

**DESIGNING FOR FAMILY PLANNING CLINICS IN HOSPITALS IN
NORTH-EASTERN NIGERIA**

BY

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Abstract

Rapid urban population growth is one of the major characteristics of contemporary population patterns of countries of the Third World and of Africa in particular. Although Sub-Saharan Africa is one of the least urbanized regions in the world, the spectacular growth of its urban population, particularly those of cities is worrying in view of the weak economic capacities of these societies to manage such a situation. (Aliou , 2001). Family planning process is adopted as one of the major process of controlling the population growth in a particular region considered to be overpopulated. This paper however looked at the process/methods of designing for family planning clinics in hospitals in north-eastern Nigeria. However, this study was carried out through the information sourced from reconnaissance survey, an on-spot assessment of the questionnaires. Each questionnaire was to obtain information on background information on adequacy of available space, structural changes and a checklist for maintenance, Also references was made to some family planning clinic hospitals in the north-eastern Nigeria with a view to design standard family planning clinic hospitals in the north-eastern Nigeria.

1.0 INTRODUCTION

According to studies of the World Bank on urbanization, in the next 10 years, 50 million people in West Africa alone will migrate to cities. In the past three decades much concern has been expressed particularly by demographers, sociologists, government and non-governmental organizations (NGOs), about the rapidly growing population of Nigeria and the need to control this growth. This concern has centered on contraceptive awareness, availability and use. While some significant achievement has been made in some part of the country and among specific cultural groups, little has been placed on specific physical needs of current and prospective contraceptive users in different parts of Nigeria. This gap implies a significant disregard for peculiar physical (structural) environmental needs of users, that take into consideration their socio-cultural environment. The urban areas often have a high ethnic cultural and economic diversity. Still, according to studies by the World Bank, since the 1980s, there has been a sharp increase in urban poverty in most West African countries. In these countries, the dramatic increase in monetary poverty, (estimated on the basis of total household expenditures), is associated with a significant large size urban families including those with the largest number of children or elderly persons were exposed to the risk of poverty the most. (World Bank, 2000)

A 'NEEDS' assessment survey carried out in the North-Eastern Health Zone (Zone D) Federal Ministry of Health And Social Services (FMOHASS) in some secondary and reproductive health centres in Nigeria revealed that the physical facilities for family planning users are inadequate (Adedun and Oyekanmi, 1997). The research recommended complete redesigning of all family planning facilities based on cultural needs, to meet the technological challenges in reproductive health care service delivery in the areas studied in the next millennium in the areas studies. Family planning improves health, reduces poverty, and

empowers women. Yet, today, more than 200 million women in the developing world want to avoid pregnancy but are not using a modern method of contraception (Bongaarts, J., John C., John W., Townsend, J. Bertrand & Monica D., 2012). However, if demand for family planning were met, 54 million unintended pregnancies, more than 79,000 maternal deaths, and more than a million infant deaths could be averted each year. Families could save more and begin to break the grip of poverty. And communities could make greater investments in education, health care, and infrastructure. (Bongaarts, J., John C., John W., Townsend, J. Bertrand & Monica D., 2012)

The need for family planning services has been appropriately recognized in Nigeria when fertility level is evidently one of the highest in the world with total fertility rate of about 6.0 us at 1991 (NPC, 1998). Family Planning Units have therefore been established in several secondary and tertiary reproductive health care centres the in the country, following the recommended action contained in the National Population Policy of 1988. In particular, the policy realised that while most of the country is characterized by high fertility, there are also products of low fertility and t is expected that the need for family planning services would vary accordingly. It was for this reason that a “Needs’ Assessment Study” was carried out for some institutions. In Borno and Jigawa areas of North-Eastern Nigeria based on information from secondary and tertiary reproductive care centres in Nigeria. The paper also examines the factors mitigating against the successful use of the family planning clinics in the health facilities. The factors examined include accessibility, adequacy of waiting area and privacy in consultation and examination areas. The study proffers a design solution to the problems highlighted.

THE STUDY AREAS

This study was carried out in Borno and Jigawa States located in the Northeastern part of Nigeria and categorised in the Health Zone D by the Federal Ministry of Health and Social Services (Fig. 1). The country has been divided into six geo-political zones by the Federal Government for efficiency and convenience for project, administration, delivery and supervision.

North-Eastern Nigeria is found partly in the Chad Basin. It is near the Sahara Desert remote from the Atlantic and in the nun-shadow of the North Central Plateau. The area is generally characterized by tertiary rocks, with an average elevation of about 56-60 mares. It is separated from the Benue valley by the Biu Plateau. Except for sand dunes of Hadejia the surface is almost flat (Jahun in Jigawa State one of the study area) is in the Hadejia environ. The area has low rainfall, and longest dry season in the country, lowest relative humidity and severest harmattan. Maiduguri, the cosmopolitan city in the region, has about 65cm of rainfall per annum with a dry season of about seven months. - During the harmattan, relative humidity is sometimes as low as 10%. The vegetation in the South is Sedan Savanna, while further north, it is the Sahel Savanna.

The predominant groups in the region are Kanuris who are mainly farmers and fishermen, they grow groundnut and plant rice on the flooded lake shores; when the floods dried up and the rice harvested, they put the area under guinea corn. They fish in the lake using reeds called papyrus. Gum

arabic is equally found in the area. Other lesser tribe in the region is the nomadic Shuuras who rear cattle for their meat and hide.

In this region, there are various health care centres of which three have been used in this study. Two of the selected reproductive health care centres used in the areas of study include the University of Maiduguri Teaching General Hospital (UMTH), Maiduguri and the General Hospital, Kanoduga, both in Borno State. The UMTH is a tertiary reproductive health centre while the two others are secondary reproductive health care centres. All the hospitals studied are largely sustained by the governments that own them. Other sources of funding are from religious bodies and money generated from patients, which constitute less than 5.0 per cent of the total money expended by each hospital annually. The third one was the General Hospital, Jahun in Jigawa State. The study areas consist of several ethnic groups including the Kanuris, Hausas, Fulanis and Buras. Although the major ethnic groups are the Kanuri and Buras in Borno State and Fufani and Hausas in Jigawa State and that constitute the ethnic group composition of the users of the facilities in the study area.

METHODOLOGY AND DATA COLLECTION

The techniques used in this study included reconnaissance survey, an on—the-spot assessment of the questionnaires. Each questionnaire was to obtain information on background information on adequacy of available space, structural changes and a checklist for maintenance. Information on cultural factors included religion, education and residency characteristics (urban.

semi—urban and rural). The survey, through was successfully carried out was faced with many' problems in all the hospitals. Part of the problems included the absence of organized maintenance or technical services unit where old architectural and structural drawings kept can be obtained for evaluation. Thus estimates have to he made in assessing the age of buildings by checking for dilapidation and structural defects, measurements were also made for exact area of spaces (internal, external).

The data obtained was subjected to analysis with respect to space utilization, adequacy, function and privacy. The information contained in the hospital schedule also provided data for the discussion on the general characteristics of the reproductive health centre (family planning clinics). A sizable proportion of both the urban and rural dwellers (40%) express their dissatisfaction over the facilities provided. Many patients in the urban area are equally not satisfied with service delivery; this will not be unconnected with urbanization. The level of illiteracy is high with 52% not having formal education, the above figure combines both the metropolitan Maiduguri and the rural areas. Illiteracy level must obviously have a higher figure in the rural areas. This population are fairly satisfied with the facilities and service delivery. Concurrently, the more higher level of education the less satisfaction with the facilities and service delivery.

Existing architectural and structural drawings were not available and the non—availability of building and maintenance personnel made guided tour impossible. Thus, estimates have to be made in assessing the age of buildings,

by checking for dilapidation and structural defects. Measurements were also made for exact area of spaces (internal, external).

The data obtained was subjected to analysis with respect to space utilisation. The information in the hospital schedules also provided data for the discussion on the general characteristics of the reproductive health centre (family planning clinics).

DISCUSSIONS

Infrastructural facilities are not very good in all the facilities studied. Only the UMTH receives regular supply of pipe-borne water and water from treated borehole (Table I). The State and local government—owned hospitals get water largely from untreated boreholes, wells and stream. All the three hospitals are provided with electricity sourced largely from the National Electric Power Authority and supported with supply from the Rural Electrification Board. Each hospital has a generator set provided either by the government as in the case of UMTH or by the rural communities where they are located. Programmes for staff development in the family planning clinics are very poor in all the hospitals and it was worse in the area of building maintenance. The maintenance department did not exist in the two rural hospitals. A sizable proportion of both the urban and rural dwellers (Table 2), expressed their dissatisfaction over the facilities provided. More patients in the urban area are equally not satisfied with service delivery, this will not be unconnected with urbanization.

Table 1: Work Experience and Environment by Sector

	Urban	Rural	All
Main Source of Water to the hospital			
Stream	17.86	3.33	10.3
Well	21.43	46.46	34.5
Pipe borne	17.86	30.0	24.1
Treated borehole	32.14	10.0	20.7
Untreated borehole	7.14	6.62	6.9
Others	3.57	3.37	3.4
All	100	100	100
Main Source of Power to the hospital			
NEPA	82.76	61.29	71.6
Rural Electrification	17.24	35.48	26.7
Generating Set	-	3.23	1.7
All	100	100	100

Source: 1997 Zone D Family Planning Services Evaluation Survey.

Table 2: Satisfaction with Existing Facilities and Service Delivery

Variable	N	Facilities		Service Delivery	
		Satisfied	Not Satisfied	Satisfied	Not Satisfied
<u>Sector</u>					
Urban	70	59.6	40.4	48.1	51.9
Rural	116	34.9	65.1	1.4	18.6
<u>Religion</u>					
Christianity	43	26.5	73.5	47.1	52.9
Islam	134	50.5	49.5	78.9	21.1
Trad./Others	9	40.0	60.0	60.0	40.0
<u>Education</u>					
Non-formal education	52	54.5	45.5	81.8	18.2
Primary	48	48.8	51.2	70.3	29.7
Secondary	40	25.8	74.2	74.2	25.8
Post-sec.(non-degree)	25	45.8	54.2	63.6	36.4
Post-scc.(degree)	21	53.9	46.1	29.4	70.6
All Cases	186	45.3	54.7	67.5	32.5

Source: 1997 Zone D Family Planning Services Evaluation Survey.

The level of illiteracy is high with 52% not having a formal education. The above figure combines both the metropolitan Maiduguri and the rural areas. Obviously the rural area must have higher figure. The population (94.5%) are fairly satisfied with the facilities and service delivery (81.8%) provided. Conversely, the more higher level of education, of the less satisfaction with the facilities and service delivery (46.1%, 70.6%) provided.

Less than 50% (Table 3) of respondents rated the hospitals as good in terms of privacy for users, waiting time, waiting room and spaces for examination. The above, illustrates a decline in the provision of both the

physical and infrastructural facilities for patients both rural and urban and irrespective of religion or education.

Table 3: Perception of Quality of Existing Services

Rating of the Hospital in terms of:	% Good
Privacy for users	30.4
Waiting time	27.5
Waiting room	35.4
Cleanliness	54.5
Space for examination	45.7
Charges	33.1

Source: 1997 Zone D Family Planning Services Evaluation study.

A fair proportion of the urban respondents had easy access to family planning clinics (Table 4) indicating an higher level of awareness and that Maiduguri metropolis has other hospitals particularly the General Hospital which the survey did not cover. There is a little bit of difficulty of access for rural population at Jahun State Hospital since is the only hospital within its 50km radius.

Table 4: Percentage Distribution of Respondents' Assessment of the Ease of Getting Services

Sector	N	Very Easy	Easy	Fairly Easy	Difficult	Very Difficult
Urban	70	33.3	46.3	18.5	1.9	-
Rural	116	27.4	39.6	31.9	1.1	-
All Cases	186	29.6	421	26.9	1.4	-

Source: 1997 Zone 1) Family Planning Services Evaluation Survey.

Organized training programmes for staff of reproductive care units are almost non-existence in Konduga and Jahun. While nurses have had very few opportunities for improving on the job in the UMTH, hospital administrators in the study areas agree that very small and negligible number of reproductive health care staff had been sent for further training since joining the hospitals in more than a decade. They are thus, not exposed to new ideas and innovation in the field of reproductive health care services. The above scenario is true of architectural facilities where availability and adequacy of space is limited.

The situation on ground in each of the health care centres examined during the study is discussed below.

University of Maiduguri Teaching Hospital

The family Planning Clinic is located within the University of Maiduguri Teaching Hospital (UMTH) (Fig. 2), Female Out—Patient Department (OPD) (Fig. 1). Thus, the OPD render services in Routine Ante—Natal Clinic Obstetric and Gynaecology Services, Family Planning procedures and Post—Natal Clinics. The OPD had a common waiting room measuring 40.3m² with some seats which were not adequate. Many patients usually stand for hours while waiting for consultation. The waiting room had no cross—ventilation which makes it hot and uncomfortable. The central airconditioner was not working and there was only one ceiling fan when the research was conducted. Only one non-functioning toilet for patients was also found. The maintenance department that could be useful to answer question is ill—equipped and unable to provide answers to technical questions. Only one civil engineer was active throughout

the period of survey. This engineer, a young graduate of about three years, joined the hospital in less than two years after completing his National Youth Service assignment thus lacking in experience.

The Family Planning Clinic (Fig.2a) that measures (5 x 4m) performs several functions. This includes group counselling, consultation/examination for individuals, a injection room and keeping of medical records. The many functions required of this space no doubt indicate inadequacy of space. Theatre procedures are handled in the theatre near the Female Surgical Ward. This procedure contradicts the doctors view who cited risks involved in transferring patients over a long distance from the OPD to the theatre in an emergency.

Taking the needs of the next millennium into consideration, the space provided was inadequate and very bad for a tertiary institution and a centre of excellence as the University of Maiduguri Teaching Hospital is expected to be. The lack of privacy, the lack of adequate waiting area, non-provision of toilets and a separate theatre are some of the problems in handling family planning procedures. Thus, the University of Maiduguri Teaching Hospital did not have a family planning clinic that met the minimum requirement for such an important aspect of medical service. A new design that takes into cognisance some of the deficiencies highlighted was thus proposed by the author to fulfil the present demand with a projection for anticipated load in the future.

Kodunga General Hospital

The General Hospital in Kodunga (Fig.3), some fifteen minutes drive by car from Maiduguri municipality is an hospital with a hi—axial plan laid out on

a strong male-female separation in consonance with Islamic religion requirement. The wings are equally symmetrically planned, and it is, generally, an out-patient- hospital. A lot of severe cases ends up in UNIMAID Teaching Hospital. The teaching hospital is still a catchment area for the rural sub—region of Maiduguri township.

The Family Planning Clinic, in Kodunga, the survey revealed, was a converted room from Oral Relydratioin Therapy (ORT) room.

The room (Fig.3a) is only about 7 sq.m and is manned by a nurse. A nurses general purpose table provided in the room, with a bench that serves as the reception and waiting room for patient. Counselling, examination and routine family planning produces was provided in this some room on a stretcher/bed. Also, due to shortage of space and staff (medical doctors comes days of the week, while only two nurses, a male and a female were the only permanent medical personnel in the hospital), the only female nurse conduct ante- and post-natal clinics, as well as obstetrics and gynaecology activities addition to family planning procedure.

The Hospital complex had only a mini-theatre and a recovery room. From the above it was evident that the hospital did not meet minimum design requirements for it to be qualified as a General Hospital. There was grossly inadequate provision for family planning procedures.

Jahun, The State Hospital

Jahun is located in Jigawa State, off Maiduguri/Kano road, It is some 20 km from the state capital, Dutse, on the way to Kano. It was the only State

Hospital within 50km radius. Patients thus come from far for medical service. It was a small hospital with an Out Patient Department separately housed and which among other functions contains the family planning clinic.

The female patients visiting the female OPD shares the same waiting area with general consultation with the only nurse manning the department without any privacy. Family planning procedure takes place in a screened cubicle measuring 3.5m² (Fig.4). Other functions in this space allocated to family planning clinic are group counselling, medical records, and immunization of patients. The space was very small with scanty furniture. It is no doubt too small to perform the functions required of a family planning clinic.

INADEQUACIES

From the result gathered from the survey from the hospitals, it was evident that the hospitals lack the capacity to fully handle family planning services. As revealed in Table 3, privacy for users was 30.4% good only 27.5% of respondents said that waiting time was good and waiting room was rated as only 35.4% good. Some 45,7% felt that the space for examination was good.

UMTH (a tertiary institution) for example, has just a room for all Family planning procedures, that is supposed to be a centre of excellence. Measuring 20m and performing such functions as group counselling, consultation/examinations for individuals. It was equally used as injection room and keeping of medical records. Theatre procedures were performed at the Female Surgical Ward. A level of deficiency of physical facility and services were thus established.

At Kodunga General Hospital, the 7m² space was converted from another use (ORT). The hospital equally lack necessary personnel, as there was only one female nurse for the entire hospital. There was the need for both a physical facility and personnel to man the services for family planning services particularly in the beginning of the new millennium to achieve the intent of the program on National Population Policy.

The State Hospital, Jahun did not fare better in the provision of family planning services. Being located in a rural region and having to cater for patient within 50km radius, the least the patient could afford is a minimal level of comfort. No single room was purposely assigned as a family clinic. The services were part of a general Female Out Patient Department. Only screens separated family planning procedures from the other OPD functions. Minimum privacy did not exist, waiting time was high. The OPD was equally manned by only one nurse. The waiting room was congested. Infrastructural facilities were generally poor and water was in acute shortage in the hospital.

As evident from the survey, it could be reasonably concluded that there was inadequate space for the provision of Family planning services in all the hospitals surveyed in the North—East (Zone D of FMOHASS) of the country.

PROPOSED DESIGNS FOR FAMILY PLANNING CLINICS

Case Example I: UMTH

The proposed building design to house the family planning clinic adopted the form of the existing Out—Patient Department. It is a bungalow and is linked to the central corridor similar to existing arrangement and located between the Out—Patient Department, the Female Surgical Ward and the Maternity. The design compliments the original design as it is in harmony with the existing functions of adjacent facilities.

The proposed design (Fig.5) takes into cognizance some of the deficiencies observed in the analysis of the existing family planning clinics. The design calls for a new family planning clinic with a strong tie to the existing OPD. The design (Fig.), is connected through linked Corridor (K) to the existing OPD. This is to enhance privacy in a predominantly Muslim region with the psychological satisfaction of feeling been alone by not feeling being seen by other people as they enter the unmarked building. AS the patient enters, she is greeted by the receptionist, who ushers the patient to seat in the waiting Lounge (J) for medical routine preliminaries such as (taken of records, weight, temperature and pressure). Sometimes a patient may be accompanied by her husband, through requests by medical staff or to suit the husband's inquisitiveness on family planning procedures. He could be kept away in the discussion Room (L). Discussion room is more of a general purpose room where group lectures, film—viewing, special sessions can also take place. The consultation and treatment rooms focused on the reception/waiting areas for

good visual control by the nurses station. Circulation is made simple and restricted. The mini-theatre (M) occupies another wing with the nurses control station (N) at the points of entry and exit. The design recognizes and satisfies the functional hierarchy of hospital functions by providing separate entry for Patients and doctors with the former moving from consultation room to change room. Hence, from scrub and an aesthesia to the theatre. The latter proceeds from the nurse's station through changing room via preparatory area and to the theatre. She comes out via the exit point to the recovery room, and leaves the department through the auxiliary door specifically provided for the existing theatre patients.

In all, effort was made to satisfy the brief (adequacy, privacy, functional differentiation) and equally too, the design conform both the form and layout of the existing pattern and the cultural import of the environment was not left out. Thus, the design recesses one of the corridors so that light and air can penetrate the adjoining rooms, while at the same time providing different circulation paths and privacy to users.

Case Example 2: General Hospital, Kodunga

General Hospital, Konduga is relatively small and compactly—built affording no opportunity for internal expansion or re—arrangement. The only option left is to create a separate wing for the family planning services. Being predominantly a Muslim community over 724, the initial design had separate wings for male and female patients (Fig.6). In order to ensure the continued

privacy of patients, the proposed design is linked via a corridor (fig7) adjacent to the female OPD.

A covered linked corridor (A) from the main circulation leads a patient into an airy reception/waiting area (B). Records are kept behind the receptionist's desk (C). The receptionist area (R) is the control point which directs a patient to a consultation or treatment room following a call or signal by the consultant(s). The discussion room (D) is located near the receptionist desk, making visual control possible. Two toilets (T1 and T2) are provided off the corridor for patients use. The termination point off the corridor is the mini-OPS theatre which is controlled by a double-swing door that allows for easy manouvarabihity of stretchers and wheel-chairs. Once, in the theatre (F), a sequence (functional movement) established from changing patient follows, attached with toilet through preparation and anaesthesia to the theatre from here in loop to the recovery room and existing through the waiting room (G). The doctor in turn moves from his office (F) to change room (H) (with toilet provision), shrub area (I) and finally in the theatre.

The new design does not alter the general layout and the forms of an existing hospital. It is meant to blend and complement the existing architectural style and form and materials employed in the hospital.

Case Example 3: State Hospital, Jahun

Out-Patient Department of the hospital is quite small which makes just impossible to perform all the various OPO functions expected of an hospital. The hospital was well laid out with linking corridor with most individual

buildings handling one specific service or the other such as separate X-ray and surgery buildings. The proposed design married the family planning clinic with both surgical and radiology procedures in one wing within the general out patient department under a continuous covered walkway. The design housing only the family planning clinic is indicated in (Fig. 8). Being a state hospital like Konduga, the design was thus standardized along the model of the Konduga General Hospital Orientation and sitting is designed to suit existing site condition.

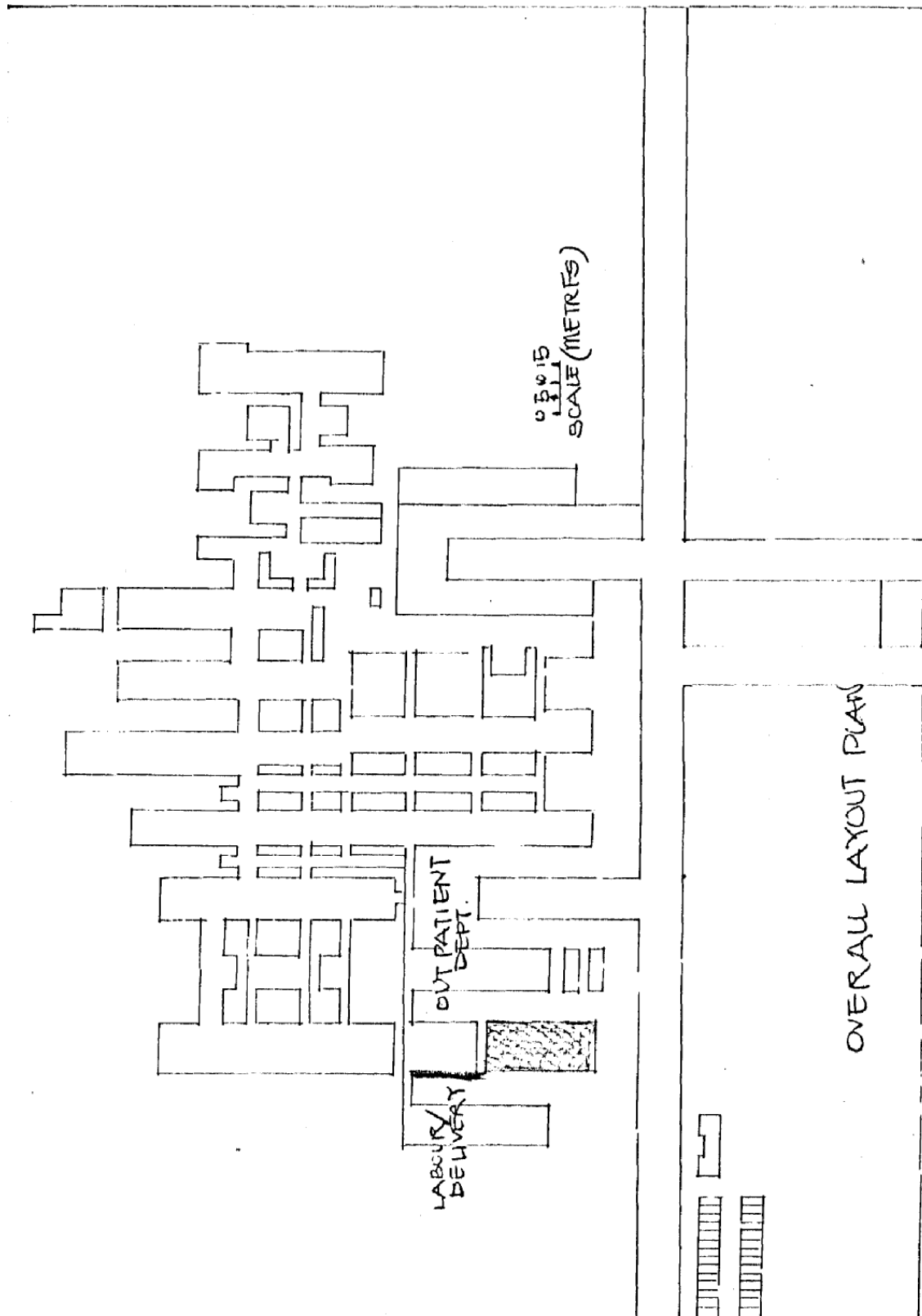
CONCLUSION

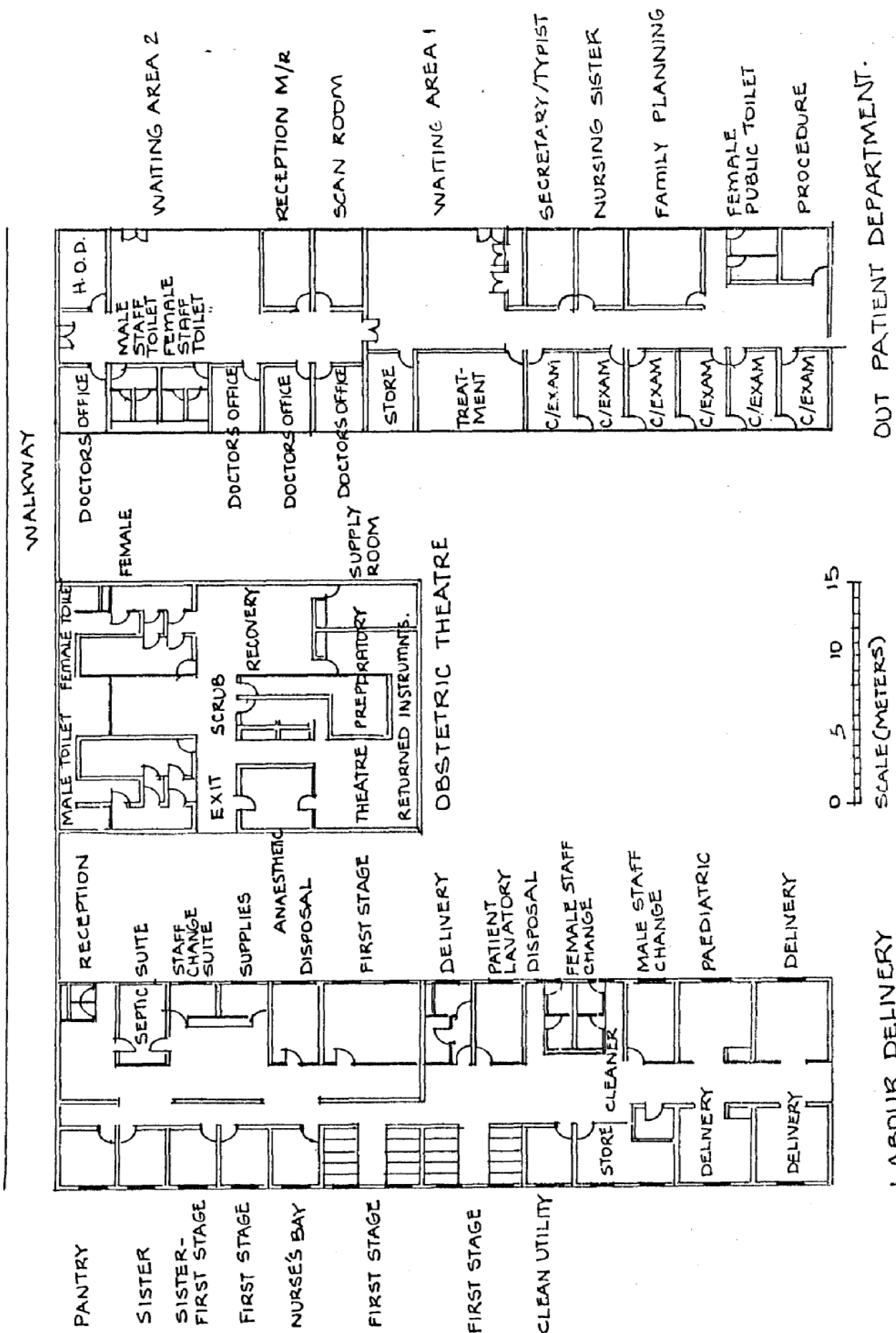
The practice of Family Planning in Nigeria have been left for quite sometime only in the hands of health professionals notably, the doctors and nurses. The basic physical structure where family planning procedures will be practised (without architects) have been neglected resulting in failure of the objective of the program. The program has failed in the areas of planning and architecture design. This paper has examined some areas of failure and inadequacies, some of which are related to physical structure and socio-economic facilities.

There are potentials for improvement, for example, in the provision of pipe-borne water or borehole and generation of electricity. It is hoped that the proposed designs will meet some aspects of the challenge and future needs of family planning practice in the study area in particular, and Nigeria in general.

REFERENCES

- Aliou, A. (2001). Equity and Access To Quality Care In Urban Areas. Urban Health Project Abidjan, Bamako, Conakry, Dakar and Niamey. Pp 1-33, November.
- Andrew, A. Fisher, J. L & John, S. (1985). Guidelines for Overcoming Design Problems in Family Planning Operations Research. *Studies in Family Planning*. Vol. 16, No. 2 pp. 100-105.
- Bongaarts, J, John C, John ,W. T, Jane, T, Monica, D. G. (2012). *Family Planning Programs for the 21st Century: Rationale and Design*. New York: Population Council.
- Bruce, J. (1990). Fundamental elements of quality of care: *A Simple Framework*' *Studies in family Planning*, Vol. 20, No. I , Pp.61-91
- Cumberlege, G. (1995). *Studies in the functions and Designs of Hospital*" Oxford University Press *A.L.A's 'Architectural Graphic Standard'* Edited by Ramsey and Sleeper A.A 7th Edition John Wiley and Sons.
- Handbook for Family Planning Operations Research Design, (2009). Elements of Family Planning Success Toolkit.
- Jain, A. K. 1989. Fertility reduction and the quality of family planning services. *Studies in Family Planning*. Vol.20, No.1, Pp I -16.
- Oyekanmi, F.D and Adedokun A, (1997). Socio-Demographic Characteristics of Contraceptive Users and their Perception of the Quality of Service in the North—Eastern. *Federal Ministry of Health Ikeoja N.P 1980*" *A New Geography of Nigeria*.





OUT PATIENT DEPARTMENT.

LABOUR DELIVERY

UNIMAID TEACHING HOSPITAL

PANTRY

SISTER

SISTER-
FIRST STAGE

FIRST STAGE

NURSE'S BAY

FIRST STAGE

FIRST STAGE

CLEAN UTILITY

RECEPTION

SUITE

STAFF
CHANGE
SUITE

SUPPLIES

ANAESTHETIC
DISPOSAL

FIRST STAGE

DELIVERY

PATIENT
LAVATORY
DISPOSAL

FEMALE STAFF
CHANGE

MALE STAFF
CHANGE

PAEDIATRIC

DELIVERY

MALE TOILET

FEMALE TOILET

EXIT

SCRUB

RECOVERY

THEATRE
PREPARATORY

RETURNED INSTRUMENTS.

OBSTETRIC THEATRE

SUPPLY ROOM

DOCTORS OFFICE

FEMALE

DOCTORS OFFICE

DOCTORS OFFICE

DOCTORS OFFICE

DOCTORS OFFICE

STORE

TREAT-
MENT

C/EXAM

C/EXAM

C/EXAM

C/EXAM

C/EXAM

C/EXAM

H.O.D.

MALE
STAFF
TOILET

FEMALE
STAFF
TOILET

WAITING AREA 2

RECEPTION M/R

SCAN ROOM

WAITING AREA 1

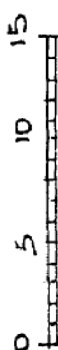
SECRETARY/TYPIST

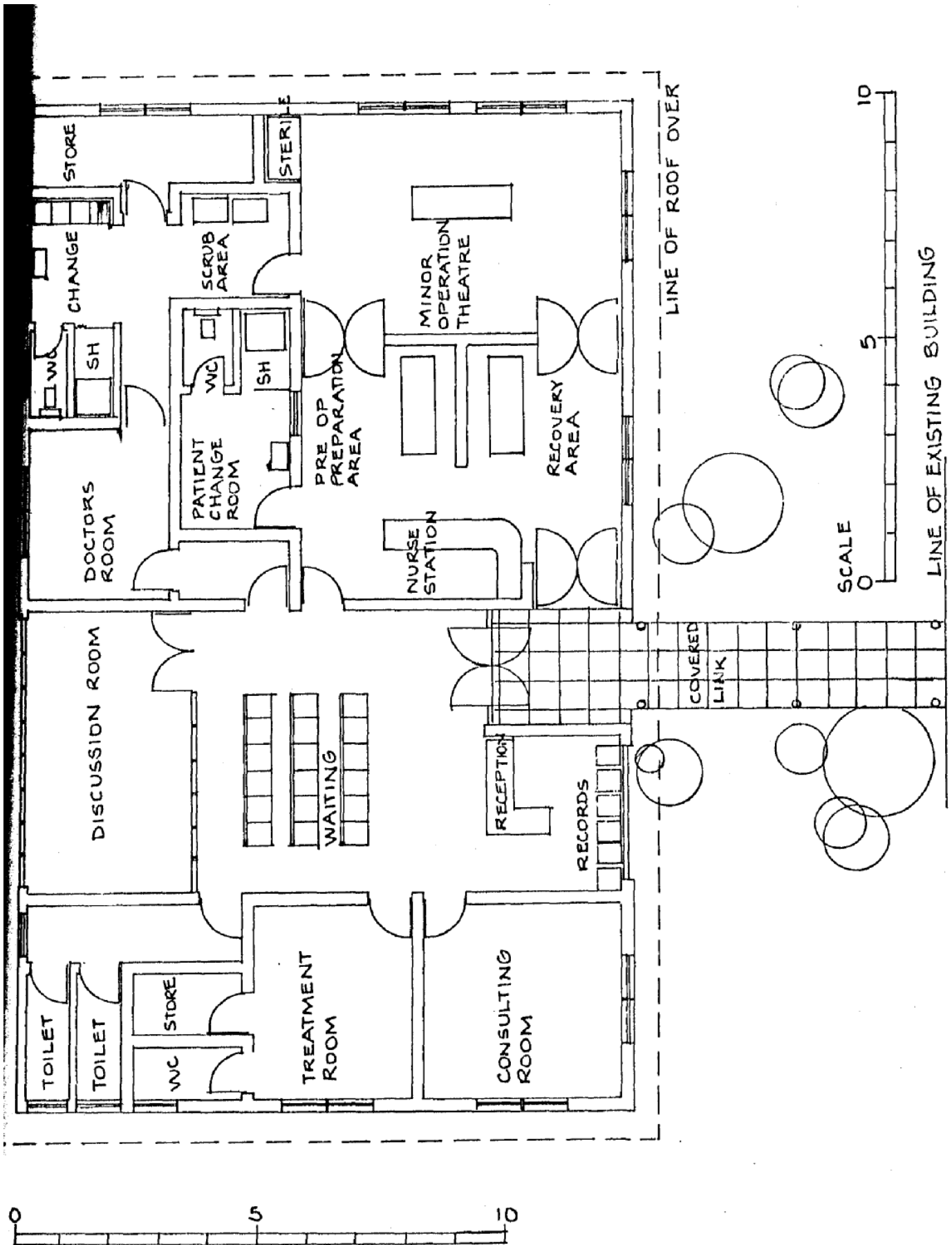
NURSING SISTER

FAMILY PLANNING

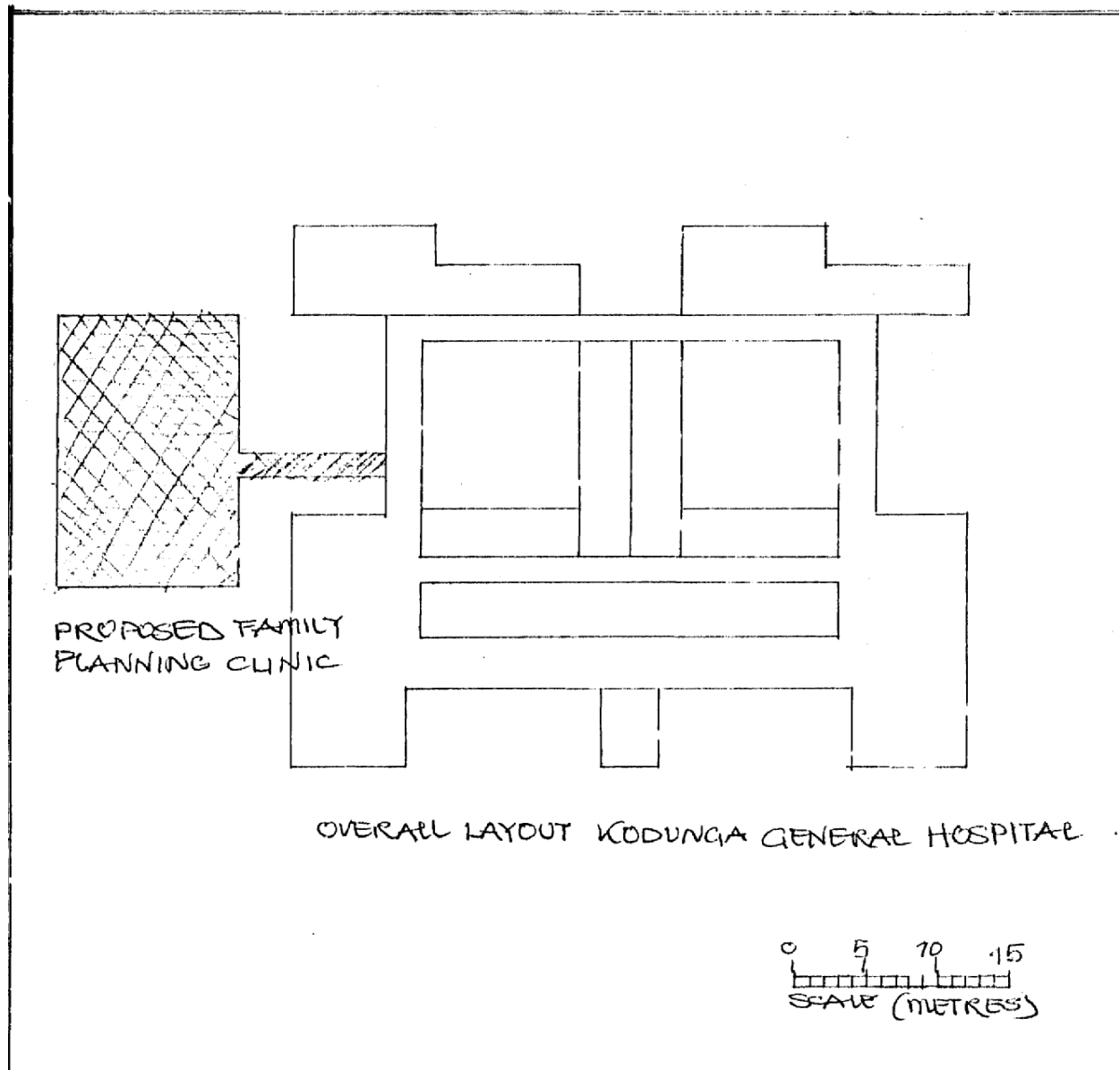
FEMALE
PUBLIC TOILET

PROCEDURE



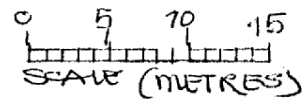


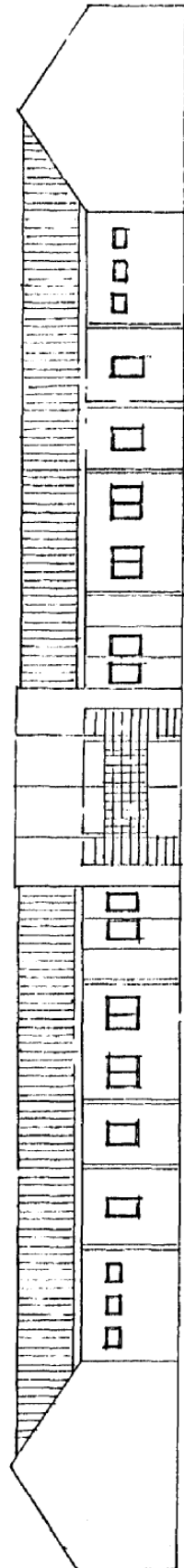
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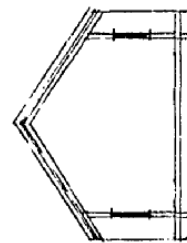
PROPOSED FAMILY
PLANNING CLINIC

OVERALL LAYOUT KODUNGA GENERAL HOSPITAL

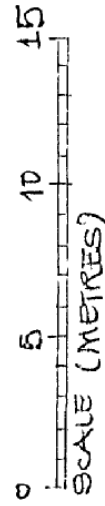


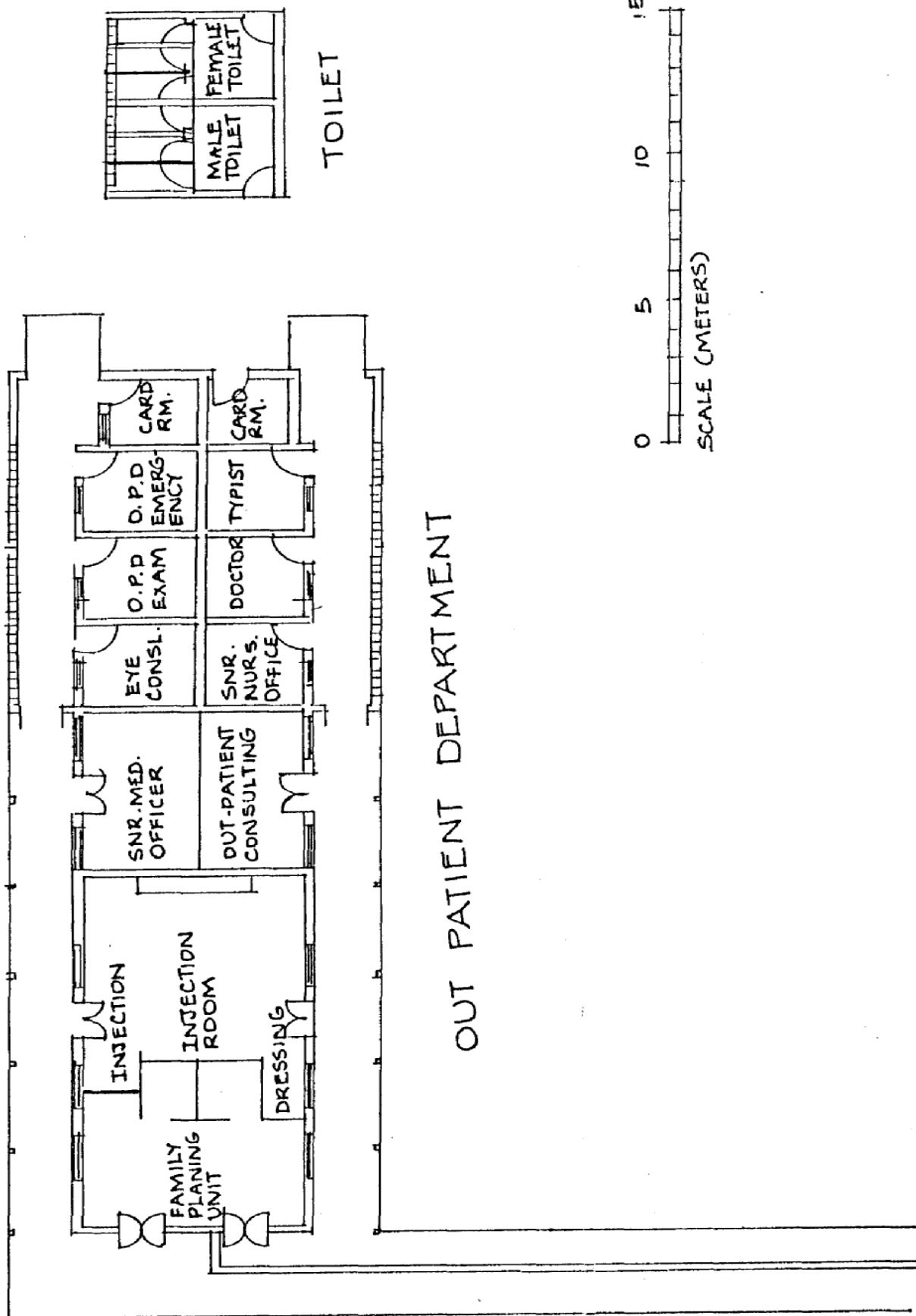


FRONT ELEVATION



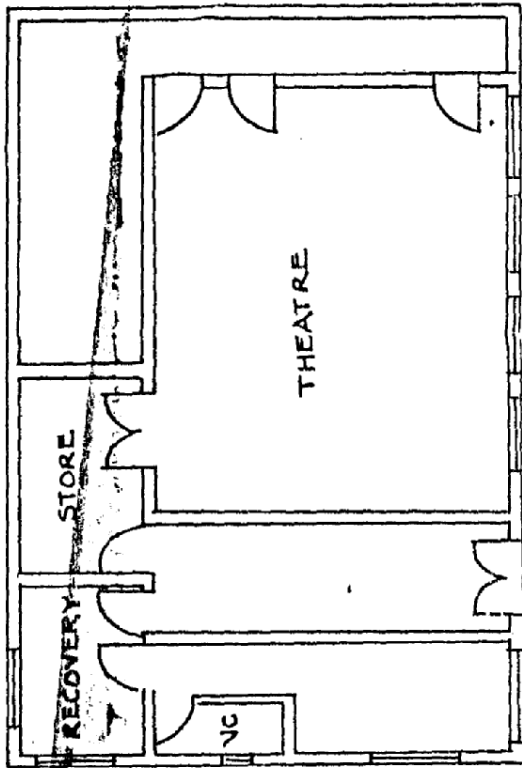
TYPICAL SECTION





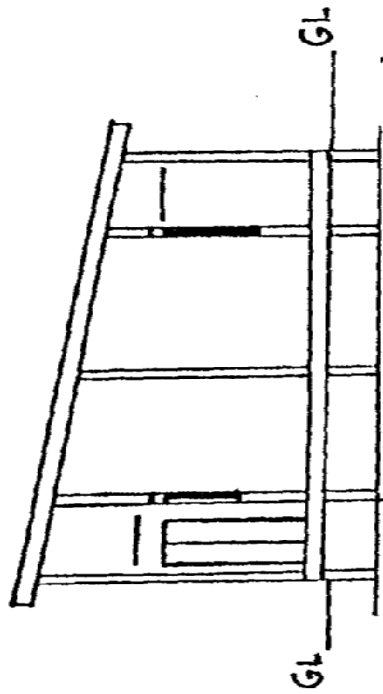
OUT PATIENT DEPARTMENT

JAHUN HOSPITAL

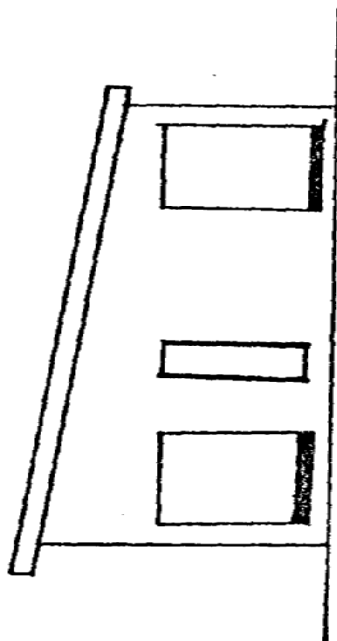
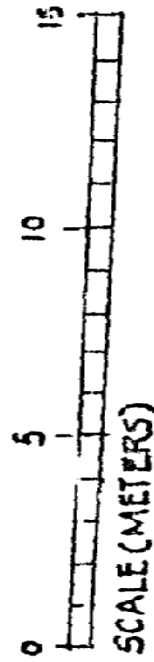


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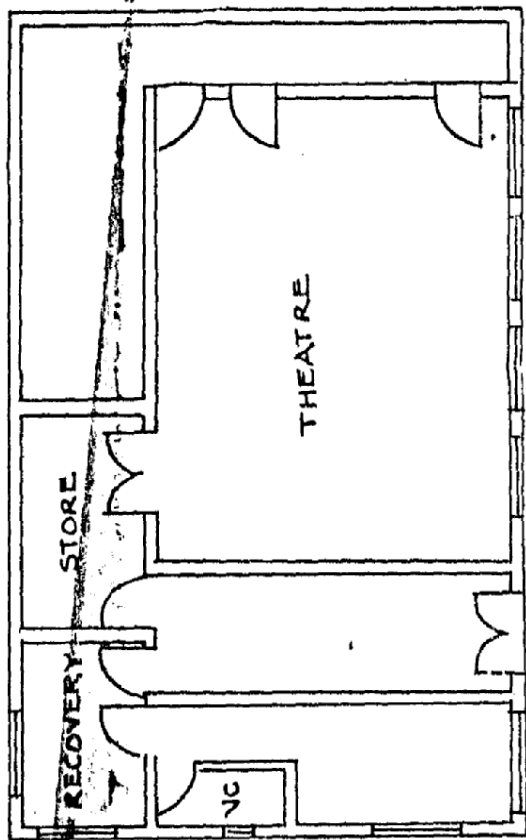




TYPICAL SECTION.



TYPICAL ELEVATION



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