

Assessment of the use of Indigenous Materials in Enhancing Interior Aesthetics in Entertainment Facilities

U.P. Ukachi¹, D. Daniel¹, A. Orkpeh¹, O. Babalola¹

¹ Department of Architecture, Lead City University, Ibadan, Oyo State, Nigeria

**(ukachipamela5@gmail.com, danielladaniel656@gmail.com,
orkpeh.awashima@lcu.edu.ng, babalola.oluwatosin@lcu.edu.ng)**

Corresponding email: ukachipamela5@gmail.com

Abstract. Indigenous materials are resources that are naturally and locally found in specific areas, the availability of these materials may largely be dependent on geographical location of the area as well as the chemical and physical components of such materials. Indigenous materials have a deep cultural history and beautiful qualities, but there are many obstacles to their incorporation into modern home design. This study focused on assessing the use of these indigenous materials in selected interior spaces of some entertainment facilities. To achieve this, qualitative case study research was done based on these facilities meeting the criteria of incorporating indigenous materials in their design and with data drawn from four different entertainment facilities. Whispering Palms Resort, Badagry, Lagos, Nigeria, Ventura mall Ibadan, Nigeria castaway island resort, Vietnam, and Elito Arquitetos leisure center France. The indigenous materials used in these facilities were analyzed and the investigation reveals that all the accessed entertainment facilities had incorporated indigenous materials excellently in some of their interior spaces. This integration significantly enhanced the aesthetic appeal of these areas. Therefore, recommendations are made for adoption and improvement of the locally available materials in the design of interior spaces for entertainment facilities to enhance the interior aesthetics.

Keywords: Indigenous materials, Entertainment facilities, Interior Aesthetics, Relaxation, Recreation.

1. Introduction

According to (Wash, 2022), an entertainment facility is any building or portion of a building that is used to provide entertainment for a charge. Examples of such facilities include movie theatres, theatres for live, dramatic, or musical performances, indoor pinball/video arcades, bowling alleys, and games of pool, billiards, and other table games. Historically, resorts have primarily served as venues for relaxation and leisure. However, recent literature indicates a shift towards more diverse entertainment experiences. A study by Li (2021) emphasizes that modern resorts are designed to meet the evolving expectations of guests who seek immersive and multifaceted experiences beyond traditional amenities, for instance, contemporary resorts incorporate a variety of entertainment activities. According to (Wu and Lian, 2022), entertainment options such as live music, themed parties, and cultural performances are essential in creating engaging experiences that attract a wide audience. These diverse offerings help differentiate resorts in a competitive market, appealing to both leisure and entertainment.

The goal of space design is to give people relevant, enjoyable, and meaningful experiences (Warell and Young 2011). Pleasing setting that is appropriate for a range of pursuits, including leisure, shopping, and entertainment, is produced by an aesthetically pleasing area (Chaudhary, Sharma, and Saxena 2022). Everyone appreciates beautiful goods, materials, and visually appealing elements. Therefore, interior design should incorporate aesthetic traits or aspects that would elicit a positive emotion and create a pleasant artificial atmosphere. (Mfon, 2023). Utilizing a variety of locally available materials can help achieve internal aesthetics, which frequently results in a distinctive and exceptional design.

Indigenous building materials are raw materials that are processed locally using technology to make them suitable for use in the construction industry (Udoudoh, Paper, and Bassey 2021). These materials primarily consist of soil, stone, wood, bamboo, and other organic elements that are widely available in our local communities. Before Nigeria gained independence, these materials were commonly used in building construction (Jolaoso 2023). Indigenous materials do not require costly processing, and can be used even in their raw, untreated forms (Mauricio 2005). These materials have been used for centuries and are an essential part of traditional building techniques.

This paper reviews indigenous materials, providing an overview of their types and uses. It offers relevant information on how these materials can enhance interior aesthetics in different spaces within an entertainment facility. Building materials are sourced from various primary resources, including earth, stone, fiber, bamboo, timber, and metals among others. Indigenous materials encompass a wide range of resources that are native to a specific regions or localities and can be classified into three; Plant based, Animal based & Mineral based.

1.1 Plant Based Materials

Wood/timber: Timber is one of the oldest, most versatile and widely accepted building material for indoor comfort today. It is available in various species and can be transformed into different forms through sawing into sizes and shapes, such as planks, joists and piers (Udoudoh, Paper, and Bassey 2021). Generally, timbers are classified as hardwoods or softwoods. Hardwoods are from broad-leaved trees in the tropics, and they are deciduous trees. In contrast, softwoods come from coniferous trees found mostly in temperate zones (Jolaoso 2023).

Bamboo: This is one of the traditional building materials with numerous potential applications. It is a perennial plant found mostly in the tropics and some temperate regions. The plant is known for its long lifespan, however it takes about three years to develop into the required strength for construction, and full maturity is reached between five and six years of growth (Jolaoso 2023). Like mud and wood, bamboo is among the earliest raw materials used in building construction. It can also be derived from raffia or palm trees, which are widespread and well-known for growing rapidly in the world's rain belt (Udoudoh, Paper, and Bassey 2021).

Rattan: One natural resource that is common in regions like Asia and Africa where rainforests are predominant is rattan. Rattan exports, such as crafts and wicker furniture, are a vital component of the economies of many of those nations, many of which are emerging nations with prerequisites for economic growth. (Hurt 2011) Rattan furniture is designed for indoor use. However, its lightweight design allows for easy movement outside for short periods. This flexibility makes it easy to rearrange the furniture as needed. Because of this, rattan is the ideal material for a range of household areas, including kitchens, dining rooms, and covered patios. It is also a straightforward method to add a cozy, homey touch to offices and hospitality settings. The light-gold hue of rattan naturally enlivens any architectural concept, whether it is traditional or modern (Backgrounder, n.d.)

1.2 Animal Based Materials

Natural fibers: Fiber fabric material has rich color and sounds like rich elasticity and texture. When used as decoration, this type of fabric may contrast the interior environment and accentuate the creative individuality like the cherry on top of a modern interior design (Hurt 2011) Fiberss are frequently utilized in beds, sofas, masks, carpets, foot pads, and other décor items. Creating a comfortable atmosphere reduces noise by using more and more soft ornamentation, which is also made of officially approved fabric (Hurt 2011).

Hides and skin: Hides and skins may be obtained from many other species of domesticated and non-domestic animals it is a principal raw material in manufacture of leather (“Department of Animal Production and Extension Hides and Skins Management and Processing (HSMP) AnPS3105” 2020), Although the terms "hides" and "skins" are sometimes used synonymously, the British Standard Definitions define hide as the unprocessed skin of mature, bigger animals like cattle, horses, and other similar huge creatures. Skin refers to the skin of adult animals of smaller species, including pigs, chickens, fish, and reptiles, as well as the skin of immature animals of larger species, like calves and colts (Adem 2019).

1.3 Mineral Based Materials

Clay/mud: Mud is found in abundant quantity in all parts of Nigeria, particularly in southern region of the country but clay is not available everywhere (Udoudoh, Paper, and Bassey 2021). The earliest naturally occurring construction material is clay. It is made out of a blend of dust, sand, and clay. Additionally, it could include biological material or coarser particles like gravel. The two most popular ways that clay is used in building are as ramming or as clay bricks. Furthermore, it showcases the filling of wood-framed and half-timbered building, as well as clay plastering (Spišáková and Mačková 2015).

The soil is a loose material that results from the transformation of the underlying parent rock by simultaneous interaction of climatic factors and chemical changes, brought about by biological agents and migration of chemical substances through rain, evaporation, surface and underground water. In contrast, mud and earth are wet plastic soil mixtures with or without additives. Soil comes in a variety of forms, such as loamy, laterite, clay, sand, humus, silt, and alluvium (Jolaoso and Polytechnic 2023).

Stone: Interior designs benefit from the use of natural stone as a building material. It gives a house coziness and warmth. Granite, for instance, is among the densest and hardest natural stones, which helps it keep its sheen and stain resistance longer than other materials (Spišáková and Mačková 2015). Stone may be gathered or chopped to provide the desired look. Native stone that has been collected is inexpensive and doesn't need to be processed, making it ideal for patios, retaining walls, and landscaping and interior designs. Small stones that have been washed by rivers and placed in a basic mortar create a beautifully textured wall or floor (Spišáková and Mačková 2015).

2. Material and Methods

This qualitative study employs a case study approach to analyze the level of indigenous material application in interior spaces, with four case studies purposefully selected, two local and two international, to provide a balanced comparative perspective. The selected cases include Whispering Palms Resort along the Lagos-Badagry Expressway in Nigeria, Ventura Mall in Sango, Ibadan, Nigeria, Castaway Island Resort in Vietnam, and Elito Arquitetos Leisure Center in Santo Amaro, Brazil. The selection was guided by the need to examine indigenous material usage across diverse cultural and geographical contexts. The two local case studies offer insight into indigenous material application within Nigeria's unique cultural setting, while the two international cases provide a broader understanding of how indigenous materials are interpreted and utilized in other regions. Four case studies were considered sufficient to achieve thematic saturation while allowing for in depth analysis of each case. The assessment of indigenous material usage was conducted by evaluating the interior spaces of each case study based on a five-point scale where 1 represents fair use, 2 represents good, 3 represents very good use, 4 represents excellent use, and 5 represents exceptional use. The data

collected were subjected to descriptive analysis, and the findings are presented clearly using tables and figures to support interpretation.

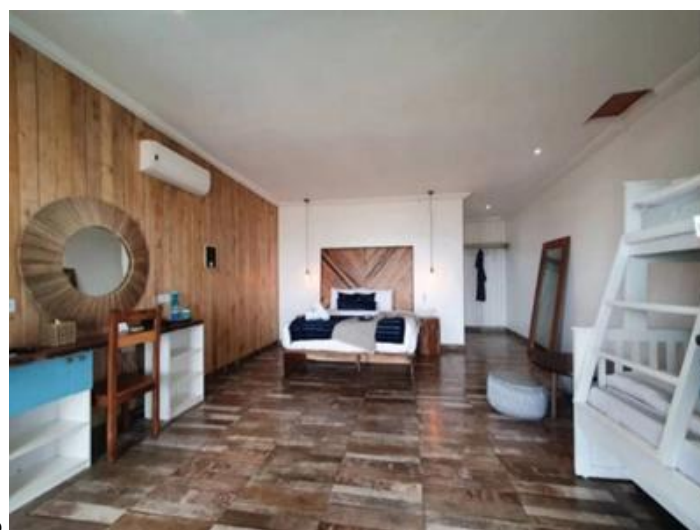
Table 1: Use of Indigenous Materials in Various Case Studies

Indigenous materials classification	Indigenous materials	Case study 1 Whispering Palms Resort, Lagos Badagry expressway					Case study 2 Elito Arquitetos Leisure Center, Santo Amaro					Case study 3 Ventura Mall, Sango, Ibadan					Case study 4 Castaway Island Resort Vietnam				
Level of application		1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Plant based	Wood				●						●				●						●
	Bamboo																				●
Animal based	Rattan																				
	Leather			●					●						●						
	Hide																				
Mineral based	Cotton								●												
	Stone					●															
	Sand				●																
	Clay																				

3. Results and Discussion

Use of Plant Based Indigenous Materials in the Selected Case Studies

Table 1 reveals that wood and bamboo was excellently used in case study 4; Castaway Island Resort, Vietnam, however, in case study 1, 2, and 3, its usage was very good. The application of plant-based materials across the accessed case studies is presented with few pictures in figures 1 to 4



b b

Figure 1 showing the use of wood at Whispering Palms Resort
Source: Authors survey



Figure 2 showing the use of wood & bamboo at Castaway Island Resort
Source: Authors survey



Figure 3 showing the use of wood at Elito Arquitectos Leisure Center
Source: Authors survey

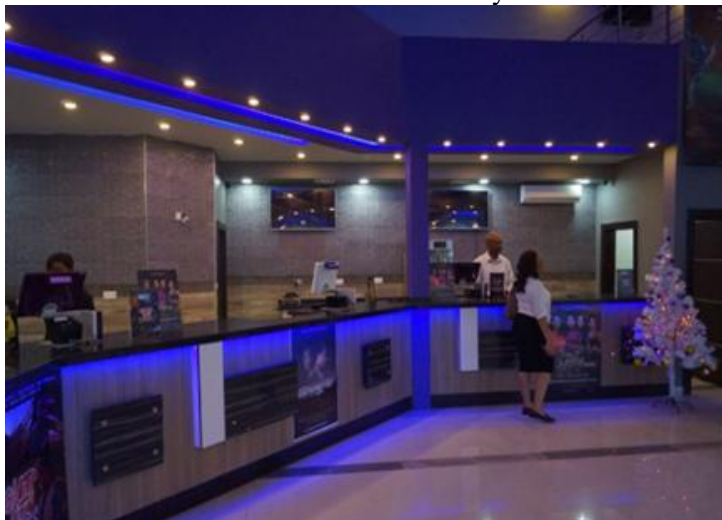


Figure 4 showing the use of wood at Ventura Mall
Source: Authors survey

Based on the result presented in table 1 and figures 1 to 4, it is evident that Castaway Island Resort; Case study 4, prominently utilized the use of wood and bamboo which is the plant based indigenous materials. The walls are built with bamboos and rattan and the furniture made with wood. In this case study the ceiling, furniture and every part of the building had a plant-based material incorporated in it. in case study 1, 2 and 3 Whispering Palms Resort, Lagos Badagry expressway, Ventura Mall, Sango, Ibadan, and Elito Arquitetos Leisure Center Santo Amaro. the usage was very good as wood was incorporated mostly in their furniture.

Use of Animal Based Indigenous Materials in the Selected Case Studies

Table 1 reveals that leather was in good use for case study 1, 2, and 3, however, in case study 4, no animal based indigenous material was used at all. The application of animal-based materials across the accessed case studies is presented with few pictures in figures 5 to 8



b
Figure 5 showing the use of leather at Elito Arquitetos Leisure Center
Source: Authors survey



Figure 6 showing the use of leather at Ventura Mall
Source: Authors survey

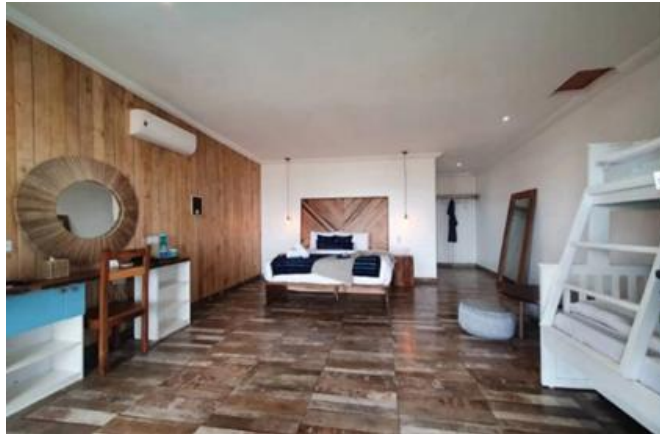


Figure 7 showing the use of animal based materials at Whispering Palms Resort

Source: Authors survey From table 1 and pictures presented in figures 5 to 8, it is obvious that case study 1, 2, and 3 (Whispering Palms Resort, Lagos Adagry expressway, Ventura Mall, Sango, Ibadan, and Elito Arquitectos Leisure Center Santo Amaro) utilized leather and cotton which is the animal based indigenous materials. The seats in case study 2 and 3 were made of leather while the bedcover in case study 1 was made from cotton. The case study 4 did not incorporate any animal based indigenous material in their design. Every material used in this case study is plant based.

Use of Mineral based Indigenous Materials in the Selected Case Study

Table 1 reveals that stone, clay and sand was in good use only in case study 1, however, in case study 2,3, and 4, no mineral indigenous material was used at all. The application of mineral-based materials across the accessed case studies is presented in figure 8.



Figure 8 showing the use of stone at Whispering Palms Resort
Source: Authors survey

In case study 1,2 and 3, Sand and brick are used the walls are built with sandcrete block, plastered with cement and sand and finished with painting, in addition, seashells and natural stones were also used in case study 1, Whispering Palms Resort, Lagos Adagry Expressway, Nigeria.

Summarily, all four case studies showed how different indigenous materials were applied in different spaces. Wood was applied in all the case studies, in case study 1, decorated stones were used to design the wall giving it a different kind of aesthetics. Case study 2 showed how wood and fiber were used for the finishing of sofas and cabinets, the sofas were made from cotton and natural fiber. Case study 3 incorporated the use of wood for finishing of the reception area,

and also for the finishing of the floor in the arcade, giving it a different type of aesthetics. Finally, case study 4 showed how bamboo and rattan was used for the roofing and finishing of the wall and also how wood was used for the tables in the dining hall, generally the different case studies showed that indigenous materials can be used to enhance the aesthetics of spaces.

4. Conclusion

The importance of using locally produced materials to improve the interior design of entertainment venues has been illustrated by this study. The successful use of indigenous materials derived from plants, animals, and minerals to create distinctive and culturally significant places is demonstrated by the case studies of Whispering Palms Resort, Ventura Mall, Castaway Island Resort, and Elito Arquitetos Leisure Centre.

According to the study, using native materials can enhance interior spaces' visual attractiveness, foster cultural identity, and give them a feeling of location. The case studies' use of wood, bamboo, rattan, leather, and natural stones is an example of how locally available materials may be used to create places that are both aesthetically pleasing and useful. In order to improve the aesthetic value of entertainment facilities, the study advises architects, interior designers, and builders to think about using local materials in their designs. In addition, stakeholders and legislators ought to encourage the use of locally produced building materials and offer rewards for environmentally friendly and culturally aware design techniques.

According to this study, interior designers are actively using native materials in their designs, and when used correctly, these materials can improve the space's aesthetics and atmosphere. In addition to examining the prospects and difficulties of incorporating indigenous materials into modern design, future studies should look into the advantages of doing so from an economic and environmental view.

Acknowledgment

We thank the publication support received from Lead City University, Nigeria.

REFERENCES

Adem, Mohammed. 2019. "Production of Hide and Skin in Ethiopia; Marketing Opportunities and Constraints: A Review Paper." *Cogent Food and Agriculture* 5, no. 1. <https://doi.org/10.1080/23311932.2019.1565078>.

ackgrounder, Material. n.d. "All About Rattan." <https://www.ackgrounder.com/material/all-about-rattan/>.

Chaudhary, Aishwarya, Ram Niwas Sharma, and Shalini Saxena. 2022. "Right to Have an Aesthetically Pleasing Environment." *International Journal of Health Sciences*, no. May: 10072–79. <https://doi.org/10.53730/ijhs.v6ns1.7385>.

"Department of Animal Production and Extension Hides and Skins Management and Processing (HSMP) AnPS3105." 2020, 1–157.

Hurt, Leroy. 2011. "Rattan for Sustainable Economic Development: A Case Study of Expanding Rattan's Design Potential through Technology Innovation." *Proceedings - 2011 IEEE Global Humanitarian Technology Conference, GHTC 2011*, no. December: 323–27. <https://doi.org/10.1109/GHTC.2011.75>.

Jolaoso, aatunde Adekoyejo, and Moshood Aiolu Polytechnic. 2023. HOUSING AND INDIGENOUS

Mfon, Ifiok E. 2023. "Aesthetic Considerations in Architectural Design: Exploring Pleasure, Arousal, and Dominance." International Journal of Research Pu lication and Reviews Journal Homepage: Www.Ijrpr.Com 4, no. August: 923–35. www.ijrpr.com.

Spišáková, Marcela, and Daniela Mačková. 2015. "The Use Potential of Traditional uilding Materials for the Realization of Structures y Modern Methods of Construction." Selected Scientific Papers - Journal of Civil Engineering 10, no. 2: 127–38. <https://doi.org/10.2478/sspjce-2015-0024>.

Sullivan, Larry. 2012. Research Methodology. The SAGE Glossary of the Social and ehavioral Sciences. <https://doi.org/10.4135/9781412972024.n2187>.

Symonds, Percival, and Percival M. Symonds. 2016. "The Case Study as a Research Method." Case Studies, no. June 2007: 15–15. <https://doi.org/10.4135/9781473915480.n2>.

Udoudoh, Francis P, Featured Paper, and Luna Edidem assey. 2021. "Traditional uilding Materials in Housing Construction: Usage and Maintenance Strategy 1." PM World Journal X, no. Iv: 2330–4480. www.pmworldliary.net.

Warell, Anders, and Kenneth Young. 2011. "Interior Aesthetics: An Experience-Focused Approach for the Design of rand-Specific Automotive Identity." International Journal of Vehicle Design 55, no. 2–4: 278–303. <https://doi.org/10.1504/IJVD.2011.040587>.

Wash, P.M, Omar, S.i., Mohaned, ., & Isa, M. I. (2022). The Provision Of Recreational Facilities: The Policy Perspective. Malaysian Journal Of Susaina le Environment, 9(1), 185. <https://doi.org/10.24191/Myse.V0i1.17300>

Wu, H., & Liang, Y. 2022. Enhancing Guest Engagement in Resorts Through Entertainment: A Case a Study Analysis. Tourism Management 104-115.