STUDENT'S CENTRE
THE KADUNA POLYTECHNIC, KADUNA
Towards effective landscaping to enhance recreational qualities

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DECLARATION

I, OLUWAYEMISI BOLANLE ADEGOKE, hereby solemnly declare that this thesis has been composed and written by myself, and is an authentic documentation of my own research work. To the best of my knowledge it has not been presented in any previous application for a higher degree.

All quotations are distinguished by quotation marks and sources of information are specifically acknowledge by means of references and bibliography.

.....18-12-17

Signature

CERTIFICATION

This thesis entitled "STUDENT CENTRE, KADUNA POLYTECHNIC, KADUNA; Towards proper landscaping to enhance mental and physical recreation "by ADEGOKE OLUWAYEMISI BOLANLE, meets the regulations governing the award of the degree of master of science in architecture (M.sc Architecture) of Ahmadu Bello University, Zaria, Nigeria an is approved for its contribution.

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DEDICATION

TO GOD BE THE GLORY

"Who was, who is and always will be by my side"

ALSO

To the memory of **Rotgak** (1968 – 1997) who didn't live to see the external defence of this research.

ACKNOWLEDGEMENT

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ABSTRACT

For most part of ones life, one has been student of one form of formal education or the other, this fact puts one at a vantage point to advocate for the need to improve the general welfare of students.

Experiences on campuses has shown that many student crises stem from inadequate provision or lack of facilities for students, declining welfare condition and the breakdown of communications between students and schools authorities.

Being conversant with the students social problems, and having identified the impossible constraint in the social life in tertiary institutions in Nigeria, it is therefore imperative that for any higher institution of learning, there is need for a centre- a common umbrella of recreational activities to which these students with different backgrounds, ages, sexes and languages are attracted, to perform activities that will relax and refresh them mentally and physically.

A place where the students yearnings could be presented to the authorities without resorting to violence and crisis. A centre that meet the basic recreational needs, home away from a home for the thousands of students with the facilities mostly needed.

This thesis is aimed at stressing the need to develop extra-curricular activities in the campus environment. To arrange spaces and in corporate landscape properly to enhance interaction and recreation and for the spaces to be used effectively for social and recreational activities.

Architecturally, the significance of the study is to create an awareness that a logical architectural approach is important to improving students welfare and to create a well landscape environment which will provide refreshment and appropriate facilities for recreation.

In the course of this research, some studies will be undertaken into the origin of students centre and the importance of recreational facilities in the tertiary institution.

Case studies of existing students centres will be carried out to analyse the merits and demerits of the design.

The location of the proposal is Kaduna Polytechnic main campus along polytechnic road, Tudunwada in Kaduna town. The study will focus on the students' life on campus.

The analysis, design concept and design report will be presented with the afore-mentioned facts in mind.

The final design proposal will include basically recreational facilities like in door game room, audio-visual rooms, browsing room, commercial facilities, like saloons, tailoring shops, banks, postal agency, telephone services and educational facilities like computer rooms, club meeting rooms, and the administrative unit of the students union with guest accommodation.

The availability of drawings of cases studied was limited because some of them are old and have undergone additions and other changes

Availability of written text was also limited.

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CHAPTER ONE

INTRODUCTION

1.0 PROBLEM DEFINITION

The American philosophy visualise the college Union as "the community of the college, providing services conveniences and amenities for members of the college family needs in their daily life on campus and a common meeting and social centre"

David Daiches (1981) of the University of Sussex sees a students centre as a place to bridge the gap between students and the faculty (authority) by throwing them together in a semi formal way. It creates an interdisciplinary academic community for all undergraduates and most faculty members from time immemorial through their collegiate living and dining tradition, it avoids segregation.

In essence, a students centre is a place which with the right facilities activities and infrastructures should serve to cater for the social and recreational need of a students' life in an informal atmosphere on the campus.

The thesis is an attempt at evolving an appropriate environment with a students' centre which would include the provision of infrastructure that would enhance peaceful studying and living environment for the students and other members of Kaduna Polytechnic. If functions to complement the formal academic programme of the school with informal, broad and social programmes or activities for mental and physical refreshment in the school environment.

The main campus of the Kaduna Polytechnic is situated along Polytechnic road in Tudun Wada area of Kaduna township, it lacks social and commercial facilities required for the students. The need for the facilities made them improvise temporary structures which are inadequate and are not conducive for the required functions.

KASHIM IBRAHI... RSIT... BRARY

The existing situation consist of an old classroom block which houses the students union secretariat. In order to meet the commercial and recreational requirements, temporary kiosks are allowed to litter the secretariat building resulting into an environment that is unpleasant in sight. The environment is not conducive for relaxation and recreation; it still lacks most of the required facilities of a befitting students centre.

The fact that essential facilities which are necessary for the students' daily life on campus are lacking makes the students resort to going into Kaduna township to make use of public facilities as an alternative.

If provision is made for the students' centre, the stress and tension accumulated during hectic weeks of lectures can be reduced. The students will have an environment that will refresh them mentally and physically, meet their needs and minimise undue stress and tension on the campus.

1.1 AIMS AND OBJECTIVES

The aim of this study is to propose a design of a centre that provide all the necessary facilities to take care of the social, recreational, educational and commercial needs of the students.

To provide an effective environment that will function to develop a sound body and mind through wholesome and creative activities. Socially to create a forum for interaction among diverse groups within the community and commercially to provide goods and services to meet the basic needs of the users.

-To give a befitting image to the institution in terms of its social and physical infrastructure

-To ensure an interesting environment within and around the complex to enhance the refreshing and relaxing atmosphere in the complex

-To ensure users' comfort by good ventilation, lighting, view and organisation of spaces

-To bring commercial, recreational and social facilities together.

1.2 RESEARCH METHODOLOGY

The origin and the need for a students centre will be studied from a review of printed materials and other secondary sources like graphic documents and photographs.

Case studies of existing students centre will be carried out, analysed and their problems identified by observation and review of existing situations.

The importance and effect of landscape on users and how it can be effectively utilised to give maximum satisfaction to users.

The location of the proposal is the Kaduna Polytechnic main campus. The site will be justified with respect to the site location and analysis of the students life on campus will also be carried out through oral interviews and observation

The proposal that best suit the users needs will hopefully be evolved within the text of spatial organisation, functionality, viability and aesthetics.

1.3 SCOPE OF DESIGN

The design will include basically recreational, commercial, dining and educational facilities as well as the administrative unit of the students union.

The recreational facilities are indoor games room, television room, browsing room, multi purpose hall, photography studio, arts and crafts, outdoor games area.
The dining facilities include restaurant, cafeteria, snack bar and suya joint.

The educational facilities will include stationery store, meeting rooms, photocopy centre, binding and lamination section, typing pool and computer services.

The administrative unit of the students union will consist of the union executives offices, parliamentary room and guest accommodation

1.4 MOTIVATION

The desire to highlight the importance of extra-curricular activities in physical and mental development of the students.

Another point of motivation is to highlight the importance of landscaping and how it can refreshingly enhance recreational quality.

To show that for a pleasant stay on campus for students (and the authority), the basic needs and requirements of the students are very important.

To minimise erection of illegal kiosk or shops all over the campus for more social interaction and immediate needs of students and other users.

1.5 ARCHITECTURAL SIGNIFICANCE

This study is to create an awareness and buttress the fact that a logical architectural approach is important to improving students welfare.

To create a well landscaped environment which will enhance mental and physical refreshment and appropriate environment for relaxation.

To create a centre that will meet the needs of the students and authority in an informal set-up. The centre is conceived as a place to he used by everyone without let or hinder.

CHAPTER TWO

SOCIAL LEARNING(LITERATURE REVIEW)

2.0 INTRODUCTION

Social learning in psychological theory is learning behaviour that is controlled by environmental influences rather than that by innate or internal forces. The leading components of the concept of social learning is often called modelling. According to an American psychologist Albert Bandura who has undertaken innumerable studies on human psychology, it has been shown that when children watch others, they learn many forms of behaviour, such as sharing, aggression, co-operation, social interaction and delay of gratification.

Psychologist following Bardura's views have also stated that social learning based on observation is a complex process that involves three stages:

-Exposure to the response of others

-Acquisition of what an individual sees

-and subsequent acceptance of the modelled acts as a guide for ones own behaviour.

2.1 SOCIALIZATION

The process by which individuals learn the culture of their society is known as socialization. Primary socialisation process takes place during infancy, usually within the family.

In western society, other agents of socialisation include educational system, the occupational and within its peer group, the young child by interacting with others and playing childhood games, group and to appreciate the fact that social life is based on rules

Socialization is a lifelong process and without it an individual will bear little resemblance to any normal human being by the standard of his society. Prolonged

interaction within adults is essential not only for fitting members into society but also for the process of becoming human.

The main development tasks that each young person in modern society is obliged to tackle may be summarised under three main headings:

- Coming to terms with society: This include being educated, getting a job, participation in political affairs and bringing up a family.
- Coming to terms with self: This involves attaining a valid self image and the realisation of self talent especially artistic and creativity of every kind.
- Coming to terms with life as a whole is a more systematic experience and refers to the acquisition of general moral code, a set of values, and in some cases the acceptance and internalisation of religious belief and attitudes.

From the above, in summary, socialization present us a series of overlap group activities (as per social interaction). Those activities could be blended so that they fall under three main categories:

- welfare
- Commerce
- Recreation

2.2 HISTORICAL DEVELOPMENT OF A STUDENTS CENTRE

This idea of a Students' Union building or a students centre has its roots in the Cambridge University. The Cambridge Students Union was formed in 1815. It was brought about by the fusing of three existing college debating societies.

The aim of the union was to promote the art of living together and to make the students aware of their responsibility to the welfare of the country.

At first, the union members used to meet in a dirty little room to compare notes and argue points of critical interest to the students, university and the nation at large. At a later stage, the need to refresh the body after long and tedious debates arose thus, giving birth to the putting up of a building in 1816 with such facilities as reading

rooms, bar, lounge, dining service and a billiard room. The first union building in the world was completed in 1857 for Oxford University, London. From then onward, other Universities borrowed the idea of having students centre on their campuses as a neutral and informal meeting place in which users (that is students and other people) of varying creeds and political opinions can gather for social, commercial, recreational and educational purpose.

2.3 THE NIGERIAN SITUATION

In the Nigerian context, the first union building is that of the university of Ibadan "Adekunle Adepeju memorial centre". It was built in 1968 and named after Adekunle Adepeju, a student of the university that was gunned down by the police during students demonstration in 1971.

This type of student's centre is more of students' union secretariat where the Students Union accommodation gets preference, while the other facilities - commercial, social and recreational are given minimal space. The students centre in this category are that of university of Ife, Ibadan Polytechnic, solidarity centre, University of Jos and some few others.

A new definition was given to the student centre setting on the campus when the Government realised the crucial role of recreation in the life of the undergraduate students. The Federal Government in 1992 under General Ibrahim Babangida earmarked a special task force for the Universities to provide students' centres in their respective campuses. This was seen as a step in the right direction as it obviously improved students welfare. Such centres include Aliyu Mustapha social centre, Ahmadu Bello University, Zaria, the social centre University of Jos, Jos. These have more of recreational and commercial facilities.

There are some institutions which are still lacking this essential facility for informal education. A students centre. The existing situation is such that they have students union secretariat without other important facilities which therefore "spring up" in kiosks which are scattered around the campus. Such situations need to be

improved. Examples of such institutions include: Kaduna Polytechnic, Kaduna, Yaba College of Technology, Lagos.

Due to the realisation of a students centre in campus planning, new institutions are now giving it a priority by incorporating it in their overall development plan, which is a right step in the right direction.

2.4 CHARACTERISTICS OF STUDENTS CENTRE

Functionally, a student centre is designed as a community centre devoted to the interest of students it serves.

In spatial terms, a students centre is characterised by the following:

i. A place for informal meeting, conversation, discussion, browsing and seating, housed outdoor or indoor spaces.
ii. A variety of food services, ranging from served dining rooms, cafeterias, coffee shops and snacks bars.
iii. variety of social facilities ranging from bookstore to barbing and hair dressing salon.
iv. Telecommunication services - post office, telephone service fax and carrier services.
v. Student union offices and student enterprises as newspapers and other publication.
vi. It also has educational programme in the cultural, political and civil development of the students. For example, art display areas, music rooms, concert halls, theatre, browsing libraries, seminars and meeting rooms, conference halls and so on.

2.5 RECREATION: The meaning and its importance

Confuses often arise when stating the meaning of the 'recreation' many people confuse it with that of leisure due to the close relationship existing between them.

Whereas leisure is generally defined with respect to time. It is the time available to the individual when the discipline of work, sleep and other basic needs have been met in a given situation.

Recreation can also be defined as 'activities' during leisure. These include outline sports, sight seeing, cultural and entertainment activities. It may also be light and restful activities voluntarily chosen, which relieves one of activity of work.

According to Hutchinson "Recreation is a worthwhile socially accepted leisure experience that provides immediate and inherent satisfaction to the individual who voluntarily participate in the activity".

Therefore from this definitions one can regard recreation as activities which are physical, mental, social or emotional in nature as contrasted to sheer idleness or complete rest.

It includes a wide range of activities such as games, crafts, fine arts, performing arts, music, drama, travels, hobbies and social activities. The choice of involvement however is voluntary.

Recreation has been found to be prompted by internal motivation and the desire for active personal satisfaction rather than by extremist goals or reward. It is highly dependent on the state of mind or attitude of the individual.

If the participant is passive, he must be able to hear and see in comfort, if the participant is active, he must be given spaces suited to chosen activity. In most cultures, recreational institutions have their origin in religion rites, but they easily gain independence and religious expression is reduced or eliminated in their architecture.

It is always part of community services programmes aimed at meeting appropriate standard of morality and to provide healthy constructive experiences.

The effect of recreation is positive in these four areas.

Physical health - it improves body health and acquisition of strength. Recreation promotes healthy structural development as well as growth of the body. Recreation on regular basis helps to keep the participants fit.

Intellectual advantage - it relaxes he brain and body and therefore helps students to be more attentive during lectures, Recreation minimises fatigue and it also helps to acquire more knowledge in areas of interest.

Social advantage - Recreation helps provides an opportunity for people to overcome shyness and a sense of isolation by providing sociable and common interest complete recreational facilities ideally serve students with different moods, needs, religious or social groups.

Emotional advantage - Recreational encourages the timid, discerns the aggressive; motivates the lethargic and calms the restless. The melancholic studies into a psychology of human beings slow that the unwillingness to play reveals an insecure or disordered aspect of personality. Recreation helps to console the human minds.

2.6 RECREATIONAL FACILITIES

- A social hall, which can be used for dance, parties, dinners or entertainment.
- A multi-purpose hall, equipped with stage and motion picture, projector. It can be used for concerts, cultural shows, dramatic production; lectures and seminars
- A gymnasium with removal or folding bleaches used for gymnasium classes, basket ball, volley ball, wrestling, dancing, stunts and exhibitions.
- Meeting rooms for clubs, organisations and musical groups.
- Workshops for handicrafts, arts, dramatists and hobbies
- Games rooms with facilities for table games, table tennis, billiards, chess, scrabble, monopoly
- Kitchen and serving party
- Lobby and lounge
- Indoor swimming pool
- Service features such as office, heater and fuel rooms, storage, janitors room and general toilet rooms.

2.7 COMMERCIAL FACILITIES

Commercial buildings are distinguished from others chiefly by their size.

To meet the immediate shopping needs of the students, the centre will include shops, salon, boutiques, chemist, supermarket, meat shop, restaurants and cafeterias.

A community bank, post-office and telephone services will be provided.

2.8 WELFARE FACILITIES

The acceptance of responsibility for the welfare of the community differs in degree in every social system.

The expansion of education and health facilities beginning in the 19th century created a widespread and consistently growing need for specialised architectural solutions. Schools from nursery to the tertiary institution, now demand not only particular solution at all levels but structures for variety of purposes within each level.

For tertiary institution facilities required include:-

- Offices of the students union Government and other organisations such as student enterprises as newspaper or other publications and photography or hobby clubs.
- Meeting room for the executive offices during parliamentary meeting.

2.9 EDUCATIONAL FACILITIES

Stationery shop, bookstore, typing, photocopying, laminating and binding sections also aid to meet the educational needs of the students. A computer services centre will be provided for students to learn how to use computers.

CHAPTER THREE

CASE STUDIES

3.0 This chapter shall study existing student centres or student union buildings, within and outside Nigeria. The aim is to study how the designs have been able to meet users' needs and requirements. The research will study the site, clients brief and general description which will include the type of spaces required and their inter-relationship.

3.1 ADEKUNLE ADEPEJU MEMORIAL CENTRE, UNIVERSITY OF IBADAN, OYO STATE

Client: University of Ibadan

Site location: The students centre is well located relative to both academic and residential zones and opposite the sports centre on the campus serving as recreation centre for students, it is far away from the university main gate. (fig. 1)

General description: The students centre consists of three major components parts arranged in a u-shape. These parts include the central cafeteria, the students union building and the swimming pool.

Both the union building and the central cafeteria are facing the central quadrangle and overlooking the swimming pool and a paved plaza (fig. 2)

Central cafeteria building:

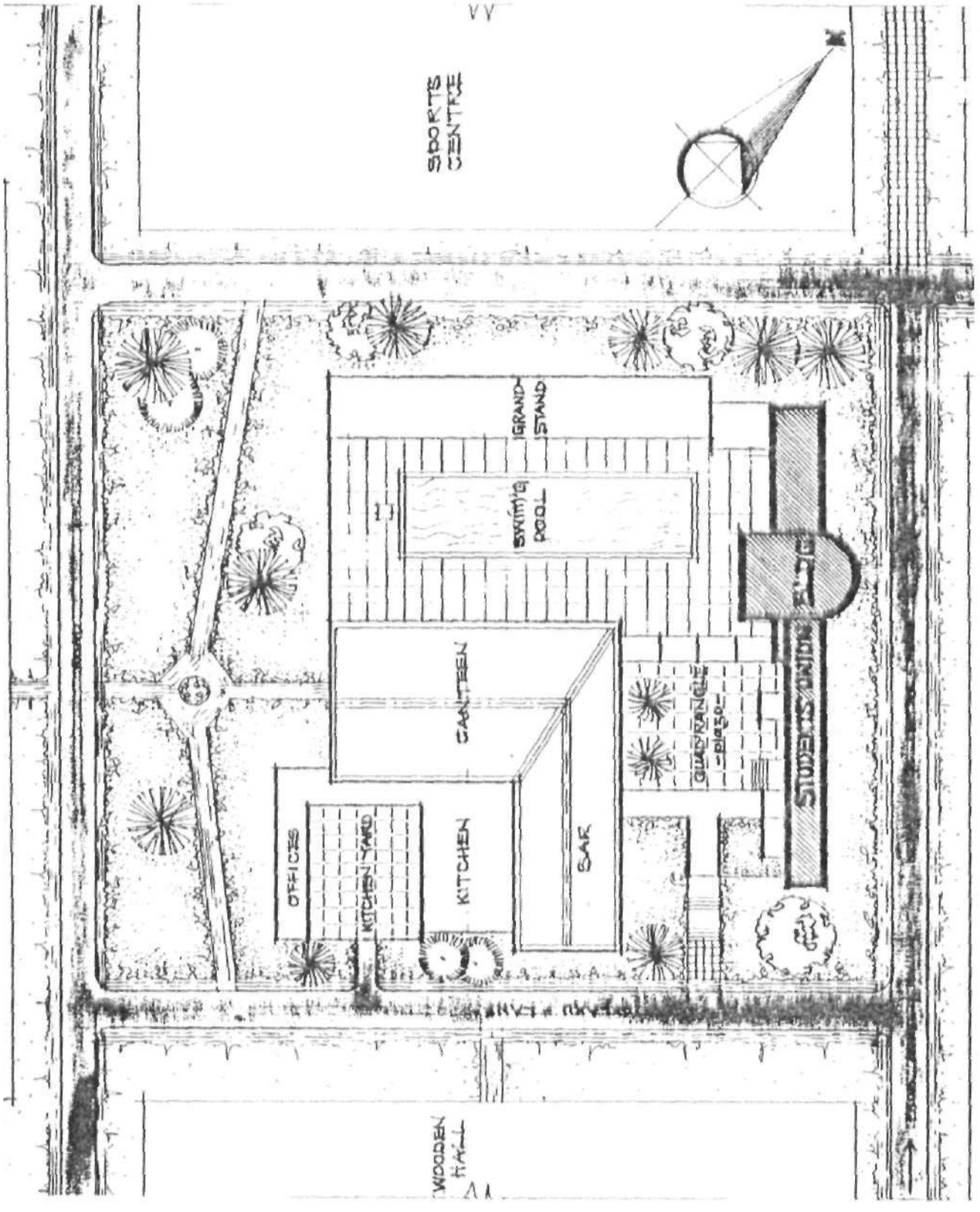
This is on two levels and is served by a common kitchen on an intermediate floor ramped up to the upper floor of the cafeteria. The lower cafeteria is serviced by lifts and a staircase. The upper floor is accessible from the plaza in the North while the lower floor is approached from the South. The bar is also on the same level with the upper cafeteria.

The service yard is on the grand floor and flanked by bulk storage rooms, cold rooms and laundry. The cafeteria seats 1,050 students and has a large terrace

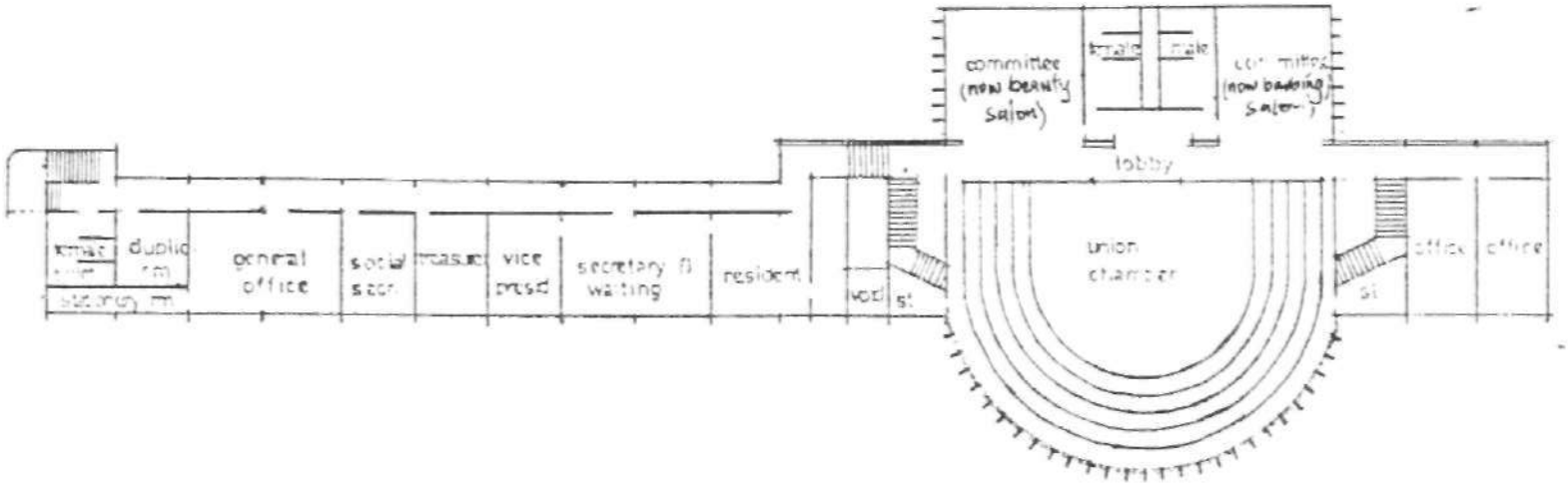
FIGURE:5

SITE PLAN

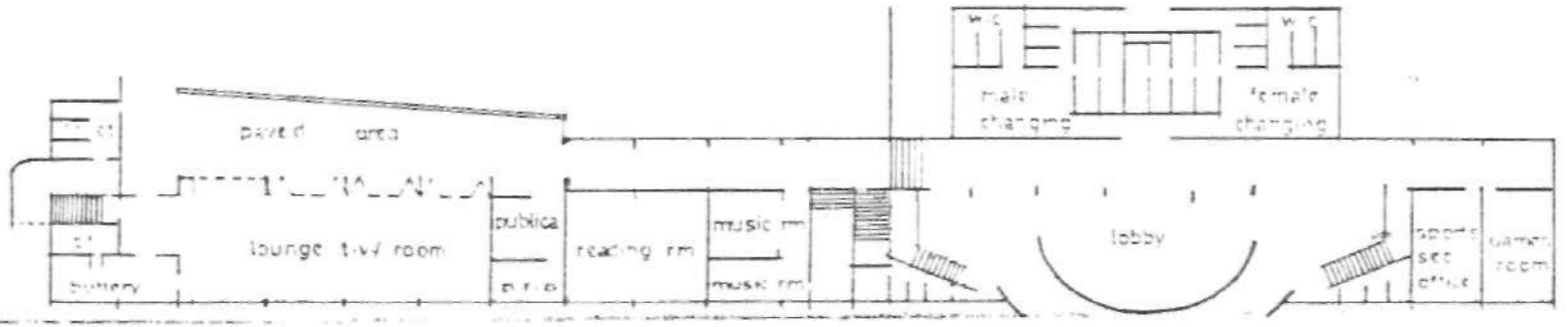
KUNLE ADEPEJU MEMORIAL CENTRE, U.I., IBADAN



FLOOR PLANS: KUNLE ADEPEJU MEMORIAL CENTRE, U.I., IBAD



FIRST FLOOR PLAN



GROUND FLOOR PLAN

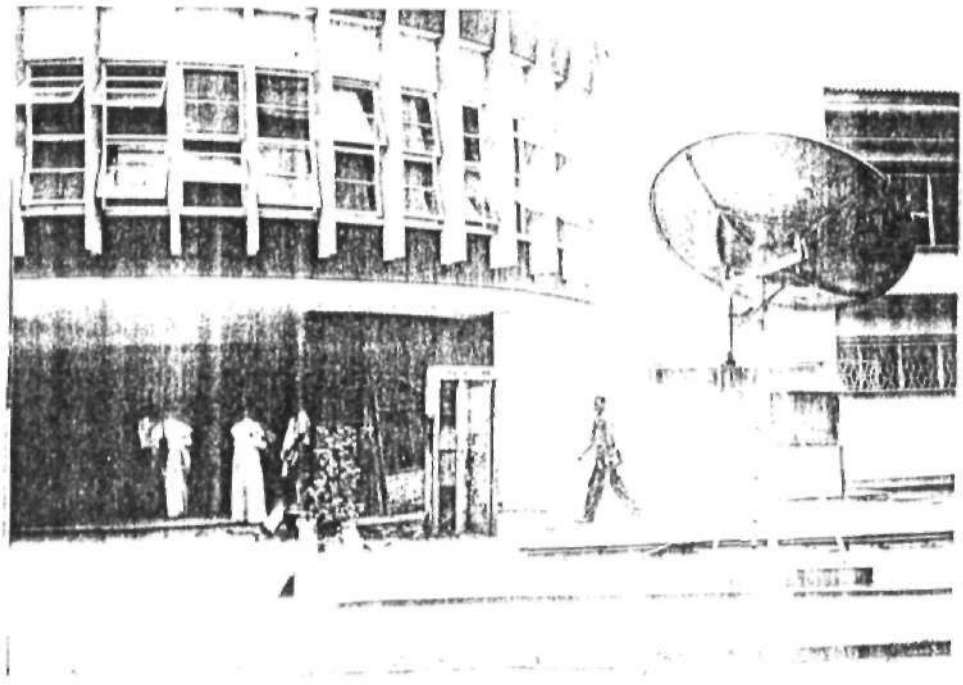


PLATE 1: KUNLE ADEPEJU MEMORIAL CENTRE, U·I, APPROACH VIEW

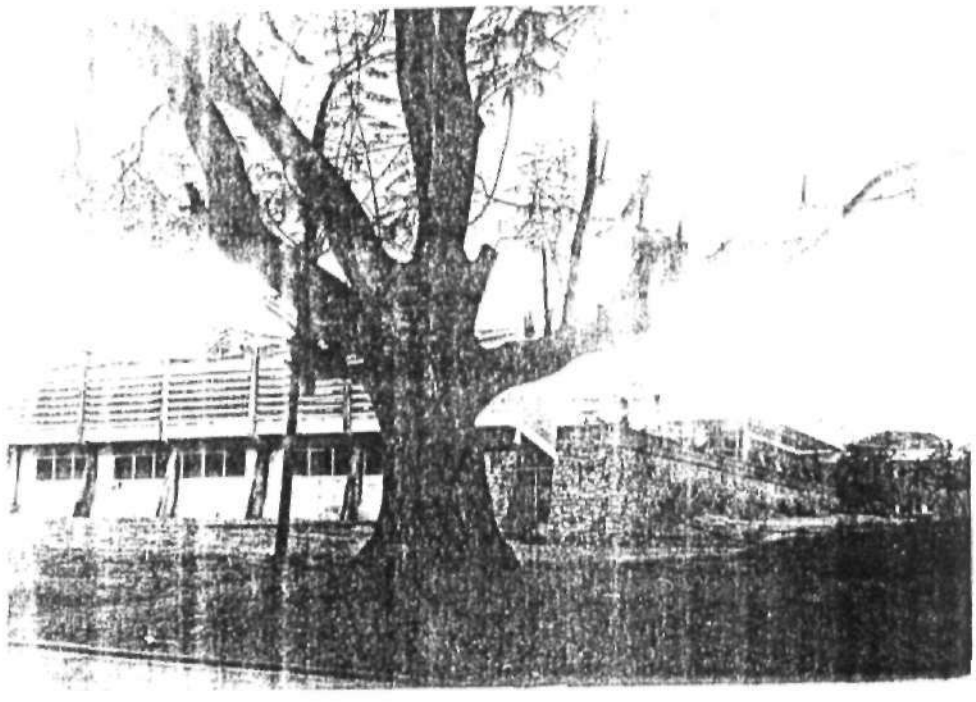


PLATE 2: KUNLE ADEPEJU MEMORIAL CENTRE, U I SHOWING CAFETARIA AND SWIMMING POOL

overlooking the swimming pool. The central cafeteria is linked to the students union building by a covered walkway.

Union building

It is a one-storey building. The ground floor houses the students union bar, a lounge, shops and boutique.

On the central parts of the building functions like lounges, music rooms, offices changing rooms and a lobby to the first floor union chamber.

On the first floor is the students chamber for the union parliament seating 150 people. The chamber is in the central part of the building and projected as canopy to entrance lobby thereby giving it prominence. There are also association rooms which were later converted to barbing and hair dressing salons, toilets and offices for union executives (fig. 3)

Merits:

The centre provides recreational, commercial facilities and students union executive offices thereby creating a forum for social interaction, recreation and relaxation. The plan is space-efficient and provides good pedestrian circulation.

Its proximity to the users enables the centre to be functional and effective.

Demerits:-

There is no effective link between the union building (shops and offices) and the dining area.

The entrances are not well connected. The facilities in place presently are grossly inadequate. For instance, inadequate commercial facilities led to the emergence of shabby kiosks along the covered walkways and the open plaza.

3.2 STUDENTS UNION BUILDING, YABA COLLEGE OF TECHNOLOGY, YABA, LAGOS STATE

Client:- Yaba college of technology, Lagos State

Site location:- The students union building is located within the hostel complex. It is also not too far from the main gate (fig. 4)

General description: The students' union building is an L-shaped building having two floors. The ground floor has the super markets, stationery store, restaurant, snack shop, office, kitchens and store. While the upper floor has the union executive offices, buttery and an outdoor sitting terrace. (fig. 5)

The students' union Building is located close to the main cafeteria and an open space converted to a mini market thereby making these three units into an unplanned complex.

The students' union building and the cafeteria were designed and built properly but the market emerged as a result of meeting students shopping needs by erecting kiosks and temporary structures.

Merits:-

- Its proximity to the students hostels makes it well patronised
- The building is of colonial architecture it is therefore strong and simple.

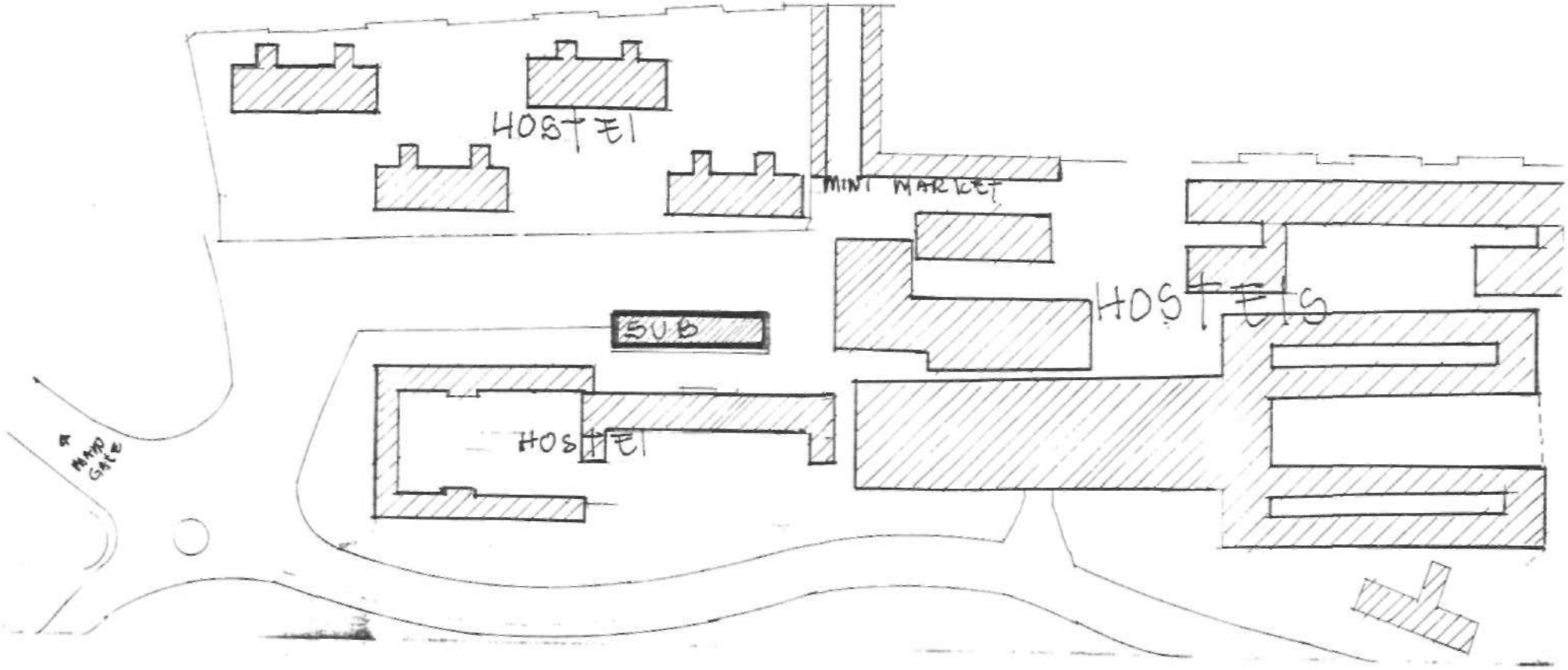
Demerits:-

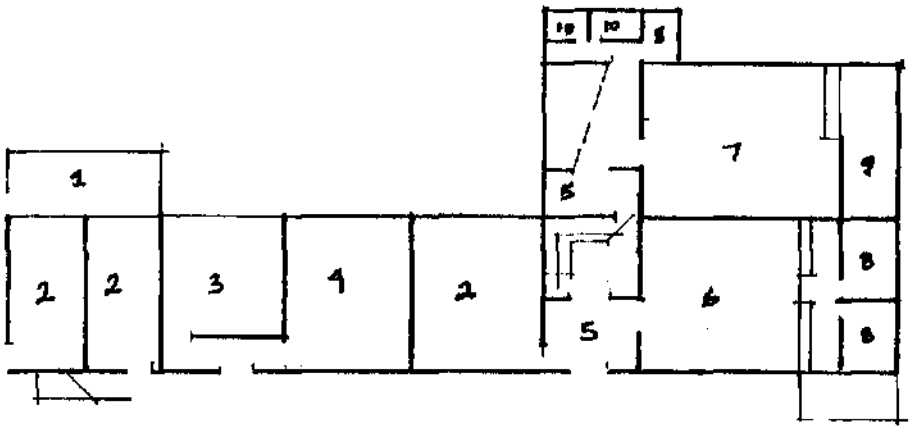
- The provided facilities are grossly inadequate
- The spaces for toilets have been converted to cooking, therefore there is no toilet facilities except in the cafeteria.
- The emergence of the mini market in form of kiosks is unpleasant in sight and unconducive for relaxation and recreation.

CASE STUDY

STUDENTS UNION BUILDIN

FIG 4: SITE PLAN, YABATECH, LAGOS.

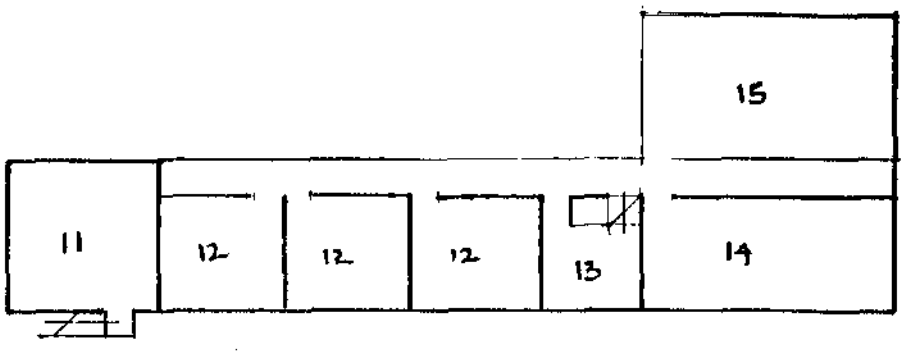




GROUND FLOOR PLAN

LEGEND

1. BARBING SALON
2. OFFICE
3. SUPERMARKET
4. STATIONERY STORE
5. LOBBY
6. SNACK SHOP
7. RESTAURANT
8. STORE
9. KITCHEN
10. TOILETS.



UPPER FLOOR PLAN

LEGEND:

11. PARLIAMENTARY CHAMBER
12. OFFICE
13. LOBBY
14. BAR
15. SIT-OUT TERRACE.

FIGURE 5: FLOOR PLANS: STUDENTS' UNION BUILDING, YABATECH, LAGOS.



PLATE 3: STUDENTS' UNION BUILDING, YABATECH.
APPROACH VIEW



PLATE 4: STUDENTS' UNION BUILDING, YABATECH.
TEMPORARY MINI MARKET

3.3. STUDENTS UNION BUILDING, OBAFEMI AWOLOWO UNIVERSITY, ILE-IFE, IFE.

Client:- Obafemi Awolowo University, Ile-Ife,

Site location: The students union Building is located opposite the University main hall, Oduduwa hall and nearer to the sports centre (fig. 6) it is very close to the way leading to the university main gate.

General Description: The union building is elongated rectangular form housing two floors on both sides of the ground floor are free spaces used as magazines and dailies burge, and for photocopying and typing pool. Also the free spaces have stair cases leading to the first floor as shown on the ground floor plan.

The ground floor has supermarket which was partitioned by the side to accommodate hair dressing and barbing salons and stores. The side of the kitchen was also partitioned to house photography studios, printing and binding room. There is also a restaurant for dining (fig. 7).

The first floor consist of lounge bar, stores and toilets, billiard room as games room, parliamentary hall, reading room and students union executives offices. This floor also has balconies and terraces on either side as shown on plan.

Merits: This is good site location in relation to other buildings such as sports centre, Oduduwa hall and it is not far from students hostel.

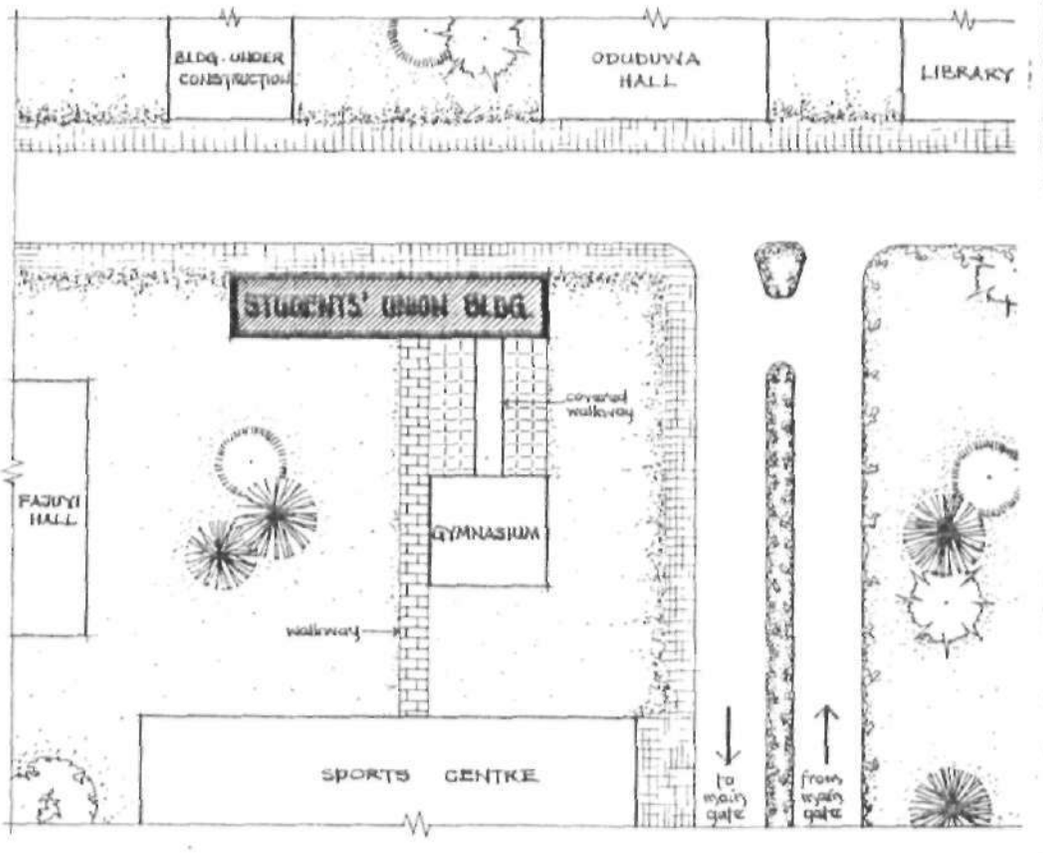
Facilities on first floor are well recessed and shaded from direct sunlight. Adequate lighting is provided.

Demerits: The toilets are not well located and has poor ventilation.

The students union executives offices are inadequate and too close to circulation area.

FIGURE : 11

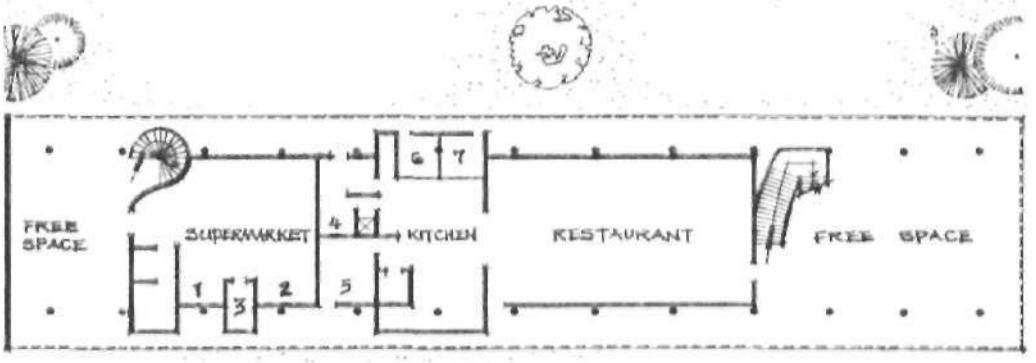
students' union b
obafemi awolowo
university, ile-ife.



SITE PLAN

FIGURE: 12

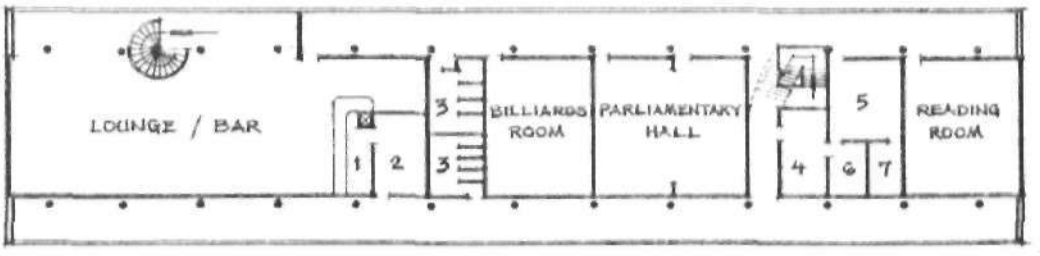
STUDENTS' UNION BUILDING, O.A.U., ILE-IFE



LEGEND

1. Beauty salon
2. Barbing salon
3. Store
4. Store
5. Private dining room
6. Photography studio
7. Printing/ binding rm.

GROUND FLOOR PLAN



LEGEND

1. Snacks bar
2. Store
3. Toilets
4. General office
5. Committee room
6. Secretary's office
7. President's office

FIRST FLOOR PLAN

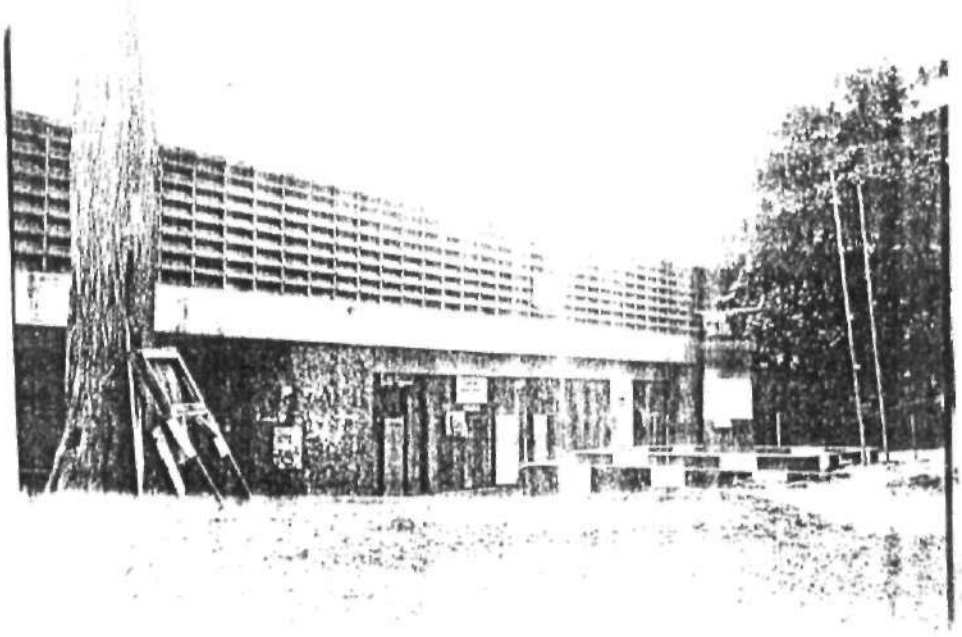


PLATE : STUDENTS UNION B[illegible] UNIVER[illegible]
OF IFE



PLATE 6: STUDENTS UNION BUILDING, O·A·U, IFE-IF
WITH GYMNASIUM AT THE BACK.

These is no multipurpose hall or auditorium, it might be due to its closeness to the Oduduwa hall.

Facilities provided are grossly inadequate, causing the emergence of scattered kiosks by the students union building.

The space around the centre is not properly landscaped.

3.4 STUDENTS' UNION BUILDING, UNIVERSITY OF KEELE, STAFFORDSHIRE (U. K.)

Client: University of Keele, Staffordshire.

Site Location: Building is located close to the students dormitory and the University's water tower (fig. 7)

General Description: Facilities are accommodated on three floors.

The first floor houses the main communal spaces like the ballroom, lounges, drinking and snacks bars and the kitchen arranged "ensuite" round a central circulation area. This area uses full height from the ground floor concourse. Terraces and staircases are also provided on the floor, including a terrace opening off the lounge cantilevered over the main entrance doors (fig. 8)

The ballroom which is the most conspicuous part of the whole building is of double volume with a shallow domed roof (big) Directly under this ballroom are offices for the union executives. There are provisions for committee rooms, three of which have collapsible partitions and could be opened into one large volume when the need arises to give way for larger meetings. The remaining part of the grand floor houses the bank, the shop, a barbing shop, cloakrooms, stores and workshop which opens into a courtyard at the back (fig. 9)

The recreational spaces are provided on the second floor of the building (fig. 10)

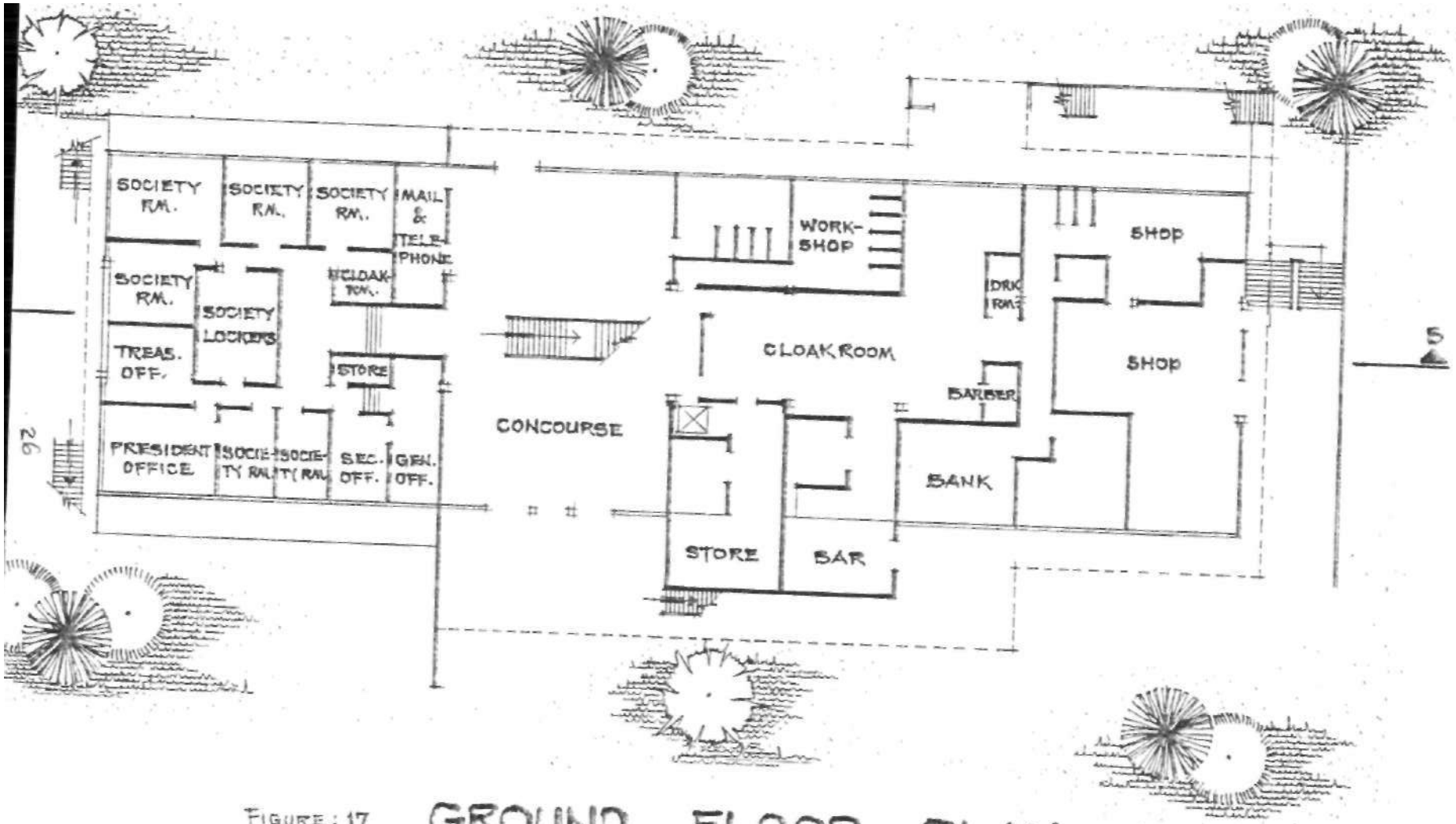


FIGURE: 17 GROUND FLOOR PLAN

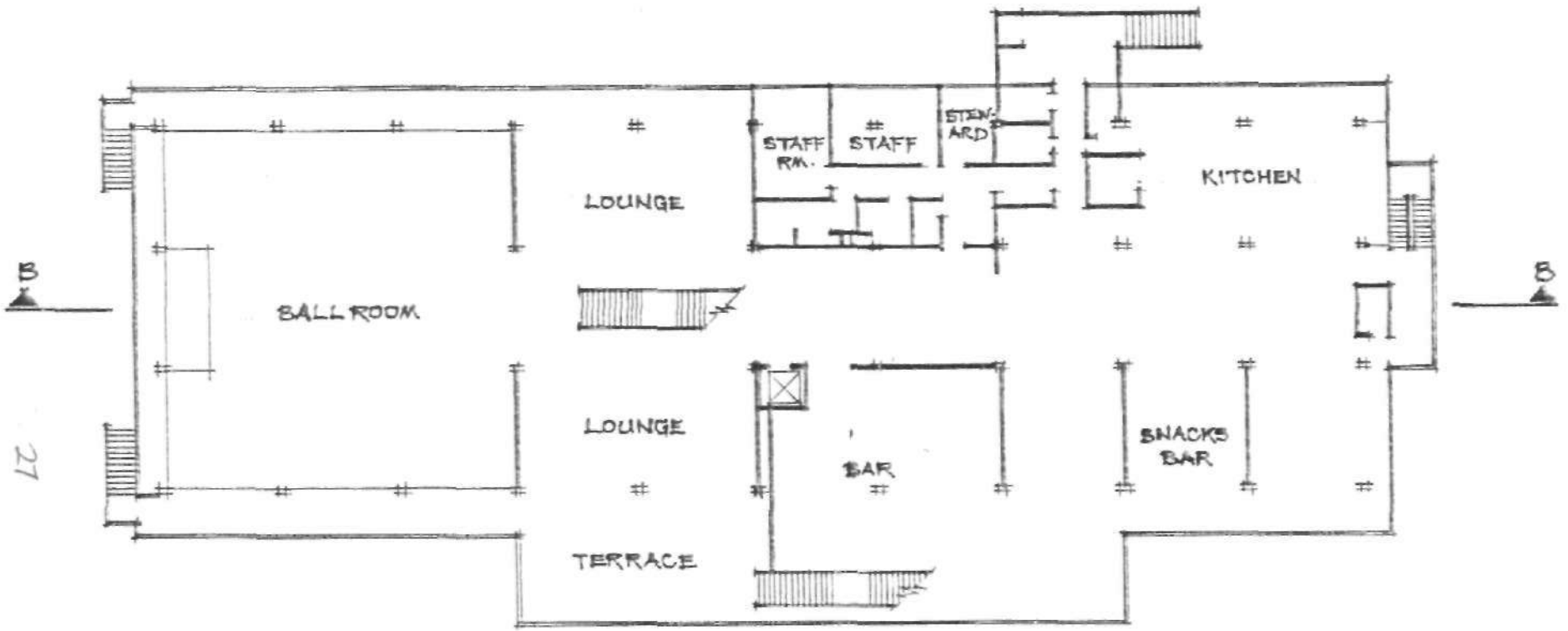


FIGURE: 18 FIRST FLOOR PLAN

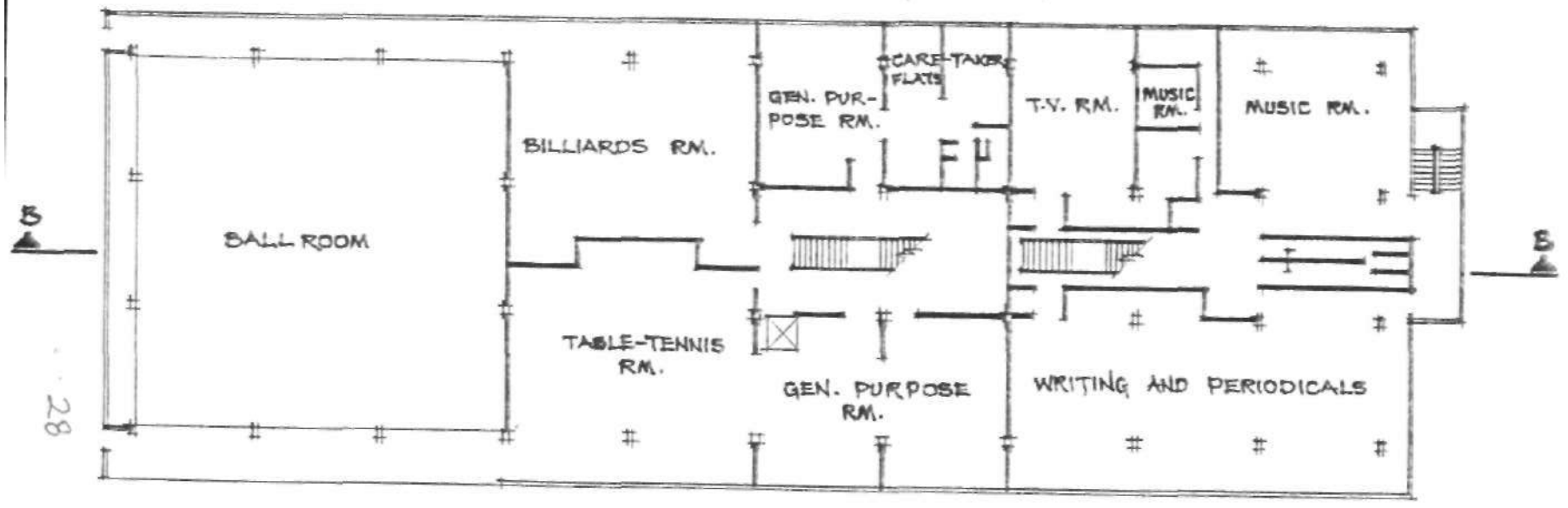


FIGURE: 19 SECOND FLOOR PLAN

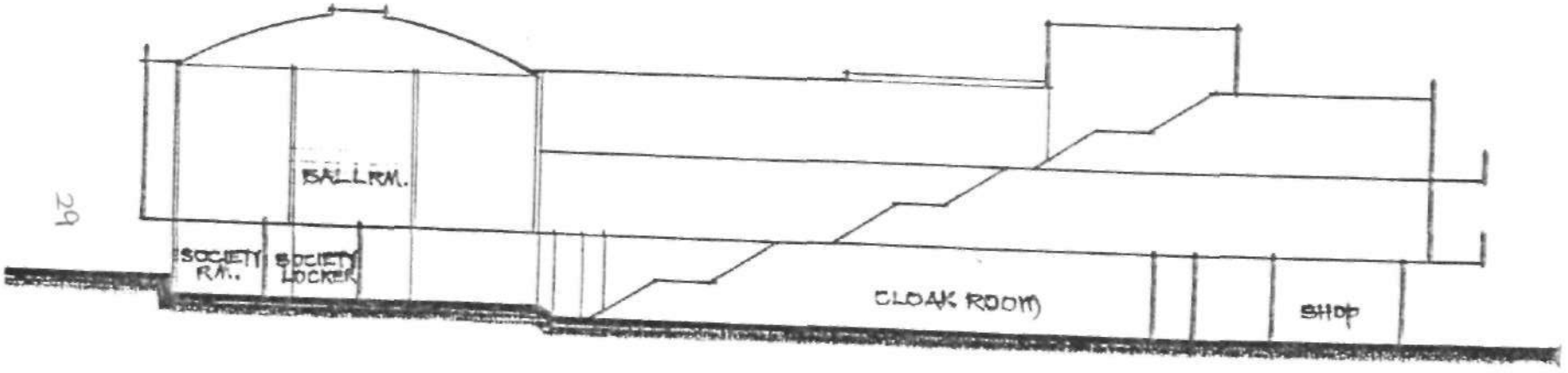


FIGURE : 20 SECTION : B - B

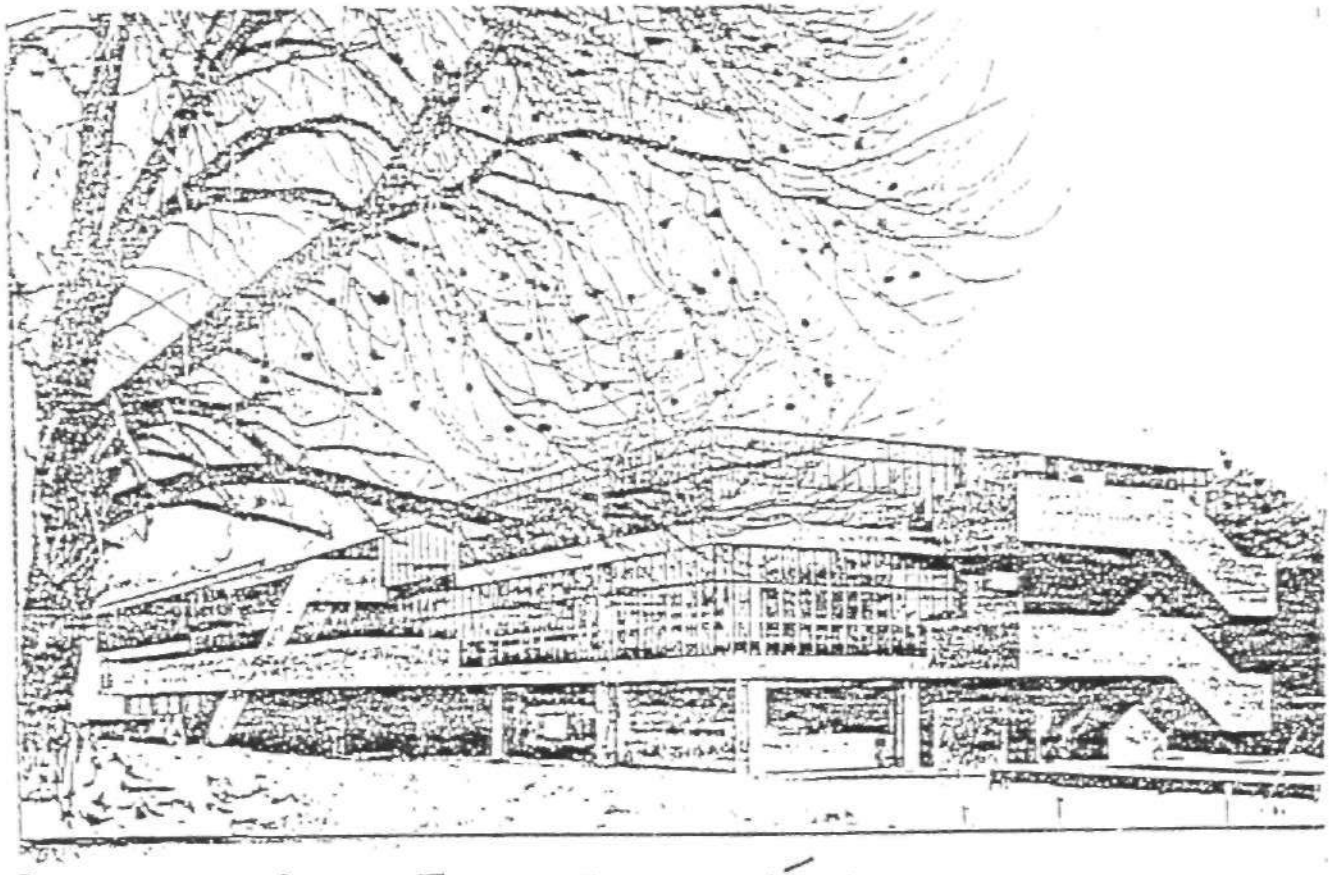


PLATE: 7 GENERAL VIEW
UNIVERSITY OF KEELE, STAFFORDSHIRE
STUDENTS' UNION BUILDING

Merits:

The building fits well into its surroundings. The form composition is very matured. There is also good pedestrian circulation, natural lighting is commendable in the building.

Demerits:

There are too many staircases in the building; there is lack of information centre or reception point for students and visitors to the building. Facilities for recreation, entertainment and services are inadequate.

3.5 STUDENTS' CENTRE UNIVERSITY OF FLORIDA, GAINESVILLE, UNITED STATES OF AMERICA

Client: University of Florida, Gainesville

Site location' The composition is L-shaped. The unit with a colonnade, formed the longer put of the L-shaped plan and the union building forming the shorter part. A pond is sandwiched between the angle of the L-shape making it a social point (fig. 11)

General description: The students' centre stands on eight floors; the first five floors are for general activities whereas the last three floors are used as guests accommodation and president's residence and some other union activities.

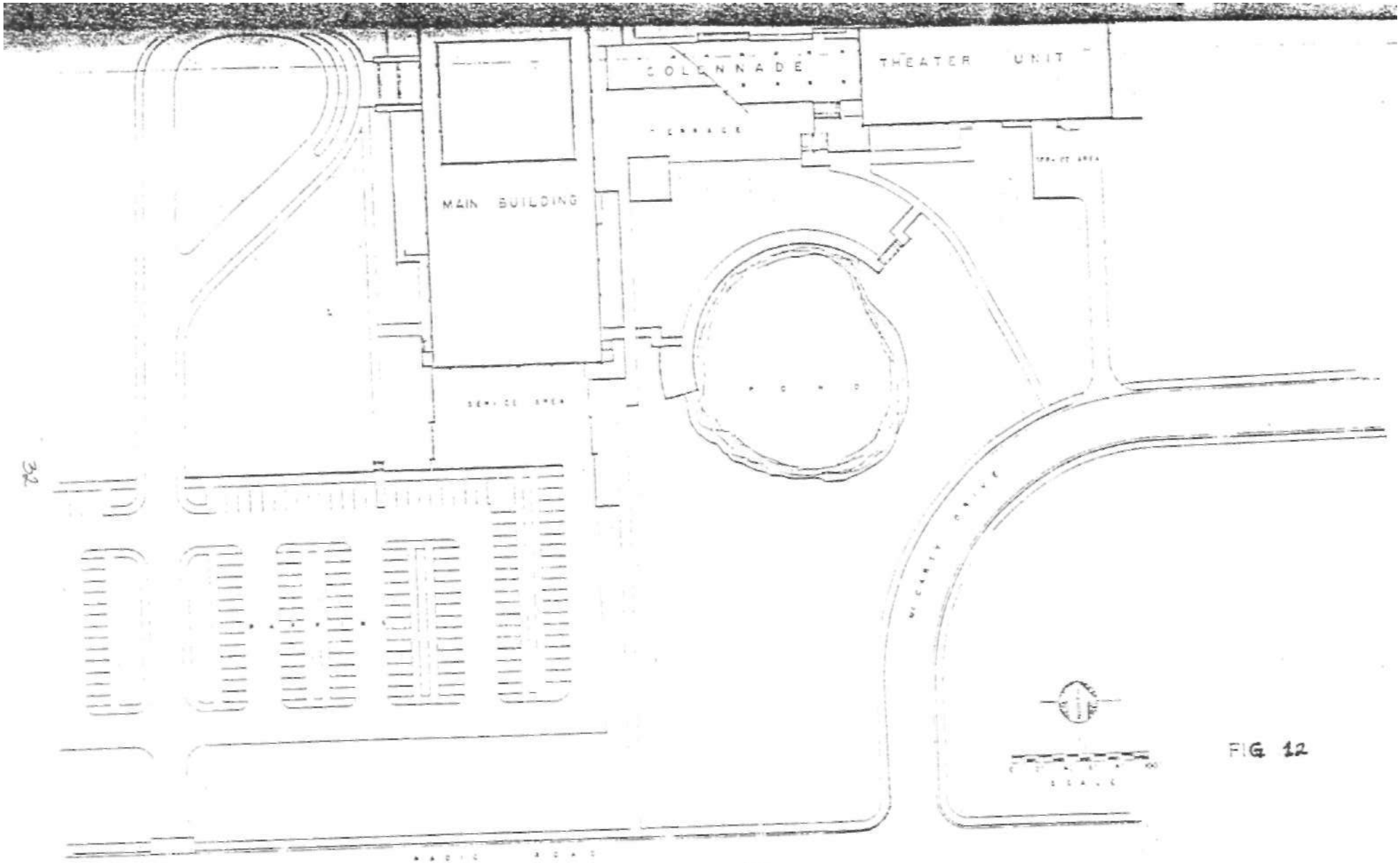
Merit:

The centre has adequate parking space with a drop off at the main entrance of the main building; vehicular and pedestrian ways are well planned.

The centre has wide variety of activities, thus making the scheme viable for the present and the future.

Demerits:

There is absence of outdoor recreational space which can be attributed to the temperate climate. It is inward looking.



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FIG 12

SITE PLAN

FLORIDA UNION UNIVERSITY OF FLORIDA GAINESVILLE



BASEMENT FLOOR

FLORIDA UNION UNIVERSITY OF FLORIDA GAINESVILLE

FIG. 13

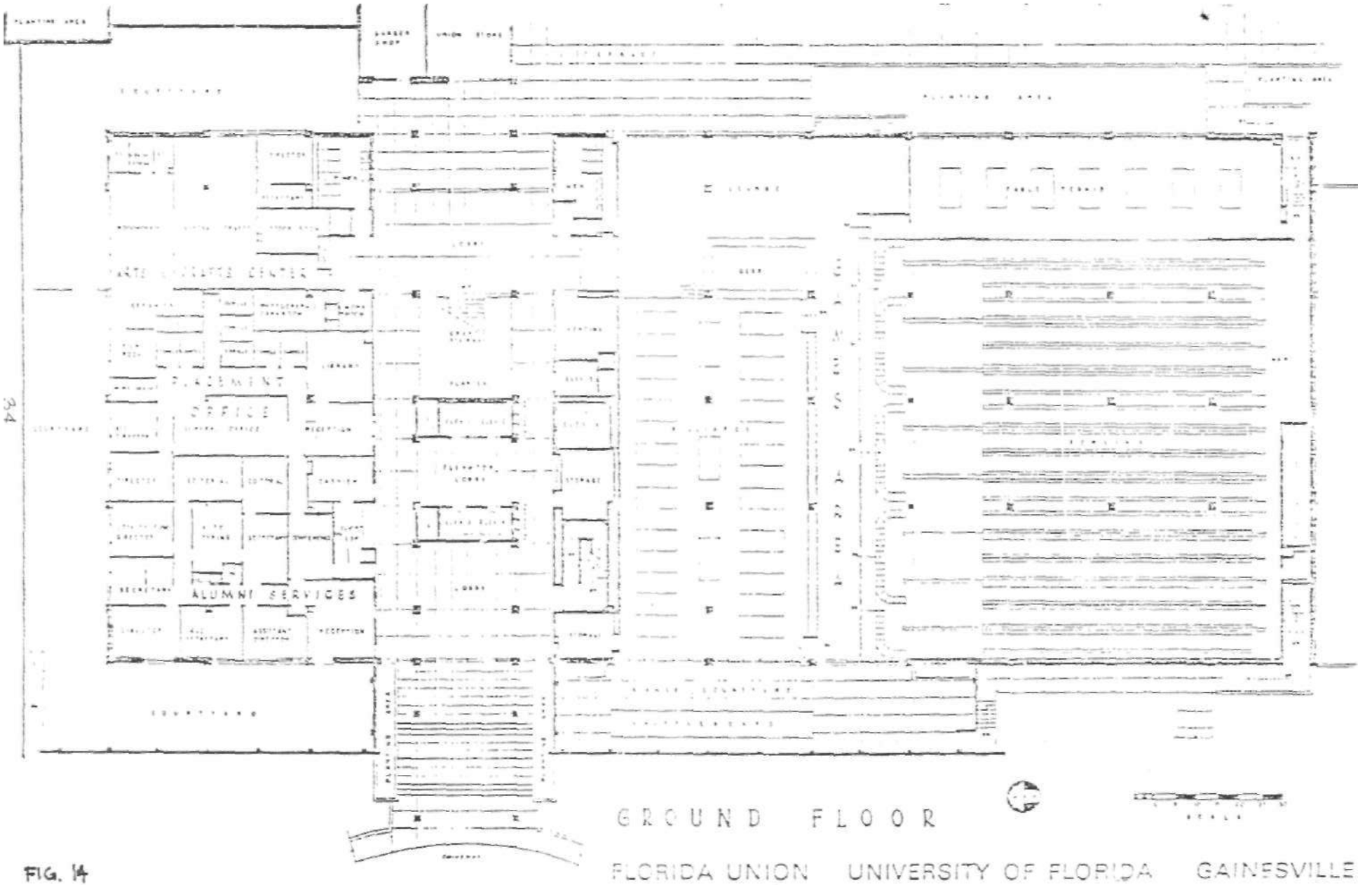
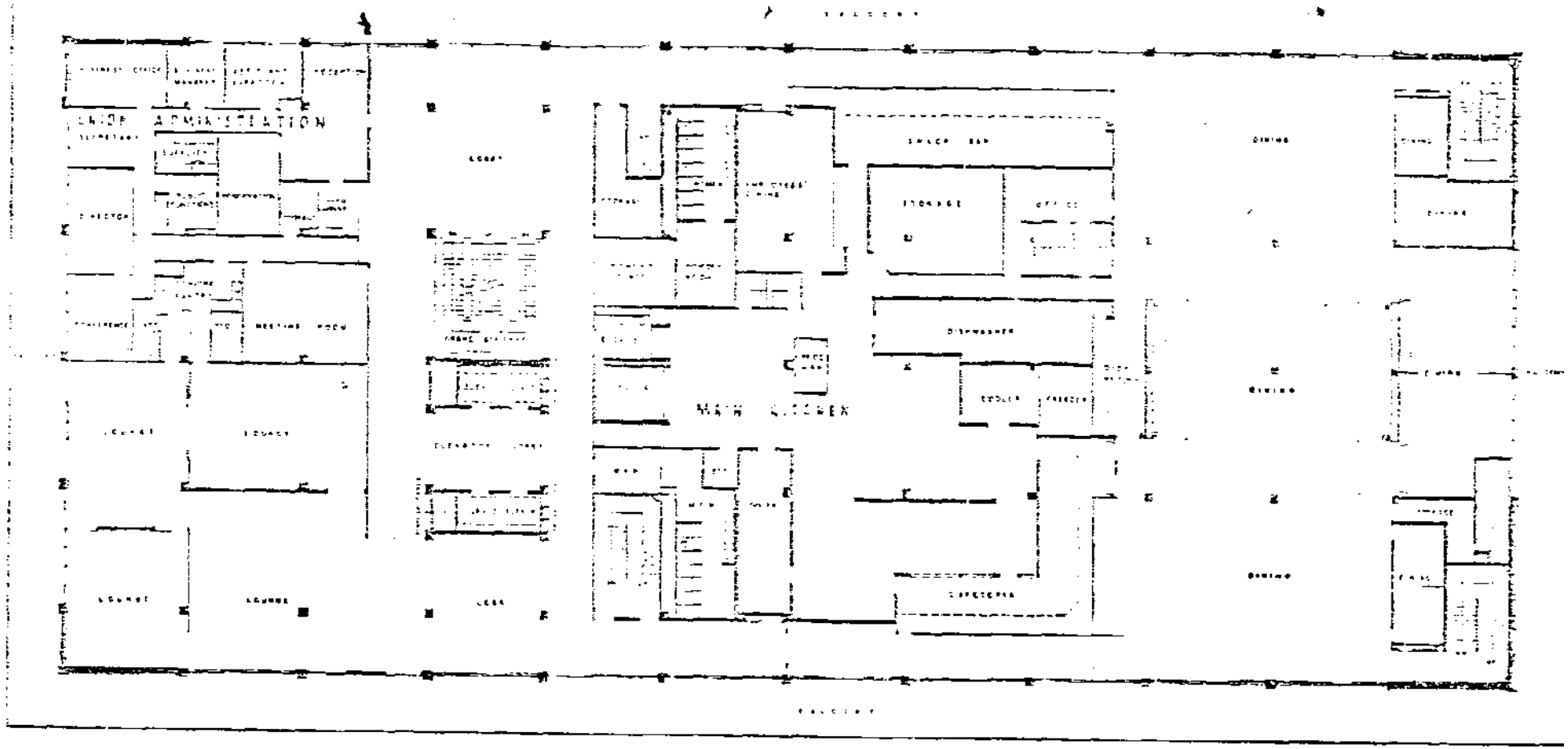


FIG. 14

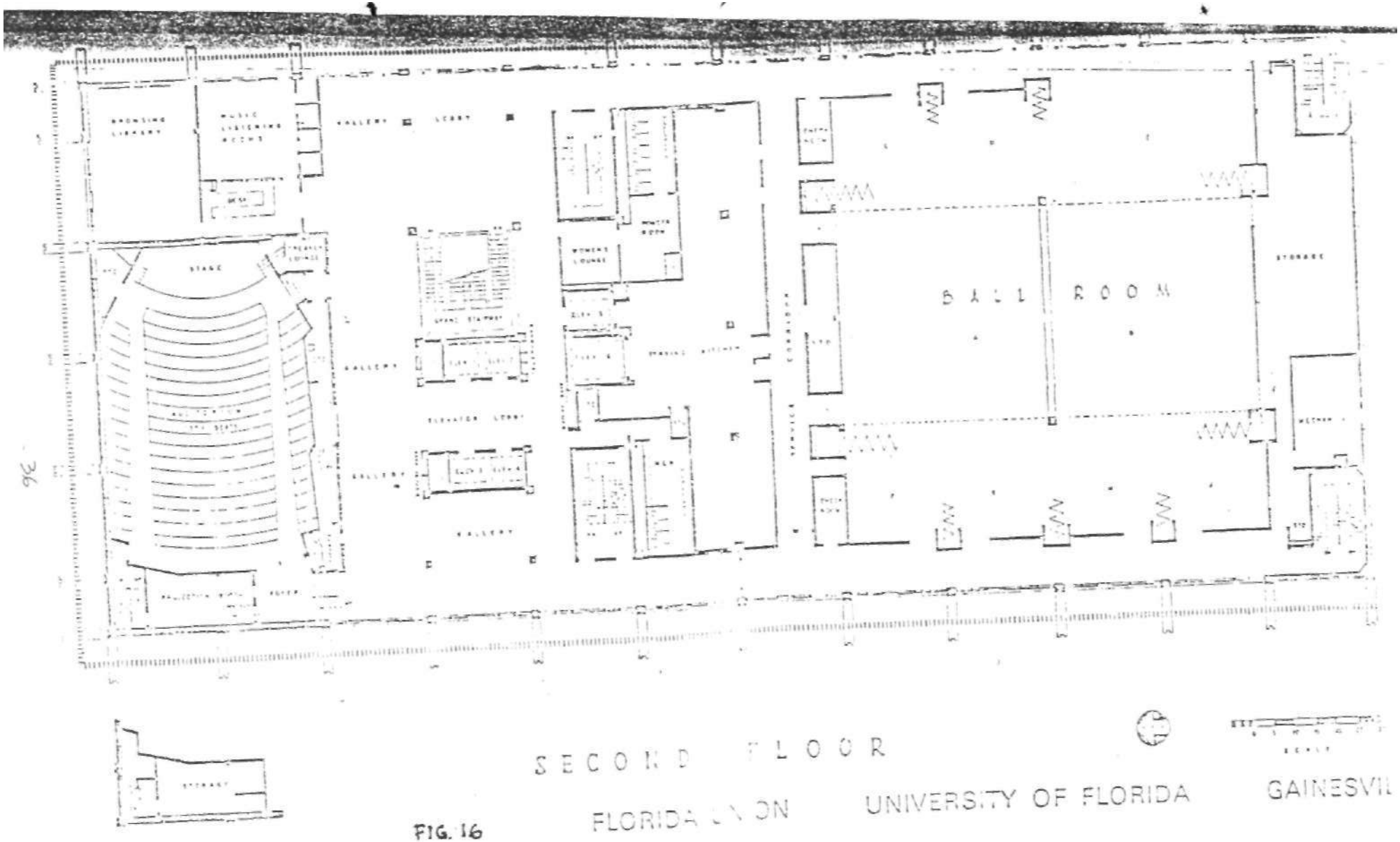
FLORIDA UNION UNIVERSITY OF FLORIDA GAINESVILLE



35

FIRST FLOOR

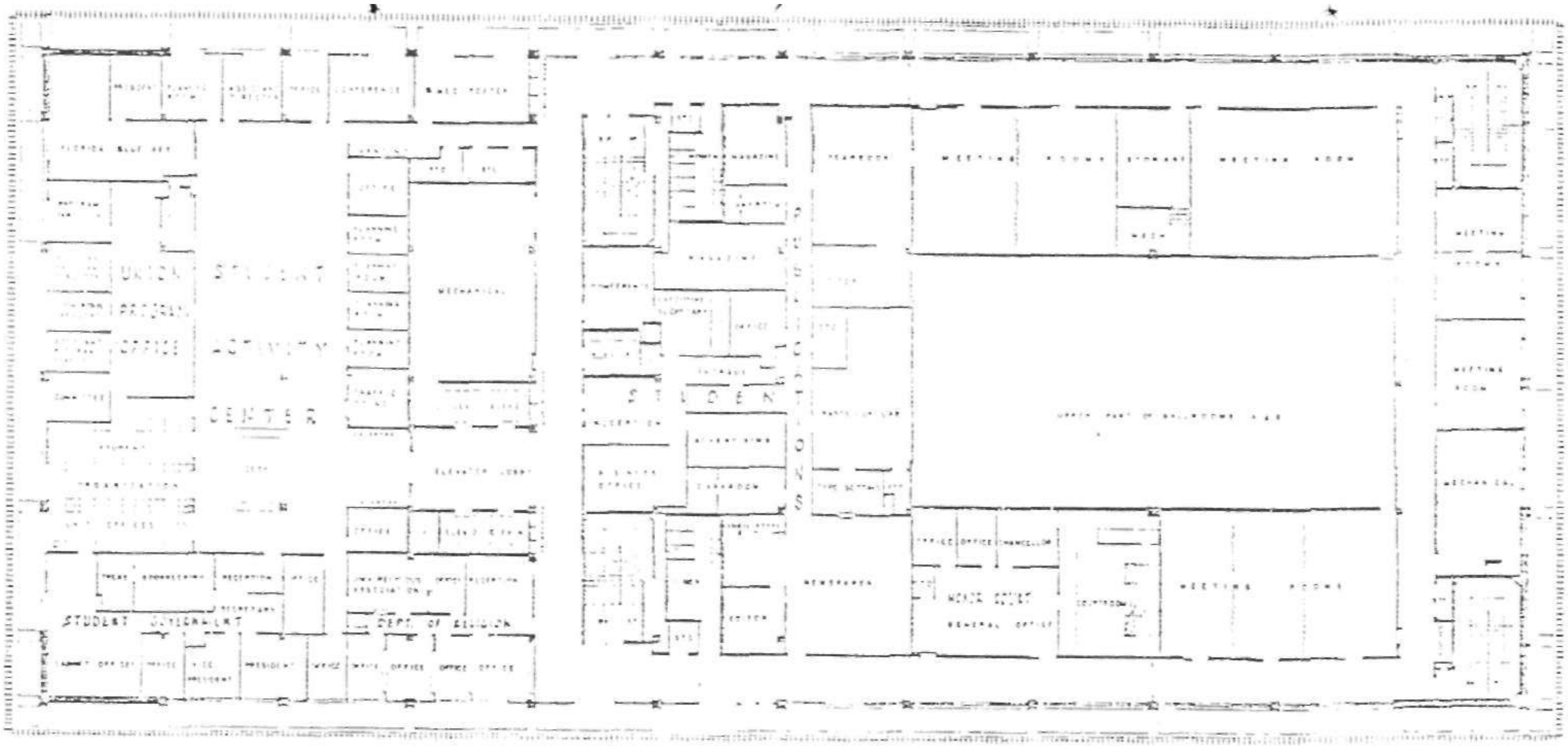
FIG. 15 FLORIDA UNION UNIVERSITY OF FLORIDA GAINESVILLE



SECOND FLOOR

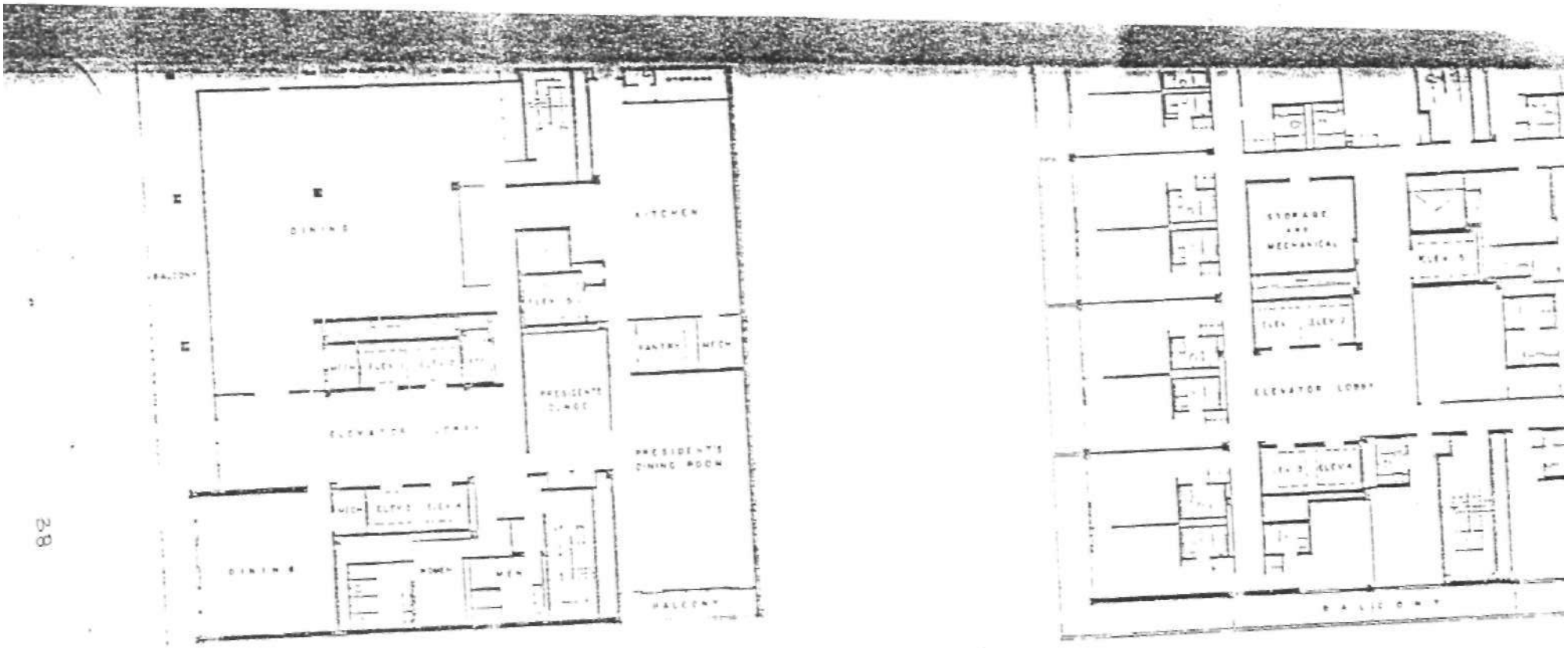
FLORIDA UNION UNIVERSITY OF FLORIDA GAINESVILLE

FIG. 16



THIRD FLOOR

FIG. 17 FLORIDA UNION UNIVERSITY OF FLORIDA GAINESVILLE



FOURTH FLOOR

FIFTH & SIXTH FLO
GUEST ROOM A

FIG. 18 FLORIDA UNION UNIVERSITY OF FLORIDA GAINESVILLE

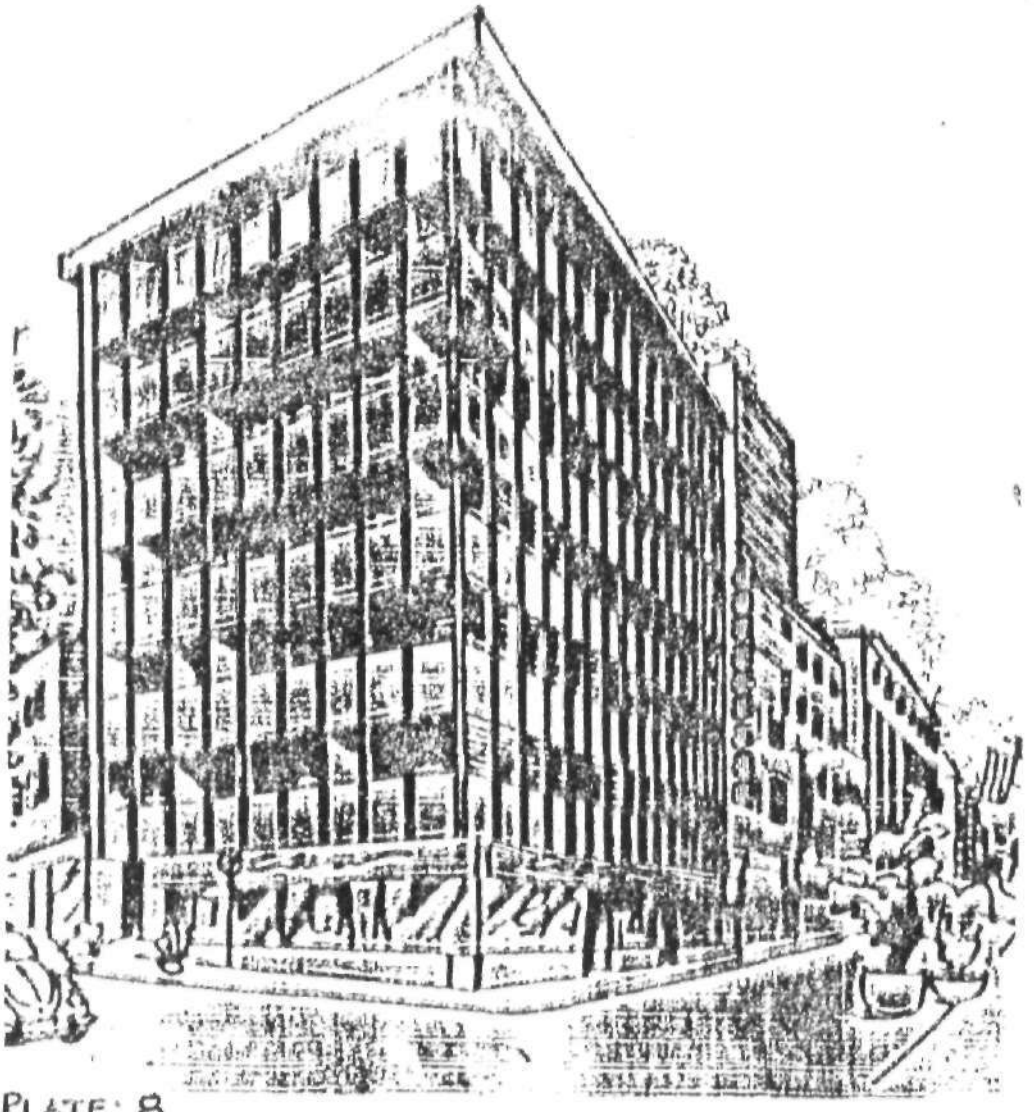


PLATE: 8
SIDE VIEW OF THE STUDENTS CENTRE
SCENERY, UNIVERSITY OF FLORIDA, GAINESVILL

CHAPTER FOUR

DESIGN CONSIDERATION

4.0 TOWARDS EFFECTIVE LANDSCAPING TO ENHANCE RECREATIONAL QUALITIES

Weddle (1979) defines landscape as "outdoor elements in full range of nature and some artificial elements around us" It is also what people have made of their environment after nature has handed it to them

The quality of landscape affect the physical and mental health of the users. It is indeed the well planned and sensitivity designed integration of public facilities that brings landscape to life and gives it vigour and vitality. (Garret Eckbo 1969)

In spite of the crucial role landscape plays in any environment much care and attention is not given to many students centres in Nigeria

Architecturally, landscape in the design process makes it possible to control the quality of our surrounding and helps to establish a direct recreational relationship between man and nature

Landscape effects are noticed in different areas, in the area of social interaction, they can either enhance it or discourage it depending on the seating arrangement, when the seats are facing each other interaction is enhanced out if they are arranged back to back, interaction is discouraged

It also provides an extension to the indoor facilities through the use of lawns and paved areas.

It also creates a refreshing, relaxing garden atmosphere within the complex. It also reduces the effect of noise. It demarcates areas and provide visual barriers. It

introduces changes in texture, colour and shape in the environment. At the same time it provides privacy.

Therefore it is very important to take it into consideration the effect of landscape on the users of the centre.

To enhance recreation which ultimately gives users maximum satisfaction, certain points have to be considered.

Natural elements like rocks, plants and water should come into play, to make users closer to nature and to refresh them.

An hilly site has the advantage of height which gives good views of the surrounding, stepping of the slopes will look beautiful and will make it easier for them to move from lower to higher places and vice versa.

As many seats as possible should be provided at good positions in the complex. Durable materials should be used.

Provision should be made for litter bins and positioned at strategic places in the premises.

Plants containers of different sizes shapes and colour should be used to create good effect.

Sculptures should be placed at strategic position to enhance beauty of landscape and be a focal point. Water bodies like fountain, pond could also be introduced.

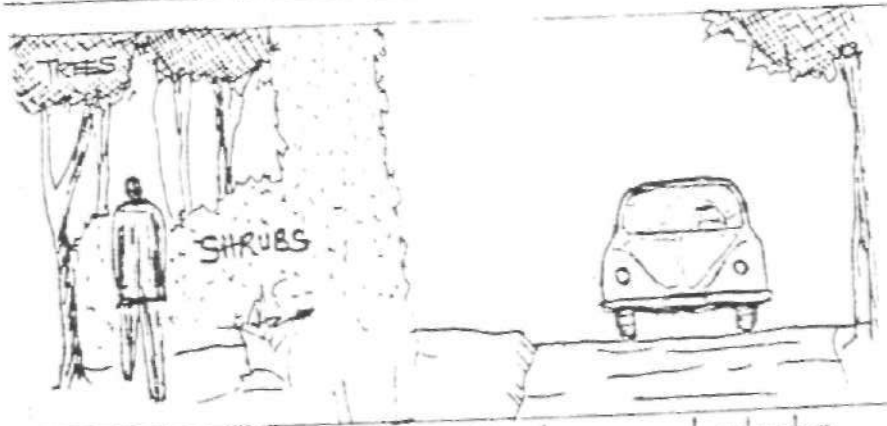
Laity and most of all through and proper maintenance of these landscape elements should always be done. Some of the landscape elements (natural and artificial) which shall be considered during design process are illustrated in fig 21 - 23)



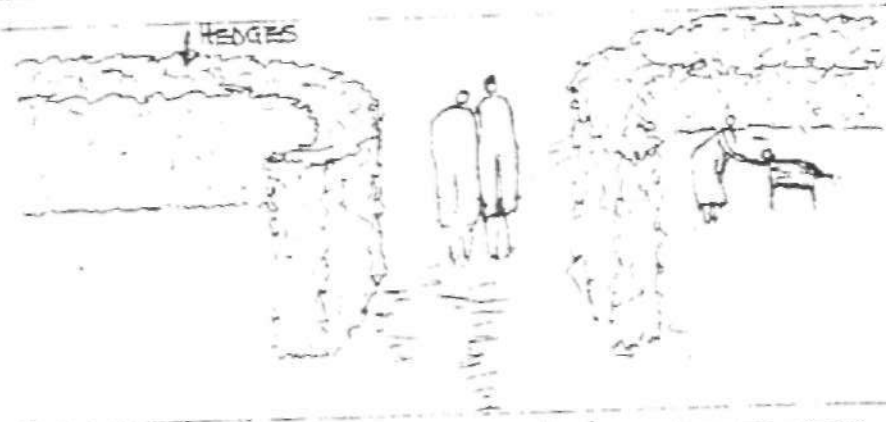
screening undesirable view by the use of trees - visual screening, not as effective as when hedges are used.



hedges are best for an almost total visual screening compare with screening by trees.



privacy control planting with trees and shrubs visual enclosure. Also not as effective as when hedges are used.



privacy control - planting using hedges proves more effective than using trees and shrubs which leave the ground level still exposed

FIGURE: 19
SOURCE: ROBINETTE G.O. PLANTS AND ENVIRONMENTAL QUALITY - (1972)

➡ PRIVACY CONTROL / SCREENING OF OBJECTIONAL VIEW

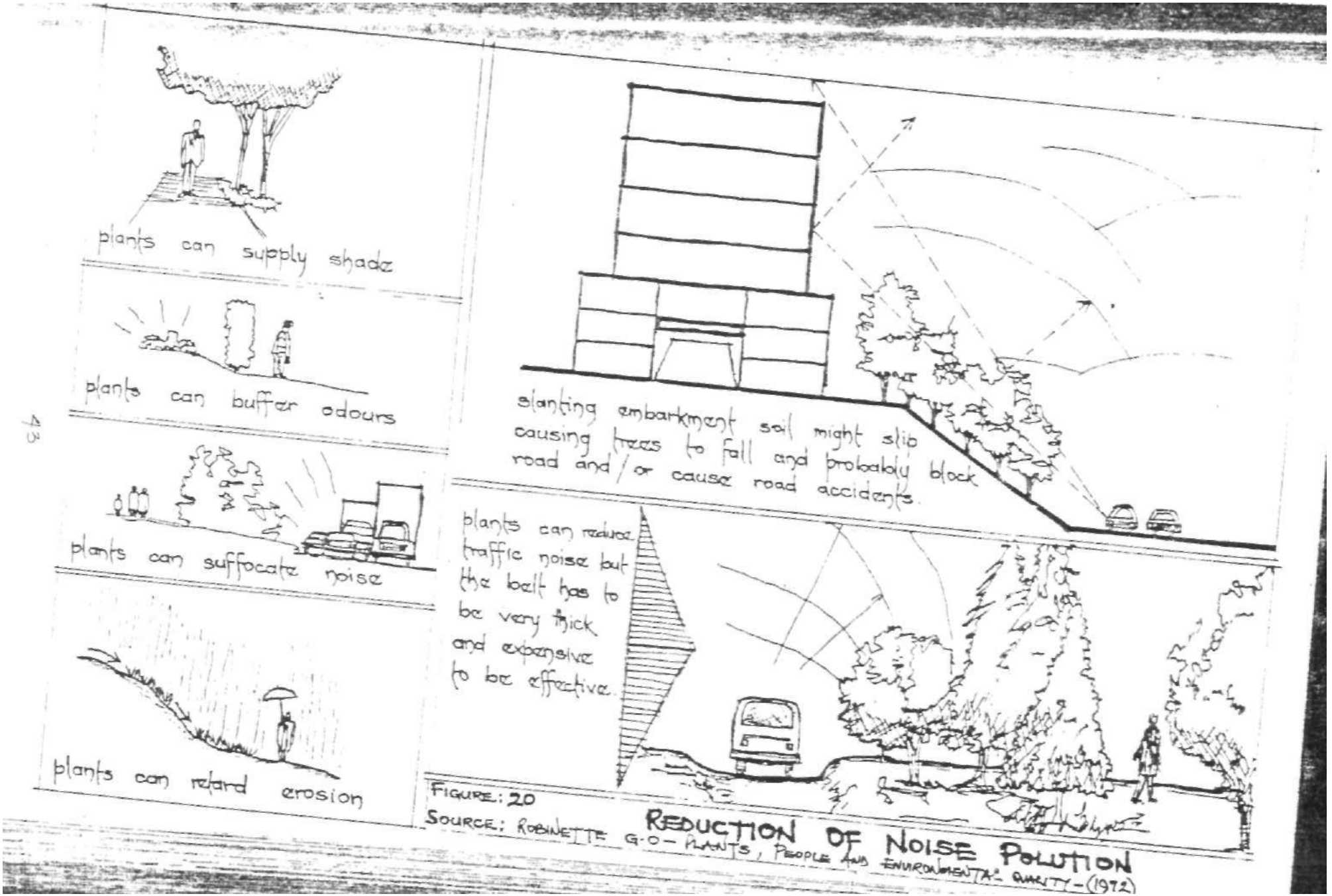
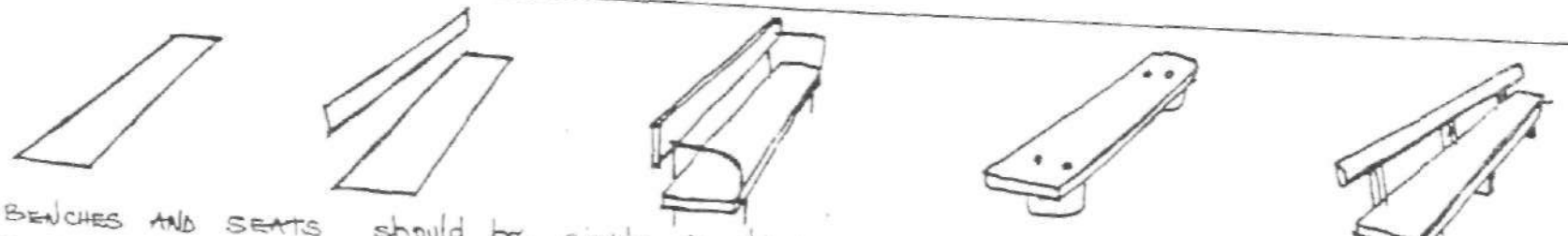


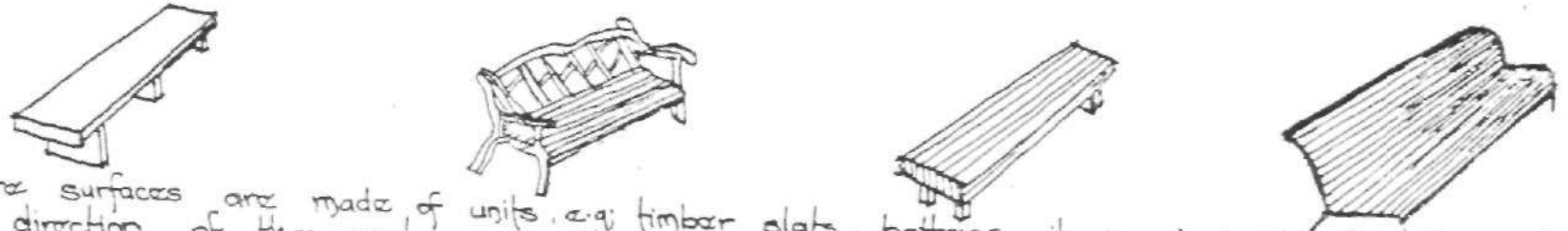
FIGURE: 20

SOURCE: ROBINETTE G.O - PLANTS, PEOPLE AND ENVIRONMENTAL QUALITY - (1972)

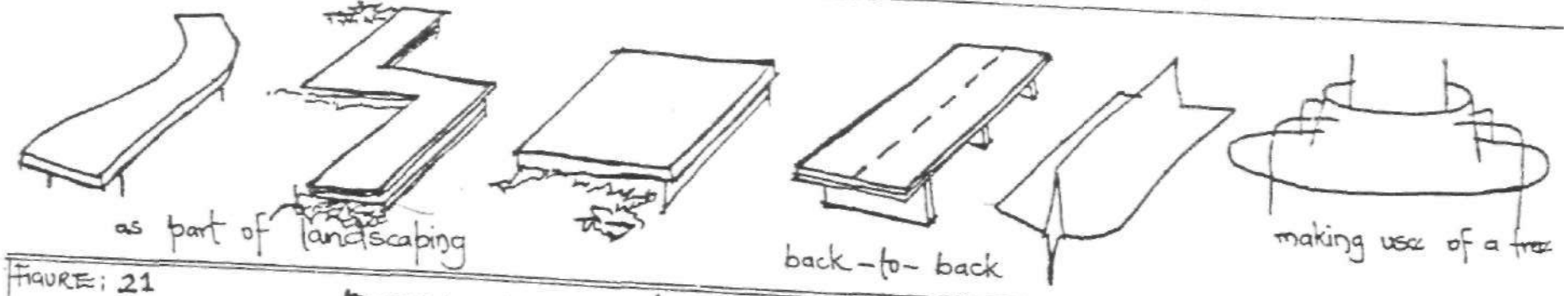
REDUCTION OF NOISE POLUTION



BENCHES AND SEATS should be simple in design. Basic requirements: - without back, with back, and with back and arms, simplest interpretations are of timber, thus, (seats & backs are as far as possible of one piece, or of stone or concrete



where surfaces are made of units e.g. timber slats, battens, it is desirable for them to follow the direction of the seat, as shown, below.



as part of landscaping

back-to-back

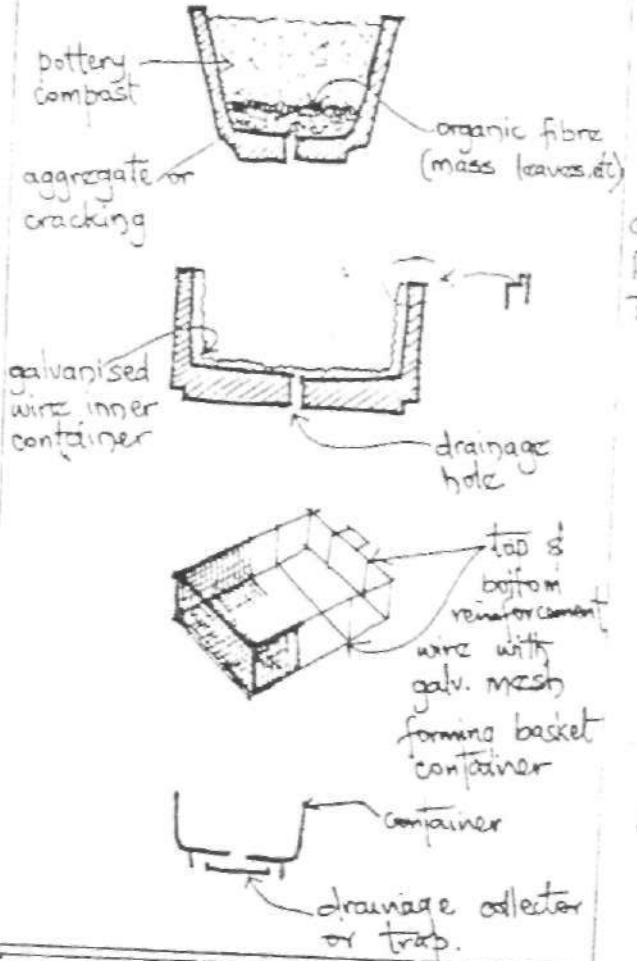
making use of a tree

FIGURE: 21

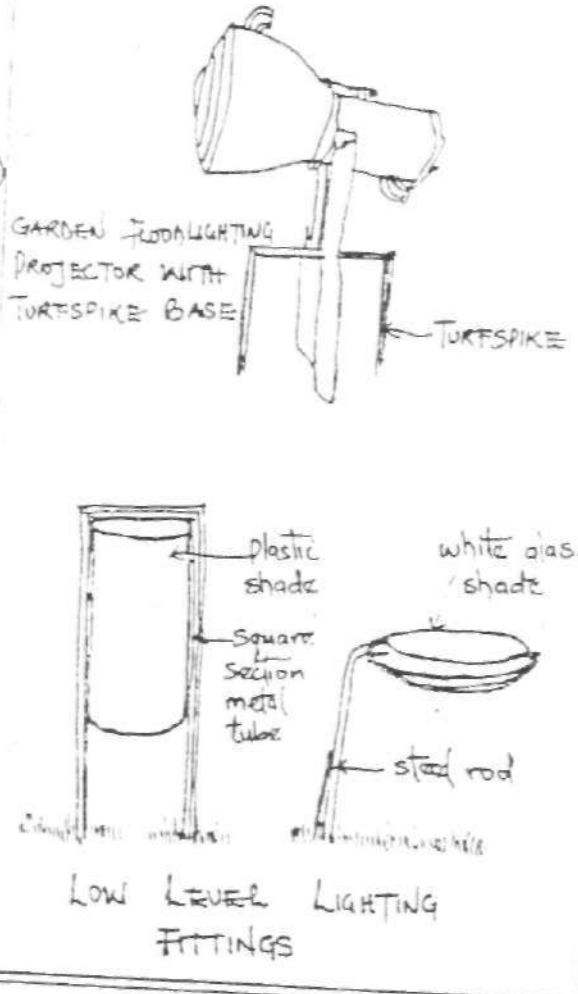
DESIGN PRINCIPLES FOR SEATS

SOURCE: WEDDLE A.E. :- TECHNIQUES OF LANDSCAPE ARCHITECTURE

PLANT CONTAINERS

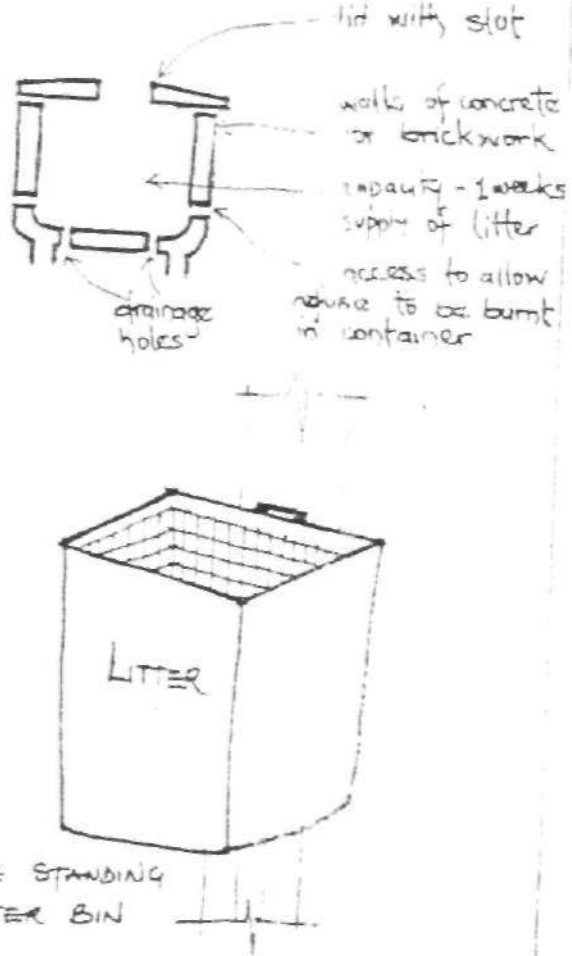


GARDEN LIGHTING



LOW LEVEL LIGHTING FITTINGS

LITTER BINS



FREE STANDING LITTER BIN

FIGURE: 22

OUTDOOR FITTINGS

SOURCE: WEBBLE A.E.;- TECHNIQUES OF LANDSCAPE ARCHITECTURE

4.1 ACCESSIBILITY

A students' centre must be accessible to both pedestrians and vehicles but differentiated to give a logical route network. Access should be effected from important sides of the building with emphasis. A car park is also necessary for visitors and students.

4.2 LOCATION ON CAMPUS

This is a very important factor as it determines how effective the centre would be used. The closer it is to the users, the more effective it will be used. The centre should be located close to the students hostels and not too close to the academic area because of noise and at the same time close to the campus entrance for visitors to go, make enquiries and interact with students.

4.3 TYPES OF FACILITIES

the daily life of the users on campus will determine the type of facilities that will be adequately provided.

RECREATIONAL FACILITIES

Television room

Space shall be provided in the centre for television and cable satellite watching

Games room

The space will be devoted to games such as table tennis, billiard, cards, ludo, chess and so on. A store will also be provided for storing of the games equipment's.

Multipurpose hall

This shall be used for social functions like club, drama, plays and film shows, it could also be used for public lectures or seminars. It shall comprise of the main auditorium, backstage facilities , store and project room,

Browsing Room

For the students to read through magazines/novels or newspaper in relaxed manner even while taking drinks meeting and share common interests. It can also be used to dine in the open air and relax.

Outdoor Terrace

For the students to use for informal meetings and share common interests. It can also be used to dine and relax in the open air.

Landscaped Garden

It serve as the local point of the building from where the different facilities are accessed and integrated.

Arts and Crafts Shop

It will be designed to provide our indigenous works of art to be bought or appreciated' by users of the centre. Items such as paintings, carving, ceramic among others on display.

Photography studio

This will be designed to provide photography services to students. It will also be used by interested students to learn photography even as a hobby.

COMMERCIAL FACILITIES

Supermarket

This could be leased out to big names in supermarket operations like leventis, UTC and others. The basic students' shopping needs for household items like detergents, provisions, soaps and so on will be met in this supermarket.

Chemist

It will provide medication for doctors prescription, disinfectants, antiseptic soap cream.

Community Bank

There is no Bank branch on the campus presently, therefore provision of this one will serve students and the school population.

Postal Services

This will be provided for the school community for effective despatch and arrival of mails.

Telephone Services

This space will be provided to improve communication link between the school community and the outside world.

Hair dressing salons.

This will serve female students for taking care of their hair instead of going all the way to town for the same service.

Browsing room:

For students to read through magazines, novels or newspapers in a relaxed manner even while taking drinks.

Outdoor terrace

For the student to use for informal meetings and share common interest. It can also be used to dine and relax in the open air.

Barbing salon

This will as well serve the male students instead of going out of campus to get their hair barbed.

DINING FACILITIES

Cafeteria

The cafeteria will be provided to improve the existing situation on campus. It will be affordable to the average student but they will have to queue up to be served their meals

Restaurants

This will also be provided to cater for students and their guests. It is a more formal way to diner and will be served by waitress or waitresses.

Snack bar

It will provide students with light meals, snacks and drinks in form of take-a-ways or eat -ins.

Suya Joint

An open space for preparing and eating suya, to be used by students and their guests.

EDUCATIONAL FACILITIES

Stationary centre:

This will cater for student' academic needs like writing materials, drawing materials, novels, magazines and so on.

Photocopy Centre:

It will be used by students to photocopy materials for lectures assignments and so on.

Typing Pool:

It also provide students with typing facilities to type their assignment, class work and projects.

Binding and Laminating Centre:

Also to aid students in binding and laminating academic materials.

Meeting Rooms:

It will provide school's associations or clubs venue for their weekly or monthly meetings.

Computer Centre:

This will provide students with computer services like computer training for interested students to take computer lessons on how to use computer and to use them for their school projects.

Newspaper and magazine stand:

This space will be used by students to obtain current news around the world in a conducive atmosphere.

ADMINISTRATIVE UNIT OF STUDENTS' UNION

These spaces will form centre of co-ordinating all the activities of the students' centre. The students' union is the care taker of the centre.

Student's Union Offices:

These offices will be used by key union officers like the president, vice president, secretary general, PRO, welfare secretary, social director, sports director, health secretary and the rest.

General Office:

This will accommodate employees and their activities like file and booking clerks, typist and to file records.

Parliamentary Chamber:

This will be a large hall designed for students house of representative for parliamentary meetings.

Guests Accommodation:

This is earmarked for students union of other schools when they come for students union activities in the school.

It would also be used by guests of the students union executive for short periods.

Miscellaneous:

Lettable spaces will be provided for other facilities that the need will arise.

4.4 **SAFETY OF USERS AND PROPERTIES**

The factors to be considered for safety are fire, burglary and accident zones.

Fire: For the centre to be safe from fire outbreak, fire zones like the kitchens should be constructed with fire resistant materials and demarcated from the other units. There should also be an effective means of quenching fire in case it occurs.

Burglary: For properties safety, entrances outside will be minimal, with locks and windows will have burglary proof. There will also be security posts and good security lights.

Accident Zone: Accidents zone should be as minimal as possible, circulation pattern will be well-articulated to prevent collision and safe materials to be used on floors, stairs etc.

4.5 COMFORT OF USERS

For users' comfort, ventilation, lighting, service area, power supply,
Ventilation: Natural ventilation will be minimised; cross ventilation will be put to use. Artificial ventilation should be as minimal as possible.

Lighting: Use of artificial lighting during day time will be avoided, dark corridors or interiors will not be introduced, natural light into the building would be encouraged.

Service Area: Includes, service routes, toilets and wash rooms. They should be well designed and planned for users, their sizes should be adequate and their number sufficient for estimated use. Service route should lead directly to the loading bay and separate from the main route.

Power Supply: There will be direct power supply from the school's source. And during power failure, there is provision of generator to be maintained by the money paid by the owners of the lettable spaces.

4.6 AESTHETICS

This is the physical character of the building. It is to be pleasant to look at, blend with the environment and not struggle for identity. The facades of the building should be appealing, inviting and beckoning to any looker.

4.7 DISABILITY FACTOR

For comfortable usage of the site by the disabled persons, ramps will be provided, circulation area will be designed with their consideration.

4.8 MATERIALS SPECIFICATION

The proposed project shall constitute of reinforced concrete block and load bearing sandcrete block. Reinforced concrete columns and beams will also be used.

The auditorium shall be of reinforced concrete construction and steel frames and girder lopped with light-weight insulating wood stud shall act as roof members

The other units shall be roofed with hard wood timber, insulated with wood slabs and covered with corrugated aluminium roofing sheets.

Paved areas shall be of cast-in-site concrete and chipped granites in some parts. For covered walkway, reinforced concrete columns will be used to carry the roof members.

The finishings include wall rendering, terrazzo cast insitu on floors. Stone rubble will be used on slopes of the site and precast store chipping fascias will be used on some walls.

CHAPTER FIVE

STUDY AREA

5.0 KADUNA STATE IN VIEW

Historical Development

"Kaduna is a derived from 'Kadduna' which is the Hausa word for Crocodiles. There was a time when crocodiles infested the Kaduna river, so both the river and the town were named after the creatures.

The metropolitan city of Kaduna was laid out about a century ago as the administrative and military capital of what was then the protectorate of Northern Nigeria. This was carried out by Sir Frederick Lord Lugard, the Governor General of Nigeria in 1912.

In 1967, there was creation of states and Kaduna became the capital of North-Central State on the creation of Kaduna State, Kaduna remained the capital. In 1987, Katsina Province was also carved out of the original Kaduna State (frg).

LOCATION

Kaduna State lies in the centre of Northern Nigeria. It is located between latitude 9o -144o North of the equator and it is bounded by Kano, Katsina, Sokoto, Bauchi, Plateau, Nassarawa, FCT and Niger States.

It covers an area of 67,993 square kilometres and its population (from 1985 census) was 8.297 million. And the indigenous population consist of the state include Hausa, Fulani, Gbagyi, Kagoro, Kaje, Jelsa, Kataf and Kadara.

RELIEF AND DRAINAGE

There are few rivers in Kaduna State, the main one is the River Kaduna which takes its source from somewhere on the highlands around the Jos Plateau. The water is

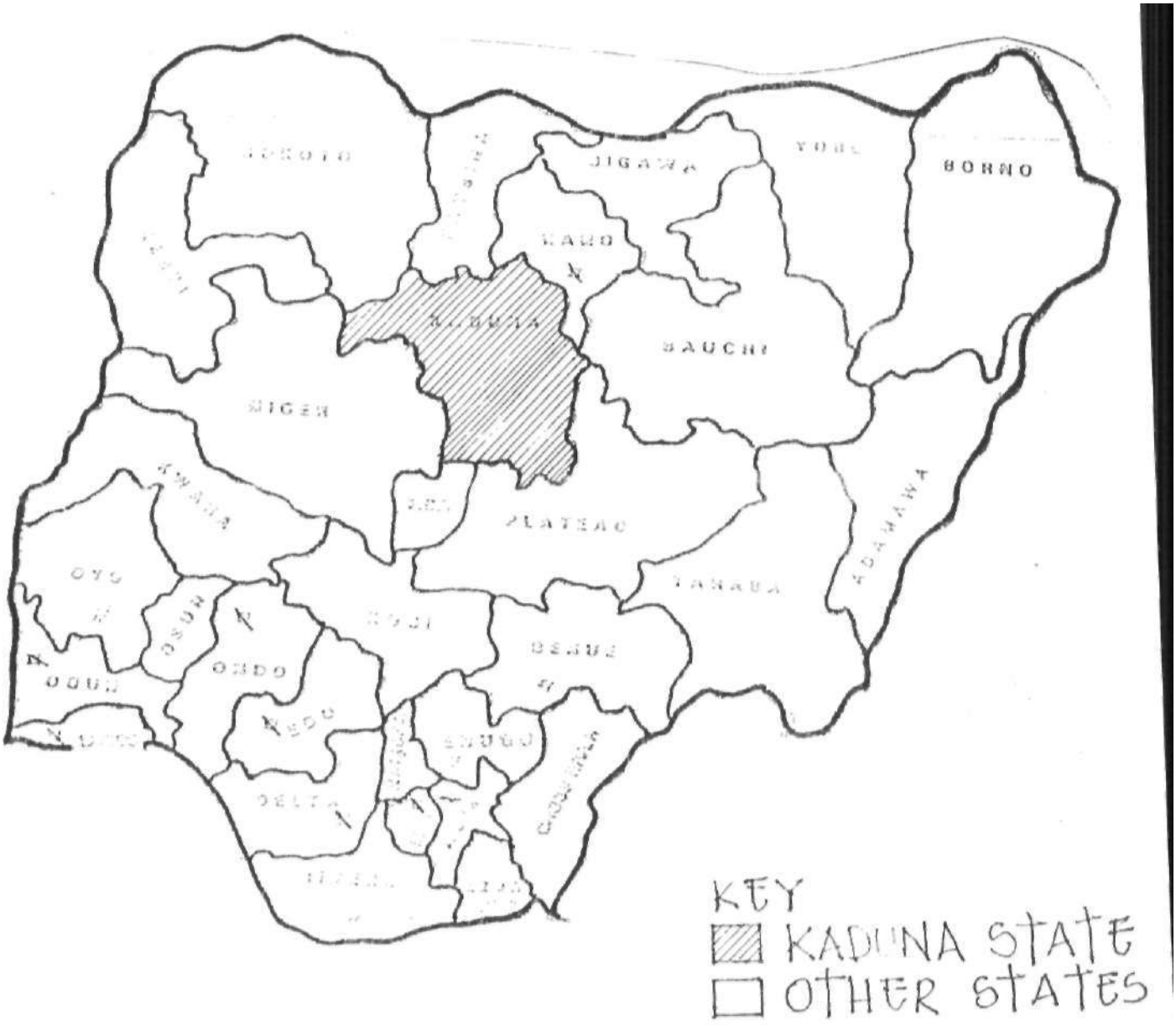


FIG 24: MAP OF NIGERIA SHOWING THE STAT

KADUNA ST



FIG. 24: MAP OF KADUNA STATE.

STUDENT

463160

not navigable year round because in the dry season, the water level falls. The whole of Kaduna state is a greatly undulating plan

CLIMATE AND RAINFALL

The Kaduna state climate is marked by two distinct seasons.

i The dry season (November March)

During this period, the dusty harmattan wind, dry cold and often strong, blows from North East, straight off the Sahara region

ii The west season (April - October)

The winds during this season are usually moisture laden and bring rainfall. These prevailing winds blows from the south west direction

On the average the state enjoy a rainy season of five months. It usually starts in April till October. The relative humidity of the area is usually between 60°c and 80°c

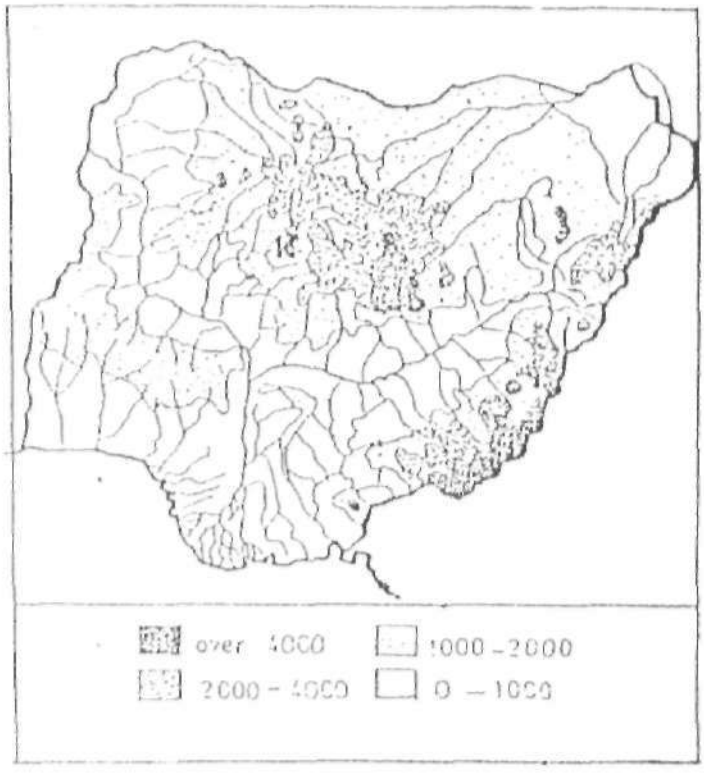
SOIL AND VEGETATION

The state extends from the tropical grassland known as savannah to scrubland in the far North. This can be roughly divided into two zones.

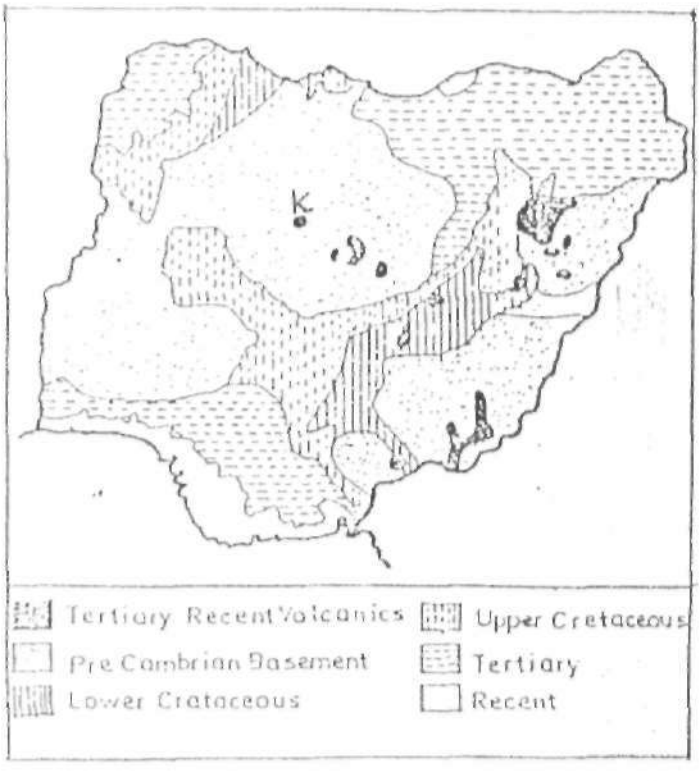
i. Guinea Savannah. The prevailing vegetation is of tall grass together with large trees. They are found dotted or in dumps depending upon the availability of rainfall.

ii. Sudan Savannah. The grass here is usually short. It is called 'veld'. The trees are short and sparsely distributed. The plants are draught resistant. The trees are frequently "fleshy" for this given supply of nourishment which can be drawn upon when necessary.

RELIEF AND DRAINAGE

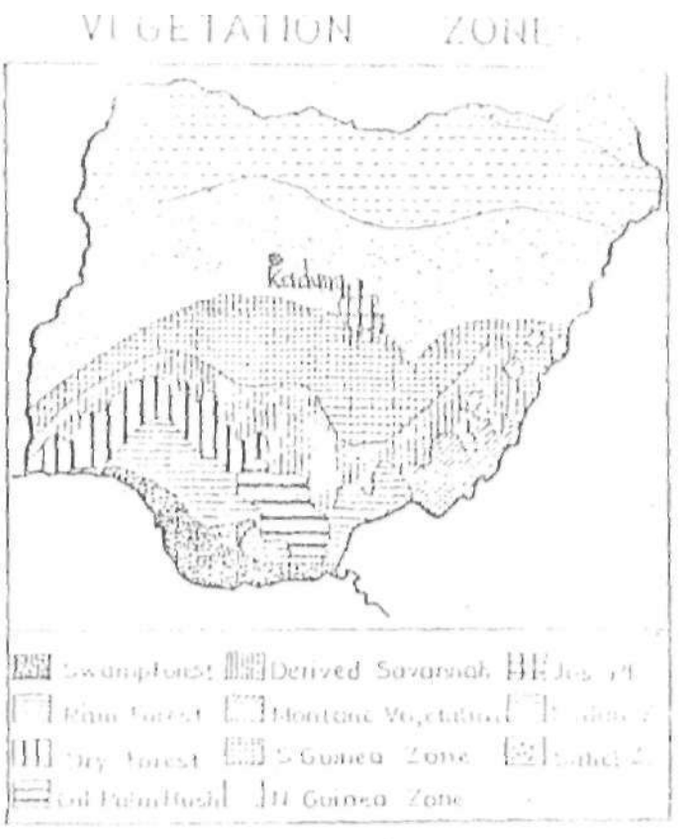


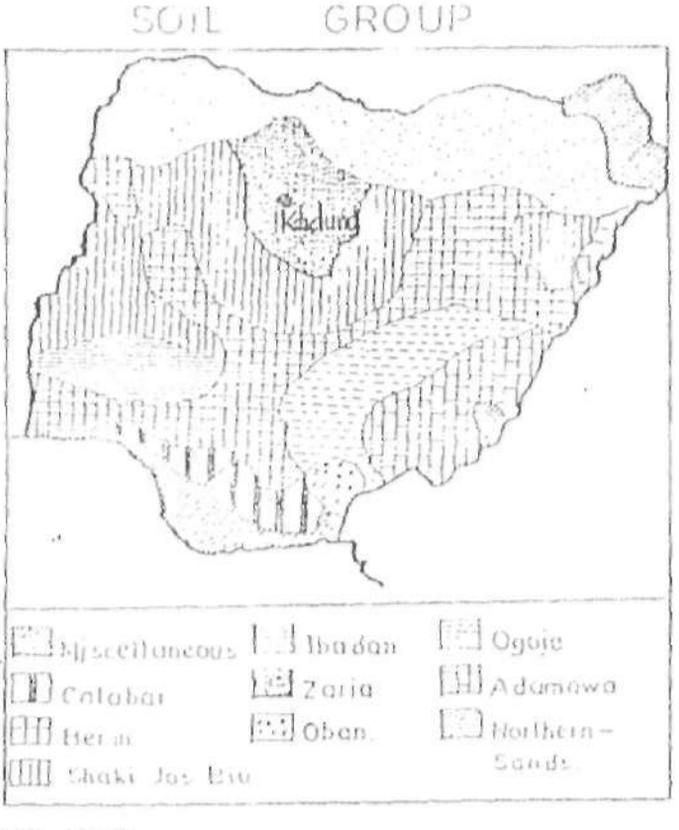
GEOLOGY



SOURCE: MAX LOCK

Fig 26 Relief and Drainage and Geology of Nigeria showing Kaduna

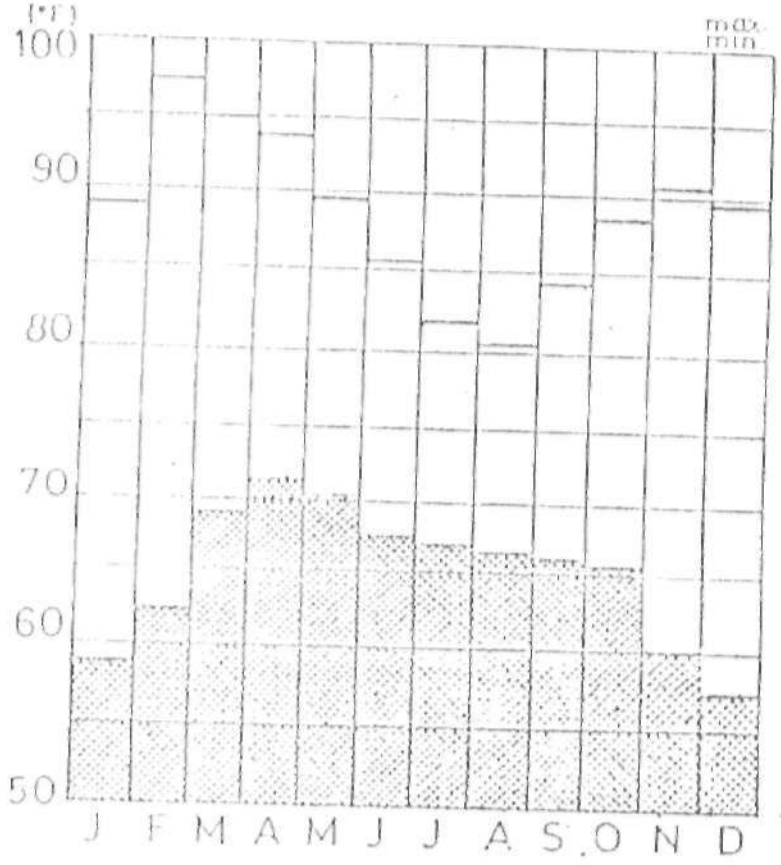




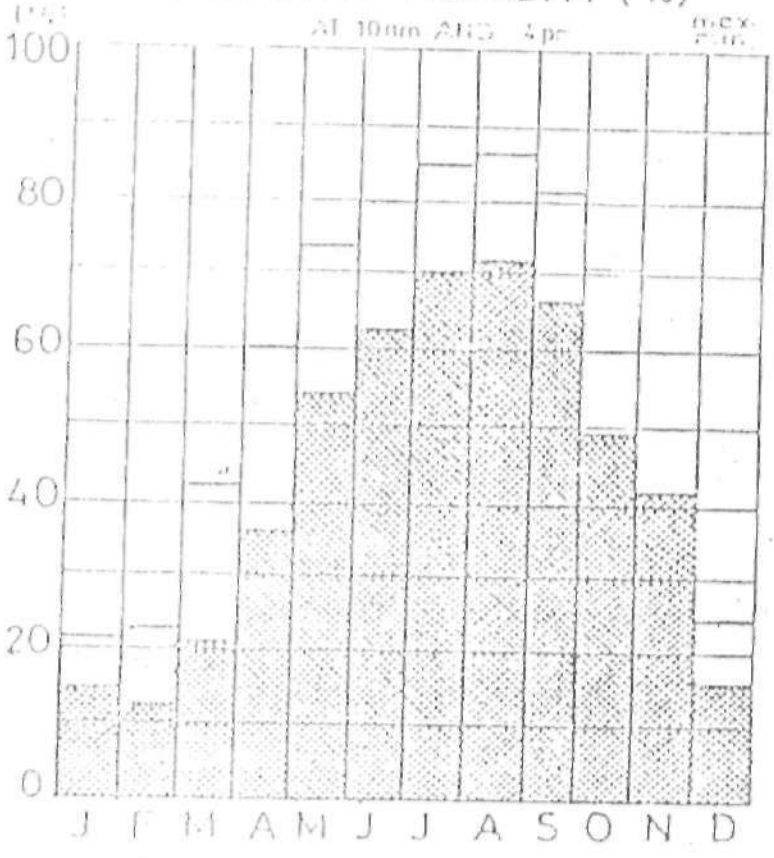
SOURCE: MAX LOCK

Fig 26: Vegetation and Soil group of Kaduna

MEAN TEMPERATURE RANGE (°F)

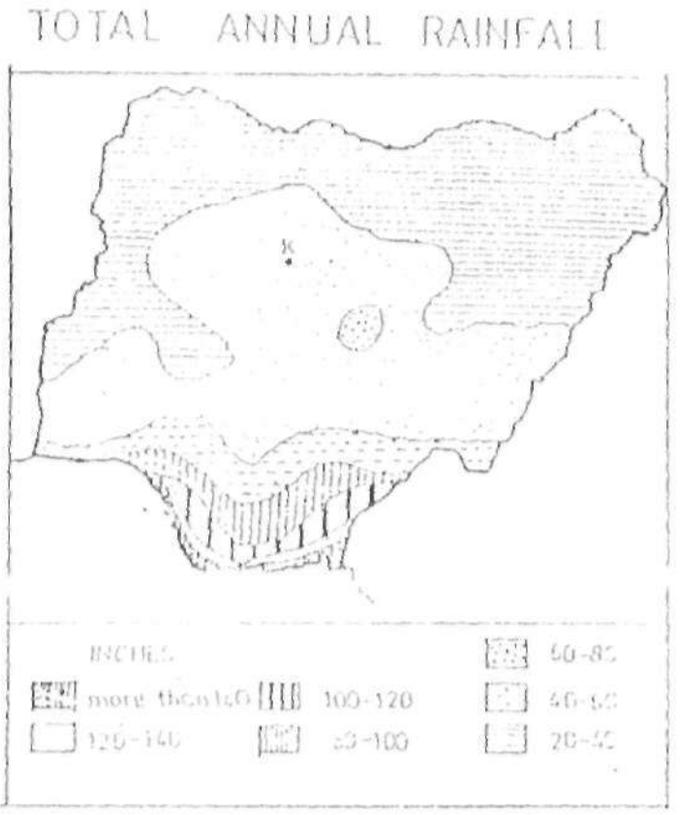


RELATIVE HUMIDITY (%)



SOURCE : MAX LOCK

Fig 23 Temperature & Relative humidity



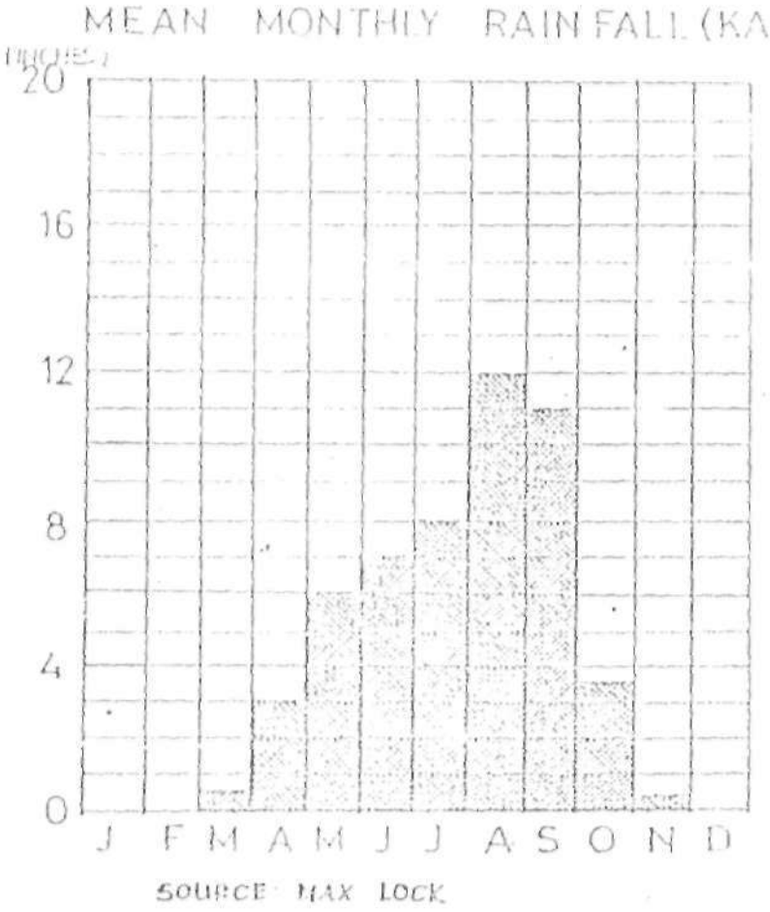


Fig 28 Total annual rainfall and mean monthly rainfall in Kaduna

5.1 THE KADUNA POLYTECHNIC

The institution was set up by Federal Government Decree No. 20 of 1968 and revised by decree No. 13 of 1979.

A. To provide diverse institution, training and research in technology, the science and humanities, as well as any other sphere of learning from time to time as approved by the Board of Governors

B. To provide courses of in-service institution for members of the public service in Nigeria.

There are at present altogether thirty departments in the Polytechnic complex. The institution offers over 130 types of programmes with primary, secondary and technical educational background throughout Nigeria. Foreign students from other African countries also are admitted to study various programmes.

Kaduna Polytechnic is composed of the following four independent colleges

1 College of Science and Technology
2 College of Engineering
3 College of Administrative and Business studies (CABS)
4 College of environmental studies (CES)

5.2 FACILITIES ON CAMPUS

a) Library facilities:

The Kaduna Polytechnic library complex comprises of four Libraries, viz C.ST, CABS, and the by-pass library.

The four libraries have combined stock of over 60,000 volumes of books, Journals and Magazines both foreign and local.

b) Accommodation

Presently on the main campus, these are sixteen existing blocks of students' hostel providing accommodation capacity for 3,072 students. Although there are plans to build students' hostels in all campuses of the institution but only the main campus at the college of Science and Technology and college of engineering have accommodation units.

c) Medical Services

The school has four clinics located in the four campuses by four doctors with the director of medical services as the head. It provides twenty four hours service.

d) Students' dining halls

the dining halls on all campuses used to provide catering and feeding facilities to students. The dining halls have been let out to caterers who cook and sell without the school interference and as such so many other kiosks, bukaterias sprang up to cater for the students. Though students still cook in their respective rooms.

e) Sports Facilities

Presently, the following facilities are situated at the college of Science and technology and college of engineering campus.

a Two football pitches
b Two lawn tennis court
c Two handball court
d Two basket ball court
e Two volley ball court
f One hockey pitch

g One table tennis hall

h One 400m running track

F Students Union Organisation

There is a student Union organisation Polytechnic. Membership consist of all full time students attending courses of not less than one academic year . the constitution of the students' Union provides for different levels of participation by students.

These are:

i. The house of representation consist of one elected council and the house of representatives

The executive council consist of President, vice-president, Secretary-general, Assistant Secretary general, Assistant secretary, financial Secretary, Treasurer, sports secretary, social secretary, treasurer, public relation officer and welfare secretary.

The executive council will be caretakers of the students centre, as it is a centre of the students for the students, it would also be run by the students

g) Welfare Facilities

The office of the dean of student is solely responsible for the overall well-being of the students.

This welfare services is provided in the form of transportation, health services, infrastructure and accommodation.

There is also a guidance and counselling section charged with the responsibility of advising students on matters that affect their general well being.

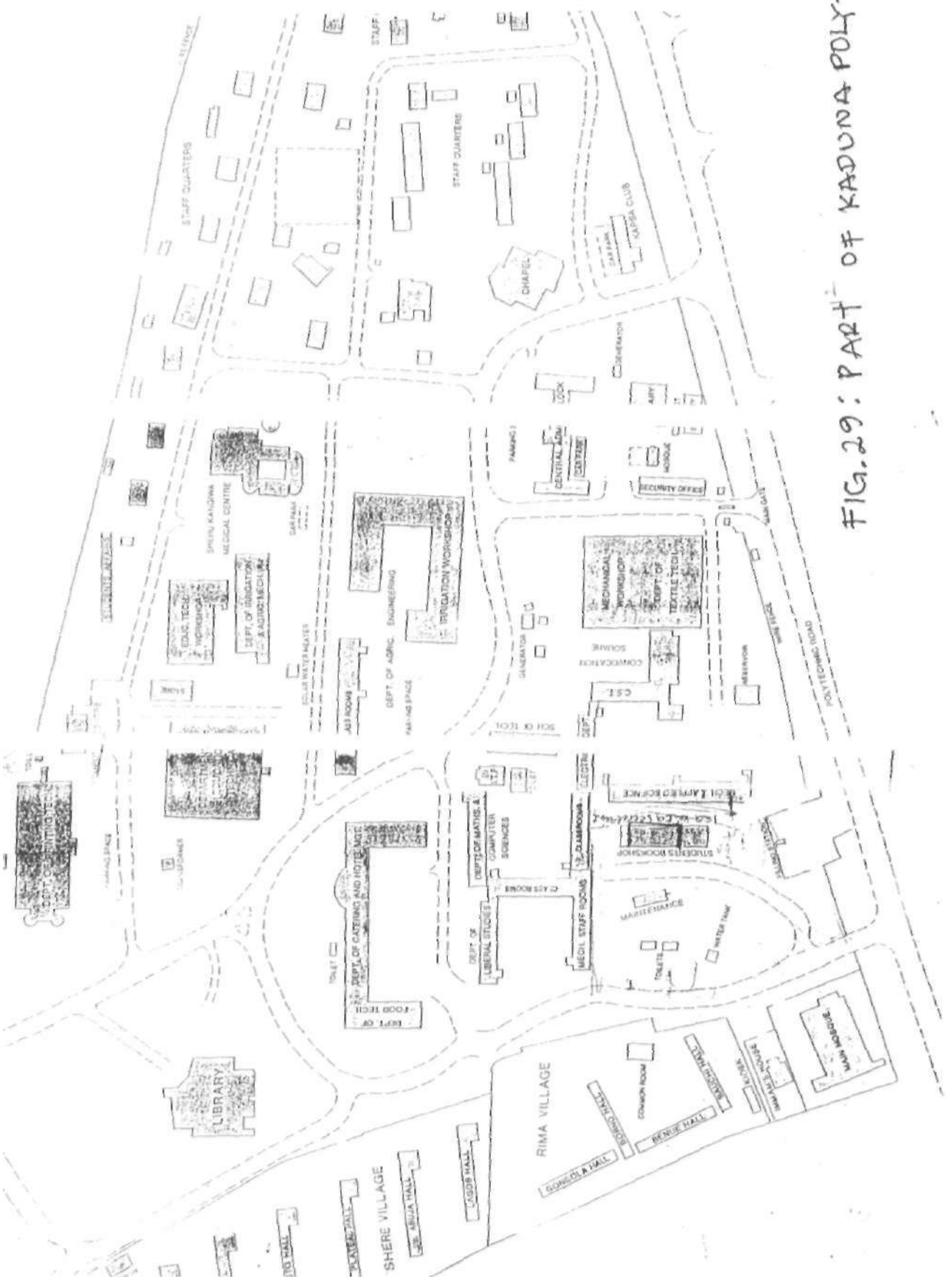


FIG. 29: PART OF KADUNA POLYTECHNIC

5:3 STUDENTS' POPULATION

From the list of full time students enrolment given, it is noted that the students' population has been increasing steadily for the past three sessions.

Presently, the total population is 12,510 (fig) and population of accommodated students 3,072

3:4 EXISTING SOCIAL FACILITIES

Recreational facilities

At present the recreational facilities available on campus are in the outdoor games area of the campus consisting of a foot ball pitch, Lawn tennis courts, hand ball courts, basket ball court, volley ball court, hockey pitch, table tennis hall and a 400mm running track.

Commercial Facilities

Students' usually go to banks in the township to pay their fees because there is no cash point on campus.

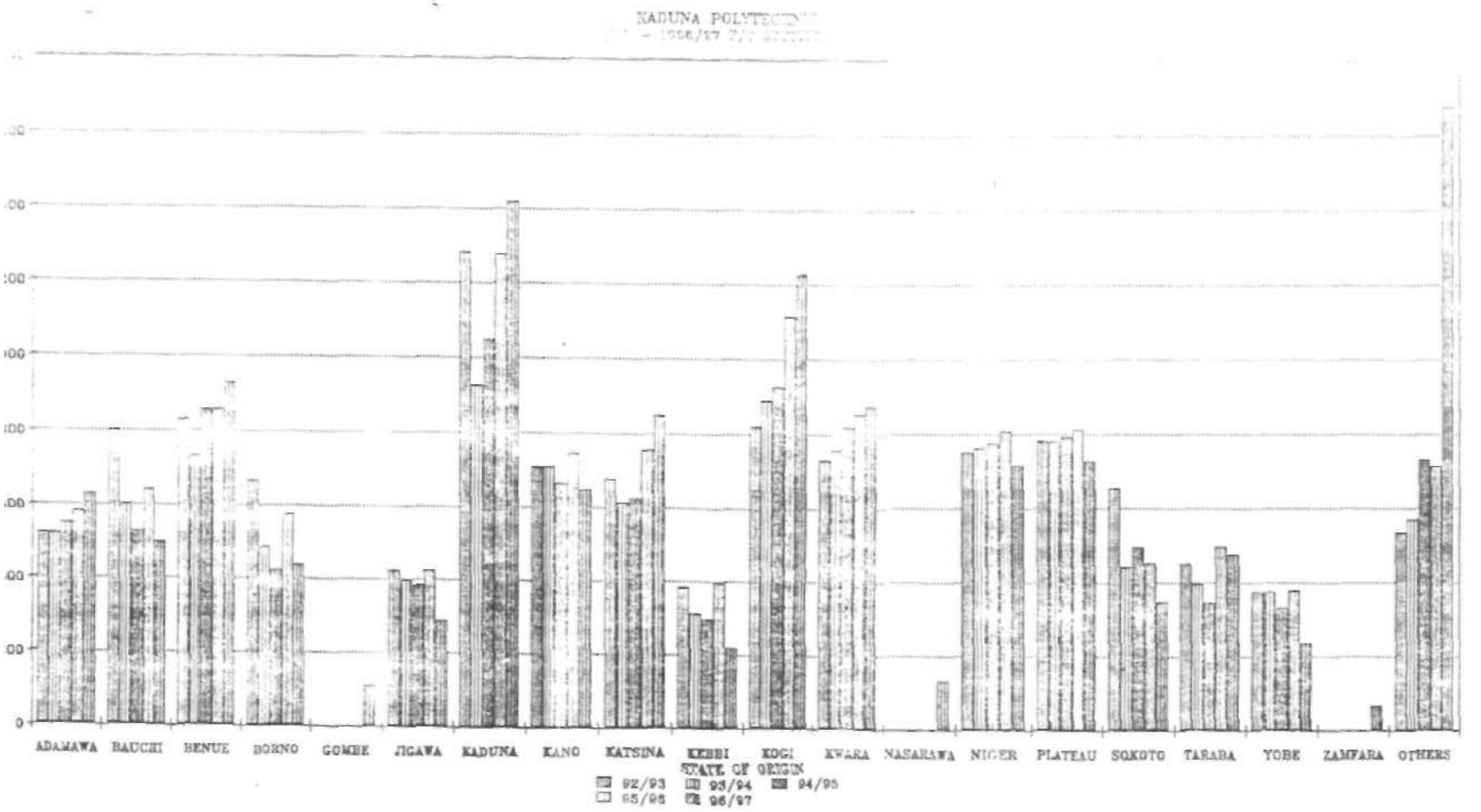
There is postal agency at the security division of the central Administration. The agency render all postal services.

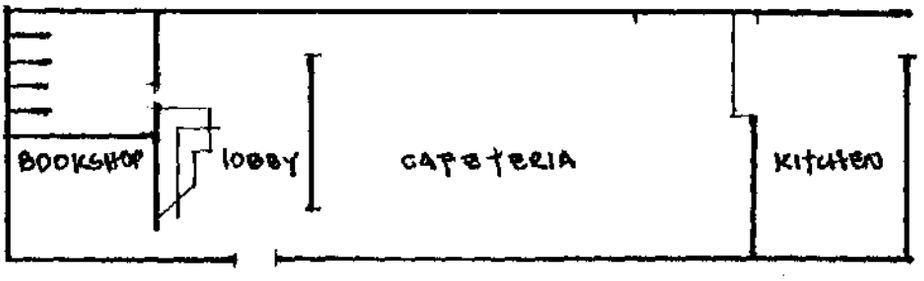
All other commercial facilities like salons, chemist, snack bar, super markets are improvised for in kiosks and temporary structures scattered around the campus looking shabby and unpleasant.

Stationery/Business Centre

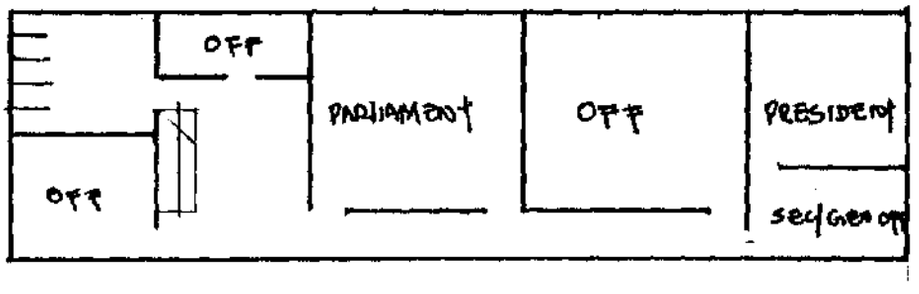
There exist a book shop in the same old classroom block housing the students union secretariat. Photocopying, binding and lamination services typing pool are also

TABLE 2: STUDENTS' ENROLLMENT, KADUNA POLYTHECNIC





GROUND FLOOR PLAN



UPPER FLOOR PLAN

FIGURE 32: FLOOR PLANS: EXISTING STUDENTS' UNION SECRETARIAT, KAD. POLY

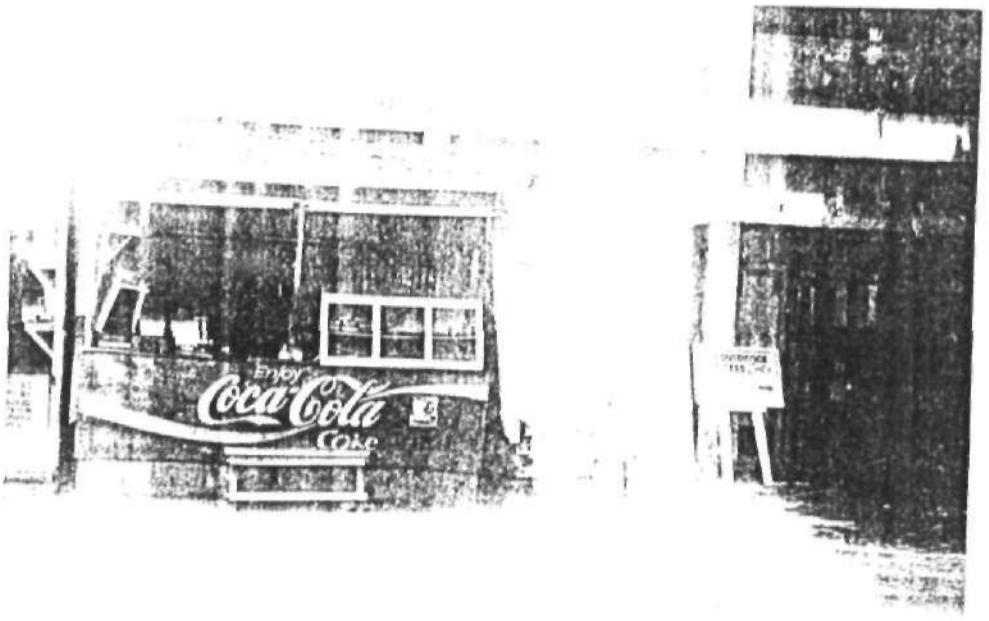


PLATE 9: EXISTING FACILITIES IN THE KADUNA POLYTHECNIC



PLATE 10: EXISTING SOCIAL FACILITIES IN KADPOL

provided in shabby kiosks scattered around the departments and the students union secretariat.

Student Union Building

The student union secretariat is housed on the upper floor of an old classroom block, which is grossly in adequate for the union activities

The ground floor has a common room now partitioned into kiosks.

5.5 STUDENTS SOCIAL LIFE ON CAMPUS

The student's leisure time is evening time and weekends. These are expectedly the peak periods of activity.
Most evening, the student who enjoy sports play outdoor games. Most of them go out of campus to dine, play indoor games and party. Most of their parties or show are held in the neighbouring hotels.

Visitors to the campus do not have any place to relax or wait, they just loiter around or leave the campus for outings.
In short, most social activities of students are carried out outside the campus.

5.6 OBSERVATION AND CONCLUSION DERIVED FROM STUDY

From the study done on the students' life on campus, it was observed that there is no social life for the students as the campus lacks venue for social activities. As a result the students lack a place of their own they lack a conducive place to relax and refresh then mentally and physically after hectic lectures.

The campus lacks a common umbrella where the students interact, to perform various activities, where they meet, socialise without constraints in spite of their

different background, languages and tribes for exchange of ideas, views and opinions.

The campus is littered with shabby kiosks to meet students' shopping needs which to it be designed properly to give the school a befitting structure that meets the minimum standard of times

5.7 THE SITE

The site of the proposal is on the main campus, that is the college of Science and technology campus which is located along the Polytechnic Road, Tudun Wada, Kaduna.

The main campus was selected out of the three other campuses because of the size, students population and the presence of the central administration of the Polytechnic. The main campus has the bulk of the students population (about 3,100) in residence, therefore high patronage of the centres is assured.

5.7.1 SITE LOCATION

The site is bounded in the North by the mechanical department staff offices, in the east by department of Applied Science staff offices in the West, the students hostels and the main mosque in the South west (fig)

5.7.2 SITE ANALYSIS

The under listed site character are deduced from the analysis drawing (fig)

-the site is defined by a regular route from the gate leading to the hostels

-The site is situated in the Guinea Savannah region where the prevailing vegetation is all grass together with large trees. Site is very good for landscaping

-The prevailing winds are the North-East dry hamattan winds full of dust and the south-west wind which comes with rain

-Sites proximity to the hostels is an advantage

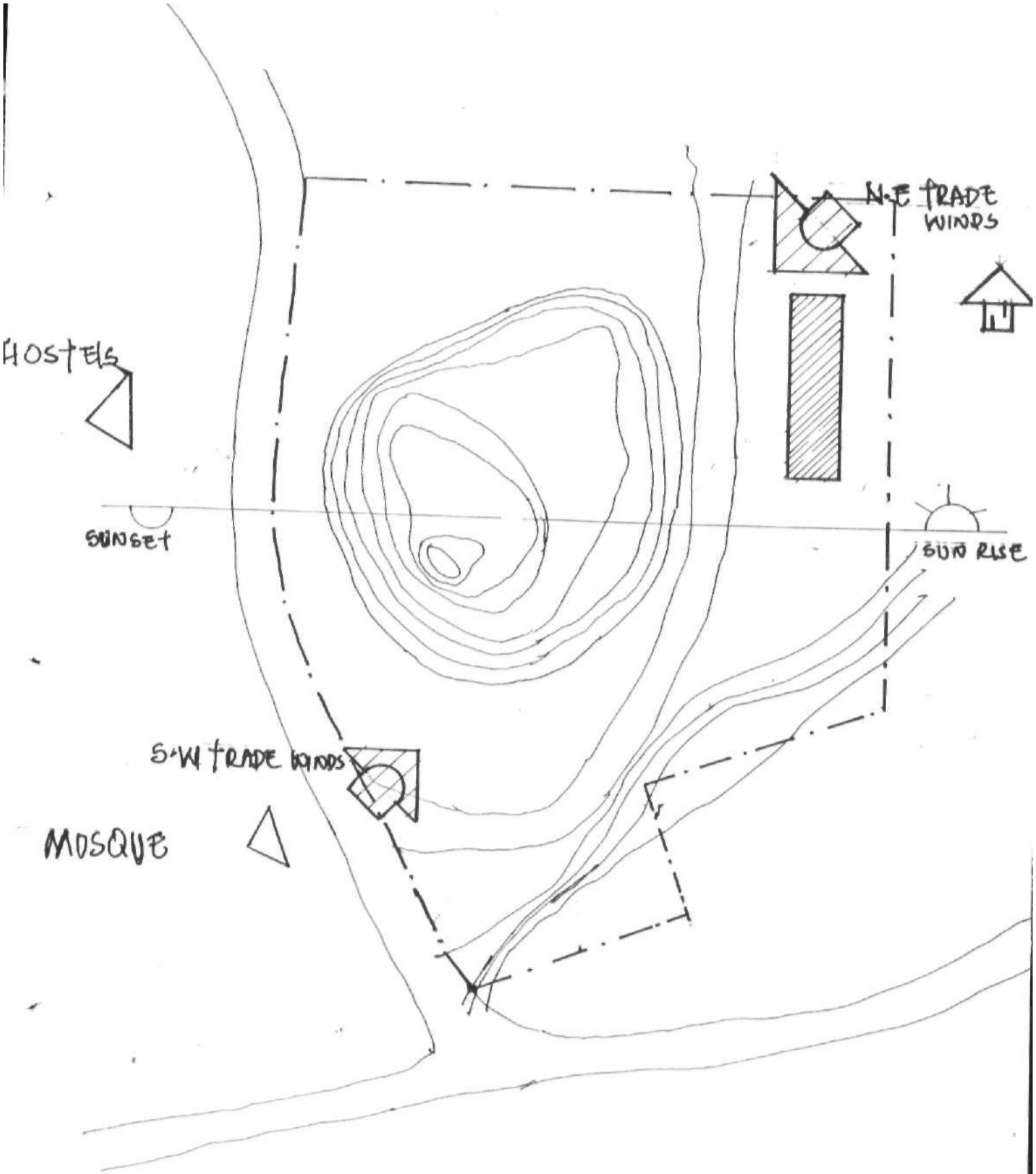


FIG 31: SITE ANALYSIS

5.7.3 TOPOGRAPHY

-site consist of contour lines which is highest at the South-west, projecting into a little hill

-the site is slopping to the North, East, West, and south directions.

5.7.4 ACCESSIBILITY

The location of the site dictates the main access points into the site, the main access will be taken along the vehicular road while others could be taken in the south and east.

CHAPTER SIX

CONCEPTUAL DEVELOPMENT

DESIGN CRITERIA

It deals with major consideration for the actual design solution which are as follows

Orientation:

-Building shall be orientated along the west east axis to face north and south in order to avoid heat penetration from the rising and setting of the sun in the east and west. And where it is unavoidable, shading devices will be used.

-The orientation of the building to the direction of the prevailing winds shall be at 45°c. This helps improve the efficiency of natural ventilation by maximising pressure differences on the wind ward and lee ward faces of the building. Therefore the building orientation is still along the East west axis.

Building and the environment:

-Building is part of the built up environment. A major consideration is to harmonise the building with its environment than fight it. The site potentials will be exploited to achieve functional and aesthetically pleasing solution.

-the building materials shall also be selected to harmonise the building with the site

-The building shall have open spaces in and around it, that will be will landscaped for users' comfort

-Design and specification shall make adequate provision for disabled persons

Building height

-To make use of the slope of the site, building will be designed off the hill by stepping the levels of the building along the slopes roofs:

Roofs

-Roofs shall be designed to minimise heat penetration into the building and sheltered from rain.

-for good draining of roof, the roof pitch shall be pitched not less than 15o

-Roofs shall be well ventilated, insulated, constructed and drained to appropriate drainage system

-Roof covering shall be of long span aluminium roofing sheets and asbestos sheet to reduce maintenance cost.

Ventilation

-The building shall be single banked with living interior to one side and external corridors to the other for effective ventilation.

-All building shall cross - ventilated and protected from direct sunlight penetration.

-Building corridors shall also be well ventilated

Materials:

-a range of load bearing construction materials such as cement block shall be used

-The materials shall be selected with the following in mind; durability minimum maintenance cost, quality, efficiency, availability, time saving construction techniques

-Materials texture and use shall improve building appearance

Parking:

-Parking shall be well shaded to ensure continuity of landscape and re-radiation of heat

-Parking shall be integrated with road design to accommodate pedestrian ways

-Parking spaces shall in the ratio of 1:200 users

Circulation

-Building shall be easily accessible to pedestrian circulation

-The major pedestrian circulation in the proposal shall be covered and treated as an extension of exterior landscape.

Other Criteria:

-Penetration by brown tinted and grid wired panes

-Landscaping materials shall be specified for various areas of the site depending on functions they serve

-Natural lighting shall be achieved in all units as much as possible

6.1 THE BRIEF

The brief for students' centre for Kaduna Polytechnic is generated from a series of formal discussion with various members of physical planning unit, the students union executives and some other students.

Students Population

From the enrolment list given for the past five years, table..., the present population of students is 12,510, in all the four campuses.

The campus for the proposed students centre has 3,672 students in residence officially and a projected population of 5,000 will be provided for including staff, visitors and squatters (students not officially accommodated)

The information gathered from the students and the staff of the institution have directly influenced the brief accordingly:

-Provision for community bank, telephone and postal services, shopping arcade among others

-Duplication of functions within the institution shall be reduced as much as possible

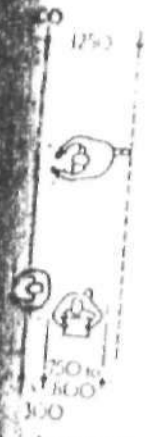
-Usage of facilities by disabled persons shall be given due consideration

-Provision of facilities shall aim at making the building used most of the time

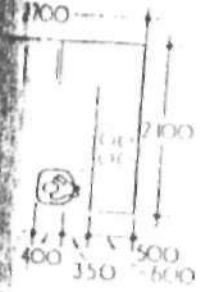
TIONAL REQUIREMENTS

FIGURE 33
SOURCE : AJ Metric Handbook Section 28 Housing

PREPARATION



nk - passing with tray: at even in preparation will supersede length of fitments



ng at pull-out work top



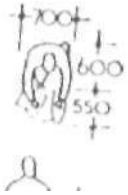
ing things from a sideboard sideboard



mum vertical reach and shelf height for general use



mum vertical reach over work





Shelf at eye level

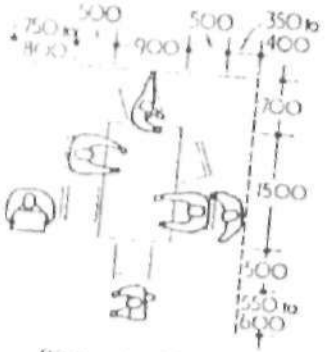


Comfortable height of work top for standing position and clearances for cupboards above. Larger dimension of 450mm above top would allow for use of a mixer or similar appliance

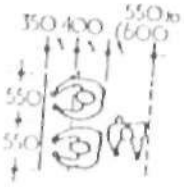


Comfortable height of work top for seated position. Seat height 400 mm

EATING



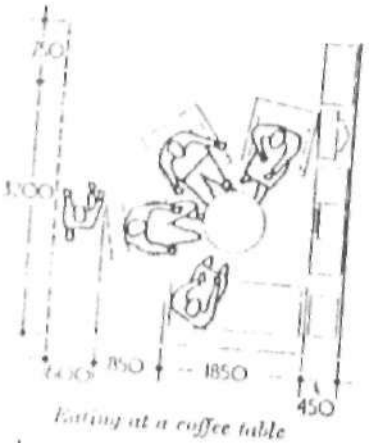
Sitting at table and moving around



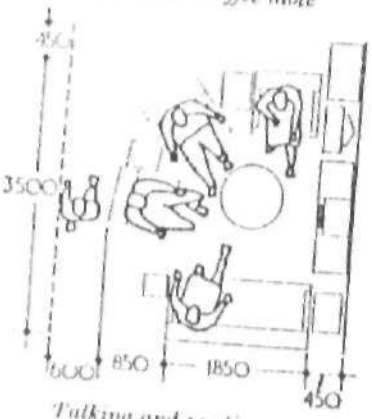
Sitting at work top with person passing

REFUSE DISPOSAL

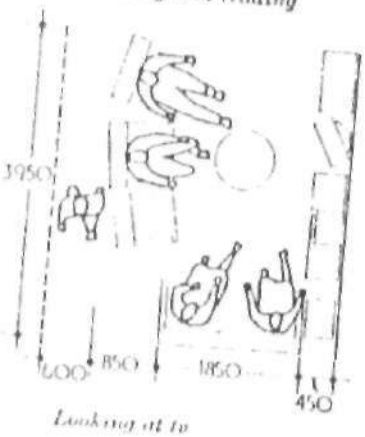
LEISURE (five person family)



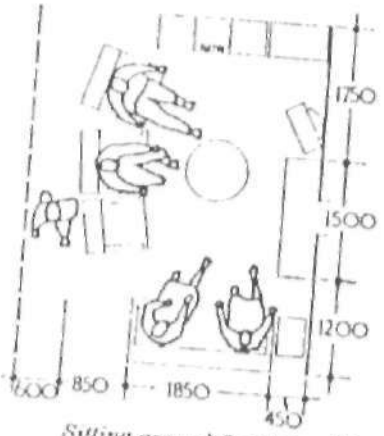
Eating at a coffee table



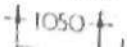
Talking and reading



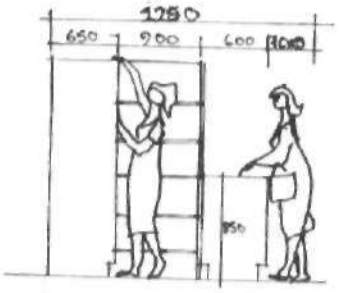
Looking at tv



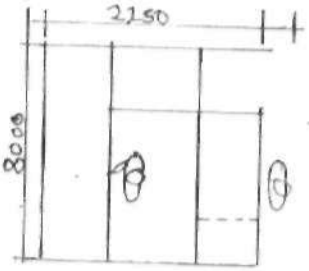
Sitting around fireplace while watching tv

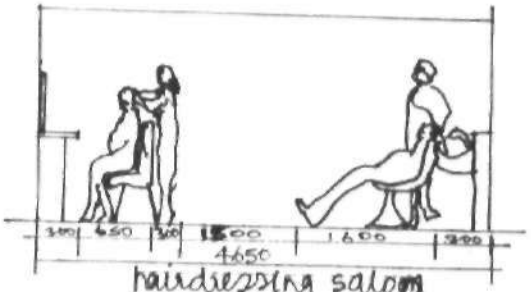


COMMERCIAL FACILITIES

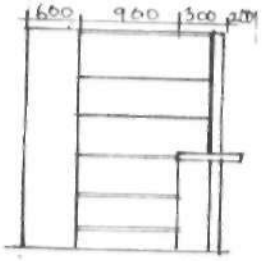


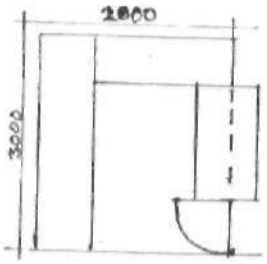
Chemist



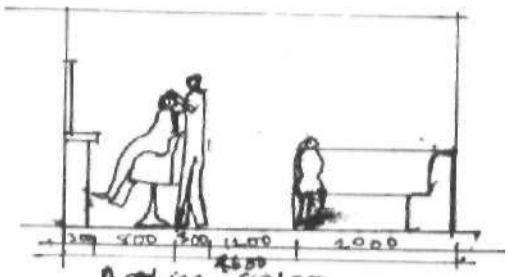


hairdressing salon

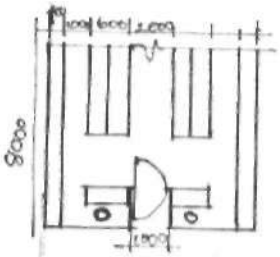


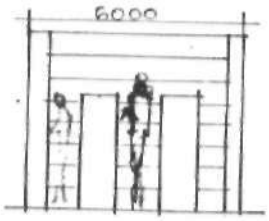


lettable shops

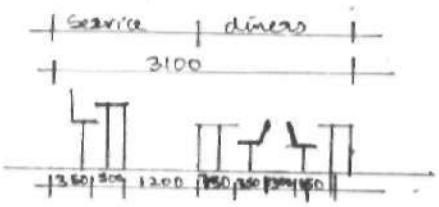


Booking salon

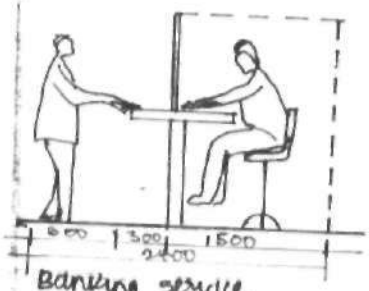




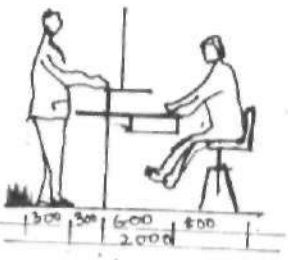
SUPERMARKET



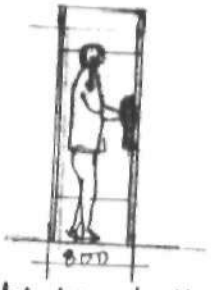
Snack bar



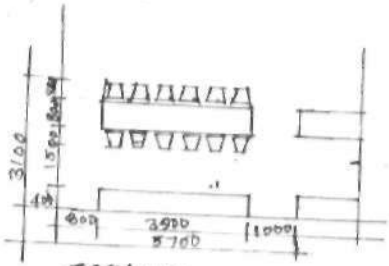
Banking service



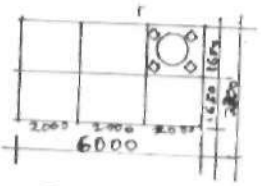
postal service



telephone booth



cafeteria
sitting arrangement



Restaurant
sitting arrangement

FIG 34: FUNCTIONAL REQUIREMENTS
SOURCE: ARCHITECTS' DATA.

-The students union executive shall occupy strategic position of this centre, thus emphasising the prominence of the union activities

The brief is finally broken down under major functions of students centre

-services

-recreational

-commercial

-educational

-administration

-miscellaneous

-parking

6.2 SCHEDULE OF ACCOMMODATION

The spaces and dimension of functional spaces shown here are envisaged to serve a projected population of 5,000

6.2.1 COMMERCIAL AREA

Chemist	60m^2
Hairdressing Saloon	40.5m^2
Barbing Saloon	40.5m^2
supermarket	60m^2
Community Bank	108m^2
Telephone services	54m^2
Postal Agency	48m^2
Arts and Craft shop	60m^2
Photography studio	40.5m^2
Gift shop	40.5m^2
Provision store	40.5m^2
	592.5m^2

6.2.2 **RECREATIONAL AREA**

	Floor area
Indoor games room	121.5m²
Television room	288m²
Multipurpose auditorium	540m²
Browsing room/snack bar	44m²
Ticket booth	40.5m²
Outdoor recreation	1134m²
Terraces (sit out)	1328m²
	3596m²

6.2.3 **EDUCATIONAL AREA**

Stationery store	60m²
Photocopy centre	37.5m²
Typing pool	37.5m²
Binding and Lamination	28.5m²
Computer centre	144m²
Newspaper & Magazine stand	72m²
	379.5m²

6.2.4 **DINING/SERVICE AREA**

Restaurant	450m²
Cafeteria	450m²
Snack Bar	38.5m²
Suya point	108.5m²
Reception and information	54m²
Toilets	144m²
Kitchens	225m²
Stores	144m²
Service boy	108m²
	1722m²

	Floor Area
General office reception	50.05m^2
Union President	42.9m^2
Parliamentary room	128.7m^2
Guest accommodation	102.5m^2
	405.65m^2

6.2.6 **MISCELLANEOUS**

Maintenance office/ reception	102.5m^2
Lettable space	144m^2
Main entrance lobby	144m^2
	390.5m^2
Total Area Used	7086.15m^2
20% circulation	1417.23m^2
	8503.38m^2

6.2.7 **PARKING**

Projected number of cars designed for is 1:200 thus for the projected population of 5,000, 25 car parking spaces will be provided

6.3 **SITE ZONING AND CONCEPT**

The site is shopping towards all direction and the contour lines are at 0.5m intervals. There is possibility of drainage in all directions of the site

The site zoning is based on the following:

-Circulation pattern

-Accessibility

Convenience

-Links between all facilities

-Noise level

-Grouping of activities

Attempts were made to separate the noisy area from the quiet area and at the same time integrate them to function together (fig) therefore, the design proposal is a direct translation of all the analysis and concepts.

The main approach faces the main pedestrian axis. It is approached by well celebrated stair cases underneath them is the newspaper/magazine stand. The stair cases lead up to the main approach which is emphasised by double columns extending to the upper floor on both sides and on the upper floor the cantilevered terrace also gives emphasis

The main entrance opens into the central concourse which is well integrated into the various units

The central concourse is well landscaped organically by beautiful stepping of slopes sculptural piece serving as focal point and some part of it for outdoor game like table tennis, snooker and so on. The concourse is open to the sky.

The concept of zoning heavily used spaces closer to the ground has been properly put to use in this plan. The facilities are accommodated on two floors including the existing storey building

Ground Floor

The ground floor is divided into units for each facilities and integrated together by the concourse to form a whole big unit.

The ground floor has the main entrance that collects and dispatch users to the various units.

The commercial unit has the arts and craft shop, supermarket, chemist, the ground floor of the existing structure and the bank, postal and telephone services in the same unit of the main entrance.

The educational facilities like the stationery store, typing pool, binding and lamination section and photocopying centre are also accommodated on the ground floor of the existing building. Toilets are also accommodated in this unit

The recreational unit is located to the right of the main entrance with the multipurpose auditorium, television room, indoor games room, ticket booth, backstage rooms, snack bar open sit-out terrace (stepped down the slope) the toilets are also located in this unit

The dining area is opposite the main entrance it consist of a cafeteria, kitchen and two restaurant that also provide outdoor services

Upper Floor

The upper floor is accessed by a staircase in the existing structure and a ramp in the raised part of the main entrance and recreation units. The units are both linked by corridors.

The first floor of the existing building with additions and modifications consist of the parliamentary chamber, union executive officers like President, Vice President, General Secretary, Public Relations Officer, welfare Secretary, Treasurer, Financial Secretary, Sports director, director of socials, health secretary and the guest accommodation consisting of six bedrooms and a living room with conveniences.

The remaining part of the upper floor is on top of the main entrance unit and the recreation unit. There is accommodation for the meeting rooms of the Students Association, clubs and organisations. There is a computer training centre, a snack bar/ browsing room with terrace over the main entrance. The upper floor of the

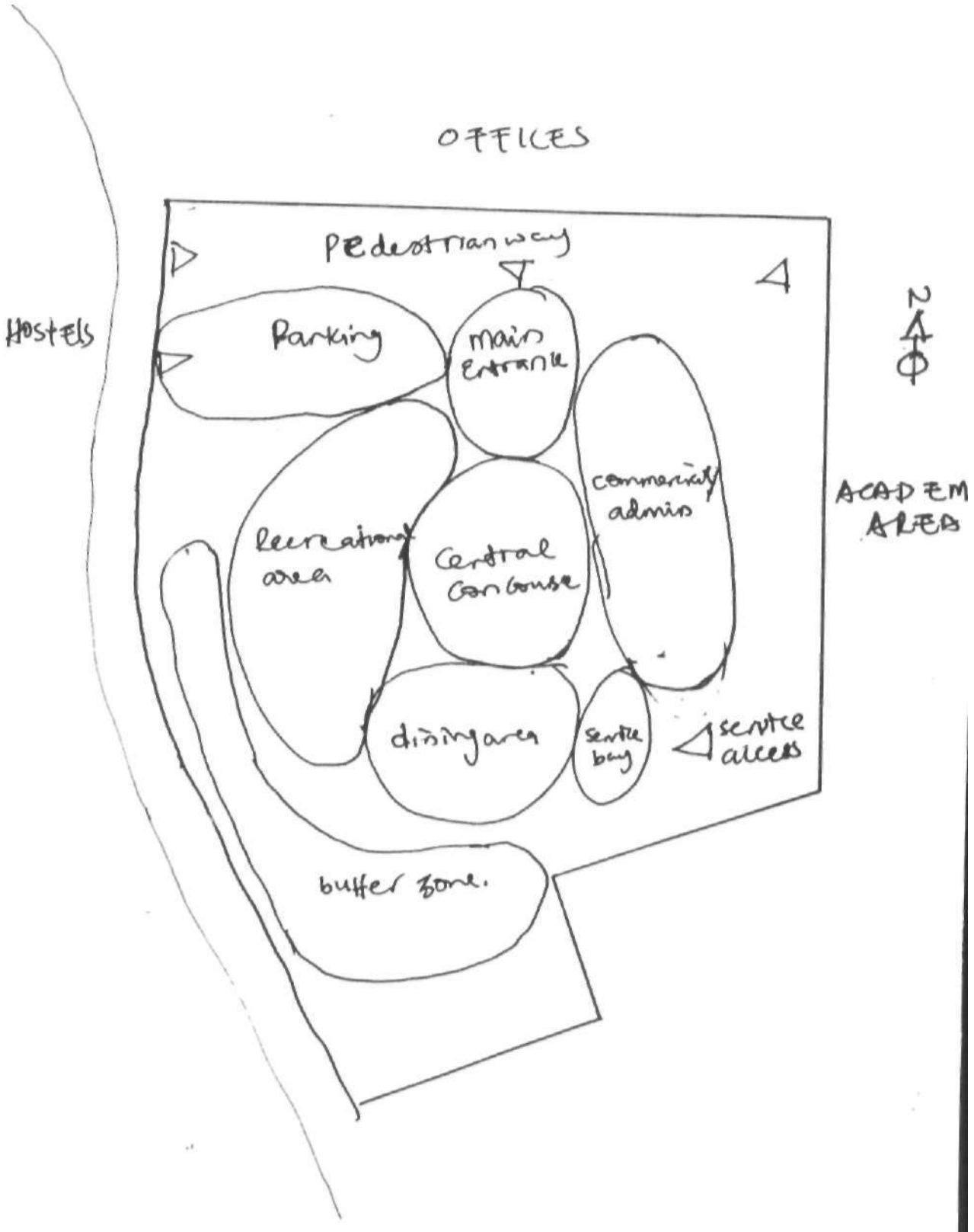


FIG 35: SITE ZONING (STUDENTS' CENTRE KAD. POLY).

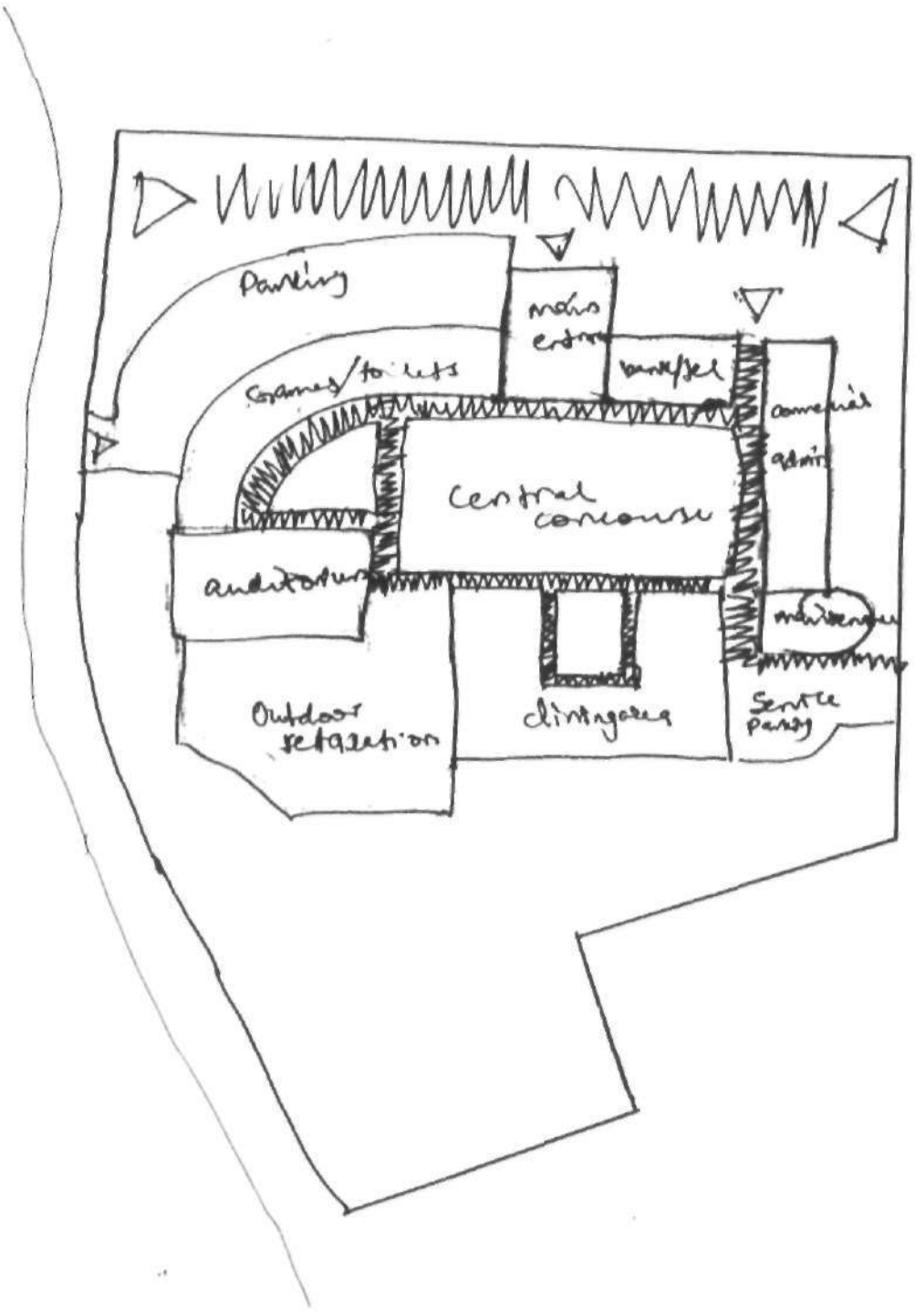


FIG 36: SITE CONCEPT.

recreation unit has the Lettable spaces, photography studio, barbing saloon, hair dressing saloon, gift shop, provision store.

Basement Floor

There is car parking below the television room and there is a newspaper/magazine stand below main entrance

The dining area has the service bay where goods are unloaded and distributed to the various shops and the outdoor cooking area for the cafeteria and the restaurants.

6.4. DESIGN CONCEPT

It is desirable to put into consideration students comfort which shall enhance harmonious relationship resulting to "order" on campus.

For this proposal to be put to good use it is pertinent to evolve an outstanding architectural piece integrated with nature which shall aid users to desire pleasure and comfort in beauty, landscaped environment or in organic architecture.

Hence the design concept evolved from the following

-Free circulation of users from the indoor to the out door to enjoy beautiful scenery and have mental refreshment and relaxation.

-Adequate provision for disabled users
-Arrangement of facilities is single banked with living spaces to one side and external corridors to the other
-Anticipated use for maximum number of students (5,000)
-Functional arrangement by natural lighting and proper ventilation
-The integration of the slope of the site into the design with minimum destruction

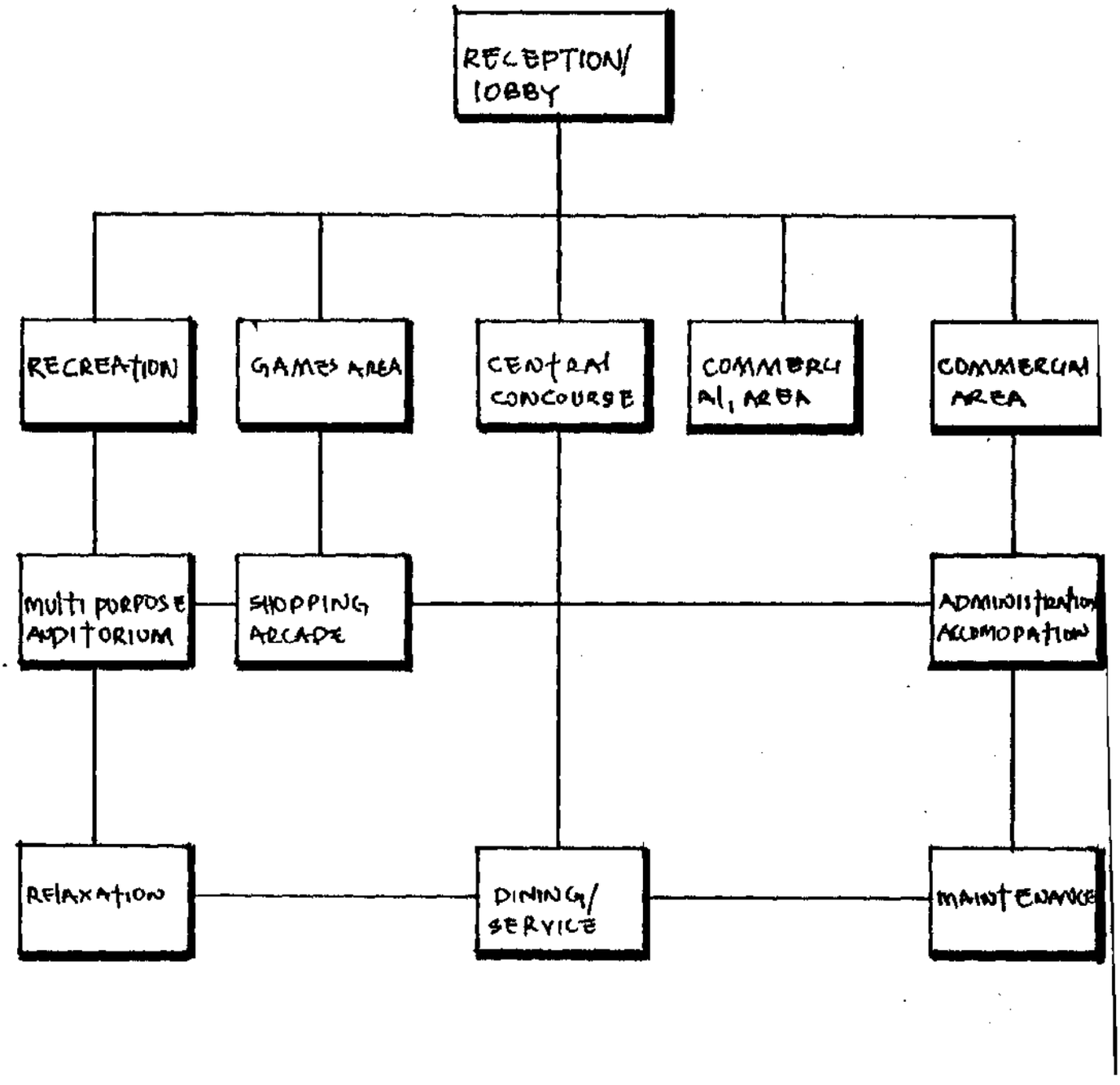
6.5 **FORM CONCEPT**

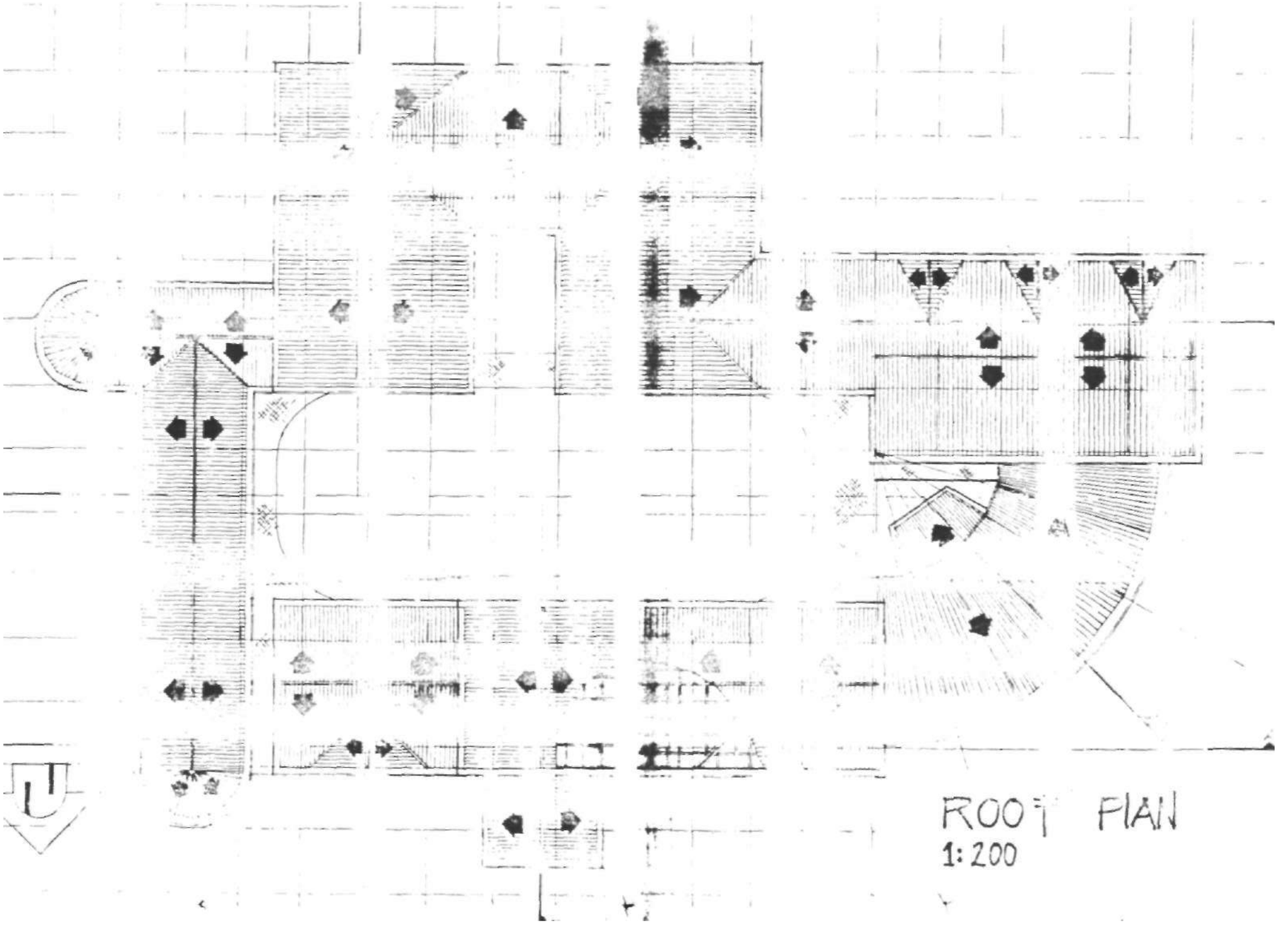
The design is based on a series of geometric forms -rectangular and circular to go with the shape of the site

They are free flowing and flexible. Thus resulting in a centre which expresses

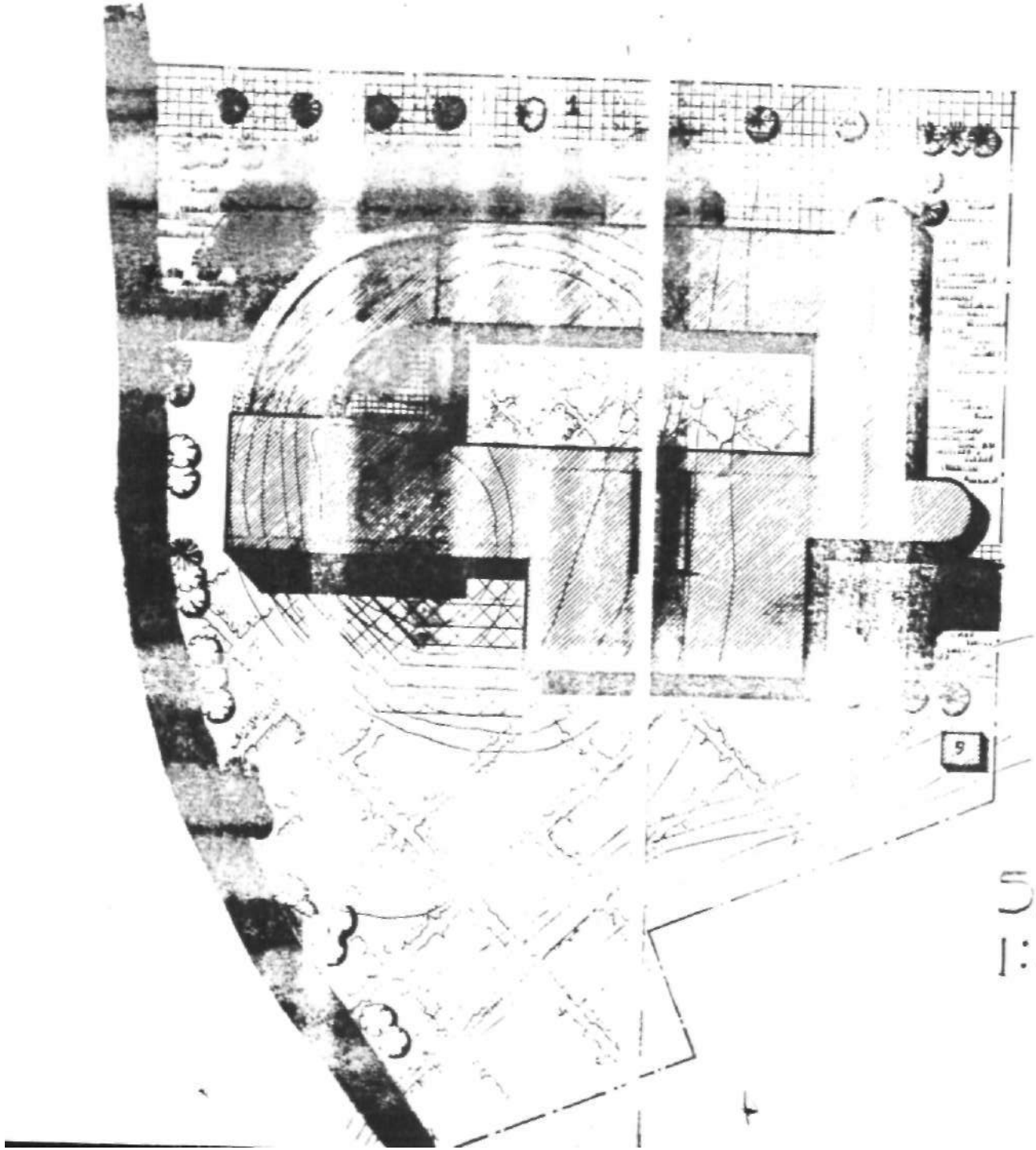
-simplicity and efficiency of forms
-functional separation and growing of facilities
-flexibility
-dynamism
-harmonious relationship with nature (site)

FUNCTIONAL RELATIONSHIP DIAGRAM





ROOF PLAN
1:200

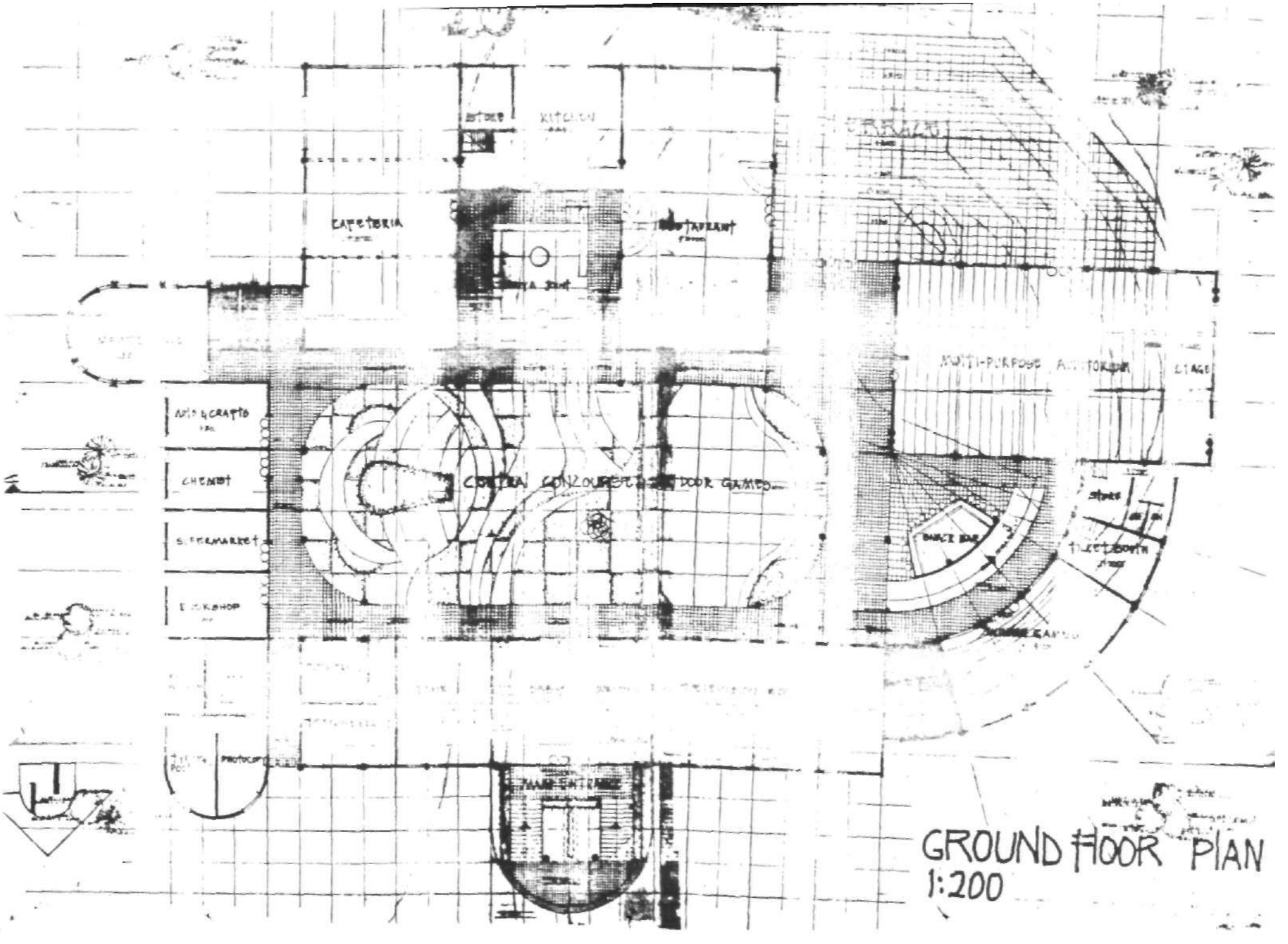




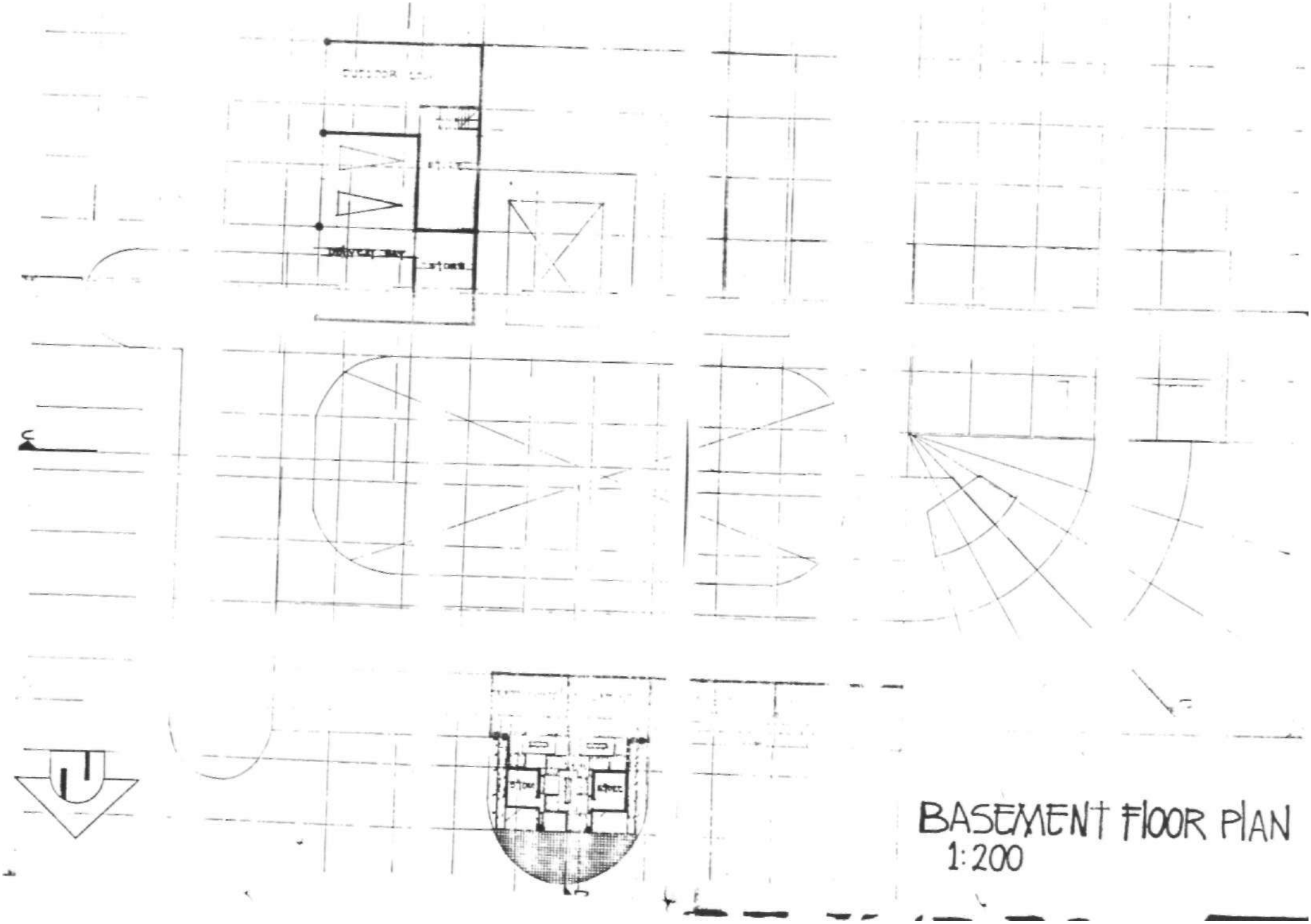
LEGEND

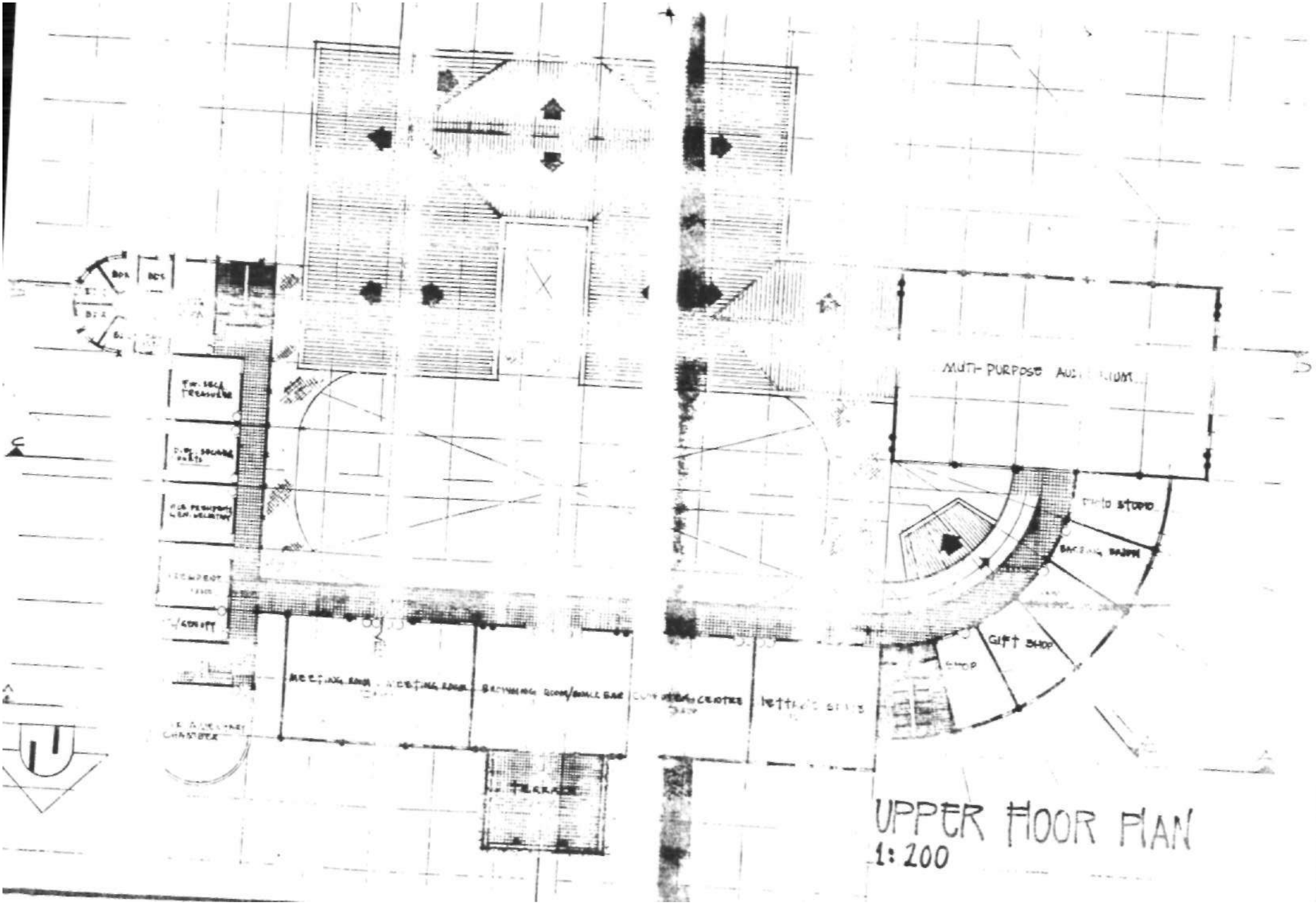
1	PEDESTRIAN WALKWAY
2	PARK
3	MAIN ENTRANCE
4	COMMERCIAL/STUDENT UNION UNIT
5	DINING/SERVICE UNIT
6	RECREATION UNIT
7	OUTDOOR TERRACE
8	SERVICE PARKING
9	GENERATOR HOUSE
10	CENTRAL CONCOURSE

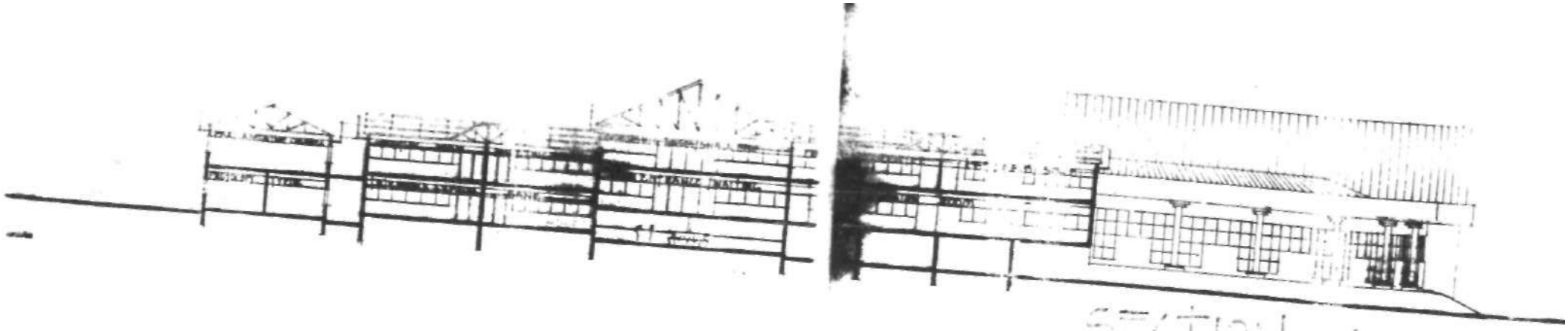
SITE PLAN
1:400



GROUND FLOOR PLAN
1:200


BASEMENT FLOOR PLAN
1:200


MULTI-PURPOSE AUDITORIUM
GIFT SHOP
UPPER FLOOR PLAN
1:200



SECTION A-A



SECTION B-B

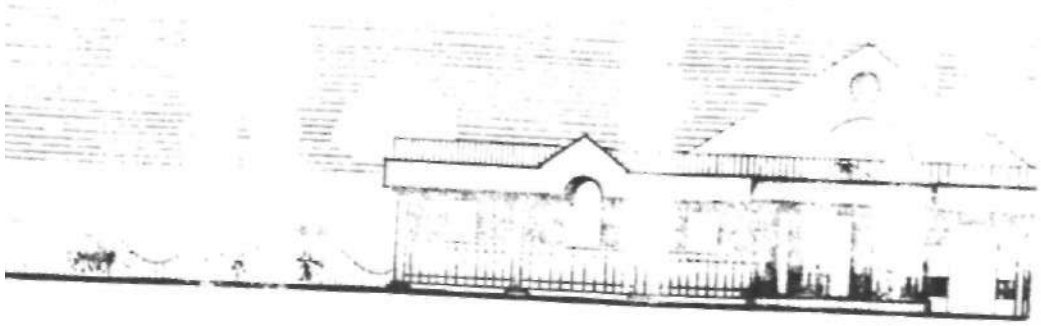
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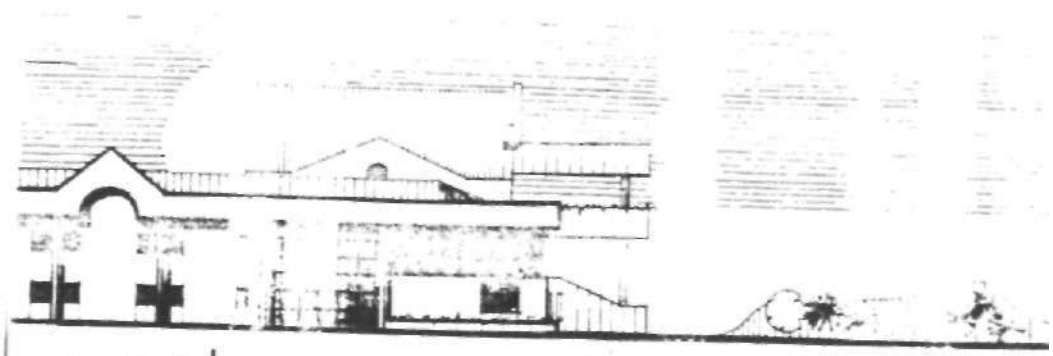
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FRONT ELEVATION

RIGHT SIDE ELEVATION

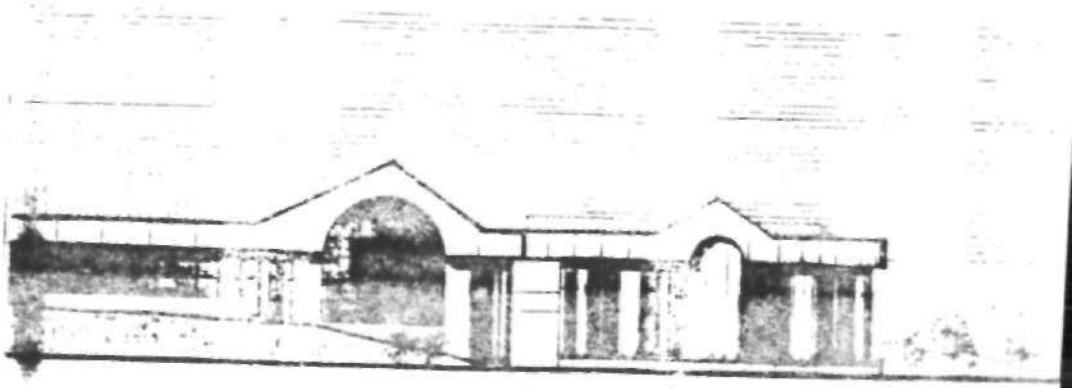
1:200





LEFT-SIDE ELEVATION





BACK ELEVATION

CHAPTER EIGHT

CONCLUSION

8.0 **CONCLUSION**

The major consideration in any students' centre is the users' satisfaction, thus it is necessary to allocate a reasonable part of the planning process to landscape design. This would go a long way in meeting users' needs. It will also influence other factors that will enhance harmony in the environment. Therefore, any students' centre requires more then just shops, auditorium, games room, cafeteria and so on. Consideration must be given to a well planned outdoor sitting area, recreation area, paved accesses, defined car parks and so on.

This thesis has shown that proper landscaping can enhance better recreational and social qualities in a students' centre.

The Kaduna Polytechnic by virtue of its prominent position in the society has the responsibility of giving both academics and promotion of social awareness, self discovery and public enlightenment into its students and the immediate society.

The activities students engage in on campus largely determines the sort of people they will be later in life.

In order to evolve an environment that will enhance the development of responsible and civilised people in wider society, many studies were carried out and many factors have been considered.

A good number of the social problems on campus have been identified. Provision will be made for the facilities that are lacking or inadequate on campus.

Studies of existing students' centres have been carried out and their merits and demerits considered.

Commercially, it shall be a source of revenue to Students Union as some spaces will be left out.

Socially, it will act as a forum for social development as per interaction and socialization among students and other users.

Aesthetically, the proposal will be appealing and beckoning to the students and other users.

The final design proposal is an attempt to evolve a well integrated environment translating the various functional analysis into reality.

The final proposal is a product of the desire to design a centre where the outdoor flows into the indoor and vice versa with continuity in design.

Logically, this will reflect an informal design where the openess and relaxing quality of the outdoor flows indoors and the warmth and friendliness of the indoor to the outdoor by the use of landscape elements and activities. The integration of open spaces and Courtyards with the functional spaces will enhance proper ventilation and lighting.

8.1 RECOMMENDATION

After carrying out a study of the students' centre, it is necessary to make recommendations which are necessary to improve the social and environmental conditions in prospective and existing students' centres in higher institutions of learning in Nigeria.

The recommendations also include an appraisal of the standard of students centres and their role in ensuring peace in any institution.

To improve conditions of existing students centres and aid prospective institutions, I recommend the following.

Walkways - Since most students are pedestrians, special care should be given to the pedestrian walkways during design process. The walkways should be wide enough, well paved and softened by landscape elements like plants.
The parking lot should also link up with the walkway but defined and separated from the pedestrian walkway to prevent collision of pedestrians and vehicles.

Entrance - Entrance should be well located, emphasized and inviting to all students'

Outdoor Area - Open terraces and courtyards should always be provided for relaxation and recreation, it usually enhances recreational quality because of its relaxed atmosphere.
The students will love it, because it is different and more relaxing than their other activities spaces which confines them indoors like the classrooms, hostels, laboratories and so on.

Furnishing - Care should be taken when choosing furniture for the centre, durable materials are better and stronger.
Litterbins should be provided at all the places within the centre.
For beautiful effect, different materials, sizes, shapes and colours of landscape elements should be used.
Planning of sculptures at strategic positions to act as focal point to promote our indigenous works of art in Nigeria.

Maintenance - In any landscape design, if all the necessary design elements are available and not properly taken care of, the desired effect will not be accomplished. I therefore recommend proper and thorough maintenance of each of these elements.

Students' Conduct - The students' conduct within and around the students' centre will to large extent determine the credibility of the centre. I recommend that the students union executives with directive from the school authority should monitor the activities of the students within and around the students centre and maintain law and order.

Ultimately, we all hope the student centre in any institution will serve as a forum for social development of civilised human beings and not ill-mannered hooligans.

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