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## Cultural influence on architectural evolution in Nigeria: A case study of Igala indigenous homestead

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### Abstract

Architecture and culture are two concepts that represent the identification of any society. Architecture is the manifestation and expression of culture. So, Architecture and Culture are interdependent and inseparable. Research has identified culture as the main factor in the evolution of the architecture of a people and it plays an important role in the environmental and social development and sustainability of a place. The culture of any society is based on their beliefs, history, civilization, climate and customs, whilst architecture symbolizes a society's culture that has evolved. This research explores the intricate relationship between culture and architecture in the evolution of traditional architecture in Nigeria, with a specific focus on the evolution of the indigenous homestead of the Igala people of North Central Nigeria. Employing a narrative approach, the study utilized historical research, field surveys, and interviews to explore how cultural beliefs, norms, practices, and socio-cultural factors have profoundly influenced the design and planning of Igala traditional dwellings. By investigating the interplay between indigenous knowledge systems, community practices, and material availability, the research uncovers the unique architectural features that have emerged from the rich tapestry of Igala culture to include the long straight entrance path (ojikpologu), the circular curvilinear homestead and buildings, courtyard (anuku/okolo), reception house (atakpa), and food storage barn (aka). Others include shrine (achekwu), grinding hut (odq-okuta), animals' pen (unyi-ameñwu-qrę), and security fence (qgba), all deeply rooted in Igala culture. This research provides valuable insights into the adaptability of traditional architecture to culture. It further offers essential knowledge for architects, preservationists, and policymakers, guiding their efforts in heritage preservation, sustainable architectural design, and urban planning within multicultural contexts.

**Keywords:** Igala; Culture; Traditional Architecture; Homestead; House Form; Nigeria

### 1. Introduction

Culture embodies a set of beliefs, knowledge, education, customs, and values that a society has cultivated [1]. Its profound impact extends across various aspects of life, such as art, architecture, urban planning, and development, as well as ways of life, making it an irrefutable force [2]. The influence of a people's culture takes precedence in determining the type and structure of the dwellings they create, with a house serving as a tangible representation of their socio-cultural heritage [3].

Architecture is a blend of scientific and artistic endeavours aimed at crafting and organizing space, serving as a tangible manifestation of a community's culture that evolves over time. It acts as a reflective mirror, providing a clear depiction of societal norms throughout various periods. The construction of houses, neighbourhoods, towns, and cities is intricately linked to fulfilling non-material human needs. Traditional architecture, rooted in rural culture, emerges from pragmatic decisions influenced by social, economic, climatic, and traditional religious factors. In this context, culture plays a pivotal role as it encapsulates what is deemed acceptable by the community. In the realm of traditional architecture, decisions in the building process are predetermined by the traditions and customs of the people, as

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emphasized by Gardi [4]. Housing, as asserted by Gardi [4], serves as a mirror reflecting the cultural, social, and economic values inherent in a society. Within traditional architecture, which is an offshoot of culture, the evolution of buildings is shaped by the community's lifestyle, available construction materials, and the technical possibilities at their disposal.

The idea that architecture is a reflection of culture remains a compelling perspective, fuelling discussions and inspiring architects to reconnect with their cultural roots. Human identity finds expression not only in art but also in architecture, with civilizations and ethnic groups contributing distinct architectural expressions aligned with their cultures over different epochs [5].

Architecture is not merely a physical structure but rather a multifaceted institution influenced by various societal, cultural, religious, economic, and environmental factors. As a cultural phenomenon, its form and organization are shaped by the culture from which it emerges, as noted by Oliver [6]. Consequently, architecture that aligns with a particular culture and spatial planning serves as a representation of the social dynamics within that community. According to Gifford [7], a comprehensive examination of architecture across 73 different cultures revealed a correlation between the degree of interior division in buildings and the socio-political complexity of the respective cultures. Cultural-oriented researchers emphasized that culture stands as the primary factor in shaping architectural space, with other elements such as climate and site ranking among the top influential factors, as pointed out by Memarian et al. [8].

Traditional architecture in Nigeria encompasses the distinctive house forms of diverse ethnic groups across the country. These groups, ranging from the Hausa and Fulani in the northern regions to the Nupe and Gbagyi in the Guinea Savanna, as well as the Yoruba, Ibibio, and Igbo in the equatorial rainforest and others like the Tiv, Jukun, and Igala in North Central Nigeria, construct their traditional houses based on the unique settings of their communities. The architectural forms are intricately linked to the lifestyles, material resources, biological necessities, and spiritual considerations of the respective ethnic groups [9]. However, a notable gap exists in the available information concerning the impact of culture on the development of traditional house forms among various ethnic groups in Nigeria, particularly the Igala people in North Central Nigeria. Although, available literature [10] shows that some studies have been carried out on the influence of Igala culture on spatial relationships and space distributions within households, however, there has not been any research on cultural influence on the evolution of Igala indigenous homestead. In view of the foregoing, this research was conducted to bridge the exiting knowledge gap by improving understanding of the elements of Igala culture and how they influence the evolution of Igala indigenous homestead (ukwora-uñyi). This is with the aim of bringing to bear, the critical importance of the features and values derived from the interplay between Igala culture and Igala traditional architecture, not only for preserving cultural heritage but also for guiding sustainable contemporary architectural practices in Nigeria. The objectives of the study were to:

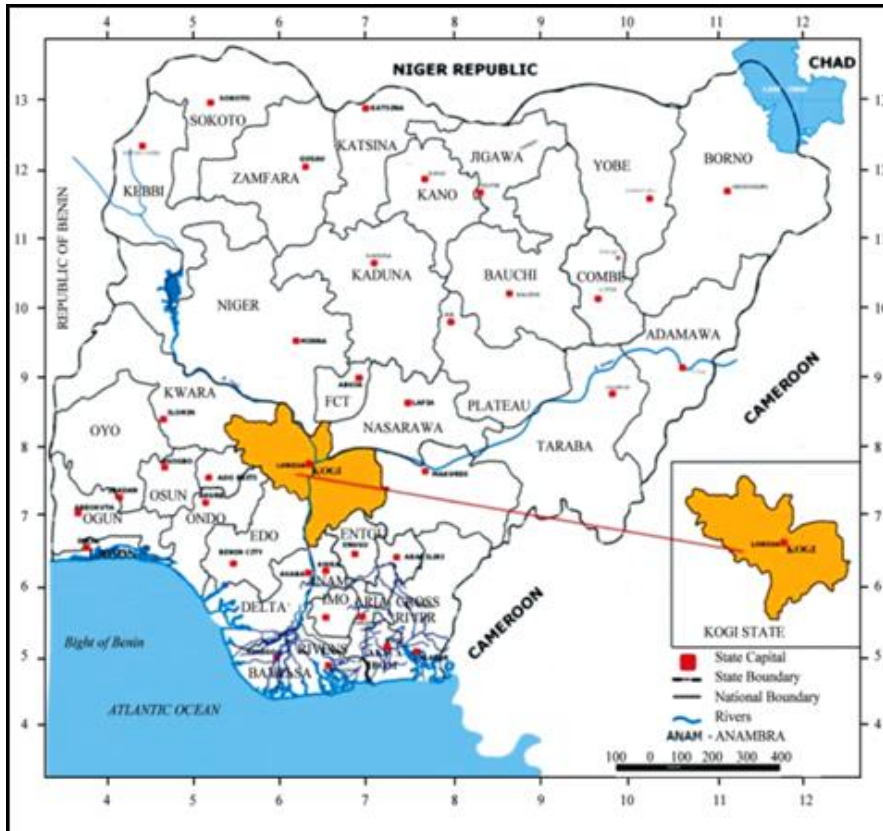
- identify the key elements of Igala culture;
- describe the Igala indigenous homestead;
- identify the key features of the Igala indigenous homestead;
- identify the key values of the Igala indigenous homestead.

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## 2. Literature Review

### 2.1. The Study Area

The research focuses on the Igala community located in Kogi State, North Central region of Nigeria. Nigeria, a country in West Africa, is comprised of thirty-six states, with Abuja serving as its capital territory (Fig. 1). The homeland of the Igala people is situated to the east of the confluence of the River Niger and Benue, spanning the Niger in Lokoja, Kogi State, Nigeria. Geographically, the area falls approximately between latitudes 6°30 and 8°40 north and longitudes 6°30 and 7°40 east, covering an expanse of about 13,665 square kilometres [11].



Source: Kogi State Ministry of Land and Environment (2008)

**Figure 1** Map of Nigeria Showing the Location of Kogi State

As of the 2006 National Population Census [12], the Igala community is estimated to have a population of around 1.5 million people, with more than 70% of them actively involved in subsistence farming. The traditional Igala society is predominantly agrarian, although fishing is also a significant economic activity, particularly for the Igalas residing in the river shore town of Idah. The Igala people occupy nine Local Government Areas out of the twenty one Local Government Areas of Kogi State (Fig. 2). These include; *Ibaji, Idah, Igalamela-Odolu, Ofu, Dekina, Ankpa, Omala, Olamaboro* and *Bassa* Local Government Areas [13].



Source: Kogi State Ministry of Land and Environment (2008).

**Figure 2** Map of Kogi State Showing the Local Government Areas Occupied by the Igala People

## 2.2. Culture and Architecture

To understand the relationship between culture and architecture, it is essential to first examine the relationship between culture and space. Both space and culture undergo a social construction process, influencing people's perceptions of themselves. Space plays a crucial role in reinforcing cultural changes, as the expected behavioural norms within a specific space reflect distinct cultural values. This concept involves the establishment of a cognitive space. The organization of subjective and objective space in a combined and continuous form is termed architecture. The proposition of the relationship between culture and architecture, particularly within the realm of psychology, underscores the necessity of understanding the intricate link between humans and their artificial environment. From this perspective, culture serves as the factor or mode of human interaction with an artificial environment, involving two distinct categories:

- Standardized behaviour, thoughts, and feelings.
- Products that are the result or a continuation of the behaviour and thinking of people in a given society [5].

## 2.3. Architecture as a Symbol of Culture

In any society governed by a system and guided by a particular ideology, there exist specific goals and aspirations. Culture serves the essential role of conveying the mental concepts that give rise to tangible, objective forms. Architecture, functioning as an instrumental discipline, plays a pivotal role in facilitating the transformation of a raw space into an aesthetically pleasing environment through three-dimensional planes, processes, and outcomes. It has historically been and continues to be the authentic gauge of a nation's culture. According to Geroter [14], a nation's ability to produce exquisite furniture and decorative items, juxtaposed with the consistent construction of subpar buildings, signifies a disconcerting state of the society. Such anomalies indicate a lack of order and organizational power within the nation. Geroter [14] asserted that each building, as part of architectural culture, is created to manifest a mental viewpoint through its external form, serving as an indicator to measure the prevailing culture. Architecture is characterized as a spiritual discipline manifested in buildings, making each building a cultural testimony, whether embodying positive or negative concepts [14].

## 2.4. The Role of Culture in Promoting Architectural Identity

Aside from language, rules, values, and norms, which constitute integral parts of a society's culture, there exists another facet known as the material aspect. This component is considered part of a society's culture as it is deeply embedded in the system of values and beliefs. The connection between culture and architecture becomes apparent when examining this material aspect. A building, as asserted by Parhizgar [15], can be likened to a dusty book waiting to be uncovered and read. Through this process, the culture of a people and the societal context in which buildings were erected can be discerned. The direct influence of culture on architecture implies that cultural shifts lead to alterations in fundamental concepts and theories governing architectural forms. Consequently, diverse architectural ideas emerge, shaping the relationship between theoretical concepts and cultural methods at large, as well as the specific interaction between theoretical concepts and architecture [16]. Each society possesses its unique culture, forming the foundation upon which its architecture is developed. Architecture, therefore, serves as the tangible representation of a nation's culture, acting as an authentic measure of its cultural identity. The community's culture, as emphasized by Ettahad et al. [17], plays a pivotal role in shaping the formation of spaces within a society.

## 2.5. Culture and Traditional House Forms in Nigeria

In every society, housing traditions have been firmly established, existing alongside other community customs. These well-understood traditions play a critical role in shaping settlement planning, serving as indicative of the attitudes and values prevalent within those communities. Housing, therefore, is undeniably a cultural phenomenon as it mirrors what is considered acceptable within a community and is constructed within the contextual framework of that community [9]. This is further emphasized by Denyer [18] which posited that the traditional house form of any particular group serves as a representation of the traditional architecture of that group. This traditional architecture encompasses not only the form and structure of individual buildings within the house form but also the arrangement patterns of these buildings and their connection to the cultural heritage and identity of the people.

The transformation of traditional housing in Nigeria is intricately linked to several factors, with a notable influence being the country's colonial history and subsequent interactions with the Western world. Despite the significant changes that have occurred, there are elements that have endured or withstood the impact of these transformations [19]. Moreover, amidst the cultural diversity, varying environmental conditions, and the influence of various agents of change, there are commonalities observed across different sub-species of traditional architecture in Nigeria, particularly in the area of housing. These shared features are rooted in the significant cultural motifs present among

various ethnic groups. Broadly defined as formal, spatial, and decorative, these motifs include elements, forms, objects, images, symbols, and prevailing ideas recurrently found in the traditional housing of a specific culture [20]. Despite the pressures for change, these motifs signify the continuity of traditional architecture and can be seamlessly incorporated into contemporary architectural practices, ensuring the preservation of cultural identity.

Commonalities in traditional Nigerian housing are notable in elements such as filtering spaces (referred to as *zaure* in Hausa architecture, *obi* in Igbo architecture, and *ate* in Tiv architecture), courtyards incorporating features like impluvia and patios, the characteristics and arrangement of living spaces, service areas, utility spaces, and circulation areas. Additionally, overarching features found in traditional housing across various sub-species include the dynamic nature of traditional spaces and forms, the adaptability of space and architectural structures, and the enduring influence of the extended Nigerian family. These shared characteristics contribute to a certain uniformity in the design of contemporary dwelling units [21].

Traditional house forms in Nigeria constitute an integral aspect of the domestic architecture among various ethnic groups. These groups, including the Hausa and Fulani in the far north, the Nupe and Gwari in the Guinea Savanna, and the Yoruba, Ibibio, and Igbo in the equatorial rainforest, construct their houses within the context of their communities, reflecting their lifestyles and meeting their material, biological, and spiritual needs. Indigenous housing can be characterized by the materials native to the people, their technological advancements, and, significantly, their way of life. Housing is considered the purest manifestation of a people's lifestyle [4]. In the equatorial rainforest region where the Yoruba, Igbo, Edo, Ijaw, Urhobo and Ibibio reside, heavy rainfall is typical due to the tropical hot-wet climate with temperatures and humidity being notably high. In the South-West of Nigeria, the traditional house forms of the Yoruba people are influenced by their kinship organization, social structure and climatic considerations. Among the Yoruba, there are two indigenous house forms. The first involves houses built around one or more courtyards, often as four rectangular units facing each other. These compounds typically house patrilineally-related families and serve as intensive activity areas for various domestic chores. The roof is usually of a continuous saddle-back type, sometimes with decorated mud columns in the courtyard, and chiefs' houses may feature a raised and projected gable known as 'kobi' in Yoruba. The second type is smaller and consists of rooms arranged in two rows facing a common hall, which serves various domestic purposes. Walls in both house types are typically constructed with mud, using the swish-puddling method, and roofing is done with palm leaf mats on a timber framework.

The house forms of the Edo tribes of Southern Nigeria are very similar to those of the Yoruba. The houses have several impluvia that are drained by carefully constructed tanks and pipes. Courtyards also are features of the houses with decorative trees. In the South-East, the Igbo people are the dominant group. Their compounds usually have a single entrance with a covered porch. The fence or compound walls are usually strongly built and sometimes with defensive contrivances. The buildings within the compounds do not have courtyards inside them but rather they are built facing one another creating a common courtyard. The buildings are usually one or two-room houses. A typical compound comprises the entrance to the compound, the *obi* (meeting place and ritual altar location), the house of the family head, wives' houses, kitchen, toilet, bathroom, and sheds for domestic animals. The walls are constructed of puddled mud that is often reinforced with wattle or lashed palm midribs. The building earth commonly found in Igbo land is loam which in its best form is clay-like and viscous. The loam in most locations is usually grey in colour and so weak that it cannot be used as walling material without an inner reinforcement of wattle. Excellent hardwoods grow luxuriantly in the rain forests and these serve for use as beams and posts. Various species of palm trees provide fronds for roof thatches and their trunks are used for door posts.

The Ijaw people reside in the swampy mangrove regions along the river banks in Southern Nigeria. Their houses have a basic rectangular plan, constructed with mangrove poles and elevated on stilts. Walls may incorporate palm midribs or planks, with mud filling the interstices, and roofs are made from palm mats. Internally, the houses are often divided into two or three rooms.

Moving to the guinea savannah, inhabited by the Tiv, Nupe, Gwari, Jukun, Idoma, and similar cultures, the region experiences sparse rainfall, resulting in a drier climate with less abundant vegetation. Houses in this region are clustered within fences, hedges, or walls, typically featuring a circular plan. These free-standing buildings have walls made of mud, showcasing interesting shapes like the mousgum shell houses of the Tiv. The walls are reinforced with wattle, and bamboo and palm fronds are used in construction. Thatch is the roofing material, often conical in convex or concave profile.

In the semi-arid region with minimal rainfall, home to the Hausa, Fulani, Kanuri, and related tribes in the far North of Nigeria, house forms are influenced by economic, social, political and technological factors. The most common type is the round hut with a thatched roof or flat top. Compounds are divided into inner women-restricted and outer male

visitor reception areas, reflecting gender separation as required in Islam. The outer area serves as reception rooms and provides security. The family head's bedroom and living room are strategically located near the entrance. Walls are constructed from vegetable materials, mud bricks, or mud reinforced with beams split from palm stems. Pear-shaped mud bricks are prevalent, adapted to the climate for their thermal properties. The Hausas exhibit mastery in texturing mud walls, emphasizing ornamentation. The architecture includes the Hausa vault in mud construction, with flat or domed mud roofs based on the local rainfall pattern [21].

## 2.6. Key Elements of Igala Culture

The culture of the Igala people is a set of beliefs, knowledge, education, customs and values developed and handed down between generations. These set of attributes form the various elements of Igala culture.

### 2.6.1. Igala Traditional Beliefs

The term 'Igala traditional beliefs' refers to the indigenous religious beliefs and practices of the Igala people. The religion is an integral part of the culture of the people, it is generational. The Igala indigenous community is rooted in the traditional religion which starts from birth, guides the people in life and after-life. In Igala traditional religious belief, after death, a person ascends to another realm of religious worship – the ancestry cult, from where they oversee the affairs of the living members of the community [22]. The ancestry cult (*ibegwu*) is a highly revered value system among the Igalas. The dead are in turn worshipped through ancestral shrines (*achekwu*) in every family compound [9]. This is true of what Okwoli [22] unequivocally claimed that Igala traditional religion developed or evolved in Igala.

Igala traditional belief is hinged on the worship of deities who are said to be next in hierarchy to the 'supreme being'. Such deities are personified in certain natural forces and phenomena, especially in rivers, lakes, trees, the wind, deserts, stones, hills. For example; Water spirits (*alijenu*), spirit husband (*ikpakachi*), earth goddess (*ane*), fairies or bush babies (*ichekpa*), twins (*ejima*), goodluck (*egbunu*) to mention a few. The people also have a strong belief in deified ancestors (*ibegwu*). *Ibegwu* refers to the spirits of elderly members of one's family, lineage or society that have promising offspring. The Igala person believes also in mysterious powers, which come in various forms such as incantations (*ache*), medicine (*ogwu*), magic (*ifamfam*) and witchcraft (*ochu, ogbe*). Three basic elements of Igala traditional worship are easily identifiable, namely; sacrifice, music/ dancing and prayer [22].

Another aspect of Igala traditional beliefs is the celebration of festivals, and belief in masquerades. In Igala land, there are the *Ocho, Qgaganyi, Qgani, Italo, Aboko-ebije, Egbe, Qte-igbegwu* and *Italo* festivals. The *Ocho* and *Qte-igbegwu* festivals are celebrated to herald the coming of the dry season [23]. Masquerade is an integral part of Igala tradition. Masquerade phenomenon stems from Igala traditional world view. In their world view, they believe in life, death and life after death. They believe that if any of them dies, his soul ascends to the spiritual realm and takes another body and reappears in masquerade form [24]. The influence of the ancestral spirit on the living are apparently demonstrated through the activities of the masquerade. Masquerades were seen as agent of peace among Igala people, they also stand out for justice and fair play by helping to enforce the laws of the land [25].

### 2.6.2. Igala Socio-cultural Life

The Igala social organization is essentially kin-based. The nuclear family is the smallest social unit but this is inseparably tied to the extended family system involving the lineage and the clan. All members of these extra nuclear family units regard one another as brothers or sisters. A number of agnatic families combine to form a clan and a number of them may constitute a hamlet or village. Often, the members of such hamlets or villages trace their origin to common apical ancestors. The sociological arrangement is, itself a factor that promotes communalism, unity and peace among the people [23].

### 2.6.3. Igala Traditional Family Structure

The Igalas are patrilineal and authority in the family or clan resides in the men. Patrilineality among the people inexplicably entails virolocal residence in which the woman moves into her husband's household among his paternal kinsmen, or sometimes his maternal kinsmen. The basic family unit is the nuclear family, made up of a husband, his wife and their children, as well as attached kin. The more prevalent was the compound family which included a man, his wives and children. Igala families are long-lasting and self-perpetuating as the death of a member makes no difference to its overall structure. It can last over several generations, with membership of up to one hundred (100) or more members [23].

#### 2.6.4. Communal Association

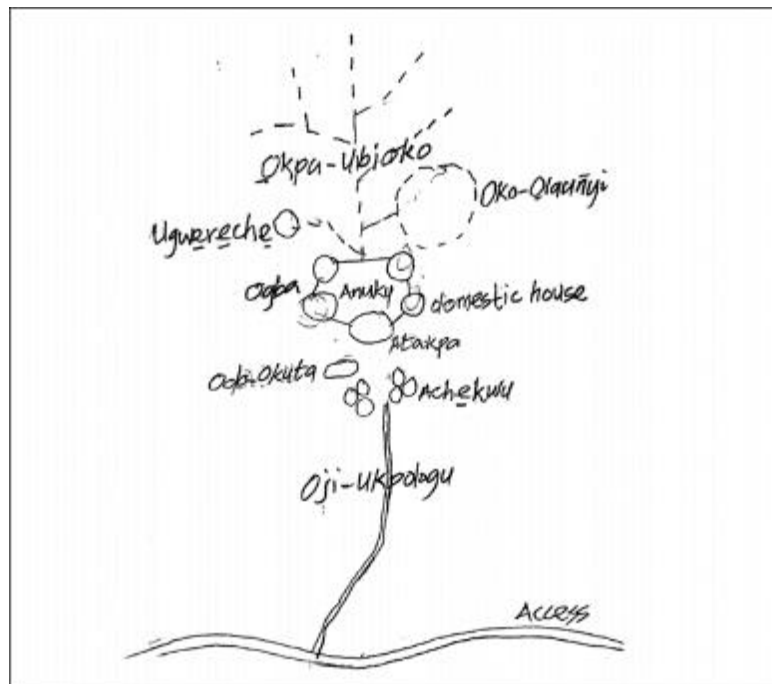
One of the key aspects of the Igala culture is their communal living arrangement. Igala communities are typically organized around extended families, and members of these families live in close proximity to one another. This close-knit living arrangement encourages strong social bonds and mutual support among family members and neighbors, often leading to the organic expansion of the compound to accommodate the increase in the number of family members. In Igala society, communal activities and celebrations play a significant role in strengthening social ties. Festivals, ceremonies, and communal work are common occasions where people come together to celebrate their culture, share experiences, and reinforce their sense of community [26].

#### 2.6.5. Polygamy

Farming and animal husbandry are the major occupations of the Igala people, with about 70% of the population engaged in subsistence farming. Both forest and savannah crops thrive on Igala soil. Thus, the main forest crops produced are; yams, cassava, maize, melon and groundnut. Others include such savannah cereals as rice, guinea corn, beans and millet. The most common economic trees in Igala land include palm trees (ẹkpe), locust beans (okpehie), mahogany (agọ), iroko (uloko), white wood (uwewe) and raffia palms (ugala). Common plantations include; okra (ọrọ-aikpele), cashew (agala) and banana (ogede). As farmers, the need for more hands on the farm meant that men married more wives so that they could raise more children whose help was needed on the farm. Also, polygamy was a status symbol and reflection of a man's wealth in Igala land [9].

### 2.7. The Igala Indigenous Homestead

Before colonisation and the advent of modernisation in Igala land, the Igala people practiced the circular curvilinear homestead which was a distinctive and culturally significant indigenous homestead that reflected the peoples' identity, and was compatible with their environment, religion and socio-economic life style. This is evident in the layout of their compounds, the choice of building materials, and the construction techniques employed. Prior to 1860, during the pre-colonial era, the circular curvilinear homestead was prevalent across the Igala region (Fig. 3). Each kindred within Igala land had individual compounds, and the number of houses within a compound was determined by the number of wives and children the man had. Agriculture was the primary livelihood, and successful farmers often married multiple wives to have more children, thereby increasing the labour force for their farming endeavours [9].



Source: Author's Sketch (2023).

**Figure 3** Igala Indigenous Homestead

The long, straight entrance path (ojikpologu) as seen in figure 3 allows easy visual contact with any approaching visitor or stranger and it debouches into the protective shrine (achekwu). The grinding hut (odokuta) enables women and children who spend much of their time working in it to see people entering or exiting the homestead. The reception

house (*atakpa*) is a symbol of ritual identity of the homestead. It is the reception hall for visitors and a family court where major disputes are settled. The *atakpa* guards the inner courtyard (*anuku/okolo*) which encloses it and minor protective fetishes (*ode*) in a corner. The courtyard is a sky-lit, uninterrupted space enhancing family privacy for outdoor cooking, minor arts and crafts, domestic birds rearing, moonlight relaxation, storey telling and communal narratives. The security fence or compound wall (*ogba*) is for controlled entry to the *anuku*. The food storage barn (*aka*) usually raised a few inches above the natural ground level is for preservation of grains for food and seedlings for the next farming season. The numerous back ways (*okpaubi-oko*) leads to the convenience (*ugwẹrẹche*) in the bushes, other homesteads of same apical ancestor, the vicinal or neighbourhood garden (*oko-òlauñyi*), and the distant cooperative crop rotation farm (*oko-ọwẹ*), all deeply rooted in Igala culture [27].

The very basic unit of early Igala settlement which brought about the Igala indigenous homestead was the isolated dwelling. The founder migrates from an older and of course larger group, and settles close to an ecological feature such as a water body. Soon, there was a cluster of similar homesteads called 'oja' meaning hamlet. A good example of this type of settlement metamorphosis in Igala land as structurally discussed by Idakwoji [27] and some aged members of the Igala community, is the present Ekeyi homestead in oja-ẹkeyi neighbourhood, Qlọwa village in Biraidu district of Dekina Local Government Area of Kogi State. Noticeably, most indigenous homesteads currently in Igala land have undergone modern transformation, although traces of the indigenous homestead could still be noticed. A typical example is the current Emusa family compound at Ere-ebo in Ogbagebe village, Igo District of Ofu LGA of Kogi State where a modern building now stands in the centre of the courtyard.

The Igala indigenous homestead comprised of several spaces which include; the head of the family's house (*unyi-udachi-enẹgbani*), wives' houses (*unyi-udachi-abobule*), adult males' houses (*unyi-udachi-abokẹlẹ*), kitchen/cooking space (*obuka*), animals' pen (*unyi-ameñwu-ọrẹ*), reception house (*atakpa*), courtyard (*okolo/anuku*), bathrooms (*unyi-ugw'ọla*), food storage barns (*aka*), shrine (*achẹkwu*) and perimeter fence (*ogba*) [26]. The individual houses that accommodate these spaces were constructed with locally available building materials which were easily manipulated. Common local building materials in Igala land include; earth/mud (*ikẹtẹ*), timber/wood (*oli*), bamboo stem (*otachọ*), thatch (*egbe*), palm frond (*im'ẹkpẹ*), palm stem (*oli-ẹkpẹ*), and vegetable fiber/bush twine (*ikwu*). The use of these materials reflected the harmonious relationship between Igala culture and the natural environment [26].

## 2.8. Features of Igala Indigenous Homestead

The arrangement of houses within the Igala indigenous homestead was specifically designed to accommodate the family's size and diverse activities. These activities encompassed various functions such as sleeping, food preparation, food storage, animal husbandry, socio-cultural interactions, socio-economic activities, religious worship, and security. Each activity was assigned a dedicated space within the compound, meticulously planned to satisfy its intended purpose. As a result, the construction methods and layout of the houses varied based on the intended use of the space. The primary spaces within the Igala indigenous homestead include the following:

### 2.8.1. Head of the Family's House (*Unyi-ẹnẹgbani*)

It is important to emphasize that within the Igala indigenous homestead, the sleeping houses adhered to a consistent plan and structure, regardless of the occupants. The head of the family referred to as *enẹgbani*, had his sleeping house known as *unyi-ẹnẹgbani* or *unyi-ulolu-enẹgbani*, strategically placed at the entrance of the enclosed compound, directly opposite those of his wife or wives. This specific location was selected for security reasons, allowing the *enẹgbani* to monitor all visitors and potential intruders while closely overseeing activities within the courtyard.

In this setup, the wives would enter the *enẹgbani's* house only upon invitation, aligning with the customary practice of the man taking turns sleeping with his wives in his house. Beds within the sleeping house were crafted from palm frond stems or midribs, intricately woven into a mat and placed on a raised frame constructed with bamboo. Typically, an Igala indigenous house exhibited a diameter ranging from 2.4m to 3.5m. A representative example of *unyi-ẹnẹgbani* can be observed in Figure 4 [28]

### 2.8.2. Wives' Houses (*Unyi-abobule*)

During the pre-colonial era, polygamy was a common practice within the Igala society. In such arrangements, the wives' houses, referred to as *unyi-abobule* or *unyi-ulolu-abobule*, were positioned facing the courtyard, on the left and right sides opposite their husband's house. In the Igala indigenous homestead, the sleeping houses shared a uniform form, materials, and construction method, as depicted in Figure 4. Each wife's house not only accommodated her but also her daughters and young children. These houses were exclusively designated for sleeping, featuring a depression on the earthen floor at the corner for holding water pots [28].





Source: Emusa and Idakwoji (2023).

**Figure 4** Igala Indigenous Sleeping House

### 2.8.3. Kitchen (*Obuka*)

Food preparation and cooking activities were carried out separately in individual cooking places situated outside, adjacent to the houses. However, on occasions requiring a larger fire, communal cooking would take place in shared spaces called *obuka*. These communal kitchens were constructed with timber posts supporting a thatched roof and walls made from thatch or vegetable materials, sometimes incorporating dwarf mud walls.

Within the Igala traditional sleeping houses, perishable food items and foodstuffs were stored in baskets and clay pots, strategically placed on platforms at the corner of the room, elevated above the ground. Seats within the houses were crafted from carved tree stems, such as iroko. Additionally, grown-up female children resided with their mothers until marriage, fostering close family ties and support within the household, contributing to a sense of unity and continuity in the Igala community [28].

### 2.8.4. Adult Males' Houses (*Unyi-abokęle*)

In the traditional Igala society, younger male children resided with their mothers until they reached the age where they could share rooms with their older brothers. At this point, the older males had their houses known as *unyi-abokele* or *unyi-ulolu-abokele* (see Fig. 4), positioned at the rear of the courtyard, distinct from the women's houses. Unmarried young men continued to share meals with their mothers and retained rooms within the compound until marriage. Upon marriage, their parents designated a site for them near their mother's house, leading to the expansion of the compound to cater to the needs of the newlyweds. This cultural practice facilitated a gradual increase in the compound's size as new generations were established within the family unit [28].

### 2.8.5. Courtyard (*Anuku/Okolo*)

The central courtyard known as *anuku* or *okolo*, stands as a pivotal feature within the Igala indigenous homestead, embodying a meticulously organized social structure and spatial arrangement that supports the cultural and religious practices of the community. The *okolo* serves a multitude of purposes, functioning as the reception area, providing a space for women to carry out household activities, occasionally serving as a gathering place for family members, and acting as a supervised playground for children. Furthermore, during the hot periods of tropical days and nights, the *okolo* transforms into a designated sleeping area. The dimensions and boundaries of the *okolo* are dictated by the layout of the surrounding houses. This central courtyard represents a crucial facet of the Igala indigenous homestead, facilitating vital aspects of the community's daily life and fostering a deep sense of cultural unity and identity [28].

### 2.8.6. The Reception House (*Atakpa*)

The *atakpa* is a significant feature in the Igala indigenous homestead, centrally located opposite the main entrance. This versatile space served multiple purposes, such as welcoming visitors, hosting social gatherings, and acting as a

workspace and family court. Typically, there is one *atakpa* in a typical Igala compound, but multiple *atakpas* may indicate a polygamous setup. Similar to other traditional house forms in Nigeria, such as the Hausa *Zaure*, Igbo *Obi*, and Tiv *Ate*, the *atakpa* stands out with its high roof and curvilinear shape.

The *atakpa* served as the first point of contact for visitors and is furnished with raised earth seats and a horizontal timber for support. Although, mainly used for relaxation and reception, it also plays a role in the burial of deceased family members and during pre-marital engagements. It is the hall where the two interested families of the bride and groom meet for the recognition, formalization and approval giving for the marriage before the process of the public introduction (*alekago*). Since it is within an enclosed compound, privacy features like doors and windows were not necessary (Fig. 5) [28].



Source: Emusa et al. (2023).

**Figure 5** Igala Indigenous Reception House

#### 2.8.7. Animals' Pen (*Unyi-ameñwu-ọrẹ*)

Within the Igala community, families primarily raised domestic animals such as goats, sheep, and chickens. In some cases, they would construct frame structures using timber posts, bamboo stems, and palm fronds for shelter, although this practice was infrequent. More commonly, the animals were allowed to roam freely within the compound without confinement. Chickens sought shelter in their owners' houses, where they also laid eggs and hatched chicks. The quantity of animals a family possessed was regarded as an indicator of prosperity and success. This practice of free-range rearing underscored the close connection between the Igala people and their animals, demonstrating their sustainable and adaptable lifestyle in harmony with the natural environment [28].

#### 2.8.8. Bathrooms (*Unyi-ugwọla*) and Toilets (*Ugwẹrẹchẹ/Ubi-oko*)

Within the Igala indigenous homestead, the bathrooms referred to as *unyi-ugwọla*, were strategically positioned near the sleeping houses to ensure privacy and convenience for the family. Generally, a single bathroom served the entire compound, although occasional construction of separate bathrooms for males and females occurred. These bathrooms were constructed with vertical timber posts, bound together with midribs or stems of palm fronds, forming a rigid structure. Typically round in shape, the bathrooms had an open top, and privacy was maintained by using cloth to secure the doorway. Toilets, known as *unyi-ubi-oko*, were not integrated into the Igala indigenous homestead. Instead, individuals utilized nearby bushes and farmlands for defecation [28].

#### 2.8.9. Food Storage Barns (*Aka*)

The food storage barn which is referred to as *aka*, held significant importance within the Igala indigenous homestead due to the pivotal role of farming as the primary livelihood for the Igala people. The *aka* was constructed in various types and sizes to accommodate different food crops, with distinct barns designated for tubers, cereals, and nuts. Positioned strategically near the entrance of the compound, these barns not only served as storage facilities but also showcased a man's wealth and success to visitors. In Igala culture, the size of the barn symbolized an individual's prosperity and achievements, emphasizing the cultural value attributed to agricultural success and abundance [28].

#### 2.8.10. Shrine House (*Achekwu*)

In contemporary times, the primary religions practiced by the Igala people are Christianity and Islam, with only a few regions still adhering to traditional beliefs. During the pre-colonial era, the shrine known as *achekwu*, held significant sacred importance and was situated approximately 10m to 15m away from the courtyard. Constructed using bamboo stems and timber posts, the shrine was occasionally covered with palm fronds and did not feature solid walls. With a small floor area of less than 2 square meters, the shrine housed images representing deities [28].

#### 2.8.11. Perimeter Fence (*Ogba*)

Individual compounds in Igala traditional settlement took measures to enhance security by constructing perimeter fences, fulfilling other functions such as ensuring privacy and defining boundaries. The entrance to the compound was regulated, featuring a main entrance leading to the reception house and a secondary entrance for access to farms or bushes [28].

### 2.9. Values of the Igala Indigenous Homestead

The Igala traditional homestead holds significant importance in nearly all facets of Igala life. This research identified some of the noteworthy characteristics of Igala indigenous architecture, which are elaborated below:

#### 2.9.1. Cultural and Architectural Identity

The Igala indigenous mud houses were reminiscent of cave shelters and were arranged in a manner that suited the people's socio-cultural activities and cultural identity. Through trial and error, the Igala people developed their architectural technology, incorporating abundant building materials into a distinctive and culturally rich architecture. This traditional building pattern was seamlessly integrated into the Igala traditional village setting which has a ceremonial square, a depiction of the courtyard in Igala indigenous homestead. The ceremonial square serves as a cultural core for various social and ceremonial events hence establishing a common and unique cultural and architectural identity for the people [26].

#### 2.9.2. Spatial Organisation that Depicts Cultural Hierarchy

The design of the Igala indigenous homestead adhered to the traditional zoning principle, incorporating three primary zones:

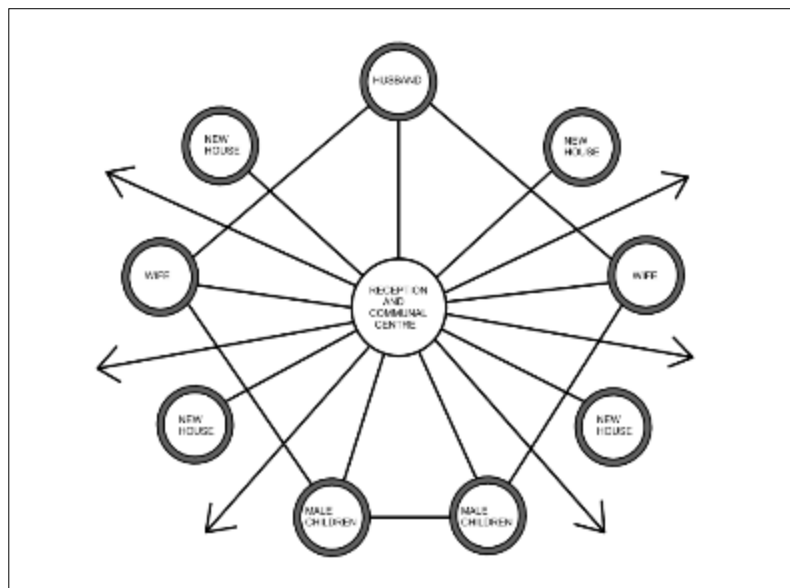
- The domestic zone: encompassing living areas and spaces designated for leisure activities such as sleeping and relaxation.
- The socio-cultural zone: consisting of the courtyard, reception house, and shrine. These areas served for socio-cultural and religious purposes, hosting gatherings, performances, daily tasks, ceremonies, and religious practices.
- The socio-economic zone: encompassing the animals' pen, communal or neighbourhood garden, and storage barns. This zone was dedicated to activities like food and crop storage, gardening, and animal husbandry. In adhering to these zoning principles, the Igala indigenous homestead effectively organized and optimized the usage of space within the compound, accommodating various aspects of daily life and cultural practices. The spatial arrangement of individual houses reflected the cultural roles and responsibilities of family members. The head of the family's house, positioned at the entrance of the compound, symbolized his protective role and full control over the family. The adult sons' houses were situated at the rear of the compound enabling them to have easy access to the farmland through the rear exit of the compound. The wives' houses were placed on both sides of the compound positioned securely between the men.

The zoning principle evident in Igala compound architecture is similarly reflected in the socio-spatial arrangement and traditional settlement pattern of Igala villages. The traditional village layout consisted of the Administrative/Residential Zone, which housed the quarters of the Village Head and residential dwellings; the Socio-economic Zone, hosting the market and various commercial activities; and the Public Space, allocated for socio-cultural and religious activities [9].

#### 2.9.3. Communal Association

Organic expansion played a crucial role in shaping the Igala indigenous homestead, allowing for the potential for growth. Communal unity held a significant place in both Igala family life and the broader society. Extended families resided together within a single compound. The greater the number of wives and children a man had, the more workforce available for cultivating his farm, thereby enhancing his economic standing. Consequently, as the family size increased, so did the size of the compound. Often, even after marriage, a male family member continued to reside in the compound

with his parents. In cases of divorce, daughters found accommodation in their mother's house. New houses were erected as the need arose. This adaptable and flexible nature of the Igala indigenous homestead not only facilitated communal unity but also allowed for dynamic growth within the broader Igala society. Figure 6 illustrates the pattern of organic expansion within the Igala indigenous homestead [26].



Source: Emusa (2021).

**Figure 6** Pattern of Organic Expansion of the Igala Indigenous Homestead

#### 2.9.4. Provision of Privacy and Security

The Igala traditional homestead included a surrounding perimeter fence that enclosed the premises, with the man's house strategically positioned at the entrance to facilitate better control over visitors and intruders. This fenced area served to afford privacy to family members. Guests were formally received only in the designated reception house. The intentional design choice of small windows and doors in Igala indigenous houses not only contributed to privacy but also served to enhance security. This practice was particularly significant due to the prevailing belief in the presence of malevolent spirits during the night [26].

#### 2.9.5. Religious Symbolism

The Igala people exhibit profound religious devotion and wholeheartedly dedicate themselves to their deity. This deity serves as an intermediary between individuals and their ancestors, offering guidance, protection from ailments and adversaries, and overseeing family matters through divination and incantatory processes. Morality within the culture is deeply rooted and preserved under the influence of the deity. Consequently, the shrine holds a vital and integrated role within the Igala indigenous homestead.

However, with the widespread adoption of foreign religions introduced by Europeans, the presence and significance of shrines in Igala indigenous architecture have gradually waned. Currently, the Igala people may feel a sense of detachment from their ancestors, turning to foreign religions, despite perceptions of doubts about their efficacy and potency [9].

#### 2.9.6. Environmental and Climatic Adaptation

The Igala indigenous construction methods and materials were strategically chosen to create sustainable and eco-friendly buildings that offered the desired comfort. These materials were employed in constructing various elements such as mud walls, mud floors, timber posts, lintels, doors, windows, rafters, bamboo struts, purlins, and thatch roofs, forming the essential components of Igala indigenous buildings. Internally, the furnishings typically included a bamboo frame bed, timber logs utilized as seats, and clay water pots. These indigenous building materials were not only abundant and economically feasible in the region but were also characterized by reusability, biodegradability, and ease of manipulation and maintenance. Consequently, they played a crucial role in the construction of environmentally friendly buildings that harmonized well with the local climate [26].

### **3. Research Methodology**

#### **3.1. Sampling Technique**

In the process of selecting compounds for the survey, all nine local government areas within the study area were taken into account. A random sample ward was chosen from each local government area, with the selection influenced by the prevalence of Igala indigenous homesteads. A purposive sampling approach was then applied to identify and select 25 traditional compounds from each chosen ward. This method led to a comprehensive survey of 225 compounds across the entire study area, providing the foundation for both questionnaire distribution and physical observations.

#### **3.2. Research Design**

The research methodology employed in this study was a hybrid of archival/historical and survey research designs, encompassing the utilization of documents, artifacts, relics, oral interview, physical observation, and the administration of structured questionnaire.

#### **3.3. Archival/Historical Research**

Extensive examinations of available literature were conducted to extract relevant historical facts, details, texts, photographs, and artifacts associated with Igala indigenous architecture. This archival research played a vital role in providing valuable insights into the origin of the Igala people, as well as the historical background and cultural significance, features, and values of Igala indigenous homestead. The study integrated oral traditions and cultural preferences communicated through storytelling and communal narratives to contextualize the historical and contemporary significance of Igala indigenous architecture. This integration added an authentic cultural perspective to the study.

#### **3.4. Oral Interview**

A semi-structured interview method was utilized to collect firsthand narratives from key individuals, including traditional leaders and guardians of Igala tradition, traditional building craftsmen, elders, and members of the Igala community.

#### **3.5. Physical Observation**

To enhance the interview data, on-site observation of indigenous compounds and the spatial organization of spaces were carried out using an observation schedule. The physical observation also yielded valuable insights into the materiality, craftsmanship, and practical aspects of Igala indigenous architecture.

#### **3.6. Questionnaire**

The survey questionnaire was carefully crafted with close-ended questions to fulfill the study objectives and capture crucial aspects of Igala indigenous homestead. Its purpose was to obtain information about Igala culture, Igala indigenous homestead and the features and values it embodies. Copies of the questionnaire were administered to household heads or members of the selected compounds/houses who expressed willingness to participate in the survey. Of the 225 distributed copies of the questionnaire, 200 copies were returned, constituting a valid response rate of 88.9%.

#### **3.7. Method of Data Analysis**

The collected data was analyzed, focusing on identifying elements of Igala culture and the influence of Igala culture on the evolution of Igala indigenous homestead; key features of Igala indigenous homestead; and the key values derived from Igala indigenous homestead. The interview data was subjected to thematic analysis, which involved identifying patterns within the data and correlating them with structured classifications obtained from the surveys. The narrative was constructed based on the synthesis of these findings, weaving together the historical context and cultural significance.

**Table 1** Summary of Research Design and Methods

S/N	Objectives	Research Methods			
		Data source	Data Collection Instrument	Nature of Data	Method of Data Analysis
1	Identify the key elements of Igala culture.	Documents and oral history	Questionnaire and observation schedule	Quantitative and Qualitative	Descriptive analysis and thematic content analysis
2	Describe the Igala indigenous homestead.	Spatial elements, buildings, documents and oral history	Questionnaire and observation schedule	Quantitative and Qualitative	Descriptive analysis and thematic content analysis
3	Identify the key features of the Igala indigenous homestead.	Residents of the homestead, documents and oral history	Questionnaire and observation schedule	Quantitative and Qualitative	Descriptive analysis and thematic content analysis
4	Identify the key values of the Igala indigenous homestead.	Residents of the homestead, documents and oral history	Questionnaire and observation schedule	Quantitative and qualitative	Descriptive analysis and thematic content analysis

Source: Field Survey (2023)

## 4. Results and Findings

### 4.1. Key Findings from Literature

- Culture is an influential factor in the formation of the architecture of a place or ethnic nationalities. The architectural landscape of a community is significantly shaped by the values, traditions, and customs embedded in its culture.
- The study identified distinctive house forms among various Nigerian ethnic groups such as the Hausa, Igbo, Yoruba, Nupe, Tiv, and Ibibio. These traditional dwellings have evolved as a direct reflection of the respective cultures, embodying unique design elements and functional features that resonate with the values of each community.
- The study revealed that Igala culture permeates every aspect of life including architecture. Traditional Igala dwellings exhibit design elements and spatial arrangements that are closely tied to the cultural identity of the community.
- The research established that the circular curvilinear form was predominant in the architecture of Igala indigenous homestead before the colonial period. This architectural form is characterized by rounded houses arranged in a circular pattern, showcasing a distinctive and harmonious layout. Igala culture emerged as a significant force in the evolution of the circular curvilinear homestead.
- The research highlighted the significant role of Igala culture in dictating the spatial arrangement of component houses within the indigenous homestead. Cultural values, traditions, and social norms play a crucial role in shaping the specific layout observed in Igala indigenous dwellings. The research equally underscored the critical link between the unique spatial planning of Igala indigenous homesteads and the broader socio-cultural and socio-economic lifestyle of the community. The spatial organization is integral to community interactions, family dynamics, and economic activities, contributing significantly to the overall social fabric of the Igala society.

### 4.2. Findings from Quantitative Studies

#### 4.2.1. Key Findings from Questionnaire Data Analysis

The findings obtained from questionnaire data analysis that are relative to the research objectives are presented in frequency tables below;

**Table 2** Demography Characteristics of Respondents

<b>Gender</b>	<b>Frequency</b>	<b>Percentage</b>
Male	167	83.5
Female	33	16.5
Total	200	100
<b>Age</b>	<b>Frequency</b>	<b>Percentage</b>
Below 18 years	2	1
19 – 40 years	38	19
Above 40 years	160	80
Total	200	100

Source: Field survey (2023)

According to the result presented in Table 2, 83.5% of the participants in the study were male, while 16.5% were female. This distribution aligns with the intentional selection of male respondents for the questionnaire survey, reflecting the traditional gender roles in Igala culture where men typically serve as the heads of households and compounds. Exceptions occur when a man is deceased, in which case his widow may oversee a compound under the supervision of male relatives, even if they do not reside in the same compound as the widow.

Furthermore, as indicated in Table 2, a substantial majority of respondents, constituting 80%, fell within the age bracket of 40 years and above. This demographic category is significant, as individuals in this age group are anticipated to be the heads of households, having resided in the study area for a considerable duration. Their prolonged residency enhances their familiarity with Igala indigenous homesteads, positively influencing the reliability and relevance of the research outcomes.

**Table 3** Original Form of the Igala Indigenous Homestead

<b>Response</b>	<b>Frequency</b>	<b>Percentage</b>
Rectilinear	5	2.5
Circular curvilinear	193	96.5
Single unit house	2	1
Total	200	100

Source: Field survey (2023)

Table 3 shows the result of the respondents' views regarding the original form of the Igala indigenous homestead. An overwhelming majority of the participants (96.5%) expressed that the original form of the Igala indigenous homestead adhered to the circular curvilinear form. This consensus among respondents aligns seamlessly with the corroborative evidence obtained from the literature review, oral interviews, and field surveys conducted during the study. The collective affirmation reinforces the conclusion that the circular curvilinear form indeed represents the indigenous and original architectural style of the Igala people.

As outlined in Table 4, a predominant proportion of the respondents comprising 60.5% expressed that culture stands as the most influential factor contributing to the evolution of the circular curvilinear homestead as practiced by the Igala people. This prevailing viewpoint aligns harmoniously with the conclusions drawn from the literature analysis and oral interviews conducted during the study, both of which underscored the pivotal role of culture in shaping the indigenous architecture of various ethnic groups in Nigeria. The concurrence between respondent perspectives and earlier research findings reinforces the assertion that cultural influences have played a significant and consistent role in the evolution of the Igala indigenous architectural style, specifically the circular curvilinear homestead.

**Table 4** Most Influential Factor Responsible for the Evolution of the Igala Indigenous Homestead

<b>Response</b>	<b>Frequency</b>	<b>Percentage</b>
Culture	121	60.5
Climatic factor	8	4
Environmental factor	21	10.5
Socio-cultural factor	10	5
Socio-economic factor	6	3
Building Materials	34	17
<b>Total</b>	<b>200</b>	<b>100</b>

Source: Field survey (2023)

**Table 5** Most Influential Factor Responsible for the Spatial Planning of the Igala Indigenous Homestead

<b>Response</b>	<b>Frequency</b>	<b>Percentage</b>
Culture	142	71
Climatic factor	12	6
Environmental factor	16	8
Socio-cultural factor	20	10
Socio-economic factor	10	5
<b>Total</b>	<b>200</b>	<b>100</b>

Source: Field survey (2023)

As revealed in Table 5, a significant majority of respondents constituting 71% assert that culture stands as the most influential factor shaping the spatial planning of the Igala indigenous homestead. This outcome resonates consistently with the conclusions drawn from the comprehensive review of literature and insights gathered through oral interviews. The collective perspective emphasized that the cultural fabric of a community plays a pivotal role in influencing the spatial organization within the traditional dwellings of the people. This alignment between respondents' beliefs and the insights derived from scholarly sources and firsthand interviews reinforces the understanding that cultural factors indeed wield substantial influence over the spatial planning of Igala indigenous homesteads.

**Table 6** Most Prominent Feature in the Igala Indigenous Homestead

<b>Response</b>	<b>Frequency</b>	<b>Percentage</b>
Arrangement of houses	13	6.5
Sleeping houses	9	4.5
Perimeter fence	7	3.5
Reception house	31	15.5
Courtyard	109	54.5
Food barn	15	7.5
Shrine	10	5
Animals' pen	6	3
<b>Total</b>	<b>200</b>	<b>100</b>

Source: Field survey (2023)



The result in Table 6 indicates that a substantial majority of respondents accounting for 54.5% identified the courtyard as the most prominent feature in the Igala indigenous homestead. This observation aligns consistently with the conclusions drawn from the comprehensive literature review, oral interviews, and field surveys conducted during the study. These collective sources consistently highlighted the courtyard as a culturally significant element, serving as the focal point for various socio-cultural and socio-economic activities within the Igala indigenous homestead and traditional house forms across various ethnic groups in Nigeria. This further highlights the significant role of culture in the evolution and spatial planning of traditional house forms in Nigeria.

### 4.3. Findings from Qualitative Studies

#### 4.3.1. Key Findings from Interview Data Analysis

The interviews were conducted to corroborate the findings from the questionnaire and field survey. The following were deduced from the interviews when aggregated:

- The key elements of Igala culture that were discovered to play important role in the evolution and spatial planning of the Igala indigenous homestead include:
  - The traditional beliefs of the people which facilitated the incorporation of traditional shrine in the compound.
  - Igala socio-cultural lifestyle which facilitated the incorporation of courtyard and a reception house in the homestead.
  - The large structure of the Igala traditional family consisting of extended family members, daughter in-laws and grandchildren was influential in establishing the organic expansion of the compound with multiple houses.
  - Communal association is an integral part of Igala culture that greatly influenced the spatial planning of Igala indigenous homestead with the incorporation of courtyard, reception houses and multiple houses.
  - The Igala culture of polygamy which encouraged the possession of many wives and children also facilitated socio-economic activities such as farming where vicinal or neighborhood gardens were incorporated and farm crops stored in food storage barns located within the compounds. This also led to organic expansion and multiple houses within the compound.
- The research further revealed that the form of the Igala indigenous homestead as practiced in the pre-colonial period was circular curvilinear. The key features of the homestead include; the husband's house, wives' houses, adult males' houses, courtyard, the reception house, animals' pen, bathrooms, food barns, shrine house and perimeter fence.
- The Igala indigenous homestead possessed certain unique values. The key values revealed by the study include: a unique and common cultural and architectural identity among Igala people; well-coordinated spatial organisation depicting cultural hierarchy; communal association; incorporation of security and privacy; thermal comfort; incorporation of spiritual/religious symbolic elements such as the shrine; and the ease of adaptation of the homestead to the dynamic behaviour of climate and the environment.

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## 5. Discussion of Findings

The research investigates the influence of culture on architectural evolution in Nigeria with emphasis on the Igala indigenous homestead. From the results, the demographic characteristics of the respondents indicated a higher representation of males reflecting their active involvement in leadership roles of the households and compounds. Additionally, the results revealed a significant proportion of respondents aged 40 years and above, who have lived in the study area for over a long period. The predominant involvement of males and elderly persons in the research is crucial as they would be most conversant with Igala history; Igala tradition and culture; and Igala indigenous homestead, thereby contributing to the accuracy and reliability of the research outcome. This is more so because of the active involvement of males in Igala indigenous building practices. It is imperative to note that there was no standard or established system for transferring building knowledge to upcoming generations in Igala society. Building craftsmen transferred their knowledge through apprenticeships and from father to son. Trade secrets were closely guarded, as they were the source of a craftsman's livelihood. The research revealed that the pre-colonial Igala indigenous homestead was characterized by a circular curvilinear form, consistent with historical accounts of most ethnic groups in Nigeria (Hausa, Tiv, Berom, Igala, Nupe) documented in the literature and as indicated in previous studies (Emusa and Nduka [29]; Qurix and Sagada [30]; Agbola and Zango [31]). This circular cluster with a courtyard layout exemplifies the cultural and architectural identity of the Igala people. The circular form of housing was representative of their indigenous architecture.

The Igala indigenous homestead possessed unique features arising from systematic and deliberate spatial planning in line with the people's culture. As also noted in previous studies (Emusa [9] and Emusa et al. [28]), these unique features

include the perimeter fence that defines the boundaries of the compound, the sleeping houses, the courtyard which accommodated the reception house and food barns, animals' pen and the shrine.

Consistent with its prominence in Igala culture, the research revealed the courtyard as the most prominent feature in the Igala indigenous homestead, playing a central role in accommodating other critical features such as the reception house. The courtyard also facilitates domestic, socio-cultural and socio-economic activities. The Igala traditional courtyard fosters a sense of architectural and cultural identity. This is consistent with the views of previous studies (Emusa and Idakwoji [26]; Emusa [9]; and Emusa and Nduka [29]) which asserted that the courtyard is the core of the Igala indigenous homestead.

Overall, the findings from this study provide a comprehensive understanding of the role of culture in shaping traditional architecture in Nigeria by demonstrating ways through which Igala culture evolved Igala indigenous architecture. This further reinforces the opinion of various authors (Madadpoor [2]; Olotuah [3]; Gardi [4]; Geroter [14]; and Ettahad et al. [17]) that the architecture of a people is the product of their culture.

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## 6. Conclusion and Recommendations

It is imperative to continue studying and documenting the relationship between indigenous culture and architecture especially in Nigeria where foreign architectural styles and building materials have overwhelmed housing and construction practices. This is also coupled with the seemingly intractable ostentatious desire for imported housing products which has become highly proliferate. This study encourages the integration of our cultural heritage into modern architectural practices to foster a harmonious coexistence between indigenous culture and innovation. This interplay not only enriches our cultural heritage but also paves the way for sustainable practices in architecture, ensuring a legacy that can be passed down to future generations. In doing so, we contribute not only to the preservation of architectural heritage in Nigeria, but also to the creation of an architectural identity built upon the foundations of our cultural heritage.

The findings from this study will be beneficial to urban planners and designers, architects and other allied professionals in the built environment, reinstating the essence to integrate indigenous culture, ideas, expressions and materials into modern designs and techniques thereby incorporating new concepts in the spirit of the old [27], in order to encourage the establishment of indigenous cultural and architectural identity as well as their preservation.

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## Compliance with ethical standards

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### *Disclosure of conflict of interest*

The authors declare that they have no conflict of interest

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