



*Book of*  
**PROCEEDINGS**  
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**BUK-2023**

THE 29TH MULTI-DISCIPLINARY  
ACADEMIC CONFERENCE

THEME: UNLOCKING SUB-SAHARA AFRICAN POTENTIALS  
FOR SUSTAINABLE DEVELOPMENT IN THE 21ST CENTURY:  
MULTI-DISCIPLINARY APPROACH.



# PROCEEDINGS

ON THE  
AFRICAN POTENTIALS FOR SUSTAINABLE  
DEVELOPMENT IN THE 21<sup>ST</sup> CENTURY:  
MULTI-DISCIPLINARY APPROACH

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UNLOCKING SUB-SAHARA AFRICAN  
POTENTIALS FOR SUSTAINABLE DEVELOPMENT  
IN 21<sup>ST</sup> CENTURY: MULTI-DISCIPLINARY  
APPROACH.

DATE:  
DECEMBER, 29<sup>TH</sup> 2023

VENUE:  
BAYERO UNIVERSITY, KANO, KANO STATE, NIGERIA,  
WEST-AFRICA.



# PROCEEDINGS

## ON THE AFRICAN POTENTIALS FOR SUSTAINABLE DEVELOPMENT IN THE 21<sup>ST</sup> CENTURY: MULTI-DISCIPLINARY APPROACH

### THEME UNLOCKING SUB-SAHARA AFRICAN POTENTIALS FOR SUSTAINABLE DEVELOPMENT IN 21<sup>ST</sup> CENTURY: MULTI-DISCIPLINARY APPROACH.

#### **SUB THEME:**

- Pure and Applied Science
- Medical and Pharmaceutical Sciences
- Engineering
- Environmental
- Humanities and Social Sciences
- Management Science & Entrepreneurship



# **BAYERO UNIVERSITY, KANO, KANO STATE, NIGERIA**

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*Vol. 29 No. 2 on the 29th December, 2023 at Bayero University, Kano, Kano State, Nigeria, West-Africa.*

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### **THEME**

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### **DATE:**

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### **VENUE:**

**BAYERO UNIVERSITY, KANO, KANO STATE, NIGERIA, WEST-AFRICA.**



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**VENUE: BAYERO UNIVERSITY, KANO, KANO STATE,  
NIGERIA, WEST-AFRICA.**

<b>Time</b>	<b>Activities</b>
08:00 - 10:00am	Registration
10:00 – 10:30am	Arrival of Guests
10:30 - 10:45am	Introduction and Recognition of Distinguished by The Master of Ceremony.
10:45 - 11:10am	Opening Prayer
11:00 - 11:20am	National Anthem
11:21 - 11:31am	Address by Chief Guest.
11:31 - 12:00noon	Lead Paper presentation by Prof. A. Usman
12:30 – 03:00pm	Plenary Session/Paper Presentation
03:00 - 03:15pm	Vote of thanks by Secretary LOC
03:15 - 03:30pm	National Anthem
03:30 – 03:45pm	Group Photograph



## PROGRAMME OF ACTIVITIES

Days	Time	Activities
Day 1: Thursday, December 28, 2023	8.00-10.00am	Arrival/Pre-conference Meeting
Day 2: Friday, December 29, 2023	10.00-1.00pm	Registration
	1.00-2.00pm	Opening Ceremony
	2.00-3.00pm	Launch/Break
	3.00-5.00pm	Plenary Section
	5.00-6.00pm	Paper presentation
		Certificates Presentation
Day 3: Saturday, December 30, 2023		Departure

**REGISTRATION VENUE**  
**BAYERO UNIVERSITY, KANO, KANO STATE, NIGERIA,**  
**WEST-AFRICA.**

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### INCORPORATION OF TRADITIONAL YORUBA ARCHITECTURE IN THE DESIGN OF A CONTEMPORARY ART GALLERY IN ABEOKUTA, OGUN STATE

OBAFUNSO RIDWAN; & DR. C.J. EZE

Department of Architecture, Federal University of Technology, Minna, Nigeria

#### ABSTRACT

Cultural heritage and architectural traditions hold immense value as they reflect the identity and culture of a society. Within this context, Yoruba culture has played a pivotal role in shaping art and architecture, significantly influencing the religious and social fabric of the community. Unfortunately, the absence of essential Yoruba traditional housing elements in contemporary structures poses a dual threat: jeopardizing the preservation of Yoruba history and heritage while fostering a disconnection between past traditions and the present, leading to a loss of cultural identity. This study aims to incorporate traditional Yoruba architectural elements in the design of a contemporary art gallery in Abeokuta, Ogun State, with a view to preserving the cultural identity of the Yoruba people. Case studies were carried out on five existing art galleries in Ogun State and environs. The research instrument employed for data collection was a structured survey questionnaire administered to 400 respondents comprising of professionals in the building industry and users of art galleries, 298 questionnaires were returned out of which 251 questionnaires was valid. The analysis of the data was carried out with the use of frequency count, percentage, and mean item score. The results obtained from the analysis of the data revealed that integration of traditional materials had high preferences in art galleries or public buildings, with a mean score of 3.77 ranked first. This was followed by preference for ornamentations (murals), with a mean score of 3.68 ranked second, while Building configuration with Courtyard had the lowest preference with a mean score of 3.46. Findings further revealed that amongst the traditional building materials selected to be integrated, the inclusion of wood had high preferences, with a mean score of 3.77 ranked first. This was followed by inclusion for Mud or Adobe Bricks with a mean score of 3.70 ranked second. In conclusion, the study serves as a testament to the enduring significance of Yoruba traditional architectural elements and their capacity to enrich modern architectural practices. It underscores the importance of preserving cultural heritage in the face of urbanization, ensuring that these architectural treasure continue to inspire and resonate with future generations. The study recommends design practitioners to incorporate in their designs, characteristic features of Yoruba traditional architecture, in a bid to preserve the cultural identity of the Yoruba speaking people of south-western Nigeria.

Keywords: Architectural elements, culture, Yoruba, heritage, art gallery, incorporation

#### INTRODUCTION

According to Agboola (2021) and Bello and Jolaoso (2017) the lack of knowledge and integration of lost elements of Yoruba traditional housing in contemporary structures is primarily attributed to the decline of Yoruba cultural heritage and the lack of resource preservation in Nigeria. Throughout history, Yoruba culture has been deeply intertwined with art and architecture, playing a significant role in the religious and social lives of the people. Hence, Yoruba traditional architecture reflects the socio-cultural values of the Yoruba ethnic group, several factors contribute to this oversight (Sonaiya & Dincyurek, 2009). One of the key factors is the vulnerability of natural building materials to the humid climate and heavy rains of the West African rainforest region, which has resulted in the destruction and decay of traditional Yoruba buildings over time (Eze, 2018). Additionally, the absence of grand architectural structures among the Yoruba has led researchers to disregard their building traditions, focusing more on other architectural styles and traditions. (Auwalu, 2019; Umoru-Oke, 2010).

Furthermore, the influence of Western education, ideas, and way of life has gradually eroded the native intelligence, knowledge, values, and architectural character of traditional Yoruba societies. Traditional practices are often viewed as incompatible with modernization from a Western perspective, leading to a neglect of Yoruba architectural heritage and a disconnection between contemporary architecture and the cultural, socio-economic, geo-political, and religious expressions of the Yoruba environment and its inhabitants (Sonaiya & Dincyurek, 2009).

The lack of integration of lost elements of Yoruba traditional housing in contemporary structures not only hampers the preservation of Yoruba history and heritage but also results in a loss of cultural identity and a disconnect between past traditions and the present. It is essential to bridge this gap in knowledge and understanding to ensure the preservation and celebration of Yoruba architectural traditions. By addressing this research gap, architects and



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designers can gain insights into incorporating Yoruba architectural elements into contemporary designs, enabling the creation of spaces that embrace both traditional aesthetics and modern functionality.

## LITERATURE REVIEW

### Elements of Traditional Yoruba Architecture

According to Adeosun (2017) the architectural practices of the ancient Yoruba in Southwest Nigeria were a collective effort, and the design of their houses served as an expression of their ideological, economic, and social status within the broader urban setting. Elements of traditional Yoruba housing are a combination of design features, materials, and cultural practices that reflect the lifestyle, social structure, and environmental considerations of the Yoruba people (Agboola, 2021). These elements are deeply intertwined with the cultural identity and historical evolution of the Yoruba community.

### Courtyards

The traditional Yoruba man embraced polygamy, considering his wives and children as integral parts of their possessions. This cultural approach was intertwined with their architectural choices, leading to the construction of spacious compounds with numerous rooms to accommodate their extended families (Adeosun, 2017). According to Umoru-Oke (2010) "Akodi" embodies the essence of unity and harmony, where love and peace thrive, and negativity like grudges and hatred find no place. Figure 2.1 shows Old Alaffin of Oyo Palace showing multiple courtyards.

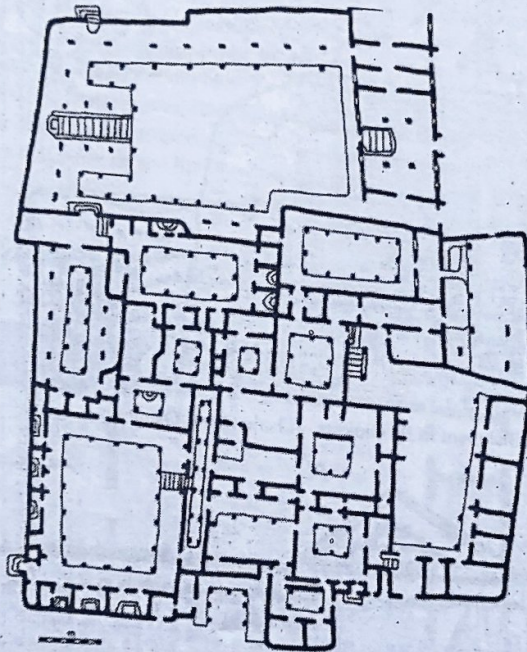


Figure 2.1: Old Alaffin of Oyo Palace showing multiple courtyards  
Source: Vlach (1984)

The rooms of the houses are oriented toward the courtyard, embraced by covered verandahs where daily domestic tasks and local crafts, including cooking, take place. This courtyard design fosters both communal and personal engagements, encompassing social and religious affairs. The courtyard arrangement bolsters family ties and strengthens kinship connections. This layout also safeguards trade and family crafts, establishing a trade or craft as an exclusive profession within the family. This dynamic encourages talent to remain within the confines of the traditional courtyard architecture.

### Ornamentations

Ornaments encompass decorative elements that, while not fundamentally necessary for a building's function or utility, often serve to highlight specific aspects or diminish the impact of structural components, transforming them into distinctive features. Ornamentation may encompass graphic representations of logos, embody symbolism, or



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purely serve as embellishments for aesthetic enhancement (Adegoke, 2016). Various cultures have developed their own array of architectural ornaments over time, drawing inspiration from plant shapes, floral motifs, animals, human forms, emblems, and heraldry. Professionals regard ornamentation as an additional embellishment aimed at elevating aesthetic appeal. In the context of Yoruba architectural heritage, the utilization of ornaments as aesthetic elements holds significant importance. The unaltered intricate designs represent the pre-colonial era, frequently adorning indigenous structures in traditional cities like Oshogbo and Ife in Osun State (Adefila & El-Hussain, 2022; Adegoke, 2016). These decorations were particularly concentrated at the heart of these early settlements. The Yoruba traditional architecture is deeply intertwined with its decorative elements, encompassing a wide range of artistic expressions such as patterns, symbols, motifs, carvings, metalwork, pottery, beadwork, and wall decorations. Within this cultural context, the Yoruba people demonstrated a remarkable artistic prowess, incorporating these decorative arts into their buildings and surroundings. The ornamentations, renowned for their intricate beauty, are evident in notable instances like the ornate designs found in Ife, Osun State, as well as the Palace door from Ekiti. This integration of artistic excellence into architectural features showcases the Yoruba culture's rich creative heritage (Adefila & El-Hussain, 2022; Adeosun, 2017). Figure 2.2 and Plate I Painted fishes as a portal embellishment in Ile Olókúta, at Isale Osun, Ósogbo and an illustration of a building with unique forms demolished for road construction respectively.

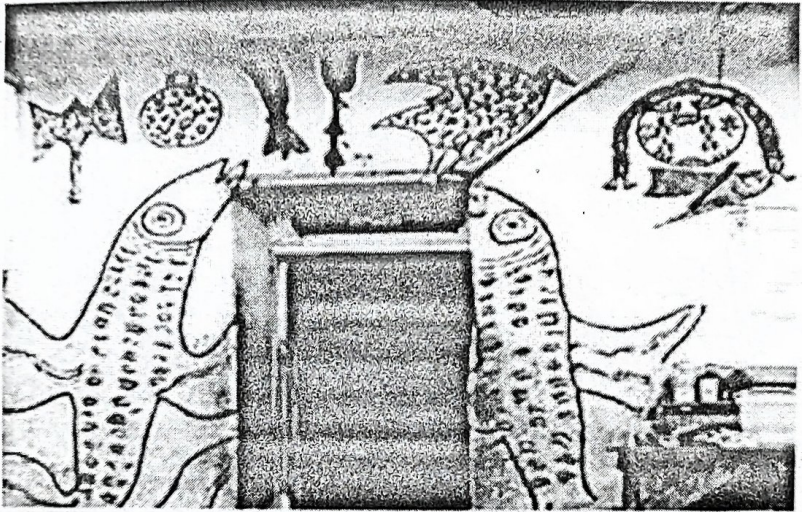


Plate I: Painted fishes as a portal embellishment in Ile Olókúta, at Isale Osun, Ósogbo,  
Source: Abejide & Ijisakin (2020)

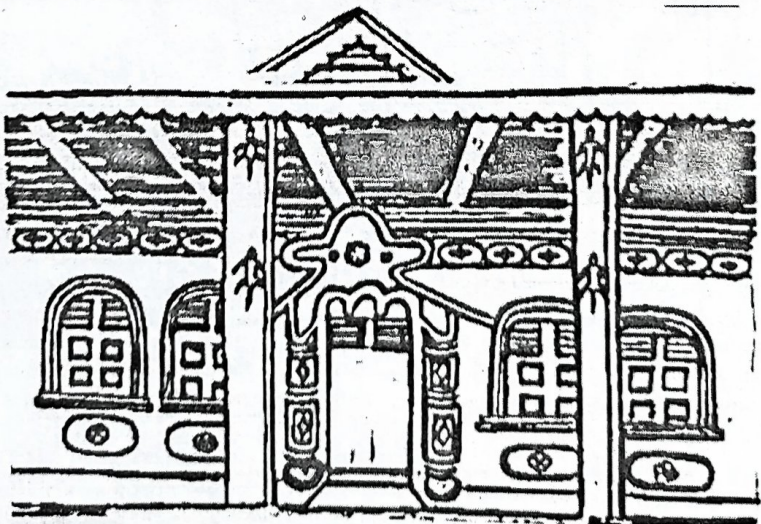


Figure 2.2: An illustration of a building with unique forms demolished for road construction in 2016.  
Source: Abejide & Ijisakin (2020)



## Social Hierarchy and Family Structure

The family compound is an important aspect of Yoruba culture and is used to reinforce social hierarchy and family structure. The compound is typically organized around a central courtyard, which is used for communal activities and as a gathering place for family members. The courtyard is surrounded by a series of rooms that are used for different purposes, such as sleeping, cooking, and storage (Adenaike *et al.*, 2020). Yoruba traditional housing also reflects the social hierarchy of the community. The head of the family occupied the largest room in the house, which was located at the center of the house. The other members of the family occupied the smaller rooms located around the central room.

The head of the family was responsible for making decisions that affected the family, and his room was often used for important family meetings. Okeyinka & Odetoeye, (2015) suggests that where the family exhibited a nuclear system, the house form was often enclosed in a villa type, while an extended family system tended to have an open plan. This implies that the house form was influenced by the social structure of the family. The traditional Yoruba house form reflects the importance of family structure and social hierarchy in Yoruba culture. The extended family system is a major determinant of the house form, and the spatial configuration of the house reflects the social and economic relations of its inhabitants. Dwellings of higher-ranking individuals or families may be larger and more intricately decorated, while communal areas emphasize unity and shared values.

## Spatial Organization and house form

According to Akande (2020) Yoruba houses follow a well-organized Agbo ile (Family Compound) pattern design. The houses are in some ways a collection of several units fitted together in a cyclical, square or rectangular shape so that a courtyard is defined in the centre of the system. They are designed along this pattern especially with a focus on family life, and other forms of architecture like the palace and shrines are also designed and built considering the society's social order. Yoruba buildings are designed with specific spatial divisions for different functions. Private living spaces, sleeping quarters, and communal areas are carefully arranged to accommodate the needs of the family while respecting cultural norms. Figure 2.3 shows the courtyard housing form with impluvia at the centre that pulls air and light into the rooms.

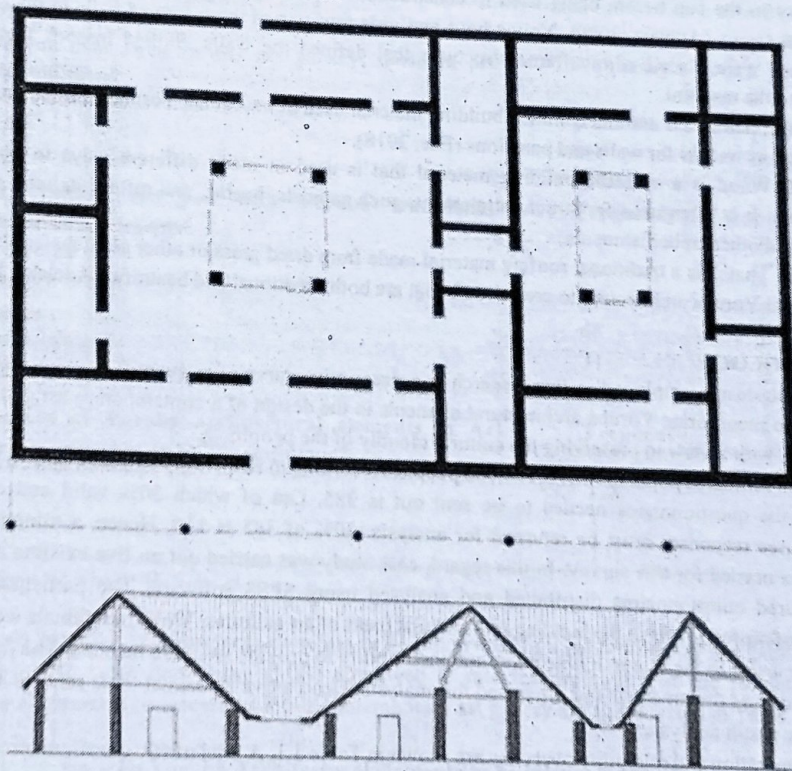


Figure 2.3: Courtyard housing form with impluvia at the centre that pulls air and light into the rooms  
Source: Ogeye (2019).



# BUK KANO-2023

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Ancestry plays a pivotal role in shaping both the arrangement of living spaces and the architectural design, underscoring the collective coherence of the populace and their traditional social framework. Traditional Yoruba dwellings predominantly embraced two primary architectural configurations: rectangular and conical. The rectangular form embodies societal conduct (Iwa), while the conical shape symbolizes individual fate or essence (Ori). This symbiotic relationship between genealogy and architectural style exemplifies the intrinsic connection between culture and built environment in Yoruba tradition (Agboola, 2021).

### Construction Techniques

According to Adedokun (2014), traditional Yoruba houses are characterized by robust mud walls (constructed with cob materials ranging from 6 to 12 inches thick), which function as effective thermal and acoustic insulators. In the northern regions of Yoruba territory, walls were erected to heights ranging from 3 to 6 meters, constructed in layers approximately 30 centimeters in height and 30 to 60 centimeters in thickness (Dmochowski, 1990). The prevalent indigenous architectural technique in the early era was commonly referred to as Wattle and Daub. Additionally, a distinctive architectural feature in most Yoruba house and palace compounds is the high-pitched gabled roof entrance porch positioned at the main entrance. The steeply sloped pyramidal roof, with an angle inclination ranging from 40 to 60 degrees, facilitates rapid runoff of heavy tropical rainfall into containers placed in the courtyard. Various roof styles, including hip roofs and lean-to roofs, were also prevalent. In terms of windows, traditional Yoruba housing employed smaller window sizes (Adelaja, 2020); however, modern residential architecture has transitioned to larger window sizes to enhance comfort.

### Building Materials

According to Adelaja (2020) and Akande (2020), the following building materials were employed in construction in early Yoruba housing:

- i. **Mud/earth bricks:** Mud or earth bricks are a common building material used in traditional Yoruba architecture. They are made by mixing mud or earth with water and then shaping the mixture into bricks. These bricks are then left to dry in the sun before being used in construction or subsequently affixed onto wooden frameworks in successive layers (Adelaja, 2020). Young boys and girls transported these formed balls to the construction site, where they were placed within frame structures that defined the walls. Skilled masons then smoothed and compacted the material.
- ii. **Bamboo:** Bamboo is another common building material used in traditional Yoruba architecture. It is often used for roofing, as well as for walls and partitions (Eze, 2018).
- iii. **Wood:** Wood is a versatile building material that is used in many different ways in traditional Yoruba architecture. It is often used for structural elements such as posts, beams, and rafters, as well as for decorative carvings and other embellishments.
- iv. **Thatch:** Thatch is a traditional roofing material made from dried grass or other plant materials. It is often used in traditional Yoruba architecture to create roofs that are both functional and beautiful (Adelaja, 2020; Eze, 2018).

### METHODOLOGY

The research design employed in this research is a descriptive survey via quantitative analysis. The method is employed to incorporate Yoruba architectural elements in the design of a contemporary art gallery in Abeokuta, Ogun State, with a view to preserving the cultural identity of the people.

Ogun has an estimated population of 6,154,000 people. According to Krejcie (1970), for a known population above 1,000,000 the questionnaires needed to be sent out is 385. Out of which 30% valid and completely filled questionnaires responses must be returned for analysis. 30% of 385 is 116. Hence, a minimum of 115 valid responses is needed for this survey. In this regard, case study was carried out on five existing art galleries, with 400 structured questionnaires distributed and analysed using SPSS software. The participants in this study comprised of professionals in the building industry and users of art galleries. These individuals were selected based on their relevance to the research objectives and their ability to provide valuable insights. The data obtained from the fieldwork was documented and organised for analysis. Descriptive statistical tools such as Tables and Charts were used in result analysis.

The data preparation and reliability overview are shown in Table 3.1. A total of 400 questionnaires were distributed throughout the study population, and 298 were successfully collected of which 251 questionnaires (62.8%) were valid. Subsequently, the data was imported into the Statistical Package for the Social Sciences (SPSS) software for the purpose of analysis in order to evaluate its reliability. The primary objective of the reliability test is to evaluate the dependability and internal consistency of the whole of the study data. In general, the whole data exhibits strong reliability, as shown by a Cronbach Alpha coefficient of 1.247, above the threshold of 0.500.



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**Table 3.1: Summary of Data Preparation and Reliability**

Total Responses		Response Rate	Cronbach Alpha
Sent	Received		
400	251	62.8%	1.247

Source: Author's Field work, (2023)

## RESULTS AND DISCUSSION

### General information

The findings as regards the descent of the respondents, as shown in Table 4.1, reveal that the majority (63.4%) are of Yoruba descent, while 36.6% stated otherwise. The findings as to whether the respondents have ever been to any art gallery, museum, or public building as shown in Table 4.1 revealed that a significant majority, 80.2%, have visited such establishments, whereas 19.8% had not visited them. Table 4.1 shows the findings as regards how familiar the respondents are with Yoruba traditional architectural elements. 35.1% of the respondents are familiar; 28.2% of the respondents were of a neutral view; 23.7% were very familiar; and 13.0% were not familiar with Yoruba traditional architectural elements. Table 4.1 also shows the findings as regards the level of agreement of the respondents on adoption of Yoruba architectural elements in a contemporary art gallery or public building. 97.7% of the respondents strongly agrees to with the adoption of Yoruba architectural elements on art galleries and public buildings, while 2.3% strongly disagree.

**Table 4.1: General information**

PROFILE	STATISTICS	
Are you of Yoruba descent?	Frequency	Percent
Yes	83	63.4
No	48	36.6
Total	131	100.0
Have you ever been to any art gallery, museum or public building?	Frequency	Percent
Yes	105	80.2
No	26	19.8
Total	131	100.0
How familiar are you with Yoruba traditional architectural elements	Frequency	Percent
Not familiar	17	13.0
Neutral	37	28.2
Familiar	46	35.1
Very Familiar	31	23.7
Total	131	100.0
Adoption of Yoruba architectural elements in Art galleries, museum or public buildings?	Frequency	Percent
Yes	128	97.7
No	3	2.3
Total	131	100.0

Source: Author's Field work, (2023)

### Preference on Yoruba Architectural elements to be integrated to a contemporary art gallery

The results of the mean item score (MIS) employed to rate the preference of the respondents on Yoruba architectural elements to be integrated into a contemporary art gallery are summarised in Table 4.2.

**Table 4.2: Preference on Yoruba Architectural elements to be integrated to a contemporary art gallery.**

S/NO	Statements	VL(1)	L(2)	M(3)	H (4)	VH (5)	Mean	Rank	Decision
P1	Traditional Materials	4(3.1)	12(9.2)	34(26.0)	41(31.3)	40(30.5)	3.77	1 <sup>st</sup>	High



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### Preference on Yoruba Architectural elements to be integrated to a contemporary art gallery

The results of the mean item score (MIS) employed to rate the preference of the respondents on Yoruba architectural elements to be integrated into a contemporary art gallery are summarised in Table 4.2.

**Table 4.2: Preference on Yoruba Architectural elements to be integrated to a contemporary art gallery.**

S/NO	Statements	VL(1)	L(2)	M(3)	H (4)	VH (5)	Mean	Rank	Decision
P1	Traditional Materials	4(3.1)	12(9.2)	34(26.0)	41(31.3)	40(30.5)	3.77	1 <sup>st</sup>	High



		2(1.5)	11(8.4)	44(33.6)	44(33.6)	30(22.9)	3.68	2 <sup>nd</sup>	High
P2	Ornamentations (Murals)								
P3	Relief sculpture	3(2.3)	15(11.5)	44(33.6)	39(29.8)	30(14.0)	3.58	3 <sup>rd</sup>	High
P4	Sculpted columns	4(3.1)	14(10.7)	42(32.1)	46(35.1)	25(19.1)	3.56	4 <sup>th</sup>	High
P5	Symbolic Motifs	3(2.3)	17(13.0)	42(32.1)	4(33.6)	25(19.1)	3.54	5 <sup>th</sup>	High
P6	Building Configuration with Courtyard	5(3.8)	10(7.6)	53(40.5)	45(34.4)	18(13.7)	3.46	6 <sup>th</sup>	Moderate
	Average MIS						3.62		High

Key: V.L(1) = Very Low, L(2) = Low, M (3) = Moderate, H (4) = High, V. H(5) = Very High  
Source: Author's Field work, (2022)

Table 4.2 shows the preference of the respondents for Yoruba architectural elements to be integrated into a contemporary art gallery. Integration of traditional materials had high preferences, with a mean score of 3.77 ranked first. This was followed by preference for ornamentations (murals), with a mean score of 3.68 (ranked 2<sup>nd</sup>). Relief sculpture and sculpted columns were ranked 3<sup>rd</sup> and 4<sup>th</sup> (3.58 and 3.56), respectively. while Building Configuration with Courtyard had the lowest preference with a mean score of 3.46, ranked 6<sup>th</sup>. On average, the integration of architectural elements to be integrated into a contemporary art gallery had a high preference, with a mean score of 3.62.

#### Preference for the inclusion of the following traditional building materials to art galleries

The results of the mean item score (MIS) employed to rate preference for the inclusion of the following traditional building materials in art galleries are summarised in Table 4.3.

**Table 4.3: Preference for the inclusion of the following traditional building materials to art galleries**

S/NO	Statements	VL(1)	L(2)	M(3)	H (4)	VH (5)	Mean	Rank	Decision
P1	Wood	4(3.1)	12(9.2)	34(26.0)	41(31.3)	40(30.5)	3.77	1 <sup>st</sup>	High
P2	Mud or Adobe Bricks	2(1.5)	11(8.4)	44(33.6)	44(33.6)	30(22.9)	3.70	2 <sup>nd</sup>	High
P3	Stone	3(2.3)	15(11.5)	44(33.6)	39(29.8)	30(14.0)	3.58	3 <sup>rd</sup>	High
P4	Bamboo	4(3.1)	14(10.7)	42(32.1)	46(35.1)	25(19.1)	3.46	4 <sup>th</sup>	Moderate
P5	Thatch	3(2.3)	17(13.0)	42(32.1)	4(33.6)	25(19.1)	2.29	5 <sup>th</sup>	Low
	Average MIS						3.56		High

Key: V.L(1) = Very Low, L(2) = Low, M (3) = Moderate, H (4) = High, V. H(5) = Very High  
Source: Author's Field work, (2023)

Table 4.3 shows the preference of the respondents for the inclusion of the following traditional building materials in art galleries: Inclusion of wood had high preferences, with a mean score of 3.77 ranked first. This was followed by inclusion for Mud or Adobe Bricks with a mean score of 3.70 (ranked 2<sup>nd</sup>). Stone was ranked 3<sup>rd</sup> (3.58), while Thatch had the lowest inclusion with a mean score of 2.29 and was ranked 5<sup>th</sup>. On average, the inclusion of traditional building materials in art galleries had a high preference, with a mean score of 3.56.

#### CONCLUSION AND RECOMMENDATION

The lack of traditional Yoruba housing features in modern buildings not only makes it harder to protect Yoruba historical and cultural heritage, but it also weakens cultural identity and breaks the link between old traditions and modern times. The aim of this study was to integrate conventional Yoruba architectural features into the architectural design of a modern art gallery located in Abeokuta, Ogun State. The intention was to save and preserve the cultural heritage of the Yoruba community. Based on the outcomes derived from this study, the results indicated that the incorporation of conventional materials was highly favoured. Subsequently, a predilection for embellishments in the form of murals was seen. The study concluded that incorporating traditional Yoruba



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architectural elements into the design of a contemporary art gallery will help preserve the cultural identity of the Yoruba people. The study recommends that more awareness should be created on promotion of culture and preservation of cultural craft and heritage in the Yoruba land.

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