



Role of Culture in Architecture Style: Efficiency of Courtyard as a Cultural Element in Yoruba Architecture

Oladunmoye Oluranti Mobolaji. & Eni, Destiny Eni

Department of Architecture, University of Ibadan, Ibadan, Nigeria.

²Independent Researcher

E-mail: bjarchimat23@gmail.com

ABSTRACT

Architectural styles and building typologies are influenced by the culture (lifestyle, beliefs) of the people for which the buildings are designed. The use of massive stone blocks for the Pyramids of Giza, classical orders in the design of theaters for Greek Architecture, arches and domes in the construction of Roman Colosseums, semi-circular arches in the Abbeys during the Romanesque architecture era, pointed arches and flying buttresses in the Gothic architecture era, symmetry and proportion for Renaissance architecture, gilded details for Baroque Architecture, simplicity for Neoclassical architecture, geometric shapes for Art Deco styles, minimalism for Bauhaus Architecture, ornamentation for the International Style, playfulness for Postmodern architecture, non-linear forms for Deconstructivism, and computational design for Parametric architectural style serve as international testament to this hypothesis. The Architecture of the Nigerian people as with the global community, was also influenced by the prevalent culture of its diverse populace scattered through the four geopolitical zones in the country giving birth to the Purdah and the turaka in Northern Nigeria, the Obi in Eastern Nigeria, the akwaesa in Southern Nigeria, and the courtyards in Western Nigeria. This paper explores the efficiency of courtyards, providing context to the relevance of Yoruba/African traditional courtyard compounds to Sustainable Housing, listing its social, environmental, and architectural benefits.

Keywords: Architecture, Culture, Courtyard, Yoruba, Sustainable, Housing.

Journal Reference Format:

Oladunmoye, O.M. & Eni, D.E. (2024): Role of Culture in Architecture Style: Efficiency of Courtyard as a Cultural Element in Yoruba Architecture. *Humanities, Management, Arts, Education & the Social Sciences Journal*. Vol. 12. No. 2, Pp 108-115.
www.isteams.net/humanitiesjournal. [dx.doi.org/10.22624/AIMS/HUMANITIES/V12N2P11](https://doi.org/10.22624/AIMS/HUMANITIES/V12N2P11)

1. BACKGROUND

1.1. International Architecture Styles

Certain features define International Architectural styles through the ages. These features have been inspired and influenced by certain elements in the lifestyle, beliefs, and culture of its builders (Meeta and Farheen, 2023). Shirley Guo (2023) chronicles the features of international Architectural styles and their defining features as follows:

- a) The use of "massive stone blocks" for the construction of temples and tombs in Egyptian Architecture is seen in the Pyramids of Giza, the Temple of Karnak, and the Abu Simbel temples;



- b) The use of classical orders (columns, capitals, and entablature) for Greek Architecture in the design of their theaters as seen in the Theater of Epidaurus and Civic;
- c) The use of arches, domes, and concrete for Roman architecture as seen in the Colosseum and the amphitheater;
- d) The use of semi-circular arches, thick walls, and small windows for Romanesque architecture as seen in the Abbeys of France;
- e) The use of pointed arches, ribbed vaults, and flying buttresses for Gothic architecture, birthing structures with higher headroom and larger ornamental windows, as seen in The Notre Dame Cathedral in Paris;
- f) The use of symmetry, proportion, columns, and pilasters for Renaissance architecture, as seen in Filippo Brunelleschi's dome for Florence Cathedral;
- g) Use of curved lines, gilded details, light and shadow, along with elaborate ornamentation for the Baroque style as seen in the Palace of Versailles in France;
- h) The use of simplistic, symmetrical, and proportion for Neoclassical architecture is seen in the United States Capitol building;
- i) The use of bold geometric shapes, rich colors, and lavish ornamentation for Art Deco style as seen in the Empire State Building in New York City;
- j) The use of clean lines, minimal ornamentation, open floor plans, and modern materials for the Bauhaus style, as seen in the Bauhaus school by Walter Gropius;
- k) The use of clean lines, glass, and steel with no ornamentation for the International Style as seen in Mies van der Rohe's Seagram Building;
- l) The use of unfinished, "massive, fortress-like concrete structures" for Brutalism as seen in Le Corbusier's Unité d'Habitation in Marseille;
- m) The playful approach to form and a return to ornamentation for Postmodern architecture, as seen in Michael Graves Portland Building in Oregon;
- n) The use of queer, rogue, non-linear, forms for Deconstructivism;
- o) The use of "algorithms and computational design, fluid lines, seamless transitions, and digital fabrication techniques to create complex, organic forms" for Parametric architectural style as seen in Zaha Hadid's Heydar Aliyev Center.

1.2. Nigerian Architecture Styles

Nigerian Architecture styles exhibit prominent features all influenced by "weather, topography, foreign civilizations, phenomena" (Robert, 2018), and chiefly indigenous history and culture. Boyowa (2005) highlights the various features of Nigerian Architecture as follows:

Northern Nigerian Architecture

The use of "cylindrical, mud-walled structures with high-level windows, and flat, conical, thatched mud-roofs" for Northern Nigerian Architecture style. This Architectural style also featured windowless structures in some instances, calligraphic wall murals bearing religious significance or serving as signages, the Katanga (perimeter fence), and the zaure (a round or square hut or room exclusively reserved for the Maigida's, the authority figure in the compound for relaxation, hosting of guests, propagation of the Holy Koran, or as his atelier). Other features include:

1. Purdah (for the seclusion of women);
2. The shigafa (a second gate separating the public from the private zone);



3. Kofar gida - an outer courtyard or entrance for male adults or guests;
4. Chikin gida - an inner house and courtyard exclusive to the compound residents providing shelter for domestic activities, rearing of livestock, and/or storage of foodstuff;
5. Turaka - the exclusive residence of the maiguda;
6. The darkin girki - the kitchen, usually containing a water well.

Eastern Nigeria - Igbo Architecture

This Architectural style featured a courtyard for extracurricular/domestic activities, the Obi (for social gatherings), the Okwu-Alusi (shrines), and ime ulo (residential rooms for building occupants), and the ulo aja oto (round-wall mud houses) with thatched roofs (aju or atani) (Ebenezer, 2020), and the kitchen for culinary activities.

Southern Nigerian - Efik Architecture

This architecture style featured windowless mud houses with thatch roofs, the akwaesa (central court) encircled by peristyle verandas, and usually housing the family altar (Mbina, Edem, and Otto, 2015).

Western Nigerian Architecture

Presumably appraised as being the most “widely documented design”, it featured residential units with “organic spatial arrangements” for “a group of patrilineally-related families” bounded by centralized courtyards or quadrangle, continuous porticoes and veranda”. Courtyards were an important feature in Yoruba Architecture and usually served as a playground, events center, and relaxation hub. Another feature was the backyard located at the rear of the compound exclusive for the family as a “place for relaxation and meditation, gardening, & occasional sacred family rituals that accompanied the remembrance of a departed ancestor buried within the vicinity of the compound”.

2. THEORETICAL FRAMEWORK

Influenced by foreign civilizations, the Nigerian Architectural styles have witnessed evolution. While they now feature modern, technology-driven building materials and methods, the central design principles inspired by a desire for communal living, privacy, and the preservation of culture and heritage still remain. This study explores the concept of peaceful harmonization between modern design technology, building materials, and methods with the culture and historic heritage upon which the community is hinged with the sole aim of imbibing character, soul, and identity to unify the Architecture of a community with its people. It posits the incorporation of culture and tradition as a tool for achieving sustainability and a means for the propagation of history and culture between generations, bordering on the idea that old designs influenced by ancient civilizations can coexist with modern designs and methods without impairing the culture and tradition of the practitioners.

Research Direction

This paper reviews the Role of Culture in Architecture with a focus on the use of courtyards in Yoruba Architecture.



3. RESEARCH METHOD

This research was aimed at exploring the possibility of unifying traditional Yoruba architecture with modern building technology and methods for the purpose of achieving sustainability. The researchers conducted surveys on the subject matter. Virtual questionnaires were distributed and 28 responses were received. Closed-ended questions focused on respondents' understanding and perception of the role of Culture in Architecture were asked, and data collected from the respondents were presented using bar and pie charts.

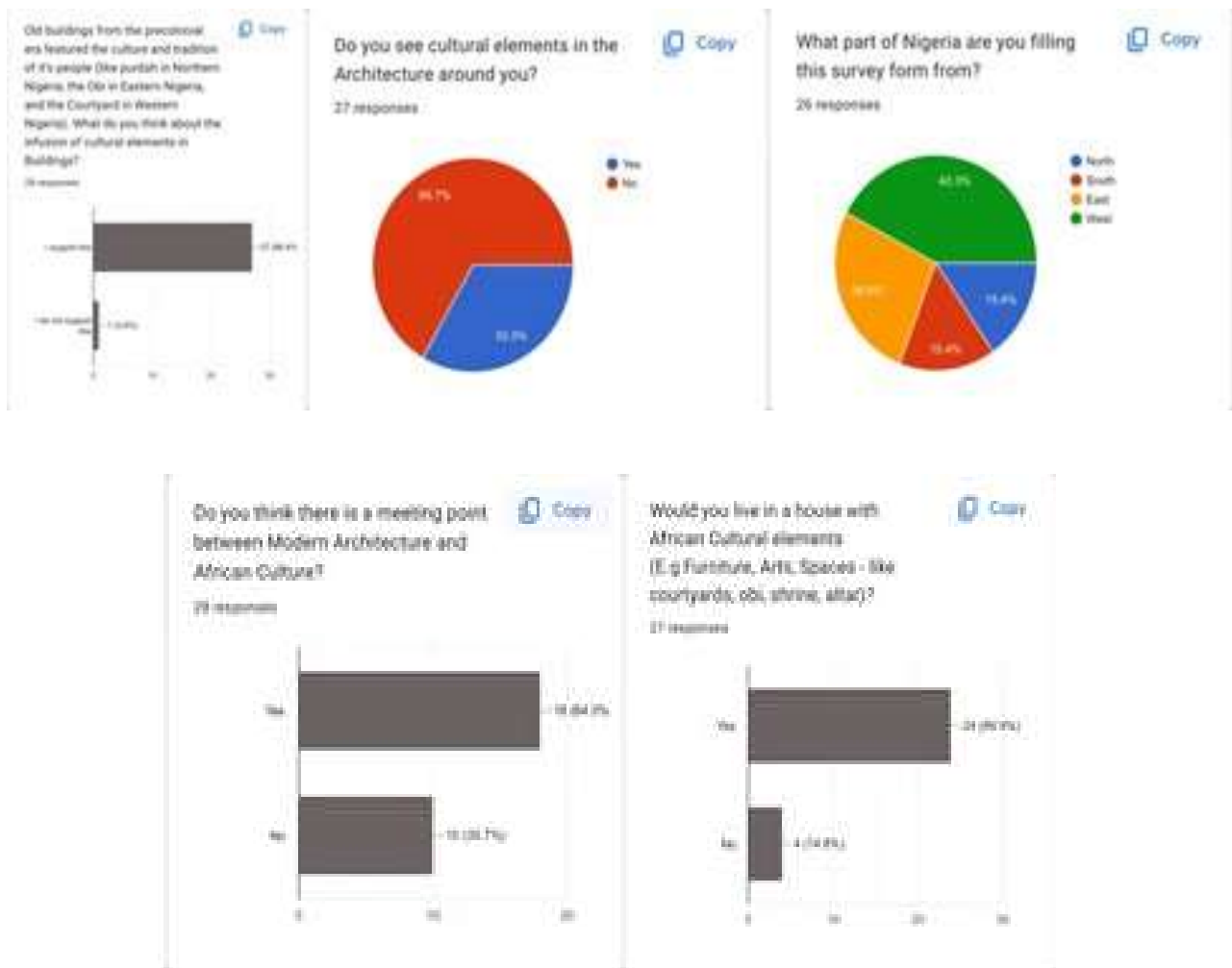


Figure 1: Questionnaire responses [PNG]. April, 2024.

Conclusions and findings were drawn by analyzing questionnaire responses, case studies, and the existing body of knowledge on the subject matter.



4. FINDINGS

Understanding The Yoruba Culture.

The group of diverse people bound by the tonal Yoruba language, history, and culture in Western Nigeria are called The Yoruba people. Jock. (2020) recounted the history of the Yoruba people by Samuel Johnson(1921) which traces their origin to Oduduwa - the mythical hero credited with being the creator of the world. Though this has been criticized as an unfounded theory "suggesting that the tradition was manipulated and modified in an attempt to support the claims to the paramountcy of the king of Oyo, when this kingdom became the most powerful state in the Yoruba area during the seventeenth and eighteenth centuries" (Law, 1973).

Professionally, the Yoruba people have been acknowledged for their high skill in craft (as blacksmiths, textile designers, weavers, leather-working, visual and literary artists, and sculptors), as well as academically, being globally recognized as a highly intellectual people. The religion of the Yoruba people cuts across Christianity, Muslim, and the worship of deities. And Socially, the Yoruba culture and tradition are rooted in communal living, with its founding patriarchs believed to be polygamous by nature(Chokor, 2005).

Yoruba Architecture

The Yoruba Architecture was influenced by its culture which embodies the profession, religion, and social beliefs. Adeyemo, Ezema, Adeyemi, and Obaleye (2022) identified courtyards as a common feature in Yoruba Architecture. Adeyemo et al, listed the 8 building typologies as follows:

1. Rectangle shape built-forms are believed to be an "ontological model for space, showing the relationship between cultural space usage, spatial practice, and Yoruba traditional housing";
2. Centralized "Oruwa" (Family lobby) is encircled by rooms with small wooden windows belonging to family members based on a hierarchy linked to generational order, influence, etc.;
3. The Central one-sided oruwa where the courtyard is positioned at the back or sides giving access to occupants' bedrooms and, parlor;
4. The Pure Impluvium Courtyard typology featuring a central courtyard "surrounded by an articulation of space or domain";
5. Mixed housing typology which combines the "courtyard, oruwa, and corridor core house type";
6. Elitist housing typology which was used by high-net-worth individuals, and it featured several courtyards;
7. The complex communal multi-courtyards featuring a courtyard which though accessible both from the outside and inside still had" privacy and protection";
8. One-Storey Vernacular building typology featuring a courtyard flanked by multistory buildings "popularly known as ile-petesi or ile-alaja".

Summarizing the design qualities of these building typologies, Adeyemo et al described them based on "resource conservation, cost-effectiveness and design for human adaptation" attesting to their "holistic nature" with the potential to promote "healthy, comfortable, earth-friendly, energy-efficient, flexible, and durable buildings."



Appraisal

Yoruba Architecture was conceptualized, designed, and regulated on the principle of communal living (Wahab, 1997). Courtyards, referred to as the heart in Yoruba Architecture were a crucial element that supported their communal lifestyle (Sonaiya & Dincyurek 2009), rendering it useful for numerous cultural purposes some of which can be labeled in modern day as barbaric (such as ancestral/idol worship). The impact of courtyards has been linked to “improving daily living in residential environments” (Adebara, 2023). Rightly described as social beings (Sakman, 2019), the desire for a communal lifestyle provided by courtyards remains with present day building users. Daubed as the most popular feature in residential design (Philokyprou and Michael, 2016), a courtyard is a design element considered as an outdoor room open to the sky and with whole or partial enclosure. It “originated from” and is ideal for “hot and dry regions” to perform diverse social, functional, domestic, extracurricular, Agricultural, or cultural/religious purposes (Almhafdy, Ibrahim, Ahmad, Yahya, 2013). The introduction of courtyards into modern Architecture was adopted to achieve zoning and has since evolved from rectangular, square, and circle shape into more complex shapes such as U shape, L shape, T shape, V shape, and H, depending on the site needs and building orientation (Abass, Ismail, and Solla, 2016).

Challenges

Sonaiya et al listed the lack of privacy as the major disadvantage of courtyards in traditional Yoruba housing typology given that the courtyards were accessible and open to use by every member of the family housed within a compound. Modern-day challenges associated with the use of courtyards are the unavailability of land, and a lack of education on the sustainable benefits of courtyards to urban housing.

Benefits of Courtyards to Modern Architecture

Social benefit: As a social tool in modern Architecture, courtyards provide a backdrop for hosting social events that promote communal living thus improving “social ties and networks, and empowering individuals” (Zhong, Huang, Davison, Yang, and Chen, 2012); Agricultural benefit: courtyards encourage food production and livestock cultivation in urban areas where the practice is minimal owing to the loss of land to building developments; Architectural benefit: courtyards improve the aesthetics of a buildings. They also aid functionality in buildings providing connectivity between spaces, improving illumination (natural light) within spaces, and providing natural ventilation for better airflow and thermal comfort for building users:

- **Environmental benefits:** in addition to their identity as a “microclimate indoor modifiers owing to their ability to “reduce peak temperatures, channel breezes, and modify the degree of humidity” (Mishra & Kumar, 2022), Courtyards promote plant greenery which supports Carbon Sequestration, biodiversity, and rejuvenation of the ecosystem;
- **Health Benefits:** Courtyards connect building users with nature as they often feature water bodies (like fountains and ponds) and greenery (gardens, bioswales, and plants) which offer a therapeutic ambiance that rejuvenates human health when adopted in residential or commercial buildings. This therapeutic effect has been linked to the speedy recovery of patients when courtyards were adopted in hospitals (Almhafdy et al, 2013).



All these benefits provide the possibility of sustainable housing, a phenomenon that connotes climate resilience, resource conservativeness, and cost-effectiveness of buildings without environmental degradation (Abbakyari, Abuzeinab, Adefila, Whitehead, & Oyinlola, 2023).

5. CONCLUSION

Modernity, the distinguishing quality between the past and the present Architectural styles, need not be the enemy of culture. Hence, the incorporation of courtyards in modern buildings needs to be separated from their use in ancient civilizations for cultural practices. The researchers promote the adoption of courtyards based on their relevance in modern Architecture as a tool for achieving sustainable housing. Listing the challenges of courtyards in both ancient and modern Architecture, the researchers highlight its environmental, agricultural, social, and architectural benefits. By exploring the history and significance of courtyards, the researchers sought to give clarity on the concept of culture and the incorporation of cultural elements in Architectural design. It is hoped that more research will be carried out on the subject matter, and the exploration of other cultural elements to modern building designs.

REFERENCES

1. Abass, Fatma & Ismail, Lokman & Solla, Mohmed. (2016). A review of courtyard house: History evolution forms, and functions. *Journal of Engineering and Applied Sciences*. 11. 2557-2563.
2. Abbakyari M., Abuzeinab A., Adefila A., Whitehead T., Oyinlola M.(2023) Designing Sustainable Housing Using a User-Centred Approach: Paipe Case Study. *Buildings*. 2496. <https://doi.org/10.3390/buildings13102496>.
3. ADEBAYO MAYOWA EBENEZER 23 February 2020 | 11:00 am PRE-COLONIAL TRADITIONAL ARCHITECTURES OF NIGERIA <https://guardian.ng/life/pre-colonial-traditional-architectures-of-nigeria/#:~:text=The Igbo Architecture&text=The traditional Igbo house structure, the pre-colonial Igbo communities>.
4. Adeyemo A. A., Ezema I. C., Adeyemi E. A. and Obaleye O. J. (2022). A Semiotic Perspective of the House Concept in Yoruba Architecture. 3rd International Conference on Energy and Sustainable Environment IOP Publishing IOP Conf. Series: Earth and Environmental Science 1054 012016 doi:10.1088/1755-1315/1054/1/012016.
5. Agai M. J. (2020). Samuel Johnson's view about Oduduwa in connection with the origins of the Yoruba School of Religion, Philosophy, and Classics, Faculty of Humanities, University of KwaZulu-Natal, Pietermaritzburg, South Africa. <http://dx.doi.org/10.4102/hts.v76i4.6013>
6. Anthony A. M, Ephraim E. E, & Nnah U, O. (2015). The Effect of Modern Technology on Traditional Architectural Expression: Case of Old Calabar Architecture. *Journal of Science Frontier Research: H Environment & Earth Science*. Volume 15 Issue 2 Version. Online ISSN: 2249-4626 & Print ISSN: 0975-5896.
7. BIKAM, P., & CHAKWIZIRA, J. (2020). Influence of traditional settlement patterns on urban design and planning: A case study of Zaria, Nigeria. *Urbani Izziv*, 31(2), 66–77. <https://www.jstor.org/stable/26970051>.
8. Boyowa C. (2005). Changing urban housing form and organization in Nigeria: Lessons for community planning. *Planning Perspectives*. 20. 69-96. 10.1080/0266543042000300546.



9. Chokor, Boyowa. (2005). Changing urban housing form and organization in Nigeria: Lessons for community planning. *Planning Perspectives*. 20. 69-96. 10.1080/0266543042000300546.
10. Ekansh M. & Kuldeep K. (2022). A Review of Environmental & Structural Impact of Courtyards in Hot and Humid Climate. 4. 1-7. 10.5281/zenodo.6327272.
11. Law RCC. (1973). The heritage of Oduduwa: traditional history and political propaganda among the Yoruba. *The Journal of African History*. 1973;14(2):207-222. doi:10.1017/S0021853700012524.
12. Maria P. and Aimilios M. (2016). SOCIAL AND ENVIRONMENTAL ASPECTS OF COURTYARDS IN CYPRUS VERNACULAR ARCHITECTURE. *SAJ* 8. University of Cyprus, Department of Architecture.
13. Prof. Remi Alapo. Department of Ethnic and Race Studies, Borough of Manhattan Community College [BMCC]. Presented as part of the discussion on West Africa about the instructor's Heritage in the AFN 121 course, History of African Civilizations on April 20, 2021.
14. Ross R. (2018, August 28). Material Culture as a Historical Source. *Oxford Research Encyclopedia of African History*. Retrieved 18 Apr. 2024, from <https://oxfordre.com/africanhistory/view/10.1093/acrefore/9780190277734.001.0001/acrefore-9780190277734-e-218>.
15. Shirley Guo. Aug. 2. 2023. is Architectural Style: 15 Architectural Styles and Their Defining Features You Need to Know. Retrieved on April 18th, 2024 from <https://www.linkedin.com/pulse/what-architectural-style-15-styles-defining-features-you-shirley-guo>.
16. Tandon Meeta and Bano Farheen. (2023). Comparative Critical Analysis of Modern Architectural Styles. 14. 57095-57106.
17. Temitope Muyiwa Adebara. (2023). Private open space as a reflection of culture: the example of traditional courtyard houses in Nigeria. *Open house international*. Vol. 48, Issue 3, pages 617 - 635. 01682601. 10.1108/OHI-06-2022-0152. Emerald Publishing Limited.
18. Wahab, Waheed Bolanie. (1997). Traditional compound and sustainable housing in Yorubaland, Nigeria: a case study of Iseyin. <http://hdl.handle.net/1842/34302>.
19. Sakman, Ezgi. (2019). Humans as Social Primates. 10.1007/978-3-319-16999-6_1373-1.
20. Sonaiya, Olusola & Dincyurek, Ozgur. (2009). Tradition and Modernism in Yoruba Architecture: Bridging the Chasm. *Open House International*. 34. 74-81. 10.1108/OHI-04-2009-B0008.
21. Xuepan Z, Qian H, Robert M. D, Xuan Y, Huaping C. (2012). Empowering teams through social network ties, *International Journal of Information Management*, Volume 32, Issue 3, Pages 209-220, ISSN 0268-4012, <https://doi.org/10.1016/j.ijinfomgt.2011.11.001>. (<https://www.sciencedirect.com/science/article/pii/S0268401211001265>).