CONFERENCE CENTRE, YOLA
(A CONCEPTUAL MODEL FOR CONFERENCE CENTRE PLANNING)

BY

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B.SC. (Hons) ARCH

BEING

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DECLARATION

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C E R T I F I C A T I O N

This Thesis entitled CONFERENCE CENTRE/YOLA, meets the regulations governing the award of the degree of Master of Science in Architecture (M.Sc. Arch) of Ahmadu Bello University, and is approved for its contribution to knowledge and literary presentation.

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D E D I C A T I O N

This work is dedicated to my parents Mr. and Mrs. Agbu Tsoken, my Uncle, Simon D. Agbu, all my three loving sisters and a brother who have stood by me in all aspects in the course of my studies in Architecture. And above all to my creator the Alfa and Omega.

My gratitude also goes to the following good friends, Architect Prince Agbu; Julius T. Awudu; Boyiga Apaji; Avong Timothy; Marcus Bala just to mention but a few for their advice and contributions.

All staff, students and friends who helped in one way or the other throughout the duration or my stay in Ahmadu Bello University, Zaria. The typist, Mrs. Rebecca Yusufu who took the pains to type the scripts and above all to God Almighty for giving me the strength to see it through this thesis.

A B S T R A C T

Conference involves people in meetings and activities that require interaction and interpersonal relations, It also emphasises group meetings at a single place where common ideas and experiences could be shared.

Gongola State, widely known for its Scenic beauty and rich culture has been a host to a number of local and national gatherings. Yet the State has no group of buildings capable of functioning as an organic whole not only to cater for large scale gathering but to also take advantage of such centre in the all-sphere development of state. The government is delighted in expanding and providing facilities of modern and international standard to attract investors all over the world. This has been demonstrated by the Governor's several appeals to investors to invest in the State.

This work attempts to trace the development of the congress industry in Nigeria with particular reference to the state and a proposal for a Conference Centre made. Gongola functions as a major administrative, cultural, commercial and a large tourist attractions abound.

TABLE OF CONTENTS

	PAGES
Title Page	i
Declaration	ii
Certification	ii
Dedication	iv
Aknowledgement.....	v
Abstract.....	vii
Table of Content	viii
List of figures.....	xvi
List of Plates.....	xvii
List of Tables	xviii

Chapter One:

1.0.	INTRODUCTION.....	1
1.1.	Aims and Objectives	2
1.2.	Purpose of Conferences	3
1.3.	Scope and Limitation.....	3
1.4.	Research Methodology.....	4
1.5.	Coise of Yola for Loaction.....	5
1.6.	Area of Concentration.....	5

PAGES

Chapter Two: CONFERENCE INDUSTRY IN NIGERIA

2.0. Introduction..... 7

2.1. Historical Development..... 7

2.2. Types of Conferences..... 8

2.2.1. Political Conferences 9

2.2.2. Social/Religious Conferences..... 9

2.2.3. Commercial/Industrial Conferences.....10

2.3. Prospects for the Centre.....12

2.3.1. Tourist attractions.....12

2.3.2. The Mambilla Plateau.....13

2.3.3. Gashaka Games Reserve.....13

2.3.4. Festivals.....13

2.3.5. Historical Monuments.....14

2.3.6. Savanna Sugar Company.....14

2.3.7. Transportation and Communication.....15

Chapter Three: GONGOLA STATE SETTING

3.1. Location.....16

3.2. Demography.....16

3.3. Climate.....20

3.3.1. Temperature.....20

3.3.2. Winds.....23

3.4. Vegetation.....24

PAGES

3.5. Relief..... 25

3.6. Geology..... 25

3.7. Soils..... 26

Chapter Four: CASE STUDIES

4.1. KONGO CONFERENCE CENTRE, A.B.U..... 27

4.1.0. Introduction..... 27

4.1.1. Site..... 27

4.1.2. Brief..... 27

4.1.3. Organisation..... 29

4.1.4. Design and Construction..... 29

4.1.5. Critique..... 32

4.2. HAMDALA HOTEL KADUNA..... 34

4.2.0. Introduction..... 34

4.2.1. Site..... 36

4.2.2. Brief..... 36

4.2.3. Critique..... 36

4.3. EGWA CONFERENCE CENTRE, JOS..... 38

4.3.0. Introduction..... 38

4.3.1. Site..... 38

4.3.2. Brief..... 38

4.3.3. Organisation..... 39

4.3.4. Design and Construction..... 39

4.3.5. Critique..... 40

PAGES

4.4. SCANTICON CONFERENCE CENTRE, DENMARK 41

4.4.0. Introduction..... 41

4.4.1. Site..... 41

4.4.2. Brief..... 43

4.4.3. Organisation..... 43

4.4.4. Design and Construction..... 47

4.4.5. Critique..... 47

4.5. CONFERENCE CENTRE LONDON..... 48

4.5.0. Introduction..... 48

4.5.1. Site 48

4.5.2. Brief..... 48

4.5.3. Organisation..... 48

4.5.4. Critique..... 51

4.6. CONFERENCE CENTRE, RIYADH..... 51

4.6.0. Introduction..... 51

4.6.1. Site..... 52

4.6.2. Brief..... 52

4.6.3. Organisation..... 53

4.6.4. Design and Construction..... 55

4.6.5. Critique..... 56

Chapter Five: RELATED STUDIES

5.1. Acoustics..... 59

5.1.1. Reverberation 59

5.1.2. Intelligibility..... 60

5.1.3. Noise in Buildings..... 61

5.1.4

PAGES

5.2. Form 66

5.3. Volume..... 67

5.4. Lighting..... 68

5.5. Ventilation 69

5.5.1. Design Criteria..... 70

5.6. Human Traffic..... 71

5.6.1. Circulation routes..... 71

5.7. Planning the facilities 72

5.8. Site Planning..... 74

5.8.1. Accessibility..... 75

5.8.2. Parking..... 76

5.8.3. Support Services..... 77

5.8.4. Economic and Esthetic Impact..... 77

5.8.9. Admission Control..... 78

5.8.6. Planning Utilities..... 79

5.9. Conceptual Studies..... 80

5.9.1. "Loose tie Concept"..... 80

5.9.2. "Segregated Type"..... 81

5.9.3. "Ring Concept"..... 81

Chapter Six: DESIGN PROGRAMME

6.1. Site Location..... 83

6.2. Site Analysis..... 83

6.3. Site Utilities..... 83

6.4. Brief and user requirements..... 83

PAGES

6.4.1. Use requirement (General)..... 86

6.5. Details of Programme..... 87

6.5.1. Conference facilities..... 87

6.5.2. Hotel Wing..... 87

6.5.3. Accommodation Wing..... 88

6.5.4. Service Areas..... 88

6.6. Functional Parameters..... 88

6.6.1. Public Areas..... 89

6.6.2. Service Areas..... 91

6.6.3. Accommodation..... 92

6.6.4. Conference facilities..... 93

6.7. Functional Relationships..... 94

6.8. Other Design Parameters..... 94

6.8.1. Internal Environments..... 94

6.8.2. Engineering Services and Equipments.. 96

6.8.3. Fire Protection..... 97

6.8.4. Design with Climate..... 97

6.9. Schedule of Accommodation..... 98

Chapter Seven: DESIGN AND TECHNOLOGY

7.1. Design Criteria..... 102

7.1.1. Design Principles 102

7.1.2. Environmental Consideration..... 104

7.1.3. Site Design Criteria..... 105

PAGES

7.2. Form and Concept Development 106

7.3. General Plan Concept..... 106

7.4. Detailed design Layout..... 108

7.4.1. Circulation..... 110

7.4.2. Pedestrains..... 111

7.5. Related Problems..... 111

7.5.1. Conference hall Floor..... 111

7.5.2. Acoustics and Sound Transmission.... 112

7.6. Conclusion..... 112

LIST OF FIGURES

		PAGE
3.1	Map of Nigeria showing Gongola State	17
3.2.	Gongola in the defunct Eastern State	19
3.3	Yola Climatic Data	22
4.1	Kongo Conference Layout	28
4.2	Kongo Conference Hall Complex	30
4.3	Section, Kongo Conference Hall	30
4.4	Section, Kongo; Accommodation Block	33
4.5	Roof terrace, Kongo	33
4.6	Gutter of Conference Hall, Kongo	33
4.7	Hamdala Hotel, Kaduna; Site Plan:	35
4.8	Site Plan, Scanticon Conference Centre:	42
4.9	Basement Plan, Scanticon	42
4.10	Sections, Scanticon	44
4.11	Principal levels Plan, Scanticon:	44
4.12	Conference Floor, London Conference Centre:	49
4.13	Auditorium Floor, London Conference Centre:	49
4.14	Section, London Conference Centre	50
4.15	Conference Centre, Riyadh; Plan	54
5.1&5.2	Seating and Sightline	64
6.1	Gongola Map Showing Site	64
6.2	Proposed Land use Showing Site	65
6.3	Composite Functional Relationship	95
6.4	Comfort Chart	99
6.5	Conference Facilities	100
6.6	Hotel/Public Facilities:	101
6.7	Service	102
*7.1	Zoning Concept	107

LIST OF PLATERS

		PAGE
2.1.	Defunct house of Assembly, Yola : :	11
2.2.	International Hotel, Yola : : : :	11
4.1.	Conference hall Complex, Kongo, Zaria :	31
4.2.	Sculpture, Kongo Conference Centre, Zaria	31
4.3.	Hamdala Hotel Kaduna : : : : :	37
4.5.	Scanticon Conference Centre, Denmark :	46
4.6.	Conference Centre, Riyadh : : : :	57

LIST OF TABLES

		PAGE
3,1,	Population Projection : : : : :	18
3.2.	Mean Monthly Temperature : : : :	21
3.3.	Mean Monthly Rainfall : : : : :	21
3.4.	Mean Monthly Cloud Cover : : : :	21
3.5.	Mean Number of Cloudy Days : : : :	21

Bibliography.

CHAPTER ONE

1.0. INTRODUCTION

Gongola State was created from the defuct North-Eastern State comprising of Gongola, Borno and Bauchi States. The state since inception can not boast of adequate facilities in size and quality to support large national and international assembly. The 'international hotel' just commissioned (1991) has banquet hall for just local meeting and can not accommodate large number of people.

The need for a conference centre should therefore not be under estimated considering the growing importance of the town in national and regional affairs; increasing population; tourist attractions and potentials; and community related activites going on in the state. In Yola there are several types of community organisations falling into the following major categories:

i. Social organisation
ii. Public services and Volunteer organisations
iii. Proffessional organisations
iv. Governmental organisation.

The type of activities usually associated with these organisations are:- Dances, Banquets and Testimonial Dinners, Conferences and Seminars, Meeting (Public and Private),

Mini convention, exhibition and fashion shows, Community forums and meetings.

The conference centre proposed here will offer facilities for these community related activities. It is also aimed at gaining maximum utilisation of the centre by the communities in addition to conference uses. It is also anticipated that the project will accelerate the already improving beauty of Yola. Recent public and commercial buildings in Yola will give a new significant impectus to a more vital town and the conference centre should have a similar impact.

1.1. AIMS AND OBJECTIVES

The conference centre has the following as its aims and objectives:

i. To provide facilities for conferences, lectures, meetings and seminars. It is also expected to provide enough space for exhibition at local, national and international levels.

ii. The conference centre will be so programmed to put the facilities to full use by encouraging constant use.

iii. To put maximum effort in general design to utilise the automatic actions of natural forces themselves to control climatic factors in the provided facilities supplemented by mechanical aids.

IV. To promote the consolidation and expansion of the existing exchange between Yola and the world.

V. To serve as a source of revenue to the State Government as funds will be derived from conferences and other activities that will take place there.

VI. To decongest lodging at the few Government guest houses.

VII. To provide more gainful job opportunities to the people.

1.2. PURPOSE OF CONFERENCES

The main idea or the purposes of the conference centre in Yola are the following:-

i. Tourism
ii. Sharing information and experiences
iii. Learning
Iv. Generating new ideas and proposals
v. Decision making - communique
vi. Periodic affair.

1.3. SCOPE AND LIMITATION

The conference centre complex will have three major related facilities for local, national and international conferences. These related facilities are:-

i. Conference facilities to include the main conference hall.

ii. Lodging facilities will also be provided

iii. Hotel facilities.

(I) Conference facilities - These will include the following:

(1) Small spaces for seminars

(2) large spaces including conference hall for large meeting.

(3) Exhibition space to be flat

(4) Administration facilities for the staff

(5) Library

(6) Communication Centre.

(II) Lodging facilities

(III) Hotel facilities - This will among other things include the following:-

(1) Resturant

(2) Coffee room

(3) Lounges

(4) Bars

(5) Banquet hall

(6) Night Club

(7) Administrative facilities

(8) Shops

1.4 RESEARCH METHODOLOGY

The following methods will be used in carrying out this research :

(1) Case studies of existing conference facilities in Yola.

(2) Case studies of conference centres outside the state - national and international.

(3) Literature review

(4) Analysis of collected data.

1.5 CHOICE OF YOLA FOR LOCATION

The choice of Yola as the place where the conference centre will be located in the state stems from the fact that it's the administrative headquarters of the state. Also most of the companies and organisations which could promote different types of conferences and seminars are located in Yola.

1.6 AREA OF CONCENTRATION

The study examines in details, conference facilities and the need to position them to act as an organic whole - hence a conceptual model for conference centre planning.

Although the tradition of conference date back into the earlier centuries, the changing world of conference industry gathered the greatest momentum in recent times. The increase in attention to the industry came among other reasons as a result of natural increase in population, economic a activities and corresponding increase in the percentage in number of people attending conferences. Consequent upon the above the status of some centres have had to be raised and others created.

Since a lot of public investment would be made towards the design and construction of such structure it requires that some attention be given as to its planning and design.

Conference centre planning concepts exists, in some cases even here in Nigeria unpleasant mixes have been applied. There is thus the need to critically analyse these existing centres so that only their desirable aspects are upheld for centre planning. It is in the light of the above that this thesis seeks to evolve a concept that would be employed in the physical planning of conference centres.

CHAPTER TWO

CONFERENCE INDUSTRY IN NIGERIA

2.0 INTRODUCTION

The word conference has assumed numerous definitions overtime, a few of which are 'the act of collection or adding up; communication; and also the act of conferring or taking counsel. It goes further to the formal meeting of delegates for consultation, cross fertilisation of ideas, discussions, instruction, launching and negotiations of an agreement. Conferences of this nature are usually on very serious matters and on very formal terms. International and some local conferences are usually on these notes.

2.1 HISTORICAL DEVELOPMENT

It has been postulated that the first attempt to organise conference of international level can be referred back to the seventeenth century but the modern concept came into existence in the nineteenth century. International conference has since grown within this short period into an important part of international relations. The development of the industry can be traced back to the increas increasing awareness of the universal interdependence in all fields of life. Technological development particularly, in more recent years has shown the need for facilitated means of communication which is a pre-requisite for the international nature of congress.

The congress industry has developed into big business in the last few years with the growth of corporate wealth and the feeling within industry most especially, that there is value to be had from the cross-fertilisation or interchange of ideas. The U.S.A. is the biggest market with conferences now playing a major role in employees incentive schemes.

In Nigeria, the idea of conference is a relatively young phenomenon. Though the country got her independence some 31 years ago in 1960. It has already began to play a major role in world politics. Nigeria can be assumed to have taken the leading role in contemporary African politics by virtue of her influence - the influence brought about by the fact that every seventh African is a Nigerian and secondly because of Nigeria's immense wealth and abundant natural resources. These two factors give Nigeria a high bargaining power with the western world. This is also the reason why the advanced nations of the world would not refuse coming to Nigeria to confer on issues of mutual understanding. All these qualify the country as a suitable international and national congress host.

2.2 TYPES OF CONFERENCES

On a broad scale, the conference procedure is a function of the type and character of the conference. Conference however can fall into a broad classification as below.

2.2.1 POLITICAL CONFERENCES

These are conferences whose objectives are political. In Nigeria a lot of political conferences have been organised with the aim of giving the nation a new political direction. Notably among such conferences was the Kuru conference in 1986. It was aimed at examining the country politically, and prescription offered to the political system to be adopted. It's worth saying also that the present political dispensation in the country is a result of the synthesis of the various political conference resolutions. The establishment of the centre for democratic study in Kano is also a step towards finding solution to our political problems on the conference table.

This type of conference has a wide range, from house and peace conferences to ending wars or settle disputes as was the case in 1980 when the chadian crisis was resolved on the conference table in Lagos. Many of such conferences are held all over the world today.

2.2.2 SOCIAL/RELIGIOUS CONFERENCES

These are generally conferences composed of a particular relevant social conviction but to resolve issues pertaining to such convictions.

The Islam in Africa conference held at Abuja, the Catholic Bishops conference and the New Life for all conference in Kaduna are among the recent religious conferences held in the country. An environment conducive enough to aid assimilation of issues discussed is very necessary.

2.2.3. COMMERCIAL/INDUSTRIAL CONFERENCES:

The role of the conference in industry and commerce is ever on the ascending order. Conferences are advanced weapons of publicity and advertisement. Thus through conferences publicity can be given to a new product (at product launching) and broad monopoly may be broken. Similarly, new markets may be established through conference. Commercial/Industrial Conferences are therefore conferences organised solely for the furtherance of industrial and commercial activites and only this type of conference can stretch as well as put to full use conference facilities.

Quite a number of conferences of the type disccussed have been organised in the country. In Gongola State the problem is that of enough conferences facilities. Until recently (1991) when the Yola International hotel was commissioned, any form of large gathering be it political relogous or commercial was done in the defunct house of assembly. The place does not offer enough conference facilities to meet the demands of the participants. No hotel and accommodation facilities attached to the building. See plates 2.1 and 2.2.

Conference facilities in Yola



Plate 2.1

Defunct house of assembly, Yola has only the hall for Meetings.

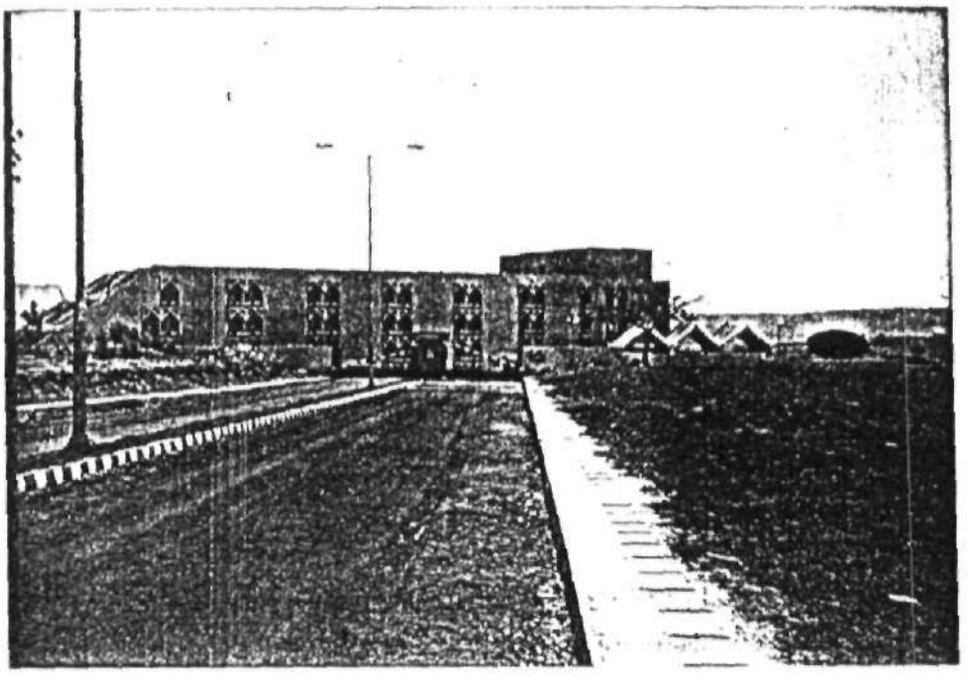


Plate 2.2

International H otel Yola

No big hall for large gatherings.

The country and the state stand a great chance of benefitting from these conferences. Social and religious ills still common to the society must be brough to the conference table and concertedly resolved. Conferences also provide golden chance to promote joint ventures with potential partners. It also offers the participants an added opportunity to broaden their knowledge of the international market and industrial practices.

2.3. PROSPECTS FOR THE CENTRE

The significance for a conference centre in Yola should not be under rated, considering among other potentials, the importance of the town as the capital city of the state and the ever increasing population. For a conference centre to be prosperous therefore certain potentials have to be available within which the centre is located. Some of these potentials include the followings:-

2.3.1. TOURIST ATTRACTIONS

For a country which is very attractive to tourists, the convention market offers rich pickings. Gbongola State is blessed with beautiful sceneries which will provide some one interested in nature much aesthetics and a lot to savour, enjoy and reflect.

2.3.2. THE MAMBILLA PLATEAU

The Mambilla Plateau lies to the Southern tip of the state and it's well noted for its rich scenic beauty. The Plateau which stands well over 1850 metres above the sea level has a temperate climate with pasture green vegetation the year round. The run up the Plateau and canyons are breath taking which could be a pleasure driving there. It is one of the few places in Nigeria where temperate plants like pears, Arabic coffee, tea and irish potatoes grow very well. The whole area is tse-tse fly and mosquito free with more than 400 000 heads of cattle.

2.3.3. GASHAKA GAMES RESERVE

This lies at the foot of the Plateau. It is well noted game country. Various species of mammals, carnivoures, birds and water falls abound. It is indeed a "Mecca" for game viewens.

2,3.4. FESTIVALS

A lot of festivals abound. These include fishing festivals, canoe racing and cultural dances. Notably among these community related festivals are the Jukun annual cultural day, the farai, farai wrestling in Numan by the Bachama people and the neigbouring tribes like Languda and Mbula.

There is also the annual festival of all the cultural groups in the state usually held in the State Capital. There is therefore the need to programme the centre so that constant usage is encouraged.

2.3.5. HISTORICAL MONUMENTS

Historical Monuments and places of interest are found in many parts of the state. These historical monuments and places of interest include the grave yard of Modibo Adamas, the founder of the Adamawa at Yola; the old palace of the Hamman Yaji, the notrious ruler that used human beings as columns or reinforcements for his mud walls at Madagali; and the Mysterious and ancient crocodile pond still at Wukari.

2.3.6. SAVANNA SUGAR COMPANY

The Numan Savanna Sugar company is the biggest in the whole of West Africa. Earlier, it was said that only in industrial conferences that the facilities could be put to full use. With sound industrial base being laid, the state will in a short time be industrialised. The establishment of a conference centre in Yola will then provide an avenue where Industrial Conferences will be held.

2.3.7. TRANSPORTATION AND COMMUNICATION

No matter the tourist attractions of any locality, they shall remain moribund except access to them by tourist is made easy and comfortable. Yola is well linked with good road network to the neigbouring states and to the Southern part of Nigeria from Wukari. There is also the Yola airport. The state is also well served with good Telecommunication system.

The opportunities provided for the erection of conference centre of international standard are unlimited.

It must be however known that such venture involves huge investment usually in their construction. They should therefore be designed and programmed to accommodate wide range of activities. All these must act within an organic whole. The centre should also be seen as an effective vehicle for the promotion of national understanding and peace.

CHAPTER THREE

GONGOLA STATE SETTING

3.1. LOCATION

Gongola State is located 6½ degrees and 10 degrees North and longitude 7½ degrees and 11½ degrees East. It shares common bounders with Plateau and Benue States to the West while it is bordered on the North part with Bauchi and Borno. On its eastern border is the republic of Cameroon. In terms of land area, Gongola State has a total land area of 102, 067 square kilometres. See fig.3.1

3.2. DEMOGRAPHY

The projected population of Gongola State in 1990 stands at about 5.5 million. There are about 104 ethnic groups in the state, some prominent ones include: Jukuns, Fulani, Bura, Bivatiye, Chamba. Others are Kaka, Kuteb, Languda, Jenjo, Margi, Itchen, Mambilla and Mbula etc. The people live in segmented large and small area. The major occupation of the inhabitants of the state is Agriculture. Cash crops such as tea, coffee, groundnuts and cotton are being produced. Crops like yam, rice maize, sorghun, millet and cassava form the main subsistence crops.

Political Map of Nigeria Showing the Position of Gongola State

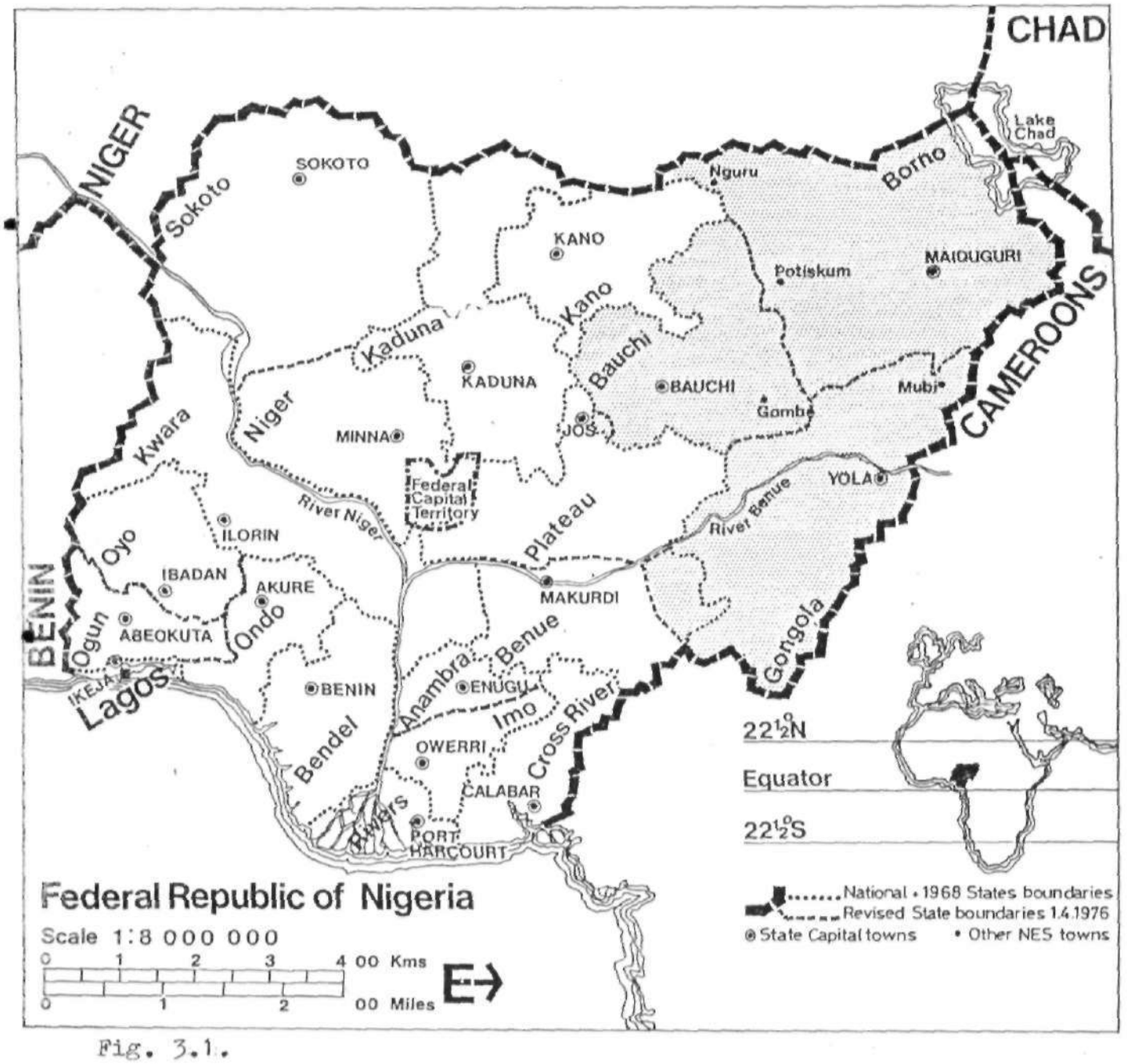


Fig. 3.1.

SOURCE: Max Lock Group Nigeria (1973-1976).

More to that the Fulanis engage in cattle and sheep rearing, especially on the Mambilla Plateau and the Benue - Gongola Taraba villeys. Similarly agricultural activities like goat breeding by the people are undertaken. The communities that live on the banks of the rivers Benue, Danga, Gongola and Ibi engage in fishing. The people also undertake cloth weaving, mat-making, pottery as well as hunting in either occupational capacity or as part times. See table 3.1. below.

Projected population of Gongola State by Local Government Areas. (1963 - 1990).

Local Government	Population (63)	Projection 1980	Projection 1990
1. Bali	116,134	176 710	244 495
2. Fufore	114,561	174,318	241 183
3. Ganye	185 149	281,726	389,789
4. Ghashaka	18,226	27,731	38 ,368
5. Gombi	77,726	181,265	163,529
6. Guyuk	126,378	192,299	266,060
7. Hong	116,608	177,434	245,494
8. Jalingo	83,823	127 547	176,470
9. Karivn-tamido	111 923	170,304	235,629
10. Maiha	64,533	98,194	135,890
11. Mayo-Belwa	138,987	211 485	292,606

Gongola in the defund Eastern State



Fig. 3.2

SOURCE: Max Lock Group Nigeria (1973-1976).

Local Government	Population (63)	Projection 1980	Projection 1990
12. Michika	227,466	414,598	573,615
13. Mubi	144,155	219 355	303,494
14. Numa	156,277	237,794	329,006
15. Sardauna	124,162	188 841	261,414
16. Song	114,533	174 275	241 123
17. Takum	133 582	203,261	281,227
18. Wukari	152,064	231,383	320,136
19. Yola	92,230	140,330	194,170
20. Yarro	195,921	298,116	412,466
21. Zing	91,469	139,181	192,568
TOTAL	2,630,249	5,538,802	

Source: Population census of Nigeria 1963 Vol 1

3.3 CLIMATE

3.3.1 TEMPERATURE

Gongola state lies within the tropic regions hence it has a tropical climate marked by rainy and dry seasons. The rainy season starts in April and ends late October while the dry seasons commences by November and ends by late March. In the Southern part of the states including the Mambilla plateau, rain starts as early as February and may last till December. The average rainfull in southern part of the state is 750mm, especially around Ibi. The dry season marks the Harmattan period when the dust-laden North Eastern trade- winds from the Sahara desert affect the climate of the state tremendously. See fig. 3.3

The driest and coldest months are December, January and February when the Relative Humidity (R.H.) is 13d.

It must be noted that the temperature of the state varies from place to place because of the altitude and proximity of the Sahara Desert. The average minimum recorded temperature for the state is 15.2 degrees centigrade while the maximum is 39.7°C. However Mambilla Plateau has a temperate climate.

Mean Monthly temperatures $\frac{\text{Max} + \text{Min}}{2}$

Table 3.2

	Jan	Feb	Mar.	April	May	June	July	Aug	Sept	Oct	Nov	Dec
C°	25.9	25.9	31.3	32.1	30.0	27.5	26.3	26.3	26.3	27.6	27.4	25.6
F°	78.7	78.7	88.4	89.8	86.0	81.6	79.4	79.4	81.8	81.8	1.4	78.1

Table 3.3

Mean monthly Rainfal (inches)

Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
0	0.02	0.16	0.81	3.6	5.41	7.18	10.36	9.84	3.42	0.26	0

Table 3.4

Mean monthly cloud cover

Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
2.5	2.8	4.2	5.7	5.6	6.0	6.4	6.6	6.4	5.4	4.0	2.7

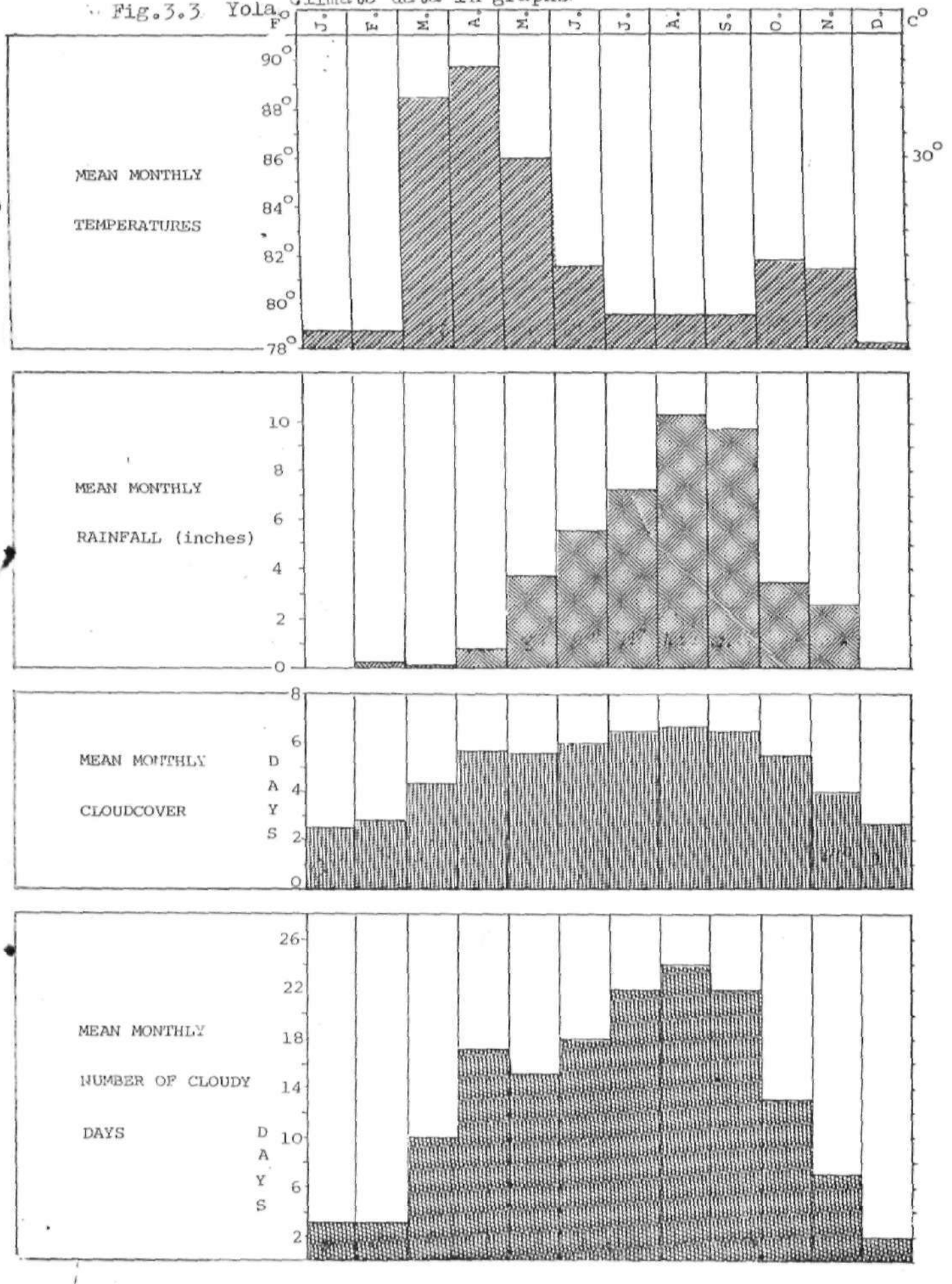
Table 3.5

Mean Number of Cloudy days

Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
3	3	10	17	15	18	22	24	22	13	7	2

SOURCE: Max lock group Nigeria (1972-1976)

Fig.3.3 Yola Climate data in graphs



SOURCE: Max Lock Group Nigeria (1973-1976).

The clamate of Yola is largely determined by relief and the inter tropical convergence zone. The long dry season lasts from October to March and wet season only occurs between April and September.

3.3.2. WINDS

The South wards movement of the inter tropical convergence zone has great influence on the climate of this area: with the movement of the sun in winter, north easterly harmattan winds from the Sahara are drawn to the Yola-Jimeta area. These winds are cold and often accompained by dust haze and characterised by poor relative humidity and poor visibility. Although the relatively high temperature during this time is a climatic anomaly brought about by orographic effect, night temperature can be very low thus bringing about a wide diurnal temperature range.

The South Westerly humid winds are drawn towards this area with the movement of the sun to north wards during the wet season. Although there are often some local connection activities in this area the South west wind is responsible for most of the rain that fall in the Benue valley benefit most from these winds. The average annual rainfall of this area ranges from 35 to 40 inches.

The direction and persistence of winds shows a dominant north-east direction from the month of November to March and south-west from April to October. Maximum radiation is experienced from November to February while the highest cloud cover recordings occurs in the month of August. Saturation effect reaches its peak in the pre-rain hot period in March and April and falls to its minimum in August.

3.4 VEGETATION

Relief, soil type, climate and human activities have greatly affected the vegetation in the Yola Jimeta area. In the permanently settled areas, trees have been preserved in scattered form. Prominent among trees so preserved is the acacia while some strains of eucalyptus are found in parts of the town. In the frequently cultivated areas, secondary growth and fire resistant shrubs and stunted thorny trees have taken over from the former vegetation.

The low rolling plain consists mainly of annual grasses, shrubs and stunted trees. The grass often grows to about 2 feet in height and largely represent post fallow communities. It could also be the stable community on some more compacted halomorphic clays. The components species often occur in descrete pure stands. The bare rocky outcrops are covered by pererial pionier plants.

3.5 RELIEF

Yola and Jimeta lie in the Benue through and consist of undulating plains rising from between 300 and 500 feet. The Adamawa mountain to the east is broken by the river Benue at Yola. The line of the high land is continued by the Mandara mountains in the north. These steep-sided sandstone hill ranges have restricted the width of the flood plain of the Benue east of Yola. The flood plain of the Benue narrows to 1200m (4000ft) where the sandstone rocks approach the Bagale hills at wuro Hausa and thus constitute a favourable site for building a dam across the river.

3.6 GEOLOGY

Flat-top hills of sedimentary origin occur in the lower part of the trough but with varied outline towards Yola. The hypothesis advanced is that the Benue trough is an ancient rift valley of lower cretaceous age and bounded by faults. The hypothesis of continental drift is also evoked to explain the formulation of the valley. Protagonists of this idea argue that the valley results from the drifting apart of Africa and South America in cretaceous time.

3.7 SOILS

Basically the sea consists of alluvial soils requiring careful planning and balanced utilization between the demands of the livestock industry and the expansion of acreage of arable farms. The soils are weakly developed and hydromorphic in some areas varying from sandy and loamy to clayey soils which are often alkaline.

CHAPTER FOUR.

CASE STUDIES

4.1 KONGO CONFERENCE CENTRE, A.B.U., ZARIA

4.1.0 INTRODUCTION

The Kongo conference centre was commissioned in 1981 by the University Authority in an effort to boost its academic needs. It also serves as a centre through which the knowhow or researches undertaken by the University can be made public. The centre serves in essence, the Univefsity and the growing number of other uses, ranging from professional seminars and workshops to Business discussions, meetings and conferences. Ocassionally, the whole complex is hired for other activities such as parties, cinema and so on.

4.1.1 SITE

The centre is sited within Kongo Campus of the University along the old Jos road, It is bounded by the old Jos road to the North, Estate department and the Institute of Administration staff quarters. See fig. 4.1

4.1.2 BRIEF

The centre has a conference hall complex for 500 users with demountable partition to allow for flexibility in space usage. It was made to offer both visual and accoustical seperation in the case where the hall is used for smaller sessions, seminar rooms, Audio visual and offices. Others include Resturant and the Lodging accommodation.

KONGO CONFERENCE CENTRE, ZARIA, NIGERIA.

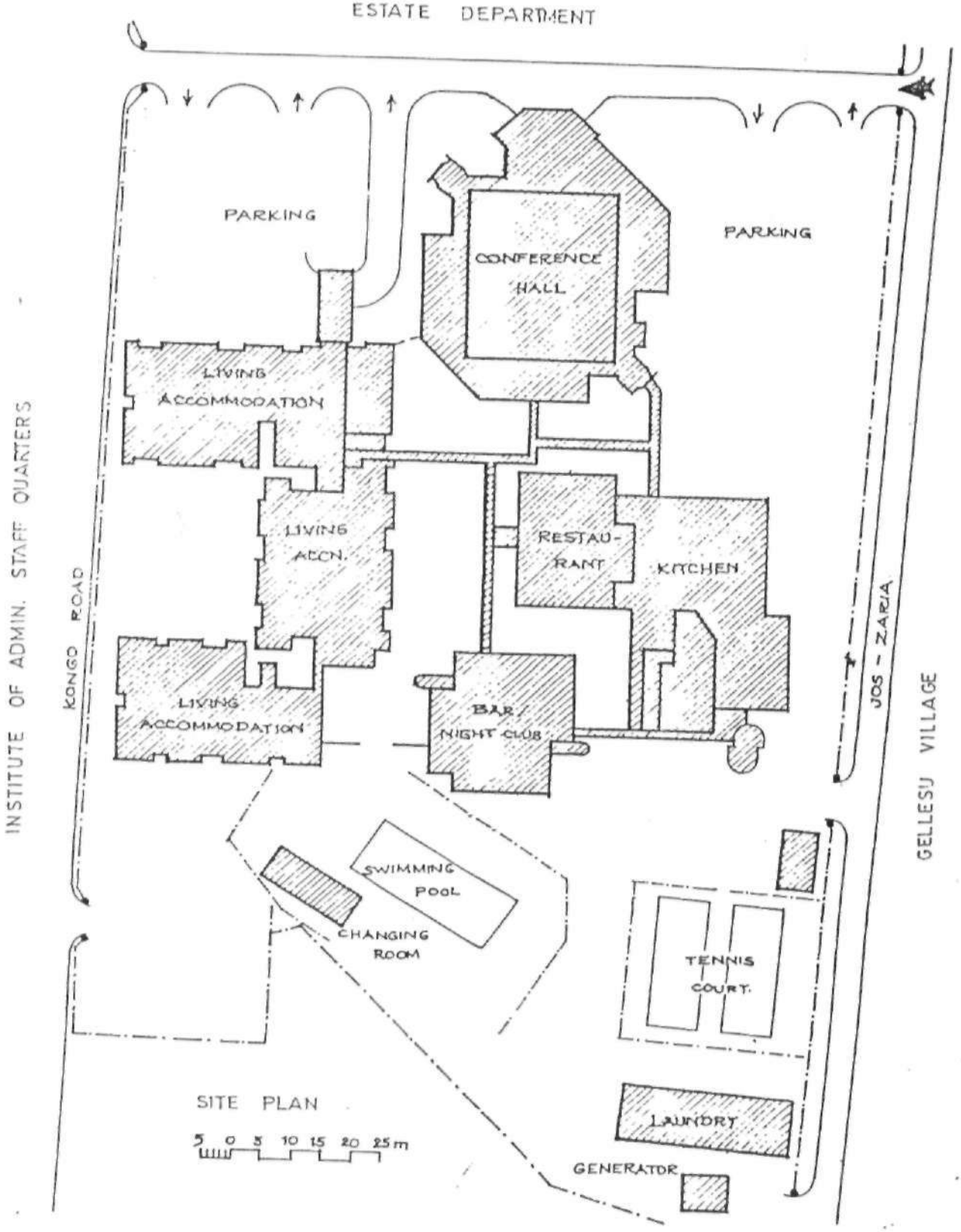


Fig.4.1

4.1.3 ORGANISATION

The general layout of the site is highly commendable. This is due to the fact that there is a proper zoning of the three main facilities - Hotel, main hall and the lodging accommodation. The zoning also makes possible the location of the lodging accommodation near the staff quarters. This is good enough because the area is quite and noise-free. The conference hall is situated just by the first gate and this will enable the visitors to find it easily without having to go through the whole complex.

4.1.4 DESIGN AND CONSTRUCTION

The conference hall complex is rectangular in shape with some rooms, seminar rooms, toilets and offices around it bringing about a roughly hexagonal shape. One rather peculiar thing is the fact that, all auxillary rooms around the hall including the seminar rooms and offices seem to be an incidence of design or form. In other words, they seem to have been allocated when the architect's design form was revealed.

The lodging block is of three floors. The upper two floors are fully occupied by guest rooms. On a part of the ground floor, are the entrance lobby/lunge, a receptionist and cashier, two shops and administrative offices including office of the General Manager.

KONGO CONFERENCE CENTRE, ZARIA, NIGERIA.

THE CONFERENCE HALL COMPLEX (SCALE 1 400)

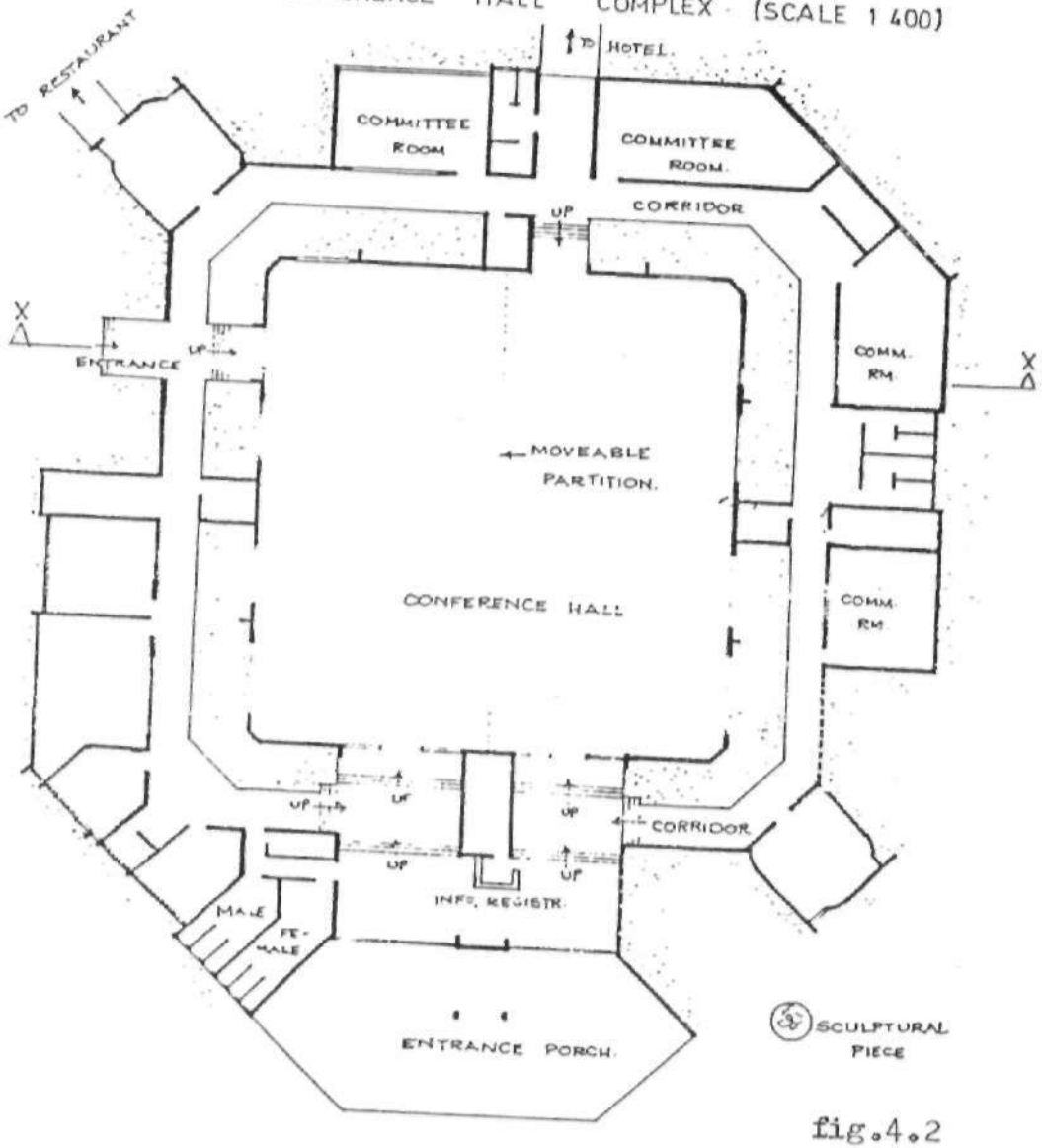
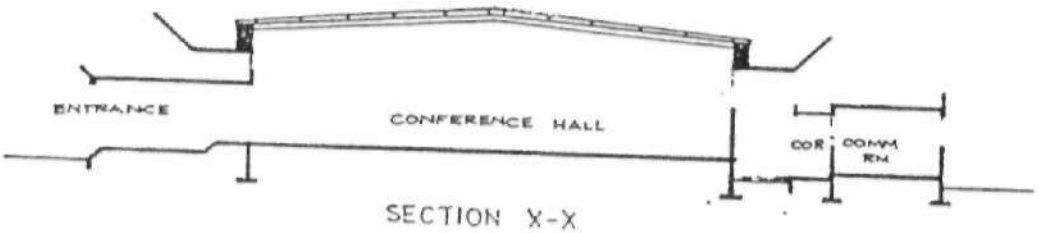


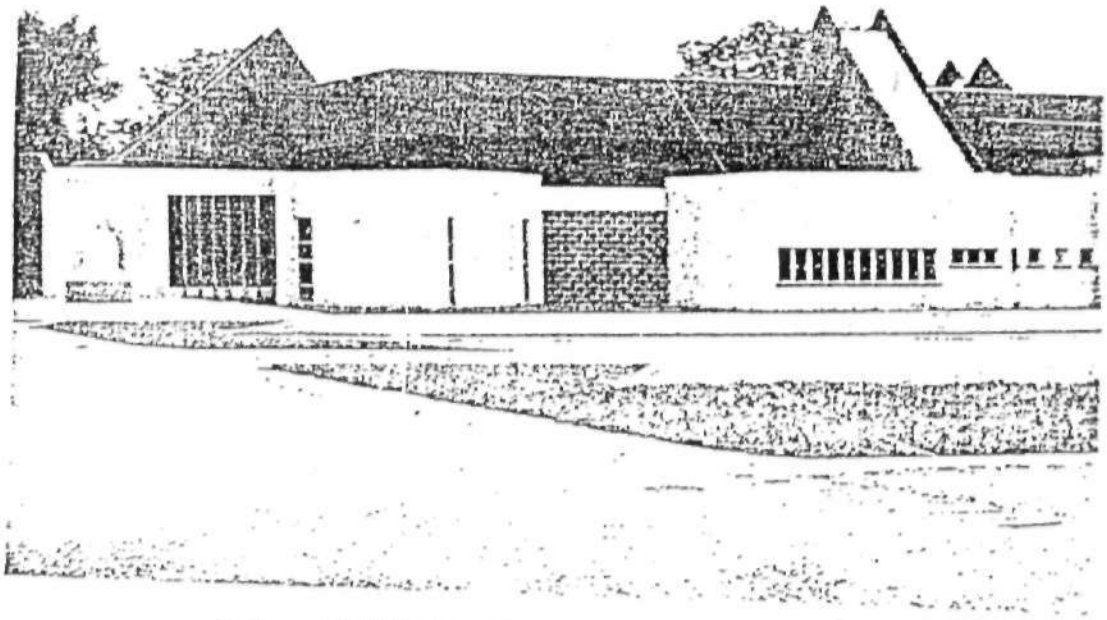
fig.4.2

PLAN

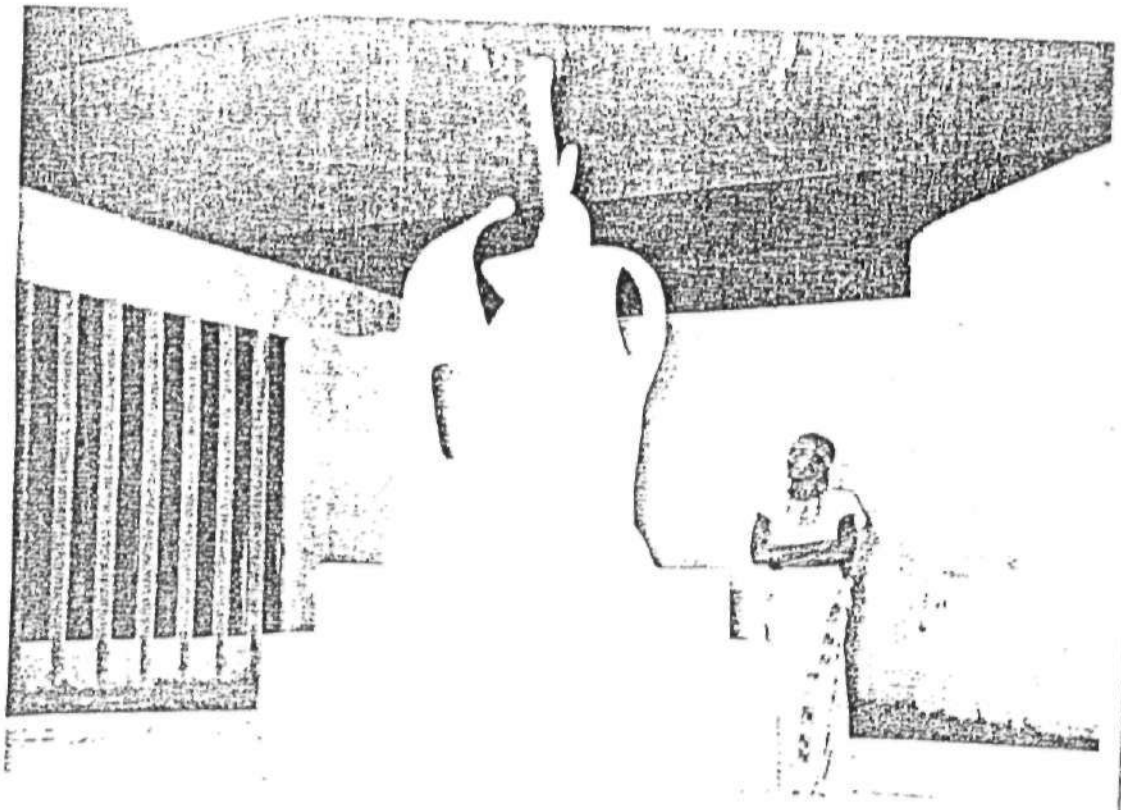


SECTION X-X

Fig.4.3



THE CONFERENCE HALL COMPLEX. Plate 4.1



'ASSEMBLY' AT KONGO CONFERENCE CENTRE.
Plate 4.2

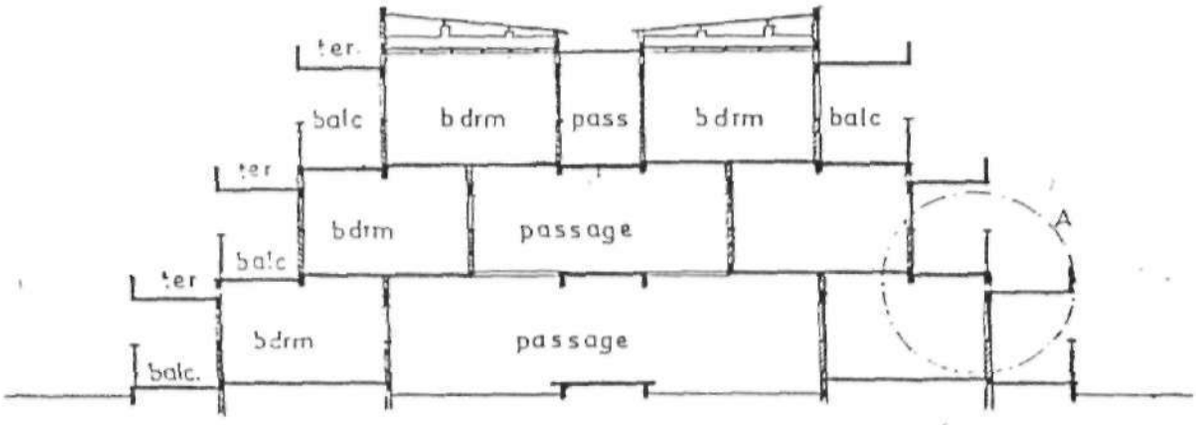
The rest of the ground floor is also occupied by guest bedrooms. This block is made of terracdd floors tappering as a pyramid to the top. The terraced floor very obvious in the elevation is very beautiful.

The resturant has about equal distance from the conference hall and the accommodation block. It is linked to each of these building by a corridor. The resturant is directly attached to the main kitchen and its accompanying stores serviced through the second gate along the old Jos road, next to the resturant block is a two-floor building: a night club on the upper floor supported by massive 'y' shaped columns and on the ground floor is the bar with the column completely exposed giving a very pleasant and attractive look. A fish pond between these columns adds up to the aesthetics of the environment. Beyond the Night Club/bar building is a swimming pool and tennis court.

4.1.5 CRITIQUE

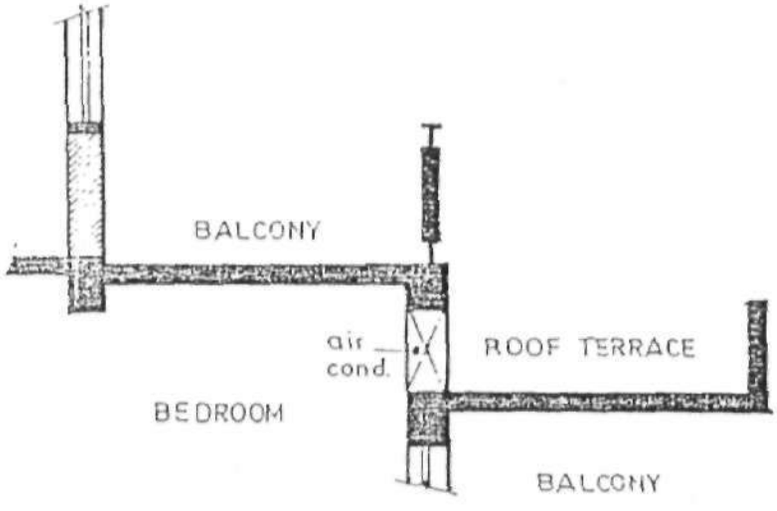
The general layout of the site is good enough because it take into consideration proper zoning of the basic facilities on site. Views of each of the units and the entire complex are very beautiful and aesthetically sound.

KONGO CONFERENCE CENTRE, ZARIA, NIGERIA.



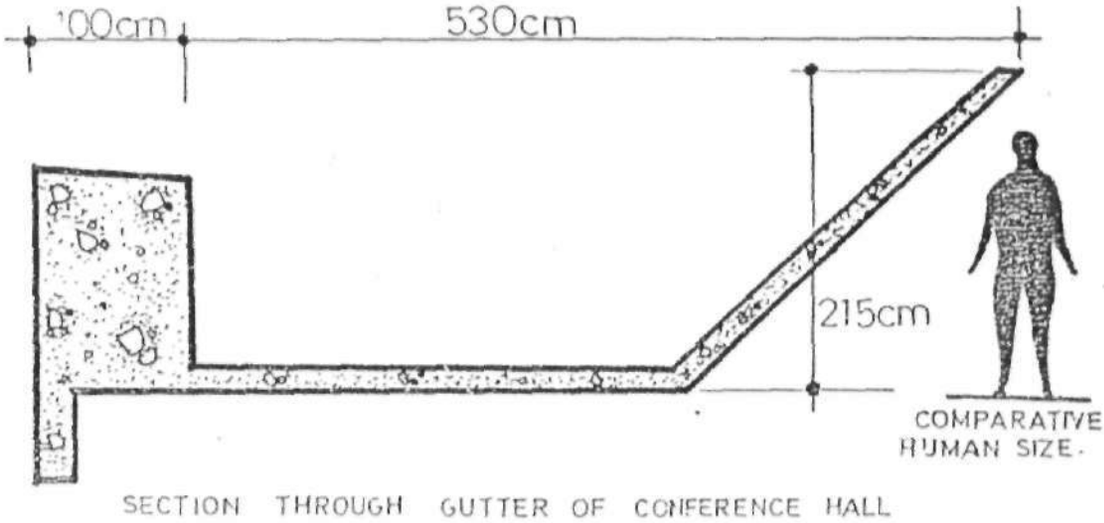
SECTION THROUGH ACCOMMODATION BLOCK
SCALE 1:200

Fig.4.4



DETAIL A
SCALE 1:50

Fig.4.5



SECTION THROUGH GUTTER OF CONFERENCE HALL
SCALE 1:50

Fig.4.6

This is made possible with the massive use of concrete as can be seen in the columns and the fascia in the roof gutter of the conference hall and the entrance canopy. The form though simple, offers a nice elevations. The wood panelling on the entire walls of the hall makes the conference hall sound proofed.

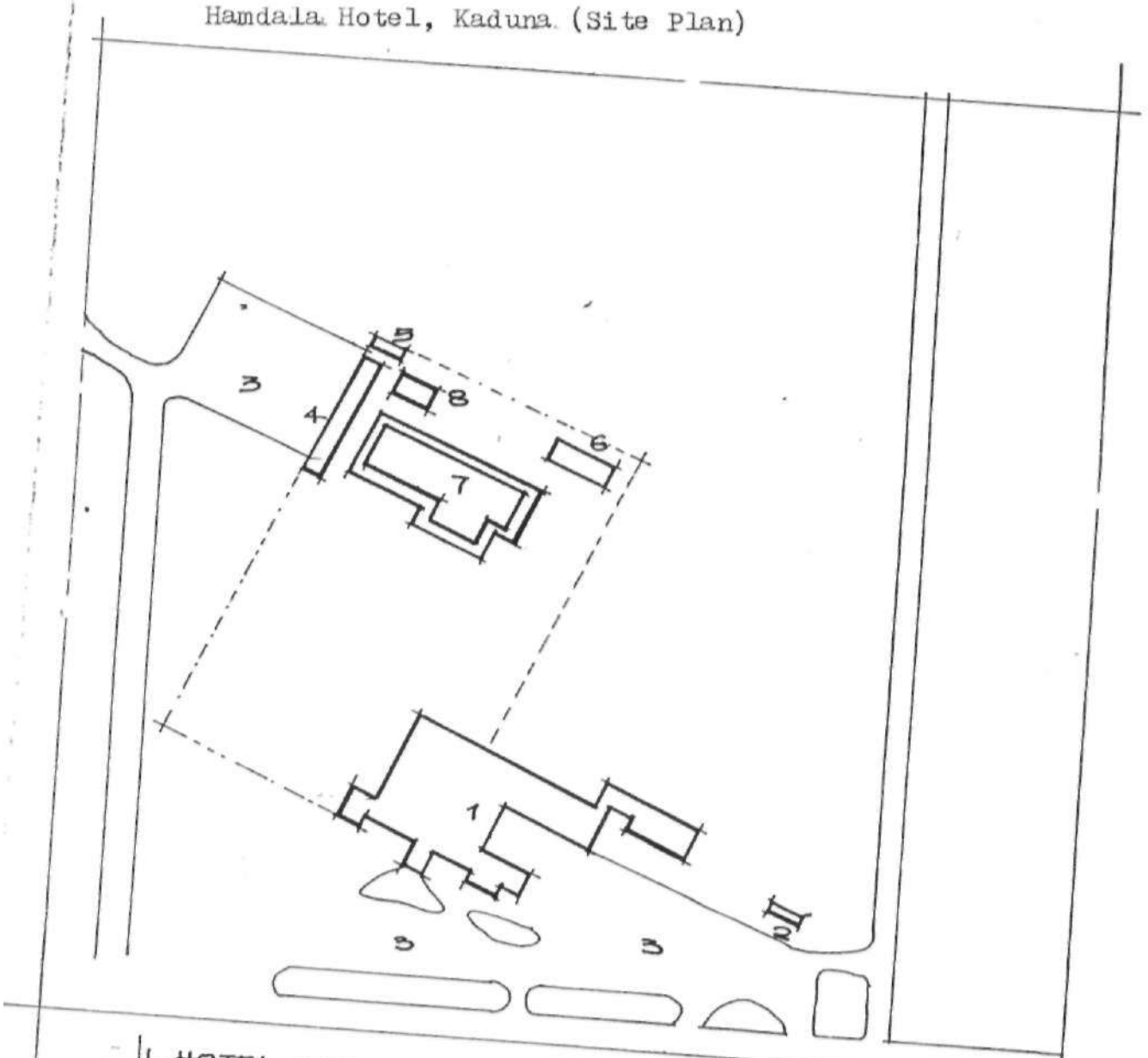
However the excessive use of concrete only leads to wastage. The fascia is so massive to the extent that it competes in size with walls of the rooms around the hall. Also the location of the Resturant and bar is far from the entrance lobby/lounge. This minimises sales of foods in these places. The terraced floor system as it affect the accommodation block is the concrete deck over each of the balconies. The use of sand and cement screed cause a lot of glare and heat, making the balcony just above it and the bedrooms uncomfortably hot. The terraced floor system has also led to a serious wastage of floor area in between bedrooms an the ground and first floors.

4.2 HAMDALA HOTEL KADUNA

4.2.0 INTRODUCTION

The need for a modern hotel and hotel facilities in Kaduna can not be over emphasised. This is in view of the growing nature of the town in all ramifactions. The hotel was proposed to also offer decent accommodation facilities.

Hamdala Hotel, Kaduna (Site Plan)



1 HOTEL BUILDING
2 CAR SERVICE STATION
3 CAR PARK
4 CHANGING ROOMS
5 PLANT
6 SHELTER
7 SWIMMING POOL
8 PADDING POOL

Fig.4.7

4.2.1 SITE

The hotel is located on Waff road and bounded by club road and a service wad on either side. See fig. 4.7

4.2.2. BRIEF

The project was originally conceived as a hotel complex of twelve floors tower block containing at ground floor and first floor public and service areas with nine floors of bedrooms and a roof garden, terrace and night club. Adjacent to the central block was a cinema, ballroom and conference hall, garden and a 50m swimming pool. Included in the scheme was a car service station with petrol kiosks.

The ballroom and cinema were omitted, the bedrooms lowered by three floors and the night club postponed as economy measures.

4.2.3. CRITTIQUE

The hotel has been designed with total disregard for tropical factors. Total reliance on artificial lighting mechanical plants result in badly ventilated and lighted areas when power fails. Kitchens are not well ventilated and food always decay rapidly. Accumulation of heat is intensified as the design is devoid of direct openings to external environment or external walls for installation of air conditioning units.

Total enclosure of the bar causes feelings being closed in natural light and ventilation is absent. The lounge is gradually being turned into a bar annex. Double loaded corridors in bedroom wing is long and uninteresting. The function area is served by the hotel lobby. This traffic is very heavy during activities.

4.3. ECWA CONFERENCE CENTRE, JOS

4.3.0 INTRODUCTION

The centre is mainly for Gospel work. Its being studied knowing fully well that conference process and problems involved are almost the same, irrespective of who owns or finances the centre. Something can still be learnt from the study of the centre.

4.3.1. SITE

The site is in Jos a town almost in the middle of Nigeria. It is the capital city of Plateau State and it houses the ECWA headquarters. The site is within the same vicinity with the ECWA publications.

4.3.2. BRIEF

The ECWA headquarters houses among others, the administrative headquarter offices of the organisation, ECWA guest houses and the ECWA conference hall or conference centre.

The centre has a large auditorium or conference hall accommodating about 1,500 conference participants at a sitting. Attached to the auditorium are seven counselling rooms, one kitchen and two toilets; one for males and the other for females.

4.3.3. ORGANISATION

The positioning of the conference facilities in ralation to the conference is highly commendable. There is easy access to the seminar or councelling rooms, toilets and kitchen. The kitchen is used only to prepare light meal. The conference hall too is not raked. This offers solution to multi purpose usage. It could be used for many other activities rather than conference alone.

4.3.4. DESIGN AND CONSTRUCTION

The simple nature of the plan present no problem in the construction method used. The walls are all sand cement block wall. The conference hall is raised higher than the counselling rooms beside it. Lattice truss roofing system is employed. The wall are parallel with no absorbing materials of any sort on any part of the wall.

This gives rise to an auditorium of hard surface wall. The auditorium is a large room on a level ground.

4.3.5. CRITIQUE

It can been seen that all other supporting rooms of the centre bear direct access to the conference hall. This indicate that when anybody wants to enter or leave any of the rooms, it will cause distractions. There is poor hearing and seing condition. The auditorium which is on a flat level makes it difficult for the people at the back of the room to see and hear clearly the speaker. Spherical waves radiates outward from the speaker, the intensity of the sound in the waves decrease inversely as the square of the distance. Additional looses occur as it grazes over the clothing and hair of the audience. The people at the back are deprived of hearing and seing the speaker - seing is believing. Steps would have used to over come this situation and a good sight line of vision which will also give good hearing would have been provided.

Flutter echoes occur when the speaker speaks in the auditorium. This is as a result of lack of absorbing materials on the walls of the auditorium that are parallel.

4.4. SCANTICON CONFERENCE CENTRE, DENMARK

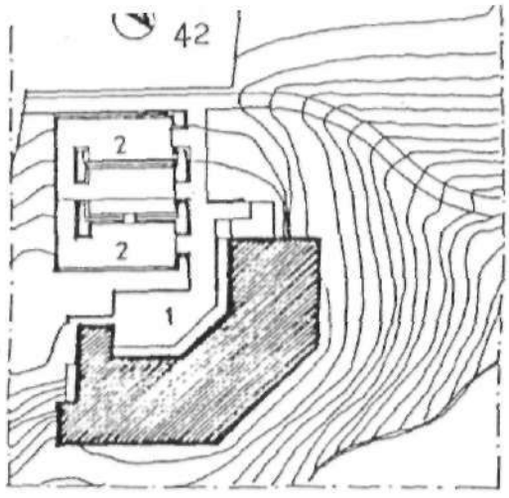
4.4.0. INTRODUCTION

The conference centre was designed by Knud Friss and Elmar Moltke Nielsen Firm for scanticon, a company founded by the Danish Enginers' Institute and the Medical Association, Denmark.

The conference centre was designed specifically to cater for mid-career education. It was a cross between a decent modern hotel and a university teaching department. In Britain, Mid-career education all too often consists of no more than a week's expenses - paid exposure to a series of lectures. Modern Mid-career education needs a wide range of facilities for formal as well as informal teaching, but there are a few British buildings that combine under one roof residential accommodation with the necessary teaching facilities. Scanticon conference centre was made to offer solutions to these problem. The centre can also be hired by any organisation that wants to use it.

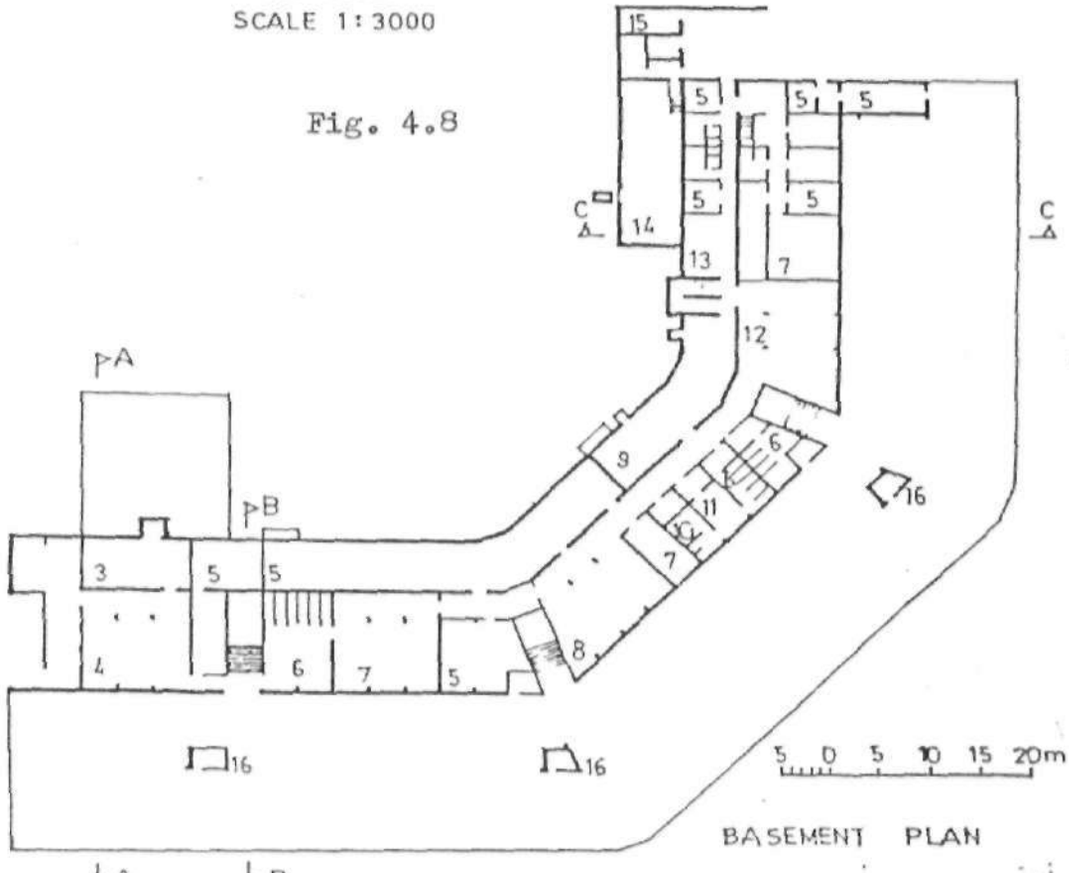
4.4.1. SITE

The scanticon conference centre is sited in the wooded Hummocky Country South of Aarhus in Zutland. See fig.4.8



SITE PLAN
SCALE 1:3000

Fig. 4.8



BASEMENT PLAN

Fig. 4.9

1. MAIN BUILDING	13. BAR
2. CAR PARK	14. HEATING PLANT
3. TECHNICIANS	15. REFUSE
4. COMMUNICATIONS CENTRE	16. CLEANERS CUPBOARDS
5. STORE	17. CONTROL ROOM
6. CLOAKROOM	18. LECTURE THEATRE
7. VENTILATION PLANT	19. SEMINAR ROOM
8. BILLIARDS/TABLE TENNIS	20. BED SITTING ROOMS
9. LOUNGE	21. TEACHING LABS
10. SAUNA	22. OFFICES
11. CHANGING ROOM	23. RESTAURANT
12. EXHIBITION	24. KITCHEN
	25. LOUNGE
	26. LOBBY

Scanticon Conference Centre, Denmark

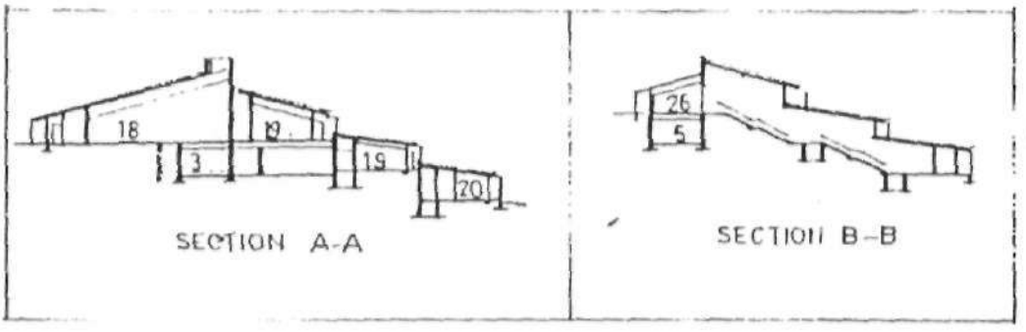
4.4.2. BRIEF

The conference centre was to consist of the basic facilities in a conference centre, this include the auditorium or main conference hall, accommodation and hotel facilities. There were to be within the complex seminar and meeting rooms for smaller committees and lecture rooms.

4.4.3. ORGANISATION

The planning is simple, the basic form is that a stepped profile and continous stains. The form and its relationship to the lanscape makes the building very interesting. Scanticon hugs to the hills like a crooked arm - a great bulk of accommodation almost disappears into the landscape; three floors cascade down the slope so that they can have light air and vie. The top floor, curves to form a courtyard. See fig. 4.9, 4.10, 4.11

SCANTICON CONFERENCE CENTRE, DENMARK.



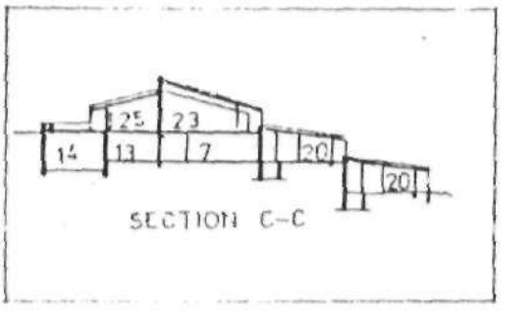


Fig. 4.10

Fig. 4.11

SECTIONS AND PRINCIPAL LEVELS PLAN

1. MAIN BUILDING
2. CAR PARK
3. TECHNICIANS
4. COMMUNICATIONS CENTRE
5. STORE
6. CLOAKROOM
7. VENTILATION PLANT
8. BILLIARDS/TABLE TENNIS
9. LOUNGE
10. SAUNA
11. CHANGING ROOM
12. EXHIBITION

SCALE:

5 0 5 10 15 20 m

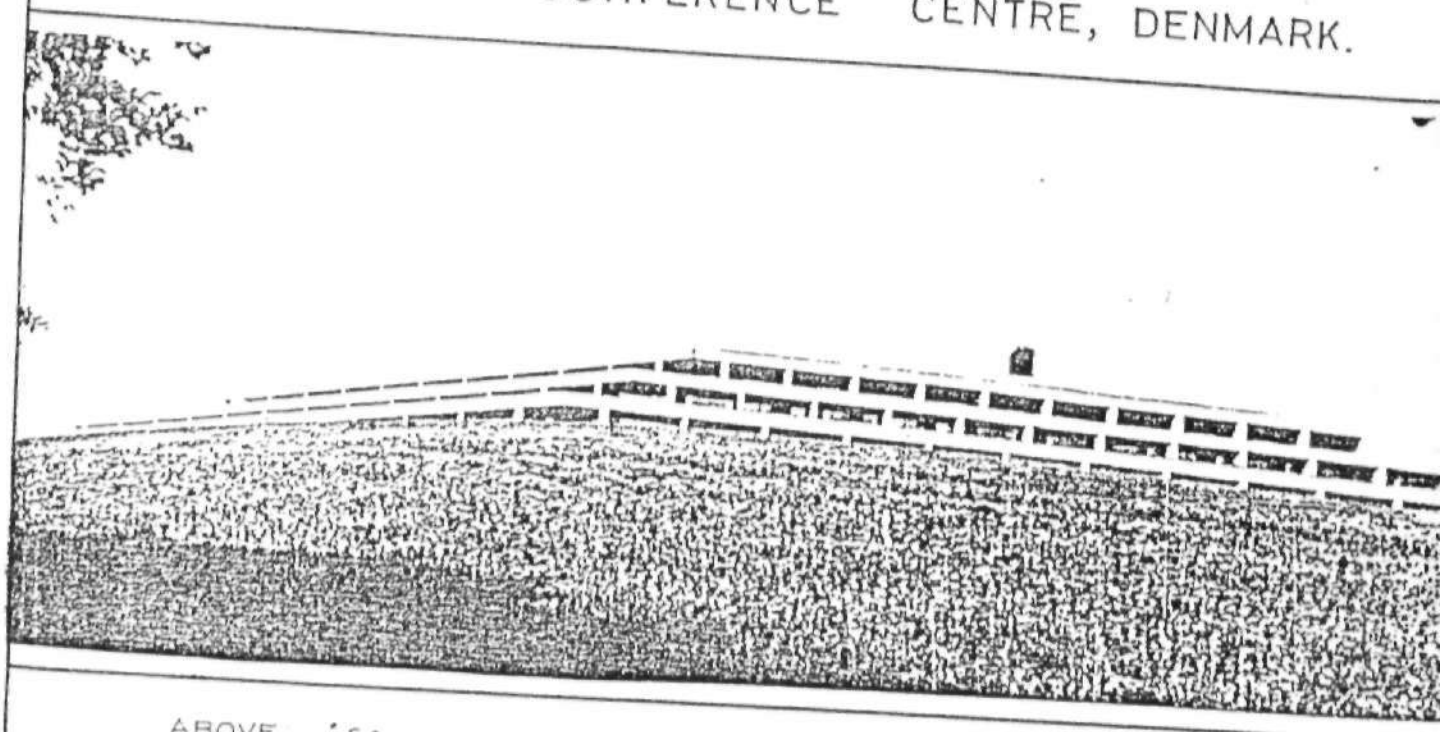
13. BAR
14. HEATING PLANT
15. REFUSE
16. CLEANERS CUPBOARDS
17. CONTROL ROOM
18. LECTURE THEATRE
19. SEMINAR ROOM
20. BED SITTING ROOMS
21. TEACHING LABS
22. OFFICES
23. RESTAURANT
24. KITCHEN
25. LOUNGE
26. LOBBY

Inside a street-like lobby connects reception, the main teaching areas, the resturant and some of the communal facilities that don't need natural light. Down the hill side are two residential floors: 66 bed sitting rooms each with private bath room and balcony. Floors are linked only by stairs which must make life difficult for someone on wheel chair. There are three lounges, a bar, a music room, a room for table tennis and billiards even a sauna where sweeting conference delegates can continue earnest discussion in the steam.

The bedsit floors which could easily have formed a row of cells off featureless passages are broken into short lengths by the cranked shape of the building and corridors are cunningly lighted from chtes in the roof with views to wood land from the lobbies at the angles in the plan.

Formal lectures can be held in the 200 seat auditorium but rooms are available for seminars and group work and there are two teaching laboratories. Accommodation is backed up by a complex internal tele communications network which can relay preceedings (in sound or TV) from a seminar room to the auditorium or to the bedsits, or both, or the other way round.

SCANTICON CONFERENCE CENTRE, DENMARK.



ABOVE: "SCANTICON HUGS THE HILL LIKE A CROOKED ARM — A GREAT BULK OF ACCOMMODATION ALMOST DISAPPEARS INTO THE LANDSCAPE".

BELOW: "THE CONFERENCE CENTRE GROWS OUT OF ITS SORROUNDINGS LIKE A CHUNK OF TURF-COVERED GREY ROCK".

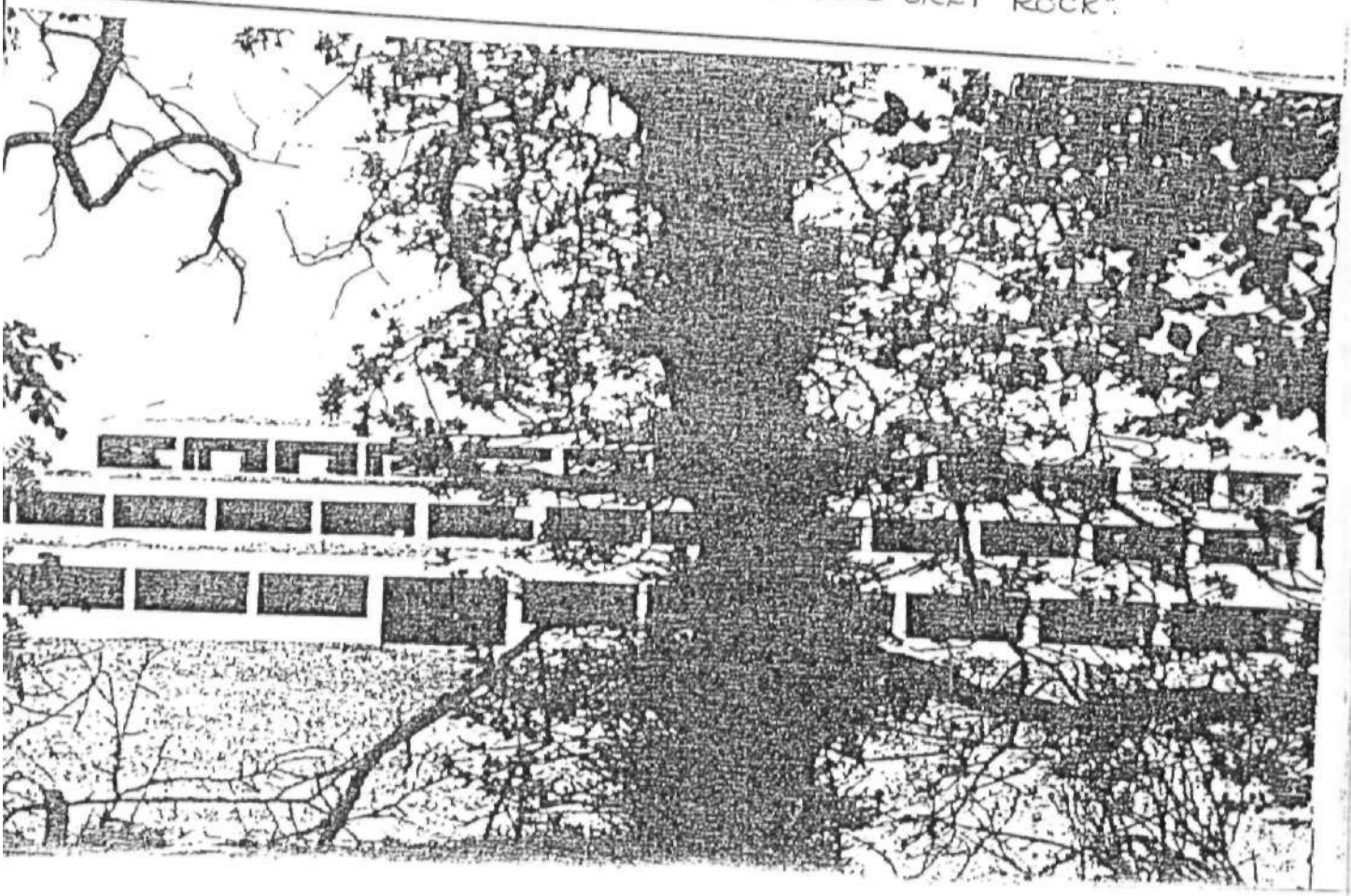


Plate 4.5

There is even a link with the local hospital so one can watch someone having a vasectamy from the comfort of his/ her own bed.

4.4.4. DESIGN AND CONSTRUCTION

The construction emphasises the monastic elements of the building. Robust and rugged surfaces ensure that there is no scope for users to make their mark appropriately perhaps when they only stay for very short periods. concrete, white-painted brick and, on the floors, river finmark state are the main internal materials, tough dark-green carpets and dark-ochre wood entiven the residential corridors and some vistas are closed by patterned doors.

4.4.5. CRITIQUE

The cranked shape of the building gives a wide variety of views of sorrounding country side-quite an advantage in building largely composed of identical cells. The design in which the three floors cascade down the slope offers the rooms advantage to have light/air and view. Also the street like lobby connect almost every facility. This offers a good functional relationship.

However, the most striking defect of the design is the unconspicuous location of the auditorium and the entrance.

There is also no proper zoning of the facilities as they are so mixed up. The auditorium design is very rigid and no emergency exits in the conference hall. Visual problems exists as a result of non raking of the auditorium floor.

4.5.0. CONFERENCE CENTRE, LONDON

4.5. INTRODUCTION

The need for a conference centre in London became very imperative. Thus the plan was unveited by the government for the establishment of such a centre in 1961. This would be a centre where government officials can confer on issues of national and international concern.

4.5.1 SITE

The building was to be established on the Broad Sanctuary site scandalously vacant since the world war.

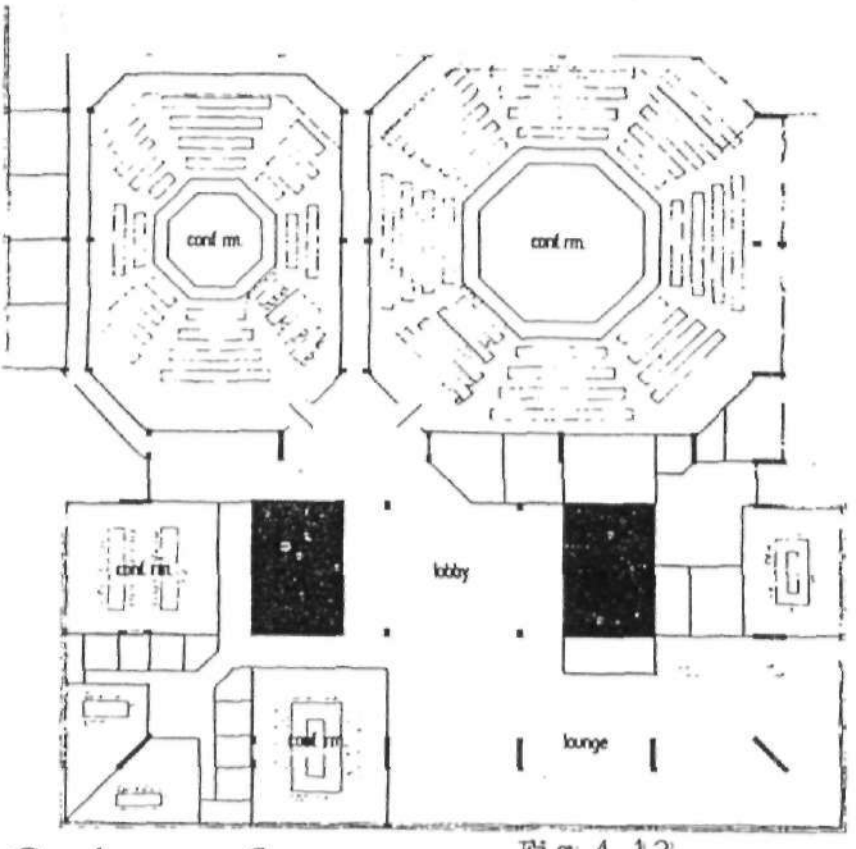
4.5.2. BRIEF

15 million pounds sterling was earmarked for the scheme. The brief was for two main conference chambers which slightly project over a new square outside Central Hall. The new square will terminate a series of green spaces starting with parliament square. The building which is to be clad in materials appropriate to its surroundings reficently conforms to the bulk of neigbouring buildings. As well as the conference chambers, the proposed building will contain five round table conference rooms an auditorium. Facilities will be rented out to outside organisation when the government does not need them.

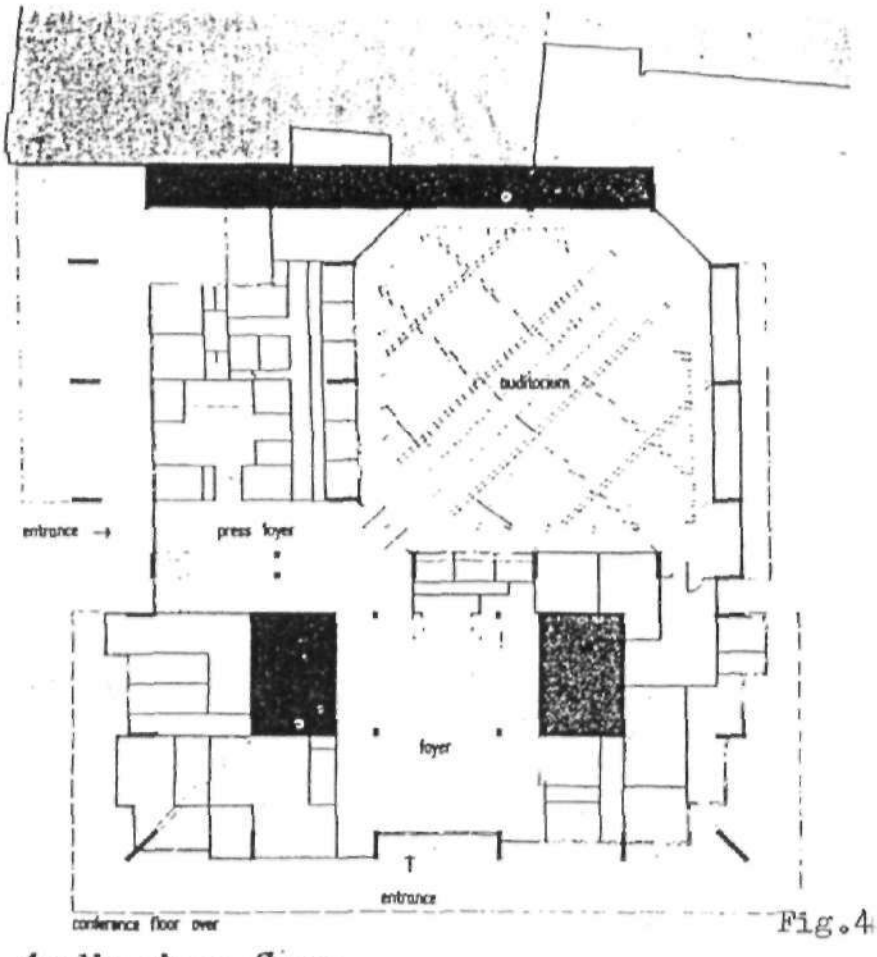
4.5.3. ORGANISATION

The planning of the centre incomporates the three major conference facilities - conference halls, Resturant or hotel services and accommodation within a building block.

Conference Centre, London

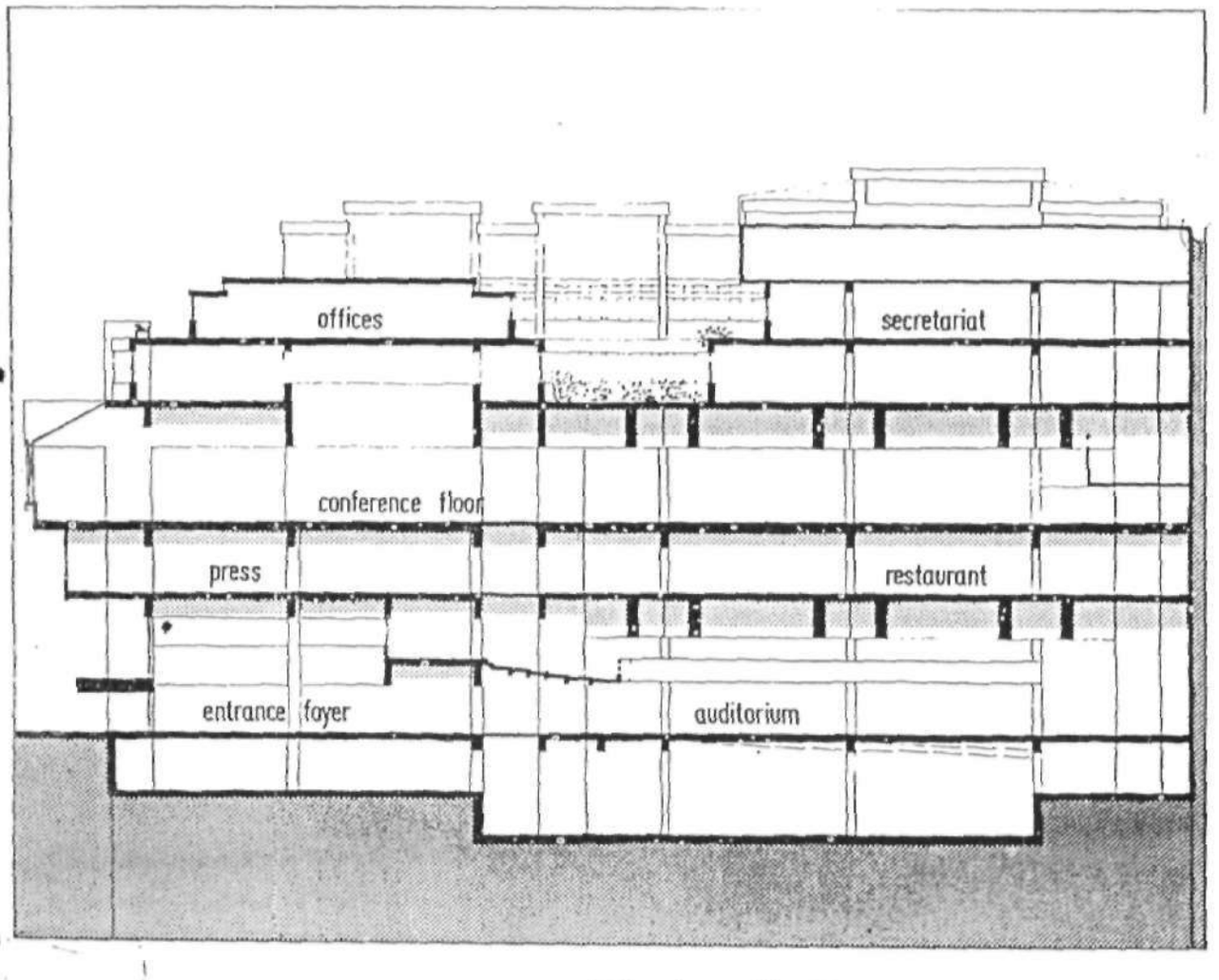


Conference floor. Fig.4.12



Auditorium floor. Fig.4.13

Conference Centre, London



Section through the auditorium floor

Fig. 4.14

This encourages greaterinteraction among delegation participating in a conference. See fig. 4.12 and 4.13

4.5.4. CRITIQUE

The two conference rooms which are not raked provides visual, and listening problems. The auditorium has the same problem at the lower level. The gallery however, accommodates only few number of people. The accumulation of all conference facilities within a building blocks offers no privacy as in the accommodation, and also less noise and disturbance in the main hall during conference process.

The conference centre should seek to accommodate a substantial proportion of the delegates. This would mean that the accommodation should be located within but free from disturbances.

4.6. CONFERENCE CENTRE, RIYADH, SAUDI ARABIA

4.6.0. INTRODUCTION

The conference centre was designed by Trevor Dannett and partners and finance by the Saudi Ministry of Finance on behalf of the Government of Saudi Arabia. It was aimed at offering conference facilities and hotel services.

4.6.1. SITE

7800m^2 desert site. Site is area North of the City scheduled for public buildings and is served by a new road which connects roads to airport and Dariya.

4.6.2 BRIEF

Conditions for the conference as laid down is that the centre should be used for both national and international conferences. It is also intended to form the focus of attraction of the state capital. A conference hall of 1400 seats with full technical facilities, five seminar rooms - One raked to seat one hundred and ninety, extensive foyer space for circulation, exhibitions, refreshment, relaxation, administrative areas, accommodation for delegates facilities for press, VIP entrance, reception lounge are among the requirements spelt out in the brief.

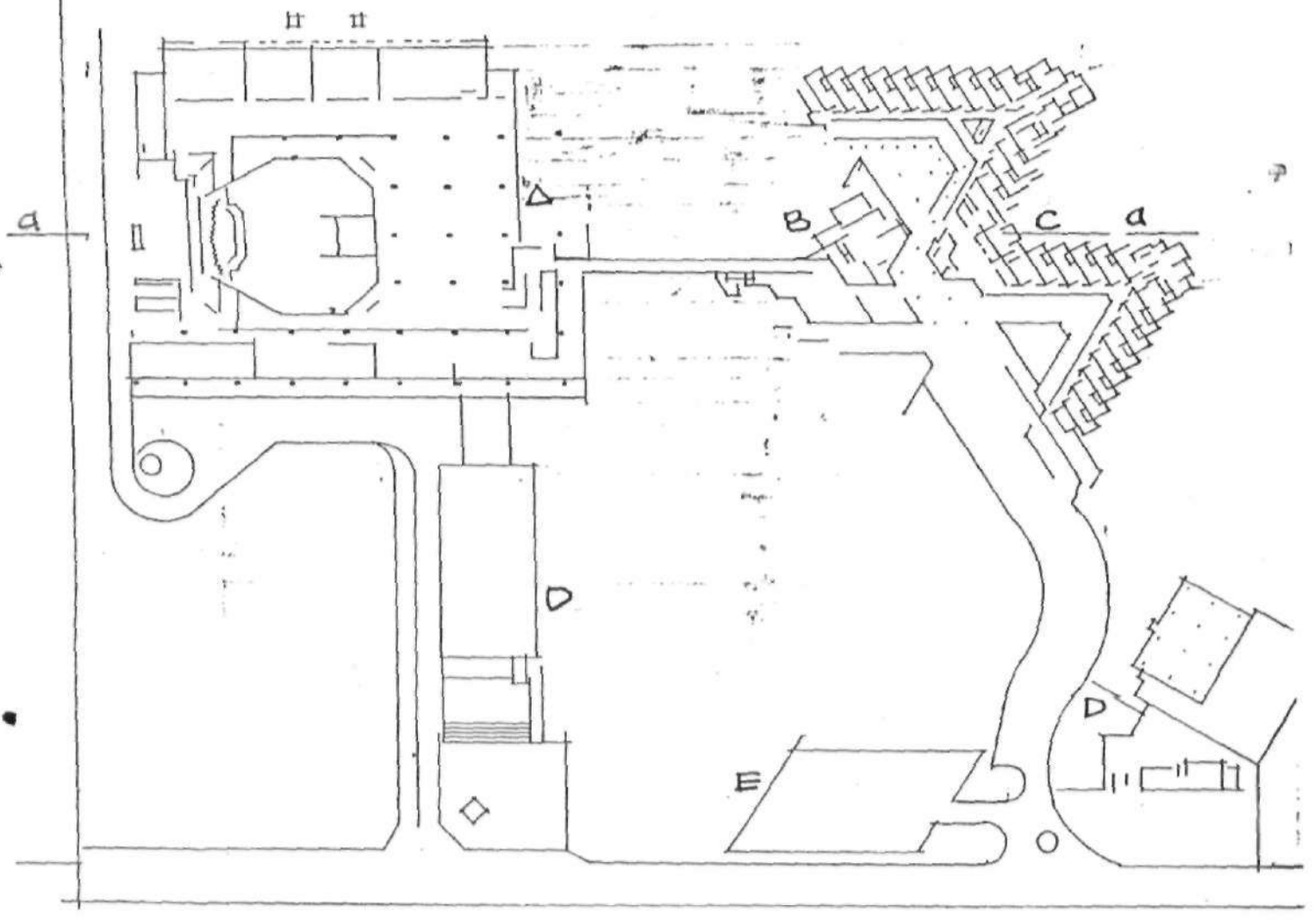
The hall was for two hundred double rooms, some capable of forming suites, lobby reception area, extensive lounges, dining facilities for four hundred, coffee, barber and beauty shops, back of house facilities including kitchen, laundry dry cleaning storage and staff rooms. The hotel was seen as an extension of the conference facilities rather than a commercial hotel.

4.6.3 ORGANISATION

The conference hall is paced within a surrounding foyer planned on three levels which are connected - Entrance level opposite port coherent opening into a general foyer and exhibition space extending full length of south east side; upper level from which doors lead into the middle of the hall to serve as foyer to meeting rooms on North West side and lower level which provides additional foyer space and refreshment areas and of which lavatories and service. The V.I.P reception is at the upper level on the south west side within the foyer volume and forming ceiling to offices below. Main access into the hall is through a wide central opening which leads direct to cross-gangway. The hall has one thousand, four hundred seats.

The 'M' plan of the bedroom wings with saw tooth north edge in the hotel evolved from the desire to have all two hundred rooms with patios facing north and as much privacy between them as possible. Apex of the 'M' provided central position for vertical circulation and service rooms. There are no internal corridors and bedrooms and entered off galleries which overlooked covered courtyards formed in the angles of the M and rising full height of building.

Drive in is by ramp upto the first floor level so that most rooms are within one or two storey reach and kitchen resturant and resting and service entrance is on the ground floor and isolated from the main circulation area.



A - TOP TO BOTTOM, MEETING ROOMS, UPPER AND GENERA
FOYERS, AUDITORIUM, ADMINISTRATION

B - RESTURANT
C - BEDROOM WINGS
D - VIP ARRIVAL
E - PARKING
F - MOSQUE, COURTS

Fig. 4.15 Conference Centre Riyadh, Plan

Between the entrance and covered courtyard are public lounges and reception area. To the left of the entrance is stairs which leads down to the resturant and garden level and adjacent is the link with the conference centre which also serves some small shops. Administration is next to main lounge and near reception area. See fig. 4.15

4.6.4 DESIGN AND CONSTRUCTION

The meeting room block in the conference centre is reinforce concrete construction with solid wall to foyer from which double beams span onto the double columns forming with glazing and suspended sun breakers on external walls to north west.

The bedroom wings in the hotel are cross wall construction. Internal courtyard system consists of raking R.C. beams leaning against bedroom wings. Thin slab span between them to form light baffles. Flat roof cover lounges is R.C. Waffle slabs with beams on a $30/60^{\circ}$ grid supported on columns.

The walls of the hall are clad with travertine, soffit plastered and painted. Hall internally has timber flooring, Oak platform timber wall dividers with internal parels of mid blue shot silk, inherently fire proof. The programme for the centre produces a rather distinctive type of auditorium.

Since it has a large capacity there is a natural desire to use it for other purposes than on conferences alone, so it is to some extent a multi-purpose hall though not to the extent of admitting uses which need flat floor. It is therefore a raked auditorium and one intended for speech.

4.6.5 CRITIQUE

The idea if having two separate structures for the conference centre and hotel (temple and residential hill concept) is highly commendable when one thinks about the heavy traffic expected at the entrances of both facilities. However the form chosen in the design of both facilities are in conflict. The 'M' shape of the hotel while allowing a central service core at the apex and for provision of covered and open courtyard is in conflict with overall square form of the conference centre. The effect is that one gets the impression that they are not part of the same complex. It could have been better if the two functions and their forms blended into each other and the site while maintaining the purpose of seperating the traffic to both functions.

Parking spaces seem inadequate on the hotel side. The conference hall which has the foyer distributed between three levels works out well, one does not get the impression that he or she is in a large space, although it is required for in the brief.

The flexibility obtainable from the stage design and the first five seating rows is applaudable in providing for three different arrangements.

The meeting rooms should have been planned so that they can be converted into large banquet hall for very large gatherings. The concept of flexibility should have been employed.

Private V.I.P. lobby and rest rooms are not provided.

The privacy achieved by the sawtooth design of the bedroom wing is commendable, however this concept is not carried out through in the interior design. The concept of flexibility is evident again in that certain rooms are capable of being converted into suites. Front and back house activities do not clash. This shows a reaction to this early in the design stage. The single loaded corridors allows for cross-ventilation. This also saves cost on artificial lighting as day light is admitted direct into the galleries.

CHAPTER FIVE

RELATED STUDIES

5.1. ACOUSTICS

The designer in shaping space for human activities needs to design environment where unwanted sound is kept off and wanted sound is clearly heard. Good hearing is an important element in a conference. Hearing is the natural method for the perception of sound (puretones, music, speech and noise) and in most acoustic systems involving artificial reproduction of sound.

5.1.1. REVERBERATION

If the boundary surfaces of a room are highly reflective when a sound introduced, then due to counstant repeated relection, this sound would be louder than if it were produced in the open. The sound energy in a room consists of two parts:

(i) The direct sound

(ii) The indirect sound or refleated sound.

The second is known as the reverberant sound. The process of multiple reflection leading to this indirect sound field is known as reverberation. The reverberant sound field depends on the amount of absorption and the strength of the source.

When the sound source is turned off, an appreciable and usually noticeable time elapses before the level falls to zero. This means that the hearing of transient sound will be affected by reverberation. It is necessary therefore that the reverberant energy from one transient decays to a low level or value so as not to obscure or mask the following transient. The amount of reverberation in a room is measured in terms of a quantity known as reverberation time. This is defined as the time it takes the sound level to drop by 60dB after the source is withdrawn.

The aim of acoustical design is therefore to produce the right R. T. (reverberation time) for the activities in the room. Theoretical considerations together with measurements shows that there is an optimum R. T. for each room. The optimum time depends on the size, volume and primary use of the room.

5.1.2. INTELLIGIBILITY

Intelligibility is the percentage of arbitrary units correctly understood compared with the total units persented. These units may be words, sentences or syllables. The best intelligibility would be obtained for the shortest R. T.

However, the greater the absorption, the smaller the sound intensity in the room. The reverberation reinforces the sound level and within limits could be beneficial to intelligibility, therefore there is an optimum value for each room and use.

A large room needs a longer R. T. so as to maintain higher sound levels. The sound intensity can be and often maintained by electronic amplification. The following factors are needed to obtain the required acoustic of the room:

(i) Shape of the the buildings (not parallel walls give multiple reflection and leads to flutter echoes).

(ii) Arrangement of seats in the conference hall and theatres.

(iii) Obstruction between speaker and listeners should be avoided.

(iv) Raking of seats in the conference hall and theatres is advisable to improve visual contact.

(v) Introduction of absorbent materials

(vi) Electoracoustic aids.

5.1.3. NOISE IN BUILDINGS: CONFERENCE HALLS AND THEATRES

Noise which has been defined as un wanted sound is inevitable in every day life.

Paradoxically, noise is known to be increasing in many spheres as a result of progress. For a conference centre, where a certain low level of sound should be maintained say 40 - 45dB any noise transmitted with a sound level above the one given can be termed as disturbing and distracting and so must be avoided. There is therefore the need to employ the use of sound absorbers over hard surfaces with the use of fibrous backing or material that is merely fibrous or cellular. Incident sound waves penetrate such material and dessipate their energy instead of reflecting back into the space where they came. The build up of the noise by reverberation is thereby reduced. In general the material that absorb noise will also transmit noise. They are therefore not suitable to impede the transmission of noise through construction.

In noise problems it is important to identify the source of the troublesome noise before adopting design or remedial measures for its abatement.

Outdoor noise are consistently sever in cities and industrial areas. Therefore in conference centres, it is important to device a means of reducing the noise or curtailing it totally. One of the ways is by siting it in the form of heavy construction to reduce its effect and conseqent transmission to building.

Other factors that bring about noise within the building are noise from plumbing and this is not largely controlled by the occupants so it imperative that during construction of building, sound absorbent materials be used to treat the area around the pipes used for plumbling to break the contact between it and the construction wall.

Many complaint of noise arise because of ventilation openings which are intended to pass considerable quantilies of air.

In a room designed to be norminally sound proof like the conference hall, privacy of speech cannot be maintained if the access door is luvered to permit the discharge of ventilating air. Such a luvre needs to be part of a simple system designed to have a relatively heavy weight casing and sound absorbent lining that will impede sound and yet permit the passage of air.

In general, the following can be used when dealing with noise problems:

(i) Establish the source of the noise

(ii) Endeavour to reduce the noise at its source.

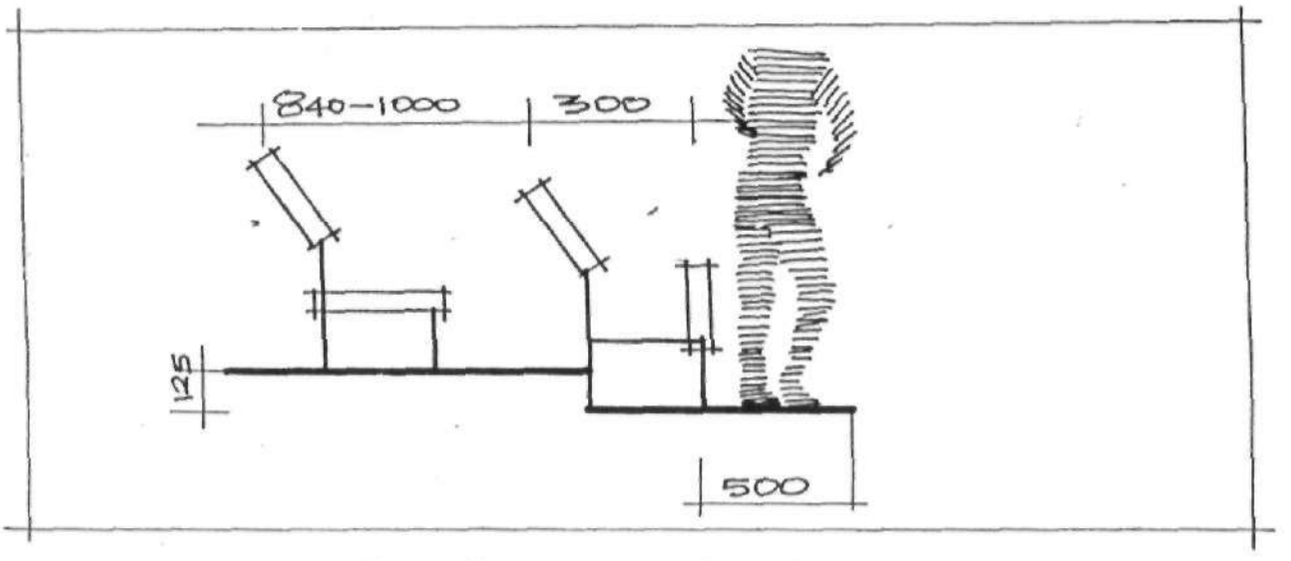
(iii) Failing success with (2), determine hous the noise is transmitted to the affected space.

(iv) Seek to inpede the transmission of the noise or to absorb it as may be appropriate.

It must be however noted that there are difficulties and cost factors that operate against the provision of sound insulation in excess of that inherent in particular form of construction. It is therefore important to foresee noise problems and to minimise them along the design stage and as discussed here.

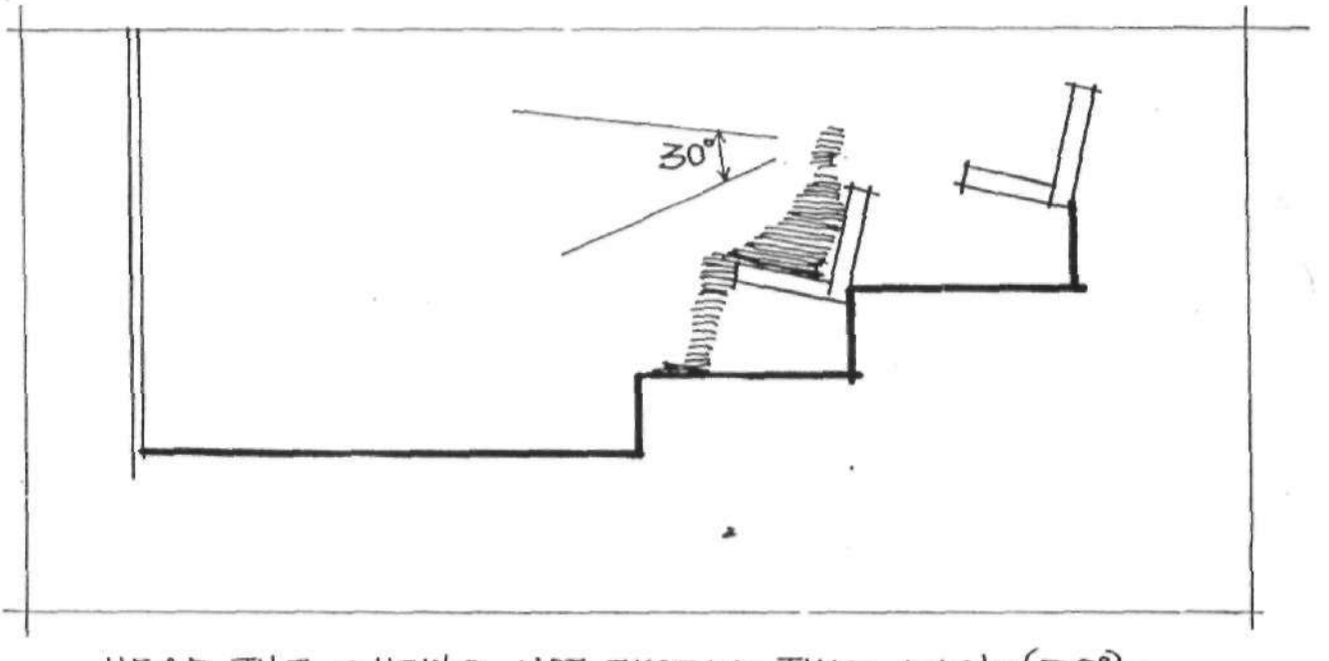
More comfortable, the wind is more receptive and the sensitivity to optical and aural stimuli is much approved for extended period of time if the body remains relaxed and quiescent in a position between erect and prone. The conference centre is a place where full concentration of the participants is needed, which means in essence, all things being equal the seat design, orientation and fixing should be as comfortable for him as the condition requires. The position of the seating participants in relation to other participants is very important. All in all, a man is inclined to be less restive when seated than when standing and his mind is more alert. Modern studies in education psychology show conclusively that attention span of the seated adult is greatly lengthened beyond that of the standing adult because concentration is maximised as physical discomfort or distraction due to muscular and nervous fatique is minimised.

A sight line is defined as the path of vision from the position of a spectator in an auditonium (usually, to the speaker or performer.



FIXED SEATING WITH TIP-UP SEATS.

Fig. 5.1



HEAD TILT SHOULD NOT EXCEED THIS ANGLE (30°).

Fig. 5.2

The provision of good sightline is very important in order to enhance good vision. Seat should be arranged in such a way as not to obstruct one's view because this can bring about strain on one's neck thereby causing discomfort on the part of the participants. See fig. 5.1 and 5.2

A vertical sightline is defined as the angle of vision in the vertical plane over or under impediments if any between a sight point and the performance or speaker area. This should be upto about 12.7cm. The horizontal sight line is defined as the angle of vision in the horizontal plane between a sight point.and the speaker or performance area. There are usually, the heads of spectators in the rows or rows immediately in front or building components such as box divisions, columns etc. The best angle given for excellent horizontal sight line is 270°.

5.2 FORM

In determining the form of a room, the first question which arises is that of the relationship between the lenght, width and height. Modern theory shows that it is completely unnecessary to keep closely to any hard and fast rule, though in older literature it is found that this question was considered to be the cardinal principle in room Acoustic.

The following principles apply to the planning of room form.

(i) Sound path for all audience seats must be as short and as direct as possible.

(ii) Sound path must be as unobstructed and direct as possible. This leads to the necessity for a sufficient rake.

(iii) In order to obtain equal distribution of all seats sound focusing by using concave surfaces must be avoided. This applies in particular to the shape of the ceiling and also to the rear wall.

(iv) The room must be shaped in such a way that no path differences greater than 12-15m can arise.

(v) In order to obtain sufficient difusion parallel surfaces must be broken up in such a way that they reflect as diffusely as possible. The irregularities must have dimensions with an order of magnitude of at least one metre(m).

5.3. VOLUME

Volume came as a result of the form chosen. When the volume of room increases, then its surface areas and the total absorption also increases. As we are dealing with a defined room source power(P), the energy density(W) which exists in the room also falls as the absorption(A) increases.

The following relationship applies

$$W = \frac{4P}{LA}$$

The sound power(P) is dependent on the sound source. The energy density necessary is determined by the loudness level desired - the room, thus it is dependent on the characteristics of the human ear.

5.4 LIGHTING

There are two souces of light namely natural and artificial. The most fundamental division between the sources of light is between the natural light of day and the artificial sources represented almost exclusively by electronic lamps. Properties of natural light are determined by nature and are therefore largely uncontrollable. Properties of artificial light can be controlled by man and so are adjustable.

The architecture of a conference centre complex must give physicalinterpretation of seing. Therefore lighting inside a building must fulfil the main fucntion of illuminating the interior to an appropriate extent so that visual mechanism can function at high level of efficiency. Good vision is essential. The design factors used to achieve adequate lighting would include.

(i) Sitting, oriatation and spacing of the buildings.
(ii) Size and orientation of openings in the building
(iii) Adequate provision of electric lamps.

5.5 VENTILATION

In certain buildings in order to avoid any form of environmental pollution, windows or other means for natural ventilation cannot be provided. (e.g. auditorium theatres). But since ventilation is essential, mechanical means are adapted. However certain criteria dictate ventilation. Some of the criteria include air movement (0.10-0.33mls in auditoria theatres and offices) to achieve comfort, body odour, fumes, Excess heat and Relative humidity.

Recommended Minimum rates of fresh-air supply to buildings for human habitation

	Types of Buildings	Recommended rates
1.	Assembly Halls	$28m^3/h$/person
2.	Canteens	$28m^3/h/p$
3.	Factories and Workshops	
4.	Work rooms	$22.6m^3/h/p$
5.	Lavatories	2 air changes per hour
6.	Kitchen	$56m^3/h$
7.	Places of entertainment	$28m^3/h/p$
8.	Resturants	$28m^3/h/p$
9.	Cloakrooms	3 air changes per hr.

5.5.1 DESIGN CRITERIA (AUDITORIUM)

Different spaces will require different systems

(a) Auditorium

The Auditorium consists basically of the house, the stage area, and public spaces (lobby etc.).

It should have besides this as a need for services, large insulated roof and roof spaces with a minimum of exposure. It requires an air supply of $28m^3$ per hour per person. If the air is cool and clean it may consist of 75% of fresh air and 25% of circulated air. If the air is fully conditioned with a humidity of not more than 55% the supply may be half fresh and half recirculated.

Air installation can be any of the three types.

(i) An exhaust system, removing the used air and letting fresh air in through grilles and openings - This is suitable for kitchens.

(ii) A plenum system which supplies air into the space forcing out used air through windows grilles etc. This will not be suitable for a conference centre.

(iii) The balance system; both supplying and removing air, the most dependable and most costly too. Thus despite this shortcoming, will be recommended for the centre.

From these, two methods of air conditioning's can be possible for an auditorium or theatre.

(a) A system where an input is at low level and extraction above, a system that reinforces natural circulation, and

(b) the reverse system, where input is above, and extraction is at low level.

Since the air is the auditorium is warmer than the incoming air, the incoming air will be felt as draught; it will also enhance the menace of dust. On this basis, 'b' will be the most appropriate. Mechanical ventilation system should be designed to a noise criteria of 25dB and 20dB respectively for small and large theatres.

5.6 HUMAN TRAFFIC

The form of a building is a good basic measure of the efficiency of the circulation system particularly the internal circulation. Form is measured by shape and height, that is form is three-dimensional. Buildings with equal internal floor areas but with differences in height and dispersion show considerable variations in space taken by internal circulation and in the monetary cost of lift and other forms of mechanical circulation.

5.6.1 CIRCULATION ROUTES

There are various elements of circulation within a building. These include lift, excalators, stairs, ramps corridors etc. and they vary in their passenger carrying capacity and structural requirements. The detail design of any of these is not within the scope of this thesis.

5.7 PLANNING THE FACILITY

To construct a public assembly facility most needed by a community is perhaps the best formula for a successful project, but deciding what to build often proves more difficult. All too often projects are launched on the basis of personal desires, competition with other cities, community pride, political pressures, business influences and a score of similar reasons. For such beginnings have come many of those buildings that will remain a tax burden on their cities for many years too.

In some situations the need for a performing arts centre or convention hall may be obvious. In others, however, the first step in planning is to determine carefully what - if anything - is required. Ideally, an investigation of a community's current demands should include an inventory of existing facilities, followed by an examination of future requirements. In most cases, accommodation for sports, shows, exhibitions, conventions, concerts and other cultural events may be included. Further study will fix seating capacities, floor areas, number of meeting rooms, and other specifics.

A city or province rarely erect a building complex of this kind. A governmental body customarily builds a facility for leasing to others. If the potential user or lessee finds that he does not want it or that it fails to fill his requirements, the building may stand idle a great part of the time.

Greater attention should therefore be given to planning of the facilities so as not to satisfy the community's demands alone, but to provide greater revenues and lower operating costs. The concept that "if big is good, bigger is better may result in a costly building that will fall far short of meeting what may be the modest requirements of potential users. Conversely, to construct a facility incapable of meeting the demands of a growing area or activity would be equally unacceptable.

The goal, it would seem, would be a facility "tailor-made" for its community, but at the same time recognising the specific or peculiar needs of that building's users or lessees. From a functional standpoint the plan of the building must reflect the affinity of certain activities for one another; for example, box office or admission control offices and functions should have direct access to the lobby or "front of the house" areas, dressing rooms must be near the playing floor or stage.

Construction of a building for public assembly may often be a major undertaking for a given public body or government. Greater sums of money are being spent; therefore the result will be viewed more closely and the facility used more by the public than almost any other community project.

5.8 SITE PLANNING

Selection of the site for a public assembly facility, a highly controversial issue in many communities, may prove to be one of the most important decisions of the entire project.

A number of criteria, however have been developed over the years to assist those who wish to make unbiased appraisals of available sites. Even so, these guidelines become applicable and can be followed only if a clear understanding has been reached regarding the type of facility to be erected, its function, and possibly its hoped-for impact on the community. If a civic centre is intended as an anchor or catalyst for the redevelopment or rejuvenation of a down town core area, discussion of any other site becomes completely pointless. If a facility is planned as a community resource, it serves little purpose to locate the building on a site not readily accessible to the residents of that city.

Generally convention centre should be as close to the centre of a city as possible. Convention centre and exposition halls show display a need for proximity to the bedrooms and dining rooms of hotels and motels. They also require ready access to streets and highways.

Arenas and stadia must have vast quantities of land not only for the facility and its support activities but also for parking, transit access, and other purposes.

Again speaking on a rather broad basis, a central location for audience supports facilities is generally chosen because of its universal accessibility, the greater economic impact that such facilities can have in a downtown location and their significant symbolic relation to the metropolitan area.

The following major criteria should be considered in most site location studies.

5.8.1 ACCESSIBILITY

Accessibility may not be the most important in the selection of a site but it must be rated among the most important factors. An audience support facility should be situated to optimize access from all parts of its service area. Accessibility by automobile, mass transit, and on foot must be analysed.

Under ideal situations the complex should be served by free ways to carry metropolitan traffic into the vicinity and by a property integrated system of streets to service local traffic. Often overlooked is the fact that arterial linking public assembly facilities must be capable of absorbing impact egress traffic loads. Audiences may gather slowly perhaps over a period of an hour or more but the entire number usually want to leave simultaneously when the game, entertainment, or meeting has ended.

For convention-oriented facilities pedestrian access is most desirable. Many convention delegates - some for excercise, some for economy - prefer to walk to the conference centre rather than use a car or public transportation.

5.8.2 PARKING

Although public transportation can be expected to gain in popularity, there can be little question that much of the success or failure of a mass audience facility may depend on the availability of parking space.

The provision of on-site parking at optimum ratio is, of course, the most desirable, but this ideal situation is, as a rule, reached only in such urban areas. It may become necessary, then, to determine how much off-site parking is available within a short walk (four to five minutes) of the building.

Parking authorities vary in their estimates, which range from one parking space for each 10 seats or one space for each 100 square feet of exhibition space.

The availability of mass transportation can have strong effect on the need for parking space. The size of the city and the driving habits of its citizen must also be taken into consideration.

5.8.3 SUPPORT SERVICES

Support services such as hotels, motels resturants, lounges service station and possibly places of entertainments are necessary adjuncts to the successful public assembly facility.

Obviously out-of-town conference delegates will require overnight accommodation - the nearer the better. Even the conference centre (complex) provides food and beverage service, hardly will it be capable of meeting the total requirements, especially when large audience events are scheduled. These services can be expected to receive the initial or direct benefit of spending by those using the facility, the relation of site to them can have great effect on the economy of the community.

5.8.4 ECONOMIC AND ESTHETIC IMPACT

Public assembly facilities can be expected to generate several types of economic activity. Perhaps the most clearly identifiable example is money spent by conference delegates. Economically, the impact on the community becomes more impressive when the "multiplier" effect of these expenditures by the delegates is considered. Generally, the multiplier is said to be the estimated number of times a given Naira will "turn over" before eventually leaving the area in which it was first spent.

Whether the term esthetic impact is proper or whether it should be community pride or symbolism may depend on the situation.

The effect in an intangible but highly important element in determining the location for a public assembly.

As a focal point of the comminity the total development of its site and neigbouring environment are of virtually equal importance. It follows therefore that any area chosen should be capable of such dewelopment.

5.8.5. ADMISSION CONTROL

Inherent to nearly all admission type events is the need for efficient control of people. This control is also the concern of conventions and meetings of all kinds. Architectural planning and adequate equipment play an important role not only in the direction of the public but also in facility security. Public safety begins with good architectural planning most of which is well covered by building and fire codes under government jurisdiction. Careful planning by the architect in co-operation with other consultants and fire prevention representatives should result in the development of the necessary flexibility of entrance patterns and emergency exit parts for a wide variety of events.

Security can be given immeasurable assistance by zoning the physical structures into areas of activity; for example, most facilities are divided into sections for public, the performers, and service and support personnel.

Public areas are those spaces in outside "control" before the delegate is provided with indentification mark. It should also contain a minimum of service functions such as provision of lounges and waiting areas. On admission control, must provide access to all facilities, concession areas telephome etc. Every effort should be made to discourage the need or desire to exit and return through controlled points.

5.8.6. PLANNING UTILITIES

Utility systems are important to site design because they often represent a major cost of site development; they must accommodate the designed environment where the natural system has been overriden. Storm and sanitary sewers, water and energy must all be available on the site and be accommodated in the site design. The availability of such utilities on a site must not be assumed; lines may or may not exist, with or without capacity. Therefore; it is important to check the availability and capacity of all utilities in the site analysis. In the site design, the utility lines should be interated with the other circulation systems in order to develop an efficient site plan. Increasingly, the trend is to place utility or communication lines underground, direct and related to the street and side walk system and utilizing the same right of way.

5.9. CONCEPTUAL STUDIES.

After going through the case studies, particularly those of Kongo Conference Centre, Scantion and Conference Centre Riyadh, the writer discovered that certain concepts have been used in the design of these centres. In most case these concepts have been applied unknowingly. The analysis of these concepts is therefore very necessary so as to eradicate unpleasant mixes of conference facilties.

The section that follows would analyse the various such spatial concepts as recognised in contemporary planing.

5.9.1. "LOOSE TIE CONCEPT"

This is a concept where there is limited interaction and inadequate mixing is created due to the rigid distinction between the majore centre elements - conf conference hall, resturant or hotel living and accommodation wing. In addition, the need for a daily journey to meeting, sleeping area and resturant is dominantly evident and this could be more to the disadvantage of delegates. This type however has the advantage that the various elements or components can grow independently while the whole system in turn capable of early functioning with minimal expenditure.

A good example of such centre is the ECWA Conference u in Jos where the accommodation is far from the conference hall.

5.9.2. "SEGREGATED TYPE"

Here a very minimal level of interraction is the situation. Another limitation is that it suffers from expansion. The major elements are positioned along a str straight line or axis.

Advantagious of this concept is the separation of the noisy areas such as bars and Night Club from the Bedroom wing and the conference hall. Privacy is highly achieved because of the separation of these elements. However, a longer distance is made in moving from one extreme facility to other extreme facility.

5.9.3 THE RING CONCEPT

An interesting characteristic of this concept is that it makes it very impossible to go from one area to the third without coming in contact with the second. Limited land could be responsible for the use of this concept.

The concept does not however consider the need for privacy as in the accommodation and less noise and disturbance in the hall when conference is going on. A good example where this concept is used in the London conference centre.

A conference centre should seek to accommodate a substantial proportion of the delegates. This would mean that the accommodation section should be located within the site but free from disturbance. Other trends include the creation of pedestrian precint and bold attempts towards segregation between different forms of traffic. Thus the overall objective is to achieve a physical form that allows for maximum communication and interraction among constituent parts and between users.

CHAPTER SIX

6. DESIGN PROGRAMME

6.1 SITE LOCATION

The site is located at he southern part of Jimeta. It is within the centre for greater Yola. It is bordered to the North by the state secretariat and Government girls secondary school; and to the south by the government press limited. See fig. 6.1 and 6.2

6.2 SITE ANALYSIS

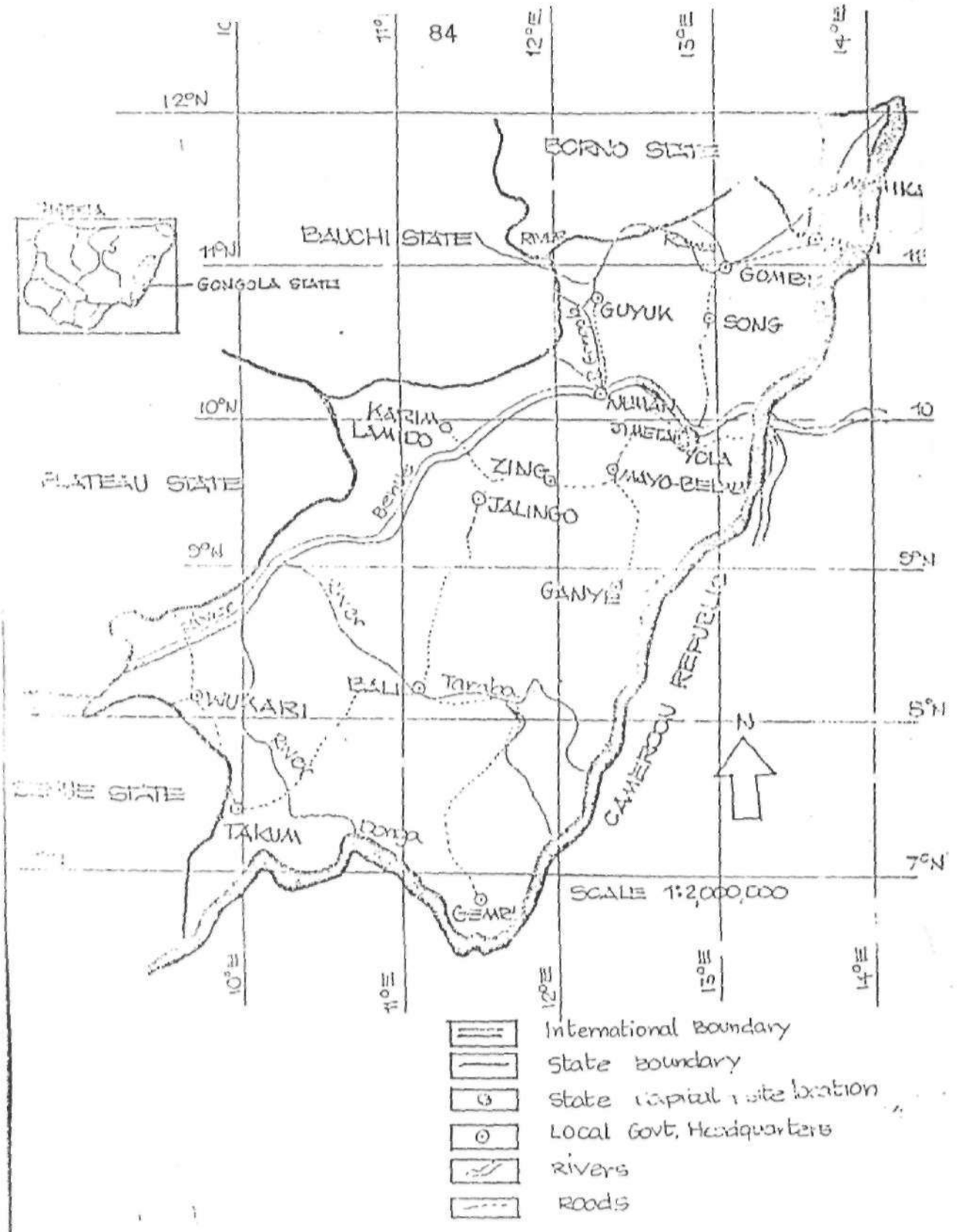
The topography of the site is fairly flat and there are no physical features such as rock or water. Presence of secondary growth and fire resistant shrubs and stunted thorny trees can be seen. The soils are weakly developed and hydromorphic in some areas varying from sandy and loamy to clayey soils which are often alkaline.

6.3 SITE UTILITIES

The untarred road adjacent the site has pipe line and electricity line. These utilities could be brought into the site without any difficulty.

6.4 BRIEF AND USER REQUIREMENTS

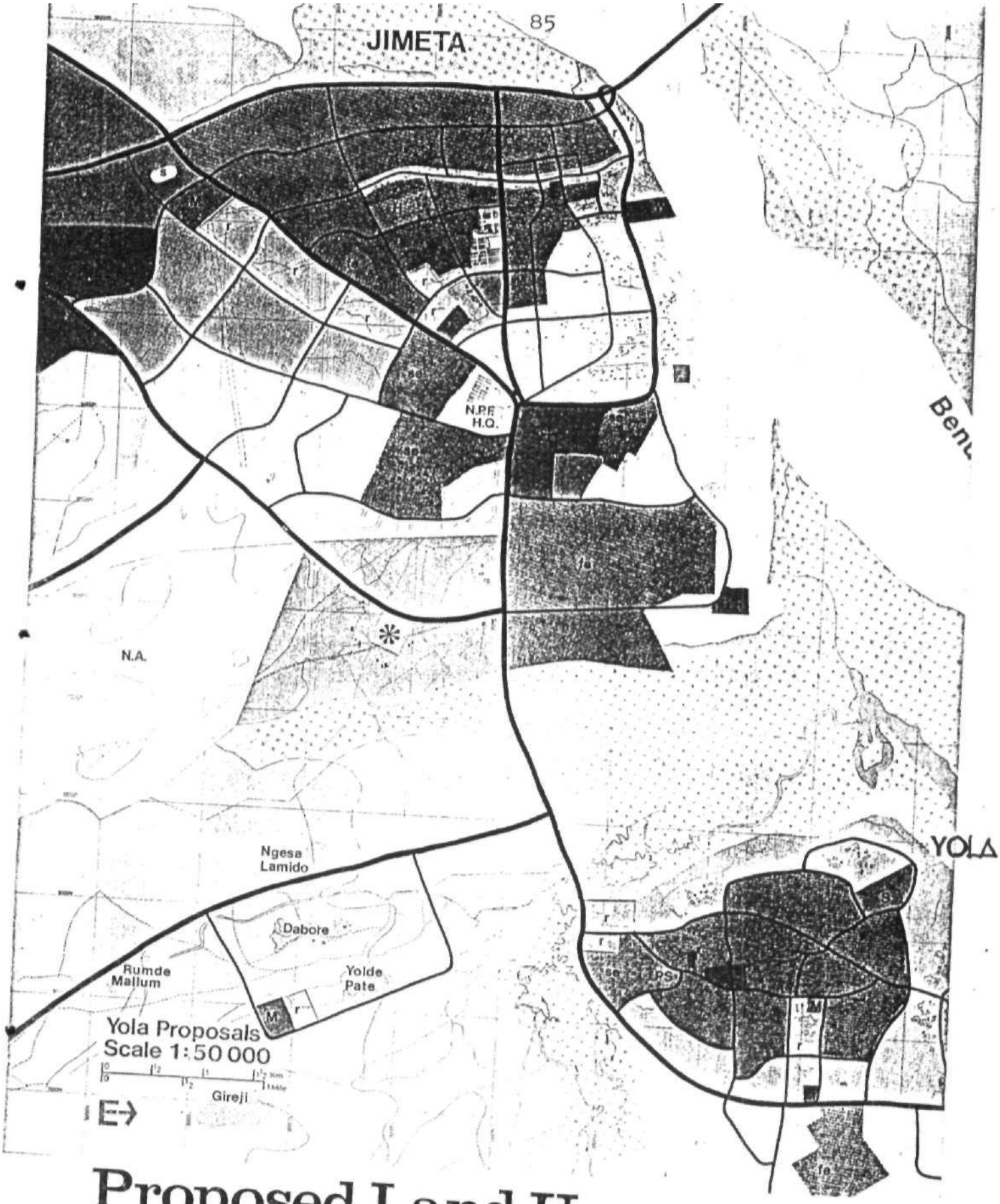
After going through the selected case studies notably the facilities in Kongo, Saudi Arabia and scanticon, a proposal for conference centre for yola was prepared.



: GONGOLA STATE MAP SHOWING SITE LOCATION

SOURCE: MASTER PLAN FOR BAJABURE SATELLITE TOWN (1981 – 2000)

Fig. 6.1



Proposed Land Use

Structure Plan 4: Current Land Use Pr.
May 1976

- Mixed Urban Mainly Residential
  - High Density
  - Medium Density
  - Low Density
- Institutional
  - Education
  - Law & Defence
  - Public Services & Administration
- Services
  - Public Transport & Utilities
  - Mixed Commercial
  - Industrial
- Open Spaces
  - Public Open Space
  - Agricultural Production
  - Land to Remain Undeveloped
- Primary Road
- District Road
- State Secretariat

Fig. 6.2

Integration of the centre into the centre for greater Yola must be made. The conference centre would consist essentially of a main conference hall, meeting rooms, exhibition, relaxation and exhibition spaces and an administrative wing to take care of its operations. The design of the main hall is for multipurpose use hence it is not raked. The balcony at the back would help accommodate more people.

The hotel accommodation should be seen as a facility of the conference centre and not as a commercial hotel. In this regard it is separated from the hotel wing to safe guard the privacy and quiteness usually needed in sleeping areas.

6.4.1 USER REQUIREMENTS (General)

The following facilities should be provided:

1. Conference hall
2. Resturant, Coffee shop
3. Bars
4. Lounges/refreshment foyer
5. Banquet hall
6. Administrative offices
7. Exhibition
8. General foyer
9. Service entrance
10. library
11. Courtyards (retreat).
12. Translation booth
13. Information
14. Guestrooms,
15. Car Park.

6.5 DETAILS OF PROGRAMME

The conference centre as a whole is a building complex containing three related facilities viz Conference complex, hotel facilties and accommodation wing. The detail breakdown of facilities in these units are as follow:

6.5.1. CONFERENCE FACILITIES

1. General entrance foyer
2. Information and registration
3. Committee rooms
5. Lecture theatres
6. Flat floor for exhibition
7. Refreshment courtyard
8. Lounge.

6.5.2. HOTEL WING

1. Entrance lobby
2. Reception
3. Shops
4. General Administration
5. Lounges
6. Coffee shop
7. Resturant
8. Night club
9. Main Bar
10. Banquet hall
11. Circulation areas

6.5.3. ACCOMODATION WING

Entrance foyer

Cashier/Reception

Guestrooms/Restrooms

Lounge

Laundry.

6.5.4. SERVICE AREAS

Kitchen

Kitchen store and offices

Control office

Bulk store and storeman

Refuse collection unit

Plant

Workshop

Circulation Areas

Banquet kitchen.

6.6. FUNCTIONAL PARAMETERS

In preparing a functional diagram for the facility certain criteria were considered. This has to do with the flow and articulation of functions. Among these criteria are the (a) Separation of the three basic units from each other because of the differences in function of these units.

(b) Separation of the vehicular and pedestrain traffic

(c) Separation of service (back house) from the font house traffic.

(d) Use of circulation space and certain spaces as multifunctional and unifying space.

6.6.1. PUBLIC AREAS

Approach and entrance:- The impression created by the main entrance is important since it tends to typify the type of centre. Since this design is for a conference centre, the conference hall should be more defined.

Reception Area:- Reception desk be near and visible from entrance with receptionist and cashier closeby in the case of the accommodation wing.

Telephone switchbard:- Often placed near reception counter so receptionist can a operate at off-peak times. Otherwise in separate rooms, possibly with hatch to public lobby and public telephone nearby.

Hotel Lobby:- Establish priority between publicity value of being able to see into the reception lobby or entrance foyef from the street and the comfort and privacy of the guests inside. Facilities in or nearby hotel lobby: Information desk, travel agents, shops lounge and waiting areas, public toilets etc.

Resturant:- Common to provide more than one resturant to give customer choice of menu and price. Cheaper resturant usually are coffee shop or cafeteria. The resturant is accessible to non resident business. Large hotels may have additional specialist resturant.

Bars:- Cocktail bar should be planned as confortable intermediary waiting area and be by a waiter. Long bar counter may not be required (comfortable 1.8 - $2m^2$/ person). Main bar will provide chief drink service of hotel. It may have external entrance to encourage non-resident business. Fairly long bar counter supported by store. General bar (some standing and on stools) 1.3 - $1.7m^2$/person.

Lounges:- Reasonable provision should be made for people waiting and relaxing either in relation to lobby or circulation areas or to revenue earning areas such as bars.

General administration:- This is usually good if it were positioned near the reception area. Nevertheless it could be put anywhere in the complex. There should be provision for rooms to offer support facilities to the administration.

6.6.2. SERVICE AREAS

Kitchen and food Stores:- These should be planned on one level if possible to serve all catering outlets. Main kitchen should be on same floor with the main resturant. Kitchen, cold room and food store area should be planned to be toched off staff when not in use. In large hotels, food and drink store should be under the control of store-man.

Laundry - For 120 bedroom hotel space of approximately 84m^2 is required excluding linen store, steam boiler, chemical store.

Service bay:- Should be planned so that coming goods don't meet the outgoing refuse preferably with sparate entrance for staff all under supervision of control office provide wash down, weighing scale etc. Allow sufficient height and turning space for large vehicles. Columns and corners are to be protected from damage by vehicles.

Staff canteen:- Provide for approximately one third of staff with own kitchen for large hotels. Canteen should be accessible without staff having to go through kitchen.

Staff Canteen

Staff Lockers:- One full hight locker for each member of staff should be provided. Space allowance 0.36m^2/p space. Half height lockers may be required for certain grades of staff. Assume equal number of make and female staff unless otherwise informed.

Technical Areas:- Maintenance workshop and a store required near the plant room. Access for replacement of heavy plant to be allowed for.

6.6.3. ACCOMMODATION

Bedroom Sizes:- High tariff hotels may have up to 28m^2 excluding lobby and bathroom but including sitting area. In city centres balconies not usually favoured by hoteliers because of cost and maintenance problems. Balconies could as well offer good vies to the Guests.

Noise:- Where external noise from heavy traffic or aircraft, provide double glazing for reduction 40 - 42 av dB. For greater privacy and sound insulation additional door may be placed between entry lobby and bedroom.

Bathrooms:- Should be carefully planned in relation to plumbing and ventilation ducts. These should be located in relation to structure and ease of access for maintenance.

Bedroom Coridors and Stairs:- Coridors should not be over long; may be 1200 - 2000mm wide according to type of hotel. Where less than 2000mm consider recessing bedroom doors. Ceiling void often used to house engineering sefvices. Hight of ceiling should be not be less than 225mm.

Fire Precautions:- Door to bedroom should be self-closing with minimum half hour frame. Partitions separating guest rooms from corridors to have one hour resistance unless automatic sprinkers installed. Maximum travel distances to exit stairs should not be more than 18m. All exit stairs should preferably be at least 1050mm wide.

6.6.4. CONFERENCE FACILITIES

Lecture theatres:- These are expensive facilities which are under utilised. They are usually larger than rooms used for seminars but not upto the size of the conference hall. One lecture theatre is provided.

Space requirement for theatres and seminar rooms 1.1m^2/ seat.

Conference Hall:- The design of the hall is for multi purpose use, rehearsal room is provided. The main purpose of the hall is however for conferences. Therefore the required acoustical treatment for the hall wall will be for hearing of speech.

6.7. FUNCTIONAL RELATIONSHIPS

The major functional relationships are:-

(i) Separation of guest and service areas: No cross circulation, distinction between front and back of house.

(ii) Organisation of back house such that staff and goods are separate as far as possible and control can be maintained over both. See fig. 6.3

(iii) Spaces for eating capable of being serviced independently at all times but kitchens should utilize same central supplies e.g. (water, gas, drainage).

(iv) Flexibility in use of conference facilities should be quaranteed.

(v) Resident guest and non-resident must be separated.

6.8. OTHER DESIGN PARAMETERS

6.8.1. Internal Environments

The interior design and decorated has to meet a number of specific requirements.

Composite functional relationship

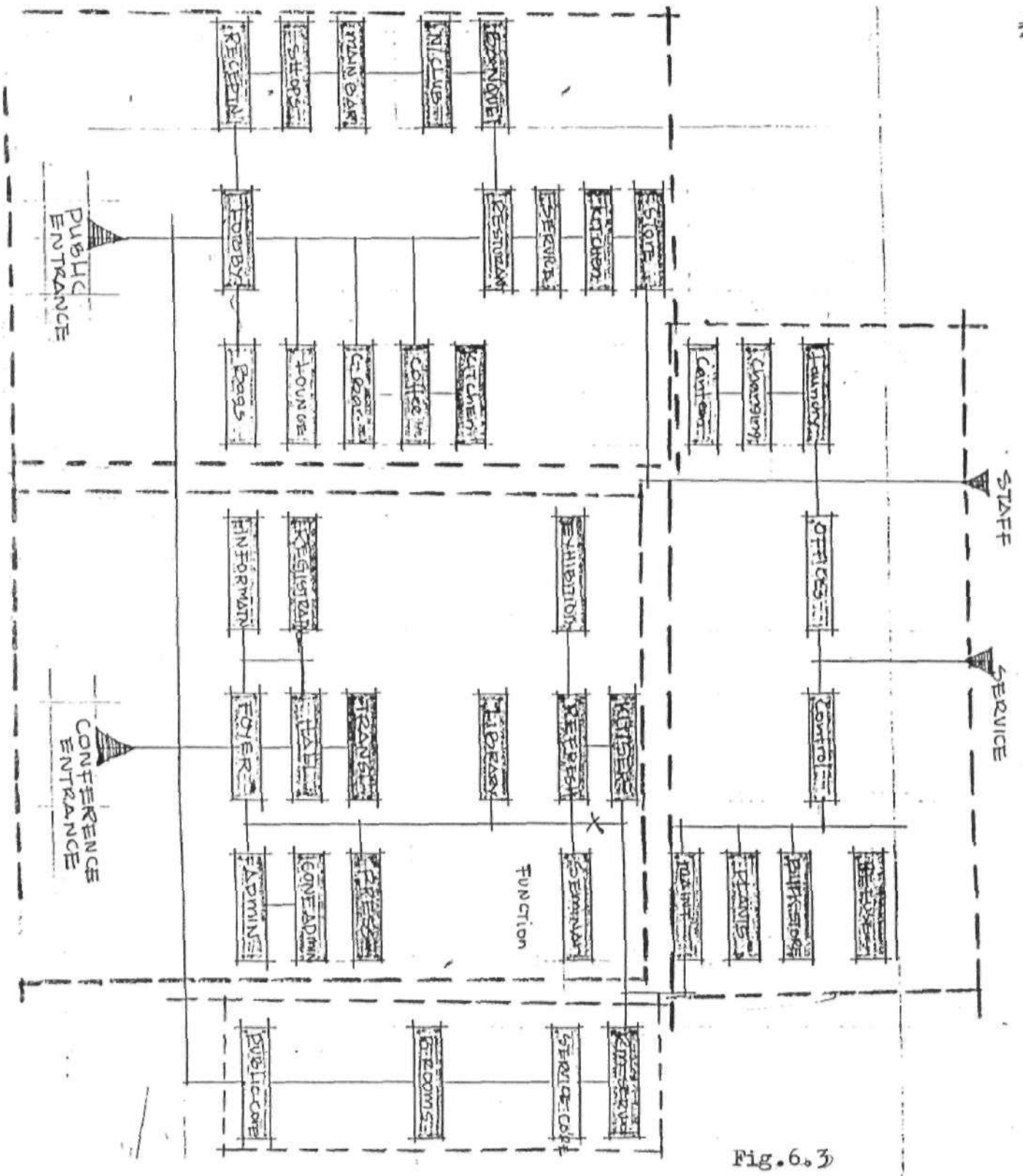


Fig.6.3

- Merchandising: It must be attractive, create awarness and interest.

- Operational: It must be easy to clean and maintain a good standard of appearance resist damage and facilitate repair/replacement and rehabitation with minimum disturbance.

- Financial: It must provide the maximum benefit of space and facility for the minimum cost including costs of up keep and renewal.

6.8.2. ENGINEERING SERVICES AND EQUIPMENTS

Most activities within the complex are dependent on Engineering Services. Facilities such as airconditioning, bathrooms are regarded as standards and cost of engineering services and associated equipment may amount to 40% or more of the capital quality on the building.

Engineering services include water supply sanitation and drainage, disposal of waste and garbage, ventilation, air cooling and conditioning, communication and transmission facilities, catering, laundry and other operation services.

The average requirement of each guest per day is about 140 litres. This has to be stored to ensure continuity of supply and at a suitable constant pressure.

Alternative provisions include low level pressurised tanks or high level storage cisterns.

6.8.3. FIRE PROTECTION

The designer must access the fire ha ards which may affect the project. This is based upon both general and particular factors. General factors include the purpose of the building; nature of its construction and particular factors such as location and siting of the building and the manner in which the building is equiped. Good design lessens fire hazards to people through:-

- Good site planning and circulation
- Good fire resisting construction
- Good exit and escape route provision
- Good warning and fire defense system design.

6.8.4. DESIGN WITH CLIMATE

In order to get optimum results with regard to the climate conditions, one should tackle the problems of climate at the design stage. The location of the project site fall within the warm humid climatic zone hence climatic design in governed by openess so that ventilation is made easier.

Climatic elements involved here are solar radiation, temperature, wind atmospheric humidity and precipitation.

All these have been discussed in chapter three. Design should be aimed at achieving maximum comfort of the eventual users. The comfort zone defines a range of conditions in which thermal confort is experienced. This is shown diagrammatically on the bioclimatic chart. From the s chart it is deduced that temperature should be kept between 21°C and 27°C and relative humidity should be kept between 20% and 80%. Since these conditions are not always possible, naturally, the use of artificial air conditioning systems is proposed. See fig. 6.4

6.9. SCHEDULE OF ACCOMMODATION

Space requirements quoted are the optimum spaces required. These spaces are used as guide in the design of the project. See figures 6.5, 6.6, 6.7

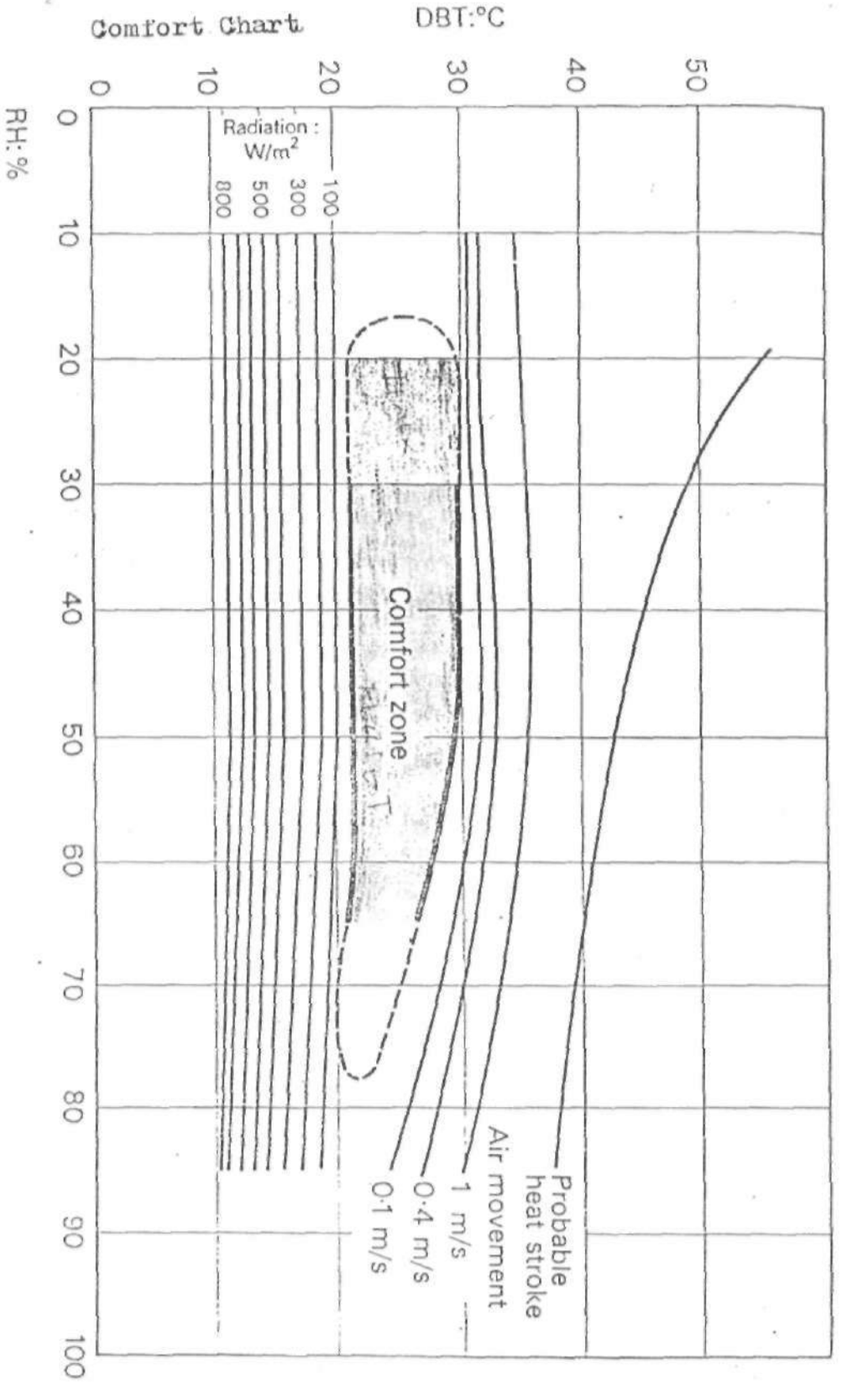

Comfort Chart
DBT:°C
0
10
20
30
40
50
RH:%
0
10
20
30
40
50
60
70
80
90
100
Radiation :
W/m²
800
500
300
100
Comfort zone
Air movement
1 m/s
0·4 m/s
0·1 m/s
Probable
heat stroke

Fig.6.4

CHAPTER SEVEN

DESIGN AND TECHNOLOGY

7.1. DESIGN CRITERIA

In the design of this conference centre, certain criteria have be outlined. Some of these criteria include the following.

7.1.1. DESIGN PRINCIPLES

Thoughtful consideration be given to the things that are done in Conference Centre. The centre should be a friendly place, attractive to the different kinds of people who use it and should be designed for maximum use at minimum operating cost. The design factors here include:-

(1) Good functional co-ordination in the centre

(2) Making use of locally available materials

(3) Attractive and good aesthetics to justify the complex oriented structure.

(4) Present day technology for ease in construction and maintenance.

- Integration of natural features to the maximum
- Landscaping to reflect retreat and beauty.

7.1.2. ENVIRONMENTAL CONSIDERATION

The physical environment within a building is established by many factors including lighting, acoustics, ventilation, thermal, winds and rain.

- Lighting:- There are two sources of light namely natural and artificial. The architecture of a conference centre must give physical interpretation of seing. Therefore lighting inside the interior to an appropriate level of efficiency is necessary. Good vision is essential.

- Acoustics:- An environment where an unwanted sound is kept off and wanted sound clearly heard is necessary in the design of any space for human activities. Good hearing is an important element in conference centre. It is the natural method for the perception of sound (pure tones, speech and noise). The aim of acoustical design therefore is to produce the right reverberation time (R.T.) for the activities in the room.

- Ventilation:- It can be provided by natural means or air-conditioning. Provision for natural ventilation is paramount in this design and it is cost saving, thus the type, size, orientation of the windows are important.

- Heat:- The room temperature required for thermal comfort depends on many things e.g. the activity that takes place in the room. The hall accommodate large number of people who are expected tp sit for long. If people are uncomfortable, they begin to fidget and this reduces concentration. People are affected by temperature of surfaces and that of air. Orientation of the building for sufficient air flow is therefore necessary.

- Winds and Rain:- Provision of shelter for the various activities of the conference centre. Design should take care of surface drainage water during raining season. Large openings should be provided towards the refreshing wind direction and little or no opening towards the adverse wind.

7.1.3. SITE DESIGN CRITERIA

The users though go to the centre in groups or as individual, they leave the centre about the same time hence provision for large parking lot to serve a large number of users as possible is necessary to allow them leave are rapidly.

7.2. FORM AND CONCEPT DEVELOPMENT

In developing the form/concept of the design, the planning aspect especially that of the conference machine has been made the focal point of the design. The general form of the design is basic rectangles with the conference hall planned and situated at the entrance of the whole complex. It is sorrounded by seminar rooms, theatre concourses and conference administration. The concept involves basically the zoning of the major functions identified earlier in chapter one. In proposing the concept therefore certain factors has been considered to allow for effective circulation within the site and separation of noisy area from less noisy areas. See fig. 7.1

The development also adopted the solution of the major problems associated with the climate of the areas. So as to enhance natural lighting and ventilation. Courtyards were introduced to enhance this.

7.3. GENERAL PLAN CONCEPT

The main idea for the design is the creation of socio-intellectual environment which will make the users feel at home while taking part in an event. A design that will give maximum convinience to the users.

The courtyard system adopted could apart from being intended to provide adequate natural lighting and ventilation be used for outdoor relaxation as trees will be planted to provide shed.

The administration of the centre needs not be "centralised" as each unit needs an administration to take care of the activities under that unit (e.g. conference administration to take care of organising conferences). However the central administration would be where the office of the General Manager is located and this is within the accommodation block. There is also the catering administration to supervise the catering services of the centre.

7.4. DETAILED DESIGN LAYOUT

- Ground floor Plan:- The ground floor of the whole complex provides the basic spaces needed in a conference centre. These include the conference hall, Seminar/Committee rooms, theatre, exhibition and public areas such as lounges, coffee shops and service areas. The ground floor of the accommodation block houses the central administration, laundary, waiting area shops and agents offices. There is the common room/lounge where snacks and soft drink could be taken while viewing television.

- First floor Plan:- This level provides facilities for meetings such as Committee and Seminar rooms, library and the projector room. On the hotel wing, this level has the staff canteen and offices to manage the wing. This include the office of the Catering Officer. There is also the second restaurant. This is informed by the need for competition which will lead to good services. There are on this floor, the banquet hall, and a room for indoor games (ballroom). The swimming pool is positioned to the north west side of the main bar. There is a good visual contact from the bar, banquet hall to the pool.

- Upper Floors:- There are four more floors, second to fifth floor. These are basically made to accommodate conference delegates and to provide hotel accommodation to non-conference delegates. The first and second floors are standard bedrooms which could be fitted twin beds to take two persons when the need arises, otherwise they can be used as single bedrooms. The last three upper floors were designed as singles and could be converted into suites with the provision of inter-communication doors between room. Since 90% of the guests stay for only one night, cupboards are unnecessary, instead large coat racks as well be provided where belongings hang will not be left behind.

All these floors are connected to the lower floors by access staircase and lift. The blocks are linked by coridors all through.

7.4.1. CIRCULATION

Because of the large number of people at the centre the control of traffic in and between the conference spaces is necessary. Vehicular and pedestrain passages were employed to give a unified design concept.

The conference parking is at the fron of the conference hall. A vistor to the complex will first find the park, park his car in the lot and walk himself to the entrance. Important guest can be driven to the drive in (both at conference and Accommodation blocks), where he steps off his car and driver drives to the VIP parking space. The vistor now walking finds the receptionist in the foyer which has strong physical contact with the lounge. Enquiries can be made here. In order not to put a vistor into confusion a sort of vista-using trees to direct vistor from the road to the prominent main entrance (hall entrance). Directly linked to the lounge are Committee rooms, Conference offices, shops exhibition hall and the conference hall.

7.4.2. PEDESTRIANS

Pedestrian access to the complex is planned from the same entrance as the vehicular. This was done with the use of walkway beside the road. The main road is recessed into the site to provide for where delegates can ally from the public transport vehicles. This is because there is an anticipated traffic congestion along the major road.

7.5. RELATED PROBLEMS

7.5.1. The Conference hall Floor:- The conference hall floor is not raked or sloped but with a gallery at the back. It was designed to provide for multipurpose usage. The unraked floor provides space which could be subdivided using moveable panels hung on ball bearing carriers in the ceiling track.

The stage is raised to allow for proper visual contact from the audience. A compromised height of the stage is taken to solve the sight problems posed by the flat floor. The floor finish is to be terrazzo for easy cleaning excercises.

7.5.2. Acoustics and sound transmission:- An appropriate acoustical treatment for the total space is not appropriate since the space will not be used as music hall. The ceiling panels are not made for acoustic reasons, but rather to accommodate lighting. They are reflective; the back walls are absorptive. The moveable panels for subdivision (if need be) are fabricated from steel plates, to reduce sound transmission. Absorptive or reflective material can be applied to the surfaces of these panels.

7.9. CONCLUSION

It is clear that an architect helps to shape people's behaviour by the environment he creates. At all stages of the design development he makes assumption about human behaviour and the successes or otherwise of his work depend on his ability to predict human behaviour with reasonable accuracy. The designer has tried as much as possible to give the activities of the conference centre maximum prominance required considering the enormons role it plays in the socio-political and economic transformation of a society. The challenge its effective planning poses to an architect has therefore been made the basis for the work. It must however be stated that this work does not intend to potray itself as a perfect solution to the design of a Conference Centre.

It is therefore the expectation of the designer that future researchers in this direction will seek to work on the unattended aspects and improve on them.

The centre apart from functioning well has the capability to withstand the problems pose by rough climate of the environment. Aesthetics and simplicity in structure have been resolved.

The centre will not only be used for conferences alone but offers unique opportunity to provide for community related activities. It is expected to be in use all the time. It must be stated that just as in the design of stadium, the conference halls are usually rigid hence poses expansion problem. In this, a compromised number of users has been decided to take care of more people that would be using the conference at a later time. This has been done in other functions of the centre. The site chosen is ideal. Its positioning will help unify Jimeta and Yola town.

Economically it will bring a yearly turnover of revenue to the government. The people of Gongola State will be brought closer to the government.

The centre will be seen as a contribution to the treasures of architecture in Gongola State.

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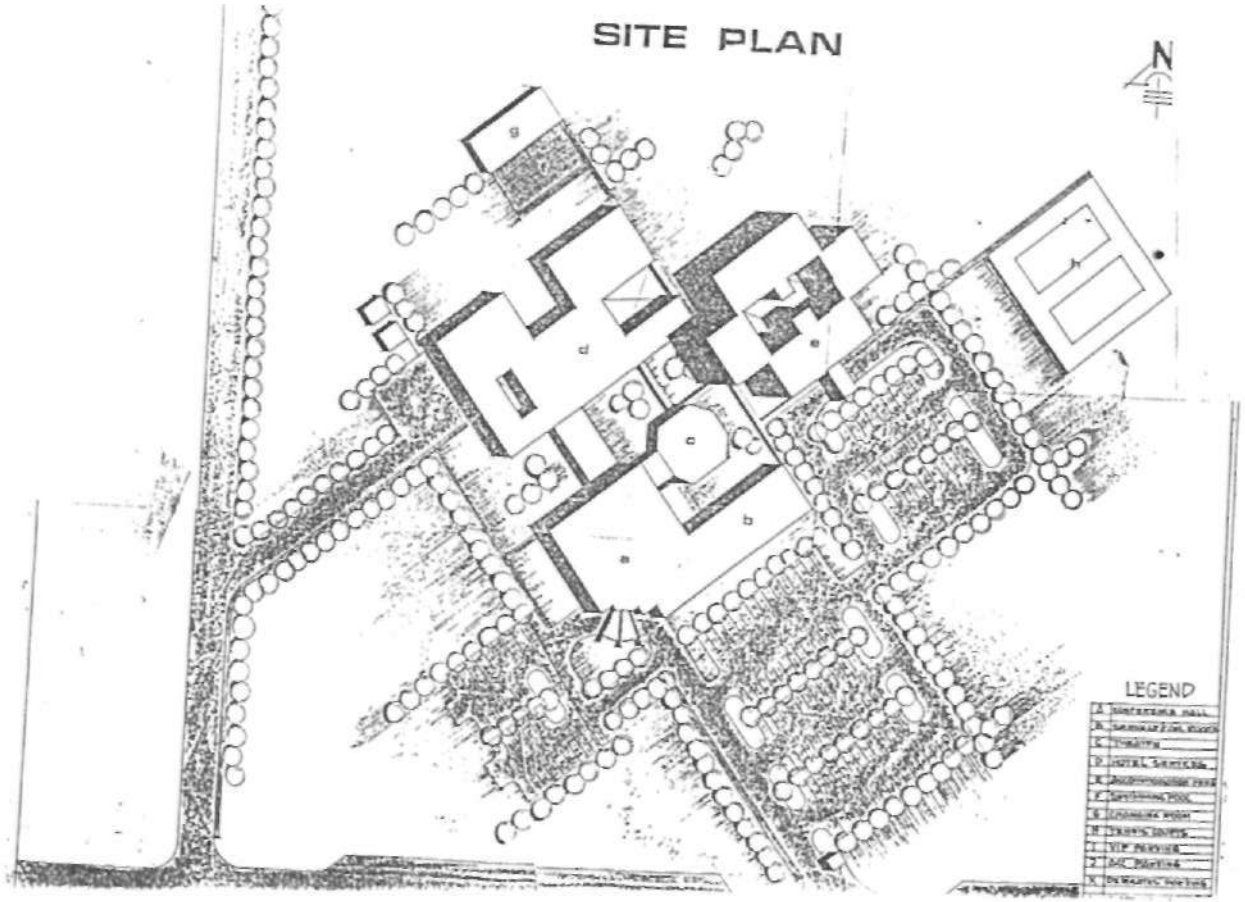
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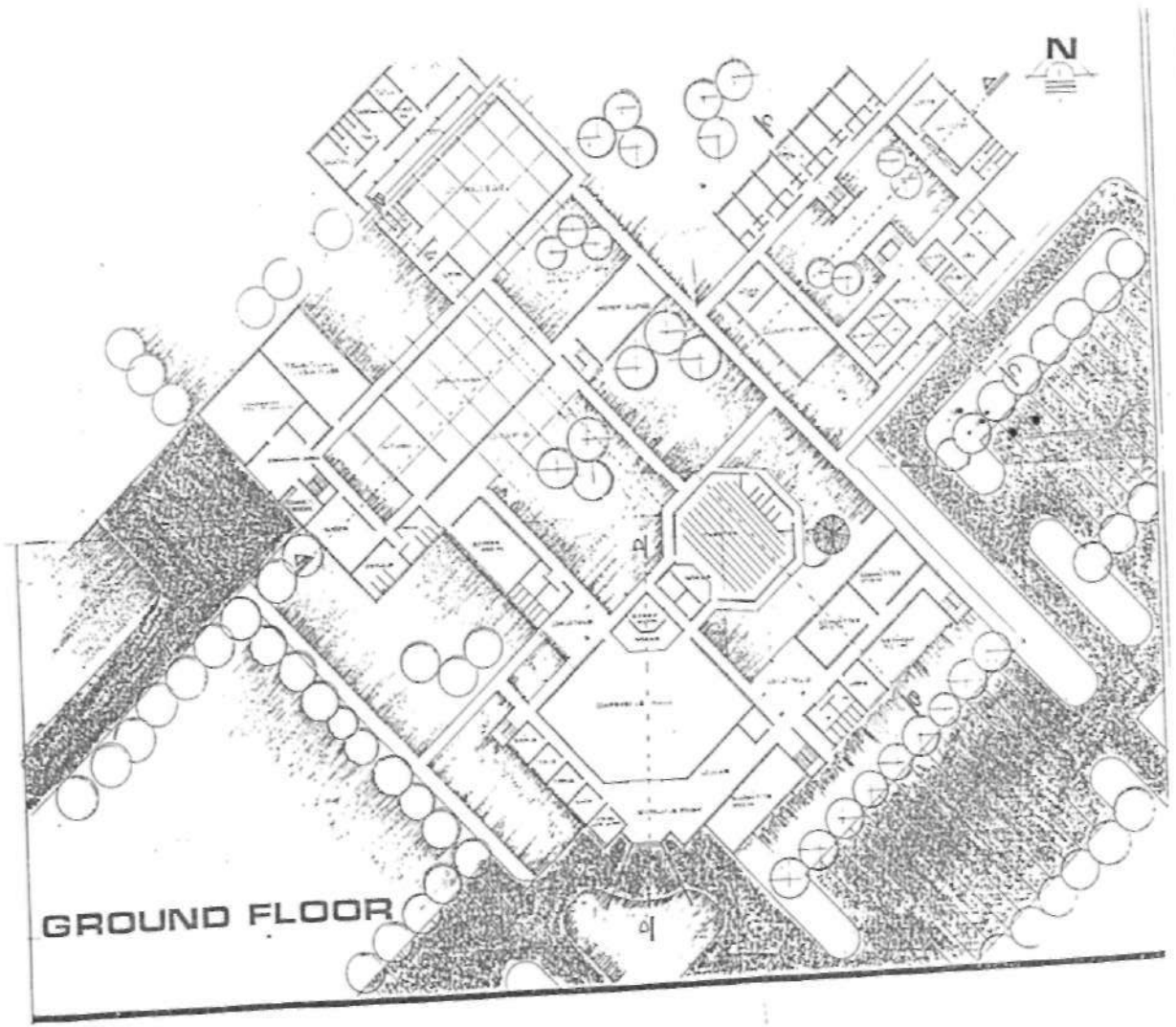
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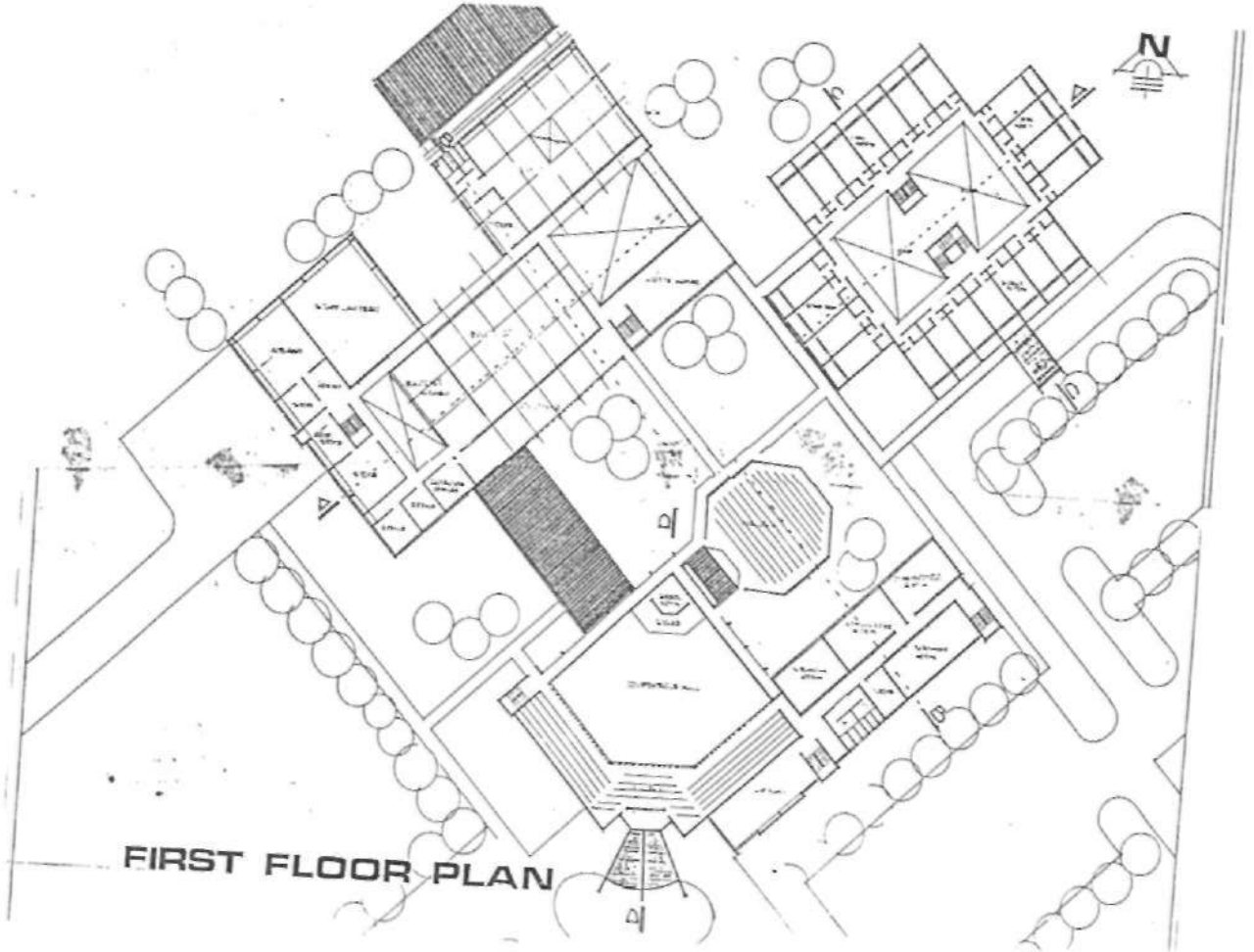
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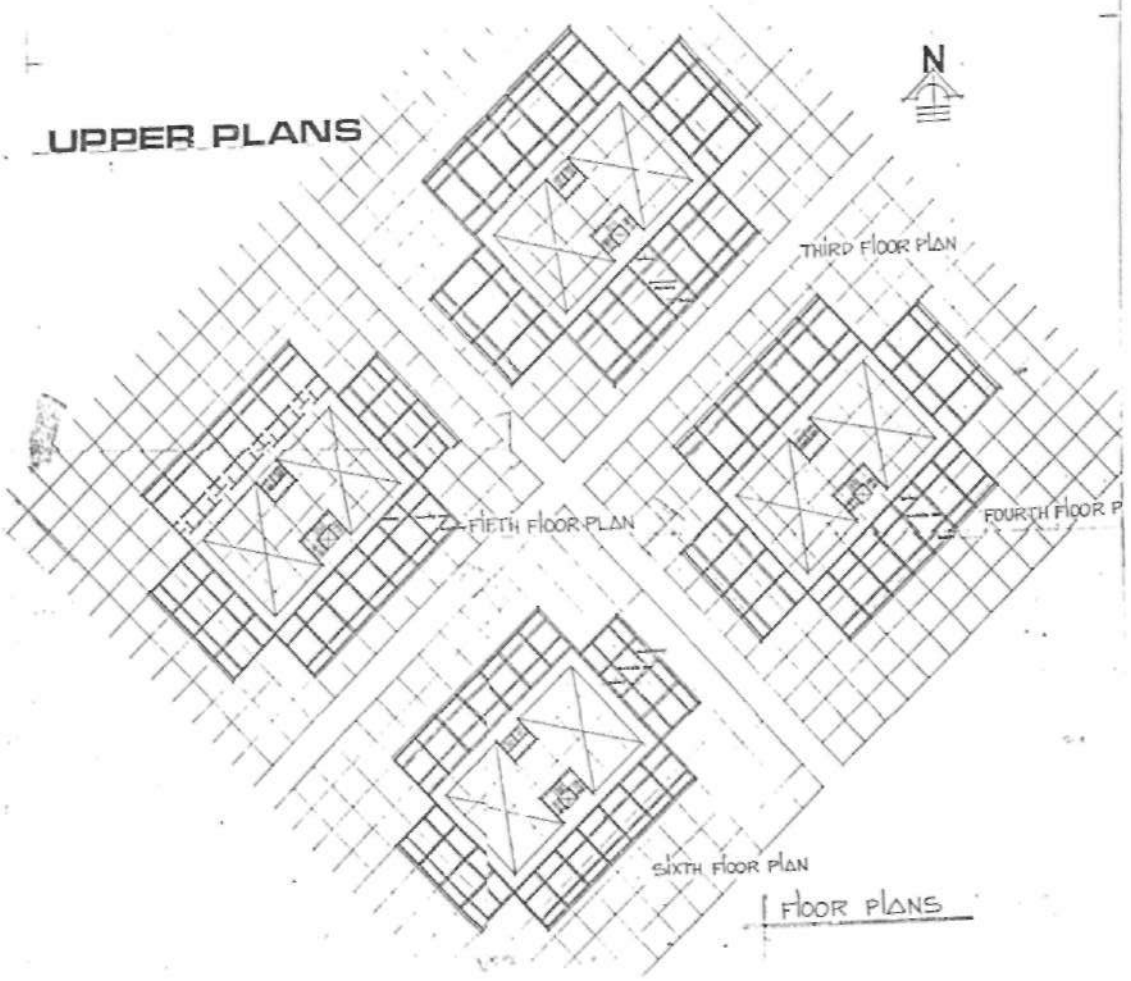
SITE PLAN

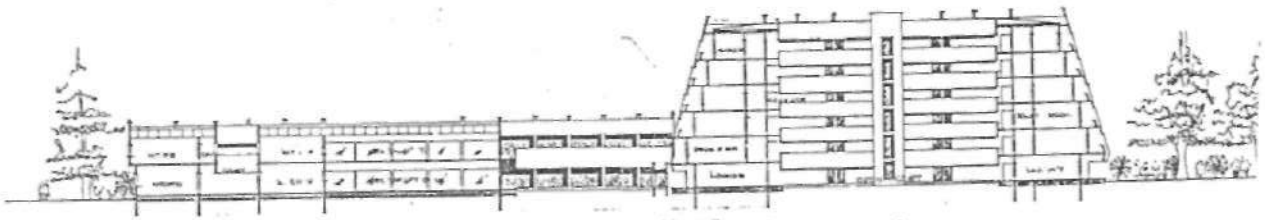



N
GROUND FLOOR

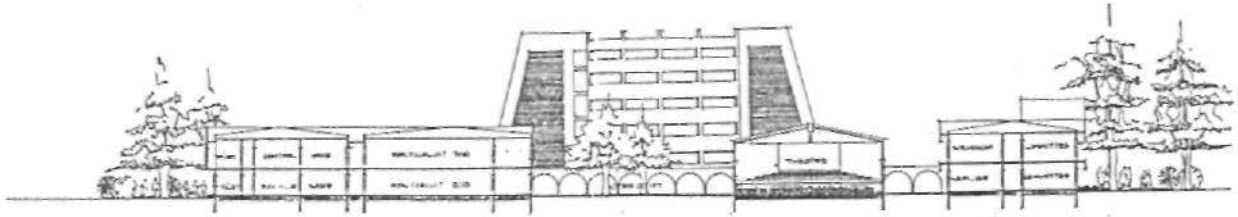


FIRST FLOOR PLAN

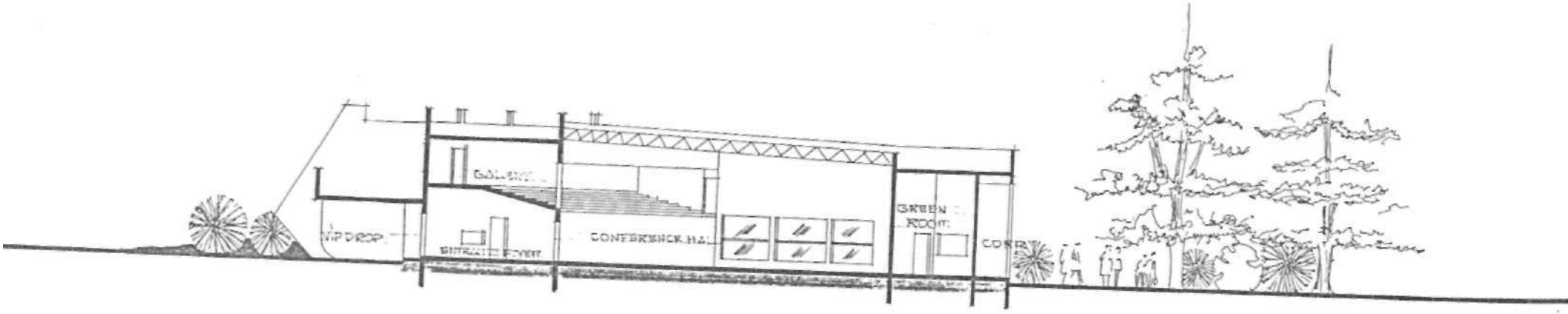

UPPER PLANS
N
THIRD FLOOR PLAN
FIFTH FLOOR PLAN
FOURTH FLOOR P
SIXTH FLOOR PLAN
FLOOR PLANS



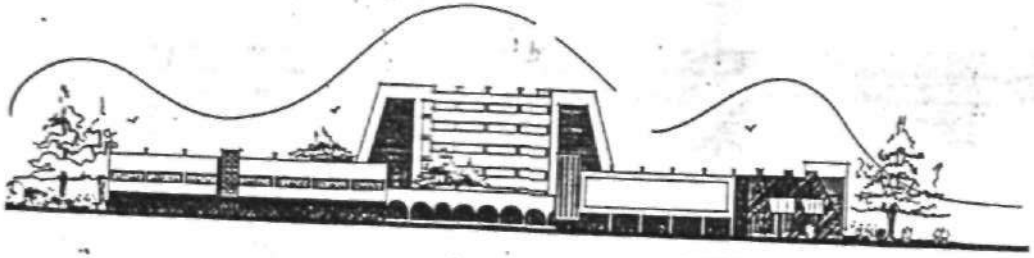
SECTION A–A



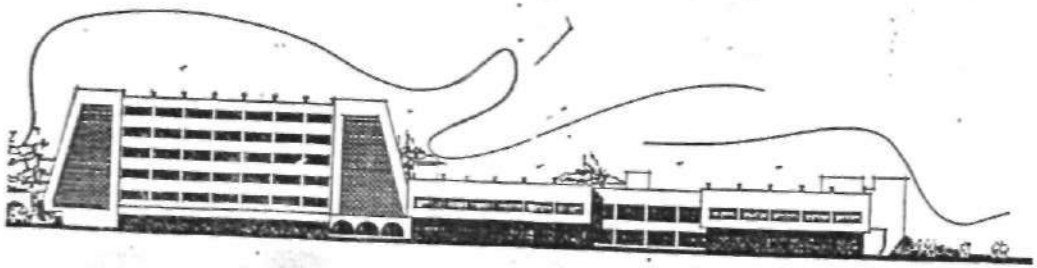
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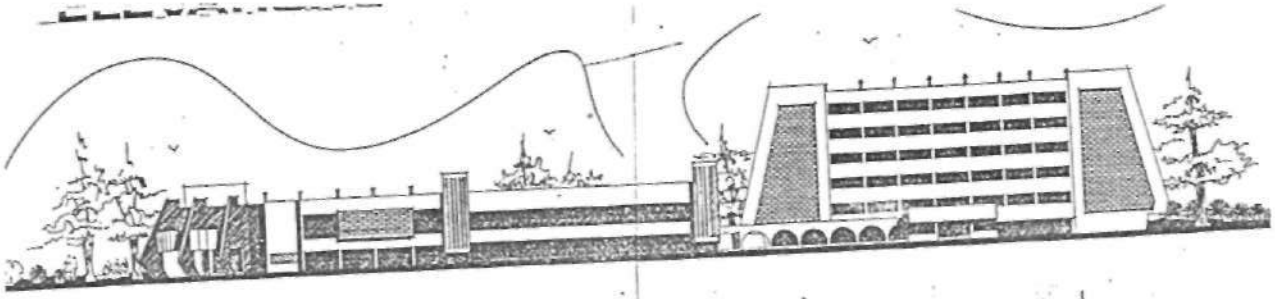
SECTION D-D, CONFERENCE HALL



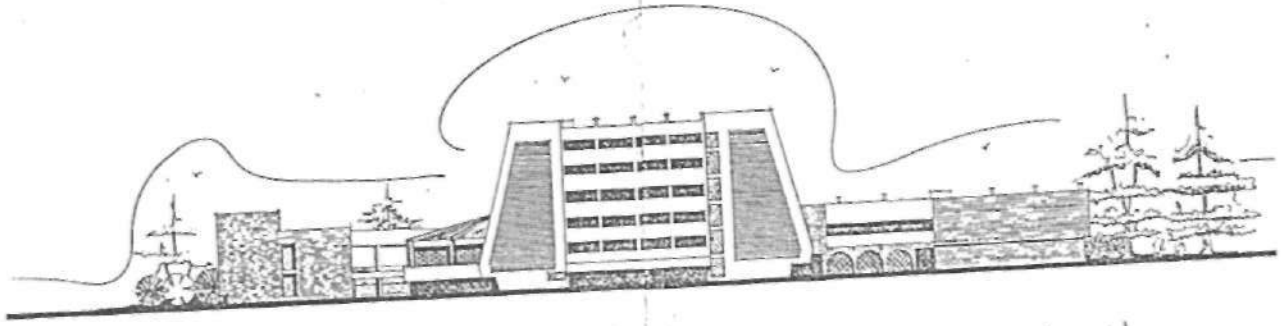
SOUTHWEST ELEVATION



NORTHWEST ELEVATION

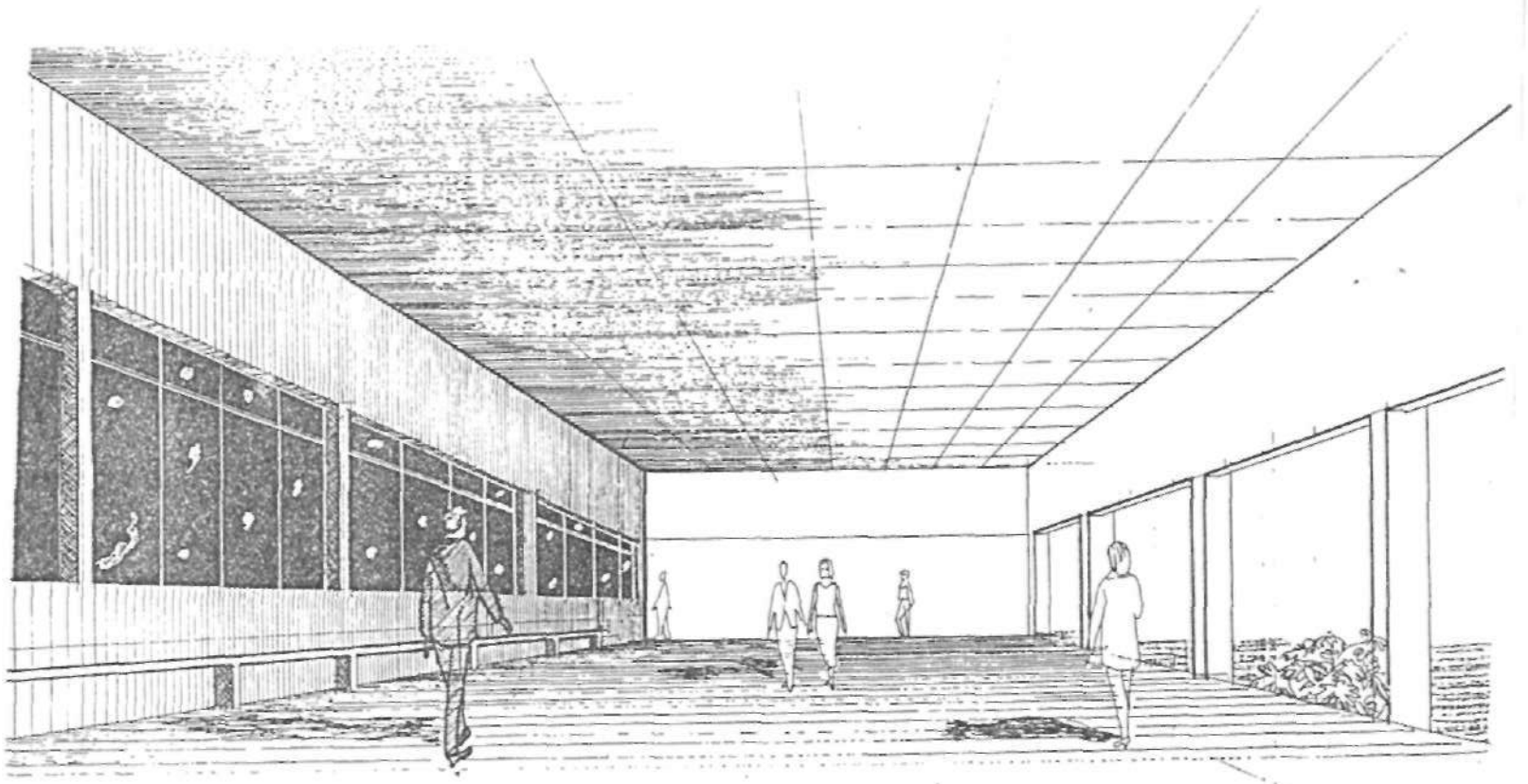


SOUTHEAST ELEVATION



NORTHEAST ELEVATION


SEMINAR/COMMITTEE BLOCK



RESTAURANT CONCOURSE