

## **CHAPTER FOUR**

### **4.0 STUDY AREA/PROJECT SITE**

#### **4.1 HISTORY OF KWARA STATE**

Kwara State, located in the North-Central geopolitical zone of Nigeria, stands as a culturally rich and historically significant region in the nation's development. Created on May 27, 1967, from the former Northern Region, the state serves as a geographical and cultural bridge between the northern and southern parts of Nigeria. It derives its name from the local term for the River Niger — "Kwara" — which flows through its landscape. The state is known for its diverse ethnic composition, including Yoruba, Fulani, Nupe, Baruba, and other minority groups, and for its reputation in education, agriculture, commerce, and peaceful coexistence.

Ilorin, the capital of Kwara State, is one of Nigeria's prominent Islamic centers and is the seat of the Ilorin Emirate. Within this capital lies Ilorin East Local Government Area (LGA), with its administrative headquarters at Oke-Oyi. Ilorin East plays a vital role in the state's socio-political and economic affairs, combining a growing urban landscape with traditional rural life. The area is known for its agricultural potential, expanding real estate, and growing infrastructure, making it a key zone in Kwara's continuous development.

This work presents a historical, cultural, and developmental overview of Kwara State and Ilorin East, highlighting their significance in Nigeria's past and present, while projecting their potential for future growth..

Kwara state is a state located in the North central region of Nigeria and it was created on May 27, 1967, by General Yakubu Gowon, along with 11 other states. It was originally named the west central state but was later renamed Kwara, which is a local name for River Niger.

The region was conquered by the Fulani in the 19<sup>th</sup> century and was part of the greater Fulani empire until it was defeated by the forces of Sir George Goldie's Royal Niger Company in 1897. It was then incorporated into the protectorate of Nigeria in 1914.

Kwara state is bordered by Benin to the west and by the Nigerian state of Niger to the North, Kogi to the east, and Ekiti, Osun and Oyo to the South. The state mostly consists of wooded savanna, but there are also forested regions in the south.

As of 2006, the population of Kwara state was around 2.3 million, making it the 30<sup>th</sup> most populous state in Nigeria.

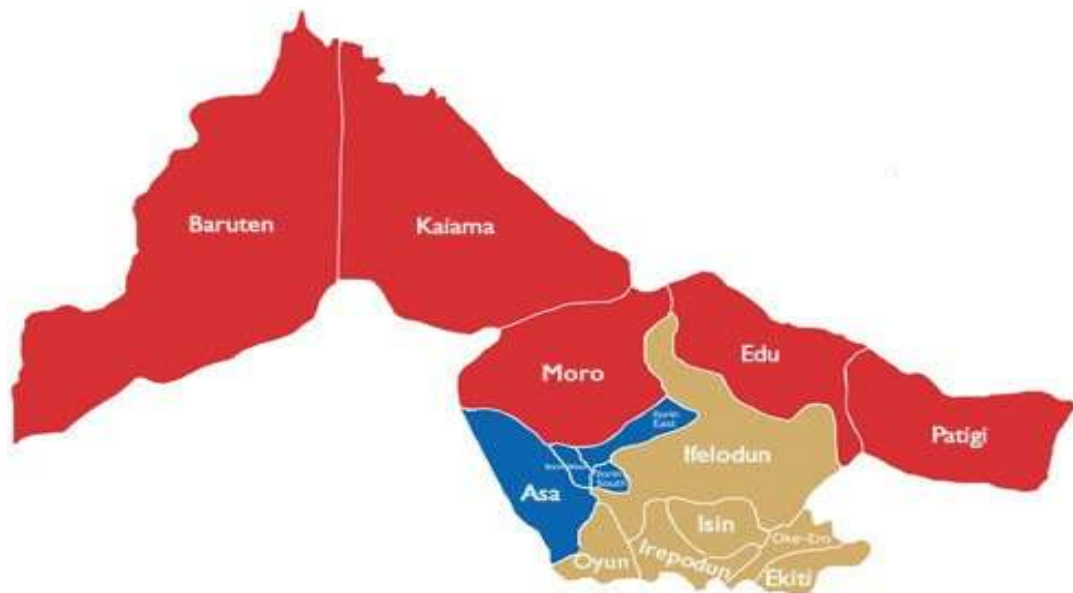
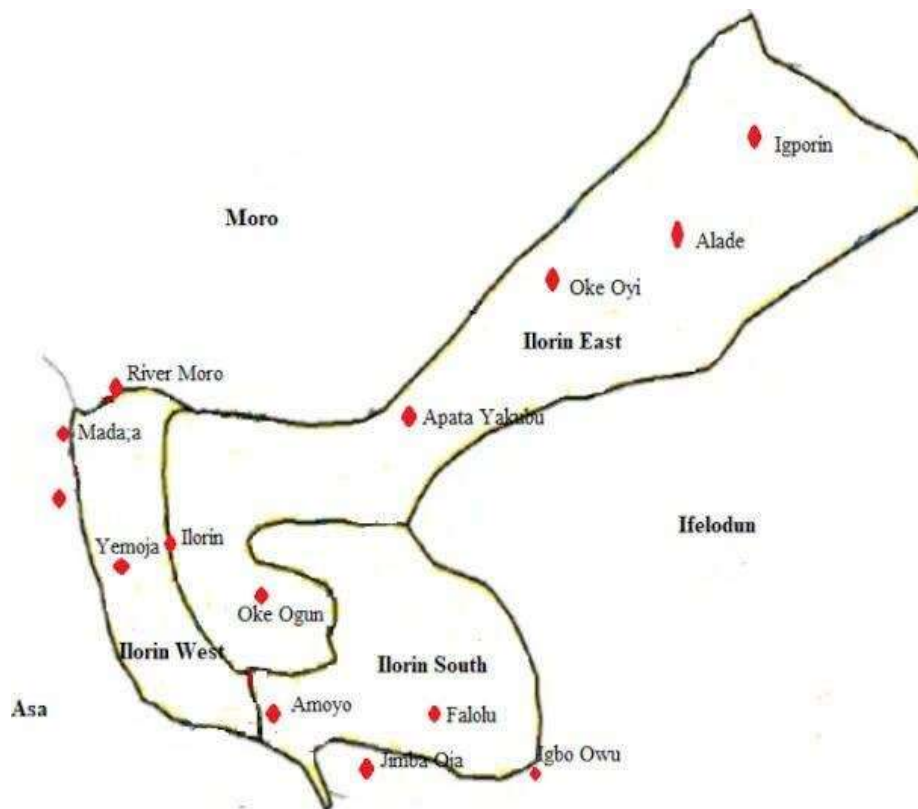


Figure 4.1: Locational map of Kwara State



Source:google/researchgate.com

## 4.2 SITE LOCATION DESCRIPTION

### 4.2.1 PROPOSED HOUSING ESTATE SITE AT OKE OSE, ILORIN, KWARA STATE

The proposed site for the N.A.S.U.P Housing Estate is a **large expanse of land measuring approximately 500 standard plots**, strategically located in the **Oke Ose area of Ilorin East Local Government Area, Kwara State, Nigeria**. Oke Ose is a growing peri-urban community situated along the Ilorin–Oke Oyi–Share development corridor, an area known for its peaceful environment, expanding population, and increasing infrastructural investments.

The site enjoys direct access via a **motorable road network**, with existing link routes connecting it to major parts of Ilorin metropolis, including the University of Ilorin Teaching Hospital axis and the Ilorin International Airport. This accessibility makes the location ideal for mid- to large-scale residential development and future urban integration.

The land is relatively flat and well-drained, making it suitable for phased estate construction with minimal topographic challenges. Additionally, the area is gradually experiencing urban sprawl, supported by the presence of public utilities, educational institutions, religious centers, and ongoing private developments.

Its proximity to existing amenities and transport infrastructure positions it as a viable site for the development of a **modern, affordable, and sustainable housing estate** targeted at meeting the residential needs of members of the **Non-Academic Staff Union of Polytechnics (N.A.S.U.P)**.

This location presents a unique opportunity to provide quality housing within a serene and well-connected environment, while also contributing to the larger goal of reducing housing deficits among staff in the Nigerian education sector.

### 4.3 SITE ANALYSIS

Site Analysis is a thorough examination and evaluation of site's conditions, characteristics and context. It involves gathering and analyzing data to understand the site. The goals of the site analysis are to identify site constraints and opportunities, inform design and development decisions, ensure environmental sustainability, respect cultural and historical heritage and enhance the site's potential.

### 4.4 GEOGRAPHICAL / CLIMATIC DATA

#### 4.4.1 CLIMATIC DATA

In Ilorin, the wet season is oppressive and overcast, the dry season is humid and partly cloudy and it is hot year round. Over the course of the year, the temperature typically varies from 64°F to 95°F and is rarely below 57°F or above 100°F .

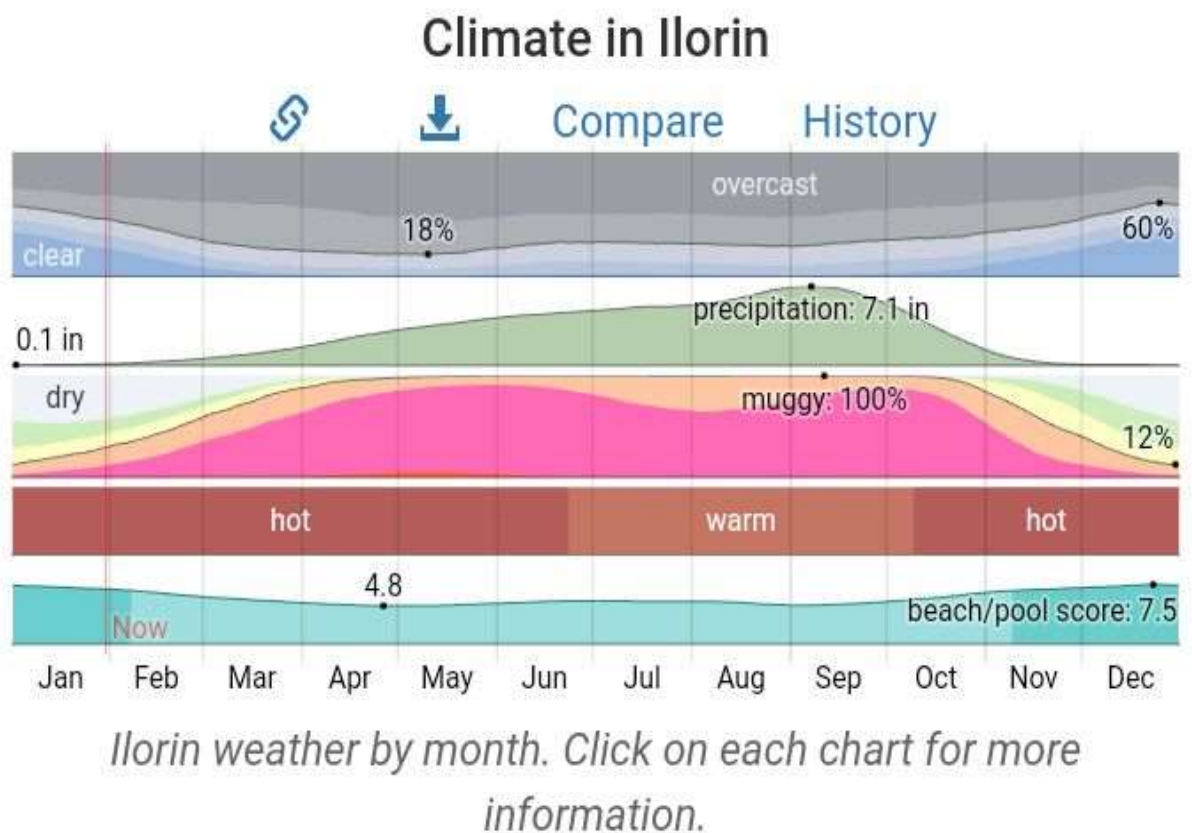


Figure 4.4: Graph of Climate in Ilorin

#### 4.4.2 RAINFALL

Kwara typically receives about 101.45 millimeters (3.99 inches) of precipitation and has 148.38 rainy days (40.65% of the time) annually.

Ilorin experiences two climatic seasons i.e. rainy and dry season. The rainy season is between March and November with a brief break in August and the annual rainfall varies from 1200mm

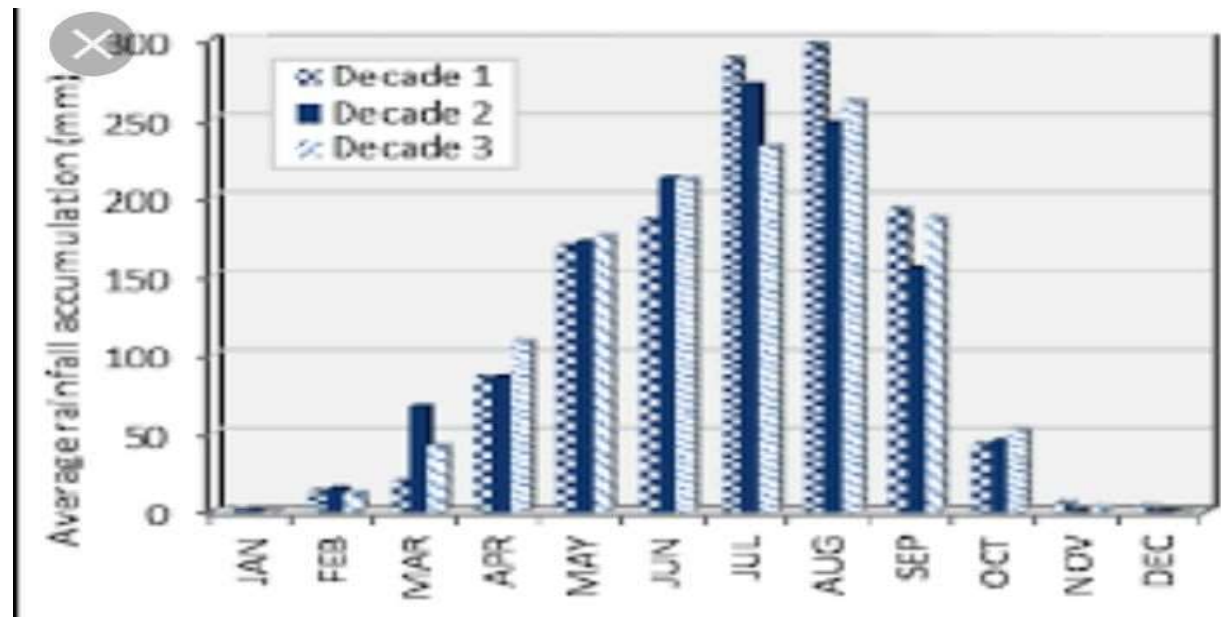


Figure 4.5: Graph of Rainfall in Ilorin

#### 4.4.3 WIND

Both tropical continental and tropical maritime air masses affect Ilorin. The city experiences thunderstorm, during the beginning and ending of the raining season. The prevailing wind direction is southwest trade wind, which is rain bearing since it takes origin from the sea in the raining season period and from north.

#### 4.4.4 TEMPERATURE

Ilorin is within the climatic zone known as the equatorial zone which has a climatic type of low wet equatorial. The two major influences on Ilorin climate are the two major wind currents. The south west trade wind is warm and moisture laden and the north east trade wind is cold and dry. The two

winds current bring about the two different seasons called the rainy and dry season. The raining season is between April and October while the dry season is between November and March. It is accompanied by cold dust and harmattan.

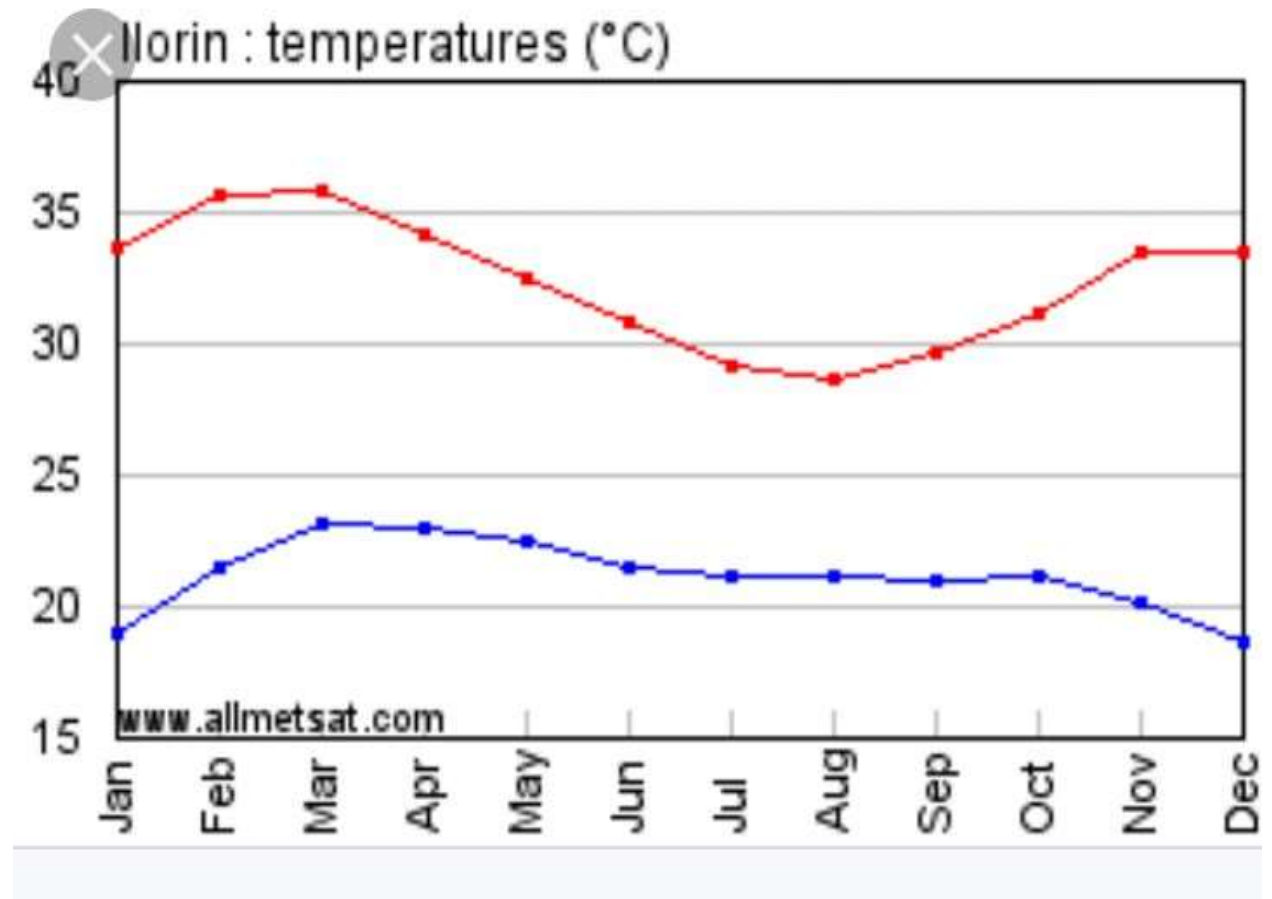


Figure 4.6: Graph of temperature in Ilorin

#### 4.4.5 HUMIDITY

Kwara under certain factors experiences high relative humidity with high rainfall during the month June, July, August, and September.

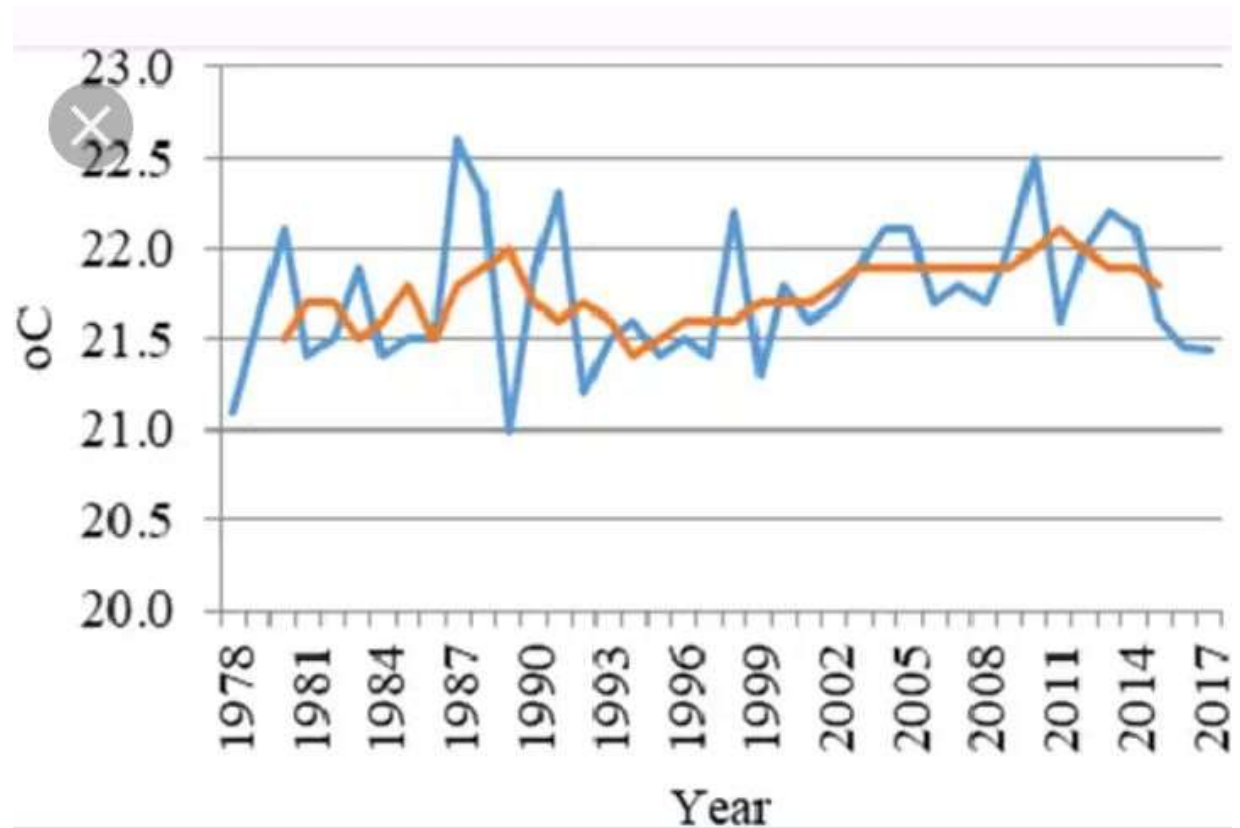


Figure 4.7: Graph of humidity in Kwara state

#### 4.5 ANALYSIS OF THE IMMEDIATE ENVIRONMENTAL CONDITIONS OF THE SITE

##### 4.5.1 VEGETATION

The site is covered with grass, trees and shrubs are to be removed.

##### 4.5.2 SOIL CONDITION

The site has a red soil with good sub-surface condition for construction and landscaping, it gives satisfactory geological and soil condition with no rock.



### **4.5.3 TOPOGRAPHY**

It has a gentle slope towards the road at 30mm. It does not undulate. The typography of the proposed development site is relatively low that the topsoil and sub-soil firm and build-able. The site is therefore free from any natural of physical constraints and rock outcrops.

### **4.5.4 WIND DIRECTION**

The site is planned in order to give it a defined shape and also to reflect the activities taking place. the location of building and facilities within the site follow these major principles.

- The priority of individual structure within the term zoning (noisy, semi-noisy and quiet zone)
- Parking space located within and around the various units of convenience.
- The police post is located within the entrance of the estate for security purpose.
- The supporting units such as church, mini mart, school, fire station, event center, clinic and market are centralized for easy access for the occupant.

### **4.5.5 ORIENTATION**

The orientation of the building must be designed in such a way that the large side face the north-east and south-west with adequate openings.

## **4.6 PROJECT ANALYSIS / DESIGN CRITERIA**

### **4.6.1 DESIGN CRITERIA**

- **DESIGN GENERAL REQUIREMENT**

- **DESIGN BRIEF**

After research and planning the next step in the series of the project program is design it, to achieve functional and where established design there must be a brief to work on. The brief depends generally on the scope of individual design; the brief of this project is therefore based on the various individual designs that take place in the housing estate. To have enough brief for the purpose correctional Center were carried on the existing housing estate. The study also gives me the opportunity to know the nature of the

Occupant lives and their lifestyle and also relationship between staff and inmates. The housing estate has different building type which are: the 1 bedroom semi-detached, 2 bedroom, 3 bedroom, educational centre, recreational centre, health centre e.t.c.

- **DESIGN ANALYSIS**

This is the process of itemizing unit within the component of the entire design with a view to establish a solid understanding and appropriate functional flow. The unit of the design is as follows

## **4.7 BRIEF ANALYSIS OF PROJECT**

As a result of the deductions made from the studies conducted on the project adequate attention shall be given to the seven area/units that make this project. All these end up on mass housing.

### **THE UNITS/AREAS ARE AS FOLLOWS:**

1. Residential
2. Services
3. Recreation
4. Maintenance
5. Religion
6. Institution

## 7. Road network

**RESIDENTIAL AREA:** this area plays most important area in the housing, it's the center of focus because it is the place where the occupant will spend most of their time as shelter and this is group into: One bedroom semi-detach block of flat, two bedroom semi-detach block of flat and three bedroom semi-detach block of flat.

The one bedroom semi-detach block of flat is for low income earners and the two bedroom semi-detach block of flat is for the middle income while the three bedroom semi-detach block of flat is for the high income earners.

**SERVICES:** these units play much important role in the residential area because without services in the housing, the lives of the occupant will not be complete and also services are part of the social amenities and facilities that will improve physical, biological and social of the occupant in the mass housing. the following are services provided in the servicing area; mini-mart, Gate house, Police post, Clinic/health care, Fire station and Event center and market.

**RECREATION:** recreation area is also an important area in the mass housing and the **units include:** Garden / sit-outs, Sport area and Children playground.

**MAINTENANCE:** is a very important section in the mass housing for comfortability of the occupant. This unit includes; Waste disposal and Central sewage system.

**RELIGION:** Some people find of difficult to worship God due to far distance if worship centers, then, in the proposal housing there is provision of worship center for Muslim and Christian worshippers such as: Mosque and Church.

**INSTITUTION:** The children of the occupant and the people living around the housing estate can make use of the school present within the housing. The unit includes: Nursery and primary school.

**ROAD NETWORK:** For proper movement of traffic flow to ease activities within the housing estate. The units provided are follow: Trucks, Bus, Cars.

#### 4.8 FUNCTIONAL ANALYSIS

There is various types of means that is employed in the functional analysis but the most suitable will be used for the project based on the relationship between two unit and activities done there

- Low income earner

S/N	UNITS	L x B	AREA
1	ENTRANCE	3.0m x 1.2m	3.6m
2	PARLOUR	3.0m x 3.6m	10.8m
3	BEDROOM	3.0m x 3.6m	10.8m
4	KITCHEN	2.4m x 1.5m	3.6m
5	VISITOR'S TOILET	0.9m x 1.2m	1.08m
6	WC & SHW	1.875m x 1.5m	2.8125m

Table 4.1: Space allocation for one bedroom semi-detach block of flat

- Middle income earner

S/N	UNITS	L x B	AREA
1	ENTRANCE	3.925m x 1.2m	4.71m
2	VISITOR'S TOILET	0.9m x 1.5m	1.35m
3	MAIN LOUNGE	5.05m x 4.725m	23.86125m
4	DINING	2.425m x 3.6m	8.73m
5	KITCHEN	3.925m x 3.6m	9.99m
6	STORE	0.9m x 2.4m	2.16m

7	<b>BEDROOM</b>	<b>3.6m x 3.75m</b>	<b>13.5m</b>
8	<b>BEDROOM</b>	<b>3.3m x 3.9m</b>	<b>12.87m</b>
9	<b>WC &amp; SHW</b>	<b>2.175m x 1.2m</b>	<b>2.61m</b>
10	<b>WC &amp; SHW</b>	<b>2.175m x 1.2m</b>	<b>2.61m</b>
11	<b>EXIT</b>	<b>2.425m x 1.2m</b>	<b>2.91m</b>
12	<b>LOBBY</b>	<b>3.9m x 0.9m</b>	<b>3.51m</b>

Table 4.2: Space allocation for two bedroom semi-detach block of flat

- High income earner

12	<b>WC &amp; SHW</b>	<b>1.275m x 2.1m</b>	<b>2.6775m</b>
13	<b>EXIT</b>	<b>2.65m x 1.2m</b>	<b>3.18m</b>
14	<b>LOBBY</b>	<b>5.4m x 1.05m</b>	<b>5.67m</b>

#### 4.9 APPRAISAL OF PROPOSED SCHEMES

In a project design, there are three basic factors to be considered and they are Stability i.e the strength, capability of the structure, both in exterior and interior of the structure. Functionality i.e the proper chaining of the units block, to meet the purpose of the structure to the users and the Aesthetics of the design i.e the consideration beauty of the structure in both views, environment and the finished. In this design, these three factors are put in place to meet the functional demand and to create a proportionally balanced design.

#### 4.9 EQUIPMENT AND OPERATIONAL AND PERFORMANCE REQUIREMENT

Here attempt is made to group the various units according to the activities taking place in them. Their activities have been grouped into seven zone units but zoning base on the activities taking place in the housing has to go this way.

**A. Housing area/residential area ( private area):** This area is known to be private area on site

**B. Public area:** This area is where the auxiliary facilities is located and this area include Mini-mart, police post, fire station, clinic/healthcare, church, mosque, event center, nursery and primary school, relaxation area and market.

#### **4.11 SPATIAL ALLOCATION/ SCHEDULE OF ACCOMMODATION**

It is the allocation of space required in the building design in order to make the most appropriate use of spaces available.

#### **4.13 CONCEPT DEVELOPMENT**

Firstly the process of analyzing the design into necessary unit required for the design is based on the data collection through research methodologies.and also the grouping of the various units together according to their relationship with one and other is also based on the data and information gathered.

The housing estate project is envisioned as a modern residential community inspired by contemporary architectural design,tailored to meet the needs of todays dweller.