55-72. https://doi.org/10.1016/jsber.2024.02.006

Ade-Ojo, O. C. (2022). Awareness of the LEED requirements for green housing development among built-environment professionals in Nigeria. *Built Environment Project and Asset Management*, *12*(4), 521–536. https://doi.org/10.1108/bepam-02-2020-0032

Adeniran, A., Netswera, F., & Marcus, A. (2024). Green Transition and Carbon Footprint Reduction in the Hospitality Industry in Nigeria: A Systematic Review. *2024 International Conference on Science, Engineering and Business for Driving Sustainable Development Goals (SEB4SDG)*, 1–5. https://doi.org/10.1109/seb4sdg60871.2024.10630220

Adewolu, A. (2023). Green Building Certification in Nigeria: A Comparative Study of Selected Rating Systems. *International Journal of Engineering Inventions*, *12*(5), 233–240. http://www.ijeijournal.com/papers/Vol12-Issue5/1205233240.pdf

Agboola, S. A., Idowu, F. A., Yusuf, F. M., & Musa, A. K. (2024). BARRIERS TO SUSTAINABLE GREEN BUILDING PRACTICE IN NIGERIA. *Fudma Journal of Sciences*, *7*(6), 157–163. https://doi.org/10.33003/fjs-2023-0706-2114

Akah, U., Olurotimi, O. J., & Yetunde, O. H. (2023). Climate Change and Building Sustainability in Nigeria: The Implications and the Way Forward. *American Journal of Engineering , Mechanics and Architecture (2993-2637)*, *1*(5), 37–45. https://grnjournal.us/index.php/AJEMA/article/view/397

Akerele, E. E., Folorunso , O. S., Bashir , A. A., Babalola , W. A., Lawal , O. O., & Adedayo, O. L. (2025). Barriers to Green Building Adoption in Tourism and Hospitality Facilities in Nigeria: An Empirical Review. *International Journal of Research and Innovation in Social Science*, *9*(14), 924–931. https://doi.org/10.47772/ijriss.2025.914mg0071

Anazia, D. (2018, April 21). *Destination Cross River... tourist sites in people's paradise*. The Guardian Nigeria News - Nigeria and World News; The Guardian. https://guardian.ng/saturday-magazine/destination-cross-river-tourist-sites-in-peoples-paradise/

Aniah, E. J., Eja, E. I., Otu, J. E., & Ushie, M. A. (2009). Patronage of Ecotourism Potentials as a Strategy for Sustainable Tourism Development in Cross River State, Nigeria. *Journal of Geography and Geology*, *1*(2), 20–27. https://doi.org/10.5539/jgg.v1n2p20

Balogun, B. K., & Nkebem, V. (2021). Host Community's Perception on the Socio-Cultural Effects of Carnival Calabar Festival and Tourism Development in Calabar City, Nigeria. *International Journal of Hospitality and Tourism Studies*, *2*(2), 149–159. https://doi.org/10.31559/ijhts2021.2.2.6

Braun, V., & Clarke, V. (2006). Using Thematic Analysis in Psychology. *Qualitative Research in Psychology*, *3*(2), 77–101. https://doi.org/10.1191/1478088706qp063oa

Creswell, J. W., & Plano Clark, V. L. (2017). *Designing and conducting mixed methods research* (3rd ed.). Sage.

Eveland, J., & Tornatzky, L. G. (1990). *Technological Innovation as a Process*. ResearchGate; unknown. https://www.researchgate.net/publication/291824703_Technological_Innovation_as_a_Process

Islam, M. F. (2024). Exploring key drivers of tourism sustainability practices and their impact on sustainable competitive performance in the accommodation industry. *International Journal of Business Ecosystem & Strategy*, *6*(1), 28–44. https://doi.org/10.36096/ijbes.v6i1.465

Mohammed, U. A. (2022). Ecotourism in Nigeria, challenges and prospects: a review. *Gadau Journal of Pure and Allied Sciences*, *1*(1), 12–17. https://doi.org/10.54117/gjpas.v1i1.3

Obong, L. B., & Etim, O. E. (2019). Socio-Economic Analysis of Tourism: Evidence from Calabar Metropolis, Cross River State, Nigeria. *Journal of Tourism Management Research*, *6*(2), 184–194. https://doi.org/10.18488/journal.31.2019.62.184.194

Odere, F. E., & Ojong, F. (2021). The socio-economic importance of Calabar Carnival on the economic development of Cross River State. *Integrity Journal of Arts and Humanities*, *2*(4), 77–85. https://doi.org/10.31248/ijah2021.037

RSIS International. (2025). *Map of Calabar Metropolis showing roads in and out of town*. Rsisinternational.org; https://rsisinternational.org › journals › ijriss › articles. https://rsisinternational.org/journals/ijriss/wp-content/uploads/2024/09/Map-of-Calabar-Metropolis-showing-roads-in-and-out-of-town.png

Satyro, W. C., Contador, J. C., Gomes, J. A., Francisca, S., Barbosa, A. P., Bizarrias, F. S., Contador, J. L., Silva, L. S., & Prado, R. G. (2024). Technology-Organization-External-Sustainability (TOES) Framework for Technology Adoption: Critical Analysis of Models for Industry 4.0 Implementation Projects. *Sustainability*, *16*(24), 11064–11064. https://doi.org/10.3390/su162411064

Tornatzky, L. G., Fleischer, M., & Chakrabarti, A. K. (1990). *The Processes of Technological Innovation*. Free Press.

Toubes, D. R., & Araújo-Vila, N. (2022). A Review Research on Tourism in the Green Economy. *Economies*, *10*(6), 137. https://doi.org/10.3390/economies10060137

Tsypko, V. (2024). The effect of tourism on the ecological state of the environment. *E3S Web of Conferences*, *587*, 05007–05007. https://doi.org/10.1051/e3sconf/202458705007

Unegbu, H. C. O., Yawas, D. S., Dan-asabe, B., & Alabi, A. A. (2024). An Investigation of Innovative Materials and Technologies for Sustainable Construction in Nigeria. *Civil and Environmental Science*, *7*(2), 158–167. https://doi.org/10.21776/ub.civense.2024.007.02.8

Zeng, H., Wang, C., Chen, J., Tang, D., & Xu, A. (2023). Pathways to tourism industry ecologization: A technology-organization-environment configuration framework. *Ecological Indicators*, *156*(111119), 1–11. https://doi.org/10.1016/j.ecolind.2023.111119