



A Lesson from Vernacular Architecture in Nigeria

Ph.D. Candidate **Joyce Lodson**¹, * Ph.D. Candidate **JOHN EMMANUEL OGBEBA**², Dr. **UGOCHUKWU KENECHI ELINWA**³

¹ Department of Architecture, Federal Polytechnic Bauchi, Bauchi state, Nigeria

² Department of Architecture, Eastern Mediterranean University, Famagusta, Mersin 10, Turkey

³ Department of Architecture, Cyprus International University, Famagusta, Mersin 10, Turkey

E mail: joycelodson@yahoo.com E mail: john.ogbeba@emu.edu.tr , E mail: uelinwa@ciu.edu.tr

ARTICLE INFO:

Article history:

Received 20 July 2017

Accepted 10 August 2017

Available online 21 September 2017

Keywords:

Vernacular;

Architecture;

Nigeria;

Contemporary;

Values.

ABSTRACT

Contemporary architecture has its roots from the vernacular. Every cultural group in the world has its own form of vernacular though the approach may vary from place to place and from people to people. Vernacular architecture has many values which are relevant to contemporary architecture today. This paper looks at vernacular architecture in Nigeria as practiced by two ethnic groups who have varying climatic, religious and socio-cultural practices. The approaches to architecture by these two groups, i.e. the Hausas and Igbos, are looked at with the intention of finding positive values in the vernacular which can be applied to the contemporary. One of such values as seen in this paper is the harmony of traditional building materials with nature. Local building materials are able to meet housing needs without having detrimental effect on the environment. More emphasis should therefore be given to local building materials in the building industry today. The paper concludes by stating that for contemporary architecture to adequately meet the needs of man today, vernacular values which apply to the cultural and climatic needs of such places should be selected and imbibed.

JOURNAL OF CONTEMPORARY URBAN AFFAIRS (2018) 2(1), 84-95.

<https://doi.org/10.25034/ijcua.2018.3664>

www.ijcua.com

Copyright © 2017 Journal Of Contemporary Urban Affairs. All rights reserved

1. Introduction

The Dictionary of Architecture and Landscape Architecture, (2000), describes vernacular architecture as “unpretentious, simple, indigenous, traditional structures made of local materials and following well-trying forms and types.” Man has always sought to provide shelter for himself through the use of local materials and techniques in ways best suited to meet his own individual, socio-cultural needs and also fit into the existing climatic conditions.

Too often, vernacular architecture has been portrayed as something that is local, primitive, unattractive and unworthy of being preserved. This perception seeks to give the vernacular a reflection of negativism and underdevelopment. Yet despite this bleak portrayal of the vernacular, one only has to take a closer look at the way the traditional builders used local materials and techniques to display

technological sophistication and ingenuity in their structures to develop a sense of respect and admiration for the vernacular. These local societies were able to bring a sense of communality and ethical representation into their buildings and settlements.

In his book, ‘Vernacular Accommodations: Wordplay in Contemporary Architecture Theory,’ Andrews (2012) introduces the reader to a world of vernacular that reflects *living traditions and ethical approaches to creativity*, a form of architecture that is *original, reflects peasant lifestyles and shows an integration of the building in the life of the community as a whole while addressing local conditions of climate*. This paper intends to search for such values of the

*Corresponding Author:

Department of Architecture, Eastern Mediterranean University, Famagusta, Mersin 10, Turkey

E-mail address: john.ogbeba@emu.edu.tr

vernacular in Nigerian traditional architecture with the aim of drawing lessons from it which can then be incorporated in Nigeria's present contemporary architecture.

Nigeria is a vast country with a rich diversity. This diversity is seen in various dimensions such as: ethnic group representations, climatic conditions, religious affiliations, cultural beliefs and practices and art forms. Because of the vastness of its diversity, approaches to architecture also vary. Different ethnic groups in Nigeria approach architecture in different ways in an attempt to address local conditions and needs. To better understand and appreciate vernacular architecture in Nigeria, this paper is considering architectural approaches of two ethnic groups under varying climatic conditions, religions and socio-cultural practices.

The paper has a number of objectives. To review vernacular residential architecture in Nigeria as practiced by two cultural groups, i.e. the Hausas and the Igbos, so as to better appreciate their approaches to architecture. To determine the values that might have influenced their local architectures. The paper intends to compare vernacular and contemporary architecture in Nigeria, and to find positive values embedded in Nigerian vernacular architecture which might be appropriated in contemporary Nigerian architecture.

2. Nigeria

The Federal republic of Nigeria is located in West Africa and lies between latitudes 4° and 14°N, and longitudes 2° and 15°E. (Figs. 1 & 2)



Figure 1. Map of Africa Showing Nigeria in Red. (Source: www.google.com)



Figure 2. Map of Nigeria Showing 36 States and the FCT Abuja, Source: www.google.com

With a current population of over 180,000 million people, Nigeria is the most populated country in Africa. Of the over 250 ethnic groups in the country, the three largest are the **Hausas**, located in the northern part of the country, the **Yorubas**, in the south western part of the country and the **Igbos**, found in the south-eastern part of Nigeria. (Figure 3)



Figure 3. Map of Nigeria Showing the Broad Distribution of Major Ethnic Groups. Source: www.google.com

British colonial rule began in Nigeria from the 19th century when the Northern and Southern Protectorates of the country were merged together to form a single entity called Nigeria. This was done in 1914 by the British. Nigeria eventually gained its Independence from the United Kingdom on 1st October 1960.

Nigeria is a multi-religious country made up of two predominant religions, i.e. Christianity and Islam. The population is divided roughly in half between these two major religions.

Basically, Nigeria's climate can be classified into two. The northern part of the country, where the Hausas predominate, is characterized by hot, dry climate and extremes of temperature between day and night. Rainfall is minimal and often less than 500mm per year. The southern part of the country, where the Igbos are found,

is mostly hot and humid and has a high annual rainfall of between 1,500 to 2,000 mm a year.

3. Methodology

The main aim of carrying out a research is to add to existing knowledge in a particular area of study. This can be achieved through investigating new dimensions of any field of study. Through the process of carrying out a research, problems are defined and redefined, hypotheses and theories are formulated, new approaches are developed, solutions are suggested and conclusions drawn. This process also involves the use of strategic and systematic methodology in pursuit of knowledge so as to arrive a logical solution and develop a problem solving theory Rajasekar et'el (2006).

This study employs the exploratory research tool for collecting its data from existing publications on the Research. Information will be sought from journals, reports and books on related topics. Personal knowledge about the study area will also be applied.

4. CASE STUDIES: HAUSA, IGBO

4.1 Hausa

4.1.1 Hausa People

The Hausas are one of the major ethnic groups in West Africa and are among the three largest in Nigeria(Arenibafo, 2016). They can also be found in significant numbers in Niger Republic. They all speak the Hausa language which is the most widely spoken language in West Africa.

Long distance trading has long been practiced by the Hausas. They also engage in other occupational practices such as: farming, animal herding, and practice of crafts such as dyeing, thatching, leather working, weaving and silver smiting. The Hausas predominantly follow the Islamic religion. Its influence is significant and permeates almost every aspect of their life and culture such as their dressing, social interactions and even architecture. Agboola and Zango (2014) state that the Trans-Sahara Trade coupled with the new religion of Islam had the most enormous impact on the settlement pattern and local building practices of Hausa land. Some of the effects can be seen reflected in the façades of their buildings as a number of the designs employed were borrowed from other parts of the Islamic world.

4.1.2 Typical Hausa Vernacular Architecture

Hausa vernacular architecture is greatly influenced by socio-cultural practices, religion, climate and available material. Culture and

social practices have affected the layout patterns of both settlements as well as family compounds. Within the settlement, there are three important focal points. These are the mosque, emir's palace (chief's palace) and market. The emir's palace acts as the seat of administration of the community while the market draws people from within and around the community once a week for trade and social interactions. Family compounds are built around these three focal points.

Within the family setting, the extended family system is an important cultural practice. It is not uncommon for members of an extended family to live together in one large homestead which is sub-divided into units, each unit belonging to a married male member of the family. Family compounds can be quite large in size depending on the number of wives and children a man has and in the case of the Hausas, four wives are allowed according to the Islamic religion. Building units are added within a compound as the need arises or as the family size increases. So also, the reverse is the case. The size of the compound may diminish as children move away from home to settle elsewhere or as huts fall into disrepair.

Social relationships within the community are important to the Hausas and provision for this is made in the compound by the introduction of an entrance or reception hut called a **zaure** (Figure 4). This is a multi-functional entrance lobby which is used by the family head for relaxation, entertaining visitors, practicing crafts, etc. Open spaces are also provided in front of family homesteads and serve as relaxation spots for the family head and his visitors and where he often sits to share meals with neighbors (Figure 5),

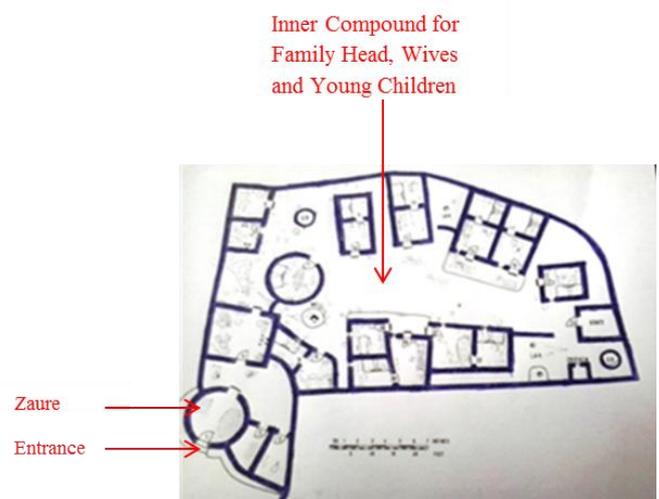


Figure 4i. Plan of a Hausa compound. Source: google.com

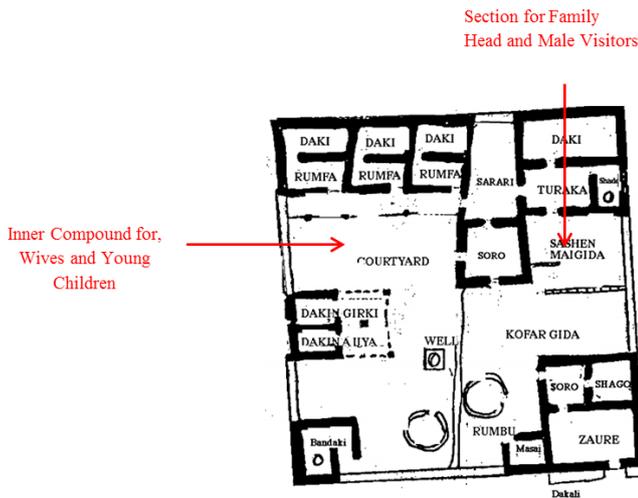


Figure 4ii. Plan of a Hausa compound. Source: Muhammad Umar, 1997



Figure 5. Outdoor Space for Relaxation (Moughtin, 1964).

Religion plays an important role in Hausa architecture. The Islamic religion which is practiced by most Hausas in northern Nigeria encourages seclusion of women and separation of the two genders. For this reason, a **zaure** or male reception area was introduced into the plan of Hausa buildings. It acts as a foyer and sets limits beyond which strangers and males outside of the family unit cannot exceed. Women stay within the inner compound which is veiled from view. Privacy is further encouraged by the absence of windows on exterior walls

The effects of climate are addressed in Hausa buildings. Northern Nigeria, where the Hausa people can be found, falls within the Sahel savannah. This area is characterized by hot dry climatic conditions with extremes of temperature between day and night. Traditional Hausa houses are built to accommodate these climatic conditions. Openings are small and few in number so as to keep out dust and as much as the sun's heat and glare as possible. The walls are made of adobe mud which is a good thermal regulator, helping to regulate extremes of temperature between day and night thus keeping interiors cool during the hot daytime and warm during the cold nights. Flat mud roofs are employed on the rectilinear walls. They act as good thermal insulators and are ideal in an area which is prone to fire outbreak due to dry weather conditions. The flat roofs are also suited to the limited amount of rainfall experienced within the year (Figure 5).

Various building materials are used in Hausa building construction. Moughtin (1964) names them as earth, timber, reeds, grasses, and stones. Dry straw when mixed with mud is used to make adobe bricks of great strength which is used for the wall construction. A local waterproofing plaster is made from a mixture of mud and either ash additives or liquid from locust bean pods. Building forms are either round or rectilinear in shape.

Roofing is of two types depending on the shape of the building. Round huts are roofed with conical thatched roofs made from cornstalks and grass. Rectilinear buildings usually have flat mud roofing. These are made from timber from the palm tree (azara) which is very strong and insect resistant. The timber pieces are laid across each other in a herringbone fashion after which both sides are plastered with mud. A special water proofing plaster is applied to the roof.

Ingenuity is seen in the construction of interior arches (Figure 6). Moughtin, (1964), describes the arches as: *A series of cantilevered lengths of azara (a fibrous palm tree which is free from attack by white ants) built into the mud arch to form the main reinforcement while additional azaras are used to counteract shear and to distribute the thrust of the arch into the walls*

Creative façade designs are important elements in Hausa architecture. According to Adamu, (2005), decoration in Hausa traditional architecture can be categorized into three groups namely, surface design, calligraphy and ornamental. The surface designs are predominantly reliefs, engraved or carved

designs and murals (Figure 7&8). Decorative elements called **zanko**, protrude from the roof parapet. They are unique additions to many Hausa buildings.

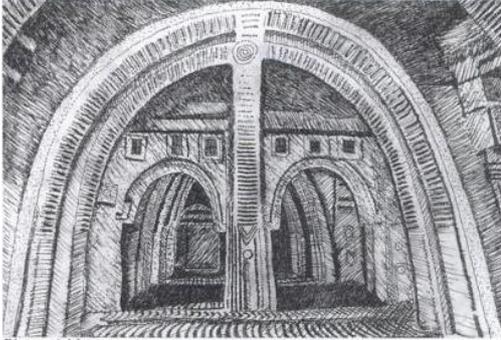
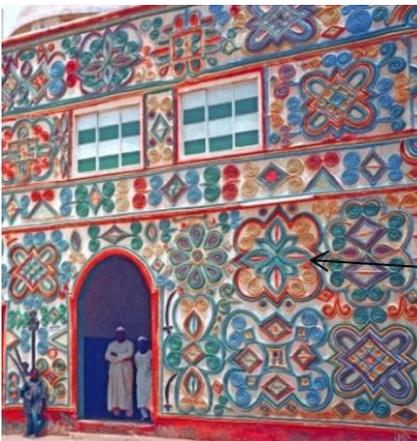


Figure 6. Indoor Arches.



Arewa or Hausa
Symbol

Figure 7. Emir of Zazzau. Palace in Zaria, Nigeria, built 1995–
Mural Facade Design
Source:www.google.com

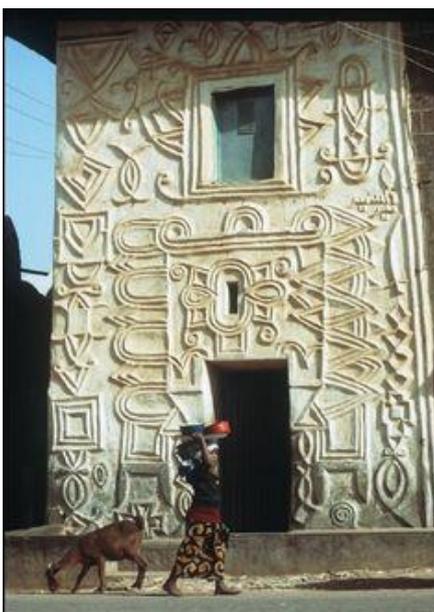


Figure 8. Relief Design on a Street Facing Façade.

5. Hausa Contemporary Architecture

The first impact of modernity on Hausa buildings came with colonialism. Schwertfeger, (2014) attributes the late 1940's as the period when modern building materials were introduced into Nigeria. The import of these materials, particularly cement, played a great role in changing the practice of vernacular architecture in Hausa land and Nigeria in general. Modern materials like cement allowed people to construct longer lasting homes. As such, adobe bricks were gradually replaced with cement blocks which are longer lasting and carry greater prestige in the society. Modern roofing materials have to a great extent also replaced mud and thatch roofing.

Modernity has also improved health conditions in many traditional Hausa buildings. Where before, ventilation was insufficient in the indoor rooms because of the small and inadequate number of windows, contemporary buildings now have larger openings which allow for cross ventilation. This has reduced the incidence of meningitis in many Hausa settlements in Nigeria. Cholera and other such diseases have also been reduced since modern toilets were introduced, replacing pit latrines in many homes.

The practice of gender separation and privacy for women is still seen in many contemporary Hausa buildings. In the plan below, the first floor plan is reserved strictly for family members while on the ground floor, there is complete separation of the visitor's space from that of the family space thus ensuring minimum contact between non family members and family members, particularly women (Figure 9). Separate entrances have been provided for the women folk so that they can have access into and out of the house without being seen by any male visitors. This is in accordance with the socio-cultural and religious lifestyle of the Hausas.



Figure 9. Plan of a Contemporary Hausa Building Designed by Zailani and Sa'ad Raji (Aliyu, 2015).

One effect of modernity on Hausa cultural lifestyle is the gradual loss of extended family ties. Many contemporary residential buildings are designed solely for single family units thereby effectively cutting out the extended family lifestyle. Some contemporary buildings have maintained some elements of the vernacular in their external facades. For instance the buildings in Figure 10 below have added pinnacles (Zanko) at the top of the parapet roof. This is a distinctly Hausa element and gives the building a "Hausa" appearance.

Façade designs have gradually become less popular than before and are not as extensively applied as in the traditional buildings. This can be seen in the pictures in Figure 10ii below where the greater part of the façade has been left unadorned with the exception of the front entrance which has some ornamental decoration around it, reminiscent of traditional Hausa architecture. Also, the facade design in the buildings in Figure 11 is not as elaborate as is found in the traditional buildings. (Compare with Figure 7).



Figure 10. Contemporary Hausa Architecture With the 'Zanko' Added at the Top Giving it a 'Traditional' Look Source: Aliyu, 2015



Figure 11. Pictorial Views of Postmodern Residential Designs Displaying Northern Cultural Symbol Popularly Known as Arewa Symbol (Aliyu, 2015).

6. Igbo People

The Igbo are also a prominent people group found in Nigeria. They live in the south-eastern part of the country in scattered towns and villages and speak the common Igbo language. Igbo people are very industrious and engage in a wide range of commercial activities. In the rural areas, Igbo people work mostly as craftsmen, farmers and traders.

Prior to the coming of missionaries to Nigeria, the Igbos predominantly practiced traditional religion which involved belief in a vast number of gods and goddesses. With the coming of missionaries however, most Igbos embraced Christianity though a small percentage still follow the traditional religion.

The Igbos are also known for sculpturing and carvings. Many of their doors and wooden pillars have various designs carved into them. Uli design is a form of body beautification, done mostly by Igbo women. It is sometimes inscribed on facades of buildings.

6.1 Igbo Vernacular Architecture

Igbo architecture, as practiced by the Igbos of south eastern Nigeria, display values of vernacular. Their buildings seek to integrate spiritual, cultural and lifestyle values into their architecture. Chukwu (2015), states that '*apart from the Igbo language which was the number one distinguishing factor, the traditional Igbo society was both theophorous and communal.*' He goes on to say that '*these two traditional indices of the Igbo society namely, the religious and communal life traits were always expressed and represented in the building architectural designs of every Igbo society.*'

Communality is an important aspect of Igbo cultural life and is ingrained into the layout of the settlement pattern. Settlements typically have community spaces at the center, and these spaces are the sites for public gatherings, discussions and meetings, as well as other community interactions (<http://africanurbanism.net/2012/03/31/tradition>)

al-igbo-design). Festivals and displays by masquerades are important activities in the Igbo community and are done in these village squares (Figure 12).

A typical family compound contains a number of huts or building units, each having a separate function (Figure 13, i&ii). The number of such building units is determined by the number of wives and children a man had. Before the advent of Christianity into Igboland, the Igbos were predominantly a polygamous society. A large number of wives and children was seen as a sign of wealth and moreover, increased the workforce of the family, considering that farming was the mainstay of their economy.



Figure 12 i. An Activity Taking Place in an Igbo Community Village Square Source: (<http://africanurbanism.net/2012/03/31/traditional-igbo-design/>)



Figure 12 ii. Masquerades Performing in a Village a square.

The compounds are surrounded with an earthen wall having a single entrance gateway. Okoye (2001) states that this entrance gateway indicates the status and power of the family and the importance of the head of the compound, which is communicated through the elaborate

nature of the gate structure, and the richness of the door leaf it probably had once framed.

As with the Hausas, the extended family system is important in the Igbo community. Clans men often live in a large family compound demarcated into separate units by a common fence. Meetings and family gatherings are regular events. An important element called *obi* is provided in the compound of the eldest male member of the extended family for these gatherings. Cole and Aniakor (1984) describe the *obi* as 'the male meeting house which is the conceptual and, often, the physical centre of a domestic Igbo architecture' (Sourced by Ikebude, 2009).

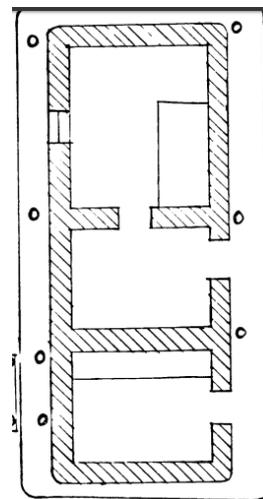


Figure 13 i. Plan of a Family Unit, Source. (Nsude, 1987)

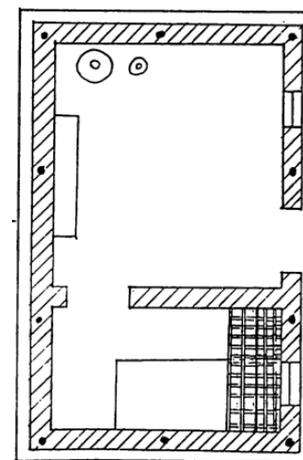


Figure 13 ii. Plan of a Family Unit, Source Nsude, 1987.

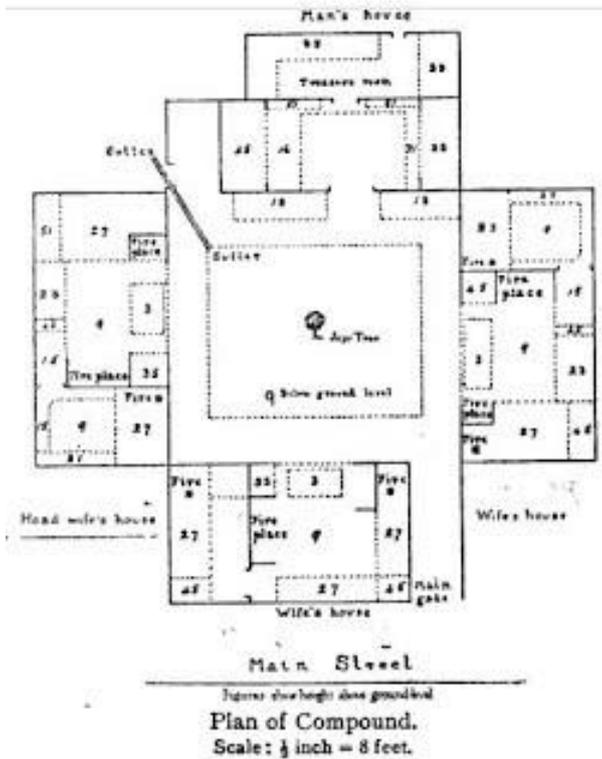


Figure 13iii. Plan of a Family Compound with courtyard in the centre and Building Units Surrounding it.
Source:www.google.com.

Traditional religion as practiced by the Igbos, involved belief in various gods and goddesses and led to shrines being erected within the larger community, in their honor. An example of this is the *mbari* hut which is a shrine built for the deities. Each deity had its own individual shrine (Figure 14). Within the family compound, sacred family shrines were also erected.



Figure 14 i. Mbari house.



Figure 14 ii. Entrance to a communal shrine.

The predominant building materials of the Igbos were clay, grasses and bamboo. These were used to address local weather conditions. Hot humid conditions prevail in south-eastern Nigeria so clay was used for building adobe walls which sufficiently regulated temperature between the indoors and outdoors. Nsude, (1987) states that the warm humid climate of Igbo land and its tropical rainfall dictate the use of steeply pitched roofs. The roofs are thatched with palm leaf fronds and grasses which are commonly available in that part of the country.

The building forms are basically of two types: the rectangular and the circular. Roof forms are also built in accordance with the building form, thus, rectangular buildings had hipped roofing while circular buildings had conical roofing.



Figure 15 i. Thatching with palm leaf mats, early 20th century.
Source: Basden 1921



Figure 15 ii. Steeply Pitched Roofs Source: Nsude, 1987.

Building of houses was usually a family and communal affair. Members of the extended family and community members usually joined hands to raise structures. Walls were often plastered with mud after construction. Nsude (1987) talks about cow dung being used as a plastering material. According to him, not only is the dull greenish color more pleasing to the eye than the natural earthen color, it also has better water proofing qualities than ordinary mud.

The art of surface decoration is also practiced by Igbos in their buildings. Decoration in traditional Igbo architecture is not restricted to their compounds and homes only but shrines, meeting houses and club houses are also often decorated (Nsude, 1987). He goes on to say that decoration often involves bas-relief, insertions, color mural painting or the use of moulded and carved objects. Creativity is seen in Igbo architecture in the carvings and sculptures on doors, gateways and pillars. In Igbo architecture, generally, building extensions such as walls and posts, and panels such as doors, are considered architecture as such murals and other wall decorations, and relief carvings on posts and doors are all architectural processes (Ikebude,2009) (Figure 16&17).

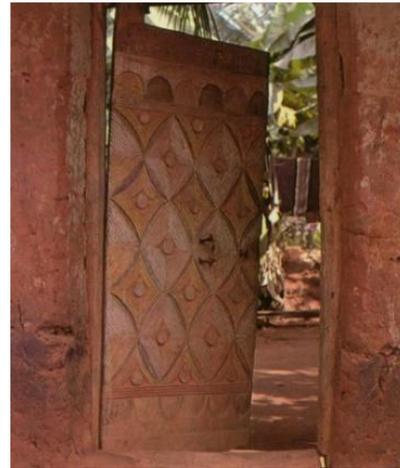


Figure 16 i. Carved Igbo Doors.



Figure 16 ii. Carved Post. Source: nairaland.com



Figure 17. A decorated wall surface Source: howafrica.com

6.2 Igbo Contemporary Architecture

Vernacular Igbo architecture has seen several changes due to the influence of modernity. The wider choice of modern building materials is one of the more obvious influences of modernity on Igbo vernacular architecture. Longer lasting buildings of varying sizes are now seen in contemporary Igbo societies. Buildings are more compact with rooms opening into one another with a single common roof over them. The compound is no longer in the centre but around the building. Pitched roofs have been



maintained on contemporary buildings due to the frequent rains; however modern roofing materials are now used. External wall facades made up of carved images and murals are now absent from contemporary Igbo architecture. Rather, modern paints and wall tiles are applied. Where

community members used to join hands to raise buildings, now paid labor is the common method of building. Modernity has brought about a disintegration of community and extended family lifestyle. Buildings are designed for smaller family units.

Table 1. Comparison between Traditional Hausa and Igbo Architecture.

	Hausa	Igbo
Settlement	3 important elements in the settlement: mosque, emir's palace, market	2 important elements in the settlement: Village square, Shrines
Compound	Privacy and gender separation highly emphasized. Non male members of the family cannot gain entrance into the inner compound. Building units of round or square huts having different functions are repeated throughout the compound.	No gender separation. Inner compound is open to visitors, both male and female. Building units of round or square huts having different functions are repeated throughout the compound.
Building Materials	Mud, grass, cornstalks, timber	Mud, grass, bamboo, raffia palms
Roofing Types	Flat mud roofs Conical thatched Roof	<i>Pitched Thatch Hip Roof</i> <i>Conical Pitched Thatch Roof</i>
Openings	Small and Few Windows	Small and few windows
Façade	Facades are highly decorated with reliefs, murals and engraved decorations.	Facades, doors, pillars and posts are highly decorated with reliefs, murals and carvings
Courtyards	Open spaces within the compound make up the courtyard.	Open spaces within the compound make up the courtyard.
Family Size	Large due to extended family practice and influence of religion which permits up to four wives.	Large due to extended family practice and socio-economic reasons.

Table 2. Comparison Between Contemporary Hausa And Igbo Architecture.

	Hausa	Igbo
Settlement	No focal points. Settlements have expanded due to urban growth.	No focal points. Settlements have expanded due to urban growth.
Compound	Privacy for women still emphasized. Women's quarters separated from external contact with visitors.	No gender separation.
Building Materials	Cement, Sandcrete blocks, burnt bricks, modern roofing materials	Cement, Sandcrete blocks, burnt bricks, modern roofing materials
Roofing Types	Pitched roofs. Parapets used in many buildings obscuring the pitched roof and giving the appearance of a flat roof.	Pitched roofs.
Openings	Larger in size and variety.	Larger in size and variety.
Facades	Traditional façade decoration still applied in some instances though not as frequent as before. Modern paints and textured finishes now common.	Sculptures, wall carvings and traditional façade designs not practiced. Modern paints and textured finishes now common.



Courtyards	Compact building plans. Courtyards surrounding the building rather than at the centre.	Compact building plans. Courtyards surrounding the building rather than at the centre.
Family Size	Still large due to allowance of four wives by Islamic religion. Extended family practice not as commonly practiced.	Smaller due to influence of Christianity which allows only one wife and due to gradual disintegration of extended family practice.

7. Conclusion

Vernacular architecture has undergone a number of changes over the years as a result of the influence of modernity. This has led to the emergence of contemporary approaches to building in the Nigerian society. Values of the vernacular however are still very relevant to our contemporary buildings today.

For instance, vernacular architecture uses local eco-friendly materials to address local climatic conditions. Adobe is a good example of a traditional building material with natural thermal regulating qualities and no detrimental environmental effects. Modern building materials are not eco-friendly like the local building materials and have caused various threats to the natural environment. Now with the issues of climate change and global warming, it is becoming increasingly clear that there is a need to revisit the use of our local building materials. With some improvements our local materials can function in the same capacity as the modern materials with the added advantage of not harming the environment.

Values of ethics, family living and cultural practices define vernacular architecture in Nigeria. This is absent in contemporary architecture today. Creative means of expressing culture should be encouraged in our contemporary buildings. For instance, rather than using expensive wall finishes which have no cultural expression, simple yet attractive traditional wall finishes can be applied in our contemporary buildings. This will not only save money but will also preserve our cultural heritage.

Acknowledgments

This research did not receive any specific grant from funding agencies in the public, commercial, or non-for-profit sectors.

References

A Dictionary of Architecture and Landscape Architecture. (2000). Originally published by Oxford University Press. Retrieved from

<http://www.encyclopedia.com/doc/1O1-vernaculararchitecture.html>

Adamu, M.S.T. (2005). Interpretation of significant and messages in Hausa traditional architecture. Case of the "Zaure" entrance hall. *Journal of the Association of Architectural Educators in Nigeria*. Vol.4, No 1. Pp10-21.

Arenibafo, F. (2016). The Transformation of Aesthetics in Architecture from Traditional to Modern Architecture: A case study of the Yoruba (southwestern) region of Nigeria. *Contemporary Urban Affairs (JCUA)*, 1(1), 35-44. Doi: 10.25034/1761.1(1)35-44. [https://doi.org/10.25034/1761.1\(1\)35-44](https://doi.org/10.25034/1761.1(1)35-44)

Chokor, B. A. (2005). Changing urban housing form and organization in Nigeria: lessons for community planning. *Planning Perspectives*, 20(1), 69-96. <https://doi.org/10.1080/0266543042000300546>

Chukwu, J. (2015). Traditional Igbo Building Architecture: An Historical Perspective . *Arts and Design Studies*, Vol.34. https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&cad=rja&uact=8&ved=2ahUKewiJwp_AyMDfAhULYxoKHxV_BZwQfJAAegQICBAC&url=https%3A%2F%2Fwww.iiste.org%2FJournals%2Findex.php%2FADS%2Farticle%2Fdownload%2F24591%2F25193&usq=AOvVaw2So6RPINmKLWCEhW_slvgd

Dmochowski, Z. R. (n.d.). An Introduction to Nigerian Traditional Architecture, Volume 3 *South-Eastern Nigeria, the Igbo Speaking Areas*. <https://www.abebooks.com/INTRODUCTION-NIGERIAN-TRADITIONAL-ARCHITECTURE-Dmochowski-Z.r/20639385803/bd>

Ikebude, C. M. (2009). *Identity in Igbo Architecture: Ekwuru, Obi, and the African Continental Bank Building* (Doctoral dissertation, Ohio University). https://etd.ohiolink.edu/ap/10?0::NO:10:P10_ACCESSION_NUM:ohiou1250885407

Ja'afar J. K., Abdullahi Y. B. (2010). In Kano, traditional Hausa architecture is vanishing. [dailytrust.com.ng](https://www.dailytrust.com.ng/in-kano-). <https://www.dailytrust.com.ng/in-kano->



[traditional-hausa-architecture-is-vanishing.html](#)

Moughtin, J. C. (1964). The Traditional Settlements of the Hausa People. *The Town Planning Review*, Vol. 35, No. 1 , 21-34.

https://www.jstor.org/stable/40102417?seq=1#metadata_info_tab_contents

Nsude, G. C. (1987). The Traditional Architecture of the Igbo of Nigeria. PhD thesis, Thames Polytechnic. <http://gala.gre.ac.uk/8750/>

Agboola, O. P., & Zango, M. S. (2014). Development of traditional architecture in Nigeria: a case study of Hausa house form. *International Journal of African Society Cultures and Traditions*, 1(1), 61-74.

<http://www.eajournals.org/journals/international-journal-of-african-society-cultures-and-traditions-ijasct/vol-1no-1june-2014/development-traditional-architecture-nigeria-case-study-hausa-house-form-2/>