A PROJECT REPORT

ON

PROPOSED MATERNITY HOME FOR OYUN, ILORIN EAST L.G A, KWARA STATE

By

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ND/23/ARC/PT/0039

SUBMITTED TO THE DEPARTMENT OF ARCHITECTURAL TECHNOLOGY INSTITUTE OF ENVIRONMENTAL STUDIES, (I.E.S) KWARA STATE POLYTECHNIC ILORRIN, KWARA STATE.

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF NATIONAL DIPLOMA (ND) IN ARCHITECTURAL TECHNOLOGY

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CERTIFICATION

I certify that this Research/Dissertation entitled Maternity Home was carried out by SAHEED SODIQ OLAMILEKAN under my supervision and has been approved as meeting the requirements for the award of ND in Architectural Technology, of Kwara State Polytechnic, Ilorin, Kwara State Nigeria.

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DECLARATION

"I declare that this project project/dissertation is a product of my personal research work. It has not been presented for the award of any degree in any polytechnic. The ideas, observations, comments, suggestions herein represent my own convictions, except quotations, which have been acknowledged in accordance with conventional academic traditions."

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DEDICATION

This report is dedicated to Almighty Allah the universe, the creator of all creators and the source of mankind who has always been my strength throughout this project and also for his unconditional and infinite mercy showered upon me through my studies.

Also, I dedicated this project to my parent Mr. and Mrs. SODIQ for their parental, financial and moral support.

ACKNOWLEDGEMENT

All praise and adoration and glorification to Almighty (S.W.A) the creator of the universe that gave me the privilege to take part in this program.

First and foremost, I am grateful to my able Hardworking and untiring project supervisor ARC J.M TOMORI and the member staff of the Architecture Department, Kwara State Polytechnic, Ilorin for their encouragement, expert advice and continuous kind assistant and supervision that made the completion of this study successful.

My gratitude goes to my able, amiable and knowledgeable guidance MR & MRS SODIQ for his inexplicable finance, moral, parent prayers support from birth till date, I say a very big thanks you sir & ma. I pray almighty Allah grant your life long to reap the fruit of your labor in Good health and wealth who support morally, financially and spiritually at all time towards my success in these program.

However, I would like to express my gratitude to all my entire families and friends for all forms the benefit receives from them.

Finally to my brothers and sisters and my colleague and other for their contribution to attain great achievement. I pray Almighty Allah reward everyone abundantly.

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ABSTRACT

This project focuses on the design and development of a modern Maternity Home that addresses the critical need for maternal and neonatal healthcare in underserved communities. The aim is to create a functional, safe, and welcoming environment that supports expectant mothers through pregnancy, childbirth, and postpartum care. The design integrates essential healthcare services, including antenatal and postnatal clinics, labor and delivery rooms, recovery suites, administrative areas, and staff facilities, while promoting privacy, hygiene, and comfort.

The project emphasizes the use of sustainable materials, efficient space planning, natural lighting, and ventilation to enhance healing and reduce operational costs. Consideration is also given to cultural sensitivity and accessibility, ensuring the facility is inclusive and adaptable to the local population's needs. Through a blend of architectural innovation and healthcare standards, the proposed maternity home serves as a model for improving maternal health infrastructure and reducing maternal and infant mortality rates.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Maternal health is a cornerstone of public health and a critical determinant of the well-being of future generations. Pregnancy, childbirth, and the postpartum period are vulnerable times in a woman's life and require a safe, supportive, and medically equipped environment to ensure a healthy outcome for both mother and child. Despite increased global awareness and technological advancements in the medical field, maternal and infant mortality rates remain alarmingly high in many developing countries due to poor access to quality maternal care facilities.

A Maternity Home provides essential services such as antenatal care, skilled delivery, postnatal monitoring, and health education. In many rural and urban-fringe communities, the absence of such well-designed facilities has contributed significantly to preventable deaths and complications. The physical environment of maternity homes directly influences the psychological comfort, emotional stability, and recovery of patients. Hence, it is necessary to design a maternity home that is not only functional but also welcoming, culturally sensitive, environmentally sustainable, and accessible to all.

This project proposes the architectural design of a modern maternity home that integrates medical functionality with spatial aesthetics and comfort. It will serve as a prototype for future maternal health centers, particularly in regions where healthcare delivery systems are struggling to meet demand..

1.2 Historical Background

The provision of maternal health services dates back to ancient civilizations. In Africa, childbirth was traditionally a home-based activity managed by experienced community midwives. These midwives served both spiritual and

medical roles, offering support to expectant mothers using indigenous knowledge and practices. Although these methods were significant within their cultural context, they lacked the scientific understanding and emergency care needed to manage complications, often leading to high mortality rates.

The colonial era introduced western medical practices to Nigeria and other parts of Africa. Christian missionaries and colonial administrators established the first maternity wards in major cities. Over time, with the growth of urban centers and increased health awareness, maternity homes began to appear as specialized facilities distinct from general hospitals. These facilities were particularly useful in semi-urban and rural settings where large hospitals were either unavailable or too far away.

Despite this progress, many maternity homes today suffer from neglect, poor funding, lack of qualified personnel, and outdated infrastructure. The need for a paradigm shift in the design and planning of maternity homes has become increasingly urgent. Modern architecture offers the opportunity to rethink how maternal care spaces are conceived — creating environments that are not only medically sound but also emotionally uplifting and family-friendly.

1.3 Definition

A Maternity Home is a healthcare facility specifically designed to provide care for women during pregnancy, childbirth, and the immediate postpartum period. It typically includes antenatal care units, labor and delivery rooms, postnatal recovery wards, and neonatal care units. Maternity homes may also offer family planning services, health education, and counseling. Unlike large hospitals, maternity homes are usually smaller, more intimate, and located within communities to improve access and comfort for expectant mothers.

1.4 Statement of the Design Problem

In many parts of Nigeria and other developing regions, maternal health facilities are either inadequate or poorly designed, resulting in high maternal and infant mortality rates. Overcrowded hospitals, lack of privacy, poor hygiene, and insufficient infrastructure continue to plague the healthcare system. Existing maternity centers often lack the spatial functionality and aesthetic appeal that promote comfort and healing.

There is, therefore, a need for a well-planned, user-friendly, and sustainable maternity home that caters to both medical and emotional needs of mothers. The design should address functional zoning, infection control, patient flow, privacy, staff efficiency, and family involvement. It should also reflect the local culture and climate while maintaining global best practices in maternal health architecture.

1.5 Aim And Objective

1.5.1 Aim of the Project

- To build and design a maternity home and create a safe, comfortable and welcoming environment for mothers, babies, and healthcare professionals.
- To ensure the facility is safe and easily accessible for all users, including those with disabilities.
- To design the layout to support efficient workflows for healthcare providers.
- To provide spaces that support the emotional and physical needs of patients, such as locational rooms, counseling areas, and comfortable waiting rooms.
- To create a welcoming and comfortable environment for mothers and family. Privacy between patient rooms and space for family members should be incorporated.

1.6 Justification

Maternity home is justified as it provides a supportive and well-designed environment that ensure the health, safety, and well-being of both mothers and their newborn by integrating medical care, emotional support and educational resources.

1.7 Scope of the Project

The project will include:

- Admin Block
- Gate
- Generator House
- Relaxation Area
- Car Park
- Waste Management
- Tank

1.8 Deduction

From the case studies I carried out, it has been deduced that some maternity home need to be well ventilated and spacious enough to accommodate reasonable percentage of attendance.

I will also ensure that there is no echo in the sound system. The aforementioned points are what I will put into consideration when am designing my project.

1.9 Research Methodology

Oral interview: This involves asking people who have knowledge about maternity home in order to know how to go about my own propose project.

Internet Review: This is the process of browsing or searching online e.g. Google, Wikipedia etc.

Case study: This is an act of gathering information through visitation of existing maternity home

Literature review: This is an act of consulting text book journal and media etc.

CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction

A maternity home is not just a healthcare building — it is a life-centered facility that requires a humanistic, functional, and emotionally sensitive architectural approach. This chapter provides a review of literature from various sources, including medical architecture research, World Health Organization (WHO) guidelines, national healthcare policies, and relevant case studies. It explores the evolution of maternity home design, spatial requirements, design standards, sustainability, and patient-centered care principles. The aim is to build a theoretical foundation that informs and supports the design proposal of a functional and sustainable maternity home.

2.2 Evolution of Maternity Facilities

Historically, maternity services were home-based and community-driven. Over time, with urbanization and advances in medicine, these services transitioned to formal institutions. In the early 20th century, maternity homes emerged as specialized facilities offering structured maternal care, particularly in Western societies. In Nigeria and other developing countries, maternity homes were later introduced to bridge the gap between home births and hospital deliveries especially in rural and peri-urban areas.

Modern maternity facilities now emphasize not only clinical safety but also psychological comfort, privacy, and cultural sensitivity. They are no longer seen as purely functional spaces but as holistic healing environments.

2.3 Design Standards and Guidelines

Several international and national bodies have developed design standards for maternity care facilities. Key guidelines include:

2.3.1 World Health Organization (WHO) Standards

- Adequate space per patient (minimum 12–15 m² in delivery rooms)
- Natural ventilation and lighting
- Infection control zones and material segregation
- Provision of basic utilities: clean water, electricity, waste disposal
- Accessibility for persons with disabilities
- Waiting and resting areas for family support

2.3.2 Nigeria's National Health Facility Guidelines

- Integration of antenatal, delivery, and postnatal care
- Location within 5 km of target communities
- Minimum bed capacity for primary health care (PHC) facilities: 10–20 beds
- Provision of staff quarters for on-call duty
- Emphasis on culturally sensitive design

2.4 Functional Spaces in a Maternity Home

Efficient space planning is key to the success of a maternity home. Common functional areas include:

- Reception & Waiting Area – welcoming, non-clinical feel
- Antenatal Clinic – consultation, scanning, and education rooms
- Labor and Delivery Suites – soundproof, hygienic, and calming
- Postnatal Ward – recovery rooms with provisions for breastfeeding and bonding
- Neonatal Unit – for babies needing extra care

- Staff and Administrative Offices
- Utility Areas – pharmacy, storage, laundry, waste disposal
- Flexibility, privacy, and infection control must guide space arrangement.

2.5 Principles of Patient-Centered Design

Research in hospital architecture increasingly supports patient-centered care as a core design principle. Key attributes include:

- Privacy and Dignity: Ensuring visual and auditory separation for patients
- Comfort and Healing: Use of natural materials, warm lighting, and ventilation
- Family Involvement: Providing space for family members during labor or recovery
- Wayfinding: Clear signage and spatial orientation to reduce stress
- Cultural Sensitivity: Reflecting local customs and religious practices in design

2.6 Sustainable Design Considerations

Sustainability in healthcare design reduces operational costs and improves patient well-being. For maternity homes, this includes:

- Use of local and natural materials
- Passive cooling systems (cross ventilation, shading, orientation)
- Solar energy for water heating and lighting
- Rainwater harvesting and greywater reuse
- Landscape design to promote relaxation and reduce stress
- Eco-friendly design is especially crucial in areas with limited infrastructure.

2.7 Case Studies

Case Study 1: Life Spring Maternity Hospital, India

Focus on affordability and simplicity

Small-scale modular design

Separate patient flows and clean material transitions

Use of low-cost, durable finishes

Case Study 2: Arup Health Centre, Uganda

Community-based maternal center

Rainwater harvesting and natural ventilation

Designed for extreme climates

Local labor and materials used in construction

Case Study 3: Lagos Island Maternity Hospital, Nigeria

One of the oldest maternity hospitals in Nigeria

Urban setting with challenges of overcrowding

Mixed feedback on infrastructure maintenance

Lessons include importance of adaptable design and future expansion

2.8 Gaps in Existing Literature

Despite the existing studies and design guidelines, few architectural works focus deeply on integrating cultural context, maternal emotional needs, and community involvement into the design process. In rural settings especially, maternity home designs tend to replicate generic hospital models, ignoring local realities such as transport difficulties, family involvement during birth, and informal care practices.

2.9 Summary of Key Lessons for Design

From the reviewed literature, the following key points must be integrated into the proposed maternity home design:

- A functional and hygienic layout guided by clinical workflows
- Patient-focused spaces that offer privacy and dignity
- Family-inclusive environments
- Sustainable and context-appropriate materials
- Culturally responsive architectural elements
- Flexibility for future expansion or community services

CHAPTER THREE

3.1 CASE STUDIES

Case Studies can be defined as the process of investigation or researching and analyzing an existing project in order to allow creating and improvement in a proposed project.

The need for case studies in this type of project is very important and cannot be over looked due to the following reason:

- To have a board knowledge and detailed about the project you embarking on through careful study of the existing one.
- To examine, evaluate the existing problem and how it was tackled by the processors in order to avoid such problems in the proposed design or often a better solution for both the future and present design.

3.2 CASE STUDY ONE

NAME: Health care maternity home

LOCATION: At Oko erin kwara State

MERITS

- Provides a controlled environment for slaughtering.
- It has good structure and adequate water supply.
- Generates income for the government through slaughtering fees.

DEMERITS

- Poor landscaping and parking not defined (both hard and soft landscape).
- If waste management systems are not well-maintained, the abattoir can contribute to pollution.
- Poor logistics management might cause delays in the supply of meat to various parts.

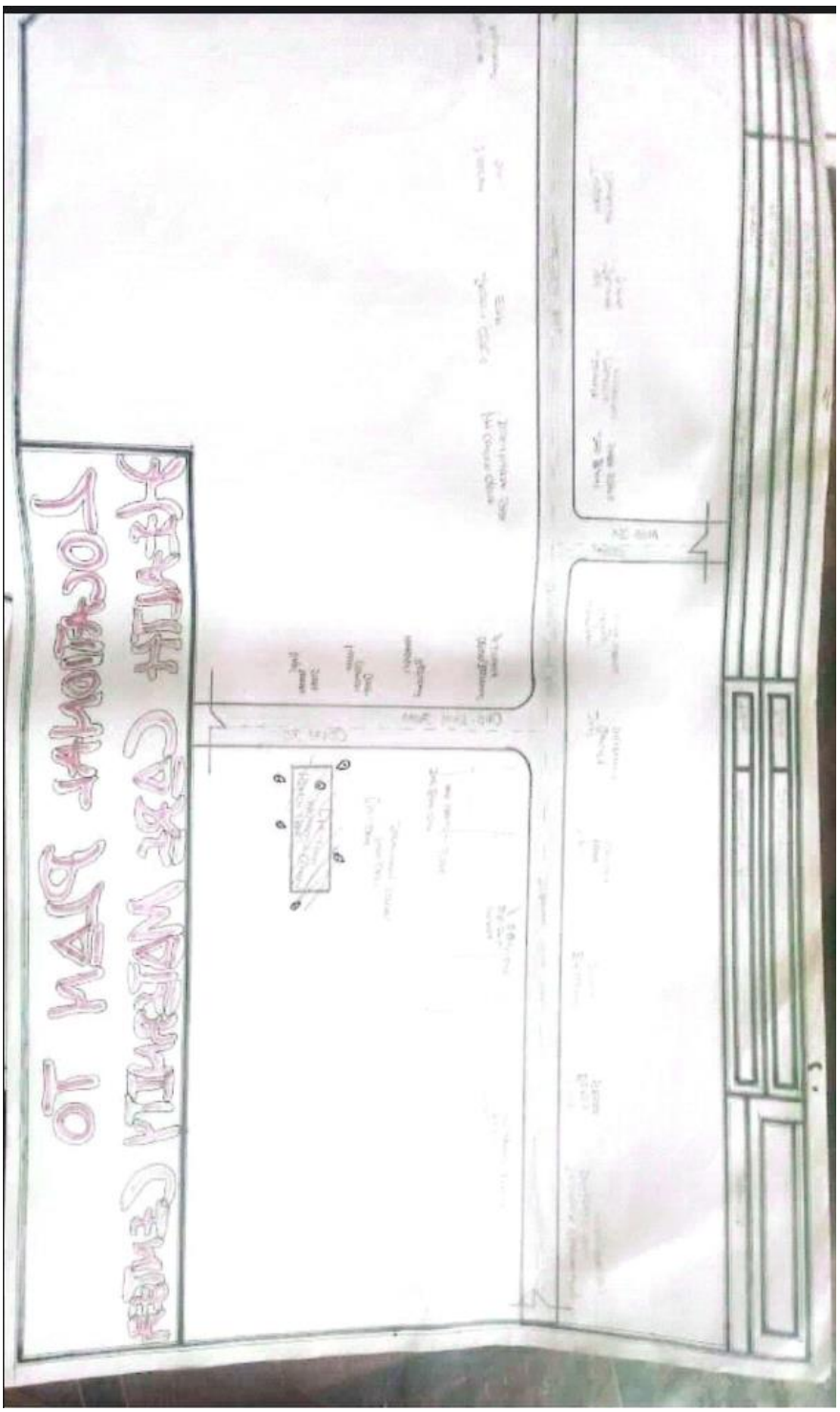


FIG 3.1.1 SITE LOCATIONAL OF CASE STUDY ONE

FIG 3.1.2 GROUND FLOOR PLAN OF CASE STUDY 1

PLATE 3.1.2 SHOWING ELEVATION FRONT VIEW OF CASE STUDY ONE

PLATE 3.1.3 SHOWING ELEVATION BACK VIEW OF CASE STUDY ONE

3.3 CASE **STUDY TWO**

NAME: Abiyamo Clinic and maternity home

LOCATION: At Ilorin kwara State

MERITS:

- Supports the meat industry, creating jobs and boosting the local economy.
- Designed to handle high volumes of livestock efficiently, ensuring smooth workflow.
- The building likely incorporates natural ventilation and high ceilings to minimize odors.

DEMERITS:

- Poorly designed waste management systems can lead to pollution of nearby water.
- Noise pollution from livestock and equipment may disturb nearby residents.
- If materials used in construction are not durable, it could compromise hygiene.

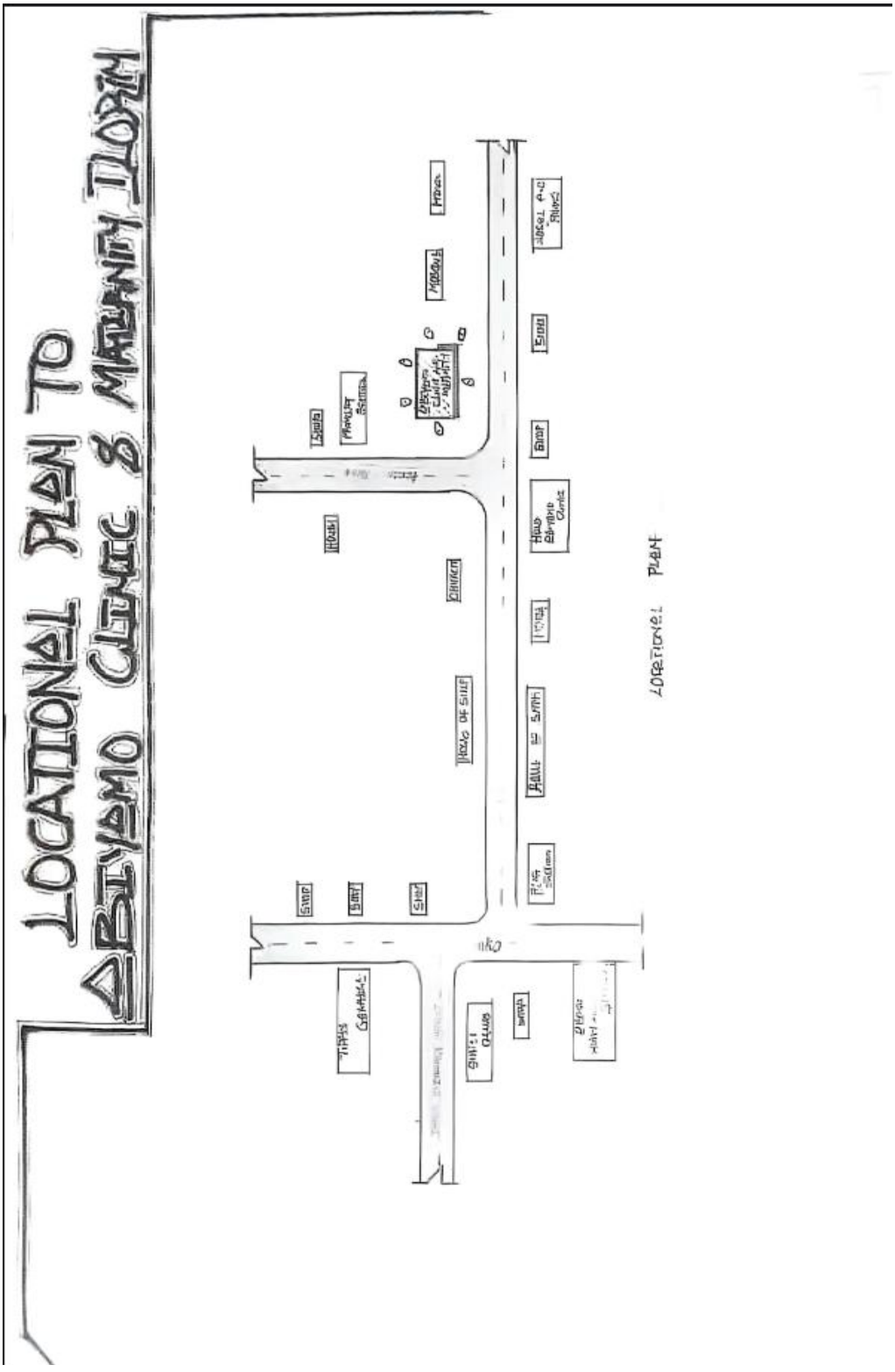


FIG 3.3.1 SITE LOCATIONAL OF CASE STUDY 2

FIG 3.3.2 SITE PLAN OF CASE STUDY 2

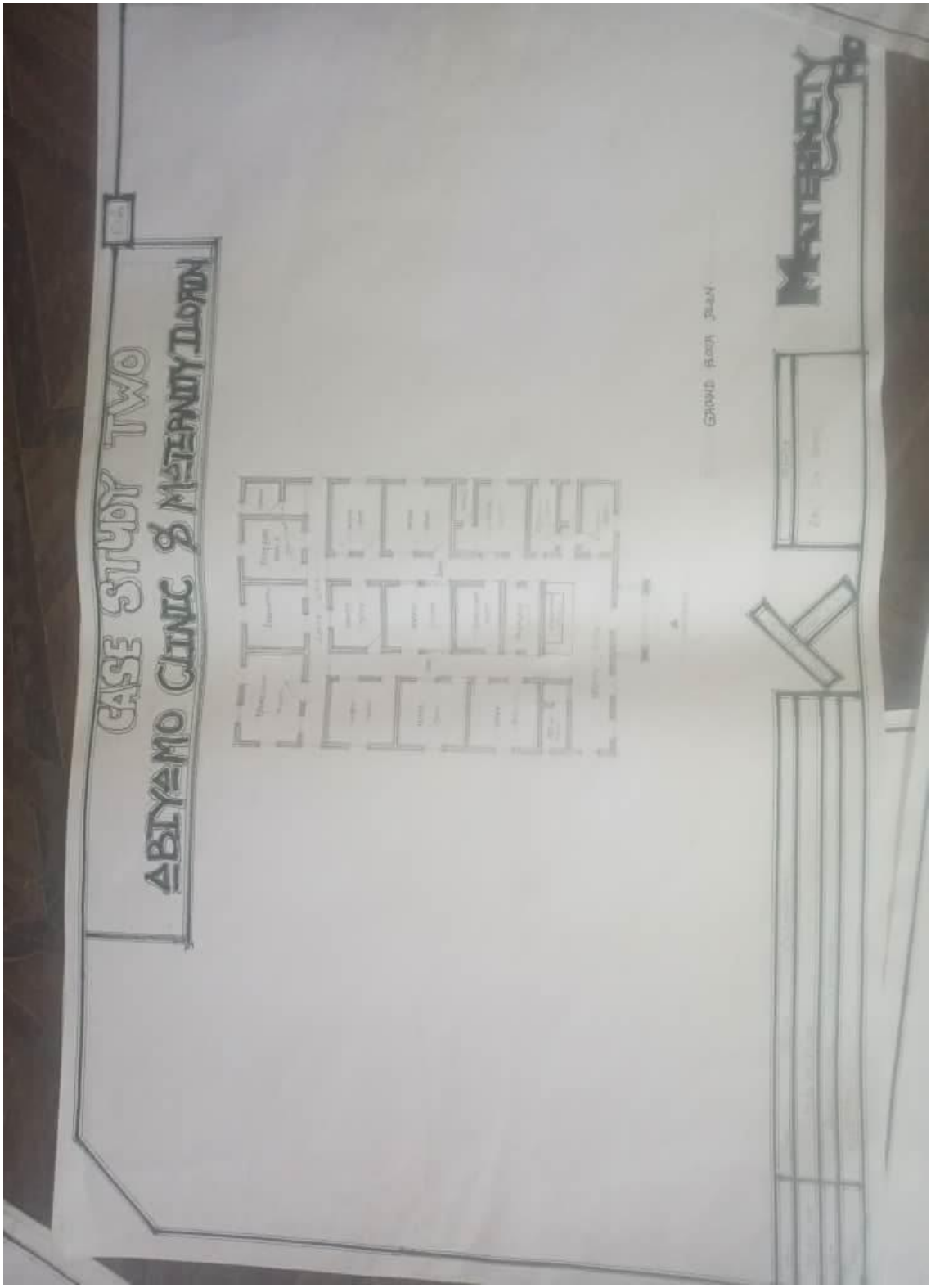


FIG 3.3.3 GROUND FLOOR PLAN OF CASE STUDY 2

PLATE 3.3.4 SHOWING FRONT VIEW OF CASE STUDY 2

PLATE 3.3.4 SHOWING BACK VIEW OF CASE STUDY 2

3.4 CASE STUDY THREE

NAME: Juwairiyya clinic and maternity

LOCATION: Kano State

MERITS

- The abattoir is equipped with modern facilities for slaughtering.
- It provides employment opportunities for butchers and other support staff.
- The facility can handle high volume of livestock.

DE-MERITS

- The abattoir likely relies on electricity and water supply which is mostly in Nigeria during peak periods like festive seasons.
- The facility may become overpowered.
- Traditional butchers and traders may resist moedrn practices due to culture.

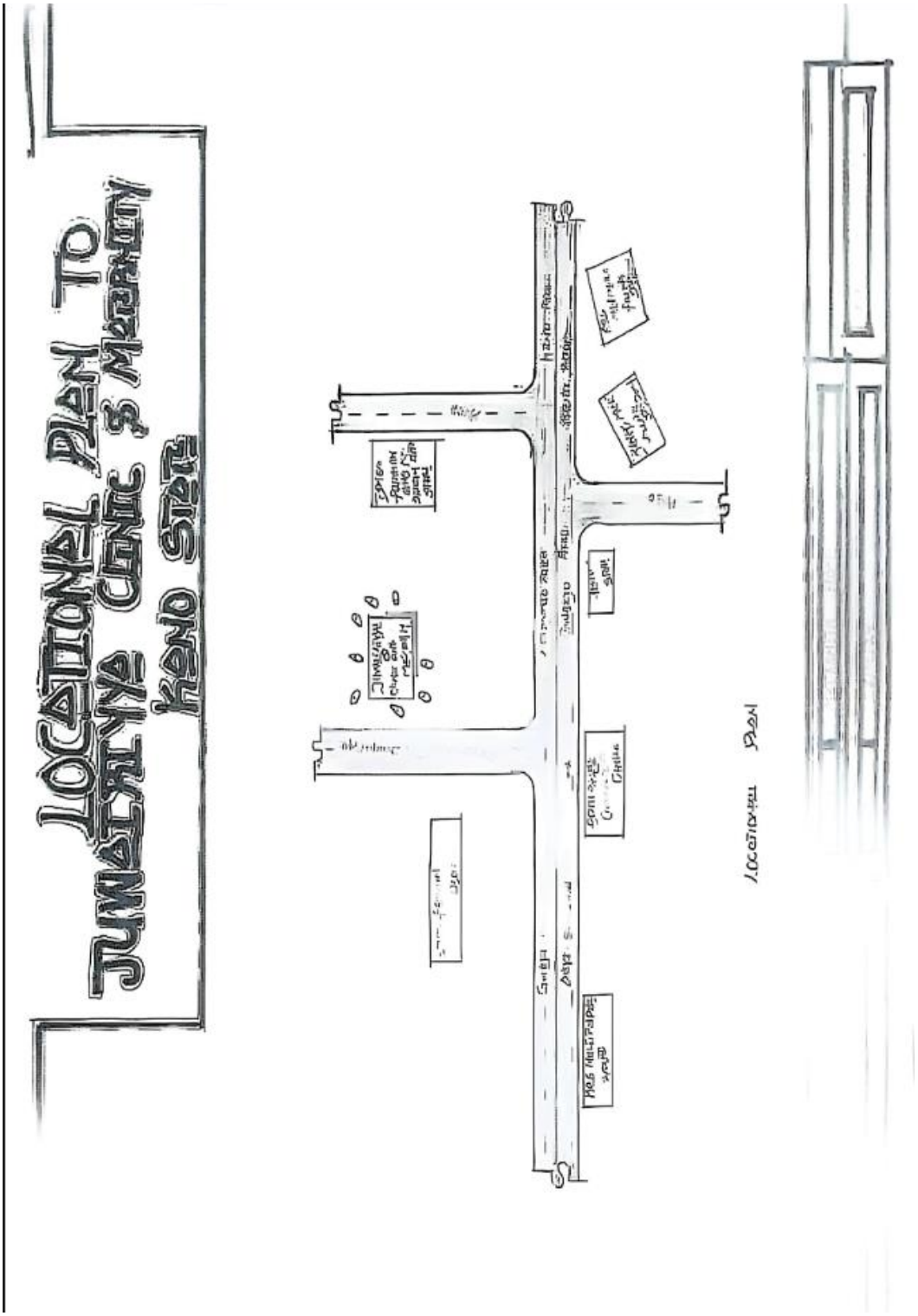


FIG 3.4.1 SITE LOCATION PLAN OF CASE STUDY

FIG 3.4.2 SITE PLAN OF CASE STUDY THREE

FIG 3.4.3 GROUND FLOOR PLAN OF CASE STUDY 3

PLATE 3.4.4 SHOWING FRONT VIEW OF CASE STUDY 3

PLATE 3.4.5 SHOWING BACK VIEW OF CASE STUDY 3

3.5 CASE STUDY FOUR

NAME: Apoti maternity home

LOCATION: At Ekiti State

MERITS:

- It provides direct and indirect employment for a wide range of individuals.
- Properly designed, has waste management.
- The abattoir can promote better meat quality by ensuring compliance with food standards.

DEMERITS:

- Poor waste disposal practices can lead to environmental hazards.
- The influx of traders, buyers, and transport can result in traffic.
- Large numbers of traders and animals make it difficult to maintain cleanliness.

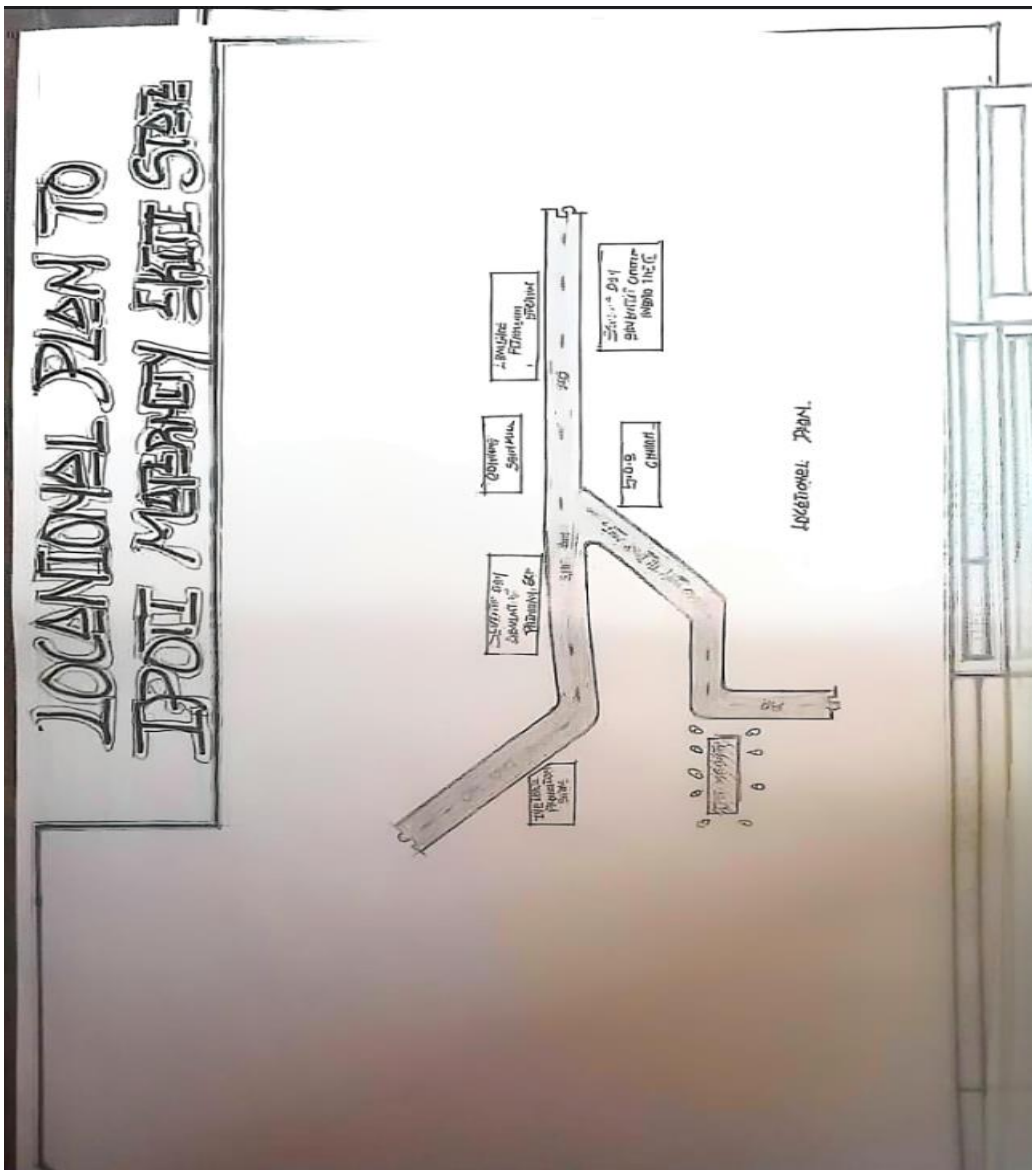


FIG 3.5.1 SITE LOCATION PLAN OF CASE STUDY 4

FIG 3.5.2 SITE PLAN OF CASE STUDY 4

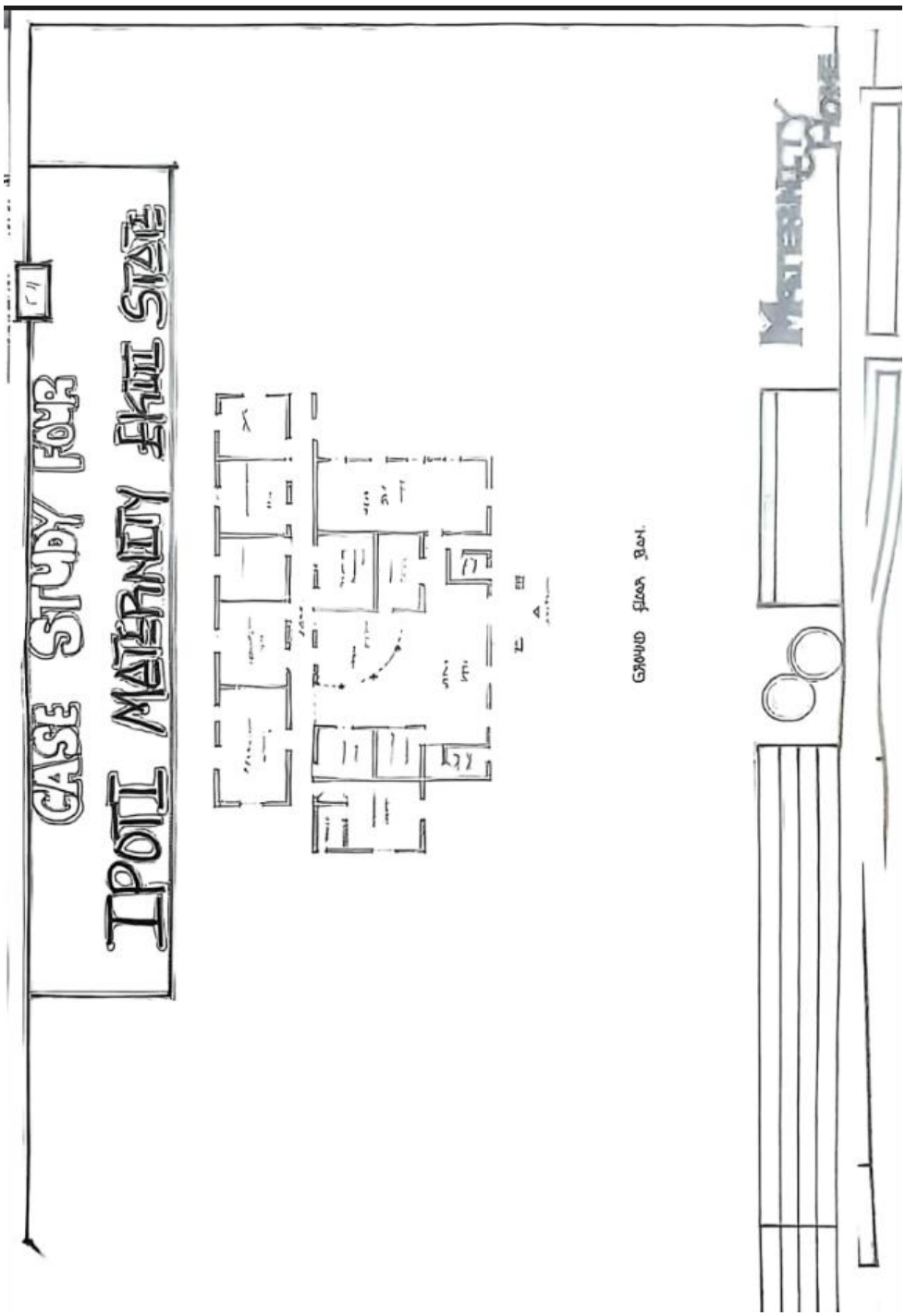


FIG 3.5.3 GROUND FLOOR PLAN OF CASE STUDY 4

3.6 ONLINE CASE STUDY 1

NAME: Maternity home

LOCATION: united state

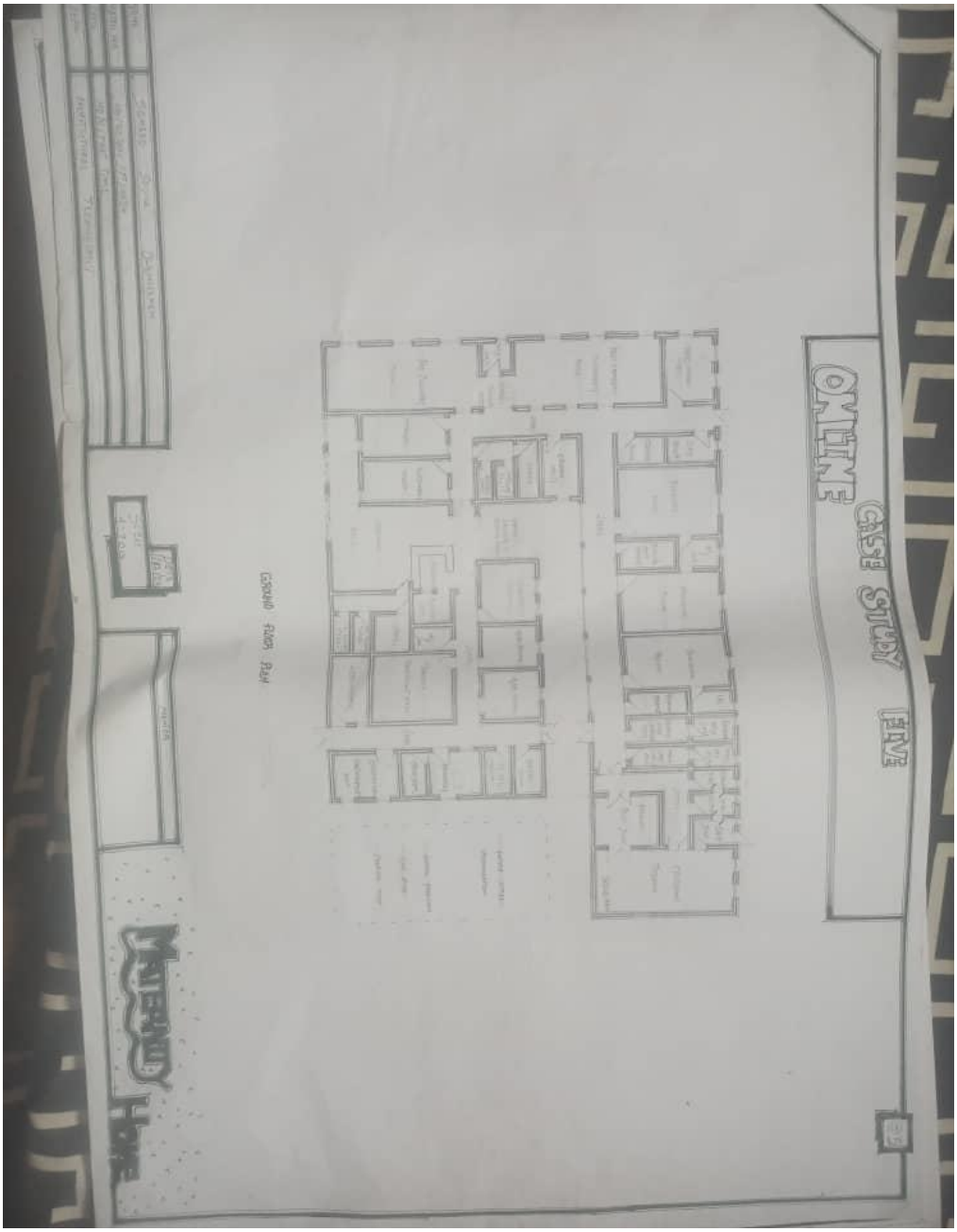


FIG 3.6.1 GROUND FLOOR PLAN

PLATE 3.6.2 SHOWING PICTURE VIEW OF ONLINE CASE STUDY

PLATE 3.6.3 SHOWING PICTURE VIEW OF ONLINE CASE STUDY

3.7 ONLINE CASE STUDY 2

NAME: Maternity home

LOCATION: India.

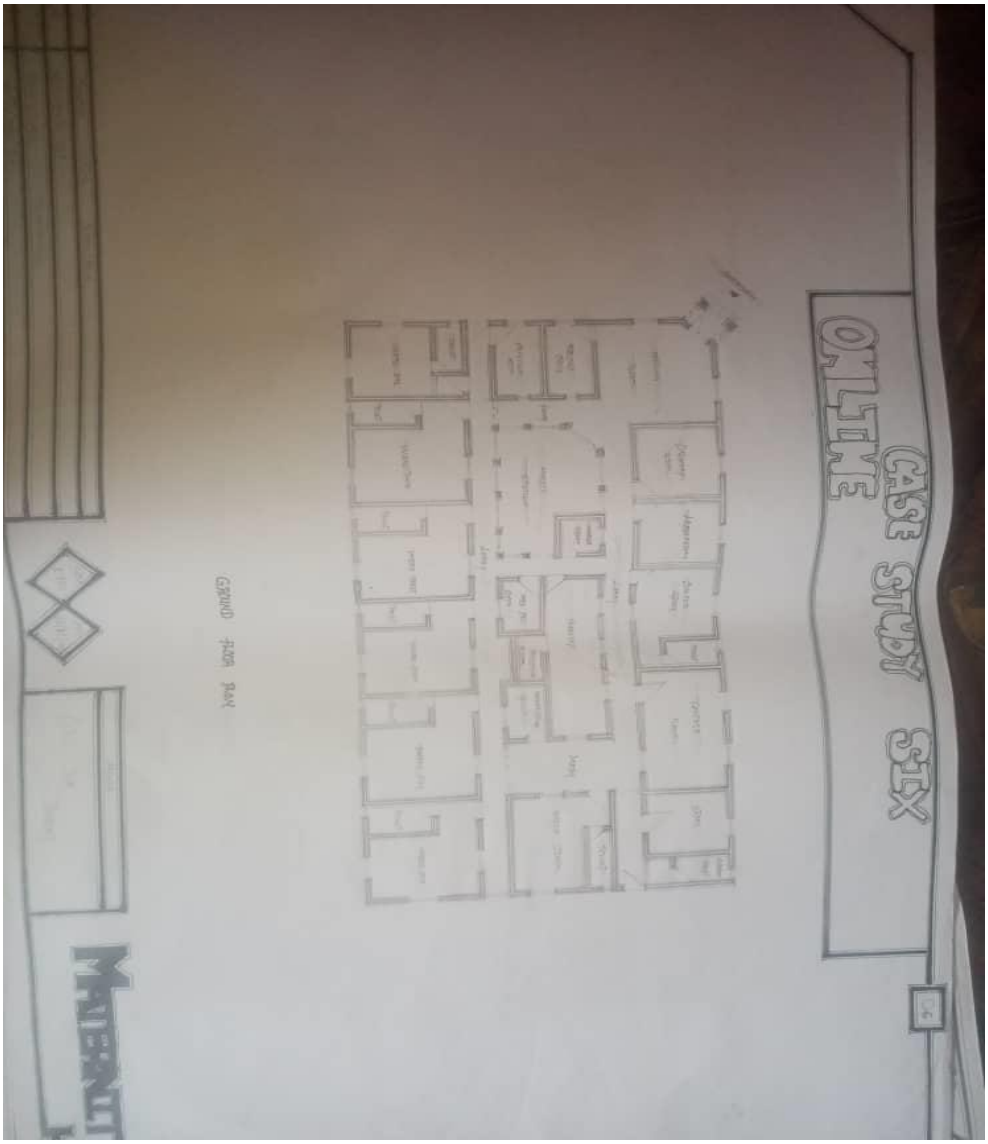


FIG 3.7.1 GROUND FLOOR PLAN

PLATE 3.7.2 SHOWING ONLINE PICTURE

PLATE 3.7.3 SHOWING ONLINE PICTURE

CHAPTER FOUR

4.0 BACKGROUND OF THE SITE LOCATION TOWN

Geographic and Demographic Context

Oyun is a growing community located within the Ilorin East Local Government Area of **Kwara State, Nigeria**. Positioned on the outskirts of Ilorin metropolis, Oyun benefits from proximity to major roads, educational institutions, and semi-urban infrastructure. Geographically, the region lies in the **Guinea Savannah zone**, characterized by moderate rainfall, scattered vegetation, and flat topography with occasional undulating slopes.

The demographic structure of Oyun is a mixture of indigenous Yoruba people and settlers from other ethnic backgrounds, creating a diverse and culturally rich environment. The population includes a significant number of young families and women of childbearing age, making maternal healthcare services a critical necessity. However, access to specialized maternal care facilities remains limited, leading many residents to travel long distances to access proper healthcare in Ilorin town or neighboring communities.

Historical Background

Oyun community is one of the traditional settlements that have gradually transformed into a peri-urban neighborhood due to the expansion of Ilorin metropolis. Historically, the area was known for its farming activities, with local women playing significant roles in agriculture and small-scale trade. Over the years, the increasing demand for residential developments, educational institutions, and commercial activities has led to infrastructural growth in the area.

Despite this growth, healthcare facilities — especially those dedicated to maternal and child care — have not kept pace. Most primary health centers in the area are under-equipped, and the nearest maternity hospitals are located several kilometers away in the Ilorin city center. This makes Oyun a strategic and urgent location for the establishment of a modern maternity home.

GOALS OF THE PROPOSAL

The main goals of the proposed maternity home project at Oyun, Ilorin East LGA, are as follows:

1. **To provide a safe, accessible, and specialized healthcare facility** focused on maternal and neonatal care.
2. **To reduce maternal and infant mortality** by ensuring skilled birth attendance and emergency care services.
3. **To design a facility that promotes privacy, emotional comfort, and healing**, especially for vulnerable women.
4. **To integrate sustainable and context-sensitive architectural solutions** using local materials and passive design strategies.
5. **To serve as a model for future maternity centers in semi-urban and rural settings**, bridging the gap between urban hospitals and rural clinics.

4.1 SITE LOCATION/DESCRIPTION

The selected site is situated in **Oyun area**, under the jurisdiction of Ilorin East Local Government in Kwara State. The site is within a developing residential zone, accessible via a major local road that connects to Oke-Oyi and Gaa-Akanbi axis.

- **Coordinates (approx.):** Latitude 8.52°N, Longitude 4.56°E
- **Topography:** Relatively flat with gentle slope, suitable for construction

- **Size:** Approximately 3,000 – 5,000 square meters (subject to detailed site survey)
- **Land Use:** Currently undeveloped or partially used for small-scale farming
- **Accessibility:** Direct access from the community road network; motorable all year round
- **Proximity:** Near a local primary school, several residential compounds, and a small market center
- **Utilities:** Electricity poles nearby; access to borehole and rainwater harvesting potential

The site is central enough to serve the local population, yet spacious and quiet enough to provide a healing environment for maternity care.

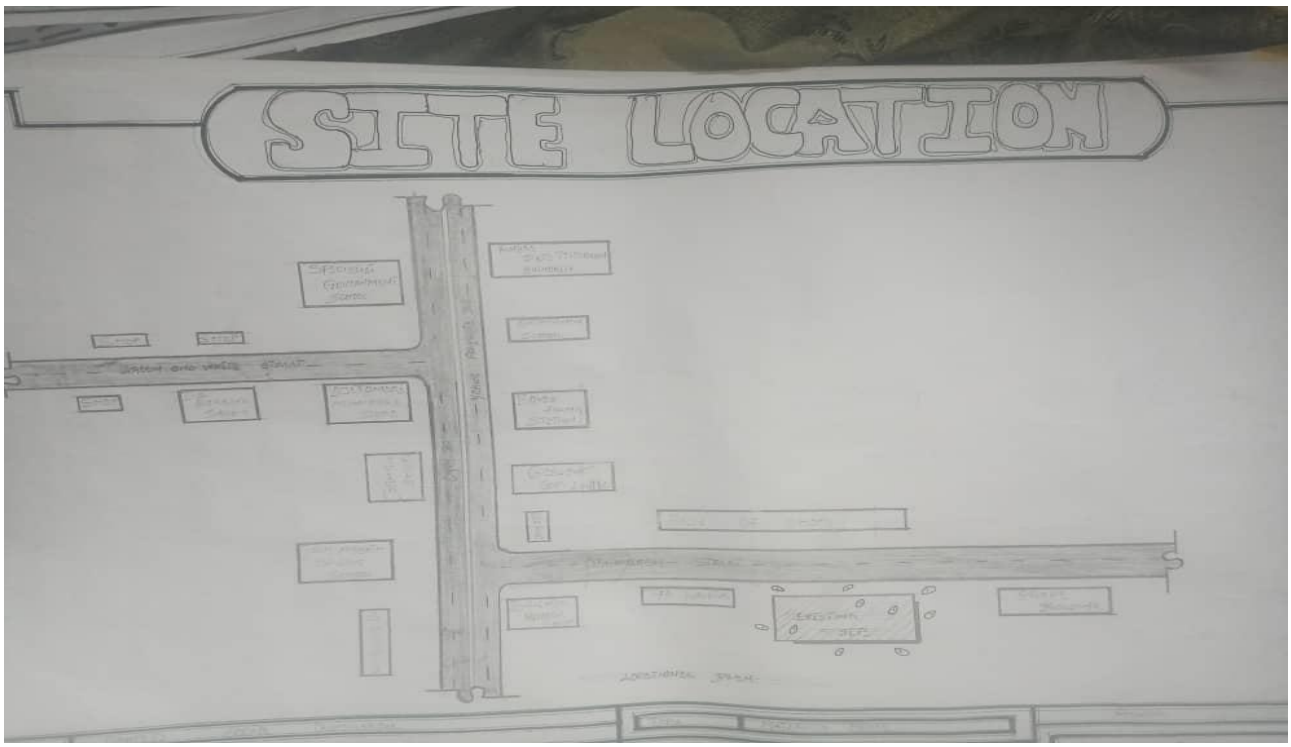


FIG 4.1 SITE LOCATIONAL PLAN

The chosen site meets the following essential criteria:

1. **Accessibility:** Easily accessible from major roads and transport systems.
2. **Proximity:** Near residential areas and existing infrastructure.
3. **Social Infrastructure:** Good access to water supply, electricity, communication, and emergency services.

4.2.1 SITE ANALYSIS/SITE INVENTORY

A comprehensive analysis of the selected site was conducted to determine its suitability for the proposed maternity home. Key elements of the **site inventory and analysis** include:

Climate and Orientation

- Tropical savannah climate with **two major seasons**: dry (November–March) and wet (April–October)
- Solar orientation favors long axis east-west to reduce direct sunlight penetration
- Opportunities for cross ventilation due to open surroundings

- **Soil and Drainage**
- Loamy to sandy-loam soil suitable for shallow to moderate foundations
- Natural drainage slope towards the west; minor grading may be required to prevent water logging

Vegetation and Existing Features

- Sparse grasses and shrubs dominate the landscape
- Few scattered trees that can be preserved for landscaping
- No major structures or encumbrances on the land

Noise and Pollution

- Low ambient noise levels, mostly from light residential activities
- Far from any major industrial site or market, creating a peaceful healing environment

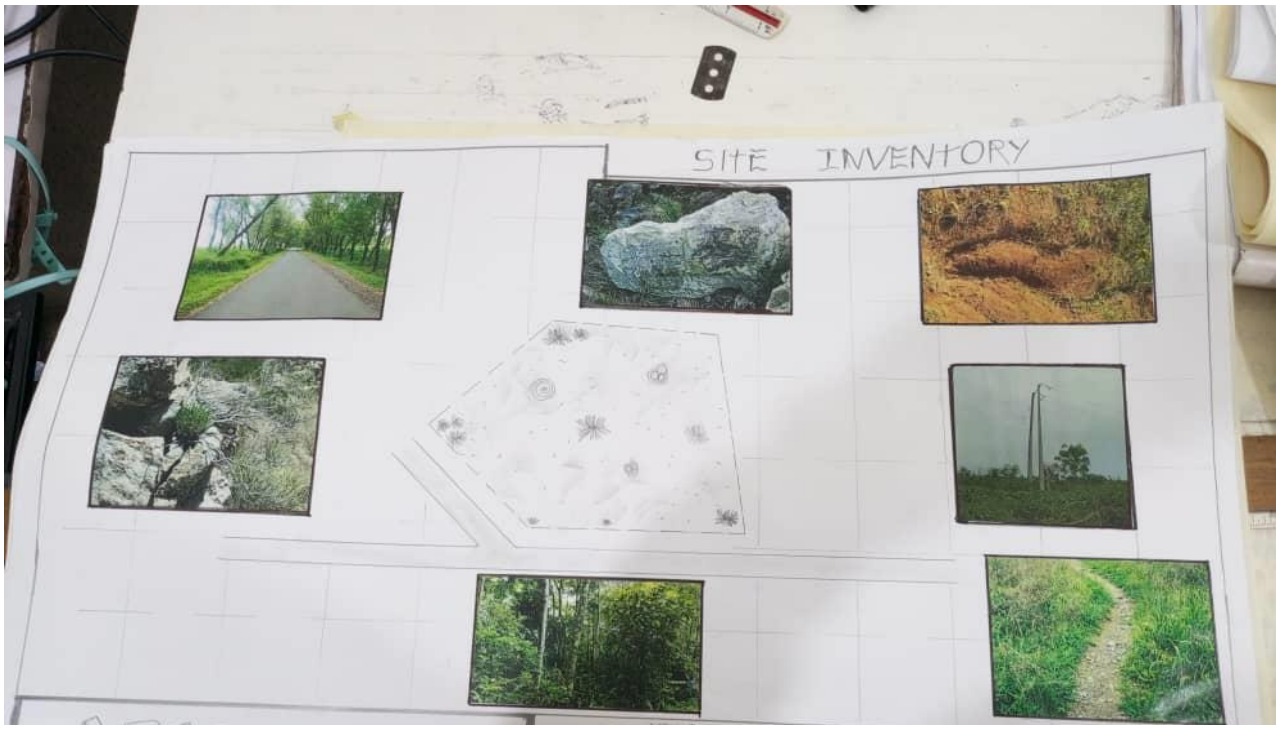
Infrastructure and Services

- Access to electricity from nearby power lines
- Potential for solar power and borehole installation
- Good road linkage to Oke-Oyi general hospital for referral services

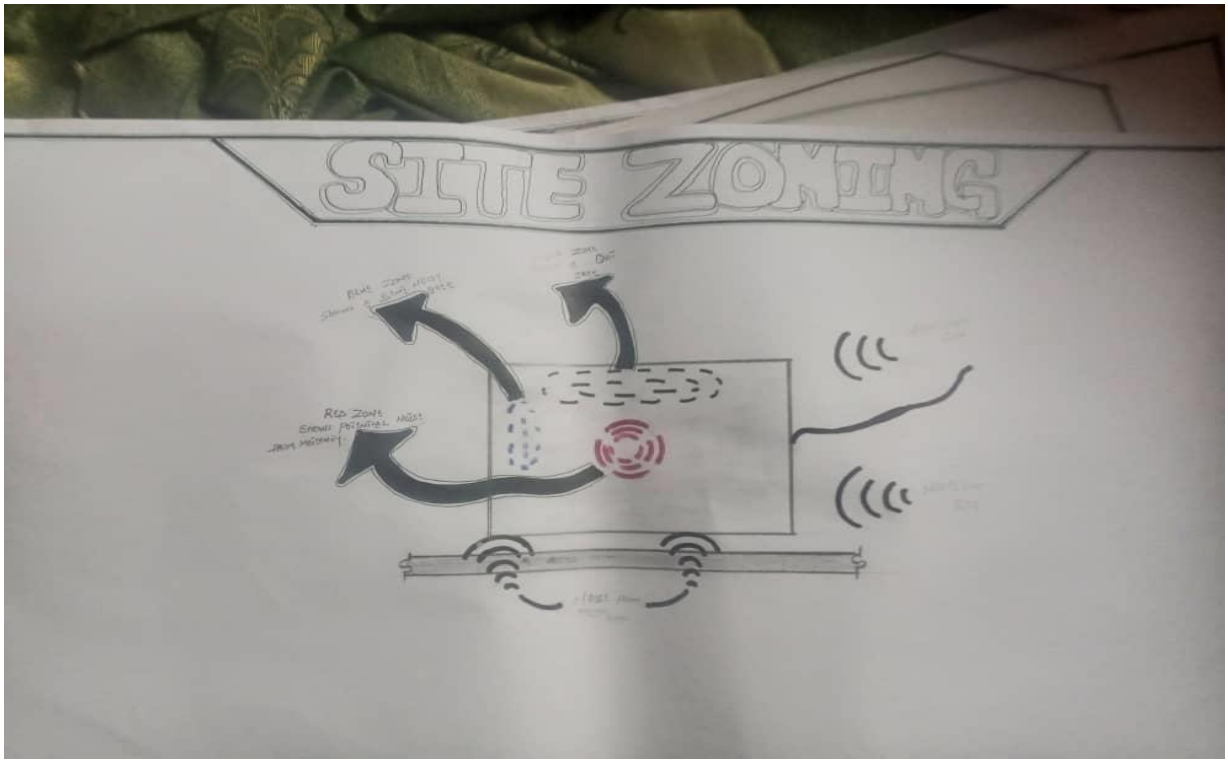
Opportunities

- Large, flexible land size suitable for phased development
- Possibility of future expansion into a full maternal and child health center
- Community acceptance and readiness for healthcare development

FIG; 4.2.1 SHOWIHG SITE ANALYSIS



FIG; 4.2.2SHOW SITE INVENTORY



FIG; 4.2.3 SHOW SITE ZOINIG

4.3 GEOGRAPHIC/CLIMATIC DATA

Ilorin east local government area, experiences a **tropical wet and dry climate**, typical of southwestern Nigeria.

- **Average Annual Temperature:** ~25.5°C
- **Annual Rainfall:** Approx. 1400 mm

Climate Characteristics:

- **Driest Month:** December–January (8–15 mm rainfall)
- **Wettest Months:** May–October (200 mm+ per month)
- **Temperature Range:**

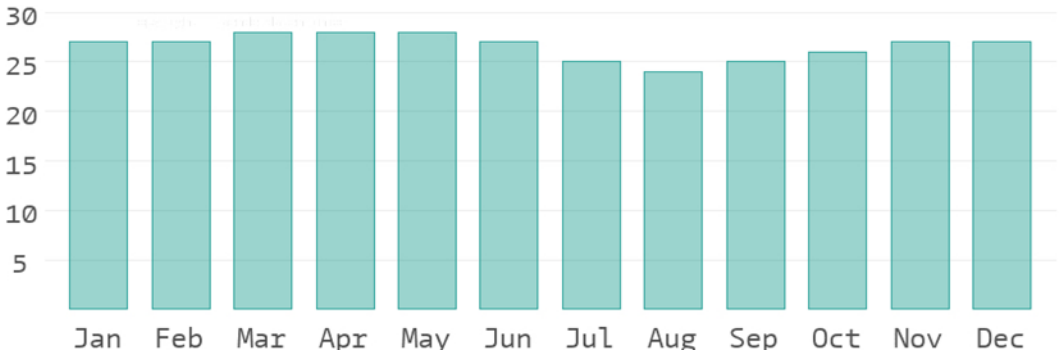
- **Warmest Month:** March (~28°C)
- **Coolest Month:** August (~22°C)
- **Annual Temperature Variation:** ~5–6°C

THE CLIMATE GRAPH

The least amount of rainfall occurs in January. Average in this month is 9mm. most of the precipitation here falls in is average 1334mm.

THE TEMPERATURE

The temperature is the highest on average in March, at around 26.5. August is the coldest month, with temperature averaging 22.2°C



THE CLIMATE TABLE

The variation in the precipitation between the dries and wettest months is 229mm. throughout the year, temperatures vary by 4.3°C.

4.4 DESIGN CRITERIA

A maternity home should be designed to ensure safety, comfort, and functionality for pregnant women, new mothers, babies, and healthcare staff. Key criteria include:

1. **Accessibility** – Easy access for patients, staff, and emergency vehicles.
2. **Zoning** – Clear separation of public, semi-public, and private spaces (e.g., reception, wards, delivery rooms).

3. **Ventilation & Lighting** – Adequate natural light and cross-ventilation for a healthy environment.
4. **Hygiene & Sanitation** – Sterile delivery rooms, clean toilets, proper waste disposal systems.
5. **Patient Comfort** – Comfortable wards, waiting areas, and family-friendly spaces.
6. **Emergency Facilities** – Equipped labor rooms, operating theatre (if needed), and emergency exits.
7. **Support Services** – Pharmacy, laboratory, staff rooms, and utility areas.

4.5 BRIEF

Entrance

- Doctor Office
- Delivery Room
- Isolation Room
- C/E Room
- Operating Theater Room
- Ultrasound Theatre Area
- Laboratory
- General Store
- Offices
- Educational Centre
- Male and Female Changing Room
- Cleaners Office
- Toilets
- Wards Toilets
- Postnatal and Pre-natal Room
- Record Room

- Pharmacy
- Nurses Station
- Viewing Area
- Exit

4.6 SPECIAL ALLOCATION/SCHEDULE OF ACCOMMODATION

S/N	SPACES	LENGTH (MM)	BREADTH (MM)	AREA (M_2)
1	ENTRANCE	3,000MM	9,900MM	297M^2
2	WATING AREA	5,000MM	17,00MM	85M^2
3	NURSES OFFICE	2,400MM	6,000MM	14.4M^2
4	NURSES STATION	3,600MM	3,600MM	12.96M^2
5	PHARMACY	2,400MM	6,000MM	14.4M^2
6	RECORD ROOM	3,000MM	6,000MM	18M^2
7	POST NATAL ROOM	3,600MM	3,600MM	12.96M^2
8	PRE-NATAL ROOM	3,600MM	3,600MM	12.96M^2
9	WARDS	5,700MM	5,700MM	32.49M^2
10	TOILET	1,200MM	2,100MM	2.52M^2
11	DOCTORS OFFICE	5,700MM	5,700MM	32.49M^2
12	OFFICES	5,200MM	6,000MM	31.2M^2
13	DELIVERY ROOM	8.400MM	8,400MM	70.56M^2
14	OPERATINGTHEATER ROOM	8.400MM	8,400MM	70,56M^2
15	LABOURATORY	6000MM	6000MM	36M^2
16	STORE	3,000MM	1,800MM	5.4M^2
17	EDUCATION CENTER	4000MM	5,200MM	20.8M^2
18	CHAGING ROOM	4,00MM	3,200MM	12.8M^2
19	CLEANER OFFICE	3,000MM	3,000MM	9M^2
20	ISOLATION ROOM	4,200MM	3,200MM	13.44M^2
21	C/E ROOM	4,000MM	5,200MM	20.8M^2
22	TRASOUND TREATMENT ROOM	3,000MM	5,200MM	15.6M^2

4.7 CONCEPTUAL DEVELOPMENT

The conceptual development of a maternity home is guided by the core values of **care, comfort, safety, and support**. The concept aims to reflect the nurturing environment required during pregnancy, childbirth, and postpartum care. It draws inspiration from **natural forms** such as the **womb** (symbolizing safety and enclosure), **mother and child bonding**, and **organic shapes** that evoke softness and warmth.

Key aspects of the concept may include:

- **Form & Flow:** Curved walls or layouts that mimic the protective nature of a womb.
- **Color Scheme:** Warm, soft, and calming colors to reduce anxiety and promote healing.
- **Symbolism:** Use of mother-child iconography, circular patterns (representing continuity and life), or tree-of-life motifs.
- **Functionality:** Integration of spaces that support smooth transition from antenatal care to delivery and postnatal recovery.

This concept ensures that both the **emotional and physical needs** of mothers and newborns are met in a serene, healing, and efficient environment.

CHAPTER FIVE

5.0 Appraisal of Proposed Scheme

5.1 Design Appraisal

In any project design, there are two basics factors that should be taken into consideration. These factors are functionally and aesthetics of the design, although to some designers, aesthetics and functionally of any building are impartibly but in the case of project both aesthetics and functionality of the design were take care of to satisfy the highly demanded functional requirement and to create aesthetically and proportionally balanced design.

The functional efficiency of institute of business and vocational studies depends largely on the closeness of the immediate section that are strongly related in function all these are being taken up as seen on the site and floor respectively.

Construction Methodology

The choice of materials and constructions techniques is influence by a number of factors.

i. The cost of Materials

ii. The climate condition as it affects material

ii. The topography of the site

iii. Economics: the initial cost and maintenance cost should be reasonable.

iv. The availability of construction materials.

v. The durability and suitability of materials.

Services

Electricity to trap from the nearest pole of the institute building. The main water pipeline is closely located to the site where drinking water can be tapped telephone line is within the polytechnic which makes connection easy. All of the drains ruins to the surrounding gutter which finally drains to the solid and liquid waste are effectively dispose of by the soak away put and septic tanks.

Circulation

Horizontal circulation based on guided principle of separating human activities from reticular activities. Ventilation

1. Natural Ventilation: these ventilation is experienced in the building through openings. This depends on material wind force and their directions of movement due to the temperature, different between the air and the building.
2. Artificial Ventilation: this method of ventilation is often used to improve the colonies of the interior of the units. Such artificial mechanism include fan and air conditioners where necessary.

Lighting

This is a means of providing brightness naturally by sun or moon or artificially by lamps good natural and artificial lighting is important in lecture room and library. It always easy to make mistake and time the eye is in a situation of poor lightening.

Plumbing

Water services are necessary in an installation and both the scope and design of these systems are subjected to statutory and water authority regulation. There is need to install water system to guide against water supply failure. Adequate installation of pipes are recommend.

Electrical Installation

The light fitting should be designed to avoid glare and should be easy to clean and maintain the main sources of electricity supply shall be from the Power Bolding Company of Nigeria but since it is well known that PHCN cannot guarantee uninterrupted services of electricity supply.

Water Disposal

Site slopes is of major factors to be considered in the location and changeling of drains, the use of reinforced concrete drainage covered with precast lead and drainage pipe will be constructed from where waste water will be carried to the drainage zones on the site using surface drainage system.

Fire Protection

Building regulations and construction with local fire authority backed up by insurance policy survey takes care of fire protection.

Noise Control

The is an unpleasant sound often load harsh excessive noise and liberation can cause fatigue, leading to errors and general dissatisfaction in the classrooms, lecture, library, external noise could be easily be controlled with the aid of landscape materials and enough setbacks.

Orientations

The orientation of a building involves the arrangement of the building toward a way from the surreys across or along the trade winds normally determine the thermal comfort in the building.

Sun and Wind Breaking

In the pre-ventilation design gets rid excessive heat moisture and obvious product such as smoke moisture (generator house) and dust the use of terrace couple with spacious and useful often courtyard to avoid all functional part of the building enough natural ventilation.

Materials and Finish

The influencer of building material on construction work in Ibadan and its environment is similar to what prevail in the middle belt of the country.

The materials choice and finishes are influenced by the following:

i. The durability and suitability of materials
ii. Geology and topography of the site
iii. Availability of materials
iv. The climatic condition
v. Prospective of materials
vi. The cost of materials

Roof

Roof should preferably of light weight construction with parapet converging it and the external super should absorb as little solar energy as possible.

Ceilings

Suspended ceiling is used in some lecture room with fang ceiling suitable center to center.

Doors

The door type and size depend on the door location but generally metal door are used for the administrative block, mechanical workshop, aluminum glass door and steel door are used.

Window

The windows uses are glassed pivot aluminum windows.

5.2 Recommendations

Based on the research and analysis conducted, the following recommendations are proposed for the design of a maternity home:

1. **Patient-Centered Design:** Prioritize comfort, privacy, and dignity for mothers by providing well-ventilated, naturally lit spaces with calming interiors.
2. **Efficient Space Zoning:** Separate the facility into functional zones such as antenatal care, labor/delivery, postnatal recovery, and administrative units for easy navigation and privacy.
3. **Sustainability:** Incorporate energy-efficient systems, water conservation measures, and eco-friendly building materials.
4. **Hygiene and Infection Control:** Ensure sterile environments with proper waste disposal systems and designated cleaning zones to prevent cross-contamination.
5. **Emergency Preparedness:** Provide accessible emergency exits, standby power supply, and well-equipped labor rooms to handle critical situations.
6. **Cultural Sensitivity:** Design spaces that reflect and respect local cultural beliefs about childbirth and maternal care.
7. **Staff Support Areas:** Include resting lounges, training rooms, and sanitary facilities for healthcare personnel to improve service delivery.

5.3 Conclusion and Summary

In conclusion, the maternity home is not merely a medical facility but a space of emotional support, care, and life-giving services. Through thoughtful architectural design, it can foster healing, ensure safety, and provide a nurturing environment for mothers and newborns.

This project explored the historical background, demographic needs, site analysis, and architectural considerations necessary for developing a modern, functional, and culturally sensitive maternity home. The proposed design integrates natural forms, user-friendly layouts, and sustainable practices to meet the present and future demands of maternal healthcare delivery.

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APPENDICES

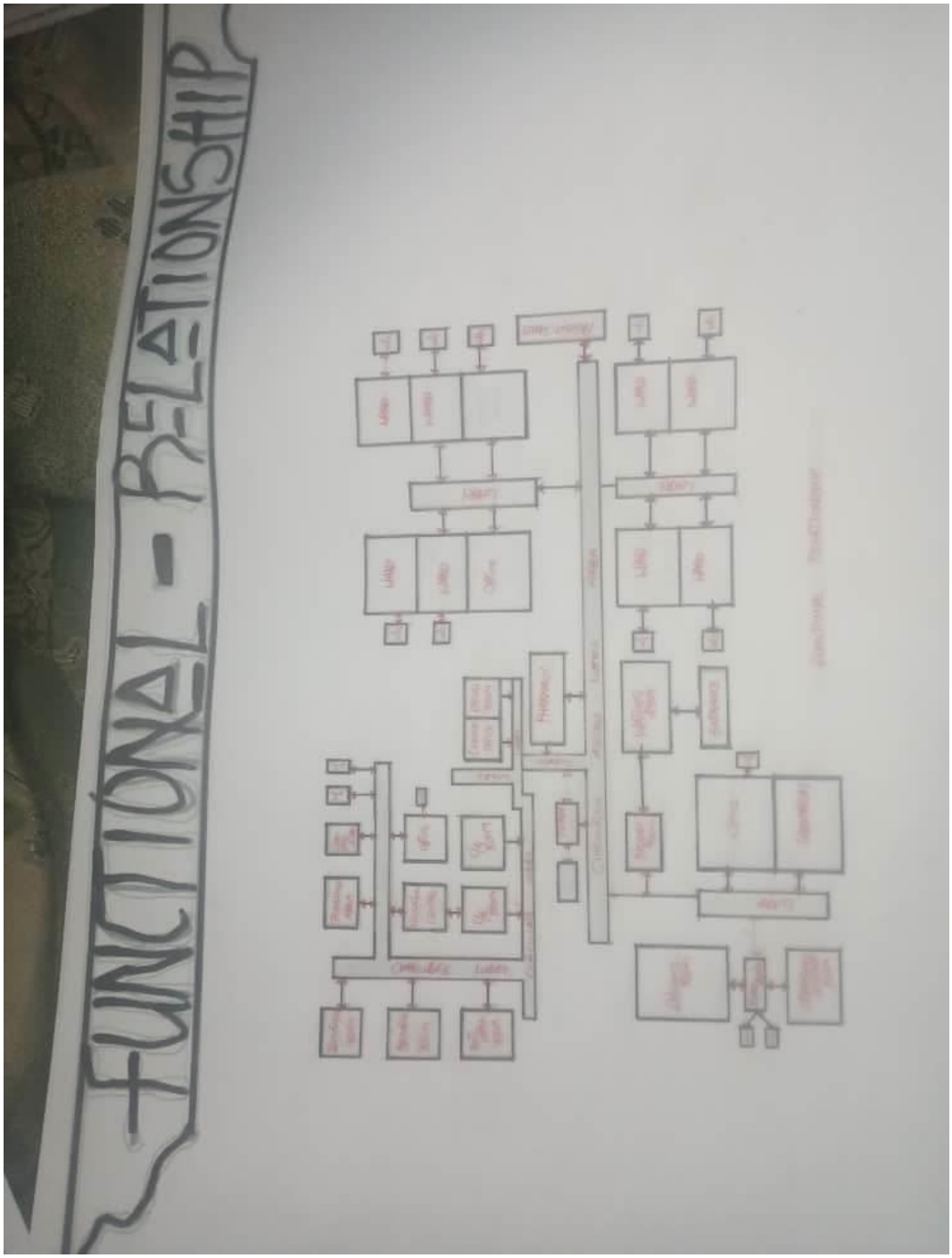

FIG. 5.1 FUNCTIONAL RELATIONSHIP OF SITE PLAN

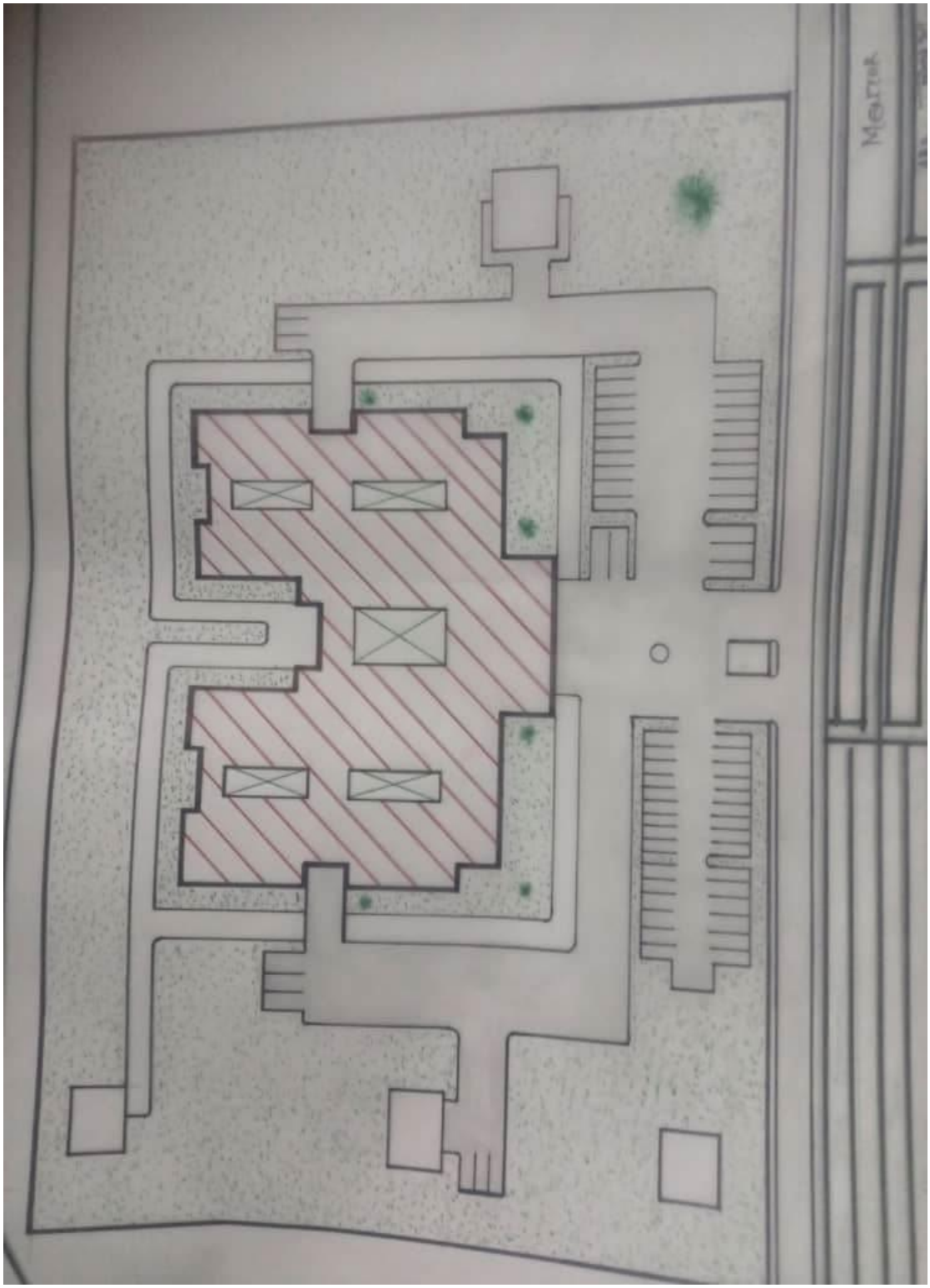

FIG. 5.2 SITE PLAN

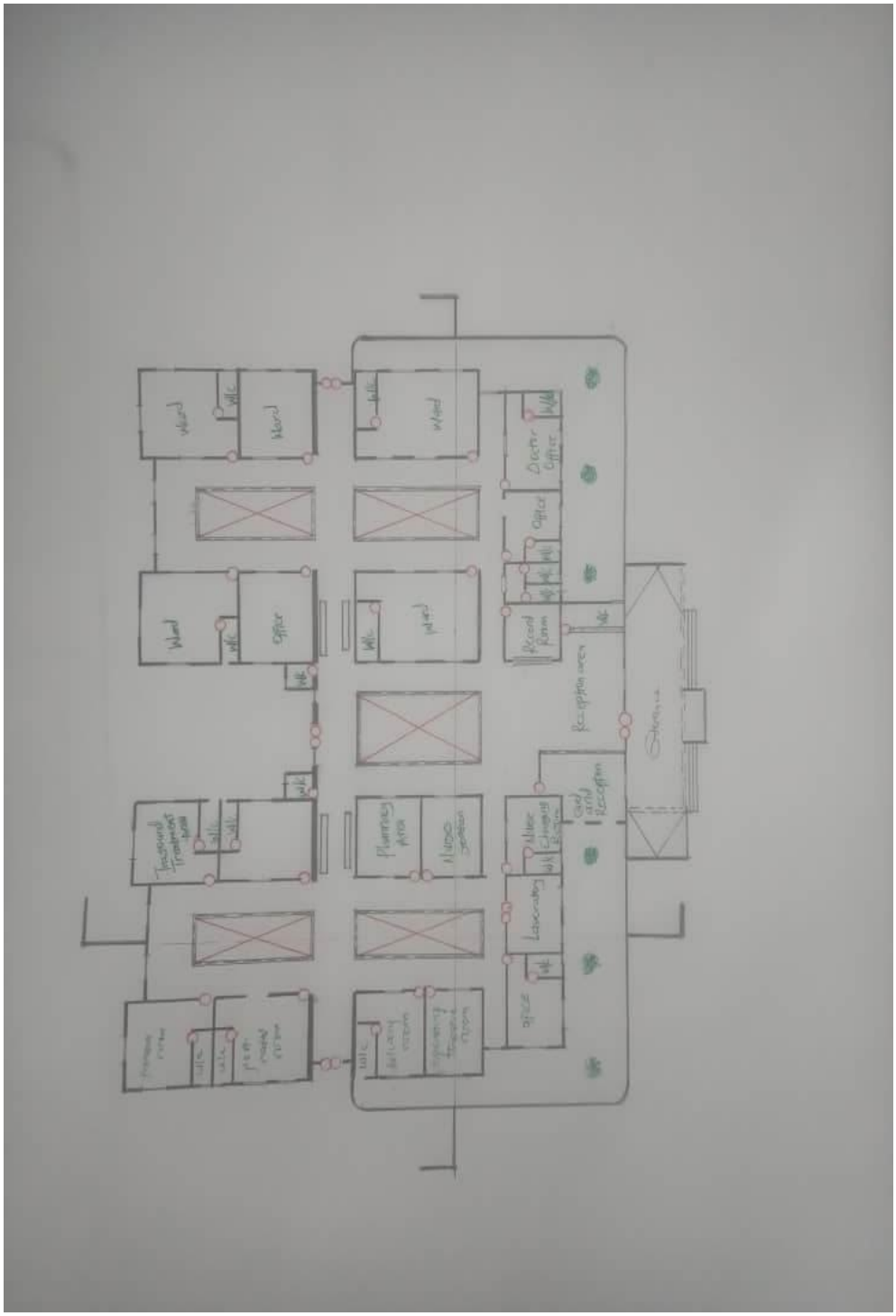

FIG 5.3 GROUND FLOOR PLAN

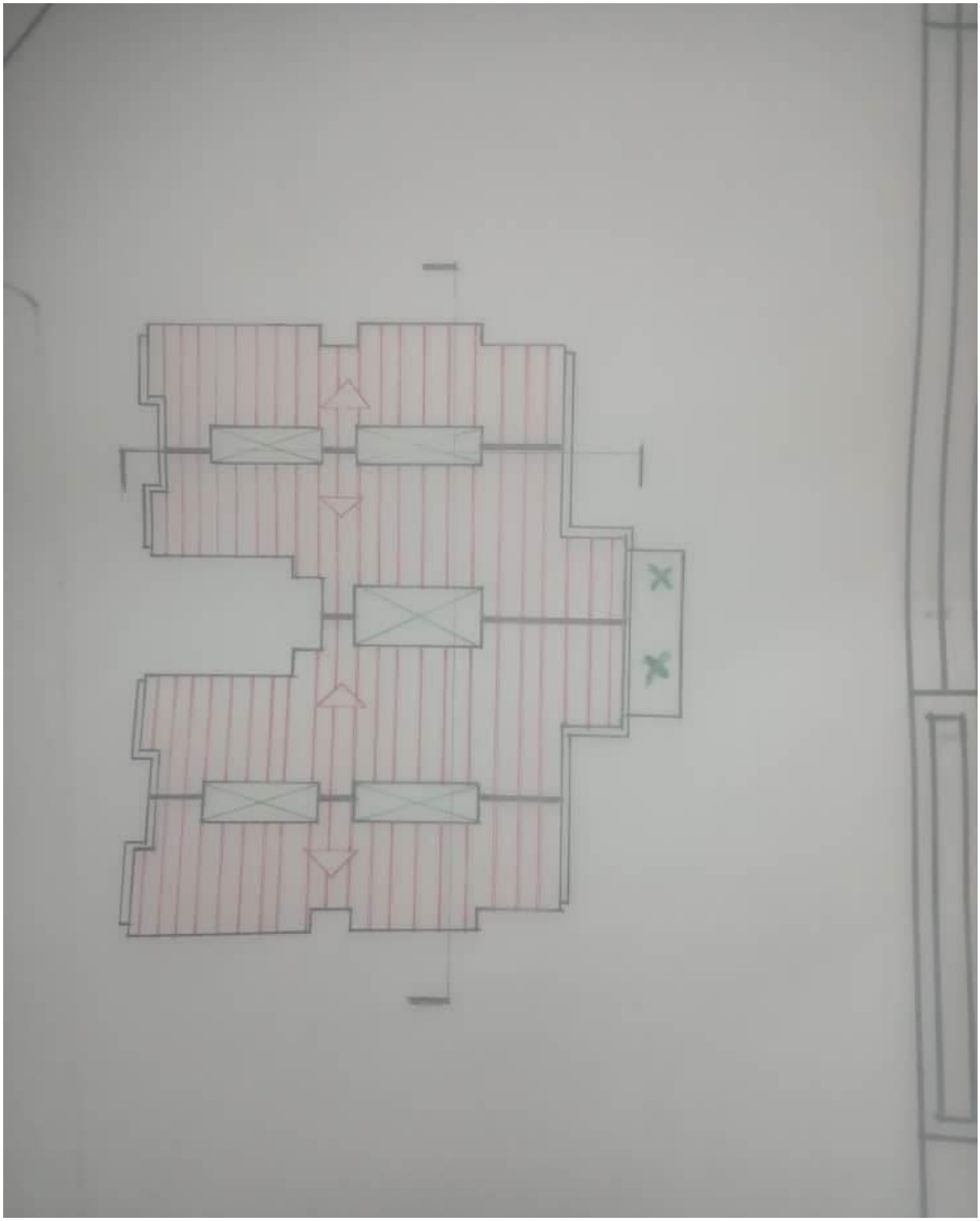

FIG 5.4 ROOF PLAN

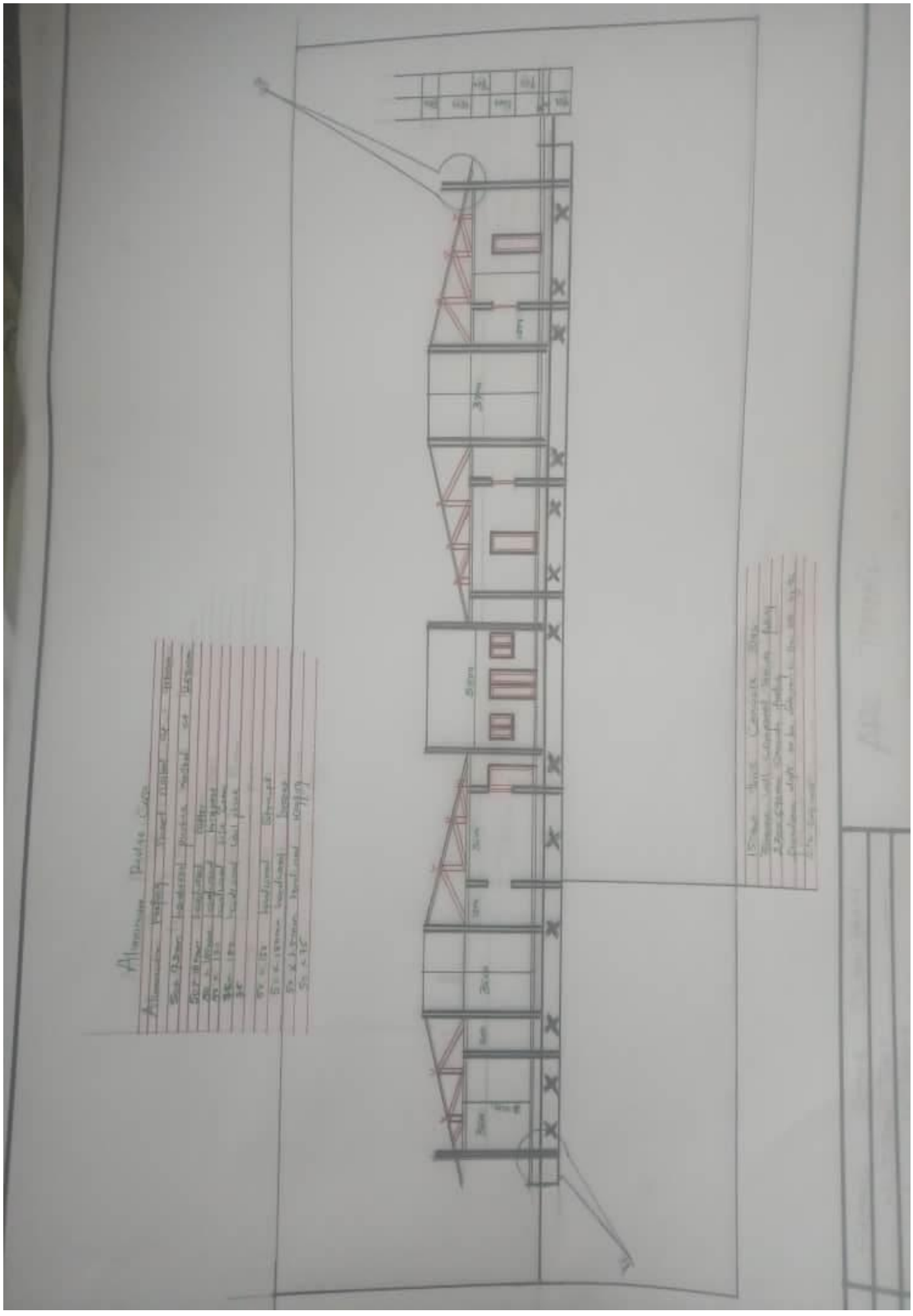

FIG 5.5 SCTIONS VIEW

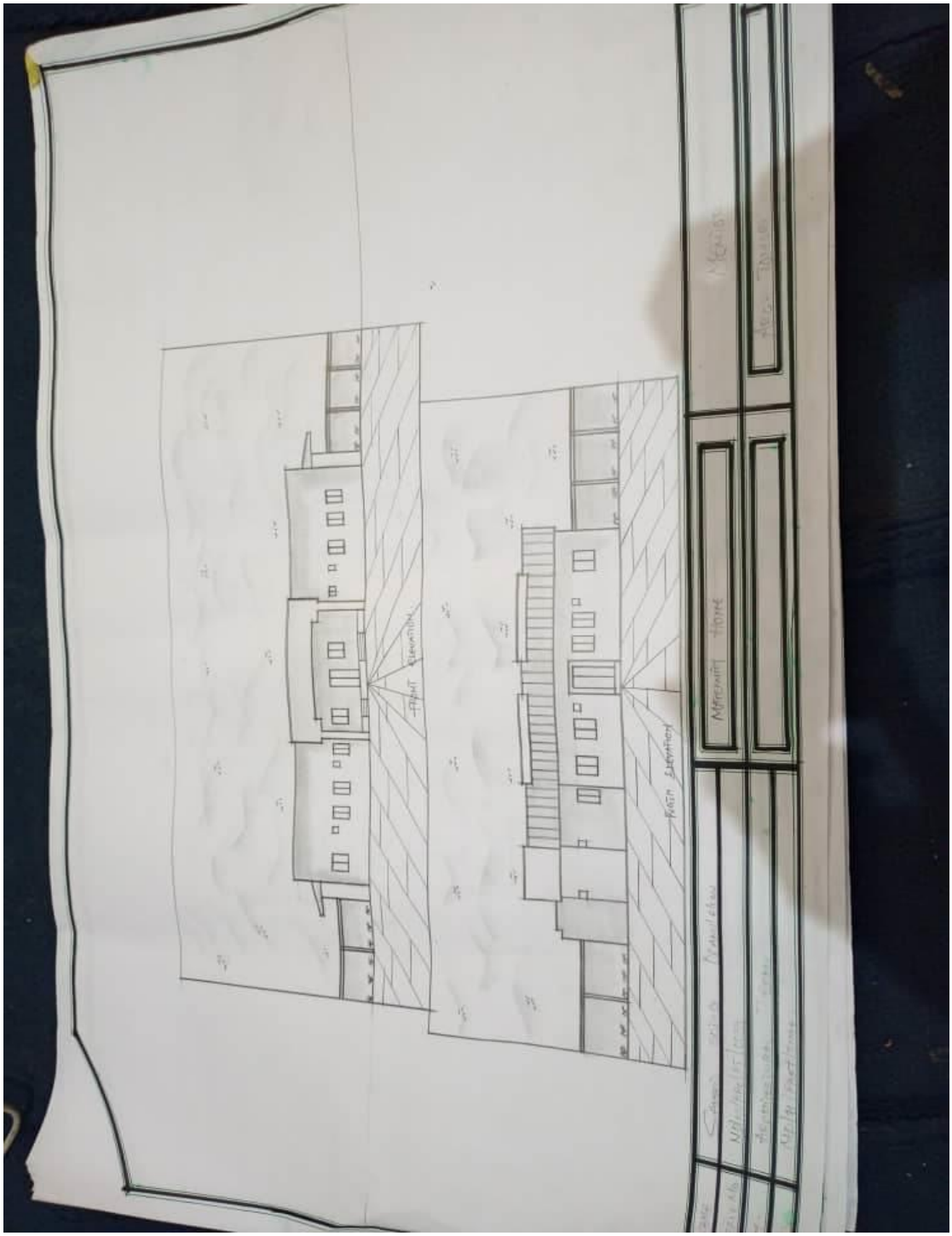

FIG 5.6 ELEVATIONS VIEW