INTEGRATION OF YORUBA TRADITIONAL HOUSING ELEMENTS IN THE DESIGN OF OLUBADAN PALACE, IBADAN, OYO STATE, NIGERIA

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OCTOBER, 2021

ABSTRACT

Yoruba traditional housing through semiotic principles using symbolic objects, signs, and elements to create visual expression and linguistic meaning in architecture reflected social, economic value and cultural heritage of the Yoruba people. Availability of building materials, spatial quality and feel of natural environment, sustainability, symbolism, privacy, cultural continuity, and suitability for traditional inheritance were some of its advantages. However, over the years, Yoruba traditional housing lost its identity as most architects in modern society adopt the European house type at the expense of traditional housing which leads to the influx of conventional ways, materials and methods in housing design. This transformation process led to a new housing type termed modern housing and thus led to the extinction of Yoruba traditional elements in architecture in south western Nigeria. Therefore, general comparative research works were done in the past by early scholars to incorporate traditional housing features into modern architecture in Africa context. Unfortunately, no extensive work was done to integrate the lost elements of Yoruba traditional housing in the design of a Yoruba king's palace. As such, there exist a gap in knowledge due to the decline of Yoruba cultural heritage and resource preservation in Oyo State, Nigeria. This resulted to the need to critically examine the benefits of the restoration of a sustainable cultural heritage which aims to explore the possibilities of integrating the lost elements of Yoruba traditional housing in the design of Olubadan Palace in Ibadan, Oyo State, Nigeria. The research design adopts descriptive and historical with mixed method approach to analyse the quantitative and qualitative data collected. Out of the 350 open ended questionnaires administered to the respondents, 265 questionnaires were returned by the students selected from tertiary institution and building professionals. 10 respondents were also selected for interviews in the field work. Visual observation and review of the relevant literature were used to establish the theoretical framework. All the respondents were selected using purposive sampling from Oyo and Osun State because these States were known to represent the core central of Yoruba culture and tradition. To control the system of response, questionnaires were delivered to the respondents personally. Descriptive statistical tools such as mean, tables, charts, graphs and tables were utilised in result analysis. Findings from field study supported the literatures from early scholars that African traditional housing elements such as ornamentation, symbolism, spatial layout, and building materials had faded out in most modern housing. The research contributes to knowledge through recommendations such as creative use of Yoruba traditional building materials and cultural practices that are sustainable, expressive use of ornaments, bright colours, rectilinear form and cone shape, are core part of Yoruba traditions, all the spaces must be hierarchically zoned to depict the culture, value and family ties of the Yoruba people and togetherness is an important culture of the Yoruba people which should encourage a link between outdoor living spaces, communal and social activities of the Yoruba people.

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CHAPTER ONE

1.0 INTRODUCTION

1.1 Background to the Study

Obateru (2006) stated that the palace of a traditional king (*Oba)* is the peak of architectural expression in Yoruba land and it is aesthetically designed with complex living spaces and courtyard on elevated ground. Chisomo (2011) and Osasona(2017) broadly explores African traditional and modern housing and stated that traditional housing style had undergone several changes over the years due to a shift in cultural paradigms, influx of modern building materials, ways, ideas and methods as well as African's attitude to traditional buildings in modern times as they are considered obsolete and too archaic. Furthermore, Adedokun and Cythia (2012) and Arenibafo (2017) investigate the relationship between space uses in Yoruba traditional residential housing which shows spatial differences between personal, communal and sacred zones in domestic space while access to strangers depends on the individual and the Yoruba cultural regulations. As such, Umoru (2010) identify the paramount Risawe Palace of culture and tradition in Ilesa, Osun State as a basis of Yoruba traditional residential housing. His study lays focus on ancient Yoruba architectural creativity and functionality while different courtyard design used in Yoruba traditional housing were also discussed. Therefore, the size, plan, design, and construction materials used for the construction of Risawe palace had symbolic interpretation that reflects the cultural importance of Yoruba traditional housing. However, Sonaiya and Dincyurek (2009) were of the opinion that the Yoruba traditional housing through symbolic expression is fast fading out in modern times as they compare Yoruba residential housing of the previous years with some recently built ones within the Yoruba communities. Their

findings reveal the significance of symbolic expression in ancient traditional housing when compared to the recently built ones devoid of identity. As such, the influx of modern ways, methods, and ideas had significantly affected the culture, tradition and architecture of the Yoruba people. Tradition and culture had been traded for modern housing without recourse to cultural identity as observed in their study. However, Chisomo (2011) disagrees with the notion of trading cultural identity in residential housing for modernity as she justifies her argument. For example, England keeps the tradition and culture of her people as reflected in their residential housing to give it stability and development in modern times. She stated that industrialized nations around the world retain their traditional structures, and institutions just exactly the way Assam in Japan integrates its traditional housing elements in modern housing to depicts the culture and tradition of the Japanese people. However, earlier study by Titilayo (2010) shows this decline in Yoruba cultural heritage and resource preservation in Oyo State of the South Western Nigeria. As such, there exists a gap in knowledge as there is need to critically examine the long-time benefits of the restoration of a sustainable cultural heritage and resource preservation in order to explore the possibilities of integrating the lost Yoruba traditional elements in the design of a modern king's palace as explained by Arenibafo (2017) and Eze (2018).

1.2 Statement of the Research Problem

Sonaiya and Dincyurek, (2009) observed that traditional housing through semiotic principles using symbolic objects, and signs, to create visual expression and linguistic meaning that depicts the culture and values of the Yoruba tribe of Nigeria is fast fading out in modern housing due to the influx of modern ways, methods and, ideas. As such they compare the Yoruba residential housing of the past with the recently built ones. Their study shows and support Chisomo, (2011) hypothesis that African traditional

housing is undergoing total extinction due to shift in cultural paradigms, influx of modern building materials, ways, and methods as well as people's attitude to traditional buildings which they considered archaic and obsolete in modern times. Therefore, earlier study by Titilayo (2010) identifies the decline of Yoruba cultural heritage and resource preservation in Oyo State of the South western Nigeria. As such, there exists a gap in knowledge as there is need to critically examine the long-time benefits of the restoration of a sustainable cultural heritage and resource preservation in order to explore the possibilities of integrating the lost Yoruba traditional housing elements in the design of a modern king's palace as explained by Arenibafo (2017) and Eze (2018).

1.3 Aim and Objectives of the Study

1.3.1 Aim

The aim of the study is to explore the possibilities of integrating the lost Yoruba traditional housing elements in the design of Olubadan Palace in Ibadan Oyo State, Nigeria with the view to restore the cultural heritage and its resource preservation in modern era.

1.3.2 Objectives

The objectives of the study are:

i. To describe the elements that defines Yoruba traditional housing.

ii. To identify and assesses the lost traditional housing elements in the study area.

iii. To integrate the lost Yoruba traditional housing elements in the design of Olubadan Palace in order to achieve a hybrid palace in modern context.

1.4 Research Questions

In order to have a comprehensive study, some questions in regard to the project topic needs to be answered for the purpose of giving proper recommendation on how the research result should be put into use. The research questions include the following

i. How can one describe the elements that define Yoruba traditional housing?

ii. How can one identify and assess the lost Yoruba traditional housing elements in the study area?

iii. How can one integrate the lost traditional Yoruba elements in the study area?

1.5 Scope of the Study

The study aims to explore the possibilities of integrating the lost Yoruba traditional housing elements in the design of Olubadan Palace in Ibadan Oyo State, Nigeria with the view to restore cultural heritage and its resource preservation in modern era. The thesis discusses the history of ancient traditional Yoruba Palaces where the history of Ibadan, her Kings, Palaces and environs were briefly narrated. The thesis also covers vast areas of Yoruba traditional housing and its design principle. The most popular Yoruba traditional Palace in Yoruba land named “Aaafin of Oyo palace” was used as a case. Other case studies were carried out in other towns across Yoruba land. The design principle used in the development of the “Aaafin of Oyo Palace” was briefly explained. Yoruba courtyard design types, methods, spatial layout used in palace design, traditional symbols, signs, materials and the elements that reflects the culture, tradition and values of the Yoruba people as depicted in the palace case studies were also itemised using illustrations and discussed. The influence of culture on Yoruba traditional housing,

issues affecting the continuity of Yoruba traditional housing, overview of transformation of residential housing in south western Nigeria, the Adhocist and the Modernist movement were also thoroughly explored and discussed. Finally, the study also itemised and explains the Yoruba housing elements that define modern housing in order to bridge the gap between Yoruba traditional and modern housing. This is necessary in order to integrate the lost elements of Yoruba traditional housing in the design of the proposed (Olubadan) Palace, in Ibadan, Oyo state Nigeria.

1.6 Research Justification

The current official "King's Palace" in Ibadan opposite ('*Oja Oba'* market) known as "Ashanke palace" near Mapo hall in Ibadan, Oyo state Nigeria is considered inadequate and archaic to the ruling king because it is too choky for the present-day use, with small land mass for expansion. It also lacks the traditional identity of a true Yoruba palace. As such, the Central Council of Ibadan Indigenes (CCII) rose to the clarion call to build a modern palace for their king. The proposed palace is expected to integrate the semiotic principles of Yoruba traditional housing with the aim to promote the culture and identity of the Yoruba heritage. The proposed official "Olubadan palace" is needed to end the reign of multiple palaces in Ibadan where previous rulers convert their personal residential houses to their Palaces due to lack of a befitting official modern Palace for the ruling king of Ibadan land.

1.7 Contribution to Knowledge

The benefits of the restoration of a sustainable Yoruba cultural heritage and resource preservation cannot be overemphasized. As such, to explore the possibilities of integrating these traditional semiotics principles using symbols, signs to create visual

expression and linguistic meaning in a modern palace design contribute to knowledge in the following ways.

Adedokun (2014) stated that the Yoruba traditional housing was created to be functional and blend with the environment to reflect the culture, tradition and identity of the Yoruba people through the use of sustainable and affordable traditional materials. The thickness of the wall, material use, ceiling and roof height all acts as thermal control during the cold and hot humid season. The courtyard and veranda allow great amount of light and fresh air into the building interior and make indoor activities possible. The roof overhangs above the corridor tends to reduce glare from the sun. The colonnaded corridor (*Odede*) also allows visual continuity and harmony in the adjoining courtyards. Mud from lateritic soil is indigenous to physical landscape. Woods, and thatch materials are easily obtained from the tropical rainforest which are utilized in the construction of "Gazebos" within the palace. The mud wall with good compressive strength is also a good heat regulator with low thermal conductivity which is an advantage to the tropical climatic condition.

Sonaiya (2008) and Adedokun (2014) also observed that there is a well-defined organization of spaces in hierarchical order from sizes to arrangement of rooms as seen in most traditional housing such as palace building. There is a spatial arrangement and relationship between the king/ head, wives, children and the rest of the family members which justify the importance of close family ties. The head been the decision maker bears the risk of the compound. His room is strategically placed close to the entrance for the control and restriction of movement in and out of the compound. The corridors running through the inner part of the building encloses the compound in a unifying manner and it is good for air circulation. The spatial flow of corridors is well defined by columns. Also, the courtyard is an active space for commerce, recreation and domestic

chores through which members of the family come together. The effective utilization and adoption of symbolic form such as rectangular and cone shape form reflect the simplicity of Yoruba housing. Aesthetically, the stucco texture of walls and the harmonics effect created by the colour of the ground to the walls and decorative pots placed at the entrance of the rooms of modern houses also bears resemblance to the beauty of Yoruba housing which were highly aesthetics.

As such, lots of these features such as wall thickness, efficient use of traditional building materials, roof height, layout design with centralised courtyard, design concept in terms of effective utilisation of symbolic forms and shapes, well defined organisation of spaces in terms of hierarchy, functional use of interior spaces, and harmonic use of ornaments and aesthetics are some of the elements that should be integrated into the design of the "Olubadan Palace". Therefore, with the cooperation of building professionals in the built environments, most especially the architects, engineers and planners, a lot of improvements can be achieved when the traditional activities within building spaces, the cultural norms of the people and symbolic importance of Yoruba traditional housing elements are considered during the planning and design stage of building in South Western part of Nigeria.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 General Overview

Umoru (2010) stated that traditional housing is primarily a personal adaptation to a group solution in which every society had its own residential housing style which were transferred from one generation to the other to solve immediate problem of habitation. As such, Obateru, (2006) points out that the most significant expression of art and architecture in Yoruba housing is the palace of a traditional king which he defines as multiple housing units with luxurious living spaces enclosed with courtyards. On the other hand, Cambridge dictionary defines integration as a process of combining two or more things effectively into one. Therefore, Sonaiya and Dincyurek (2009) concluded that the cultural and symbolic identity of Yoruba traditional housing is fast fading out in modern society due to the influx of modern ways, methods, and ideas that had significantly affected the culture, tradition and architecture of the Yoruba people. As such, Arenibafo (2017) and Eze (2018) suggested the need to integrate semiotic principles of traditional housing into modern residential housing to restore the loss identity of the Yoruba heritage in modern housing. This chapter covers and explores extensively vast topic related to Yoruba housing, courtyard design types, design principles adopted in most traditional Yoruba palaces. Ibadan King's, palaces, and environs were all discussed.

2.2 History of Ancient Yoruba Traditional Housing in Nigeria.

2.2.1 Traditional ancient Yoruba palaces

Early man attempted to create a space to blend with the environment. Among the prominent buildings built by the Yoruba people is their king palace. Sonaiya and Dincyurek described the Yoruba traditional palace as the royal residential area reserved for a ruling king. Egonwa (1994) stated that Palaces in Yoruba land were centralized and its architectural style and construction reflect the socio political and religious post it holds in the community which explains the social status of the ruling king. In ancient times, oracle (*Ifa*) was consulted before the commencement of the construction of a palace building. The community teams up for the task ahead and people with appropriate skills such as carpenters, brick layers were called upon to assist in the construction process. Palaces in Yoruba land is a sign of higher status with multiple housing unit, and many female chambers with numerous courtyards within the palace.

The ancient Yoruba palace is rectilinear in plan with a single entrance gate to have access to the inner courtyards. The floor plans were rectangular or square shaped arranged in a linear pattern to surround the courtyard. The compounds were divided into three parts namely the Private, the Public and the Semi-Public area. Opposite the palace is the king's market. The situation of the market at the frontage of the palace is symbolical according to Blier (1998) because of the king role to oversee the economic activities of his subjects in ancient times. This also gives the king and his house holds a stress-free access to their domestic needs. Titilayo (2010) stated that at the entrance of the king's palace is a high gabled roof porch gate known as "Agaju gate" which provide access to the main compound. In the "Agaju area" visitors were ushered in by the drummer (*Onilu*) and praise singers. The traditional Oba gives all honorary title to prospective chiefs in the ''Agaju'' hall.

Agiri (2014), Sogbesan and Odunlami (2021) stated that Yoruba ancient palaces were built with high quality traditional sustainable building materials. Artistic expressions were seen in ancient Yoruba palaces such as Aaafin of Oyo, Oni of Ile Ife and others. However, Folaranmi (2002) observed that Motifs and murals were painted on walls of Yoruba traditional palaces to decorate them. Murals symbolized by majesty power, strength, and authority are depicted by Elephants, Lions, Ostrich, and wisdom is signified by Monkeys And Snakes., Leopard means bravery, fierceness and authority., Birds signifies confrontation between good and evil, potency and witchcraft., Cone Image mythically means (*Orí*) head-destiny., Antelope means beauty, and supernatural powers., Horse symbolises ruling power, and prestige., Crown symbolises kingship and authority., while Horsetail is symbolised by peace and grace. Ancient palaces also had other decorations such as mud, sculptures and floors paved with potsherds.

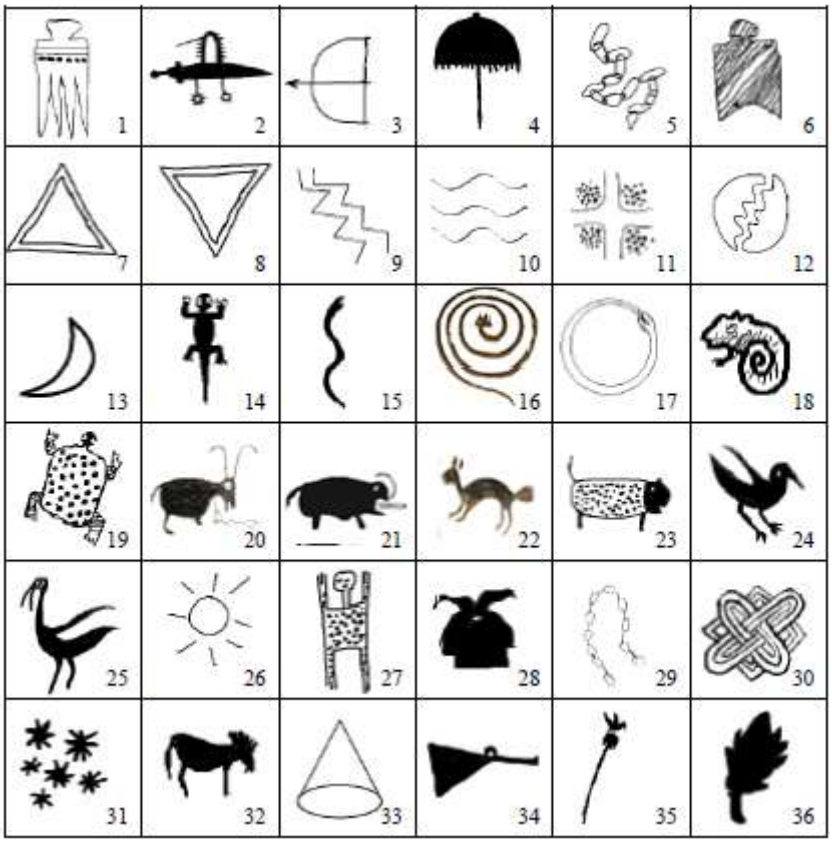


Figure 2.1: Some of the symbols commonly depicted in shrine and palace walls in

Yoruba land and most especially found in Aaafin of Oyo palace.
Source: (Folaranmi, 2002)

2.2.2 Ibadan king's, palaces and environs

Fourchad (2008) stated that the people of Ibadan are a subgroup of the Yoruba ethnic group. Ibadan is located in Oyo state. Historically, the city of Ibadan is the largest in south Sahara Africa and it is the capital of Oyo state. The founder in person of "*Lagelu*" is a very powerful warrior who migrated from Ile Ife to an area called "*Eba Odan*" (a large land besides the road path) which is later known as Ibadan. The king of Ibadan is known as "Olubadan" and his Palace is usually a traditional and aesthetically luxurious edifice built for him and his household. Salami (2013) observed that the''Olubadan'' Palace is also known as the home for all indigenes of Ibadan. Palaces were scattered across Ibadan, Oyo state due to lack of a permanent official Palace. These Palaces emanated from former great kings who ruled the city across times and ages and were visible in modern times reminding the indigenes and particularly the younger generation in their families of their great ancestry. Examples of these Palaces include: Ogundipe, Asanke, Adeyemo, Odulana, Irefin, and the current king's Palace (Oba Saliu Adetunji Palace). In Ibadan, most of these Palaces were located in remote communities such as Oranyan, Oja Oba, Oke Are, Eleta, Agbadagbudu, and Irefin.

2.3 General Overview of the Yoruba Traditional Housing, Design, and Culture.

2.3.1 Yoruba traditional palace (a case of Alaafin of Oyo palace)

Sogbesan and Odunlami (2021) stated that the Oyo Palace was designed to blend with the physical and climatic environment. The Palace structure were planned to accommodate immediate family, relatives, shrines and ancestors. The Palace of Oyo was open plan and rectilinear in design with single entrance gate accessing mini entrance gates to other compounds within the palace environment. The Palace compound was functionally built with a well-designed organization of spaces from sizes and arrangement of rooms around two or more courtyards to cater for the extended family. Titilayo (2010) explained that the palace of Oyo was the centre of religious, economic and political activities of the Yoruba people in ancient times. They were very luxurious with more than forty courtyards of varying size made exactly for such activities. Some were used to make rituals to their deities, some as meeting areas, while some were used for hearing and settling disputes among the local population. As for the king palace, the building itself were very large with complex room spaces. The Oyo king has many wives with each wife has more than four rooms to herself and children. The bedrooms in the traditional Oyo palace were more than 200 rooms for the wives while the king himself has more than 30 to 40 bedrooms due his polygamous nature. Agiri (2014) justified that the Palace of Oyo were decorated with sculptures, carved doors, murals and motifs were also seen on the palace walls. The notable living spaces seen in Alaafin of Oyo palace were described below.

i. **Main entrance gate**: This is also known as the Agaju' gate.

ii. **Agaju hall**: The next space within the palace is the Agaju hall were the ruling king attend to his visitors and gives honorary title to all prospective chiefs according to Titilayo (2010)

Plate I: The current (Agaju hall) in Oyo Palace.
Source: (Author's field work, 2021)

iii. Onilu: The next building after Agaju hall is Onilu (drummers' rooms) for all the traditional drummers.

Plate II: Drummers room (Onilu) section of the Oyo Palace.
Source: (Author's field work, 2021)

iv. Office of the king's family: Titilayo (2010) stated that the function of the king family office is to assist and accompany high ranking king staffs or slaves to occasion, and other traditional ceremony on behalf of the king. The king family were not powerful as the king slaves or staffs in a traditional Yoruba palace setting. This is because the slaves or staffs were closer to the king as the king mostly entrust them to represent him in many other activities.

Plate III: The King's family office in the Oyo Palace.
Source: (Author's field work, 2021)

v. The King residence: This is the area where the king, wives and children live as observed by Titilayo (2010).

Plate IV: King's residence (Private section where king's wives' lives)
Source: (Author's field work, 2021)

vi. Head of traditional Idol worshipper office: The head of this office represent the king on official traditional matter such as domestic and foreign policy as observed by Sogbesan and Odunlami (2021).

vii. King's administrative office: This space is mainly for administrative purpose and documentation purpose according to Titilayo (2010).

viii. Agbala Koko or Ogba Koko hall: Agiri (2014) explained that in ancient times, the hall serves as the supreme court building where all disputes in Yoruba land were settled and judged by the "Aare Ona Kankafo" of Yoruba land'' who is the supreme war marshal of Yoruba land. Due to modernization, it was later converted to storage area for keeping building materials used for the construction of Palace buildings.

ix. Prison yard or *(Tuubuu)*: In ancient times, the space is used for keeping criminals as observed by Agiri (2014).

x. Tortoise house (*Ile Ijapa*): This is a small caged house in the palace built specifically for tortoise. Tortoise is a significant domestic animal according to Yoruba tradition and culture according to Folaranmi (2002).

xi. Ojude Aro: This is an ancient and smaller hall for eulogizing the king during official events and ceremonies while attending to his visitors according to Titilayo (2010).

Plate V: Ojude Aro section of the Oyo Palace.
Source: (Author's field work, 2021)

xii. Agbala Ogun: This is the second hall used by the king to attend to the visitors. It is bigger than Ojude Aro as observed by Tiyilayo (2010).

xiii. Royal guest house: This space serves as residential outlet for august visitors.

xiv. Fish pond house: The space is specifically created to rear different fish species.

xv. Royal parking lots: This serves as parking area for the ruling king.

xvi. Shrine area: examples include the Orumila, Ile Sango, Ogun, Elegua, Ile Oodua, (shrine buildings) as stated by Sogbesan and Odulami (2021).

Plate VI: Shrine area of the Oyo Palace
Source: (Author's field work, 2021)

Other notable important buildings within the present Oyo Palace were: Mosque, library, church ground, Royal Pavilion, Parking lots, King's clinic, and museum.

2.3.1.1 Notable persons among the king's slaves living in the palace of Oyo

i Kudefo: Agiri (2014) stated that the Kudefo is the head of the household. He is the one to inform Alaafin concerning any important visitor coming to the Palace. Kudefo is the highest in command among the king's slaves or staffs. He is the judge of all domestic matters within the palace. Whatever he says is final as it is believe he speaks on behalf of the king. He also lives in the palace. Any disputes "Kudefo" cannot solve will be referred further to the king to judge.

ii Ilusiimi: He is the second in command to the Kudefo. He also lives in the palace. His primary function is to inform the king (Alaafin) on the death of any Other King in various towns across Yoruba land. He also makes suggestions and recommendations to the king of Oyo according to Agiri (2014).

2.3.2 Courtyards designs in Yoruba traditional housing

Umoru (2010) stated that a courtyard is a living space without a roof but enclosed by walls forming part of a large house. As discussed earlier, traditional Yoruba ancient palaces were characterized by multiple courtyards (Akodi) each with its quadrangle. Akodi literarily mean a place where unity, harmony, peace and love dwell while

grudges and hatred were discarded. The apartment rooms faced the courtyard with covered verandas where daily and domestic activities such as craft and cooking were undertaken. The courtyard style also gives opportunities for public and private activities such as religious and social gatherings. Courtyards in ancient Yoruba traditional palaces strengthen the kinship and family bond. Trade and family craft were secured and the monopoly of such trade and craft becomes a close door profession in the family lineage. Also, the courtyard layout in traditional Yoruba residential housing is a defensible space. It insulates the living areas from environmental hazard such as smoke, noise and rain. It equally protects traditional culture and genealogy which assist in curtailing some common social ills such as rape, robbery, associated with the modern residential layout in urban center. Umoru (2010) listed different types of courtyards used in Yoruba traditional housing as the following:

i. **Ode Osi:** This is a courtyard with painted wall. It is a place where public matters, general meetings and family disputes are held and resolved. Any member of the lineal family and close relatives occupies the room apartment facing this courtyard as stated by Umoru (2010).

ii. **Ode Igbejo:** This particular courtyard reflects the culture of the Yoruba people. As the names implies, it is the courtyard where general matters were heard, family and communal disputes were heard, settled and a pronouncement were made. There is a constructed mud chair where the chief judge sits comfortably while presiding over matters. At the left side corner of the courtyard placed or stood vertically a wrought iron known as (Opa Orere) resembles an oracle staff known as God of wisdom, knowledge and divination. Ijisakin, (2003) observed that the placement of the staff in the courtyard is symbolical and the vertical positioning of the (Opa Orere) could be connected to the almighty God standing firm behind the faithful.

iii. Ona Odi: Umoru (2010) defines "Ona Odi" as the forbidden path. Customarily, the newly installed king must pass through the "Ona Odi" to his private apartment called "Adodo" and he cannot step his feet on it again until when he is dead. In order not to mistakenly or unconsciously tread this path later, woods are mostly fully stacked to the path of the "Ona odi" to prevent calamity.

iv. Ode Ajanpati: Umoru(2010) defines this courtyards as a place where the remains of king ancestors were buried. The rooms were designated as big house (Ile nla) because of the respect and regard given to the departed souls (ancestors). The place is held with great importance and it is mostly restricted to young women as it is believed that if any unmarried young woman enters there, she will be barren for the rest of her life. Only women above the menopause are allowed to enter freely probably for worship purpose as it is considered a sacred room enhanced with a super natural power.

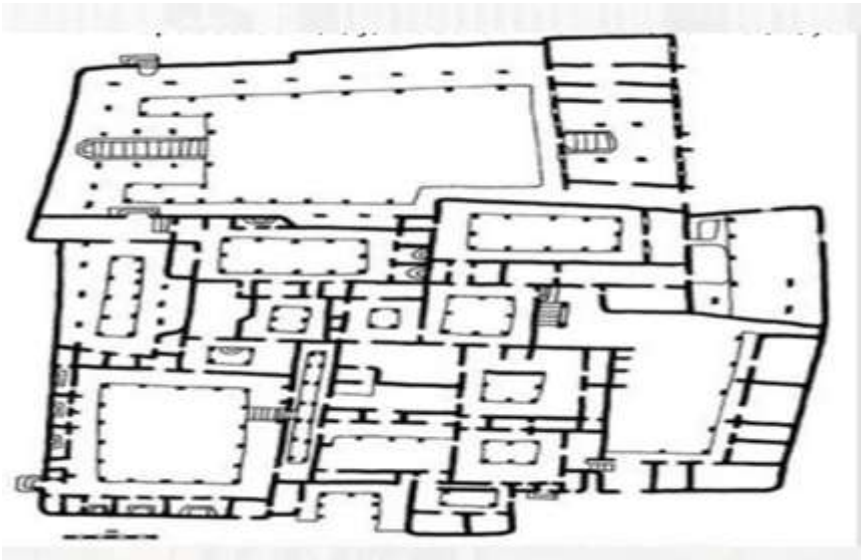


Figure 2.2: Old Alaafin of Oyo palace showing multiple courtyards.
Source: (Trager, 2001)

v. Ode Obirin: This is the third courtyard that surrounds the woman apartment. It is one of the restricted areas within the palace. The woman courtyard is located at the innermost part of the compound for privacy and security. The courtyard is inhabited by

grown up daughters, children and their mothers. Domestic activities and daily activities such as cooking, washing, weaving and other local craft works are carried out by the chief wives according to Umoru (2010).

2.3.3 Spatial layout of a Yoruba traditional town.

Sonaiya and Dincyurek (2009) stated that a typical Yoruba traditional town were walled and hierarchically arranged in concentric circles. He maintained that In Yoruba land, the King's Residence, Royal Guest House, Halls, Agaju Entrance Gate, were some of the focal points of the ancient traditional Yoruba Palace.

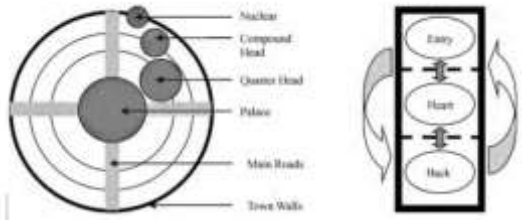


Figure 2.3: Spatial arrangement of a typical traditional Yoruba town and housing.
Source: (Sonaiya, 2008)

Other important buildings were arranged to surround these in order of importance to the ruling king. The physical structure of the Yoruba town incorporates the cone which yields a two dimensioned circle at the middle and a cross created by intercepting main roads. Babalola (2001) stated that both the cone and the four-sided shapes such as rectangles and crosses were symbolically significant in Yoruba traditional housing.

Plate VII: A typical Yoruba traditional beaded crown. Source: *https://www.google.com/search?q=picture+of+a+typical+yoruba+king%27s+crown.*

As such, Lawal (2000) explained that the cone symbolizes (Ori) meaning head or personal destiny. As such, the crown of a typical Yoruba king is cone shape while the square symbolizes ‘’*Iwa*’’ meaning human behaviour as stated by Idowu (2005). These symbolic shapes were very important to the Yoruba people and the integration of the two forms encompasses all human life activities such as sacred, economic, secular, political and religious. The dwellings built by traditional Yoruba people were rectilinear arranged around an open courtyard. The physical and visual proximity of neighbours may have encouraged good behaviour (*Iwa)* and neighbourliness as expressed by the four angled rectangular forms. Sonaiya (2008) grouped the dwelling part of the king residence into three zones namely the entry, the heart and the back. All these zones were depicted in traditional Yoruba housing. The entry consists of the front yard, veranda, entry corridor, and the living room. The heart consists of the courtyards, sleeping rooms while the back consists of the backyard, conveniences, kitchen and the store. Dincyurek and Turker (2007) further explained and grouped the entire Yoruba palace compound into three zones namely, the Private, Public and the Semi-Public zones. The private zone is where the king residence is permanently located while other clustered structures within the palace were grouped under the Public and Semi-Public zones of the palace compound. More also, the class structure within the Palace consists of the king, traditional chiefs, free born, Palace staff and the domestic domain were demarcated according to hierarchy in the Palace.

2.3.4 Elements that define Yoruba traditional housing

The elements that define the Yoruba traditional residential housing are:

1. Decorations: Folaranmi (2002) stated that in Yoruba traditional residential housing, the walls, windows and pillars of the building were mostly decorated with murals. The murals symbolized majesty and signified by elephants, ostriches and lions while wisdom is signified by monkeys and snakes. Traditional Yoruba palaces also had other decorations such sculptures, and floors paved with potsherds. Ornamentation in Yoruba residential housing became so popular in the past as a means of expressing status and social position of the ruling king. Carved doors were mostly found in palace of most Yoruba traditional rulers.

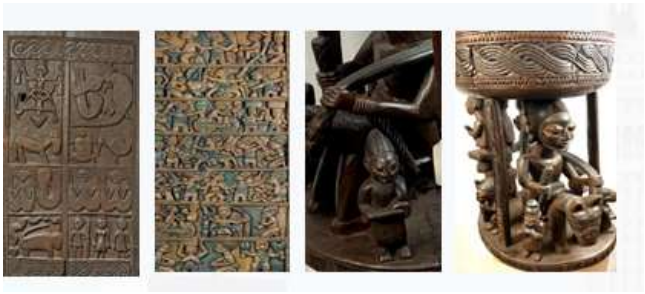


Plate VIII: Carved Doors, and Sculptures.
Source: *https://www.google.com/search?q=picture+of+yoruba+murals&oq*

2. Courtyards: Ekhaese explained that the use of courtyards in typical Yoruba traditional housing shows the social status of a ruling king, his chiefs or a wealthy house owner as seen in most ancient homes. Courtyards also serves as heat regulator that allows hot air flows upward and downward as it create effective ventilation and reduce sun glare within the building interior.

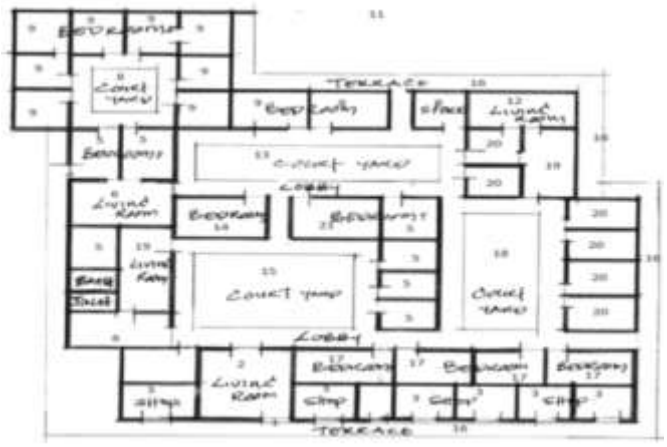


Figure 2.4: Floor plan of a typical family compound courtyard house.
Source: (Ekhaese, 2011)

3. Use of motifs: The uses of geometrical motifs such as triangle circle, polygons derived from objects were sometimes used to decorate the walls of Yoruba traditional palaces as seen in Alaafin of Oyo palace as observed by Folaranmi (2002).

Plate IX: Motif used at the wall of Alaafin of Oyo Palace.
Source: (Author's field work, 2021)

4. House form, kinship organisation, and spatial layout: A typical traditional Yoruba housing design is in hierarchical order as observed by Sonaiya and Dincyurek (2009). Genealogy influences the living pattern and the house form depicts the unity of the people and traditional social structure. Rectilinear plane shapes and cone shapes were the two major house form mostly used in traditional Yoruba housing. The rectangle reflects behaviour (Iwa) while the cone shape reflects human destiny or head (Ori).

Plate X: The cone shape gabled roof in Oyo Palace depicted the king's beaded crown.
Source: (Author's field work, 2021)

5. Wall thickness, roofing types and window openings: Adedokun (2014) stated that traditional housing have thick and mud wall (cob structures between 6-12 inches) which serves as good heat and sound insulator. More also, at the main entrance of most Yoruba traditional palace compound is a high gabled roof entrance porch which serves as welcoming area where visitors were ushered in by "Onilu" (praise singers and drummers) to the ''Agaju'' hall. The pyramidal roof with angle inclination of 40-60 degree allows heavy tropical rainfall to run off faster into jars placed in the courtyard. Other roof types such as hip roof, lean to roof were also extensively used. Yoruba traditional housing used small window sizes in their window designs and this has been replaced with big windows size in modern residential housing for better comfort.

Plate XI: Lean to Roof, used in ancient Yoruba housing were captured above.
Source: (Author's field work, 2021)

6. Traditional building materials:

Alao (2017) explain the building materials used in traditional housing as follows:

i. Stone: Stone is naturally occurring and is abundant in Nigeria.

ii. Bamboo and thatch materials: Bamboo as a pole like structure that is mostly used for roof, slab support and fence construction. Both bamboo and thatch materials were abundant in south western part of Nigeria as stated by Alao (2017)

iii. Timber: Timber is safe to handle and it is naturally anticorrosive. It is cost effective and also widely available in the south western part of Nigeria.

iv. **Mud**: Alao (2017) defines mud as earth mixed with liquid and it is found extensively in rural areas. It serves as good heat insulator. Mud is also a semi fluid material and can also serve as a binder.

Plate XII: Shows materials that defines Yoruba Traditional Housing
Source: (Author's field work, 2021)

v. **Clay**: Clay soil is widely available and can be found in towns and villages across south western Nigeria. It is a fine mineral particle with less organic material and is very sticky when wet. It is also very cheap and also sustainable as stated by Alao (2017).

vi. **Laterite**: This is a highly weathered, natural, red coloured, soil material with high concentration of hydrated oxides of iron or aluminium. As such, laterite is a very good sustainable traditional material widely available in the south western part of Nigeria

vii. **Gravel:** Alao (2017) describe gravel as a small loose rock particle larger than 2mm and smaller than 1/12 inch and is not more than 2.5inch or 64mm. it is readily available in south western Nigeria. Other examples not mentioned are water, fastening materials, and wood/ lumber.

2.3.5 Influence of culture on Yoruba traditional housing

Olotua (1997) emphasized how the Yoruba housing were influenced by the life style of the people alongside their needs. Yoruba hosing can therefore be said to be a portrait of the lifestyle of the people that reflect the needs and realities of their lives. He observed that the culture of the people had a great influence on the type and form of the housing evolved by the people. Culture is an encompassing feature such that the knowledge, belief, capabilities, habit acquired by man as a member of a society are transmitted from one generation to another. Therefore, Oluremi and Obateru (2002) describe culture in two ways as urban and the rural culture. Urban culture is characterized by the distant blood lines, unfamiliar relatives and competitive behaviours, while rural culture is a traditional culture characterized by intimate relationship and human blood lines and behaviour. Therefore, traditional Yoruba housing was based on rural culture determined by the tradition and custom of the people in which the land use was restricted to residential, market, Palace, farmland, and shrines area.

The Yoruba traditional housing is of two types. The first is the traditional compound built around one or more courtyard as Adedokun (2014) emphasis that the spatial configuration of Yoruba settlement reveals a fair map of the economics, social, and genealogical relationship of the inhabitant. However, in a situation where the family exhibit a nuclear system, the house form was often enclosed in a villa type while an extended family system is usually an open plan. Traditional housing was created out of the culture of the Yoruba people and the need to take care of the extended family structure that symbolized the Yoruba community. The second type of housing in Yoruba architecture consists of a double row of rooms which are opened into a common corridor. This housing type is prominent in the 1930s where earnings from palm oil and cocoa allowed a young rich man who inherited a share of the family compound to build his own house.

Prucnal-Ogunsote (2001) stated that this house type was influenced by cultural mix of the Brazilian style from freed slaves to play an important role in a multi- habitation in Yoruba housing. Okeyinka, (2014) later observed that this non-compound housing form with rooms aligned along a central corridor had been adapted in all urban center and villages of developing countries to provide rental accommodation to individual tenants.

2.4. Issues Affecting the Continuity of Yoruba Traditional Housing

Sonaiya and Dincyurek (2009) observed that westernization played a big role affecting the continuity of traditional Yoruba housing. The traditional practice had been threatened by western ideas and ways of life have eroded many old knowledge and technical know-how to use and develop local materials to meet modern times expectation. The decline of Yoruba tradition has affected the architecture of her people as a result of factors like unattractive technology for mass production of building materials, obsolete and disintegration of the traditional society. Another major decline was when functional traditional education was replaced by western education which made traditional Yoruba housing vulnerable to indoctrination and negated the teaching of craftsmanship through apprenticeship. Attempts were made in the past to reincarnate the practice in the school curriculum but that has been fruitless because it was not practical but rather theoretical.

Agbos (1993) stated that the events over the years revealed that the idea of government official headquarters sprang up and the Yoruba courtyard housing style gave way to story buildings, bungalows with corridors adequate for domestic affairs. He supported his argument that around the 1950s and 60s, money was pumped into building individual western type of houses which encourage social distancing, even though some of the modern houses were built on family land. That was the beginning of the

abandonment and all we have now is nothing but the memory of the past identity of Yoruba traditional heritage. The disadvantages and advantages of traditional Yoruba housing were enumerated below as stated below.

2.4.1 Disadvantages of Yoruba traditional housing

i. Lack of privacy: Elleh (1997) stated that there is minimal privacy in courtyard plan design adopted in Yoruba traditional residential housing and rooms share at least two walls with their neighbours.

ii. Undefined territoriality: It is difficult to determine who has right and responsibilities to shared spaces and amenities most especially when non-relatives cohabit. This often led to lack of maintenance of the shared spaces due to the growing lack of community spirit as observed by Sonaiya and Dincyurek (2009).

iii. Image and functional obsolesce: Adedokun (2014) explained that Unbaked earth traditional Yoruba housing seems unattractive to the literate members of the society due to its lack of desirable interior spaces, poor plumbing, and landscaping also makes it undesirable for modern users.

iv. Structural failures: Sonaiya and Dincyurek (2009) said that poor earth building techniques used to construct the foundations of Yoruba traditional housing leads to several structural failures and exterior wall slumping due to erosion caused by Nigeria climate.

v. **Sharing of spaces:** Conveniences, kitchen, courtyards were used communally in Yoruba traditional housing which is usually unsatisfactory for modern users as observed by Elleh (1997).

2.4.2 Advantages of Yoruba traditional housing

Chisomo (2011) observed that there is no completely modern society as there is no completely traditional society. The assertion was justified in the first industrialized nation "England" which is known to keep its tradition and blend it with modernity in order to give it stability and development. He supported this assertion using Alsam in Japan as one of the countries where tradition was integrated with modernity. He explained that every modern society retains their traditional structure; attitudes and institution even after the conditions that originated them have disappeared. As such it is practicable to integrate Yoruba traditional housing elements into modern housing as suggested by Arenibafo (2017) and Eze (2018) due to the benefits Yoruba architecture offers and most especially when one considers the present global health, sustainability concern, growing socio-cultural problems, lack of living quality, legibility in urban environment, and loss of place and identity. The advantages of Yoruba traditional housing identified by Sonaiya and Dincyurek (2009) were also discussed below.

1 **Socio culture:** Yoruba traditional residential housing had been refined over the years to suit people lifestyle and culture. As such it has the following socio-cultural advantages as explained by Adedokun (2014)

i. Suitability for traditional inheritance

ii. Spatial and consistent relationship of rooms to courtyard, courtyards to quarter, and quarter to market square which allows the use of urban environment and easy legibility.

iv. The courtyard housing form in Yoruba residential housing aids privacy, security as well as socio cultural communication and continuity among the Yoruba people.

iv. It offers affordable independence for groups with special needs such as young mothers or the aged.

2. Economy: Elleh (1997) stated that the availability of traditional building materials and the low skill involved in its use makes it the most economically viable. He explained further that Yoruba traditional compound and house form possess economic advantages due to its efficient use of land, sharing of resources and suitability for high density housing. He further stated that courtyard design aids natural illumination and ventilation which reduces running costs in the building interior.

3. Ecology: Day (2002), Meir and Roaf (2006) stated that Yoruba traditional building materials such as timber and earth are sustainable and renewable and as such, they are easy and safe to use due to the benefits such as low pollution, low energy cost and climate modification.

2.5 Overview of Transformation of Yoruba Traditional Housing to Modern Housing in Nigeria.

In pursuit of innovative and creative process in Yoruba residential housing, two schools of thought evolved over the years to deal exclusively with residential housing development in south western Nigeria and were known as the Adhocist and the modernist movement.

2.5.1 Adhocist and modernist movement in south western, Nigeria.

1. The adhocist movement: Chisomo **(**2011) explains that Jencks and Silver (1972) belongs to this movement that creating housing without socio cultural context is

not the best and ideal form of architecture. They believed that a building that lacks historic reference becomes misused as a convention for good taste and an excuse to deny the plurality of the actual needs. Initially in ancient times, Adhocist believe that housing must responds to fulfil the immediate need of people using readily available resources. Later over the years, the traditional architects merge these philosophical approaches by the Adhocist with the culture of the people to provide a better and symbolic housing style for the people. Adhocism uses available resources to solve a problem quickly and efficiently in a new way by placing purposeful action against determinism, immediacy against delay, caused by specialization.

Chisomo (2011) observed that Adhocism is not a unified world view but rather a transitional philosophy that does not care about perfection when trying to achieve the optimum but rather chooses from available resources to achieve an optimum as opposed to the unified thinking that chooses the best component to achieve a whole. However, it does not mean the Adhocist architects reject high refinement of the modernist, but rather disagree on the fact that high refinement usually creates delay and dissatisfaction with compromises. As such, these compromises were preferred when building requirements are complex. In summary, Adhocist movement draws its view from rich pool of inspiration with greater emphasis on Immediacy combined with the culture of the people as regards Yoruba traditional housing.

2. Modernist movement: Chisomo, (2011) stated that another school of thought emerges in the 20th century in Yoruba housing and argues that any building without context by their nature creates the context. By standing out and being different, the building draws attention of itself thereby publicizes the activities within it and becomes a signature icon of intention for their immediate environment. Modernist movement was symbolized by the fierce individuality of the creator, the unique identity of the client

and the general dynamic of the worldview. Modernist movement rejects the free plying of ornamentation and decorations, and any deliberate attempt to imitate the past or traditional symbols of Yoruba architecture.

2.5.2 Transformation of Yoruba traditional housing in south western Nigeria

The history of Yoruba traditional housing dated back to the eighteen centuries before the arrival of the colonialist and later the Brazilian slaves. Reliance craftsmanship and natural building materials such as mud, or adobe, bamboo and timber characterized the traditional housing of south western Nigeria. Furthermore, the return of slaves from Brazil in the eighteen century leads to the development of another style of housing known as the vernacular or Brazilian architecture. The buildings and pillars were decorated with ornaments with existing local trend. All the above traditional housing style was collectively grouped under traditional housing. Prior to the early nineteen centuries, modern housing became increasing popular among the colonialists to level up architectural design principles with advance technology and modernization of the society with their methods and social way of life Kostof, (1995) stated that the first modern houses were built in ‘’Ikoyi’’ Lagos Nigeria before the second world war of I930. This modern style was imported by the British with prefabricated construction method supported by decorative stilts. As regard to the window design, there opening was characterized by continuous horizontal band of windows. Due to the production of new building materials such as corrugated iron roof sheets, and cement, new methods from Europe greatly influenced the aesthetic of modern housing. The modern style was seen by the Nigeria consumer as a symbol of civilization, progress and smooth

transformation from old to new ways of doing things. The oil boom in the seventies also significantly influence the development of residential housing in Nigeria which resulted to competition and most building industries depend on imported building materials.

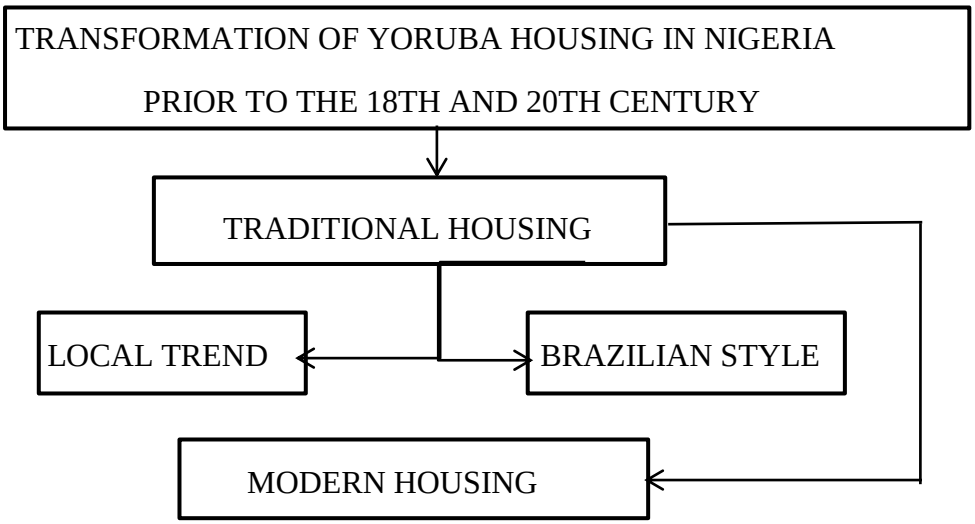


Figure 2.5: Evolution of Yoruba housing in Nigeria.
Source: (Author's sketch work, 2021)

2.5.3 Elements that defines modern housing

The elements that define modern residential housing are:

i. Shape, form and roof types: Elleh (1997) and Prucnal-Ogunsote (2007) stated that modern housing experiments with free forms, horizontal and vertical shading devices in their building façade. Concrete enclosed parapet wall, and high-pitched roof are commonly utilized in modern residential housing to aid quick run off water.

ii. Ornamentation and building materials: Adeyemi (1999) and Elleh (1997) explained that materials such as brick, stones and wood were used in simplified manner to cover some portion of the building to reflect modern aesthetic while vertical steel trusses, sections, iron rods, board claddings, cements, concrete blocks, long span steel

trusses, Aluminium roof sheets, and different paint types were also widely used in modern housing.

iii. Construction method: Adeyemi (1999) and Prucnal- Ogunsote (2007) both agreed that advanced construction method such as pile, raft, and deep strip foundation were mostly used in modern residential housing depending on the nature of the soil.

iv. Functionality: Prucnal-Ogunsote (2007) stated that the spatial relationship between interior spaces and the environment were seen in modern residential housing. Spaces are well defined with walls for security and privacy. Additional rooms such as gymnasium, anteroom, patio, guest bedroom, conveniences, study room and garages were visible in modern housing.

2.5.4 Building materials that define modern housing

Eze (2018) itemise the materials that define modern residential housing as: Aluminium, Glass, Metal / Steel, Bitumen tar/ Asphalt, Sand, Granite and marble stones, Water, Paint, Tar, Timber/ wood, Polyvinyl chloride (Pvc) Ceiling material, Plaster of Paris (POP) ceiling material, Iron mosquito window net, Metal doors, nailing materials, and Cotton blinds.

2.5.5 Bridging the gap between traditional and modern housing

Harries (1992) said Proposing a return to traditional ways of living and building is neither desirable nor responsible. However, Aradeon (1981) stated that achieving environmental sustainability and encouraging cultural continuity is imperative. The modernist movement is challenged with issues of sustainability and it must be addressed to promotes its own success. Chisomo (2011) points out that modernist building did not blend well with environment giving it a character and uniqueness singular to the

architect intention which ultimately benefits only architectural discourse. She believes that these ideals were not best approach to human holistic vision of progress, rather the traditional Adhocist principles seemed to be better equipped to solve sustainability problem as it is believed that a level of sensitivity to the site and physical environment were needed to preserve the culture, mannerism, spatial properties and symbolism of the people.

With the current trend in housing, the world clamours and celebrates sustainable iconic residential houses with roots firmly drawn from traditional precepts. As such, Chisomo (2011) supported this notion that analysing and paying homage to historically rich architectural context, one should decode the genus locus revealing deep rooted design primers that can lead to a better understanding of traditional residential housing in modern context. The stark contrast between the Adhocist (culture or context centric principle) and the Modernist (stylized theory based on universal legibility) movement were resolved by Frampton (1982) in his dissertation with the chapter titled: prospect of critical regionalism. He admits that the current trend in modern housing wills totally extinct traditional housing. Perpetual and mass consumerism of modernity will lead to loss of local identity and expression. Therefore, in response to the insurgence of such negative trend within the built environment, he stated that the wish of critical regionalism is to present an alternative answer by providing a housing style that merges the two architectural movement philosophies together to produce a oneiric essence with site together with the inescapable materiality of the building according to Nesbitt (1996).

Chisomo (2011) further clarify that proper understanding of the advantages and characteristic of traditional residential housing as well as social practices of the people will yield more appropriate sustainable modern housing designs. She suggested that

design professionals should consider cultural norms, the traditional activities taking place within the building spaces and their symbolic importance during planning and design stage. He advised that bias against traditional building practices must be eradicated, and the stigma of primitiveness should be removed by educating the people and raising awareness on the benefit of natural building materials for sustainable built environment. Udoku (2004) and Arenibafo (2017) insist that the vestige of traditional housing is still observed in some part of southwestern Nigeria, and it must be developed to instigate the integration of Yoruba traditional and modern residential housing. Its Physical, aesthetics and theoretical interpretations of urban and house designs must be merged together as one. Also, modern realities such as internal conveniences and decorations, furniture, space sizes, privacy, and security should be reconciled with the lifestyle, economic, ecological, and socio-cultural benefit of Yoruba traditional housing.

2.6 Assessing the Elements of Yoruba Traditional Housing that should be Integrated into Modern Housing

Sonaiya and Dincyurek (2009) highlight and assess the key elements of traditional Yoruba housing below.

1. **Spatial quality:** Yoruba traditional housing was rich in spatial quality. The overhead planes, the modulated base and the distinct entrance and the boarder of the each of the three zones add to the perception. These were achieved with the use of threshold, ceilings and difference in floor level to alter the volume of the space. However, so many modern housings are omitting this spatial attribute and as such, this feature should be incorporated to preserve Yoruba traditional housing identity.

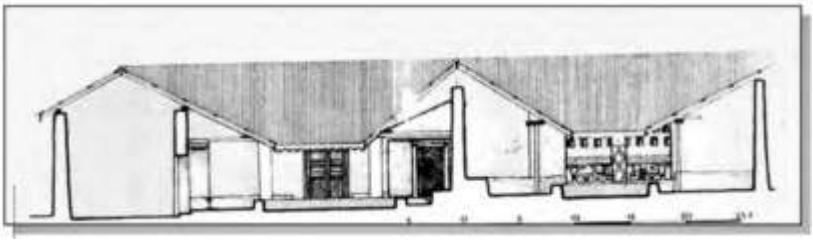


Fig 2.6: A section of courtyard house showing threshold and floor level difference.
Source: (Dmonchowski, 1990)

2. Social spaces: Courtyards and halls had been reduced or totally omitted in modern housing in south western Nigeria. The introduction of electric appliances such as fan, air conditioner, electric cooker, enable most activities to be carried out within the bedroom negating the need for courtyards or halls among non-related house mates. The hall of residence had been reduced to access corridor in most modern housing. Social spaces are gradually been lost in many towns, while squares and gathering spaces had been built over. Due to reduction in communal entertainment and ceremonies, the introduction of supermarket has reduced the social function of the market square. However, this development was not irreversible as they were product of globalization as observed by Sonaiya and Dincyurek (2009). As such, the void left by the loss of such spaces must be consciously filled up by modern socio gatherings such as plaza. Open markets for agricultural produce, town halls, parks, and neighbourhood playgrounds.

3. Concept identity and symbolism: The purpose of signs and symbols in Yoruba traditional housing was to pass information and make man in touch with the idea of a good and ideal space. The declining use of symbolism in modern housing is partially a result of lack of shared symbolism due to migration, interracial mingling, and availability of other cultures via mass media. As such, this made design practitioners in south western Nigeria to abandon the use of symbolism in modern housing. However, the choice of house form means the dwelling itself function as a symbol and identity reminding the people how to behave and as such, its fits perfectly into the value system

of the society. It would be beneficial to identify the shared symbolism that exist in the Yoruba built environment as this will help the design practitioners to create a richer, better and more meaningful housing in modern times. The built environment would be enhanced by consistent use of symbols, and signs, and thereby avoids the schism that exist between symbolism and perception when building does not look like what they were as stated by Chisomo (2011)

4. **Meaning and perception:** Day and Parnell (2003) observed that the meaning the users attached to their homes is directly proportional to the control they have over the environment. As such, Osasona (2005) further clarify that people built their houses communally in antiquity and the house owner still exert enough control over the arrangement of the dwelling and thus retain a sense of ownership, identity and belonging. This arrangement helps the Yoruba people to ascribe meaning to the built environment.

5. **Participation in the design process:** In Yoruba culture, the house owner and family often contributed to the construction in terms of ornamentation of the houses. As such, the modern gap between the designer and the user should be minimized in modern housing as user inputs should be considered and incorporated during the design stage.

6. **Flexibility and functionality in layout:** Yoruba traditional housing was achieved through multi-functionality of spaces and ease of transformation of the house form. Rooms were added easily as extension to fill internal and external open spaces. Traditional furniture was not often fixed and spaces assumed function as they were required. Modern housing designs should allow flexibility in their arrangement and function. They should put into consideration future changes in size, function and the final user profile.

7. **Unity and aesthetic:** Both the Yoruba traditional and modern housing elements should be merged together and brought into proper relation to each other so that a satisfactory composition was obtained aesthetically. If there is unity in design, all trivial design parts should be made simple to assists the major units in the role which they are supposed to fulfil the development of the structure.

8. Maintenance: The uses of traditional building materials adaptable to the site are good. Mud used in the construction of wall is a good insulator material in hot humid climate. The ceiling space knows as "Aja" in Yoruba language apart from its good thermal conductivity is a functional space for storage. The high-pitched roof allows torrential rain from tropics to run off fast thereby preventing leakages. However, simplified construction system and educating the inhabitants will allow them to take care of their homes themselves which will reduce the running cost of maintaining the building edifice as observed by Sonaiya and Dincyurek (2009).

CHAPTER THREE

3.0 METHODOLOGY

3.1 Research Method

The research design uses descriptive and historical with mixed method approach to analyse the quantitative and qualitative data collected. Out of the 350 open ended questionnaires administered to the respondents, 265 questionnaires were returned by the students selected from tertiary institution and building professionals. 10 respondents were also selected for interviews in the field work. Visual observation and review of the relevant literature were used to establish the theoretical frame work. The data for this research were generated through primary and secondary sources. The primary data were quantitatively inclined while the secondary data were qualitative in nature. The qualitative data gives well detailed information through citation, and description. The research instruments include administering open ended questionnaire, observation schedule, field work; unstructured face to face interview and historic research through

the review of relevant literature were used to establish a theoretical framework. The study also relies on online research resources, alongside physical library checks and archival photographs research. All the respondents were selected using purposive sampling from Oyo and Osun State because these states were known to represent the core central of Yoruba culture and tradition as observed by Agiri (2014). To control the system of response, questionnaires were delivered to the respondent personally. Descriptive statistical tools such as tables, charts, graphs and tables were utilised in result analysis.

As such, five notable traditional palaces across different part of Yoruba land were also identified using purposive sampling and visited for case studies to identify and assess the lost traditional Yoruba housing elements in the study area. The palaces include Olubadan Palace opposite Oja Oba market in Ibadan, Oyo State, Alaafin of Oyo Palace in Oyo State, Oni of Ife Palace in Osun State, Ancient Palace of Oke Idanre in Ondo States, Olofa Palace in Offa, Kwara State.

3.2 The Study Area

Yoruba as a tribe originated from the south western Nigeria and lies within the tropical rainforest. They are descendant of Oduduwa bounded by culture, common language, and history and constitute of one of the largest ethnic group in Africa and spreads across states of Oyo, Osun, Ondo, Ekiti, Lagos, and Ogun. Yoruba tribe can also be seen in Kwara, part of Edo, Benin, Benue, and also the capital of Benin republic (Ketu), Dahomey and Ashante. The climate in south western Nigeria is tropical with annual rainfall of 130cm to 180cm, with 60% to 80% high humidity throughout the year. The mean temperature is high with more than 25^0c. The maximum temperature is more that 30^0c while the minimum temperature ranges between 21^0c to 25^0c. Ancient religion plays great importance in Yoruba culture. Idowu, (2005) believes that as far as Yoruba are concern, every part of their life such as marriage, betrothal, building house, and

taking up a career are attached to the traditional culture and religion of the people because Yoruba have strong affinity to their ancestors and belief. Symbolic representation plays a vital part in Yoruba culture as it depicts a way of making spiritual perceptible through materials. Harisson (1958) describe this period in plastic age were man ascribed to divinities as endowment of living object by drawing shapes in the imaginaries of creatures carved from wood or sculpted with stone or metal. Adepegba (1995), stated that Ornamentations of building is also a popular means of expressing status and social positions in the Yoruba culture as it was seen in the Alaafin of Oyo palace and Oni of Ile Ife palace.

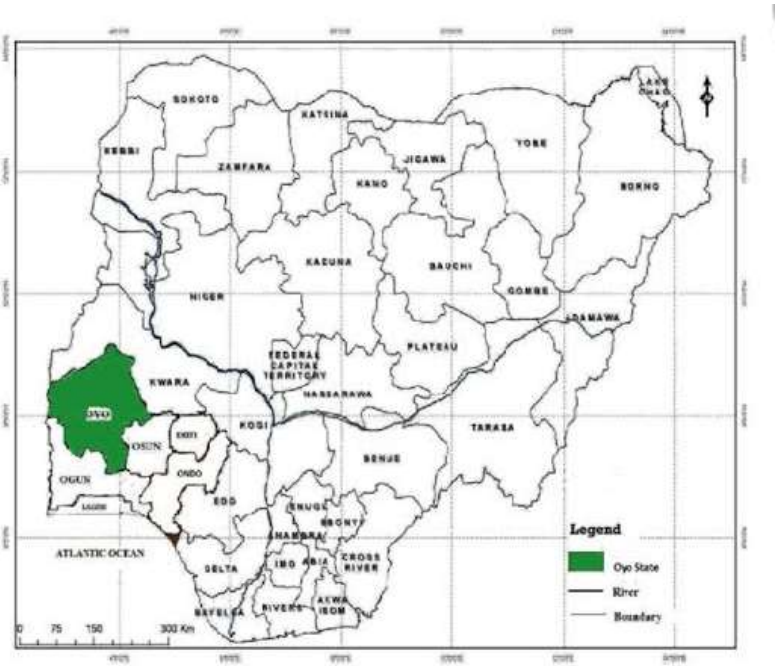


Figure 3.1: Nigeria map showing Oyo State
Source: *https://www.google.com/search?q=nigeria+map+showing+Oyo*

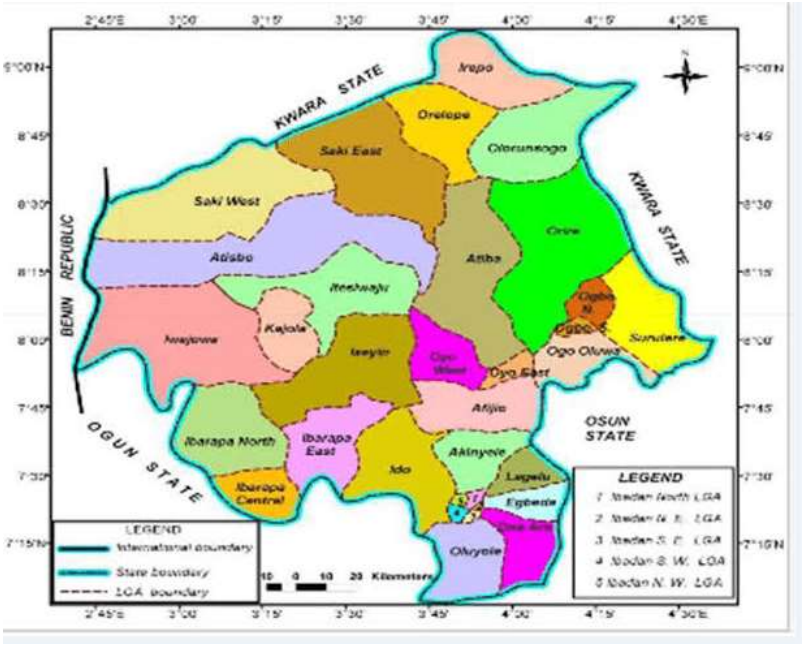


Figure 3.2: Oyo State Map showing all its local government areas.
Source: https://www.google.com/search?q=Oyo+state+map+showing+all+it+local+government areas

The Yoruba people usually lives in compound occupied by member of the same family and lineage. The Yoruba are very industrious and build their dwellings to accommodate indoor activities. The proposed palace is to be located in Ibadan, an ancient town in Oyo state which is the political seat of south west. The location area is “Igbo Agala” also known as Agala hills, army general Hills, shepherd hills, or (*Oke Sapati*). *Sapati* is a Yoruba adulterated translation of the English word shepherd. The hill is credited with many tourist attractions such as the bowers tower. The most captivating feature of the tower is that the tourist can stand on the peak of the tower and see the whole city of Ibadan lying in its majestic view with the aid of binoculars. It was erected in 1936 as a monumental edifice to honour a travelling commissioner for the whole of Yoruba land and first British resident in Ibadan, in person of Robert Lister, Bower. The tower possesses an eagle’s eye view of the beauty of Ibadan city with a spiral shaped staircase that takes the tourist to the head of the tower constructed inside the building. The proposed king palace is expected to sit on a six-acre expanse of land at the popular

(*Agala*) hill which is the centre of the town. The site can be accessed via (*Yemetu Aladori*n) in Ibadan. The most notable challenges to the site arise from the relatively high level of noise and traffic congestion along the road to the main site. Also, Environmental advantages around the Site are abundant. The slope of the site is gradual and relatively flat and ideal for the proposed palace when designed correctly

3.3 Data Sources and Type

Data were collected through two mediums. Primary and secondary data were utilized for the study.

3.3.1 Primary data

Primary data used in the study were gotten directly via field study. They data were first-hand information and were adequately dependable, unbiased and accurate. The data were both qualitative and quantitative it has not been altered by anyone. The qualitative data itemise, describe and assess the key Yoruba residential housing elements and materials found in the case studies in the study area

Table 3.1: Primary data, source and types

S/N	Data	Types	Source
1	Identify and itemise the lost Yoruba traditional housing elements available in the study area	Quantitative	Observation from case studies
2	Describe and assess the elements that define Yoruba traditional and modern housing.	Quantitative	Open ended Questionnaire & observation
3	Describe how to integrate the lost traditional Yoruba housing elements available in the study area.	Quantitative	Open ended Questionnaire & observation
4	Questionnaire Sample adopted (Open ended)	Quantitative	Interview
5	Physical information of the proposed site and basic information on the palace case studies in the study	Qualitative	Field study, Observation

	area	& Interview

Source: (Author's field's work, 2021)

In table 3.1, the primary data were gotten through face-to-face interview with 10 respondents selected in the field work while others were collected through open ended questionnaire from 265 respondents out of the 350-questionnaire administered, and observation from the field study.

3.3.2 Secondary data

Secondary data used in the study were gotten through medium that had been previous issued out through published or print medium. These data were not obtained directly by the researcher but gotten through the study of relevant work of another researcher. The secondary data collected were most qualitative.

Table 3.2: Secondary data, source and types

S/N	Data	Types	Source
1	Relevant literature to the research	Qualitative	Archives from internet and library
2	Geo physical information of the proposed site in the study area	Qualitative	Archives
3	Maps for site location	Qualitative	Archives from Internet
4	Information on various Yoruba traditional and modern housing elements available in the study area	Qualitative	Archives from Internet
5	Information on a typical Yoruba traditional palaces, compounds, spatial layout and courtyards designs methods,	Qualitative	Archives from internet and library.

Source: (Author's field's work, 2021)

In table 3.2, the secondary data were mostly gotten through archives from internet, Federal University of Technology library and department of architecture data room

3.4 Method of Data Collection

Important information used in the study was gotten directly through multiple sources. Questionnaires, unstructured face to face Interview, Observation schedule were instruments used to obtain the primary data. The secondary data were obtained through archives from Internet, Federal University of Technology Minna library and data room from Department of Architecture. Literature review of relevant documents such as journals, magazines, publications, conference paper, and other academic papers gotten from student thesis and audio-visual digital materials such as photographs were also utilised for the study. The information collected using these research instruments were summarised below using the following subheadings.

1. Questionnaire

Eze (2018) stated that questionnaire is a set of questions relating to the aim and objectives of the study in which the respondents are expected to provide answers by handwriting. The respondents were selected according to the criteria relevant to the research. The criteria use to select the respondents primarily focus that the respondents must be an indigenous student from any of the tertiary institution in Yoruba land or building professionals in field related to environmental, architecture, housing and building construction. The respondents must be 18years and above, must be able to correctly answer the questions posed to him or her in English language, the respondent must be from a Yoruba tribe and must reside in any of the villages, towns or cities in

Yoruba land for the past five years. Due to the following reasons, open ended questionnaire was administered to 300 students from Faculty of Environmental and Engineering in the selected higher institution. Students from Departments of Architecture, Building, Urban and Regional planning, Estate Management, Quantity Surveying and Civil engineering students were all considered and preferred while the other respondents were selected among 50 building Professionals such as Architects, Structural Engineers, Builders, Estate Developers, Quantity Surveyors and Urban and Regional Planners practicing and residing in Oyo and Osun States. 240 questionnaires were returned and filled by the students while 25 questionnaires were returned and answered by the selected Building Professionals across Oyo and Osun states. 80 students each were picked from Federal, State Universities and polytechnics in Oyo and Osun states. Ladoke Akintola University of technology and the Polytechnic Ibadan were picked from Oyo state, while Obafemi Awolowo University and Ede polytechnic were picked from Osun State. These institutions were selected due to their excellence in the field of architecture, housing and building related courses as observed from the list by the National University Commission for the year 2021. All the respondents were selected using purposive sampling from Oyo and Osun State because these states were known to represent the core central of Yoruba culture and tradition according to as stated by Agiri (2014).

Questions related to the study were asked from the respondents selected. In this regard, the history of Yoruba traditional palaces, courtyard designs in traditional palaces, spatial layout in Yoruba traditional compounds, identification and description of the elements and materials that depicts Yoruba traditional and modern residential housing, issues affecting the continuity of Yoruba traditional housing, advantages and the disadvantages of Yoruba traditional housing, and ways to bridge the gap between Yoruba traditional and modern residential housing, were questions asked in the questionnaire. All the students used for the study were of Yoruba origin and majority resides in towns,

villages and cities in south western Nigeria with useful on the research topic. The results from the questionnaires strengthen the information gotten from historical review of literature relevant to the study. A 4-point likert scale was employed as scale of measurement where the mean value cut off mark rank ranges from 0- 1.59 = strongly agreed, 1.6 -2.69 = Agree, 2.7 – 3.59 = Disagree, 3.6 -4.59 = strongly disagree. Eze (2018) explained that the mean is the arithmetic average of a set of scores and it is the most commonly measure of central of tendency.

Mean =$\bar{x} = \sum \frac{x}{n}$ or $\bar{x} = \sum \frac{f_x}{n}$

Where $\bar{x}$ is the Arithmetic Mean, $\sum$ Is the Greek Letter Sigma that Means Summation Of, x is the number of cases, while (f) is the frequency while 1,2,3, and 4 is the likert scale of expression. Where(f) is represented by A, SA, D, and SD to determine the rank order of the consensus opinion of each of the key element and materials of traditional and modern housing in the study area using the formula above as tabulated in chapter four.

2. Interview

The respondents were selected based on the criteria relevant to the research work. This means that the respondents must be a traditional ruler, or high-ranking royal chief with vast knowledge of Yoruba culture and tradition, ancient palaces, general Yoruba traditional housing and construction. Interview questions were administered by the author himself. Unstructured face to face interview schedule was adopted to interview the selected traditional chiefs of custom and tradition across the 5 traditional palaces visited. Unstructured oral interview questions related to the research topic were asked and documented through video recorder and transcribed as seen in Appendix D with the purpose of complementing other data gotten from the questionnaires administered to other respondents earlier. Purposive sampling was also used to select 10 traditional

royal chiefs in charge of Yoruba tradition and culture across the palaces visited for case studies in Yoruba land as seen in Appendix C.

3. Observation schedule

The documented observation from field study covers all relevant information gotten through visual observation of the proposed site and also on the selected traditional palaces, used for case studies in the research work. Photographs were taken on field for documentation purpose to enable easy and constructive comparison of data gotten from field study with the information gotten from other sources such as questionnaire and interview schedule.

4. Qualitative case studies

This method was adopted to explore in depth and revise related research work carried out by other scholars to complement the study and obtain a probable result that solves design difficulties observed from other studies. The case studies focus on Yoruba traditional palaces with emphasis on Yoruba traditional residential housing elements and materials in the study area. This is done to ensure that the useful elements and materials of Yoruba traditional housing were integrated into the proposed Olubadan palace. The research review six notable traditional Yoruba palace buildings in south western Nigeria with photographs and adequate information on the selected palaces documented and analyse.

3.5 Validity of Research Instruments

For validity purpose, the research instruments were administered to professionals, students and royal custodian of culture and tradition within depth knowledge in the field of architecture, building construction, traditional and modern residential housing for content and face validity's sake. Eze (2018) observed and confirmed that a good

validation of research instrument should be judged by the extent of respondent adherence where the findings from the research work were taking to the respondents who participated in the research study for validation, confirmation and approval of the results thereby validating the research process.

3.6 Reliability of the Research Instruments

Eze (2018) stated that the extent or degree of consistency with which a test measures what it measures is known as the reliability of research instrument. The Yoruba housing elements and materials under study constitutes the variables in the research. The study uses questionnaire to obtain information and identify Yoruba traditional residential housing elements and materials available in the study area, assesses these elements and materials and describe how to integrate the traditional Yoruba residential housing elements and materials in the proposed Olubadan Palace. To justify the quality and reliability of data collected, only professionals, students and royal custodian of culture and tradition with in depth knowledge in the field of architecture, building construction, traditional and modern residential housing were engaged. More also, the questionnaire and interview were administered and conducted personally to each respondent by the researcher to ensure the credibility of data collected. Before the results were accepted finally for use, the tested result uses the Cronbach's Alpha to determine the reliability of the result findings. The reliability of the questionnaire administered were necessary to ensure the reliability value for constructs has an acceptable value. As such, the Cronbach's Alpha coefficient value obtained is 0.82 which is greater than the standard acceptable value of 0.71 for reliability in basic research as stated by Eze (2018).

CHAPTER FOUR

4.0 RESULTS AND DISCUSSION

4.1 Data Analysis and Demographic Information of the Respondents

The chapter focuses and examines the data gotten from review of relevant literature and compares it with data gotten from field work by the researcher. Visual observation of the selected traditional palaces used for the case studies was deduced deductively,

documented and analysed. Open ended questionnaire was administered to 300 students from faculty of environmental and engineering in the selected higher institution with preference given to students from departments of architecture, building, urban and regional planning, estate management, quantity surveying and civil engineering. These students were picked across Federal, State University and Polytechnic in Oyo and Osun States.

The other respondents were selected among 50 building professionals practicing and residing in Oyo and Osun States. Out of the 300 questionnaires distributed to the students, 240 questionnaires were returned and filled by the students while 25 questionnaires were returned and answered by the building professionals out of the 50 distributed. More also unstructured face to face interview schedule was adopted to interview 6 selected traditional chiefs of custom and tradition from the traditional palaces visited. Interviews were conducted and documented through video recorder and transcribed. All the respondents were selected using purposive sampling and questions related to the study were asked from the selected respondents.

4.2 Data Presentation Discussion of Findings

Descriptive survey method using tables, pie chart, bar chart, figures, plate, and tables were used to analyse the data gotten from the research. Data gotten from case studies were deduced and analysed. Plates were used to represent the pictorial and existing physical condition of the selected case studies in the study area. Site analysis, site inventory, site orientation, site plan and design concept were important features shown in data analysis.

The result from the first objectives was gotten through visual observation of the traditional Yoruba palaces visited to identify and asses the key Yoruba residential

housing elements and materials seen, and unseen and was documented into six different sections. The first section checked the respondent profile, state of origin and residence, professional career and their knowledge about Yoruba traditional residential housing, culture, kingship and their palaces. The second section identifies, and tabulates the Yoruba traditional residential housing elements and materials seen and unseen through visual observation in the case studies. The third section identifies, assesses and tabulates the Yoruba traditional residential housing elements and materials that were no longer used in the study area through questionnaire using the 4 likert scale. The fourth section analyses and seeks respondent opinion on why traditional housing was fading out in modern society. The fifth section investigates peoples thought on traditional housing elements such as symbolism, identity, flexibility, functionality, aesthetics, spatial quality, and concept in respect to the value added in modern times. The result of the last section shows respondents opinion on notable traditional buildings they preferred in the study area and why the buildings appealed to them

The results for objective two were obtained through relevant literatures and compared to the ones gotten through interview, visual observation and questionnaire administered.

The result of the last objective shows Respondents Perception on the Integration of Yoruba Traditional Residential Housing Elements and Materials in Olubadan palace

The results gotten from this objective was compared with findings from the relevant literature.

4.2.1 Results of the questionnaires administered in the study area

This section identify, assesses and establishes the key Yoruba traditional elements depicted in the case studies, seen, unseen, used, seldom or unused in the study area

through visual observation. The results of the Questionnaire administered to the selected respondent are tabulated below.

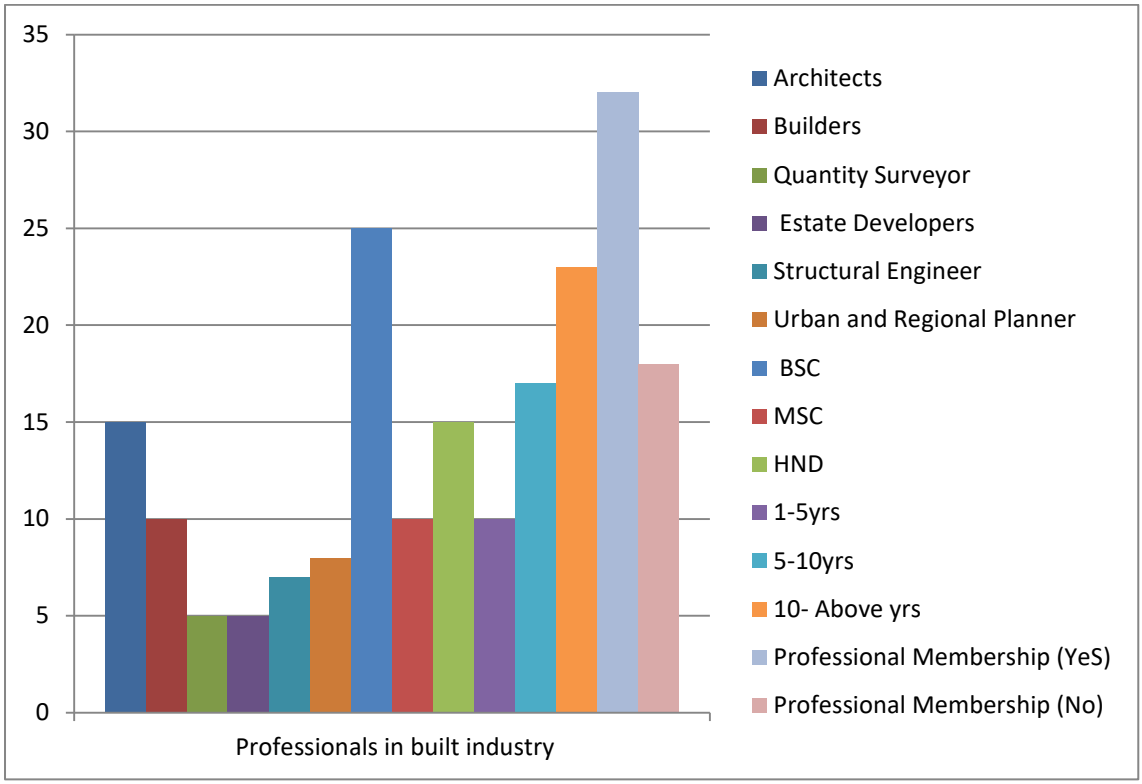


Figure 4.1: Respondents profile (selected professionals for the study).
Source: (Author's field work, 2021)

Figure 4.1 shows the profile of the selected building professionals in the built industry. The total number of respondents was 50. Out of the total number mentioned: 7 respondents were trained structural engineers, 15 were professional architects, 10 were Builders, 5 were Quantity surveyors, 8 urban and regional planners while the remaining 5 were real estate surveyors. More also, among them, 15 respondents have HND (higher national Diploma) 25 have BSC (Bachelor degree) and 10 have MSC (Master's degree). Furthermore, 10 respondents have 1-5 years, 17 respondents have 5-10 years. 23 respondents have 10- and above years. Construction experience among the selected professionals shows that 32 respondents registered with a professional body while the

remaining 18 respondents do not register with any professional body apart from the academic qualification they possess.

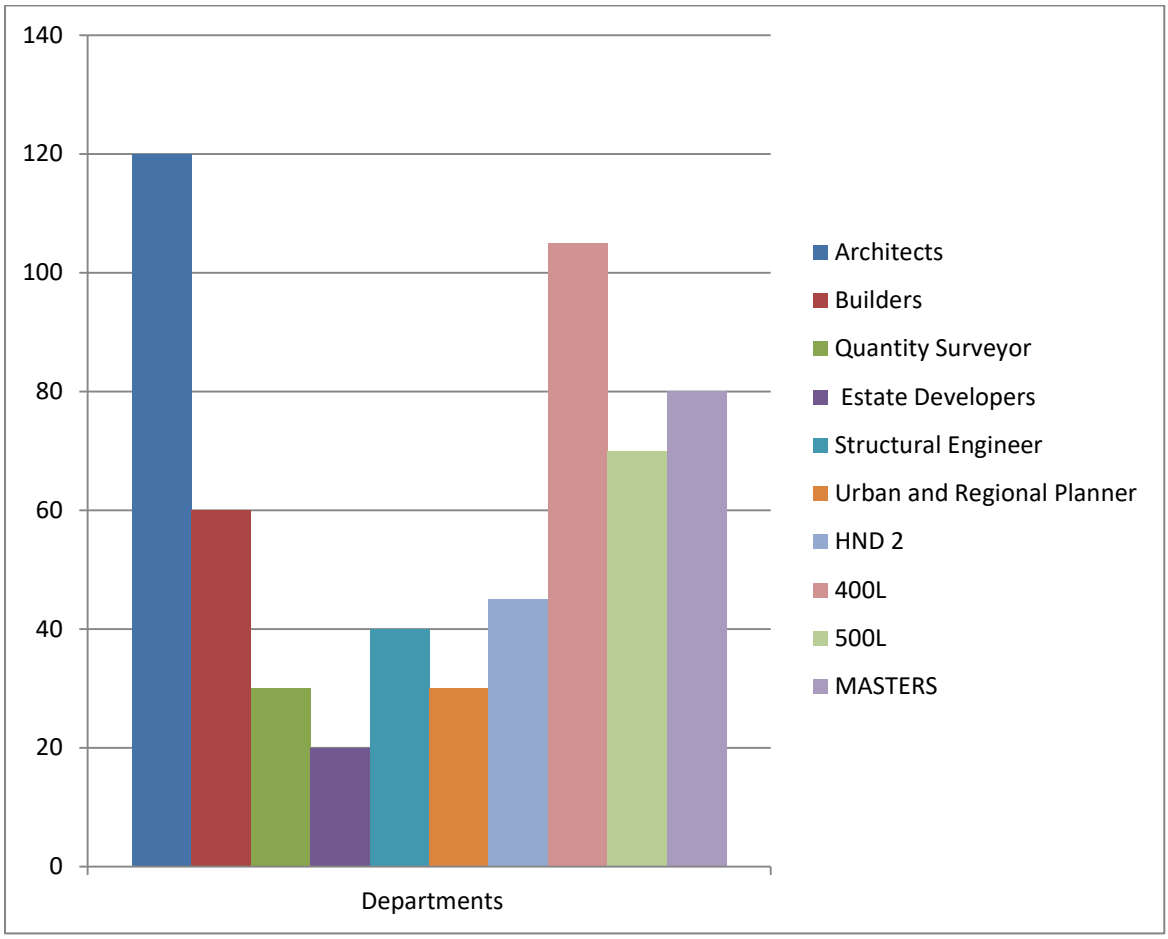
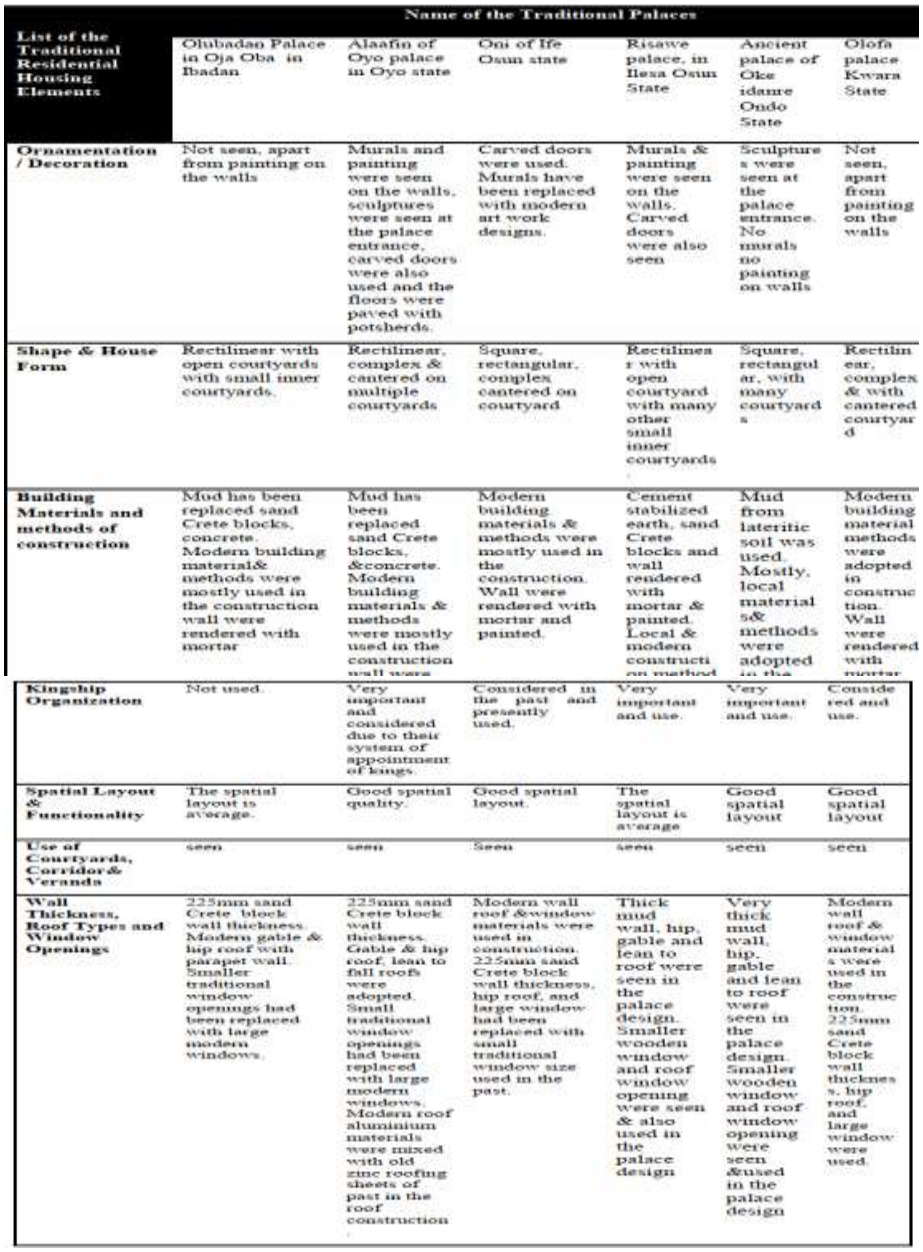


Figure 4.2: Respondents profile (selected students for the study). Source: (Author's field work, 2021)

Figure 4.2 shows the profile of the selected students across various departments in the faculty of environmental and engineering in the selected higher institutions in the study area. The total numbers of respondents were 300. Out of the total number of respondents mentioned, 40 respondents were trained structural engineers, 120 were professional architects, 60 were Builders, and 30 were Quantity surveyors, 30 were urban and regional planners while 20 were real estate surveyors. More also, among them, 45 respondents were in HND 2, 105 respondents were in 400L, 70 respondents were in 500L while the remaining 80 respondents were in master's level.



List of the Traditional Residential Housing Elements	Name of the Traditional Palaces					
	Olubadan Palace in Oja Oba in Ibadan	Alaafin of Oyo palace in Oyo state	Oni of Ife Osun state	Risawe palace, in Ilesa Osun State	Ancient palace of Oke idanre Ondo State	Olofa palace Kwara State
Ornamentation / Decoration	Not seen, apart from painting on the walls	Murals and painting were seen on the walls, sculptures were seen at the palace entrance, carved doors were also used and the floors were paved with potsherds.	Carved doors were used. Murals have been replaced with modern art work designs.	Murals & painting were seen on the walls. Carved doors were also seen	Sculptures were seen at the palace entrance. No murals no painting on walls	Not seen, apart from painting on the walls
Shape & House Form	Rectilinear with open courtyards with small inner courtyards.	Rectilinear, complex & cantered on multiple courtyards	Square, rectangular, complex cantered on courtyard	Rectilinear with open courtyard with many other small inner courtyards	Square, rectangular, with many courtyards	Rectilinear, complex & with cantered courtyard
Building Materials and methods of construction	Mud has been replaced sand Crete blocks, concrete. Modern building material& methods were mostly used in the construction wall were rendered with mortar	Mud has been replaced sand Crete blocks, &concrete. Modern building materials & methods were mostly used in the construction wall were	Modern building materials & methods were mostly used in the construction. Wall were rendered with mortar and painted.	Cement stabilized earth, sand Crete blocks and wall rendered with mortar & painted. Local & modern constructi on method	Mud from lateritic soil was used. Mostly, local material s& methods were adopted in the	Modern building material methods were adopted in construc tion. Wall were rendered with mortar
Kingship Organization	Not used.	Very important and considered due to their system of appointment of kings.	Considered in the past and presently used.	Very important and use.	Very important and use.	Conside red and use.
Spatial Layout & Functionality	The spatial layout is average.	Good spatial quality.	Good spatial layout.	The spatial layout is average	Good spatial layout	Good spatial layout
Use of Courtyards, Corridor& Veranda	seen	seen	Seen	seen	seen	seen
Wall Thickness, Roof Types and Window Openings	225mm sand Crete block wall thickness. Modern gable & hip roof with parapet wall. Smaller traditional window openings had been replaced with large modern windows.	225mm sand Crete block wall thickness. Gable & hip roof, lean to fall roofs were adopted. Small traditional window openings had been replaced with large modern windows. Modern roof aluminium materials were mixed with old zinc roofing sheets of past in the roof construction	Modern wall roof &window materials were used in construction. 225mm sand Crete block wall thickness, hip roof, and large window had been replaced with small traditional window size used in the past.	Thick mud wall, hip, gable and lean to roof were seen in the palace design. Smaller wooden window and roof window opening were seen & also used in the palace design	Very thick mud wall, hip, gable and lean to roof were seen in the palace design. Smaller wooden window and roof window opening were seen &used in the palace design	Modern wall roof & window material s were used in the construc tion. 225mm sand Crete block wall thickness, hip roof, and large window were used.

Figure 4.3: Yoruba traditional housing elements depicted in case studies through visual Observation. Source: (Author's field work, 2021)

		rendered with mortar		adopted	construc tion	and painted.
Symbolism	Not symbolized. The palace does not reflect a true Yoruba traditional housing. It is more of a modern expression that lacks traditional identity.	The palace reflect a true Yoruba traditional housing with relics, murals, and craft doors used depicts the socio-cultural, religious, political, socio economic, and environment al identity and values of the Yoruba people	Some part of the palace reflects the socio-cultural, religious, and political, socio economic and environmental identity and values of the Yoruba people. Craft doors were also used while murals has been replaced with modern art work design.	The palace reflects the traditional cultures and values of the Yoruba people as seen with the use of murals and craft doors in the palace.	The palace symboli zed ancient Yoruba tradition al housing which reflect culture & tradition	Not symboli zed. The palace does not reflect a true Yoruba tradition al housing. It is more of a modern expressi on that lacks tradition al identity.
Meaning& Perception	Traditional Spaces such as entrance porch, onilu, administrative area, Ona odi shrine area etc were not well located and defined within the palace. The people perception base on the interview conducted shows that the palace is not meaningful and does not reflects a true Yoruba traditional palace as it lacks vital traditional Yoruba housing elements.	Vital traditional spaces like shrine area, Onilu section, gabled entrance, administrati ve section etc are all well-defined within the palace. People perception from interview shows it to reflect the, culture and values of the Yoruba people. As such, It is meaningful.	People perception shows that the palace is a reflection of modern housing with some parts reflecting the culture and value of the Yoruba people.	People perception shows that the palace reflects traditional housing style that depicts the culture and value of the Yoruba people.	The perceptio n of people shows that the palace reflects ancient traditiona l housing style that depicts the culture and value of the Yoruba people.	The palace reflect modern housing with lacks of traditio nal housing identity ..

Figure 4.4: Continuation of Yoruba traditional housing elements depicted in case studies through visual Observation. Source: (Author's Field Work, 2021)

Table 4.1: Identifies and assesses the key Yoruba traditional housing elements that were no longer in used or faded in the study area using a 4point Likert's scale.

Survey Statement	Total no of Respondents/ Questionnaire Returned (N)	Respondents Ranking 1 SA	2 A	3 SD	4 D	Sum Fx	Mean Fx/n	Rank Order	Consensus Agreement
Ornamentation / Decoration	265	205	30	05	15	340	1.28	1	Strongly Agree
Shape & Form	265	40	25	115	85	775	2.92	7	Disagree
Symbolism	265	103	97	35	30	522	1.97	5	Agree
Meaning & Perception	265	130	105	10	20	450	1.70	3	Strongly Agree
Kinship organisation	265	100	70	65	30	555	2.09	6	Agree
Spatial layout and functionality	265	118	72	45	30	517	1.95	4	Agree
Courtyard, corridor and veranda	265	30	20	110	105	820	3.09``	8	Disagree
Wall thickness, roof types and window openings.	265	20	30	107	108	833	3.14	9	Disagree
Traditional building materials and method of construction	265	140	120	5	0	910	1.49	2	Strongly Agree

Note: The mean Ranks =: (1-1.75) = strongly agree, (1.76-2.50) = Agree, (2.51-3.25) = Disagree, (3.26-4.00) = strongly disagree.
Source: (Author's Field Work, 2021)

Table 4.2: Identifies and assesses the key materials that were no longer in used or faded out in the study area using a 4point Likert's scale.

Survey Statement	Total no of Respondents/ Questionnaire Returned (N)	Respondents Ranking 1 SA	2 A	3 SD	4 D	Sum Fx	Mean Fx/n	Rank Order	Consensus Agreement
Stone	265	00	0	205	65	875	3.30	11	Disagree
Bamboo	265	70	72	80	43	626	2.36	6	Agree
Mud	265	112	101	35	17	487	1.83	2	Strongly Agree
Timber	265	10	25	130	100	720	2.71	7	Disagree
Clay	265	110	70	55	30	535	2.02	4	Agree
Laterite	265	45	30	118	72	747	2.82	8	Disagree
Gravel	265	30	20	115	100	445	3.08	9	Disagree
Cow dung	265	130	135	0	0	400	1.51	1	Strongly Agree
Wood, lumber and fastening materials	265	100	105	20	40	490	1.85	3	Strongly Agree
Water	265	0	200	65	0	860	3.25	10	Disagree
Thatch Materials	265	90	80	45	50	585	2.21	5	Agree

Note: The mean Ranks =: (1-1.85) = strongly agree, (1.86-2.60) = Agree, (2.61-3.35) = Disagree, (3.36-4.10) = strongly disagree. Source: (Author's Field Work, 2021)

Figure 4.3 and 4.4 identifies and itemise the Yoruba traditional housing elements depicted in the palace case studies through visual observation. Table 4.1 shows the respondents thought on assessments of the key Yoruba traditional residential housing

elements that were no longer in use or faded out in modern residential housing in the study area using a 4point Likert's Scale. The last table 4.2 also shows respondents thoughts on the assessment of the key traditional housing materials that were no longer in use or faded out in modern residential housing in the study area using a 4point Likert's Scale. The results from Table 4.1, and 4.2, shows that the majority consensus opinion "strongly agreed" or agreed, that the key elements and materials of Yoruba traditional housing had been faded out and no longer in use or seen in modern housing and this support the study of Sonaiya and Dincyurek (2009).

Table 4.3: The result of vital Yoruba traditional housing elements missing in modern housing are as shown in Table 4.1

Vital Yoruba Residential Housing Elements	Residential housing. Types.	
	traditional	modern
Ornamentation/ Decoration	✓ (yes)	✓ (nil)
Symbolism	✓ (yes)	✓ (nil)
Meaning & Perception	✓ (yes)	✓ (nil)
Kinship organisation	✓ (yes)	▪ (nil)
Spatial layout and functionality	✓ (yes)	▪ (nill)
Use of traditional building materials and method of construction	▪ (nil)	✓ (yes)

Legend

- ✓ Rich = (yes)
- ▪ Lacks =(nil)

Source: (Author's Field Work, 2021)

Table 4.4: Visual observation of problems identified in the case studies in the study area

Problems identified	Olubadan Palace in Oja Oba in Ibadan	Alaafin of Oyo palace in Oyo state	Oni of Ife Osun state	Risawe palace, in Ilesa Osun State	Ancient palace of Oke idanre Ondo State	Olofa palace Kwara State
Lack of privacy	yes	nil	nil	yes	yes	nil
Image obsolesce/	nil	nil	nil	yes	yes	yes
Undefined territoriality	yes	nil	nil	nil	nil	nill
Structural failures	nil	nil	nil	yes	yes	nil
Sharing of spaces	nil	nil	nil	yes	yes	nil
Unattractive construction technology	nil	nil	nil	yes	yes	Nill

Source: (Author's Field Work, 2021)

The result from table 4.3 shows the elements of Yoruba traditional housing from table 4.2 that were lacking in modern housing in present times to justify the result gotten from the literature's reviewed. As such these elements should be incorporated during the design of the proposed palace. More also, Table 4.4 tabulates some of the architectural problems identified in the case studies that can be improved on through visual observation in order to produce a better design for the proposed Olubadan palace.

Table 4.5: Analysis of the results from visual observation of the identified problems in the case studies in the study area

Number of palaces with these problems	Number of palaces without these problems	List of problems
3	3	Lack of privacy
1	5	Undefined territoriality
3	3	Image obsolesce/ lacks of traditional identity
2	4	Structural failures
2	4	Sharing of spaces
2	4	Unattractive construction technology

Source: (Author's Field Work, 2021)

The results from Table 4.5 shows that most of the ancient traditional palaces had these problems with exception with consensus opinion "strongly agreed" or agreed, that the key elements and materials of Yoruba traditional housing has been faded out and no longer in use or seen in modern housing and this support the study of Agbos (1993)

4.2.1.1 Result of respondent's opinion on why Yoruba traditional housing was fading out in modern society

Respondents were asked why Yoruba traditional housing were fading out in modern society and what they would like to change in traditional buildings to make it more relevant in the present society. Majority of the respondents agreed and suggested the need for structural changes and improvement in appearance of traditional housing. 44% respondents believes traditional housing lacks proper ventilation due to the use of smaller windows, 22% respondents believe durability is the problem, 60% respondents agree that cultural shift and peoples attitude to space use is the problem, while 34% respondents believe traditional housing was fading out due to the erosion resulting from climatic condition of south west and finally 98% majority believes and agree that the influx of foreign materials, in modern housing lead to the neglect and fading out of

traditional housing as seen in Figure 4.5. The findings above justify the studies of Sonaiya and Dincyurek (2009) on why traditional housing was fading out in modern society. Furthermore, the result simply means that there is need to improve the structural part and image appearance of most traditional housing to make it better and impressive to the modern viewers and critics.

Table 4.6: Respondents thought on the benefits of using sustainable traditional building materials in modern housing using Likert's scale.

Benefit Associated with The Use of Traditional Building Materials	Total no of respondents (N)	SA 1	A 2	SD 3	D 4	Mean	Rank Order	Consensus Agreement
Reduce cost of Construction	265	180	50	10	25	1.55	1	Strongly agree
Affordable modern housing	265	178	32	40	15	1.59	2	Strongly agree
Availability	265	130	80	35	20	1.79	3	Agree
Durability and sustainability	265	100	99	45	21	1.95	4	Agree
Flexibility	265	80	90	70	15	2.00	5	Agree
High Sound insulation	265	70	60	74	61	2.47	8	Agree
Recyclability	265	80	120	30	35	2.07	6	Agree
Fire Resistant	265	47	72	71	75	2.65	9	Disagree
Reusability	265	65	76	60	64	2.46	7	Agree

Note: The mean Ranks =: (1– 1.75) = strongly agree, (1.76 -2.50) = Agree, (2.51 - 3.25) = Disagree, (3.26 - 4.00) = strongly disagree.
Source: (Author's Field Work, 2021)

Furthermore, table 4.6 below reveals that the majority of the respondents strongly agree with Fisk (1982) study that reduced cost of construction and affordable modern housing

ranked high among the numerous benefits of using traditional building materials. While the majority of respondents disagree that traditional building materials were fire resistant in modern housing.

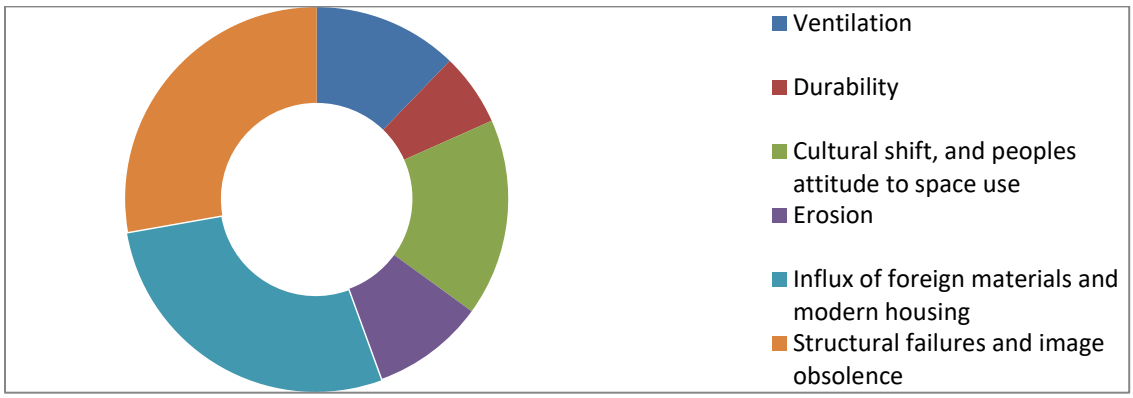


Figure 4.5: Chart shows respondents thought on the need for structural changes in traditional housing Source: (Author's field work, 2021)

4.2.1.2 Yoruba traditional housing elements depicted in case studies in the study area

Plate XIII: Ornament such as carved wood, doors used at the entrance of palace Source: (Author's field work, 2021)

Plate XIV: Doors and mural paintings used in the entrance of the palace building
Source: (Author's field work, 2021)

Plate XV: Shows motifs paintings used in the shrine at Alaafin of Oyo palace.
Source: (Author's field work, 2021)

Plate XVI: Murals paintings on walls on Sango shrine area,
Source: (Author's field work, 2021)

Plate XVII: Gabled roof entrance known as Agaju used in the Alaafin of Oyo Palace.
Source: (Author's field work, 2021)

Plate XVIII: Lean to roof used at Oke Idare palace, Akure, Ondo state.
Source: (Folarin, 2014)

Plate IXX: Dormer roof with carved wooden windows used at Oke Idare palace
Source: (Folarin, 2014)

Plate XX: Shows the aerial view of the Oke Idanre Palace.
Source: (Folarin, 2014)

Plate XXI: Spatial layout of the pre-colonial palace of Ile Ife and three ritual chambers.
Source: (Alao, 2017)

Plate XXII: Present Ooni of Ife Palace with a blend of tradition and modernity.
Source: (Author's field work, 2021)

4.2.1.3 Respondents perception on Yoruba traditional housing elements in respect to value added in modern housing

Participant were asked about their thought on Yoruba traditional residential housing elements such as symbolism, identity, flexibility, functionality, aesthetics, spatial quality in respect to value added, when depicted in modern residential housing. 41% of the architectural inclined respondents involved agrees and expressed appreciation for traditional housing in terms of the social cultural, values, impacts and sustainable advantage it adds which will only make modern housing better. They believe that the dignity of Yoruba traditional residential housing lies in its quality to accommodate every aspect of people's lifestyle, values and culture. 27% said they were valuable for what they symbolized in terms of their elements. 12% respondents claim that traditional housing was valuable for its spirituality while 22%respondents cite the financial value in terms of materials and construction methods. More also, almost all the selected respondents for interview during field study had strong likeness for traditional buildings probably because they were senior high ranked chiefs in charge of custom and tradition. This finding below is a general indicator to support the need to preserve traditional housing elements and its values in modern times

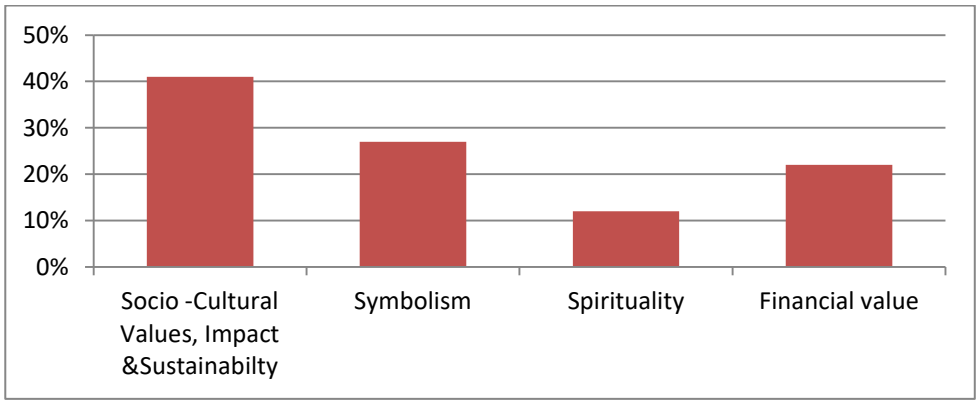


Figure 4.6: Respondents thought on Yoruba traditional housing in respect to values.
Source: (Author's field work, 2021)

4.2.1.4 *Respondents opinion on notable traditional buildings preferred in the study area and why it appealed to them.*

Moreover, participants in the research study were interviewed to know their opinion on notable traditional buildings in the study area they like most and why it appealed to them. Different examples were given such as, traditional museum of art and culture in Lagos state, cultural centre building in Ibadan, and so on. They believe the echoes of Yoruba culture can be felt in those buildings once seen for the first time. Majority of the selected respondents claim to appreciate their bright colours, innovative and iconic look, form, communication with natural built environment and its close resemblance to Yoruba culture, values and identity. Oddly enough, what these respondents appreciate most in the buildings was linked back to ancient housing.

4.2.2 Result on respondent's perception on the integration of Yoruba traditional housing elements in the design of Olubadan palace.

Questionnaire was administered to the selected respondents on their thought on the new hybrid that integrates the traditional housing elements and materials of traditional housing with the iconic symbol and features of modern housing to be depicted in the proposed palace building. 78% of the respondents believe and agree that the hybrid style will culturally and climatically blends well with the iconic symbol and feature of modern housing to depict the culture and value of the Yoruba heritage and will also be more sustainable than ordinary modern housing. 22% of the respondents do not disagree with the hybrid design and prefers to stick with modern housing. The result from this objective concurs with Eze (2018) suggestion to integrate the semiotic principles of traditional housing to create visual expression that restores the loss identity of the traditional housing elements in modern housing.

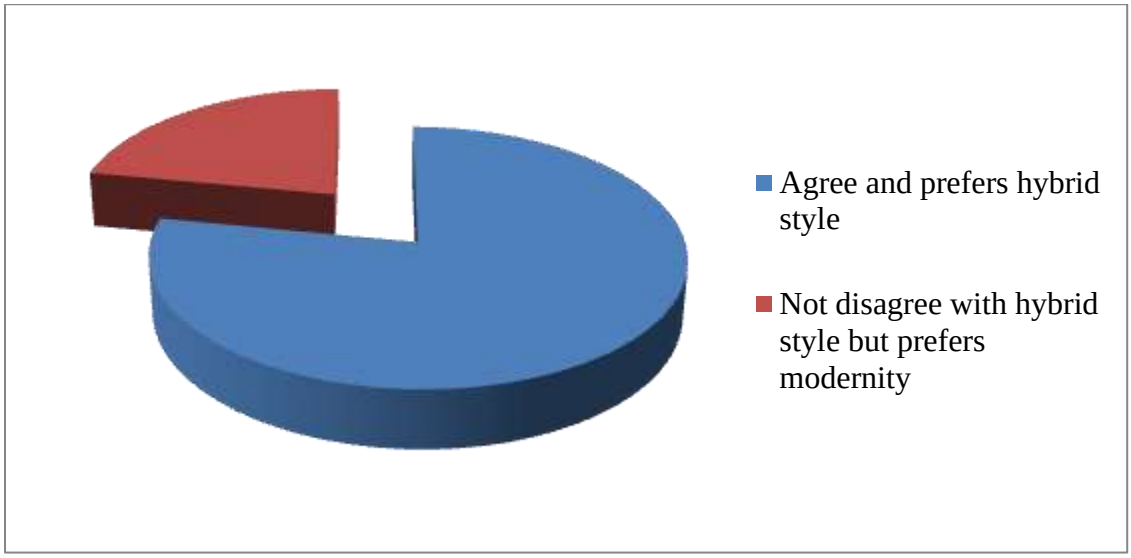


Figure 4.7: Respondents thought on the hybrid (afro-centric) housing style
Source: (Author's field work, 2021)

Therefore, juxtaposing the adhocist and modernist ideology in the literature review with the findings from the field, the result shows that the two school of thought were both addictive to their ideology in the present world, as both fail to truly solve and proffer answers to the issues facing today's world. The result from the questionnaire shows that buildings in southwestern states of Nigeria with no cultural substance of tradition or any iconic identity of modernity were not really appreciated by people as it looks like every other building.

To this end, a method was established to integrate the cultural substance of traditional housing with iconic identity of modern housing to produce a hybrid design suggested by Eze (2018). The two housing types merged together as one to create a balance of open and closed space in relation to spatial cohesion and hierarchy. Successful integration of these two-housing style lies on the meaning of the material use, colour, form and its final finish. What these elements represent to people and how they utilize them defines how they picture and sell the hybrid design style to the rest of the world.

4.3 Design Report for the Proposed ‘’Olubadan’’ Palace

4.3.1 Detailed client brief and requirement

The current palace opposite “Oja Oba” market known as Ashanke palace near Mapo hall is considered inadequate because it is too choky for present day usage, has no room and land mass for expansion, and for the fact that it is located in a very riotous and noisy Oba market, the Central Council of Ibadan indigene briefed that they wanted an architectural innovation, an iconic and befitting modern palace structure that is culturally meaningful and at the same time modern in order to end the reign of multiple palaces in the city of Ibadan where crowned king converts his personal residential house to his palace as a result of lack of central, and befitting palace for the‘’Olubadan’’(king). The palace is expected to be a cluster of structures which is going to be part of the Olubadan palace complex. The complex is expected to consist of the following facilities: Residential apartment of the King, Royal guest house, Ceremonial pavilion, Reception block, Main gate entrance (Agaju), Car parks, Power house, Gymnasium, Police Station, Fire station, Green areas, Smaller entrances and exit gates, Olubadan Clinic, King Museum, Library, Church, Mosque Swimming pool area, Staff Quarters, Banquet hall, Administrative block (offices),Royal parking lots, Sporting facilities, office of the head traditional religion, Onilu, and kings halls. In addition to this client requirement, the proposed palace is expected to depict Yoruba culture and values without affecting the beauty and iconic and functional symbol of modernity.

4.3.2 Site selection, survey and analysis

4.3.2.1 Study area.

Ibadan is an ancient town in Oyo state. It is the largest city in Africa, south of the Sahara and the political seat of south west. The study area (*Igbo Agala*) is also known as

Agala hills, army general Hills, or Oke Sapati (shepherd hills). Sapati is a yoruba adulterated translation of the English word shepherd. The hill is credited with many tourist attractions such as the bowers tower. The tower possesses an eagle's eye view of the beauty of Ibadan city with a spiral shaped staircase that takes the tourist to the head to the tower constructed inside the building. The proposed place is expected to be built on a six-acre expanse of land at the popular "Agala hill" which is the centre of the town. The chosen site also boarders some modern residential estates which grew up on the hill in the early 1990s when the site was approved by by the former civilian governor of Oyo state, "Kolapo Ishola".

Plate XXIII: Shows the area view of the city of Ibadan. Source:
(Author's field work, 2021)

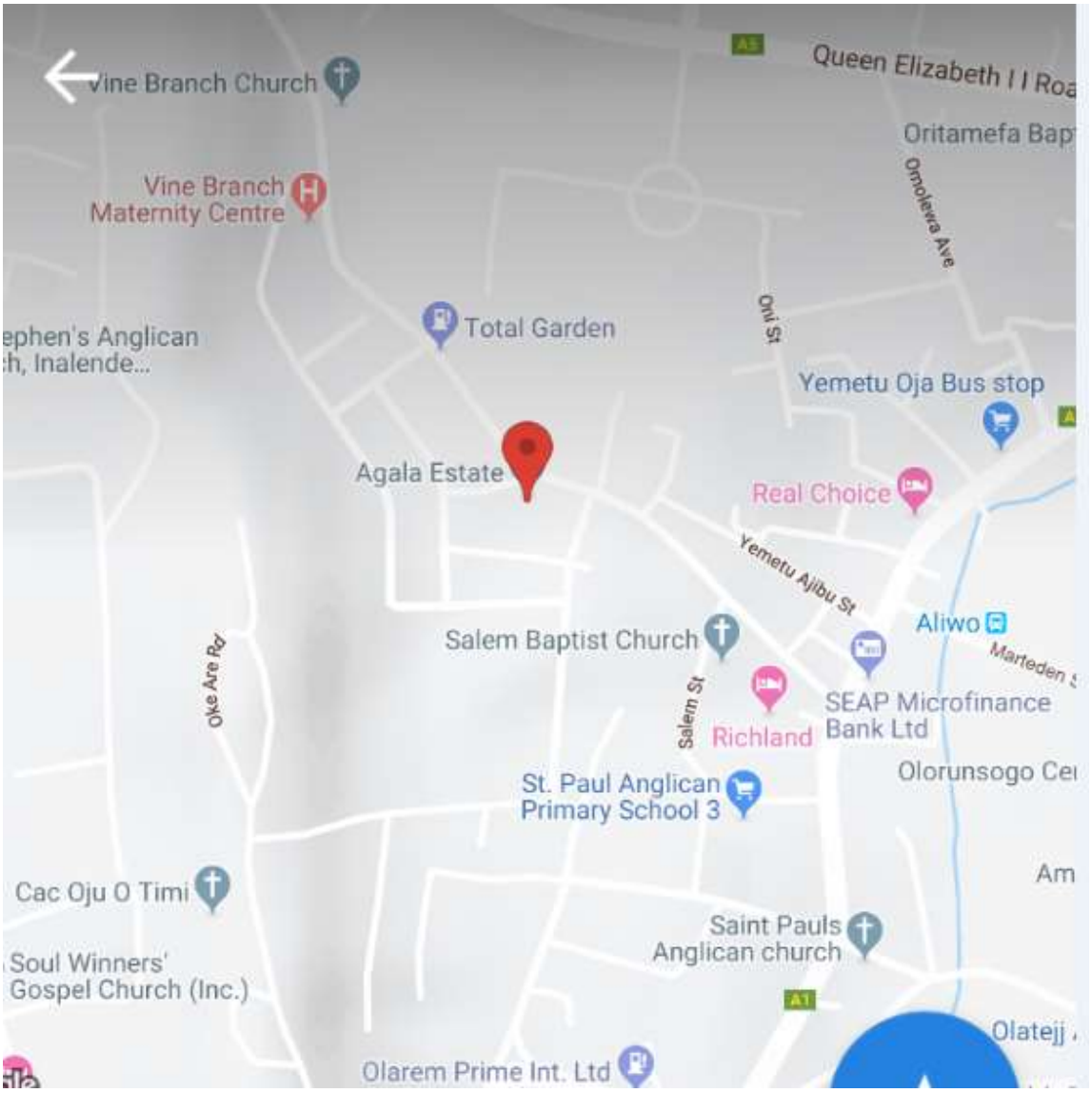


Plate XXIV: Google Map shows the location address of the proposed site in Agala hill.
Source: (Author's field work, 2021)

Plate XXV: Image of the monument (bowers tower) in Agala hill.
Source: (Author's field work, 2021)

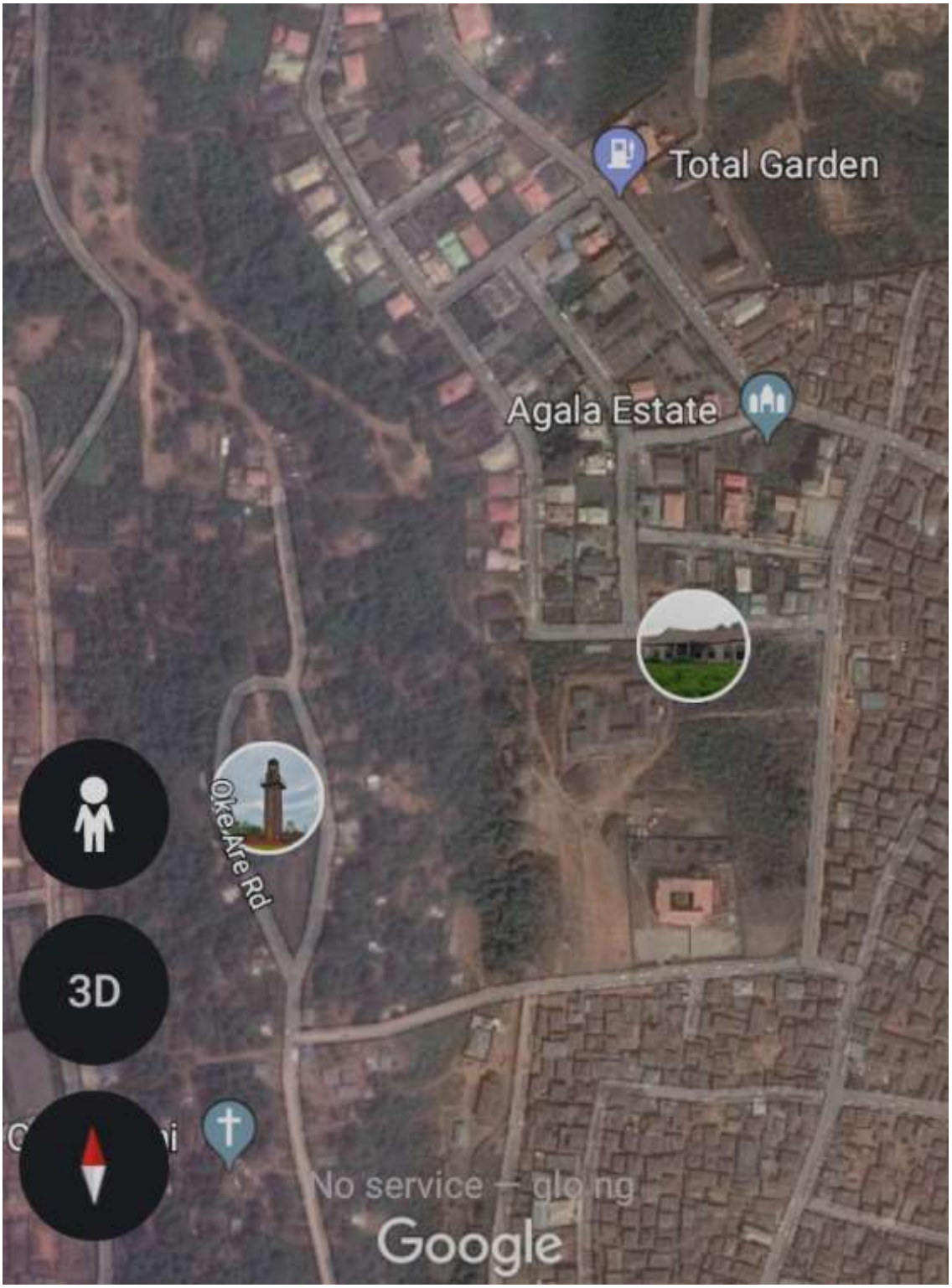


Plate XXVI: Google Map shows the proposed site in Agala hill
Source: (Author's field work, 2021)

4.3.3 Site selection and evaluation

4.3.3.1 Site criteria

The following criteria were used to select the proposed site according to information gathered from central council of Ibadan indigene.

I. Central location within heart of Ibadan city

II. Ease of access to the people.

III. Links to a cultural iconic monument in (Agara hill) within the city of Ibadan.

IV. Provision of positive environmental options

V. Soil composition, type and topography to bear structural load of the structure.

VI. Virgin land and open to growth.

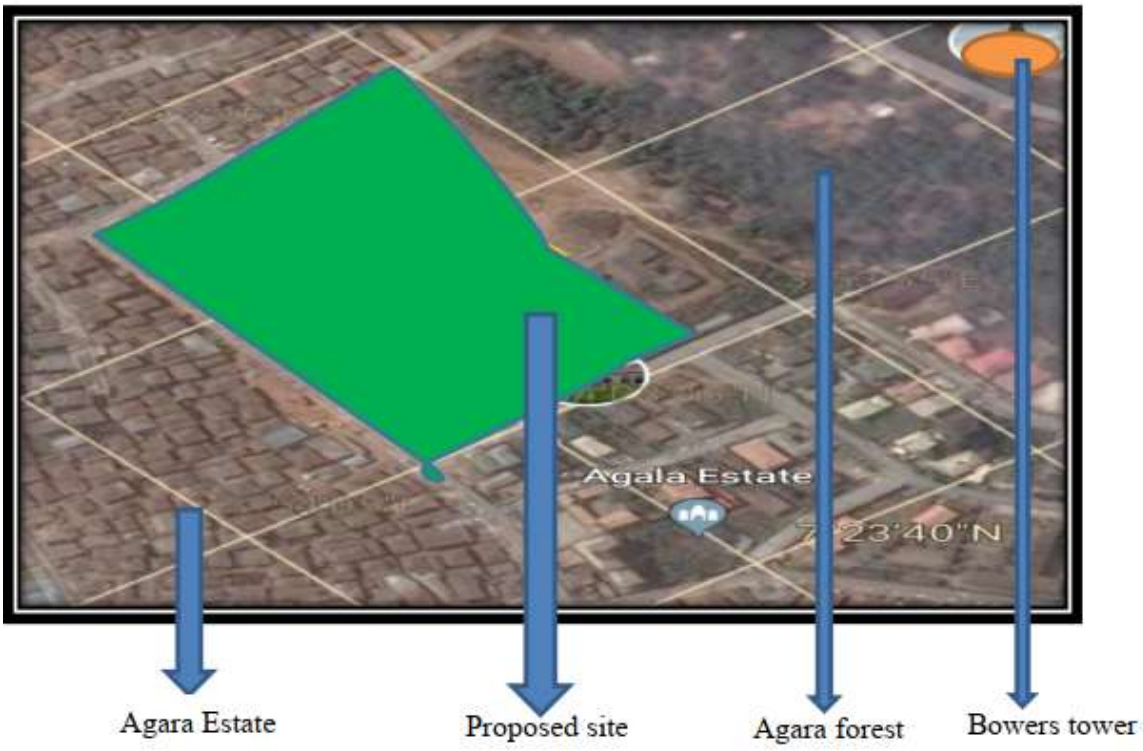


Plate XXVII: Google Map shows the proposed site and other features in Agala hill
Source: (Author's field work, 2021)

4.3.3.2 Site evaluation and analysis

The site is located in Igbo Agala(Agala forest) in Ibadan, with tropical climatic condition and rainfall ranges between 1000mm to 1500mm annually. The site borders modern residential estate known as Agala estate and can be accessed via Yemetu Aladorin. A soft landscape of trees was seen along the site forest. The most obvious problems arise from the relatively high level of noise and traffic congestion along the south western &eastern part of the site. More also, Environmental advantages around the Site are abundant. The trees Shield against harsh cold weather, Northwest trade winds and the presence of green land and mountainous features opens the site to several possibilities like passive cooling. The slope of the site is gradual and relatively flat as it could prove an advantage if used correctly. The average temperature of the site ranges between 22.5º to 29.5º Celsius. In October, the site experienced minimal temperature of 22.5 degree centigrade and experience highest temperature in February.

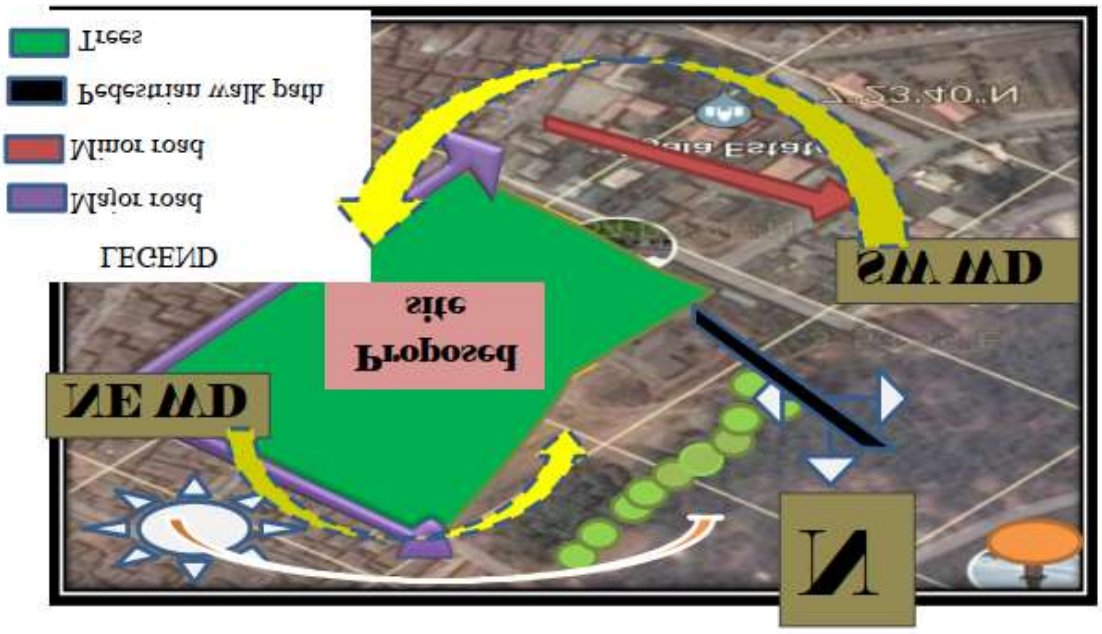


Plate XXVIII: Environmental, features vehicular and pedestrian movement on site
Source: (Author's field work, 2021)

4.3.4 Conceptual development planning and analysis of the proposed palace

The design function as the royal residential palace of Olubadan of Ibadan. The palace is design to accommodate so many facilities and service spaces with the aim of achieving a hybrid or Afrocentric housing style that depict the combination of Yoruba traditional and modern housing style. The facilities to be provided at the palace aims to meet world standard. Therefore, in developing a concept for the design of the proposed palace, the adhocist and the modernist ideas on residential housing were merged together as one to develop the hybrid style. As detailed in the client brief, the proposed site was to be built at the centre of the Agala hill with the accommodation requirement known from the client brief, the spatial diagram was drawn to understand better the relationship between the spaces.

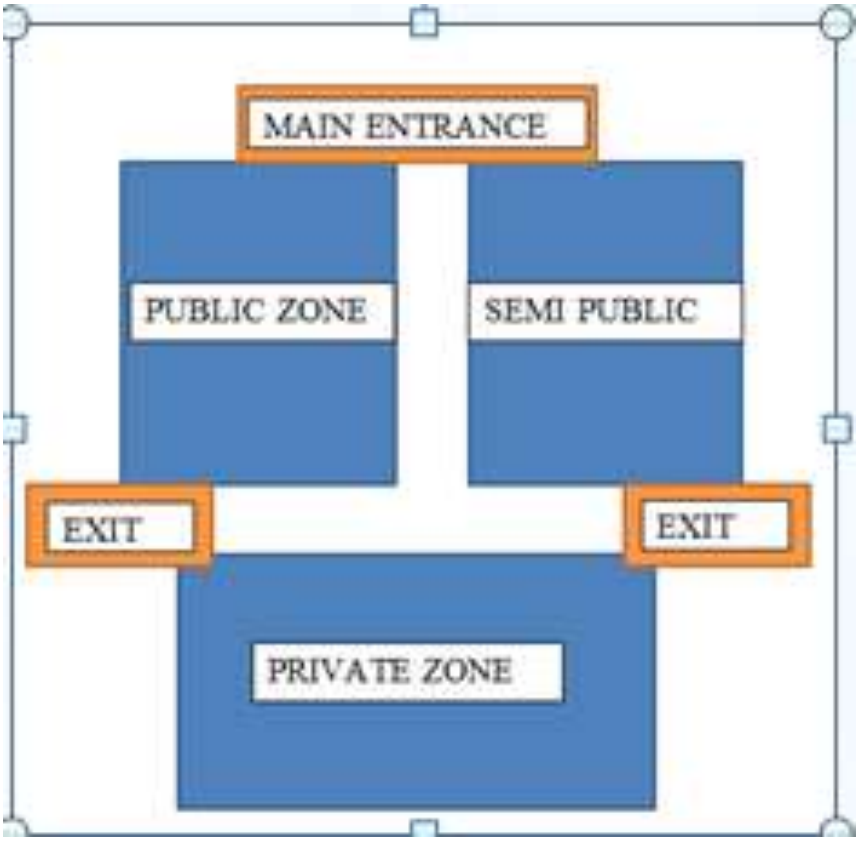


Figure 4.8: Shows the zoning of the proposed Olubadan Palace.
Source: (Author's field work, 2021)

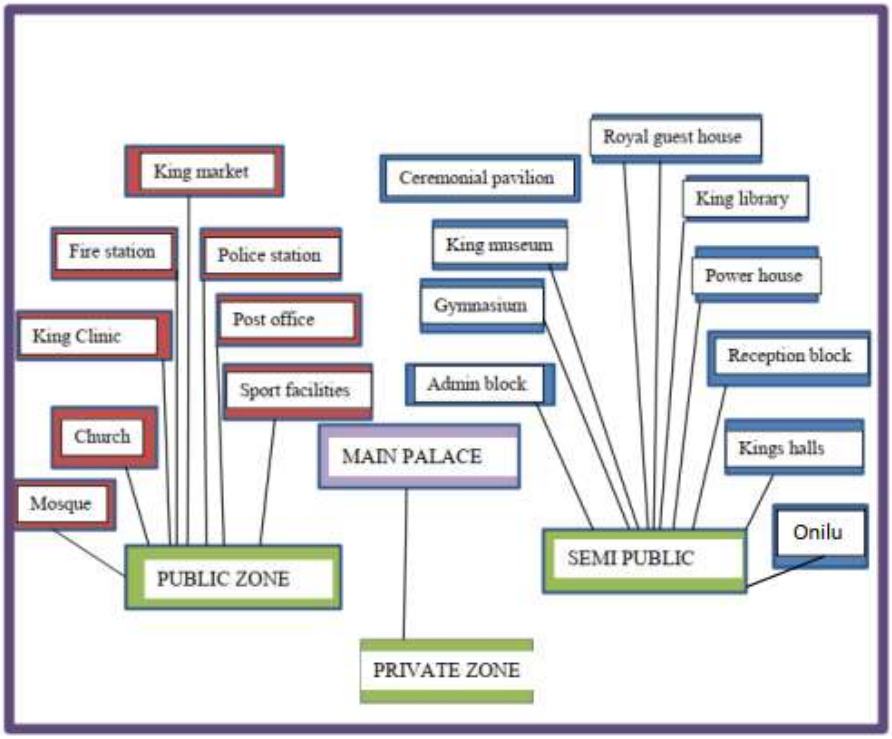


Figure 4.9: Shows the spatial relationship of spaces in public semi public and private zones. Source: (Author's field work, 2021)

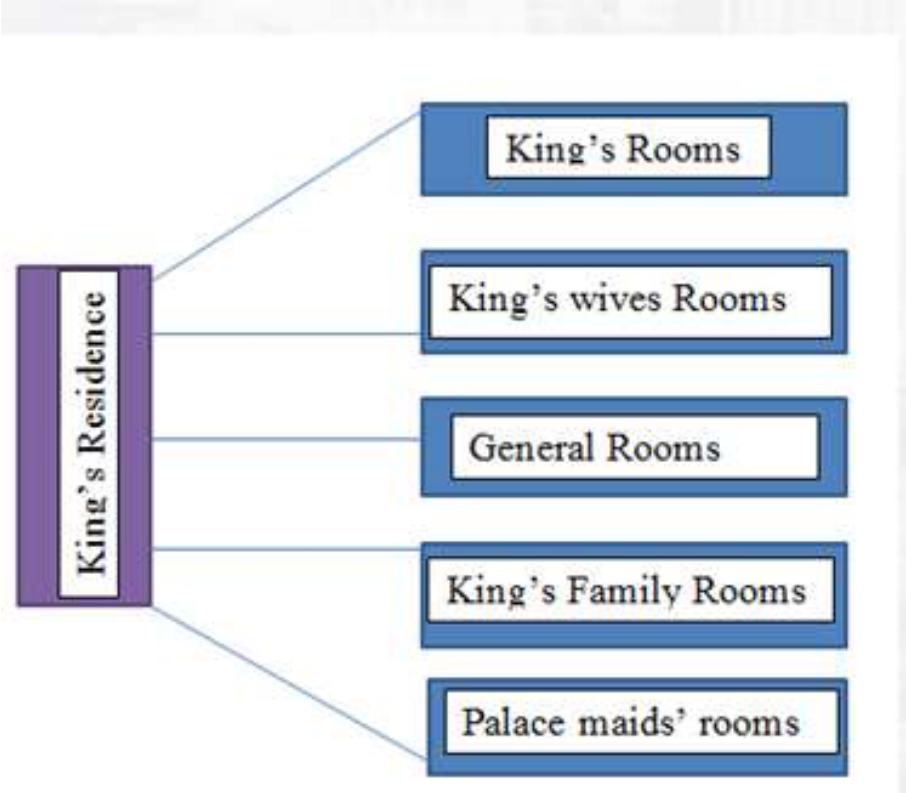


Figure 4.10: Spatial relationship between spaces within the king residence in hierarchy Source: (Author's field work, 2021)

The spaces above were linked together with the intention to develop the realm of public, semi public and private spaces as mostly seen in Yoruba traditional king palace layout. Figure 4.8 shows the zoning of all spaces within the palace environment. Figure 4.9 explains the spatial relationship of all spaces within the public, semi public and private zones. The systematic approach adopted in the palace design is inclusive of vertical ascension points from the main entrance gate also known as *"Agaju"* gate in Alaafin of Oyo palace to the heart of the palace to the back of the Palace known as the forbidden path in traditional palace layout. As such, from the main entrance one always has a clear sight of a vertical point of ascension into a more controlled and private area within the palace environment. By virtue of the polygamous and extended family type and culture of most Yoruba traditional kings, the king residence is hierarchically group and designed to accommodate each group and function as shown in Figure 4.10.

4.3.5 Forms, construction method and finishes adopted for the proposed palace.

In the conceptual design stage of the building project, the topography of the site was considered before zoning each space and facilities on the site. The use of cone shape and four side shapes floor plans were integrated together as one to depict the cultural identity of the Yoruba people. The cone shape from the symbolic Yoruba crown means 'Ori' meaning head or personal destiny while the four-sided shapes in Yoruba land depict "*Iwa"* meaning human behaviour. The merger of these two forms would be symbolic to the Yoruba people as it encompasses all human activities ranging from sacred, economic, secular, political and religious life. Post and beam method of construction would be adopted to build the palace structures and king residence. All floors above the ground floor level would be constructed with precast hollow clay pot supported with beams and light weight concrete to reduce the weight of the concrete floor on the building as designed by the structural engineer. The large abundant of

laterite and clay soil in the study area prove to be advantageous for the production of hollow bricks and clay pot used as floor and wall materials and they offer better heat resistance properties when compared to modern sand blocks. Other modern building materials like glass, steel reinforcement, aluminium roofing sheets, cement sand mortar, were incorporated with local building materials for better aesthetics. The use of traditional Yoruba housing ornaments such as carved doors, murals, sculptures, and decorative local stones would be integrated with modern floor and wall finishes such as marble floor and wall, ceramic tiles, and different modern painting and clad materials such as bricks to complement the palace structures for a better cultural, modern and symbolic outlook. The use of hipped, gabled and lean to fall roof used in traditional Yoruba housing were extensively utilised and integrated to support the iconic visual impression of modernity. Courtyards are widely used in the palace design to provide adequate natural ventilation to the interior spaces.

4.3.6 Landscape, external works, building services and other features in the proposed palace.

The use of signage and sign post were used at every interception point on site to help the palace visitors and users track their destination. Also, landscape elements such as trees, shrubs, flowers would also be used passively to direct site movement. Big rocks are to be provided at the water fountains area of the palace. Parking lots are to be provided at the public, semi public and private zones of the palace. All electrical appliances such as fire alarms, lighting points, switches, cables, and socket should meet the electrical codes as specified by electrical engineer to achieve safety, durability, and efficiency. The palace will generate it water itself using solar pumping machine to generate water from boreholes to the overhead tanks for domestic use, firefighting purpose and up keeping of landscape elements in the green areas of the palace. All plumbing works and services shall be in accordance with the service engineer

specification. The site topography will naturally allow water movement into the central drainage system from the palace drainage. Different septic tanks and soak away would be constructed at every important area of the palace and centralise sewage dumping techniques shall be adopted to dispose all sewage,

CHAPTER FIVE

5.0 CONCLUSION AND RECOMMENDATION

5.1 Conclusion

Chisomo (2011) observed in his Master's Thesis that the successful bonding of two different things inherently produces something better and at the very least something more appealing to the intended user. This is definitely the case when the traditional housing elements are integrated into modern housing as stated by Arenibafo (2017) and Eze (2018)

5.1.1 Revisiting the problem statement

It was revealed in the problem statement by Sonaiya and Dincyurek (2009) that traditional housing through semiotic principles using symbolic objects, signs, and elements to create visual expression and linguistic meaning that depicts the culture and values of the Yoruba tribe of Nigeria is fast fading out in modern housing due to the influx of modern ways, methods and, ideas. This has been proved right based on the feedback from respondents in the questionnaire as shown in Figure 4.3 with the majority identify the following factors above as the major cause of extinction of most traditional home in present society.

5.1.2 Revisiting the research question, aims and objectives

The merger of the two-housing style according to Eze (2018) was hypothesized to be the solution to the aforementioned issues facing the continuation of traditional housing in modern times. As such, interviews, case studies, review of relevant literature and

questionnaire were administered to respondents to know their opinion on elements needed to make the possibility of the integration of the two-housing style successful in the design of the proposed Olubadan palace. The relevant literature reviewed earlier assesses the elements that define both the Yoruba tradition and modern housing, bridging the gap between the two housing style and finally assessing the important elements of Yoruba traditional housing that can be integrated into the modern housing. Therefore, the aim and objectives of the study was justified from the data collected from the interview conducted and the result from figure 4.5 shows that 78% of the respondents believe and agree that the hybrid style will culturally and climatically blends well with the iconic symbol of modern housing to depict the culture and value of the Yoruba heritage. The result from this objective concurs with Eze (2018) suggestion to integrate the lost semiotic elements of traditional housing to create visual expression that restores the lost identity of the traditional heritage in modern housing.

In final conclusion, the study has shown that the successful integration of Yoruba traditional and modern housing has its own unique advantage as it solves many issues faced by traditional and modern housing. However, the successful integration of these two-housing style was achieved due to the rich nature of the Yoruba culture, tradition, values and the abundant sustainable traditional materials available in the study area.

5.2 Recommendation.

Based on the evidence in the review of relevant documents and the results from the field work, certain principles should be employed for the successful union of the two Yoruba housing styles. As such it is recommended as follows.

I Creative use of traditional building materials and cultural practices that are correctly use are highly sustainable, labour intensive, relatively cheap and they create jobs. The

use of stone, cob walling, and rammed earth save the need for extensive use of unsustainable building material like reinforced concrete. Clever use of clay and laterite soil in form of clay pot, bricks can produce a building that is naturally sustainable, thermally comfortable, heat resistant, well ventilated and protected from rainfall.

II Togetherness is a very important culture of the Yoruba people. As such, a successful integration of the two Yoruba housing style should encourage a link between outdoor spaces and communal or social activity. A link between Yoruba historical housing context with built and social environment should be encouraged for innovation while still maintaining relevance

III Yoruba traditional culture is very expressive. As such, the uses of bright colours, ornaments, are core part of Yoruba tradition which must be catered for during the design stage. Provision and the expressive use of ornaments in Yoruba housing depict the character, culture and the identity of the Yoruba people as a social tribe.

IV Yoruba traditional housing treat space in respect to culture and values as seen in the use of four-sided shapes and cone shapes. The four-sided shapes or rectilinear depict people's behaviour while the cone shape symbolised crown which depict the human head or destiny. As such, all spaces must be carefully connected and hierarchically zoned to depict the aforementioned values culture and family ties. Advanced product of technology and methods from modernity such as thermal glazing, reinforcement, roof materials, and strong foundation types and construction methods should be added to complement sustainable traditional materials and methods.

5.3 Suggestion for Further Research

A similar integrative study of traditional and modern housing could be carried out in other geo political zones in Nigeria with the purpose to identify, explore and assess the

key elements of traditional housing that can combined and found acceptable culturally to the people in modern context

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6.0 APPENDICES

Appendix A: Questionnaire

All information collected from the questionnaire shall be kept private unless the respondent granted permission to reveal it.

The questionnaire was distributed to unbiased body of respondents with general knowledge related to the project topic.

Topic: Information on traditional housing and modern housing style

OCCUPATION/ PROFESSION …… AGE……../.

UNIVERSITY OR POLYTECHNIC NAME …….

LEVEL: ……

- What is your place of origin and residence?

  ……

  …….
- What type of house do you live at home? ----------

  …….

  …….
- What do you know or understand by the terms traditional and modern residential housing? ……

- Identify and name different traditional residential elements you know? ----------

  ---

- Identify and name different modern residential features or elements you know?

- Name two or more buildings in your location that depicts the tradition and culture of the Yoruba people? …….

- Why do you like these buildings? ----------

  ---..

- What is your thought on integrating Yoruba traditional residential housing features or element in modern housing? ……

  ……

  ……..

- Identify or list the problems facing the continuity of Yoruba traditional housing?

  ……

  …….

- Identify or list the problems facing Yoruba housing in present society?

  ……..

  ……..

- If you are to change one thing about Yoruba traditional housing, what will it be?

  ……..

- Do you believe or agree that integrating both Yoruba traditional housing elements in modern housing can solve the problem identified in both traditional and modern housing ?…….....

- Please sketch any traditional, modern or hybrid housing type in your location as you understand it in the blank pages.

THANK YOU FOR YOUR PARTICIPATION.

Appendix B: Interview schedule

Kind of topics to be covered and the list of questions to be asked are itemized below

- Topic related to traditional and modern housing, to be addressed in general
- Yoruba traditional palaces, history, architectural style, forms and other elements or features that were seen or use in the construction of Yoruba palaces.
- Identification of elements that depicts culture and tradition in most Yoruba traditional palaces.
- Traditional local materials and use in the study area.
- Modern day housing style, history and transformation of traditional housing into modern housing.
- Social influences from Yoruba traditional housing to modern housing

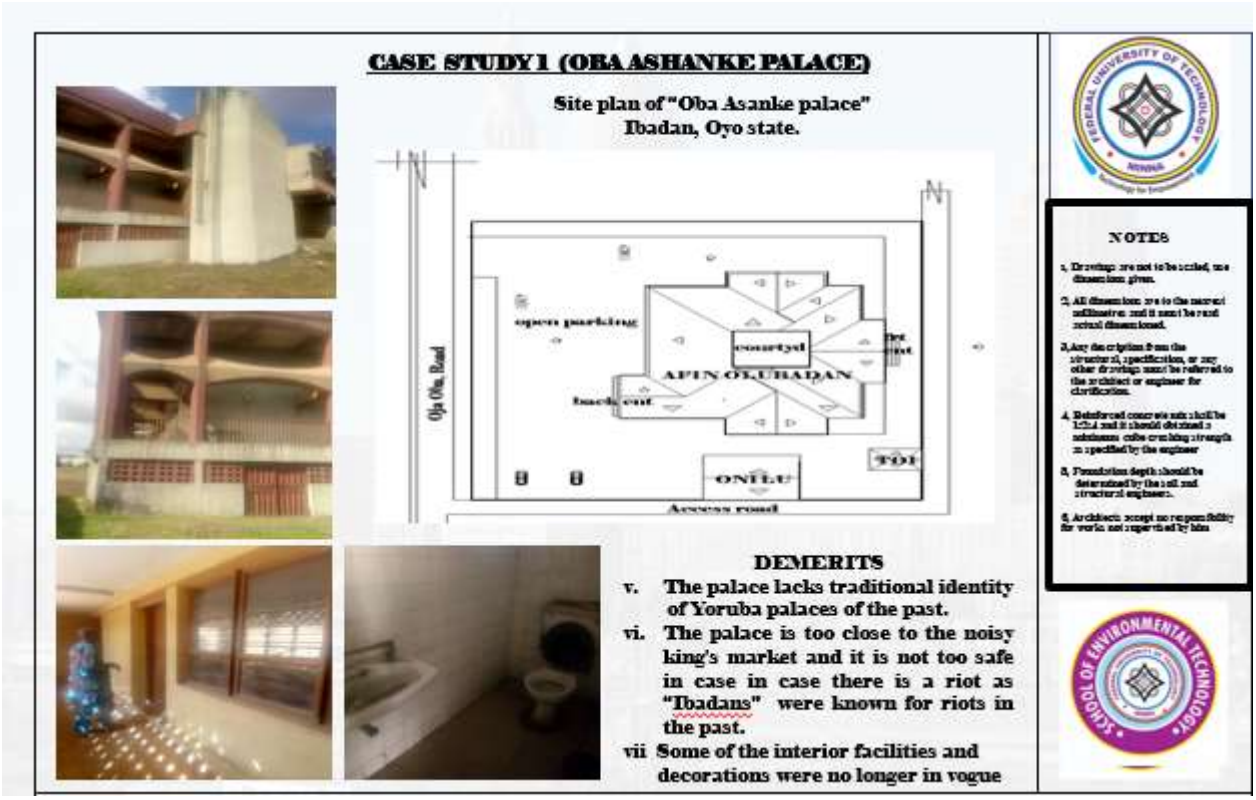
All interviewees shall be engaged in depth on the above topics more intimately in relation to their level of expertise.

List of the chiefs or royal custodian of knowledge interviewed are

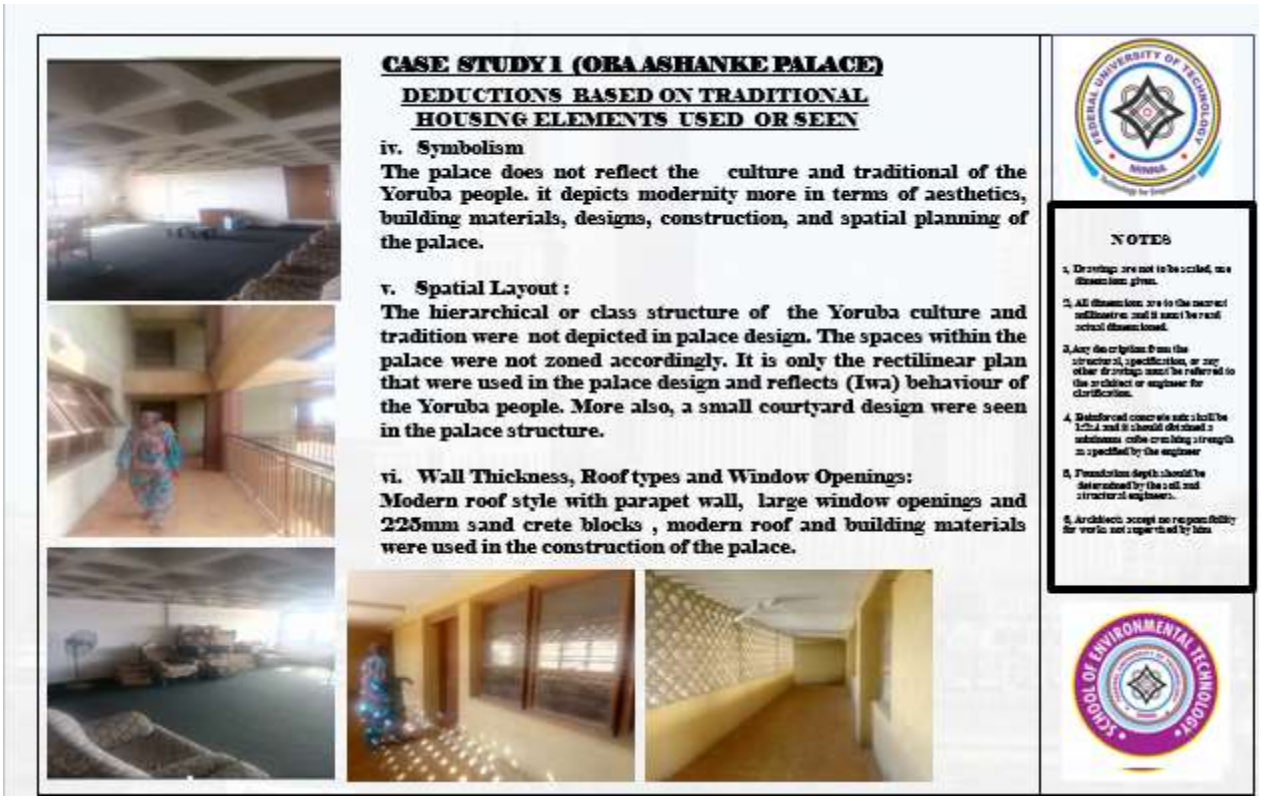
- Baba Isale of Oyo in Alaafin of Oyo palace.
- Chief Adetuji Ibrahimo
- Chief S.F Afolabi
- Mr K balaogun
- MR D.P Ajagumale
- Mrs Serifatu Ajisafe
- Mr Babalola Oke

- Mrs Rukayatu Alao
- Chief Oluropo Dapo
- Chief Dapo Adeji

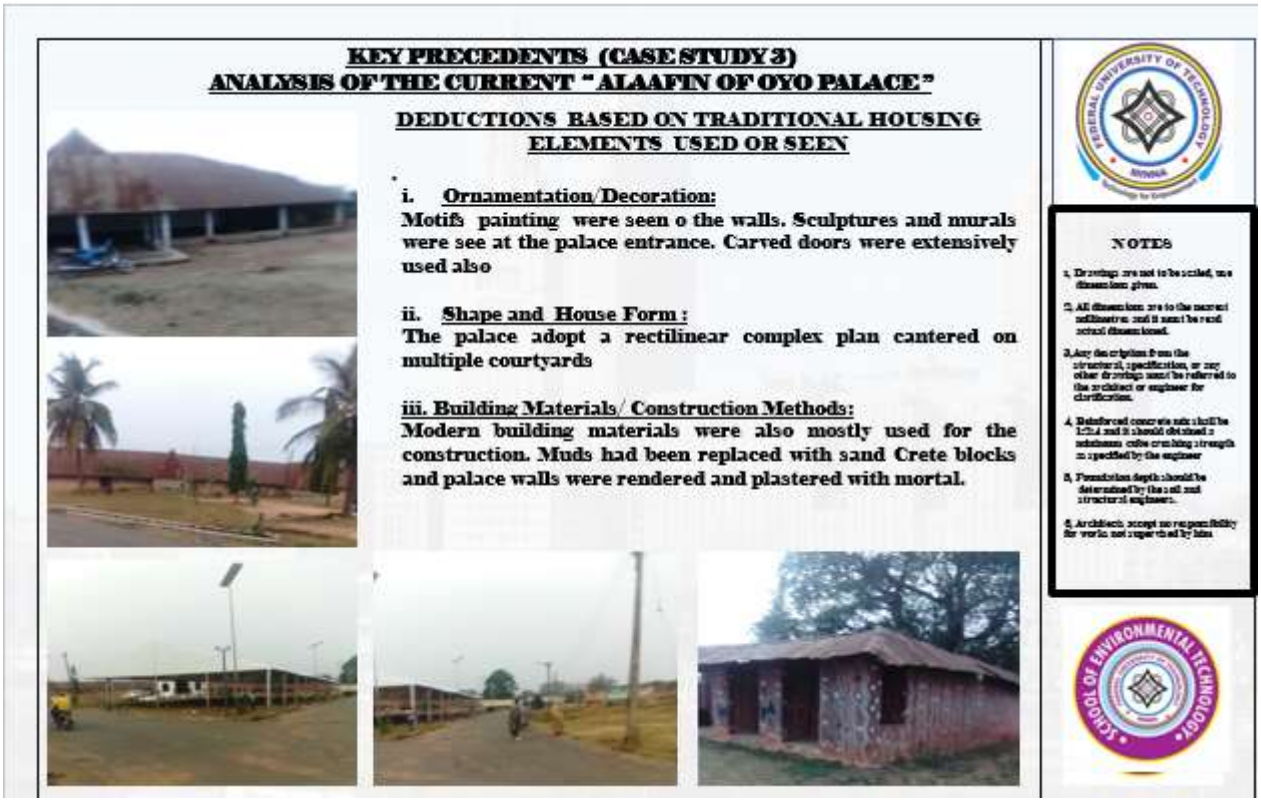
Appendix C: Case studies



Case studies

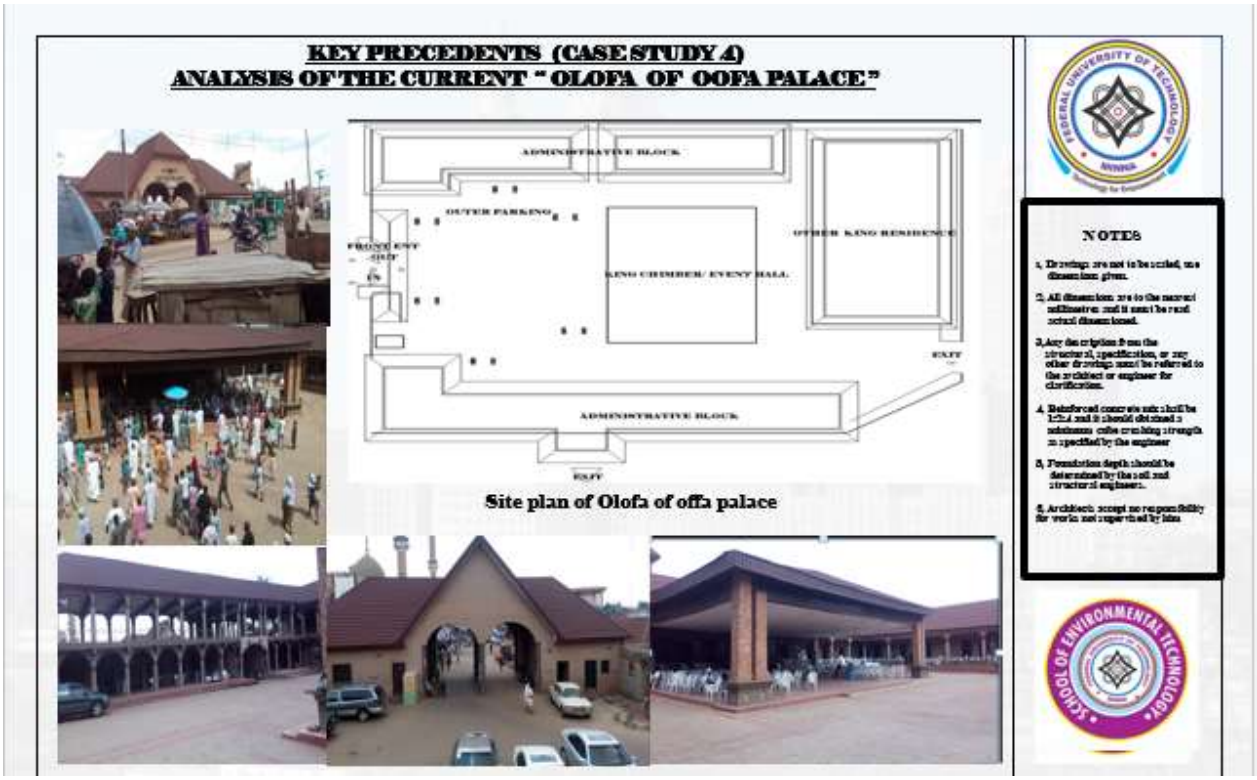


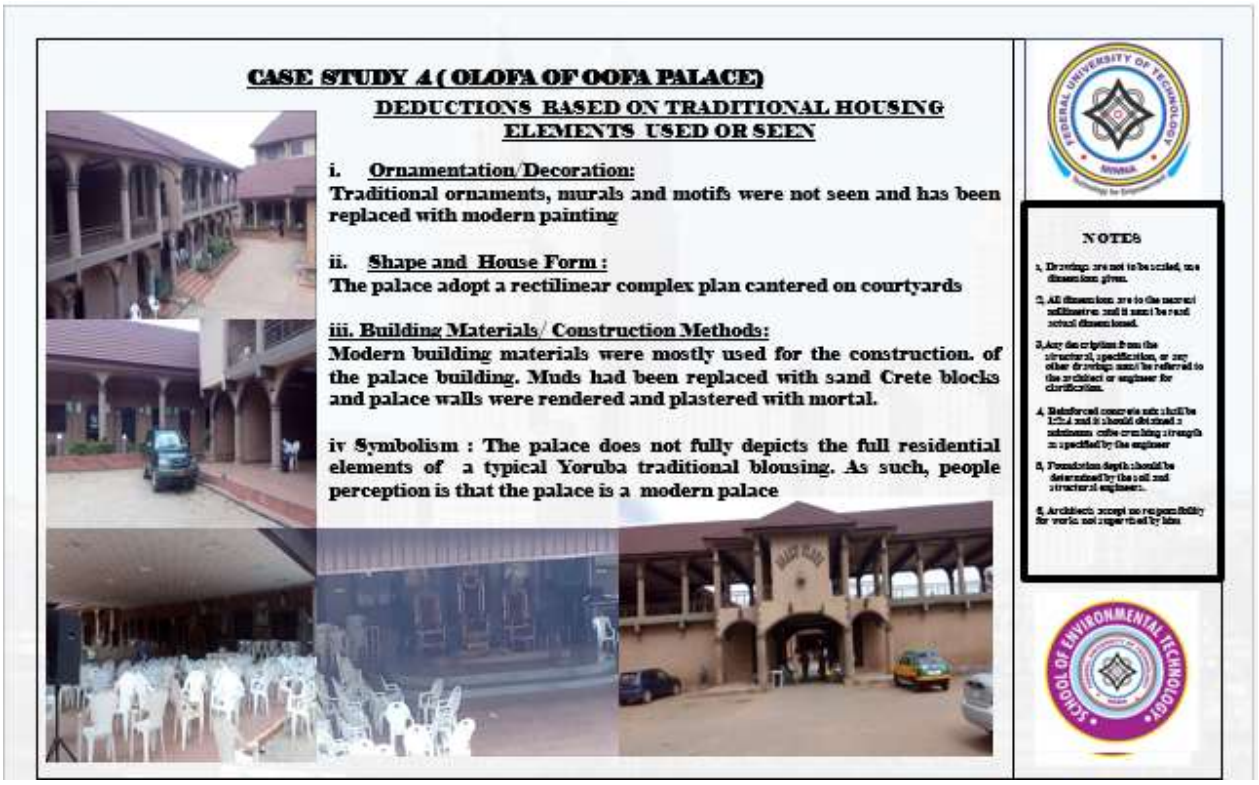
Case studies



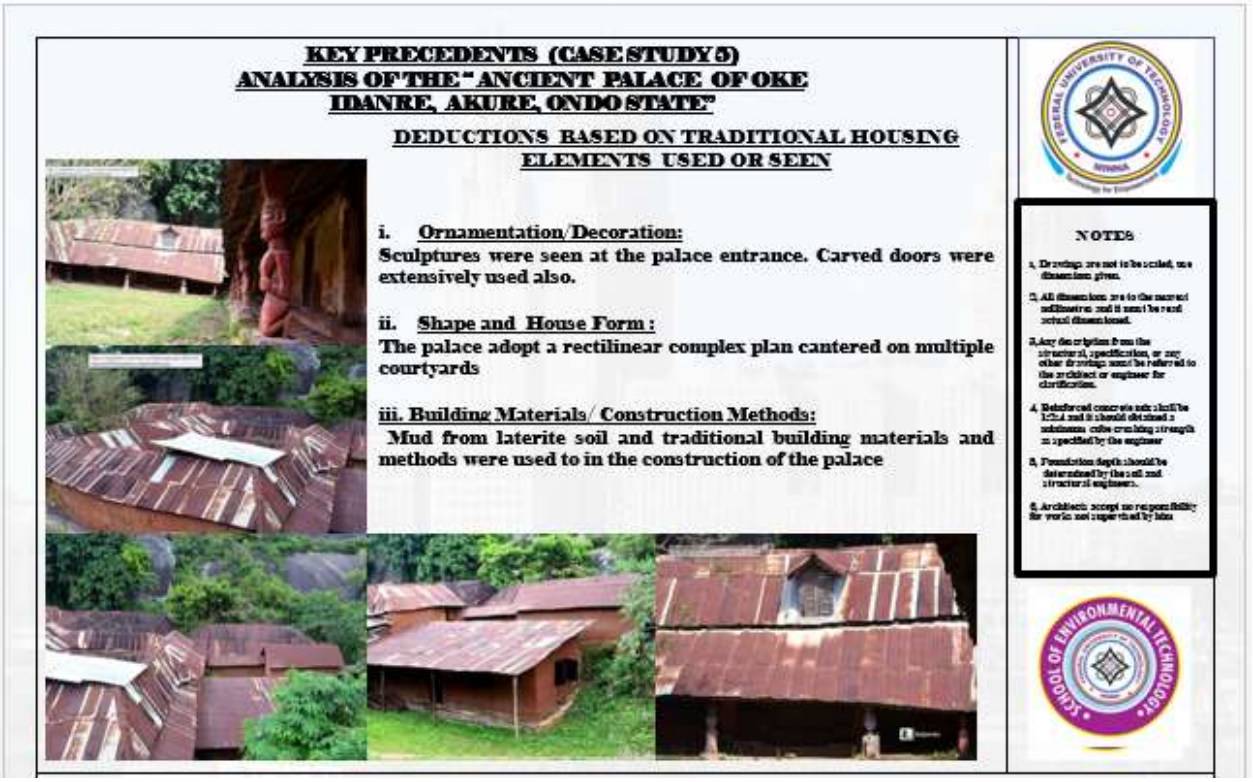
Case studies

Case studies

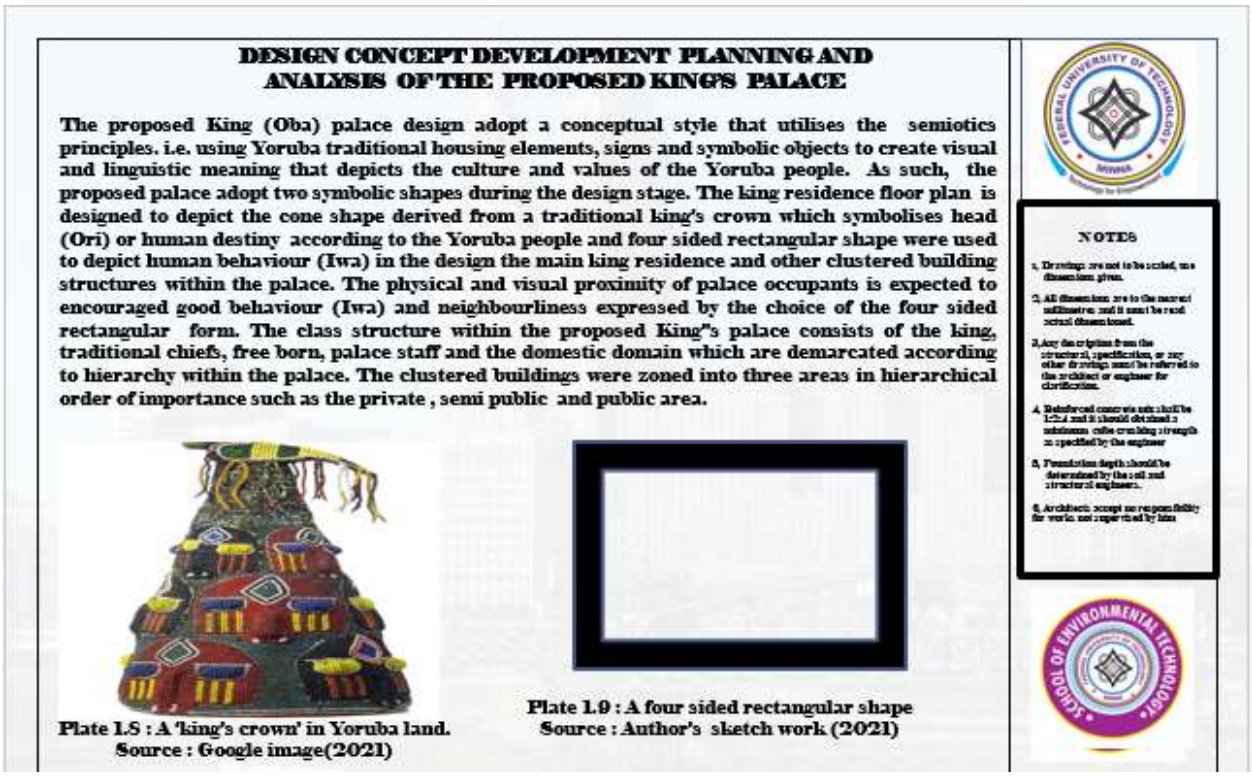




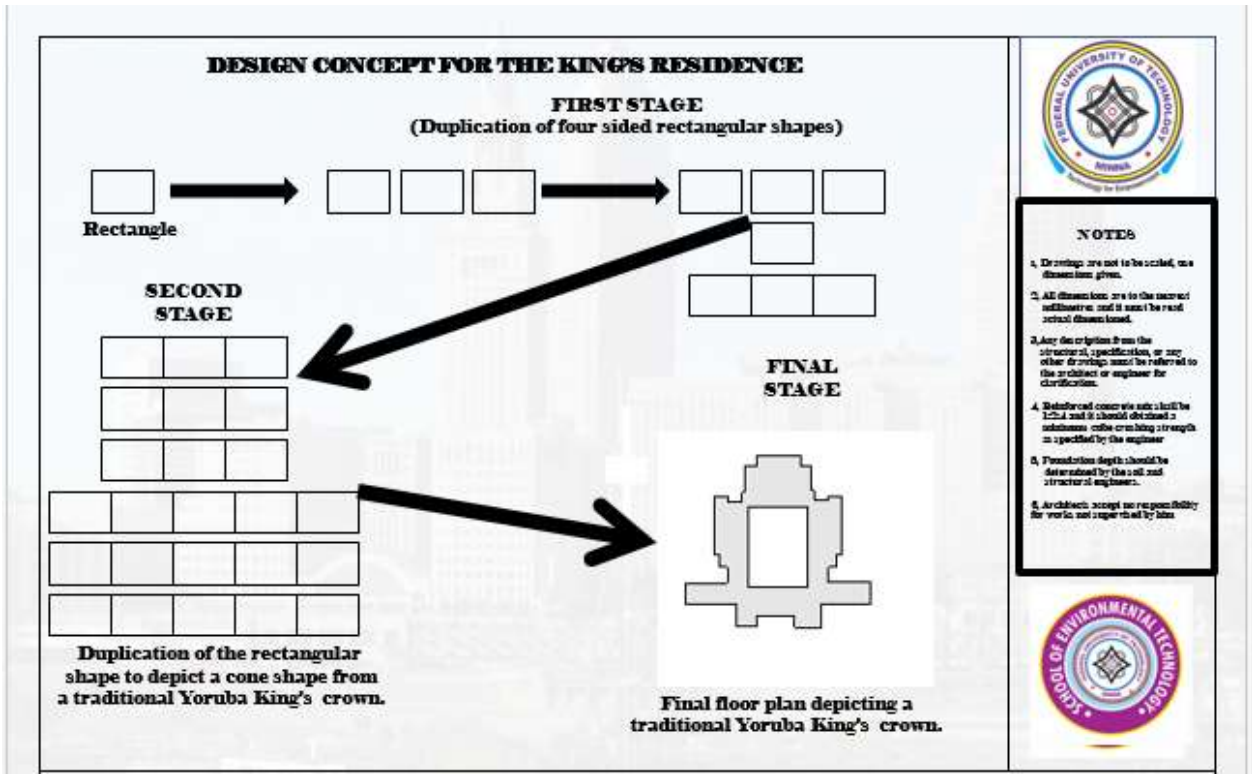
Case studies

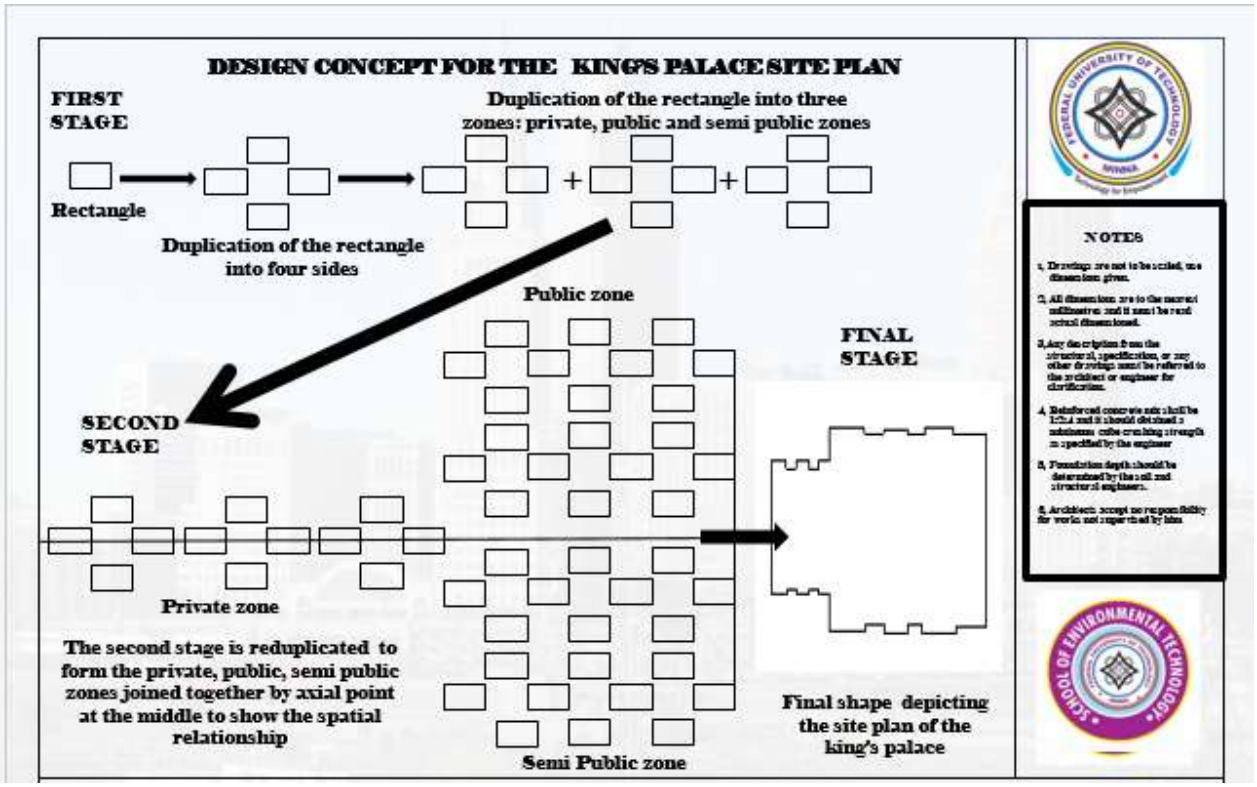


Appendix D: Design concepts

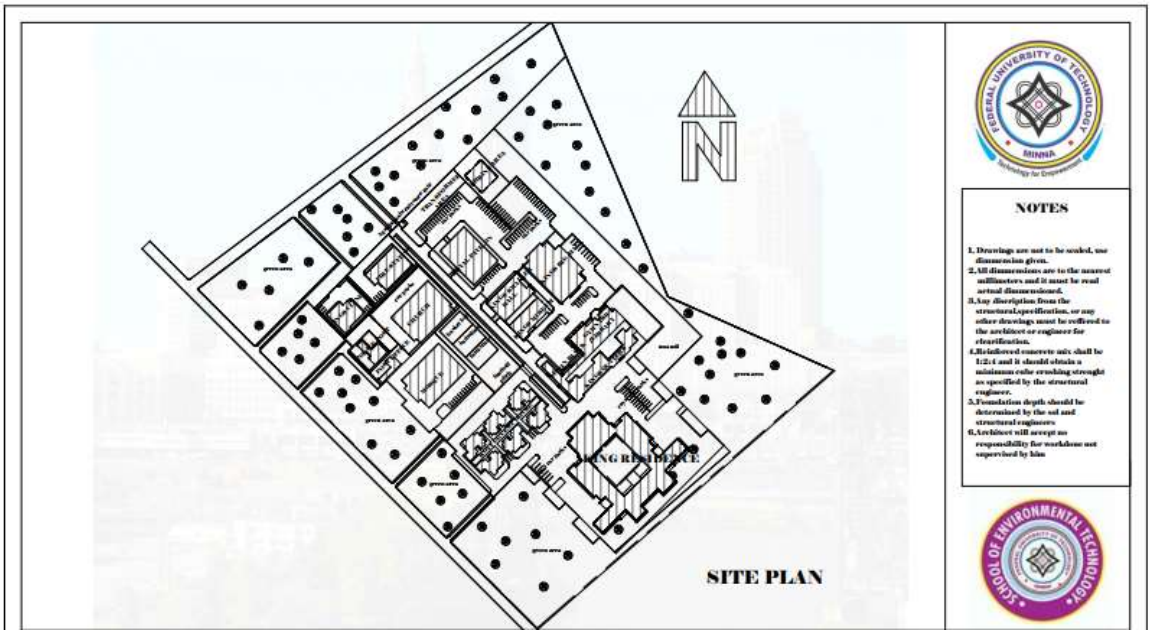


Design concepts

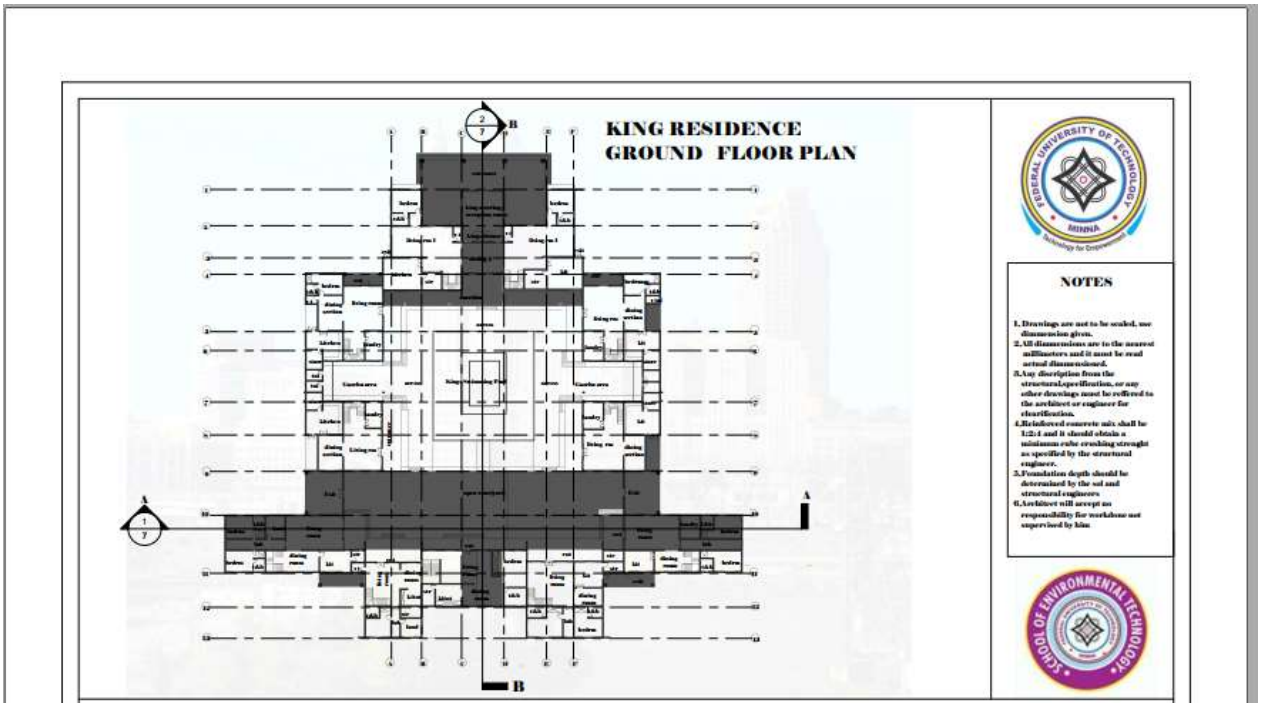




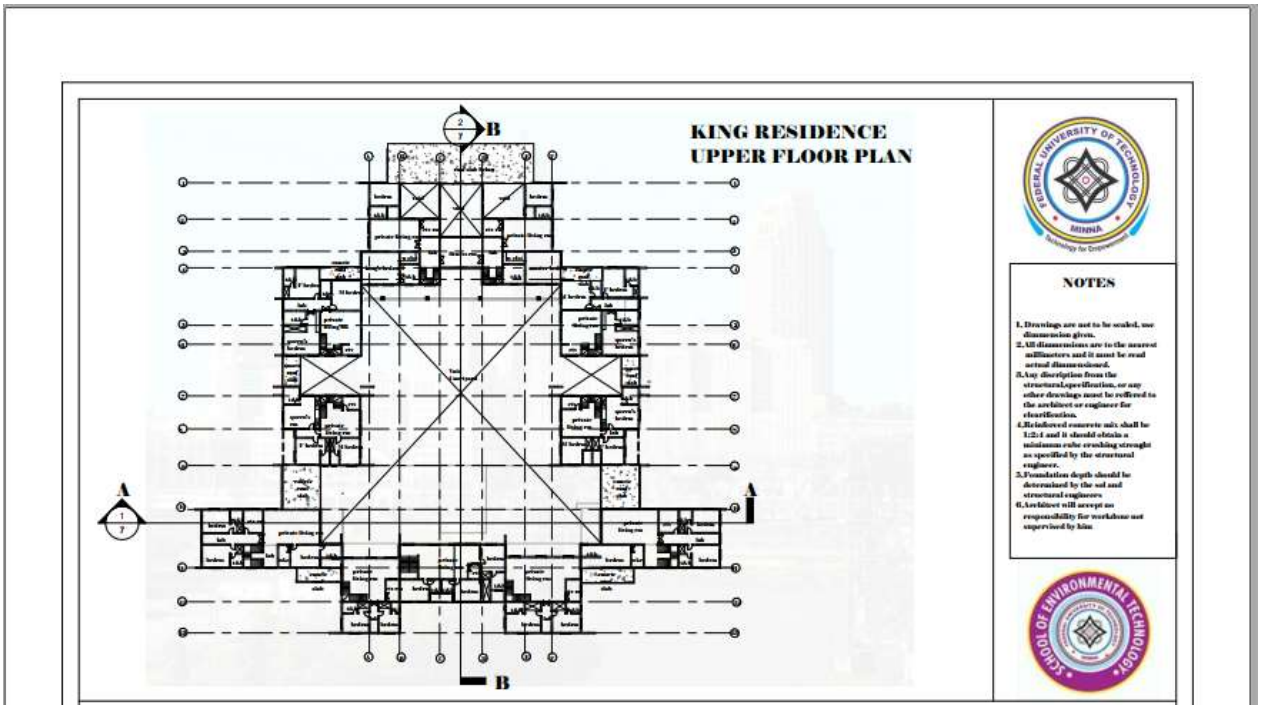
Appendix E: Site plan



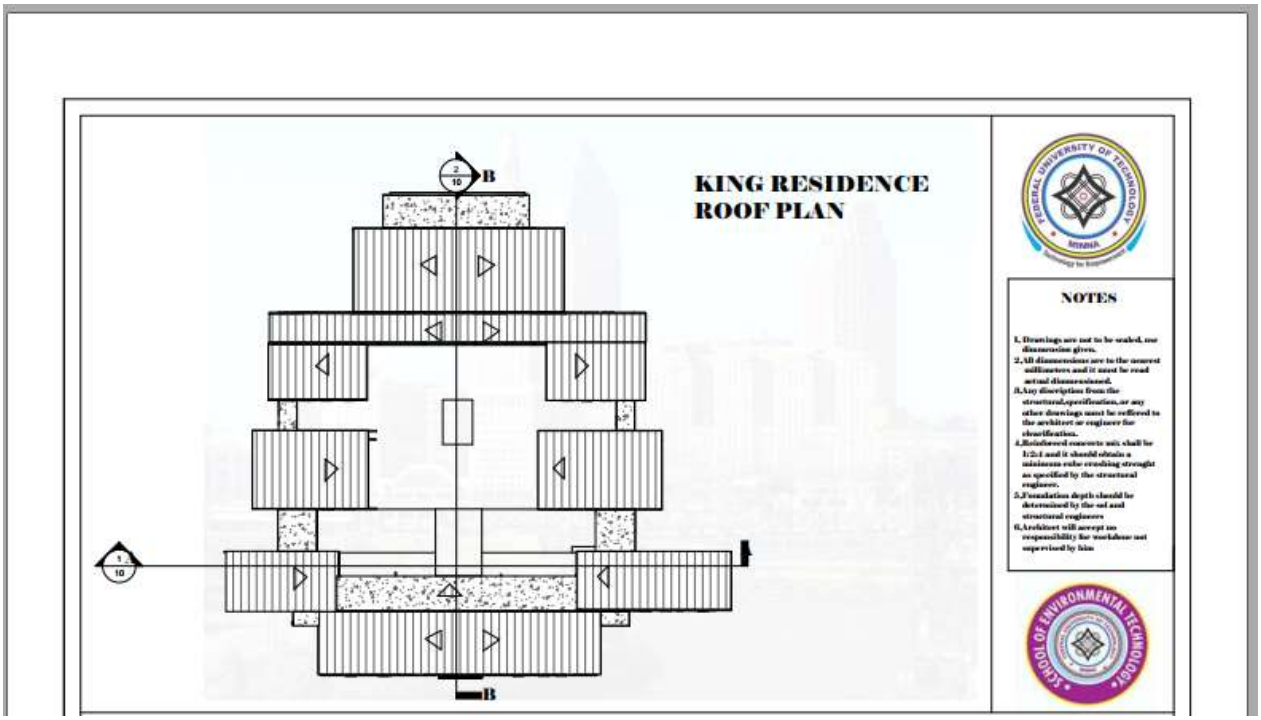
Appendix F: King's residence ground floor plan



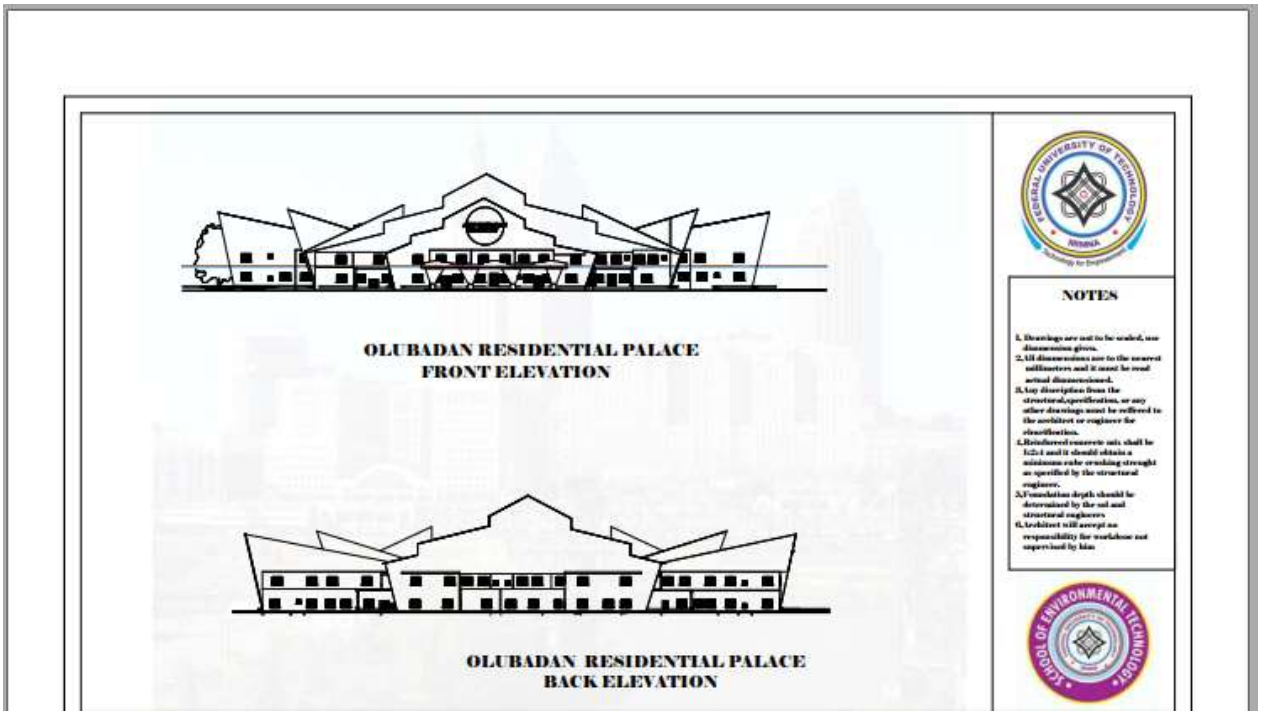
Appendix G: King's residence first floor plan

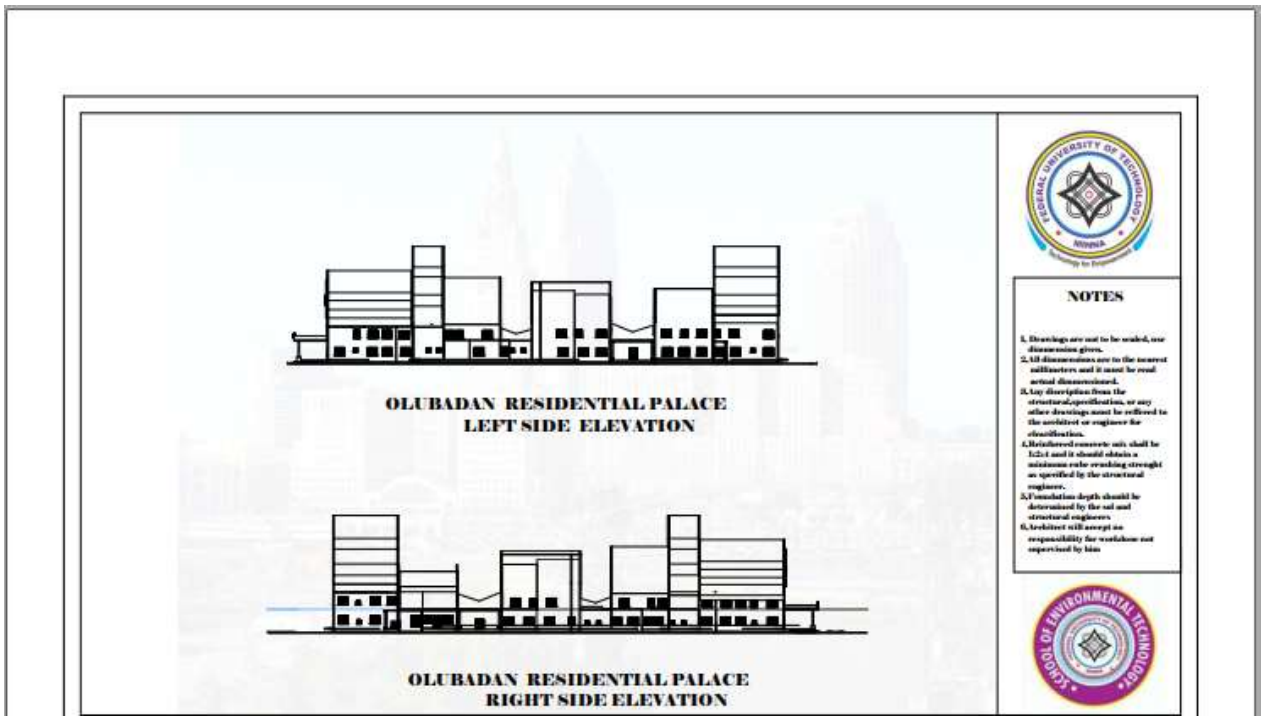


Appendix H: King's residence roof plan

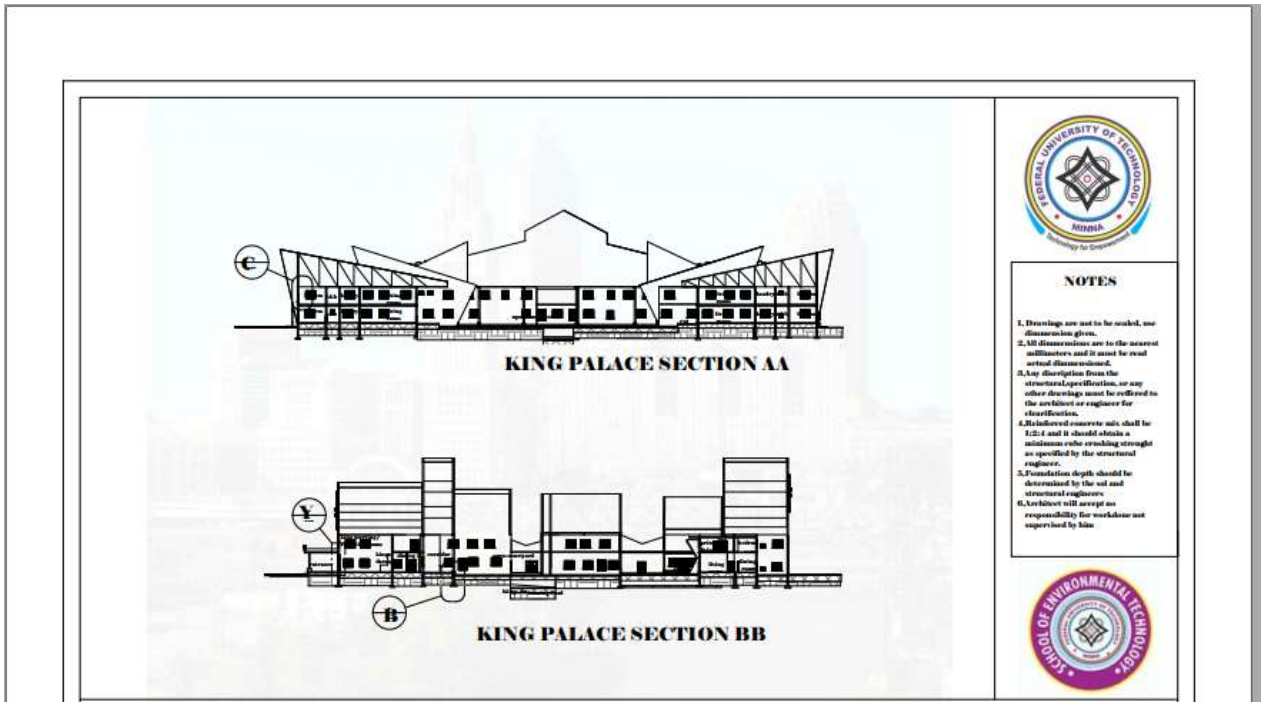


Appendix I: King's residence elevations

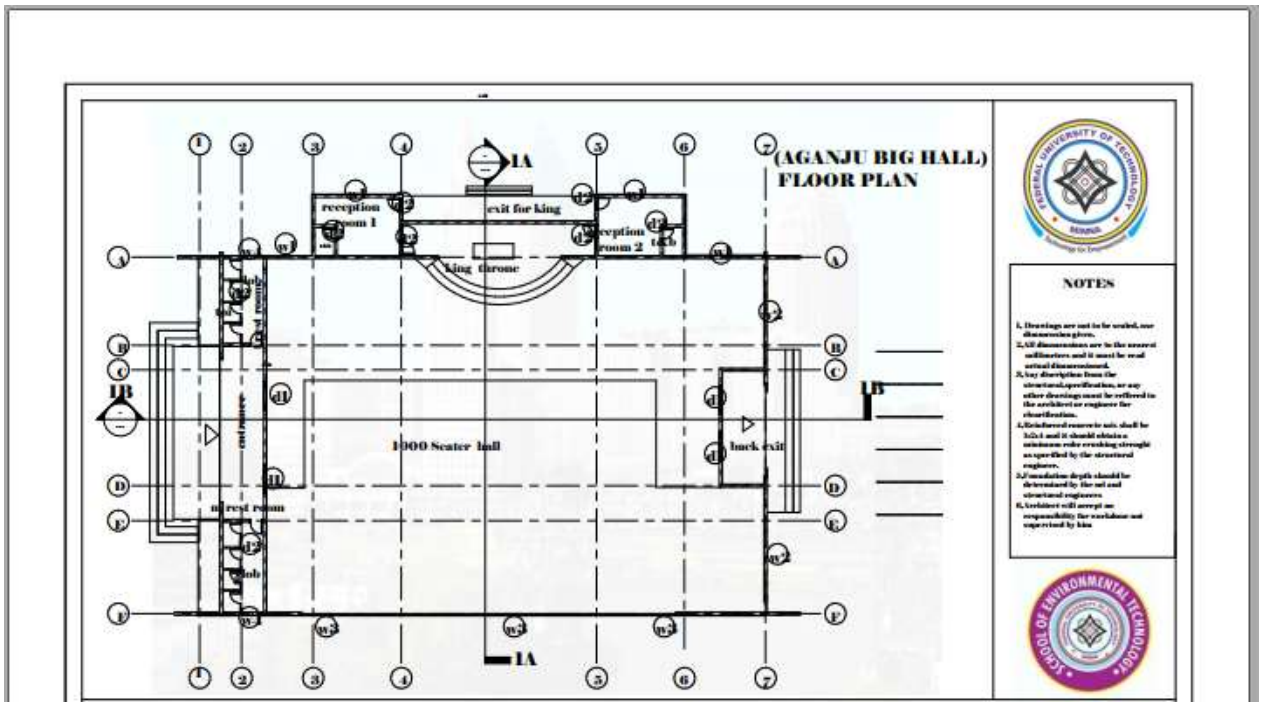




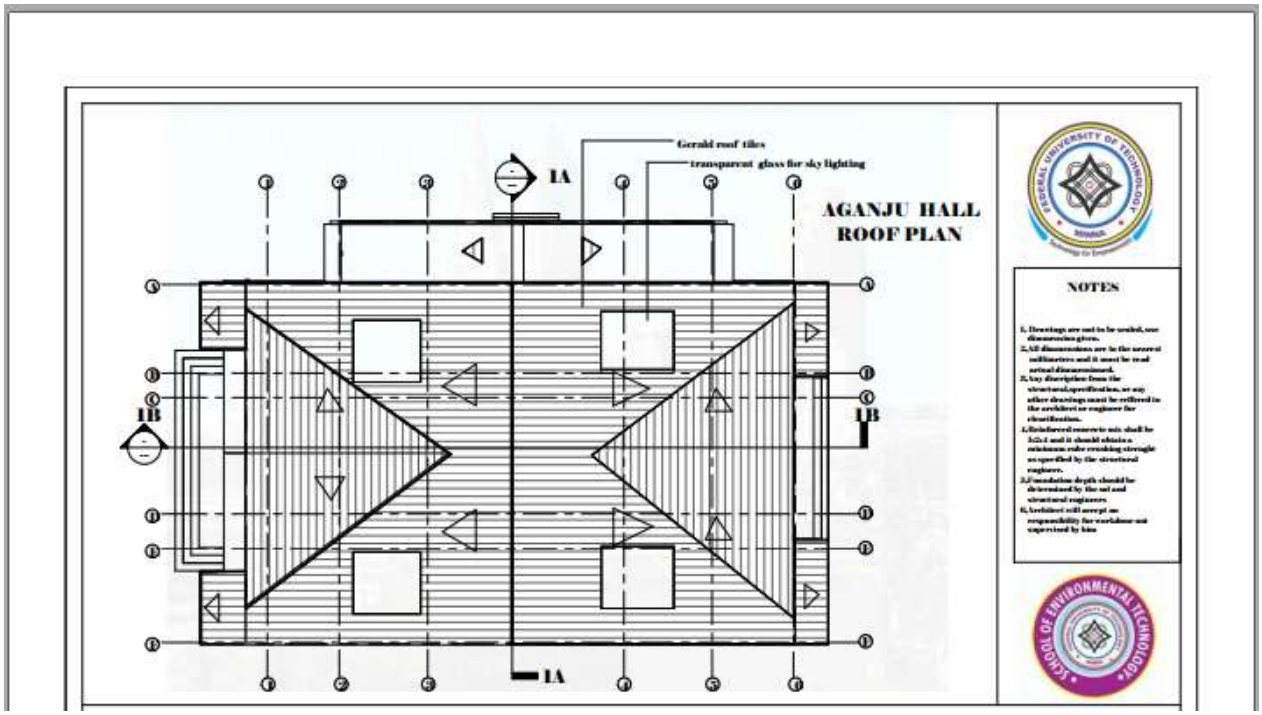
Appendix J: King's residence sections



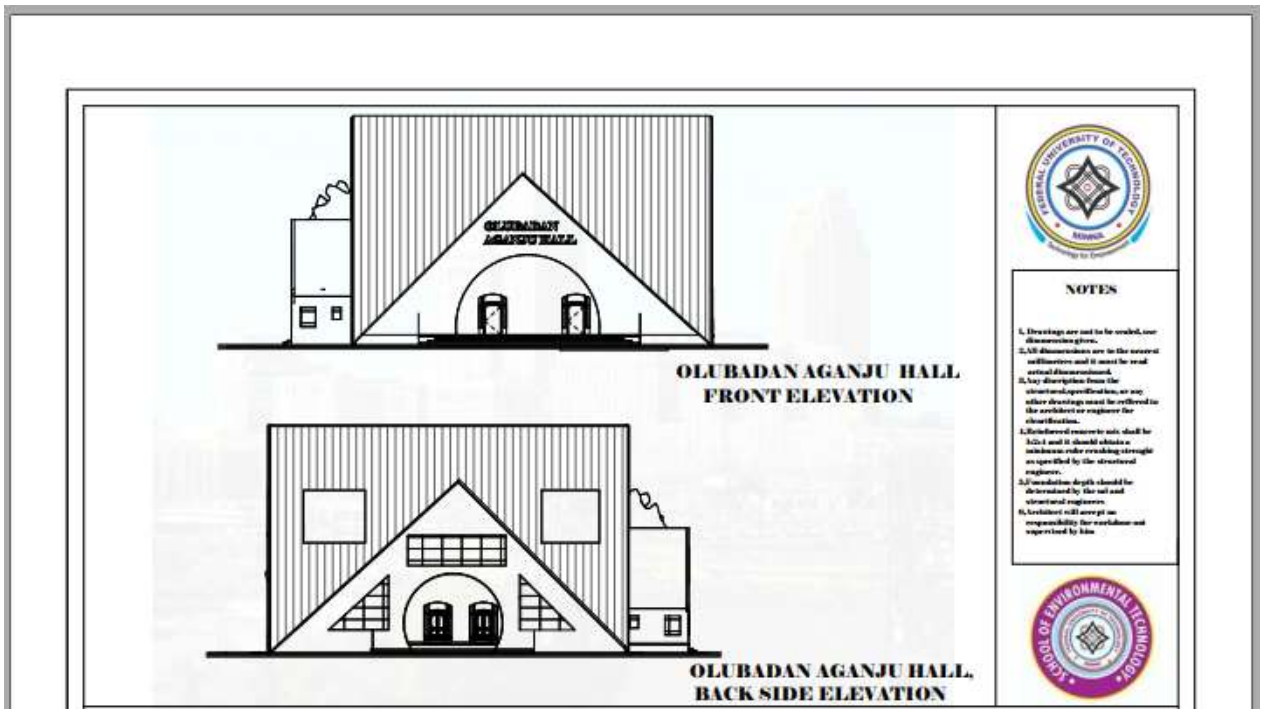
Appendix K: King's hall floor plan



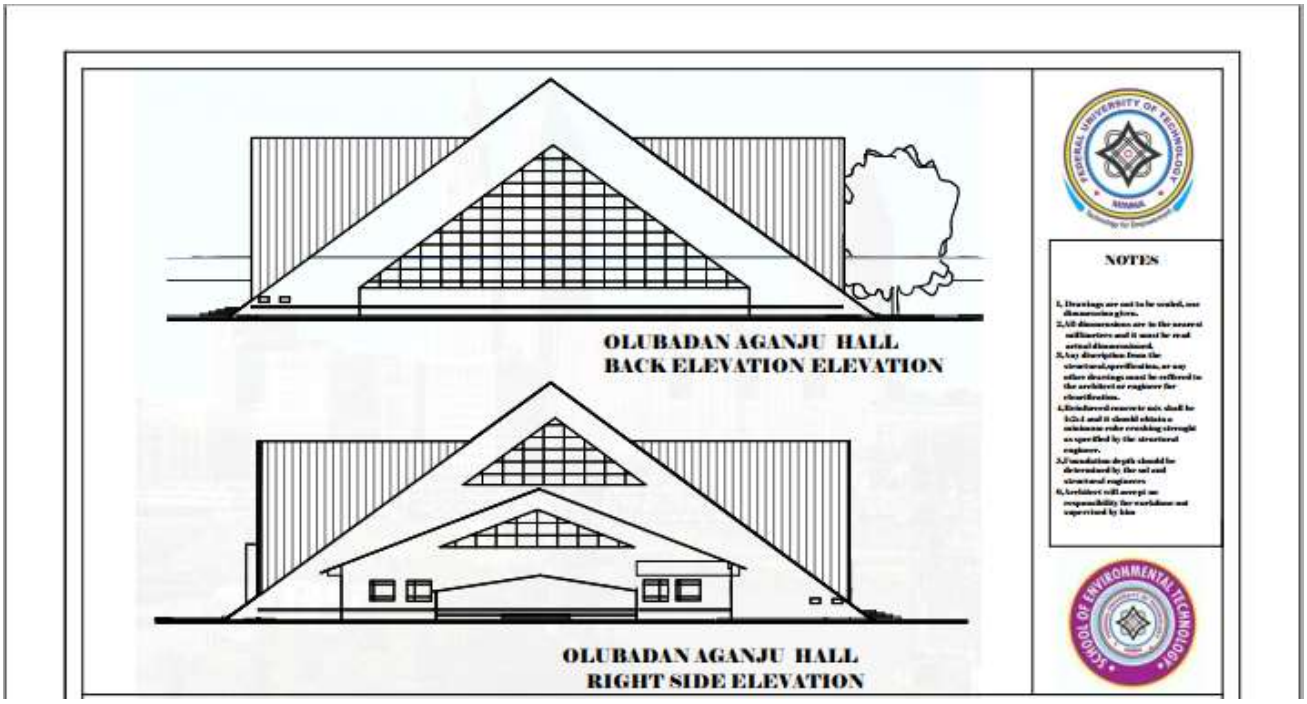
Appendix L: King's hall roof plan



Appendix M: 2 King's hall elevations



King's hall elevations



Appendix N: 3D perspectives

3ds perspective drawings