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Promoting Tourism in Araromi, Ondo State through the Integration of Bamboo, Stone, and Laterite in Beach Resort Architecture

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Abstract
The tourism industry is an essential driver of economic growth as it draws in tourists to explore diverse destinations and engage in various experiences. Even so, the tourism sector in Nigeria is presently underdeveloped and makes a negligible contribution to the country's Gross Domestic Product (GDP). This inquiry focuses on Araromi, a locality in Ilaje, Ondo State, Nigeria, renowned for possessing the most extensive coastal stretch in the nation. The study puts forth a proposition for a beach resort design that is both sustainable and economically feasible, incorporating bamboo, stone, and laterite. The study investigates the advantages and modern methods of using indigenous materials, specifically bamboo, stone, and laterite, in building design by carrying out three case studies and collecting and analysing data from 60 questionnaires. Araromi region boasts an abundant and readily available supply of these materials. Results suggest that Stabilised Compressed Earth Blocks (SCEBs) made from bamboo, stone, and laterite can be viable substitutes for steel and concrete in non-structural elements. Integrating these materials can reduce construction and maintenance expenses while providing the beach resort with a unique traditional appearance that may appeal to visitors and promote tourism in Araromi, in Ondo State. The study points out the potential of bamboo, stone, and laterite as fundamental constituents in sustainable design, fostering economic progress through tourism promotion. Building designs in Araromi can exhibit the region's cultural heritage while providing a distinctive and eco-friendly experience for tourists by efficiently using the available natural resources. The use of these indigenous materials will promote the advancement of Nigeria's tourism sector.
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1. Introduction

The tourism industry is a complex and multifaceted sector that covers a wide range of activities, establishments, and services, all aimed at creating memorable travel experiences for consumers. David, Olabisi, and Babawale (2018) have posited that tourism comprises many parts, such as transportation, accommodation, dining, entertainment, recreational opportunities, and opportunities to gain knowledge about the local history and culture. Tourism can be defined as individuals temporarily travelling from their primary residences and workplaces to destinations outside of these areas, where they participate in a diverse range of activities throughout their stay. The global travel and tourism industry plays significant roles in fostering economic development. The travel and tourism industry generates approximately 25% of new job opportunities worldwide, accounting for one out of every four new jobs, attributed to its direct, indirect, and induced impacts. The industry is estimated to employ 10.6% of the global workforce, which amounts to 334 million jobs. Additionally, the industry contributes 10.4% to the global Gross Domestic Product (GDP), equivalent to US$9.2 trillion, as the World Travel and Tourism Council reported in 2021. Nigeria's diverse states boast amazing natural landscapes, awe-inspiring scenery, and numerous cultural heritage sites, which have garnered global recognition for their exceptional beauty. Despite the existence of the tourism industry in Nigeria, it has been observed that its operations need to be improved and faster (Emelike, 2010; Ememou et al., 2011; Jemirade, 2021). Despite the abundance of tourism resources and the rapid growth of the global tourism industry, this phenomenon persists. Ondo State possesses a diverse range of untapped tourism potentials, making it challenging to attract tourists. Beach resorts are a popular destination for vacationers due to their provision of lodging and a diverse range of additional facilities, encompassing commercial and recreational services. According to Atanda's (2015) findings, it is common for these resorts to

undergo a natural development wherein they expand the scope of their activities and services to enhance the overall visitor experience. Tourism presents a promising avenue for economic diversification in developing nations such as Nigeria (Abba, 2018; Ahmed et al., 2019; Awode, 2022). However, it requires careful attention to mitigate potential adverse impacts on society and the environment. This study explores the feasibility of using indigenous building materials, namely laterite, stone, and bamboo, in the architectural and urban design of a resort in Araromi, a region within the Ondo state. The objectives assessed the potential positive socioeconomic outcomes that could result from improving tourism activities at Araromi Beach; and investigated the use of indigenous materials for the development of the coastal vacation destination in order to create an authentic and locally-sourced product. Furthermore, the research emphasises the economic benefits of enhancing tourism activities at Araromi Beach.

2. Literature Review

The World Travel and Tourism Council (WTTC) published a report in 2015 indicating that the global count of international tourist arrivals exceeded one billion in 2012 (WTTC, 2015). According to the World Travel and Tourism Council (WTTC) in 2015, the countries that received the highest number of international tourists in 2014 were ranked as follows: France with 84 million tourists, the United States of America (USA) with 75 million tourists, Spain with 65 million tourists, China with 56 million tourists, Italy with 49 million tourists, Turkey with 40 million tourists, Germany with 33 million tourists, the United Kingdom (UK) with 33 million tourists, Russia with 30 million tourists, and Mexico with 29 million tourists.

In 2014, the United States emerged as the leading country in tourism earnings, generating a significant revenue of US$177.2 billion. This figure includes both domestic and international tourism earnings. The list included several other nations, namely Spain with a total of US$65.2 billion, China with US$56.9 billion, France with US$55.4 billion, Italy with US$45.5 billion, the UK with US$45.3 billion, Thailand with US$38.4 billion, Australia with US$32 billion, and Turkey with US$29.5 billion, as reported by Aruna (2021). Following a significant downturn attributed to the COVID-19 pandemic, the worldwide number of international tourist arrivals showed a noteworthy resurgence in the year 2022. Notwithstanding a significant yearly rise, the aggregate count of global tourism entries persisted beneath the pre-pandemic benchmarks. According to the data of 2023, the global count of international tourist arrivals was approximately 963 million in 2022 (Statistica, 2023). Figure 1, shows the data of international tourists arrival since the year 1950 till date.

2. The figures above indicate that tourism brings vast revenue into a local economy through payments for goods and services tourists need. The goods tourists typically buy range from souvenirs and local artwork to food and clothing. Correspondingly, the entertainment, transport, and hospitality industries benefit significantly from tourism. Tourism accounts for over 10% of global GDP. 30% of worldwide service exports come from the US$1.5 trillion service sector. Tourism also creates one in eleven jobs worldwide (UNWTO, 2023). Tourism generates foreign exchange, investment, jobs, and business opportunities. Its ability to interact with several economic sectors makes it a powerful multiplier in global development initiatives (Aruna, 2021; UNWTO,2023). Given Nigeria’s diverse cultural resources (ranks 57th overall) and natural assets, the country’s inadequate development of the tourism industry appears to be a neglected opportunity for diversifying the economy and creating much-needed employment opportunities.

Nonetheless, significant challenges limit the potential development of the travel and tourism industry in Nigeria. According to Manzuma-Ndaaba et al. (2014) security, infrastructure, promotion and awareness, money and financing, attitude, and image are Nigeria's tourism development challenges. These constraints affect economic growth, the advancement of these facets is a multifaceted process that requires deliberate actions, but it would yield enduring advantages not only to the country's travel and tourism competitiveness but also to Nigeria's overall development. Furthermore, in order to tackle these concerns, Ebiyefa (2021) suggests that a critical reassessment of the Nigerian tourism policy, effective partnership between private and public tourism agencies, and rigorous monitoring and evaluation of tourism initiatives are necessary for successful implementation in Nigeria.

Manwa (2012) asserts that in order for tourism to effectively contribute to the socio-economic development of the host community, it is imperative that the local residents are direct beneficiaries of the industry. This approach will facilitate the preservation of the resources upon which the tourism industry is reliant for an extended period. According to Smith's (2007) findings, the economic benefits generated by tourism in a given community or nation are dependent upon the expectations of tourists and the availability of suitable amenities provided by the host community. Ekanayake and Long (2012) argue that prioritising economic policies aimed at promoting

tourism is imperative for developing countries, as failure to do so may impede tourism's potential to significantly contribute to economic growth. Ayeni (2012) notes that in emerging economies such as Nigeria, the tourism industry presents prospects for economic growth, while also requiring the efficient management of potential adverse social and environmental consequences.

Tourism, despite its potential benefits, is not an all-encompassing solution and, similar to other economic activities, entails a range of environmental, social, and political risks. Inadequate management of tourism growth can lead to the degradation of the natural, cultural, and social resources that serve as the foundation for the tourism industry. In nations that are embarking on tourism development, major constraints include fundamental concerns regarding security and healthcare concerns that are linked to political instability and insufficiently developed healthcare infrastructure. Throughout history, architecture has surpassed geographical, cultural, and societal boundaries. Throughout history, various architectural styles have emerged and faded away. However, certain components, materials, techniques, and styles have endured. For instance, materials such as stone and timber have been used in construction since the inception of human shelter-building. It is noteworthy that building materials represent the most significant input in the construction industry and exert a significant impact on the worth and recognition of the field of architecture and its outputs. Materials usually have characteristics that are related to their location, context, and geography. Individuals build using materials that are accessible and available within their immediate surroundings. Unfortunately, there exists a persistent bias against the use of native construction materials in Nigeria, despite their ample and easily accessible availability (Agbonome & Irouke, 2016). The use of regionally procured and extracted materials as a replacement for traditional materials in reinforced concrete components has the potential to reduce construction expenses by up to 30% while maintaining building standards and structural integrity. The use of indigenous building materials such as bamboo, mud, wood, thatch, among others, has been a longstanding practise in Nigeria for constructing diverse types of housing (Agbonome & Irouke, 2016).

2.1 Stone as A Building Construction Material

Using stone as a construction material has demonstrated its versatility and sustainability, offering many benefits. The inherent characteristics, various classifications, and multifaceted uses render it a valuable option for structural and ornamental components. By carefully examining the benefits and obstacles related to the use of stone, professionals in the fields of architecture, engineering, and construction can effectively use the material's capacity to build durable and visually appealing structures.

Stone has been employed as a construction material throughout history due to its robustness, visual attractiveness, and eco-friendliness (Ekhaese & Ndimako, 2023). The use of stone in construction has a significant historical significance, dating back to ancient times, as noted by Klemm and Wiggins (2016). Stone, being an inherent substance, presents many benefits that render it a desirable option for constructing buildings. Stone masonry refers to applying mortar to bind stones together in construction. In areas where rocks are common in their natural state, they can be used as a cost-effective building material for a variety of construction elements, including foundations, walls, piers, columns, lintels, beams, arches, domes, roof coverings, cladding and paving. This is achieved by adequately shaping and dressing the rocks.

The stone exhibits several essential characteristics that render it a highly sought-after material for the construction industry. These characteristics encompass high compressive strength, durability, thermal stability, fire resistance, and low maintenance requirements (CivilEngineering,2017). The distinct properties of various stones are influenced by their composition and physical attributes, which equip them with the ability to endure diverse environmental conditions.

The construction industry employs diverse stone materials, such as granite, limestone, sandstone, marble, and slate. Each type exhibits distinct characteristics and appropriateness for diverse applications, as noted by Gopi (2009) and CivilEngineering (2017). Granite is widely recognised for its robustness and resilience, rendering it appropriate for constructions that bear loads. On the other hand, limestone and sandstone are frequently employed for decorative purposes and facades.The construction industry extensively uses stone in various applications. It is employed for both functional and aesthetic objectives. According to Gopi (2009), stone can serve as load-bearing walls, foundations, flooring, and roofing in terms of its structural application. In design and construction, it serves as an embellishing material for covering surfaces, constructing exterior walls, creating artistic forms, and enhancing outdoor environments. The adaptability of stone permits its incorporation into diverse architectural styles and designs.

The incorporation of stone as a building material presents various noteworthy benefits. The product's durability

guarantees an extended lifespan, thereby minimising the need for frequent maintenance and replacements (Gopi, 2009; Šekularac et al., 2019). Moreover, stone displays exceptional thermal insulation characteristics, enhancing energy efficiency within structures. Furthermore, the inherent visual qualities of stone offer a classic and enduring appearance. In addition, it is worth noting that stone possesses environmentally sustainable qualities owing to its ample availability, recyclability, and minimal carbon emissions (Civiljungle, 2023; Ekhaese & Ndimako, 2023).

Even with its benefits, using stone poses specific difficulties and factors that must be considered. The challenges associated with using stone materials in construction projects are primarily attributed to the considerable initial costs and the need for skilled labour to ensure proper installation and maintenance, as noted by CivilEngineering, (2017). The weight of the stone may need help in terms of transportation and construction. In addition, the accessibility and procurement of high-grade stone may be restricted in specific areas. See figures 2A and 2B for application.

2.2 Laterite as a building construction material

Throughout human history, Laterite has been a primary building material for constructing various types of shelters. Numerous earth structures have been found worldwide in tropical and subtropical areas, with a significant concentration in Egypt. The initial dwellings were fashioned from interwoven reeds and coated with clay to create the walls. Some of these structures have been dated as far back as 5000 BC (Selman, 2001). Throughout history, Laterite has been used to construct walls that support a roof and safeguard interior spaces against inclement weather while also exhibiting resistance to fire and sound transmission (Bello, 2002). The use of Laterite has significantly declined since the advent of concrete, owing to the latter's superior strength. Consequently, its contemporary application is restricted to construction activities such as landfilling and road building.

Despite the longstanding use of Laterite as a construction material spanning several centuries, it remains a prevalent resource in contemporary rural areas. However, there exists a pressing need to enhance the native techniques employed in order to render Laterite a viable material for contemporary construction demands. According to Peter's (2007) findings, standard techniques employed in earth construction include using i. adobe, which refers to producing sun-dried bricks using thick, malleable mud mixed with straw. ii. Straw clay is a type of soil that is highly clayey and has a greasy consistency. It is commonly mixed with straw. Earth serves solely as a binding agent in this regard. iii. The wattle and daub technique involve the use of a wooden framework that is packed with a lattice or netting made from vegetable matter that has been coated with a layer of daub. iv. Cob is a construction technique that involves layering earth balls on top of one another and lightly tamping them with either hands or feet to create walls. v. The production of earth blocks through compression within small wooden or steel moulds or boxes, using either a manual or mechanical press, is commonly known as compressed earth blocks. vi. "stabilised" refers to a state of being made stable or steady. The Compressed Earth Block (CEB) is a building material made from compressed soil that has gained popularity in sustainable construction due to its low cost. The method in question pertains to adding a stabilising agent, namely cement, in a proportion of less than 10%, to a mixture of Laterite and water. This produces bricks that exhibit greater strength than their non-stabilised counterparts and possess comparable properties and strength to concrete blocks. The widespread availability of Laterite across Nigeria and its cost-effectiveness for application in the construction sector suggest that its use could reduce the production costs of building materials, including blocks, bricks and concrete (Adam & Agib, 2001). Various innovative techniques can enhance soil properties, such as soil stabilisation. Amu, Bamisaye, and Komolafe (2011) have reported that the enhancement of engineering properties of Laterite through stabilisation leads to significant improvements in soil strength, shearing resistance, stiffness, and resistance to deformation. An example of laterite used for construction is shown in figures 3a and 3b.

2.3 Bamboo as a building construction material

The farming and manufacturing of bamboo in Nigeria are mainly concentrated in the middle belt region and the nation's southern region, as stated by Okokpujie et al. (2020). According to Atanda's (2015) findings, bamboo exhibits a widespread distribution across Nigeria, particularly in the southern and central regions. Bamboo constitutes over 10% of the natural vegetation in twelve Nigerian states, namely Ondo, Osun, Ogun, Oyo, Edo, Delta, Rivers, Akwa-Ibom, Abia, Anambra, Cross-River, Ebonyi, Enugu, and Imo, and covers approximately 6.0%–9.0% of the natural vegetation in various states including Bayelsa, Ekiti, Lagos, Kwara, Kogi, Benue, and Nassarawa. Bamboo patches of smaller sizes can be observed in Niger, Taraba, Plateau, and Abuja regions, with the availability of bamboo varying between 3.0% to 5.9% of the overall natural vegetation.

Bamboo is important in construction, fulfilling dual roles as a decorative feature and a fundamental structure

constituent. Bamboo has been extensively used for diverse construction applications, such as poles, footbridges, rafters, struts, purlins, trusses, mats, flooring, ceilings, walls, window and door frames, and fence posts. According to Koko and Dakur (2019), the sustainable reputation of this building material is attributed to its affordability, versatility, and durability. Bamboo is a frequently used material in contemporary construction for various purposes, such as scaffolding to provide support for slabs during construction, as well as for floors, foundations, walls, ceilings, doors, trusses, scaffoldings, and roofing (Prasad & Muthusam, 2023). Bamboo is used extensively in various industries, such as furniture manufacturing, pulp and paper production, wall panelling, floor tile fabrication, and the creation of household commodities like cutlery, cups, and chopsticks.

Furthermore, the fibres of bamboo possess the potential to be extracted and used for the production of textiles and mats. Additionally, pyrolysis can transform bamboo into various fuel forms, including charcoal, oil, or gas. The use of this substance extends to the production of medicinal healthcare products, as evidenced by Xaing (2010), Atanda (2015), and Okokpujie et al. (2020).

According to Ogunwusi and Onwualu (2013), bamboo is primarily used for fence construction, scaffolding, and temporary supports during the construction of upper floors, lintels, beams, and roofs in urban regions of Nigeria. Bamboo is frequently used as a reinforcement material in rural areas, particularly in Cross River and Akwa Ibom states, to furnish structural support for mud houses and comparable edifices (RMRDC, 2004). Bamboo has the potential to serve as a viable material for foundation construction, provided that appropriate measures are taken to enhance its durability against fungal decay and rot. This can be achieved by subjecting bamboo poles to suitable treatment processes and embedding them deeply into the soil. Bamboo has gained significant popularity in the flooring industry due to its unique properties and aesthetic appeal. Bamboo can be transformed into exquisite floor tiles through a series of treatments involving preservatives, cutting, gluing, and smoothing. The final touch of varnish adds a polished finish to the surface, enhancing its overall appearance. The bamboo tiles have the versatility to serve as flooring and wall coverings.

Bamboo must be treated properly to last longer when used as a structural member in wall construction. It has unique qualities as a high yielding, renewable natural resource with a huge environmental advantage over other finite raw materials and long cycle renewable resources extraction. Bamboo flooring can lessen the incessant demand for forest hardwood cultivation and helps to prevent deforestation of forests. Bamboo can also be used for roof construction as trusses and other roof members. Bamboo has a high strength to weight ratio which makes it a good substitute for roofing framing and for spanning longer distances (Oyejobi and Jimoh, 2009).

The tourism sector of Nigeria is comparatively less developed than that of more advanced nations. The coastal areas, particularly in Ondo state, present significant potential for optimising commercial opportunities, owing to the state's possession of the longest coastal line in Nigeria. A practical approach to attaining this goal entails the establishment of a beach resort at Araromi Beach, which is widely regarded as the preeminent beach in the region. This initiative aims to enhance the site's appeal to a larger audience and furnish them with convenient lodging, commodities, and amenities throughout their visit.

The development of buildings is significantly impacted by construction materials, which are subject to the influence of location, context, and geography. Individuals tend to employ resources that are easily accessible within their immediate environment. The quest for cost-effective building materials has led to an increasing fascination with plentiful, naturally-occurring resources like laterite blocks, timber, stone and bamboo. The materials mentioned above can be procured from nearby sources at a comparably economical price. Using contemporary techniques for processing and applying these indigenous materials, they can be feasible substitutes for traditional construction materials such as concrete, steel, aluminium, and glass. In addition to its cost-saving benefits of up to 30% in construction expenses, this approach also facilitates maintenance. It fosters the cultural authenticity of the surrounding locality of the edifice.

The potential of using indigenous construction materials can be showcased by establishing a beach resort at Araromi Beach in Ondo state. Integrating materials such as laterite blocks, timber, stone, and bamboo into the resort's architecture and building process would result in cost reduction and a unique visual appeal that mirrors the indigenous culture and surroundings. This strategy is consistent with optimising the coastal zone's economic potential while safeguarding the locality's ecological splendour and societal legacy. In addition, using indigenous materials fosters sustainable development by mitigating the environmental impact linked to the conveyance of conventional construction materials across extensive distances. Furthermore, it facilitates the development of regional businesses and furnishes job prospects for proficient artisans with expertise in handling such resources.

The tourism industry in Nigeria is currently underdeveloped, which creates an opportunity to take advantage of the vast potential of the country's coastal regions. Establishing a beach resort at Araromi Beach in Ondo state and using locally available construction materials can enhance visitor attraction, foster sustainable development, minimise expenses, and conserve the area's cultural heritage. This development represents a positive advancement in expanding and broadening Nigeria's tourism industry.

3. Methodology

The research methodology employed in this project aimed to gather comprehensive and detailed information by utilizing descriptive and qualitative research methods. Descriptive research involves observing and describing the characteristics of a particular phenomenon or situation, while qualitative research focuses on exploring subjective experiences, opinions, and perspectives. A purposive sampling technique was employed to determine the sample for the study. The researchers identified three criteria: resorts located within the Southwestern region of Nigeria, particularly Lagos; resorts close to the beach; and resorts that are easily accessible. The selection of the resorts was deliberate, considering the offerings of various services and attractions provided by each resort to ensure a diverse range of experiences could be captured. Combining descriptive and qualitative research methods and carefully selecting the resorts based on specific criteria, the research methodology aimed to provide a comprehensive and in-depth exploration of the selected resorts and their impact on the visitors.

3.1 Case Studies

The first case study for this study is La Campagne Tropicana Beach Resort, located in Lagos, Nigeria, is an African themed beach, lagoon, and forest resort that was established in 1984. It boasts a palm-fringed white sand beach, a lagoon, and a mangrove forest, as well as amenities such as a restaurant, bar, outdoor pools, a gym, a kids' playground, and 24-hour security. Guests can enjoy horse-riding, basketball, football, kayaking, jet skiing, and the chance to observe various wildlife species in their natural habitat. The resort stands out for its nature and African-themed ambiance, and indigenous materials such as bamboo, timber, laterite bricks, and raffia are prominently used in the construction and furniture design. La Campagne Tropicana Beach Resort provides an immersive natural experience with its African-themed design and lush surroundings, but with a few improvements such as brighter room colors and expanded facilities, the resort has the potential to offer an even more enjoyable and memorable stay for its guests.

The second Case Study focuses on the Landmark Hotel and Beach Resort, located at Landmark Centre, Water Corporation Road, Oniru Estate, Victoria Island Annex, Lagos, Nigeria. Established in 1997, Landmark Africa is a renowned real estate and property development company with an extensive portfolio of mixed-use office, leisure, and residential spaces. The resort offers various services catering to business and casual events, leisure activities, vacations, and lodging. It boasts numerous facilities for fun and recreation, such as beach buggy rides, jet skiing, beach volleyball, basketball, football, paintballing, and more. Its high patronage is attributed to its easy accessibility and convenient transportation options. The proper spatial use and interconnection between the Landmark Centre, beach, and hotel also ensures a seamless flow and connectivity between these areas, enhancing the overall guest experience. Overall, the Landmark Hotel and Beach Resort stands out for its modernity, diverse recreational offerings, easy accessibility, and effective spatial planning.

The third case study is Jara Beach Resort, a unique and award-winning family-run getaway in Lagos, specifically in Museyo near Eleko. It offers nine well-finished en-suite bedrooms, including five standard queen bedrooms and four family rooms with queen or king beds and a 2x4 foot mattress bunk bed. The resort exhibits an intriguing blend of modern and local themes in its construction and furniture design, and the presence of abundant palm trees and cabanas throughout the resort provides ample shade. Sustainability is a crucial aspect of the resort's design and operations, and the resort prioritizes maximizing ocean views within all its accommodation spaces. Despite these observations, Jara Beach Resort remains a charming and distinctive oceanfront retreat in Lagos, offering a serene escape for visitors seeking relaxation and natural beauty.

3.2. Inferences from Case Studies

The analysis of three case studies yielded several strong inferences. The resorts examined in the study emphasized using natural indigenous materials such as bamboo, timber, laterite bricks, and raffia. This approach was driven by economic considerations and the desire to create a unique and aesthetically appealing resort environment. Additionally, the resorts achieved a unique look that set them apart from the conventional concrete and glass structures commonly found in urban areas.

Additionally, using locally sourced materials in construction and furniture design reduced the cost of

maintenance. This aspect of cost efficiency in maintenance can have long-term benefits for the resorts, allowing them to allocate resources to other development areas and enhance overall profitability. Using natural materials in resort design was crucial in attracting tourists to the resorts studied. This emphasis on natural aesthetics created a sense of authenticity and uniqueness that appealed to tourists seeking a departure from the ordinary.

Increased patronage by tourists brought economic benefits to the surrounding areas, generating revenue and creating opportunities for local businesses to thrive. The case studies revealed that the strategic use of indigenous materials in resort design enhanced the resorts' visual appeal and distinctiveness and contributed to economic and sustainable advantages. The resorts showcased a commitment to cultural preservation, cost-effective maintenance, and stimulating tourism and commerce in the surrounding communities by promoting locally available materials. These findings emphasize the potential benefits of incorporating indigenous materials into resort design and highlight the positive impact such an approach can have on various aspects of the industry.

3.3 Analysis of Data of Respondents from Case Studies

The analysis of data from the 60 respondents collected through questionnaires distributed across three case studies was conducted using quantitative and qualitative techniques. The simple random sampling technique was adopted to ensure that each member of the population had an equal chance of being selected, thus minimizing bias in the results. A total of 20 questionnaires were distributed at each resort to obtain a balanced response of approximately ten male and ten female respondents per location. The data collected through the questionnaires were subjected to thorough analysis involving quantitative and qualitative approaches. The quantitative analysis involved using statistical tools to summarize and interpret the numerical data obtained from the questionnaires, while the qualitative analysis involved coding, categorizing, and interpreting the qualitative data to identify common themes and extract meaningful insights. This approach facilitated a deeper understanding of the research objectives and contributed valuable insights to the study's overall findings.

3.3.1 Respondents

This research project randomly distributed 60 questionnaires to individuals to collect data from a diverse range of respondents. Of the 60 respondents, 49 (81.7%) were tourists visiting the beach resorts, while the remaining 11 (18.3%) were staff members working there. This distribution of respondents was intentional and aimed to ensure balance and accuracy in the data collected. The researchers could obtain diverse perspectives and insights into the research topic by including tourists and staff members. The deliberate effort to avoid biased responses further strengthened the reliability and validity of the collected data. By ensuring a balanced distribution of respondents between tourists and staff, the researchers sought to minimize any potential bias and obtain a more representative sample. This approach enhances the credibility of the research findings and increases the confidence in drawing meaningful conclusions based on the collected data.

3.3.2 Gender

The inclusion of the gender of respondents in this study was essential to capture a diverse range of opinions and experiences. Out of 60 respondents, 35 participants (58.3%) identified as males, while the remaining 25 (41.7%) identified as females. The demographic distribution or availability of respondents may have influenced the decision to have a more significant male representation in the sample. However, efforts were made to ensure that the sample size for both genders was substantial enough to capture a range of opinions. By including both males and females in the study and striving for a balanced representation, the researcher aimed to enhance the accuracy and validity of the data collected. This approach acknowledges the potential influence of gender on perspectives and seeks to avoid any potential biases that may arise from an imbalanced or homogeneous sample.

3.3.3 Age bracket of Respondent

The age distribution of respondents to the resorts varied significantly, with 20 individuals (33.3%) below the age of 18. Twenty-two respondents (36.7%) fell into the age range of 18 to 29 years, representing the most significant percentage of visitors. 11 respondents (18.3%) were aged between 30 and 49 years, and seven respondents (11.7%) were above the age of 50. Overall, the findings indicate that most resort visitors belong to the youthful age bracket, which aligns with the notion that young people are more likely to seek out recreational activities and explore new destinations actively.

3.3.4 Residential Status of Respondents

The residential status of 60 respondents was examined to gain insights into whether resorts primarily attract residents or visitors from outside the state. The results indicated that 44 respondents (73.3%) considered themselves residents of the state where the resorts were located, while 15 respondents (25.0%) identified themselves as non-residents. The presence of non-residents among the respondents emphasizes the attractiveness

and appeal of the resorts, indicating that they have a broader market reach and can attract tourists and visitors willing to travel to experience their offerings. This information underscores the importance of catering to the needs and preferences of local and non-local customers to maximize the resorts' commercial success and profitability.

3.3.5 Perception of beauty by Respondents

This study examined the perception of beauty by 60 respondents to understand its role in determining whether tourists would visit a resort. The findings revealed that 44 individuals (73.3%) checked the 'Yes' box, indicating that they considered the resort beautiful. On the other hand, 16 respondents (26.7%) checked the 'No' box, expressing their opinion that the resort was not beautiful. These findings highlight the significance placed on the appearance of resort establishments when attracting tourists. The perception of beauty can substantially impact a tourist's decision to visit a resort, as it is often the first impression that individuals have when considering a destination for their leisure activities. Therefore, resort developers and managers must recognize the importance of investing in design and aesthetics to create a visually pleasing environment that can entice and satisfy tourists.

3.3.6 Patronage Level at Resort

The primary objective of this question was to assess the level of patronage at the resorts and determine if the respondents perceived them as overcrowded. A total of 60 respondents were involved in the data collection process, with 31 individuals (51.7%) indicating that they felt the resort was overcrowded by checking the 'Yes' box. 29 respondents (48.3%) did not perceive the resort as overcrowded. The distribution of responses shows that the percentage of those who believe the resort is overcrowded is similar to those who think it is not. From these findings, there is a divided opinion among the respondents regarding the level of crowding at the resorts. However, the fact that many respondents expressed their desire for a more exclusive experience suggests that other resorts should be established. This would provide people with more options and offer privacy to those who prefer less crowded environments. The respondents' consensus points to the importance of diversifying resort offerings to cater to different preferences and alleviate overcrowding concerns.

To gain further insights, it would be valuable to conduct qualitative interviews or open-ended survey questions to gain a clearer understanding of their specific concerns and expectations. This information could then be used to inform strategies for resort management and future development, ensuring that the needs and preferences of potential patrons are adequately addressed.

3.3.7 Need for additional Resorts

The need for other resorts was a key aspect explored in the study aiming to gauge demand for more resort establishments. A total of 60 respondents participated in the data collection process, and 45 respondents, accounting for 75% of the total, checked the 'Yes' box, indicating their belief that more resorts should be established to foster tourism growth in the state. Fifteen respondents, constituting 25%, did not consider it essential to have more resorts within the state. The data collected supports the notion that there is a significant need to create additional resort establishments in the region. The high percentage of respondents (75%) favouring the establishment of more resorts highlights the potential for tourism growth in the state, suggesting that there is untapped demand that could be met by expanding the resort offerings.

Additionally, the presence of various resorts would contribute to the overall attractiveness and competitiveness of the region as a tourism destination. The data collected in this study provides a strong rationale for considering the creation of additional resorts to support the state's tourism growth and capitalize on the economic opportunities associated with the industry.

3.3.8 Familiarity with the use of clay bricks

The data collected regarding familiarity with using clay bricks in building construction provides exciting insights. Of the 60 respondents, 43 (71.7%) indicated familiarity with using clay bricks, while the remaining 17 (28.3%) reported unfamiliar with this building material. This suggests that most participants had prior knowledge and experience with clay bricks, making it a relatively popular choice in construction. Understanding the level of familiarity with clay bricks is crucial for assessing the viability and potential acceptance of alternative building materials or construction techniques. However, exploring the reasons behind the 28.3% who reported being unfamiliar with clay bricks could provide insights into alternative preferences, regional variations, or emerging trends in the construction industry.

3.3.9 Familiarity with the use of bamboo

This study investigated the use of bamboo in building construction. Sixty respondents were surveyed to gather

their opinions and knowledge on this topic. The data revealed that 42 individuals (70% of the total) were familiar with using bamboo, while 18 respondents (30%) were not familiar with the use of bamboo. Most respondents who were familiar with bamboo showed no dissatisfaction with its use in modern building construction, suggesting a positive perception of bamboo as a viable material for construction purposes. The results indicate a general acceptance and recognition of bamboo as a potential alternative construction material among many respondents.

3.3.10 Beauty of Indigenous materials

This study explored respondents' perceptions regarding the aesthetic appeal of indigenous materials, such as bamboo and bricks. A total of 60 participants were involved in the data collection process. The findings revealed that a majority of the respondents, 71.7%, considered the local materials beautiful when used in building construction. This overwhelming majority suggests a strong appreciation for their visual appeal and the unique characteristics they bring to architectural designs. However, a minority of the respondents, 28.3%, did not find bamboo and bricks aesthetically pleasing in building construction.This variation in opinions highlights the subjective nature of beauty and individual preferences. However, the overall positive response demonstrates the widespread recognition of the beauty inherent in indigenous materials, solidifying their relevance and popularity in the construction industry.

4. Results from Analysis of Questionnaires

Results from the analysis of questionnaires provide valuable insights into the preferences and opinions of the respondents regarding the beach resorts. Out of the 60 respondents, there were slightly more male participants (35) than female participants (25). Most respondents (36.7%) were 18 to 29 years old, indicating that the beach resorts primarily attract young adults and middle-aged individuals seeking recreational activities and fun experiences. A significant percentage (73.3%) of the tourists surveyed were residents, and a significant proportion (25%) were non-residents willing to travel to a different state specifically to enjoy the services provided by these beach resorts. Most respondents (73.3%) found the resorts beautiful, while a smaller portion (26.7%) expressed dissatisfaction with the aesthetics.

The survey also assessed the crowd levels at the resorts, with 51.7% feeling that the resorts were overcrowded and lacked exclusivity, while 48.3% held the opposite opinion. The questionnaire analysis revealed that 75% of participants agreed that there is a need for more resort establishments within the state, indicating a growing demand for vacation options in Nigeria. Approximately 70% of the participants were familiar with using clay bricks and bamboo as construction materials, and 70% considered them aesthetically pleasing. This highlights the potential for incorporating indigenous materials in the design and architecture of future resorts to appeal to most patrons and receive appreciation when utilized effectively. These findings provide valuable insights for the resorts' management to enhance their offerings, improve the visitor experience, and cater to Nigeria's growing demand for vacation destinations.

5. Implications of Findings and Discussions

The findings and discussions shed light on the unrealised potential of the tourist industry in Nigeria, particularly in the country's coastal regions. According to the findings of the literature research, the tourist industry is a critical economic driver on a global scale, contributing to the gross domestic product of many industrialised countries. On the other hand, Nigeria currently lags in tourism competitiveness, as evident from its low ranking on the Travel and Tourism Competitiveness Index (TTCI). The development of a beach resort in the town of Araromi, which is located in the state of Ondo, can assist the area in capitalising on its coastline's economic potential by generating job opportunities and boosting local commerce. The data acquired through questionnaires and case studies shed even more light on the fact that the coastline of Ondo state needs to be utilised to its full potential. The findings imply a mental shift concerning conventional building materials such as laterite and bamboo. Ondo state might be positioned as a competitive destination within the country if it underwent some strategic planning and promotion of its tourism infrastructure. This shift would help unlock the state's latent resources and attract tourists.

6. Conclusions

This research highlighted using indigenous materials in design as a modern and innovative approach. The study focused on the use of laterite to create Stabilized Compressed Earth Blocks (SCEB) for block-wall construction, well-seasoned and treated bamboo culms for outdoor sheds and shops, bamboo tiles for flooring, and fences, well-seasoned timber for the construction of pergolas, doors, windows, handrails, and furniture pieces, and solid

and durable flat cut granite stones as cladding for exterior wall surfaces. These design choices not only contribute to the aesthetic appeal of the resort but also help in reducing overall construction costs. Using laterite, bamboo, timber, and granite stones adds authenticity and local flavour to the resort, creating an immersive experience for visitors. Additionally, showcasing indigenous materials promotes cultural sustainability and highlights the region's rich heritage. Finally, the use of laterite, bamboo, timber, and stone aligns with sustainable practices, as these materials are renewable, biodegradable, and have a lower environmental impact than conventional construction materials.

7. Recommendations

1. The Ondo State Government should prioritize renovating existing tourist sites in the state and provide basic amenities in Ilaje Local Government Area to encourage the development of Araromi Beach. The amenities include well-tarred roads, electricity, security outposts, drainages, waste management systems, and a clean water supply.
2. Architects and designers should actively seek opportunities to substitute locally sourced materials in building design, whenever feasible. However, it is essential to ensure that these materials align with established standards and regulations to avoid building failures that could undermine confidence in the utilization of indigenous materials. Substandard construction practices can harm the perception and adoption of indigenous materials.
3. It is essential to conduct thorough research, engage with experts, and adhere to best practices to ensure the structural integrity and safety of buildings constructed with locally sourced materials.
4. Design should also embody and promote the cultural identity of the location where the building is situated.
5. Collaborating with local artisans, craftsmen, and cultural experts can ensure that the design integrates authentic and meaningful cultural elements into the resort's architecture, interiors, and overall ambiance.
6. By implementing these recommendations, the development of Araromi Beach as a vibrant tourist attraction site can be facilitated while promoting sustainable practices, supporting the local economy, and preserving the region's cultural identity.

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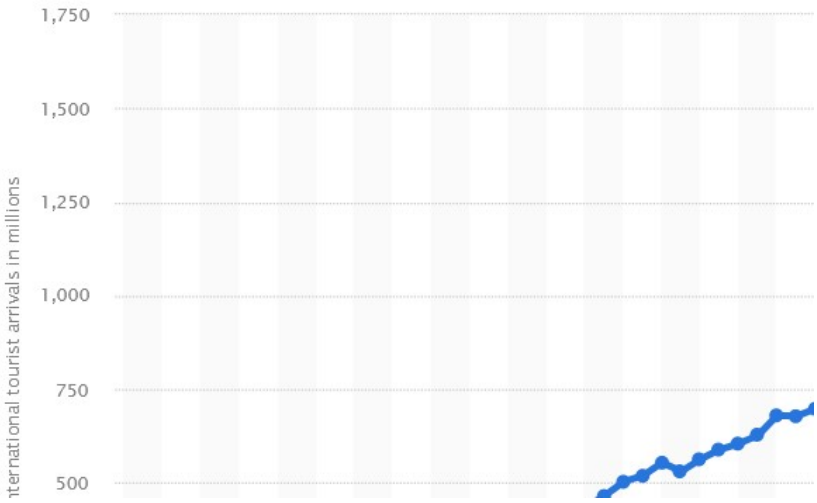

Figure 1: Number of International Tourists Arrival Globally from 1950-2022

Statistica, 2023

Figures 2A and 2B: Applications & Uses of Building Stones

Source: https://www.aboutcivil.org/stones%20Applications%20and%20uses.html

Figure 3a and 3b: Stabilised Compressed Earth Block and SCEB Wall.

3a *3b*

Source: google.com

Figure 4a and 4b: Plates showing harvested Bamboo culms and being used as tiles being used for flooring. (Source: modernbamboo.ph)