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Traditional Architecture of Ikwerre Land. A Case Study of Emohua: Cradle to Post Modernism

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Abstract

The speedy exit of traditional values and culture is evident in all facets of human life and practice; architectural practice included. Due to the impacts of globalisation and industrialisation, certain negative effects have surfaced in every aspect of life. In Nigeria today, most people's desire for "modern" cement homes built as opposed to the now archaic buildings of old, may render them stoic and uncompromising. As a result, many may prefer to go without a roof over their heads than make do with old-fashioned buildings of mud and clay.

The report is more of picturesque ethnographical studies of the architecture of Rumuche Emohua. Through the study, basic characteristics are presented. Rumuche Emohua a town in Emohua local government area, Rivers State, Nigeria consists of indigenes who venture, largely, into occupations such as farming, fishing, and hunting as a result of the availability of land and such natural resources. In this report, the ethnological research approach was adopted so that the people's architectural character is documented and presented in this report.

In this report, the family lineage of a young man who is mature for family responsibility development is allowed a home in the style of I-home architecture. From this, the growth of his family causes the house to evolve into the family setting home structure called the courtyard dwelling. Both the single and courtyard homes have certain fizzled features that remain in spite of the change such as the family well, the kitchen, and the toilet/bathroom. Although, the kitchen is increased to carry activities posed by the expanded family size, the family well remains a fixed central place.

Due to the impacts of industrialisation, the traditional construction method to has been eradicated, although some traces of the courtyard and single home settings are still existent. Part of the factors that impacted to this, is the sparse availability of land due to a rise in population. Also presented are basic construction methods and materials. All of these are recorded for future use, due to the continuous extinction of the traditional features in today's society, particularly in the Rumuche Emohua community.

Keywords: traditional, industrialisation, globalisation, metamorphoses, construction, architecture, ethnography

1. Introduction

The Ikwerre people of Rivers State Nigeria as well as their primary values. Part of the cultural heritage is the Ikwerre people is Rumuche Emohua. Accordingly, there are similarities between the practices of manners of the Ikwerre land and those of Rumuche Emohua. These similarities feature in areas such as cultural practices, belief language, systems, food, and marriages.

Rumuche Emohua is amongst the nine communities that made up the Emohua clan. Emohua is an extraction of the Ikwerre ethnic; major part of Rivers State, Nigeria. The people of Emohua possess a rich cultural heritage as shown in their dressing, food, arts and artefacts, building, agricultural practices and hospitality, lending them prominence. Architecturally, however, the traditional customs of Emohua have been overridden by postmodern

styles and construction techniques, materials and systems. As a result, traditional style buildings are extremely sparse in this region. Consequently, it is necessary that the issue be evaluated. In this paper, the evaluated architectural units are presented. Evidence has shown that most African traditional practices and cultures are gradually becoming obsolete. Accordingly, there has equally been a departure from the traditional features and norms where architecture and building construction are concerned. In many rural areas and, in particular, Rumuche Emohua, traditional style buildings have gone extinct.

Just like the global architectural practices, dating from the prehistoric ages to the period of postmodernism. The architecture movement of Rumuche Emohua followed that trend. It would be beneficial to review this architectural movement of these times which is crucial as a link between these distinct periods are expected to be develop over the years. This chronological review would have been more essential as it offers significant information but is out of the scope of the paper.

Therefore, presented in this paper is prehistoric architecture of the indigenes of Emohua, the two home settings that evolved into building styles; the single-family building and the large family building (the courtyard architecture) (Danja & et al., 2017). The paper also presents building typology and materials. These include thatch, mud and bamboo structures, where the mud construction stands as the prominent building according to materials up as a result of its values. Furthermore, the paper presents the styles, methods and systems of construction and the modern architecture within the region.

2. Ikwerre-Emohua-Rumuche

The Ikwerre ethnic nationality is a major part of Rivers State politics and cultural norms, with their location on the upland of the state. This is similar to the situation of the Ogonis', Etche, Ekpeye and the Ogba people (Abia, 2015). The Ikwerre's serve as landlords to most public and private institution and structures in Rivers State, making them prominent amongst the ethnic nationalities in the state. The Ikwerre ethnic group forms a blend of different cultural values and languages with minor dissimilarities and prominent similarities. As a result of the availability of land, the indigenes of Ikwerre are mostly farmers and hunters due, although some closer to the coastal regions work as fishermen. The Ikwerre people are the occupants of four local governments in Rivers State; the Ikwerre, Emohua, Obio-Akpor and Port Harcourt City Local Government Area with headquarters at Isiokpo, Emohua, Rumuodumaya and Port Harcourt respectively.

The people of Rumuche Emohua in Emohua local government area is a significant member of the Ikwerre ethnic group and share a number of similarities. Emohua kingdom is in the present day Emohua local government area with shared boundaries between Choba in Obio-Akpor far East, Ogbakiri in Emohua local government and Kalabari communities in far south east. It also shares boundaries with the Odegu on the western axis and the Isiokpo at the northern part. The indigenes of Emohua share an ancestry and fill nine villages; Rumuche, Rumuohia, Isiodu, Odoha, Elebrada, Rumuakunde, Mgbueto, Mgbuitanwo and Eli Israel. They also possess a shared traditional stool led by the paramount ruler of Rumuche.

However, the focus of this research is fixed on the people of Rumuche Emohua. The traditional building structure of the indigenes of Rumuche Emohua is similar to that of the typical Ikwerre communities and other parts of Rivers State, particularly amongst upland dwellers. This architecture style is the offspring of a single adult male who moves into his new home with his single wife and grows building according to the number of wives he marries. Through the expansion, evolves his single I-home into other I-buildings which create the courtyard home (see Sections below).

3. Architecture Evolution

The shift from the ancient architecture to post-modern architecture in Rumuche Emohua is evident in history documentations gained from a series of architectural movements. In the stone ages, the people of Rumuche Emohua primarily sought for simplicity and built sustainable homes (Prucnal-Ogunsote, 1993). The construction of these homes were done according to the family's necessities at the time. Furthermore, homes were built with easily sorted materials for the purpose of shelter and protection from wild animals and the likes.

Figure 1. Modern architecture

With the evolution man comes innovations and new pathways for thinking. As a result, there has been a paradigm shift; where man builds houses not solely for protection but for aesthetics as well as durability amongst other reasons. In ancient times buildings were made with thatch, bamboo or mud (Chukwu, 2015). Industrialism introduced the constructing homes with several building materials such as zinc as cover against the traditional thatch, and zinc was initially used solely by the rich (See Table 1, Figure 3 through 8).

Figure 2. Modern architecture

Modern style of construction replaced the bamboo, mud or thatch in building homes. Today, buildings in Rumuche are mainly made of sandcrete blocks and that of either zinc or aluminum (see Figures 1 and 2) (Chukwu, 2015; Rikko, L. & Gwatau, 2011).

Table 1. Roof to wall materials of construction

Prehistory		Industrial Revolution		Modern Architecture	
Roof	Wall	Roof	Wall	Roof	Wall
Thatch	Thatch	Zinc	Zinc	Aluminum	Brick
Thatch	Bamboo	Zinc	Bamboo	Aluminum	Sandcrete Block
Thatch	Mud	Zinc	Mud	Aluminum Verities	Sandcrete Block Varieties

Figure 3. Single I home showing the family kitchen and well; far end the toilet system

Figure 4. Single I home showing well; far right the family kitchen

4. Prehistoric Development of Family/Community Settings

The indigenes of Rumuche Emohua have two traditional settings for the construction of homes; the single home (I-building form with ancillary buildings) and the family home (courtyard; oftentimes cluster settings). In this system, the single home evolves into the family home, forming the foundation of each family. Basically, the male who has come of age marries and leaves his extended family to form his own nuclear family home called NNBU-OHKE-ELI. In this process, a new personal home will be accorded him by his kinsmen, usually far away from his extended family. Suffice to farming space is also allotted to him (Chukwu, 2015; Rikko, L. & Gwatau, 2011).

Figure 5. Aerial view of a courtyard family home

Figure 6. Courtyard family settings

Homes were generally built in an I-structure. Nevertheless, single home evolved into the second phase; the family setting. This stage was borne of the belief that the man requires more than one wife as long as he possesses the capacity for providing basic amenities for multiple wives. By making different housing units available for different wives, the Courtyard structure comes to play where the man's personal home unit is usually directed to the main road and other structures are built at the sides of the master home either on the left or right. Customarily, single rooms or combination of rooms are built according to the number of occupants and the physical strength of the wife during construction. However, it is not limited to the strength of the occupant, the birth of children contribute to the development as rooms are added for their accommodation.

Figure 7. Courtyard family home

Figure 8. Courtyard family settings

In Figure 3, a site layout of a single home suitable for newly married man with one wife is depicted. Apparently, in Figure 3 and 4 is the building footprint of two number room apartment; mainly the living room and the bedroom. Additionally, the home of a newly allotted is built without kitchen and toilets embedded within the structure but located somewhere within the site. The setting of single/larger extended family tree refers to the scenario where the buildings distanced from each other and divided by a common gathering point; the central hub (see Figure 6 and 7). This central hub is commonly the kitchen as it constitutes the dining area for members of the family. Nevertheless, the kitchen is generally built to occupy the centre of the compound; often in the likeness of a covered pavilion or gazebo. This is basically because it is the foci of the family activities. Therefore, made to accommodate every member of the family, as they gather in the morning and evening for routine domestic cores. The kitchen is usually made with imaginary compartments to accommodate different mother and her immediate family. The kitchen forms part of the man's relaxation spot as he interacts and relate with the entire family in the open while waiting for his meal to be served. Another major centre for family interactions was the family WELL which was usually situated near the family kitchen. Wells served as an avenue for interaction as children of different mothers converged to draw out water from the wells (see Figure 3, 4 and 8).

The toilet is mainly built some distance away from the house to allow for fumes coming out of it not cause harm, since the fumes are often offensive and the toilet is mainly pit and separated from the bath area. Although the bath is mainly an open-air structure; the toilet area is mainly covered halfway and on the roof (see Figures 4 and 5).

In these traditional settings, buildings tended to evolve from single individual homes to family homes with the expansion of the family tree. With time, however, these buildings evolve back to single individual buildings as the young male who is old enough for marriage moves to his NNBU. (In the case of the death of the father, the firstborn male inherits the father's lodge, often the greater share, if not the father's first place of abode and sorts for spaces elsewhere for other siblings, following the aforementioned rituals).

Figure 9. The making of thatch (image source: Atie, 2018)

Figure 10. Typical thatch roof set for use (image Source: Atie, 2018)

Figure 11. Thatch spread out on the sun set for installation (image source: Atie, 2018)

Figure 12. Staked thatches after manufacturing (image sources: Atie, 2018)

5. Building Typology and Materials Within Rumuche Emohua

Buildings of the prehistoric era were mainly made of mud, except in cases where thatches and bamboo were used. Nonetheless, thatch formed the major material for the roof covering (see Table 1 and Figure 3 through 8). Following the global architectural movement, adjustment was made to modern construction materials and innovations.

Table 2. Prehistoric materials of construction used for wall and roof

s/n	wall	Roof
1	Mud	Thatch
2	Thatch	Thatch
3	Bamboo	Thatch

In ancient times, most buildings were constructed with mud joined with lean loamy soil as a binder (cement), often rendered with the same soil type. The industrialist period, however, introduced Portland cement which substitute the use of mud for binding. Prior to the introduction of zinc and corrugated aluminum, thatches were primary materials used for roof coverings. Due to industrialisation, buildings are now constructed with modern

materials such as sandcrete block, reinforced concrete and diverse roof covers. In line with the architecture movements, many prehistoric constructions were formed with burnt bricks, marking a particular elite status at the time (see Figure 22, 24 and 25).

6. Construction Techniques

As was the prehistoric Rumuche, the traditional buildings were generally constructed with reinforcements. The difference lay in the reinforcement bars as these buildings were generally reinforced with hardwood poles as columns and other members, as supporting bars tied in the matt form (see Figure 13 through 15). Also, these buildings were either covered with thatch, bamboo or mud (see table 2) and built skeletally as well. Positioned at the different corners (mainly the four edges) of the house, the poles or columns followed the structural grid applicable where pole units were driven down in specific grid pattern (see Figure 17 through 20). The door and window place has its own column installed to indicate the different door locations.

Table 3. Construction materials and all finishes

s/n	Mud	Thatch	Bamboo
1	Vertical columns	Vertical columns	Vertical columns
2	Horizontal bracing	horizontal bracing	horizontal bracing
3	Vertical l bracing	Vertical l bracing	Vertical l bracing
4	Mud as wall finishing	Thatch as wall finishing	bamboo as wall finishing

Figure 13. Foundation trench/poles/column and roof members installation

Following the installation of the hard wood columns, the roof members are installed and tied. This system is used to provide strength for the tying of hold-down bolts to the columns and the wall plate (see Figure 13 and 14). In this process, the hold-down bolts consist largely of strong cords (a durable substance) that often outlive the structure itself. After the wall plate and king post installation, the gable roof system is installed (see Figure

14, 18, 19, and 20); where the pre-rafter and pre-purling are installed. This step involves the joint tying of the installed roof members. Generally, traditional roof work can be said to be achieved using modern conventional methods aside for the modern placement of nails in roof members where traditional methods are fastened with rope and wood in the place of zinc nails (see Figure 14).

Figure 14. Column, wall plate rafter and purlin installation

Figure 15. Roof members installation for a gazebo

Figure 16. Roof installation

Another popular technique, besides the wall plate and the king post, is the use or a shortcut to tie the rafter and purlin on the ground (the purlins are crossed tied either 150mm or 200mm to enable the roof cover seat closely and tied for safety and avoidance of water seepage). These steps are taken to ensure that minimal load and use of energy is involved in the working process. This precaution is particularly necessary as the roof carcass constitutes part of the roof that provides stability when tied. Following this, the roof cover (thatches) is installed as the final step of roof work (see Figure 15 and 16).

Figure 17. Finished frames work; mod preparations and roof installation (image source: Wikipedia)

Thereafter, is the construction of the walls. For this process, there is involvement of a formwork where stakes are installed for support and to hold bamboo and sugarcane which are installed horizontally often 200mm or 150mm as described by the consumers (see Figure 17, 18, 19 and 20).

Figure 18. Women install the walls and male prepares the mortar (image source: Wikipedia)

The internal and external installation of an alternating set of bamboos and sugarcane provides texture as well as insulation cavity for sound, water and thermal proof. These structures are properly fastened with ropes and are done prior to the installation of wall cover materials. Furthermore, the earth is fashioned into mortar during the process of the work of reinforcement. For the wall finish, the mortar may either be cast on the reinforcement bars or the bamboo or the thatches may be installed.

Figure 19. Extracting mortar for wall and installation (Image source: Wikipedia)

Furthermore, mud constructions require a huge amount of time, energy and water due to the prior preparation of the earth (see Figure 18 and 19). This process, which lasts for number of days, requires that the earth is allowed to cure after insulation. Subsequently, intense attention is needed in the plastering process. Artisans may be employed to create aesthetic graphics on the inner and outer walls (Danja & et al., 2017; Bilyaminu, M., 2017; Adamu, 2005; Agboola, and Zango, 2014).

The building mud, bamboo and thatch houses is generally a task undertaken by a family. In this process, labour is divided between members of the family. For instance, parents and older children tend to handle tasks such as

gathering the raffia and preparing the thatch with the support of other daily members.

Figure 20. Additional one room space (building skeleton; ready for the installation of mud)

Figure 21. Extension/additional one room space (building skeleton; ready for the installation of mud)

7. Modern Architecture

The period of modern construction and architecture usurped the position of the traditional building style in Rumuche Emohua. As a result, the wealthy launched the trend of constructing burnt brick mansions and

duplexes (Adamu, 2005; Agboola, & Zango, 2014; Chokor, 2005; Lodson & et al., 2018; Moughtin, 1964; Prussin, 1974). The first duplex created with block and burnt in this area was constructed in the early 20s. However, it is noteworthy that high thresholds and some amount of sustainability is generally a feature of these brick homes. Another distinct feature of the duplexes as seen in Figures 26 through 28 is the inclusion of timber floors and staircases. Although constructions made of brick structures pose a better alternative to sandcrete and cement houses, this construction type, much like the mud houses of old, has been replaced with the sandcrete structure. Therefore, in recent times, Rumuche has become filled with sandcrete building edifices (see Figure 22, 23 and 24). Figure 25 depicts a brick house and the central family well as a point of focus, as previously explained.

Figure 22. Brick house (bungalow)

Figure 23. Brick house (bungalow) rear showing borehole tank stand

Figure 24. Brick structure (duplex) street view with zinc attachment as seating area for informal trading and gathering

Figure 25. Brick house (showing family Well)

Figure 26. Staircase

Figure 27. Timber staircase and slab

Figure 28. Timber floor slab, beams as well

Figure 29. Court yard duplex

Figure 30. Court yard (bungalow)

Figure 31. Courtyard (bungalow) with the family well

Although, there is still existence of the traditional compound courtyard settings, the traditional building style itself has gone on extinction (see Figure 29 through 31). This ancient practice has been substituted with buildings made of cement, sandcrete block and sand. There is no longer any interest for the traditional style of mud houses in today's era of globalisation and industrialisation (Joel, 2016 and Olutua, 2000). As a result, even the people who cannot afford these modern constructions would prefer a homeless life to the traditional and sustainable way of living. In Figure 30-35, the trending architectural style in Emohua is depicted (Adamu, 2005; Agboola & Zango, 2014; Chokor, 2005; Lodson & et al., 2018; Moughtin, 1964; Prussin, 1974).

A distinct dissimilarity in the allotment of land is the fact that adequate land is not allowed to individuals who are set to develop their NBU as aforementioned. This is related to the large population and scarceness of the land

itself. Accordingly, lands are now measured according to plots and sold for an agreed price. Therefore, the attainment of land is now based on the financial resources of individuals, rather than their physical strength or status.

Figure 32. Recently completed duplex

Figure 33. Ongoing bungalow construction

Figure 34. Some of the recent developments in Rumuche Emohua

Figure 35. Some of the recent developments in Rumuche Emohua (project under construction as at the time of report)

8. Conclusion

The effects of globalisation and industrialisation on man's connection with nature have been intensely devastating. Prior to the era of industrialism, man depended on natural, sustainable means for activities of life and dwelling. Satisfaction was equally gained, not from luxuries and extravagance, but from the attainment of necessities and prerequisites. Now, however, the trend of globalisation has induced in many the incessant urge to acquire wants and amass great wealth through several environmentally harmful and unsustainable means.

The impacts of constant deforestation and other harmful practices associated with modern construction include the extinction and endangerment of certain animals. Accordingly, the continuous extinction of several members of the food chain poses a great ecological danger as a man will eventually be without meat or plant to eat, and will eventually resort to cannibalism. From this, it can be induced that, if this unsustainable practice is not improved or abandoned, it could lead to the extinction to the entire human race.

The practice of employing the traditional architectural system in Emohua has gradually faded into oblivion, as has been revealed in the presentation of the above images. From the afore-presented images, it is evident that fundamental construction materials and systems are generally only electronically accessible. Furthermore, traditional style buildings are now obscure and only found in hinterlands. This scenario showcases a major shift from cultural roots as regards housing. Beyond the cultural tragedy embedded in this mass practice of "modernity", the consistent reliance upon the international construction technique poses an unsustainable practice. The cost of materials used for building these fashionable houses, for instance, is consistently on the rise, due to the high demand for their availability. Another major part of this process is transportation which poses two distinct problems: additional cost and emission of greenhouse gases. These emissions escalate to contribute

to global warming. Other building practices which negatively impact the environment include deforestation, urban congestion and degradation. In some global cities where these harmful practices have been popularised, there have been severe effects such as floods and other forms of chaos. Unfortunately, the traditional mode of housing and construction which is gradually going on extinction is the most sustainable means of building architecture and residential living. This is because it focuses more on necessities than luxuries. It is evident from the previous sections that these types of buildings according to the size of the family of residents of the buildings rather than for status or investment. Furthermore, these constructions constitute energy efficient structures, and with comfortable, regulated temperature.

For this reason, the author plunged into research in order to extract this report which highlights the ancient architectural and lifestyle which has now been abandoned. This traditional pattern, however, can still be found as amongst the hinterland residents of Rumuche, Emohua in the Ikwerre ethnic nationality. If the youth is sensitised concerning the hidden benefits these ancient practices, major headway will be made towards the attainment of increased levels of structural sustainability and environmental conservation.

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