ABUJA INTERNATIONAL TRADE FAIR COMPLEX

AN APPRAISAL OF PHYSICAL INFRASTRUCTURES IN TRADE FAIR CENTRES IN NIGERIA

BY

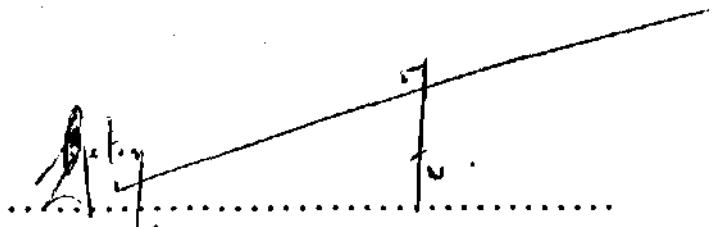
AJETOMOBI, RUFUS OLUKUNLE

BEING A THESIS SUBMITTED TO THE POSTGRADUATE SCHOOL, AHMADU BELLO UNIVERSITY, ZARIA IN PARTIAL FULFILMENT OF THE REQUIREMENT FOR THE AWARD OF MASTER OF SCIENCE DEGREE IN ARCHITECTURE

DEPARTMENT OF ARCHITECTURE
FACULTY OF ENVIRONMENTAL DESIGN
AHMADU BELLO UNIVERSITY
ZARIA - NIGERIA

DECLARATION

I, AJETOMOBI, Rufus Olukunle of the Department of Architecture, Faculty of Environmental Design, Ahmadu Bello University, Zaria, hereby declare that this thesis work has been an academic undertaking and a personal effort in pursuit of knowledge. All quotations and information utilized and their sources have been acknowledged by means of references.



AJETOMOBI RUFUS OLUKUNLE

November, 1992

DEDICATION

This thesis is whole heartedly dedicated to the Almighty God, his son Jesus Christ, who created me from a mustard seed and elevated me to this stage in life, Who has given me this opportunity of going to school. Who gave me wisdom to strive for the permanent thing (Eternity) rather than the temporary (Worldly things).

Special regards are given to my dear mother Mrs. S.O. Ajetomobi, My future partner Shola Ayinmode, My brothers and sisters for their invaluable love, support and encouragement.

CERTIFICATION

This thesis report entitled "Abuja International Trade Fair Complex" An Appraisal of Physical Infrasture in trade fair centres in Nigeria" by Ajetomobi Rufus Olukunle meets the regulations governing the award of the degree of Master of Science in Architecture, and is approved for its contribution to knowledge and its literary presentation.

SHRIKANT S. TULPULE 2/12/1992
Chairman Supervisory Committee — Date

..... 18/12/1992
Member Supervisory Committee — Date

..... 7th Jan 1993
Member Supervisory Committee — Date

.....
Head of Department of Architecture — Date

.....
Dean, Post Graduate School — date

ACKNOWLEDGEMENT

I expressed with deep gratitude the willing cooperation and assistance given to me by many organisation and individuals during the period of this research. To mentioned few F.C.D.A. Abuja, Abuja Chamber of Commerce and Lagos Trade Fair Management.

My sincere gratitude is expressed to all my lecturers in the department of Architecture who taught me at one time or the other in the course of achieving this noble objective.

My special gratitude goes to my supervisor Arc. Daniel U. Madusolumuo for his guidance and encouragement to ensure the success of this work-right from the inception to the final stage.

I am indebted to my lecturer Arc. Yeboah who contributed and showed kin interest in my work. Also to be remembered is my lecturer Arc. W.B. Qurix.

I acknowledge the sincere cooperation of the Management of Abuja Chamber of Commerce most especially Mr. George, the General Secretary.

I am highly grateful to some of my colleagues in Architecture Fatai Olatinwo, Oyelade, Marcus, Adeyemi, Rotimi, K.J., Jide Arowona, Ibrahim, Adams, Olaitan, Agboola, Kayode, Oladimeji, Timothy, Kunle alias President, Yomi, Bode & Patrick.

To be remembered also are my brothers in the fellowship Bros Johnson (G.C), Sunday, Zerendu Christian, Henry, Ayuba, Lawrence, Edundina, Otis, Rapheal, Seth, Friday and Funsho who had one way or the other been concerned and praying for my success. May God bless you all (Amen).

My attention goes to my junior ones for their persistent love support and understanding. Mrs. Bunmi Daib (nee Ajetomobi), Gbenga, Dare, Olumide, Jide, Funmilayo, Yemi, My Auntie Mrs. Ogundimini and her children Tobi Tosin and Funke.

The acknowledgement will not be complete without mentioning some few well wishers, Kunle Ayinmode, Sumaila of Benna Associate, Mr. Raphael Sunday Tolowoetan who also take time to type this script, Kunle Ghinbade, Engineer & Mrs Adejide , Mr. Bode Adejo, Engr. Edalere, Suberu Siyaka,. To be remembered also is my class mate Shehu Abubakar (Kaka) who passed away on 28th August,1992 after a ghastly Motor accident along Kongo. (May his Soul rest in perfect peace).

ABSTRACT

The Trade Fair Complex Abuja like most events of its kind was concieved as a means of providing forum for businessmen and exchange of ideas, open market for new products, attract foreign and local investment, expose new inventions and educate the public at large. Thus the trade fair centres in Nigeria have problems in terms of its physical infrastructures Such as Space demand, electricity drainage and sewage, pedestrian walkway (pavement), vehicular movement e.t.c.

The study will examine these problems in detail with particular attention to Abuja and suggest solutions and recommendations. Moreso, the goal of the thesis is to provide a be fitting exhibition centre for fair that will go well with its activities by providing properly planned facilities that will reflect the exhibits climatic condition and its socio-cultural status as a festival.

Since the period of main usuage is about a week, the centre will be adoptable to other uses, so that it dosen't become a ghost town when no exhibition is taking place.

DEFINITION OF TERMS

Fairs in ancient times were periodical gathering for exchange of goods sandwitched with religious and civic rites.

The word 'FAIR' was derived from the latin word Fercia meaning a religious feast. However, the German word for the fair "MESSE" is considered the most appropriate description and it means a religious as well as economic ceremony. This definition is valid for the ancient and medieval times.

Another aspect by which the fair is defined is that it has a large coverage area and it essentially deal with long distance trade. Most of the trade that involve long distance of old days is refered to as fair.

However, Oxford dictionary defined fair as a periodical gathering for the sale of goods often with shows and entertainments at place and time fixed by status or custom.

Exposition And Trade Fair Difference

Trade Fair:	Exposition
i. Regular event that take place annually at same venue	Erratic with the regular periodicity and hardly holds at a venue twice.
ii. Highlight trade and technologies from specific industries.	Highlight politics and achievement of countries.
iii Exhibition take place in stands constructed in exhibition halls	Exhibition is self constructed pavilions

TABLE OF CONTENTS

CONTENTS	Page
Title Page	i
Declaration	ii
Dedication	iii
Certification	iv
Acknowledgement	v_vi
Abstract	vii
Definition of Terms	viii
Table of Contents	ix
List of Plates	x
List of Figures	xi
List of Tables	xii
1.0 CHAPTER ONE - EXPLARATORY STUDIES	
1.1 Introduction	1
1.2 Formulation of Hypothesis	2
1.3 Thesis Problem (Phenomena)	3
1.3.1 Motivation	3
1.3.2 Significance of the study	4
1.4 Scope and Limitation of study	5
1.5 Research Methodology	6
1.6 Aims and Objectives	6 - 7
2.0 CHAPTER TWO - LITERATURE REVIEW	
2.1 Evolution of Fairs	13
2.2 The Ancient and Medieval Era	14
2.3 Industrial Revolution (1700-1925)	15

2.4 Modern Trade fair (1925 Upward) 17

2.5 Economic Impact of Fair 18

2.6 Socio-Cultural Function of the Fair 18 - 19

2.7 Types of Trade Fairs 19

3.0 CHAPTER THREE - TRADE FAIR IN NIGERIA

3.1 Trade and Traditional Trade fair in olden day Africa 25

3.1.2 Trans - Saharan Trade 25

3.1.3 Arochukwu fairs 26

3.1.4 Colonialism and External Trade 26

3.2 Modern Trade Fairs in Nigeria 28

3.2.1 First International Trade Fair 29

3.3 Kaduna International Trade Fair 31

3.4 Abuja Trade Fair 35

3.5 Diffrence between Temporary Permanent Trade Fair Sites 35

4.0 CHAPTER FOUR - AN APPRAISAL OF PHYSICAL INFRASTRUCTURES IN THE FAIR CENTERS IN NIGERIA

4.1 Utilities services and Infrastructure 37

4.1.1 Water Supply 37

4.1.2 Garbage Disposal 39

4.1.3 Rain Protection 40

4.2 Illumination 41

4.2.1 Natural Lighting 41

4.2.2 Artificial Lighting 42

4.3 Telecommunication 42

4.4 Circulation 43

5.0 CHAPTER FIVE - CASE STUDIES

5.1 Case study - Home Examples 45

5.1.1 Lagos International Trade fair complex 45

5.1.2 Kwara State Trade fair complex Ilorin 49

5.1.3 Kaduna International Trade fair complex 52

5.2 Foreign Examples 54

5.2.1 National Exhibition centre Birmingham U.K. 55

5.2.2 International Trade fair Ground, Tripoli 58

5.2.3 Permanent Trade fair Site New Delhi India 59

6.0 CHAPTER SIX - SITE AND ENVIRONMENT

6.1 Site Location 63

6.2 Geotechnical data 64

6.3 Physiography 64

6.3.1 Geology 64

6.3.2 Soil 64

6.3.3 Vegetation 64

6.4 Climate

6.4.1 Temperature - Humidity 65

6.4.2 Rainfaill 66

6.4.3 Sunshine 69

CHAPTER SEVEN - PLANNING CONCEPTS/DESIGN PROPOSAL

7.1 Pedestrian precinct with parking enclosed by Ring Road 70

7.1.2 Precinct Interlaced by vehicular rules 70

7.1.3 Centralized Delivery and one way Traffic

7.1.4 Pedestrian centre with End parking 71

7.1.5 Precinct with central parking 71

7.1.1.1 Linear and Axial planning concept 74

7.1.1.2 Dandali Traditional concept 74

7.1.1.3 Multiplo Nuclei concept 76

7.2 General Design Concept 77

7.2.1 Radial concept 77

7.2.2 Linear concept 77

7.2.3 The core System 80

7.2.4 The Swastika 80

7.2.5 Capsule Formation 80

7.3 Proposed Planning concept 80

7.4 Proposed Design concept 81

7.5 Design Porposal 82

7.6 land Requirement 82

7.7 Schedule of Accommodation 83

7.8 Design Synthesis 84

7.9 Design Panorama 86

8.0 CHAPTER EIGHT - DEVELOPMENT AND MANAGEMENT

8.1 Administrative Structure (Committee and Participant) 101

8.2 Construction Method 102

8.3 Implementation Strategies 102

8.3.1 Finance 103

8.4 Revenue Generation and Expenditure 105

8.5 Alternative uses of Infrastructure on the site 109

CHAPTER NINE - CONCLUSION

9.1 Conclusions.

LIST OF PLATES

4.1	Poor Maintenance at lagos Fair	44
5.1	The Administration Block of Lagos International Trade Fair	46
5.2	The various pavilion at Lagos International Trade Fair	46
5.3	Lagos Fair Entrance Plaza	47
5.4	Recreational Area of the Lagos Trade Fair	47
5.5	Nigerian Organisation of Lagos International Trade Fair	48
5.6	Exhibition Hall of Lagos Trade Fair	
5.7	Maintenance Block of Kwara State Trade Fair Complex Ilorin	50
5.8	Gate House of the Fair	50

LIST OF FIGURES

	Figures	Page
2.1	Crystal Palace, Hyde park London	23
2.2	Philip pavilion at 1958 Brussels	24
2.3	German pavilion at Bacelena	24
5.1	National Exhibition center Birmingham	56
5.2	Sections of the Birmingham Exhibition centre	56
5.3	Trade Fair site New Delhi India	61
5.4	View of the Hall of nation New Delhi	62
6.1	Harmattan Winds over the F.C.T. During the dry season	65
6.2	Maritime (moonsoon) wind over the FCT during the wet season	65
6.3a.	FCT Temperature - humidity (0700hrs)	67
6.3b.	FCT Temperature - humidity (1600hrs)	67
6.4	F.C.T. Sunshine Duration	68
7.1	Planning concept Analysis	72
7.2	Planning concept	73
7.3	Design Concept (macre level)	75
7.4	Planning concept	76
7.5	Analysis of Design Planning concept	78
7.6	Design concept (micro level)	79
7.7	Design Concept	81
7.8	Design conceptualization	86

LIST OF TABLES

2.1	Exhibition ta Fairs	22
3.1	Participants in kaduna International Trade Fair	33
3.2	Foreign Participants at Kaduna Trade fair	34

CHAPTER ONE

1.0 EXPLORATORY STUDIES

1.1 INTRODUCTION:

Trade Fair is an important marketing tool in the econonic of both developed and developing nations. It is a unique meeting point for industrialists, manufacturers, suppliers, buyers and users of a wide range of goods and services to discuss areas of mutual co-operation and transfer of skill and technology.

A careful study of Nigeria trade fair complexes will reveal that they lack adequate physical infrastructures. These infrastructures can be explained in terms of poor illumination, general lack of pavement to reduce dust in the complex, services, telecommunication e.t.c. Thus these problems are being looked into in this thesis.

The new Federal Capital Abuja with its first growth and development rate has no trade fair complex and will need a trade fair complex of International standard. It is the intention of this thesis to plan a trade fair complex where national and international companies from different parts of the world will take part. Thus, most of the trade fair sites in Nigeria are planned to be an open air design and exhibitors are to erect and decorate their stands themselves. In this proposal most structures will be solid and permanent which will define its standard. Thus the inadequancy of physical infrastructures in most Nigerian trade fair complexes need to be looked unto. It is the goal of this thesis therefore, to provide fitting exhibition centre for the fair that will go well with its activities by providing properly planned facilities that will reflect the exhibits, climatic condition and its socio-cultural status as a festival.

A trade fair complex of this type, if realised will go a long way to hasten Nigeria's march toward economic recovery and self reliance. While some business executives and goyernment general officia believe that trade fairs act like an oxygen bag to investors, corporate bodies and the entire economy., some critics preach that fairs are nothing more than the music of a mad man full of sound and fury but signifying! some say that trade fair encourage consumption instead of increased savings.

In any case, trade fairs have found more friends and admirers in this country.

It is the belief of the present government that trade fairs are one of the tools to push its tasking economic policies to success.

The popularity of trade fairs stems from a strong belief by the movers and shakers of ideas in the national economy that trade fairs help to move the economy on the path of rapid development and growth. The first Enugu International trade fair was attended by an estimated 500,000 visitors while the 13th Kaduna fair played host to over 1,000 exhibitors and about One million visitors.

1.2 FORMULATION OF HYPOTHESIS

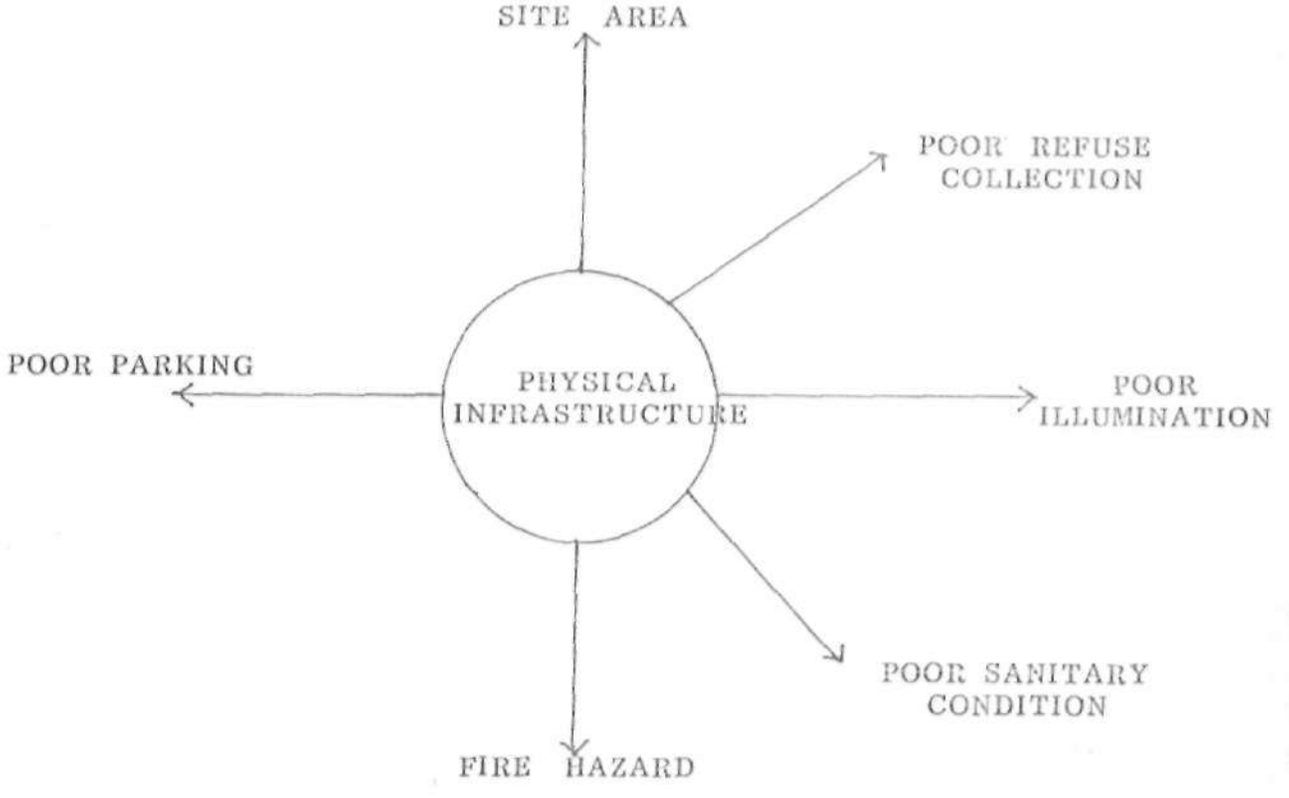
In the light of the foregoing analogy, it will be hypothesised in this thesis that a careful and logical analysis of the problem of physical infrastructure in Nigeria trade fair complex is looked unto.

1.3 THESIS PROBLEM (Phenomena)

The problem of the most trade fair complex in Nigeria are perculiar to physical infrastructure problems amongst other are:-

KASHIM IBRAHIM

1. Poor refuse collection and disposal methods;
2. Lack of adequate illumination
3. Poor sanitary condition;
4. Improper display of various items
5. Fire hazard due to compactability in design



1.3.1 Motivation

The whole idea of the proposal came to the author from an experience of the existing problematic situation of the trade fair complexes in Nigeria.

Moreso, the Newday of June 12th - 18th, 1991 reporting the president of the Abuja Chamber of Commerce Industry, Mines and Agriculture (ABUCCIMA) called on the Federal Government to build a permanent site for subsequent trade fairs in Abuja.

However he said that permanent fair ground will promote other trade - related exhibitions besides trade fairs. Nonetheless, the merits of this study are examined on the basis of importance of the fair to the nation economically and socio-culturally - so also to the field of architecture.

An Architect as an active member of an environment must take a commanding position in the formation and development of thought, and ideas to arrest shortcomings and meet the needs of his environment. The primary role of the architect must be closely associated with the total process of socio-economic change, the changing pattern of the way of life of the people and the attempt to improve human physical environment".

1.3.2 Significance of the Study

The study may be justified on the following bases:-

1. Very little has been reported on physical infrastructure of trade fair complexes in Nigeria. Since the study will be on physical infrastructure of trade fairs in Nigeria, the result will provide a comprehensive information on it.

ii. This study will bring to light problems areas as relating to poor illuminations, circulation, sewage problem and fire hazard.

iii. The findings of the study will provide information for Nigeria chamber of commerce and industry, students and researchers at all level.

1.4 SCOPE OF STUDY

It is anticipated to meet the marketing tool of both developed and developing nations of the world. Facilities such as accommodation.

IBRAHIM LIBRARY

Recreation, Bank, podium theatre, Restaurant e.t.c. which will make the centre to be effectively used all year round will be provided in the planning layout design.

However, it is necessary to define the scope of work to make the boundaries of the work very clear. The scope of work is thus organised as follows:-

1.4.1 Analytical Study

This deals with general data collection and analysis about the existing situation of trade fair centres to aid better understanding of the thesis problems. This study will be concluded by recommendations and general suggestions on how this problem could be resolved in existing trade fair complexes and future developments.

1.4.2 Design Proposal

At the end of the recommendation, design proposal will be evolved following the general findings and proposals for solving physical infrastructure problems. The structure and content of the design proposal largely depends on the general findings.

1.4.3 Limitation

The following are possible limitation of the study, which are to be considered while interpreting the findings.

The findings of the research, will be subjected to the method of data collections ,which are interview and observation.

Thus, to be design in planning layout are permanent trade fair exhibition halls; permanent all year round shopping complex,

General Exhibition, Conference centre, Office Complex, Cinema, Restaurant, Day Care, observation tower e.t.c.

1.5 METHODOLOGY OR RESEARCH DESIGN

In other to successfully realise the aims and objectives outlined in this thesis, the following methodology is adopted.

Key investigations include Architectural Planning social and Economic will be carried out through:-

- Physical survey of existing structures and environs
- General observation of existing conditions (photographic documentation)
- Interview of government agencies e.g. Abuja Chamber of Commerce and Industry Development Board and the general populace;
- Interview search for published and unpublished materials relevant to the subject (Library research);
- Participant observation method - is also employed in the Research.

1.6 AIMS AND OBJECTIVES OF THE THESIS

The statement of the desired result to be achieved and the means of achieving the desired result is presented as follows:-

1.6.1 Aim/Goals

(i) To promote all aspects of the economic sector through national and international cooperation, promoting, encouraging and exposing Nigeria's non-oil exportable products, attracting international investments in line with Federal Government policies, providing access to research finding e.t.c.

(ii) Study the problems of trade fair in Nigeria looking into the area physical infrastructure illumination, sewage, fire, e.t.c.

(iii) To strengthen the economic base of Abuja

1.6.2 Objectives

(i) To design a trade fair complex that will adequately serve the activities of Nigerians and Foreign participants;

(ii) Easily expandable pavilions to cater for sudden increase of participants;

(iii) To create a forum for various nations to make known their economic policies, thereby providing a platform for the stimulation of economic growth;

(iv) To provide multi-functional pavilion to effect capital costs.

(v) To make recommendation on improvements that can lead to full exploitation of trade fairs.

CHAPTER TWO

2.0 LITERATURE REVIEW

The literature review of this thesis would concentrate generally on academic researches as well as past works. This is in order to expose the various problem area in trade fair designs. This will also highlight different solutions and attempts at solving the general problem of trade fair design.

'GODDY NJOKU, in his opinion that we do not have any scientific method of measuring the impact of trade fairs on the national economy. "Nor have we devised any objective criteria for judging the success of failure of each fair".

Until the experts devise an acceptance model for evaluating trade fair, we will continue to make do with a set of unverifiable SOURCE': Trade Fair Courier June 3rd, 1991.

Theories on the role of commercial exhibitions in the economic advancement of the nation. Again, until then, every judgement made about the success or failure of a trade fair would mostly remain on the level of subjectivity.

On the whole, trade fairs are not detestable things although there is need for a more scientific approach to fair organisation and the evaluation of fair impacts most especially in a developing nation like Nigeria.

Furthermore, he noted that people be encourage to trade fair and there is need to look into the dust pollution of the ground.

OKONKWO , (1981) In his study of Nigeria modern market and Commercial area in which trade fair complex are inclusive, argued that large sums of money are being spent on building halls, that are not adequately utilized, owing to lack of proper management and control.He noted that an efficient and acceptable design will only be achieved through careful study of existing fair grounds and critical analysis of activities going on within it. He also noted that adequate and efficient Management and proper maintenance of the trade fair complex or facilities is the tool needed to achieve a working design.

The Minister of Commerce and Industry in the 60s in his speech at the first international trade fair in Lagos noted that by diversifying trade channels the rewards are usually mutually advantageous. Pointing out that the aim of the fair brings about diversifying external trading partners, courting investors to invest in the country and providing indigenous business men with a forum in which to make contact with foreign investors.

He concluded that good planning is necessary in fair so also permanent exhibition hall. This will enhance external trading partners in coming to Nigeria for exhibitions.

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANISATION

The (UNIDO) see Trade Fairs as a tool through which developing nations can achive industrialization. The key to the success of the fair as a tool for industrialization is the integration of the fair with other arms of the industrial policy of the country.

During fairs wide range of technological processes are displayed and the country in question can then choose from these array of technologies an appropriate model for its use.

The fair often directly lead to the establishment of new industries and generate ideas in the visiting public.

Furthermore, UNIDO emphasized that most developing nations have wealth in agricultural and natural resources but lack the technology and or the financial strength to embark on the exploitation of these resources.

The idea of technology transfer is of termate with snear in developing countries because nothing of this kind has been achieved in these countries. However, technology transfer can be achieved through careful selection of basic industries to be established especially those in the engineering industry particularly the machine tools sector. Such basic technologies are often an exhibition at trade fairs and can thus be employed by developing countries.

ABDULBAQ, ANWAR YAKUBU, 1988 M.Sc. Thesis, Abdulbaq, observed that trade fairs are staged in this country to stimulate the industrial growth of the country and to encourage foreign investment in case of the international fairs. In the case of the rural periodic markets they also serve the purpose of distributing manufactured goods from the urban centres and collection of agricultural product from rural areas. They also serve socio-cultural purpose since on market days the villages assume festive atmosphere. Hence the rural periodic market likewise, can serve as a medium of rural development.

473256

On the question of trade fairs; they can be made more effective by properly integrating them with the other factors of industrial development such as government ministries, research institutions, businessmen, academicians e.t.c.

For effective result in the drive towards industrilization, the government should:-

1. Data on businesses transacted at trade fairs should be properly documented to determine the direction of investment and can serve as feed-back on government policy;

2. Properly planned trade fair complexes should be established in all corners of the country so as to bring development to all parts of the country and this will provide proper atmosphere for exhibitors and visitors;

3. To conform with government pririoty of developing the agricultural and industrial sectors, the international trade fair should choose participants from these industrial sectors so as to boost the prospect of development or these sectors.

In an editorial, New Nigerian, pin-pointed the pitfalls in Nigeria trade fairs. The paper identified the problem of security of the exhibited item is always difficult to guarantee. The paper pointed out that there is always a battle with dust for both exhibitors and visitors. The absence of pavement site brought about dust which is a health hazard to both the visitors and the participants.

The paper went further to state that layout of the exhibition stands put some exhibitors at a disadvantage which will not be the case in a properly laid out exhibition ground.

Now having gone through the various studies on trade fairs, many problems facing trade fairs in Nigeria could be outlined as follows:-

a. General lack of proper management
b. Poor sanitary condition
c. Poor refuse collection and disposal methods
d. Bad drainage system
e. Absence of pavements
f. No adequate illumination
g. Fire hazard

It is the opinion of this thesis that lack of physical infrastructure is the primary problem of trade fair sites, while others are secondary problems. Thus, the lack of physical infrastructures as earlier mentioned will be taken care of in this thesis, in an attempt to solve the problems of trade fairs in Nigeria.

a. Provision of adequate electricity
b. Adequate drainage and sewage
c. Provision of pedestrian and vehicular movement (Pavement)
d. Provision of some facilities integrating ministries, research institution and business men in the complex.

KASHIM IBRAHIM LIB

2.1 EVOLUTION OF FAIRS

The Antagonist of fairs said that these events are costly burden on participant and organizers. They also believe that with the coming and spread of such formidable advertising medium as the electronic media (radio and television) the advertising aspect of the fair is weakened. Added to these are the modern marketing methods of market research and engagement of salesmen to open new markets to products, which further weakens the purpose of fairs. They therefore concluded that the demise of fairs is not far from sight.

Thus, fair protagonists counter with such arguments that, trade fairs are by far cheaper as marketing media than advertisements. This is so because hundred, thousands and somtimes hundreds of thousands of potential customers are exposed to the wares of the participants, whom otherwise wouldn't know about the existence of these products.

Furthermore, the media itself is galvanized into giving coverage to the fair when the event is on, further widening the potential market of products.

The fair also provides medium of intimacy between the potential customer and the product in that the product can be subjected to test with all five senses (seeing, feeling, smelling, testing and hearing) as the case may be thus creating intimacy.

It is this factor of intimacy and choice (from competitive products that provide the key to the success of trade fairs).

Three periods of development of trade fairs are easily recognisable. These are the ancient and medieval times, the industrial revolution era and the modern trade fairs.

2.2 THE ANCIENT AND MEDIEVAL ERA

The idea of trade exhibitions must have been as old as civilisation (that is creation of cities) which must have started between 6000 and 5000BC. At this time trade was mainly between the cities and their hinterlands. Items of exchange were mainly food items (from the hinterland and craft objects and farming implements from the cities.

Thus, the international trading started at trading cities like Alexanderia and Byblos under the control of Egyptians. However, Alexandria was barted against art objects and precious metals. Later, Athen took over from Alexandria and became the trading centre for asiatic, Egyptian and Italian traders. The trade items were oil, wines, fruits, e.t.c.

Trade fair started in Europe in the middle ages. A permanent fair ground known as the fair of German was established in Paris, France in 1511. It was a large rectangular hall built of stone, it was divided into regular compartments, by six parallel and longitudinal aisles and a set of five parallel aisles across its width. Provisions were made for open air exhibition, where stands were erected in the open.

However, to encourage free trade, free movement of merchants and their goods was assured by the authorities of the fair town.

2.3 INDUSTRIAL REVOLUTION (1700 - 1925)

This is the period of industrilization in the west, which started in the 16th century when the conglomeration of workshops and division of labour was introduced. These increased production to meet the level of demand at that time.

By 18th century there was high rate of economic growth increased demand of products) which was not met by the manufacturers. However, the industrialist then experimented the use of machine tools (as opposed to hand tools) for manufacturing and they succeeded. This was the begining of industrialization which has now been achieved in many nations but which others (the developing countries) are striving to achieve.

Towards the late of 18th and early 19th century industrialization caused surplus production of goods beyond the immediate market of the industrializing nations. This forced them to look for ways in expanding their markets.

It was the French that opened the avenue of exhibitions as means of expanding markets. A lot of national exhibitions were organised in Paris in the 18th century where mostly French industries exhibited their wares.

However, the first international exhibition was held in Hyde Park, London, England in 1851. It was recorded that a total of (6,039,205) six million thirty nine thousand, two hundred and five visitors and (13,937) thirteen thousand nine hundred and thirty seven exhibitors participated.

Also the exhibits were estimated to be over (100,080) One hundred thousand. The exhibition was very popular and it boosted international trade in general and Britain export in particular. It also became a pacesetter and was widely immitated by others. In 1854 an international exhibition was convened in U.S.A. in New York, where a miniature of the Crystal Palace (used for the London Exhibition) was erected. It was at this exhibition, the invention of the Elevator was publicized. However, some other international exhibition followed such as these of 1855 and 1868 in Paris. Among the most famous of the time was the one held in Paris in 1889 which exhibited the Effiel tower (a high steel structure that held world record for tallest structure for quite sometime), and the first building to span over 100 metres (the gallaries des machines) was part of the exhibition structures.

There after, came the Chicago Columbia exhibition which was a great exercise in town planning but was over shadowed by the use of neo-classical forms in the exhibition pavillions which one of America best known Architect of the time, Louis Sullivan, claimed would set America architecture back by a century.

Thus, as at the time of the early 20th century the fairs became more of political events where exhibition pavillions and exhibits are such that either the host country or participating countries aggressively show their might. Thus the exhibitions became political bulling grounds. One of such exhibition took place in Paris in 1900 and another took place in St. Louis in 1904.

L. KASHIM

It occupied 1000 acres and it exhibited the Washington University.

The industrial revolution fairs (1700 - 1925) increased international trade in general and that of the industrialised countries in particular. For example the London exhibition of 1851 boosted British export. The elevator was exhibited in New York in 1854 and it is often called the 'Shop-window Exhibition' - era and catalogue of the industrial revolution.

2.4 MODERN TRADE FAIRS (1925 UPWARD)

Trade Fairs became rampant in the 20th century. In order to coordinate fair a body was formed by some major fairs towns such as Brussel, Zagred, Frankfurt e.t.c. The body was charged with the responsibility of standardizing fairs of international repute it recognizes two type of fairs.

2.4.1 Type of Fairs:

Worlds Fairs, International Exhibition And Exposition

These refer to the erratic international exhibitions where nations gather to exhibit their technological advancement and culture. These events are mainly political and have no fixed venue but shifts from one country to another at no fixed intervals. Only very large companies of the host country are allowed to erect their own stands outside the national stands but all other business establishments from whatever country exhibit their wares within their national stands. Recent examples of these events are the 1967 exposition in Montreal Canada and the 1970 Osaka exposition in Japan. As stated earlier these events were mainly for political prestige, but they have little economic value and were off shoot of 19th century international exhibition.

Trade Fairs:- This class of exhibition was a revival of the ancient types of fairs immediately after the first world war They are mostly seen as international periodic markets. At these events participants are provided with pavillions and other complementary facilities for the purpose of exhibiting their wares. However, it is this later category, the trade fair; that is the subject of this (thesis) study.

2.5 ECONOMIC IMPACT OF THE FAIR

Nigeria has since independence been on the drive for industrialization like most other developing nations and not much has been realized so far. It is in view of this that the stated objectives of the fair are of great interest.

The government itself has recognized the economic importance of the fair. The Chief of General Staff speaking on behalf of the President at the opening ceremony of the 9th Kaduna International Trade Fair said "the trade fair is a unique opportunity for an assessment of the nations march towards industrialization." Further on, he added that "increase in the number of participants at the fair this year indicate the rising tempo of economic activity in the country and the growing confidence of the international economic community in Nigeria's economy".

2.6 SOCIO - CULTURAL FUNCTION OF THE FAIR

The fair is a known popular event which draws crowds of visitors from all over the country as well as from abroad.

A festive atmosphere generally consumes the town of the fair during the trade fair with increase in vehicular and pedestrian traffic going to and from the fair.

Cultural dances are always staged for the visiting dignitaries to educate the citizens on the culture of their fellow country men thus encouraging the aspect of adhesion while at the same time serving as a tourist attraction.

Furthermore, the consuming public are provided with an array of competition manufactured goods thus placing them in a better position of purchase.

2.7 TYPES OF TRADE FAIRS

Trade fair can be categorized into different form stated below:

The General Trade fair (Horizontal Exhibition)

This type involves participants being drawn from all sectors of the economy. This include manufacturers, businessmen, e.t.c. and it's open to the public throughout the duration. It is a very popular fair, usually held annually at fixed venues.

At this kind of event businessmen and even governments can establish rapport with one another and support or partnership in projects can be acquired. However, the participants (Exhibitors) are given the chance to find the competitiveness of their products and its acceptability.

On the other hand the consumer can see the product in action, handle it, smell it or try it out as the case may be. Furthermore, he is provided with an array of competitive products from which he can make his choice.

Sample Fairs

This is a fair where immediate purchase of product is not made, but orders can be placed for future delivery. These are more or less specialized fairs.)

Specialized Fairs (Vertical Fairs)

Specialized fair evolved because of growth of industries dealing in variety of products. However, this type of fair gives attention to a particular industry, say Agriculture e.g. Machine tools sectors of the engineering industry. The participants have clear cut marketing objectives and the visitors are selected specialists in that industry or sectors. This type of fair is often carried out hand-in-hand with technical symposia and other such events to augment it.

However, this type of fair is for marketing purpose mainly and not for immediate sale. Example is the first international trade fair complex in Abuja - in 1991.

Commercial Fairs

This type of fairs involves representative number of companies to participate with the intention of convincing specific audience to buy, use or specify their products. This kind of exhibition is not regular but are staged to meet particular marketing needs.

Semi - Private Exhibition

This is an event in which only a single manufacturer is the exhibitor and is staged to a particular audience. As an example, car manufacturer launching a new model with the dealers as the visitor of audience.

Trade Mart

This is a year round show room for products of one or more industries and can be incorporated in trade fair site.

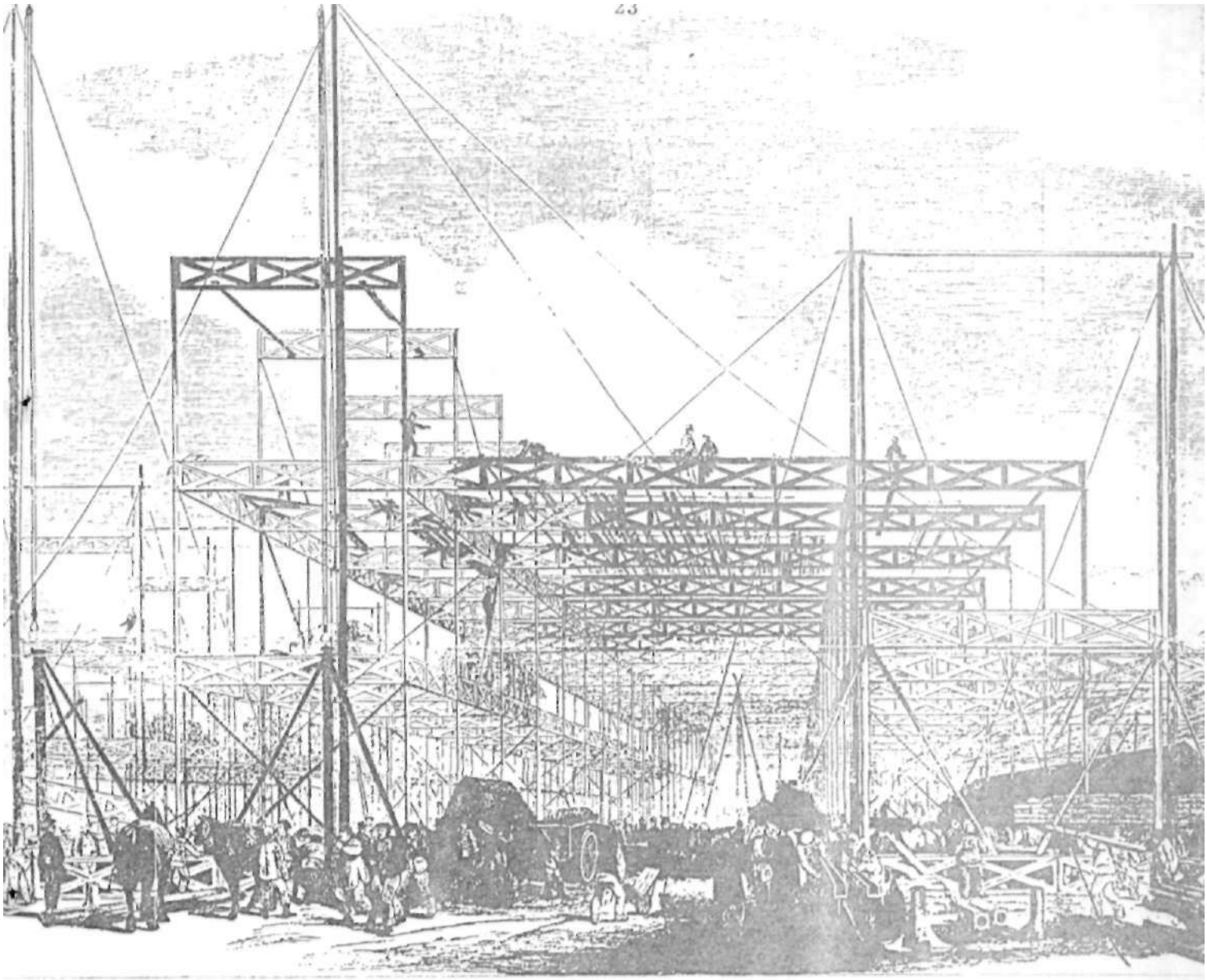
2.7.1 Types of Exhibits

The exhibits are dependent on industrial category hence the type of exhibits is representative of the type of industry

INDUSTRIAL GROUP	EXHIBITS
Agriculture	Heavy agricultural machinery such as graders, earth tuers.
Construction	Earth moving equipments, mixers, cranes, Architectural and Engineering services.
Cultural Establishments	Museum (Artifacts)
Cosmetic	Toiletteries, shampoos, lotions e.t.c.
Educational Institutions	Educational equipment suppliers, bookshops, research institutions e.t.c.
Electrical Equipment and Electronics	Electrical generators, cables, batteries, e.t.c. Video, radio computers e.t.c.
Foreign Establishments	Trade mission, machinery displays, manufacturing equipments.
Furniture	Beds, tables, Cushions, Chairs e.t.c.
Governments	State Governments, Federal and State government parastatals
General Goods	Toys
Health Care & Chemical	Chemical, Petro, Chemical Petroleum products, Plant medicines, surgical instruments and other appliances
Heavy/Medium Industries	Manufacturers of Heavy equipments, large conglomerates e.g. SCOA.

Table: 2.1 - Exhibits of Fairs

INDUSTRIAL GROUP	EXHIBITS
Light Industries	Light Equipment Industries
Office Equipment	Office furniture, typewriters Intercom, Filing Cabinets, e.t.c.
Publishing & Printing	Published Works
Service Organisations	Services, Banks, Insurance, e.t.c.
Textiles	Manufacturing machines, Textiles products.



- CONSTRUCTION OF THE CRYSTAL PALACE, HYDE PARK LONDON
(PAXTON, FOX AND HENDERSON

_ THE FIRST INTERNATIONAL TRADE FAIR IN THE WORLD

_ TO ROOF THE EXHIBITION HALL, A CORRUGATED BARREL VAULT WAS CHOSEN /

Fig: 2.1 Crystal Palace, Hyde Park

KASHIM IBRAHIM LIBRARY

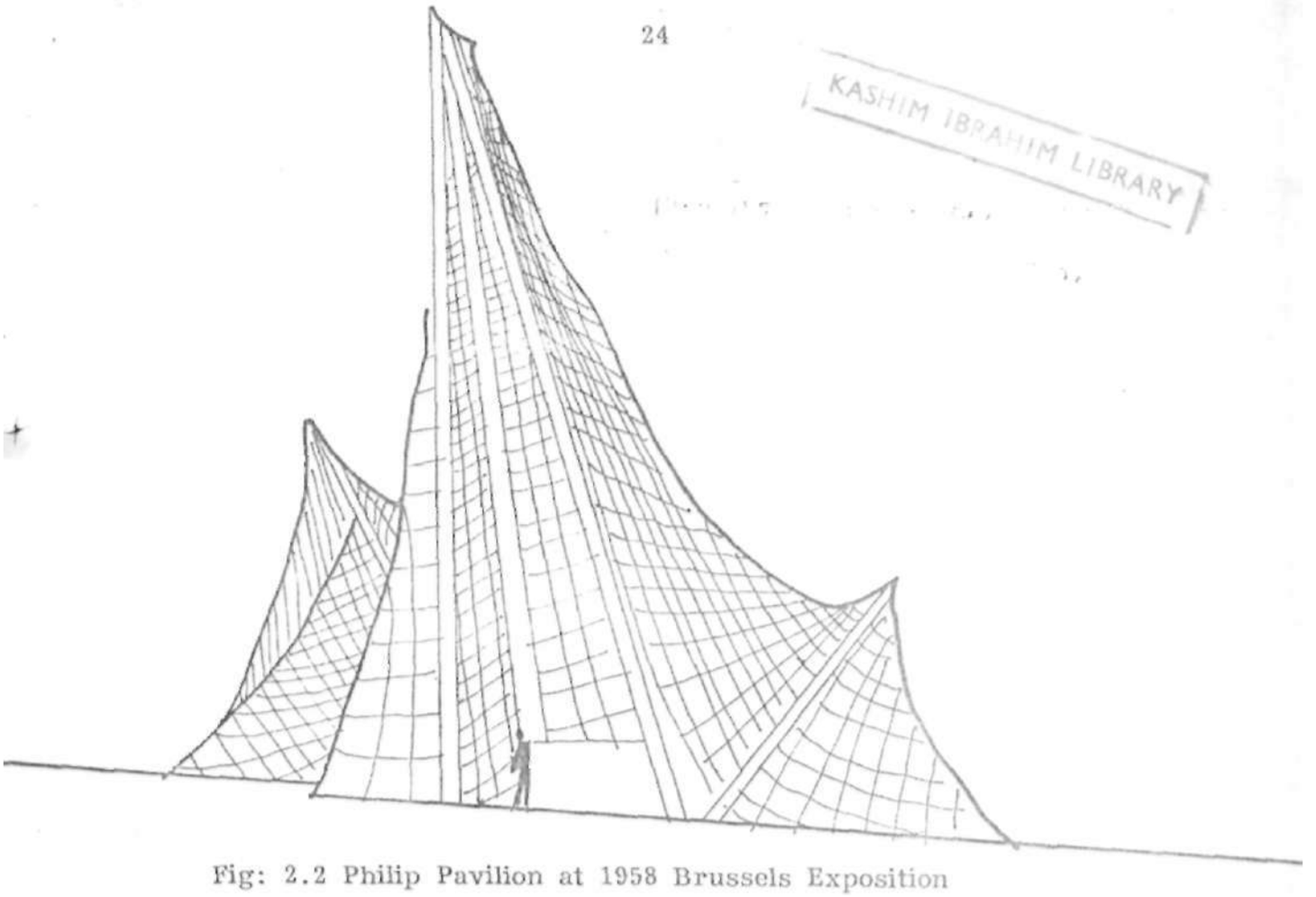


Fig: 2.2 Philip Pavilion at 1958 Brussels Exposition

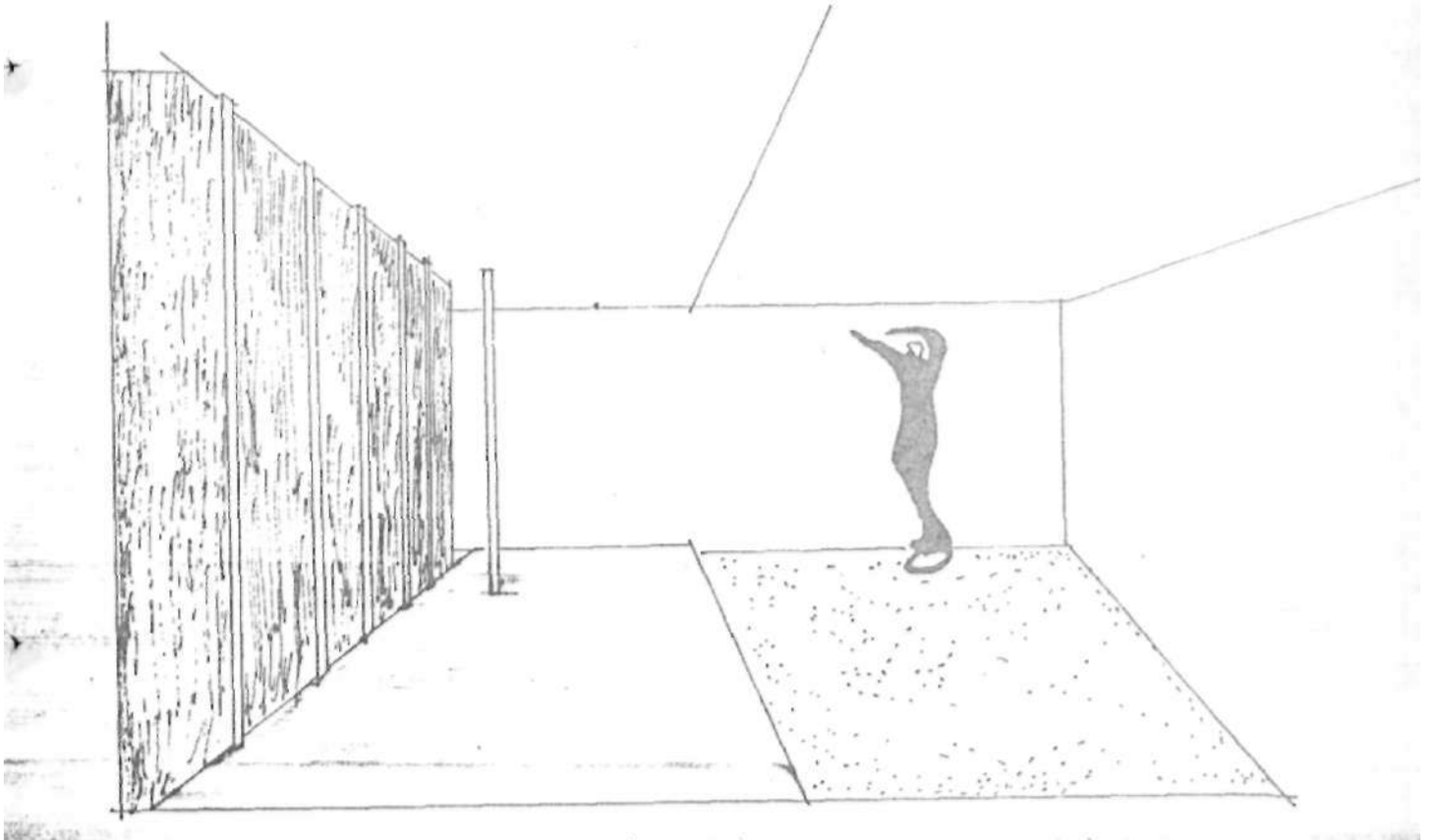


Fig: 2.3 German Pavilion at 1929, Barcelona Exposition

AT 1929

CHAPTER THREE

3.0 TRADE FAIR IN NIGERIA

Modern trade fairs in Nigeria are a direct importation of the European model and are not totally as a result of evolution of traditional markets that existed in this country before the coming of the Europeans. These fairs were in the form of local periodic markets and international periodic markets evolved along trade routes.

3.1 TRADE AND TRADITIONAL TRADE FAIRS IN OLDEN DAYS AFRICA

Traditional trade fairs are essentially periodic markets associated with long distance trade.

The origin of trading in Nigeria like other parts of the World might have started as a function of urbanization which created specialization (division of labour) hence the need for exchange. This mainly refers to local trade between rural-urban and urban centres..

3.1.2 Trans-Saharan Trade:

The trans-sahara trade which originated in North Africa Crossed the desert and reached the savannah region of Nigera.

However, with the coming of the European some of the North bound trade was eroded and the south bound trade was increased especially in the south-west which led to the growth of market along this route.

Caravans were been organized in groups in the trans-saharan trade. (Using camels as the main transportation medium which makes it easier in travelling through the perilous desert, as well as to defend themselves against attacks (enemies).

The traders display and sell their wares at the market and the local traders buy the items for selling locally at the rural periodic market or taking down south.

Thus, this trade had the touch of a FAIR in its being long distance periodic and a socio-cultural event.

3.1.3 The Arochukwu Fairs

The Arochukwu organized two local fair with well planned spacing. The fairs served the North and Southern Iboland. At the peak period of development of this system in the 19th century the fair were staged at twenty four days interval and lasted for four days. The fairs were held at Uburu and Uzuakuli. Traders and peasants from far reached the Ibo land and attended these fairs. Main articles of trade fair were salt, pigs, Akwette cloth, Tobacco and spirits.

3.1.4 Colonialism And External Trade

During the colonial era the traditional international trade fairs stopped especially the trans-saharan trade fair due to the introduction of custom duties and other legislation.

International trade fair became the sole responsibility of the colonial administration while local trade fair continued as before.

The major influence of colonialism was the transformation of the economy of the country from a fairly balanced international trade to a level of being mostly important oriented. This was done in two major ways:-

(i) Re-Orientation of Trade Items

At the onset of colonialism the trade items became oriented towards the needs of the colonial masters for raw materials and manufactured goods. Due to the higher quality of the manufactured goods, all local crafts in such field that imports existed were quashed. Also taste for European goods were created.

(ii) Trade partners

The British became the main trade partners while other traditional partners like North Africans and other Europeans were push to the background.

The export-imports trade became the sole responsibility of British business which had bases in this country. Export mainly cash crops like cotton, groundnut, columbite, coal cocoa, tin and Timber were exported through agents who also brought in imports like flour, milk, gin and later manufactured products like cars and sewing machines, which were distributed to warehouses from where they were sold to retailers.

3.2 MODERN TRADE FAIRS IN NIGERIA

In 1960 during the time of Independence, only small scale manufacturing were available and it was mainly dominated by products such as beer, soft drinks and tobacco. Production of textiles and cement were then developing. Other Industries were light manufacturing which include bakery, oil milling, rubber processing and saw-milling. There was conspicous absence of engineering products such as machine tool or capital goods. The manufacturing was limited to consumer goods and prelimenary processing of raw materials for export. This made the external trade mostly one way in favour of the industrialized countries. Therefore conscious efforts were made at modernizing the economy by the political administration through some measures of development planning introduced as Instruments of economic management.

The first of these measures, was the industrial policy as contained in the first national development plan (1962-1968) whose aims were:-

i. To enable indigenous participation in ownership direction and management of Nigerian industries and trade;

ii. To enable indigenous participation in ownership direction and management of Nigerian Industries and trade

The government wanted to achieve these through:-

a. Establishment of Development Banks to lend to Industries;

b. The provision of fund by government for direct participation;

c. Establishment of Iron and Steel complex policies to stimulate growth of private Industries;

In enacting policies to stimulate growth of private industries the government covered both indigenous and foreign businessmen. Some of the policies include income tax relief, Import duty relief, depreciation allowance for investment in equipment payment for technology transfer, Home remittance etc. A lot of these were to flatter the foreign investors to invest in Nigeria. It was in the light of these things that the first International Trade Fair was staged at Lagos.

473256

3.2.1 The First International Trade Fair

The first International Trade in Nigeria was held between October 27th and November 18th 1962 at Victoria Island Lagos. It was organised by the Federal Government and it had reminescence of the 19th Century International exhibitions in Europe and America in objectives and scale. Although, it was a low key event and its purpose was to exhibit goods or items that were manufactured locally. It was first of its kind in tropical Africa and was attended by many countries both in and outside Africa. The participants included the U.S.A., U.S.S.R, Bulgaria, Yugoslavia, Chezechoslovakia, West Germany, e.t.c. Other countries included those of middle east, Asia, North, East, West and South Africa.

IBRAHIM IBRAHIM LIBRARY

Fourty one countries and three hundred commercial firms participated.

It was estimated that about one million people visited the Lagos fair including top government officials amongst whom was the then President of Nigeria (Dr. Nnamdi Azikwe) who declared the fair opened.

However, after the first international trade fair which was widely acclaimed as successful. A period of sixteen years lapsed before the next International Trade Fair was organised in Nigeria. This was due to the political turmoil that led to civil war in late 60's and the busy reconstruction period after the war.

Nevertheless, some state capital took over the mantle of Trade Fairs and organized "Made in Nigeria" Trade Fairs where participants were mostly firms and State in the country. Amongst the venue of these fairs were Kano, Ibadan, Kaduna Enugu e.t.c. Although, these fairs were not held regularly but were erratic in their periodicity.

The second International Trade Fairs was held in 1978. The fair was held at the trade fair complex located along the Lagos badagry Express Way. The participation was high and a total of 679,200m^2 exhibition area was provided.

In 1979 the Kaduna trade fair organizers made it on international event two hundred and six local and foreign companies participated. Since then Kaduna trade fair has become an annual event.

In 1982, in the second republic many States Organized their own fairs which they called International Trade Fairs. When the military came to power in 1984 the Lagos and Kaduna venues were declared the International Trade Fairs and all others were made to hold only local or 'made in Nigeria' Fairs. States like Oyo and Kano have been holding their fairs annually. Others States like Anambra, Imo, Rivers also hold their trade fair annually. However, Borno, Bauchi and Gongola States introduced rotational fairs where by venues moves from one State to the other annually.

3.2.2 Organizers of Trade Fairs in Nigeria

Trade Fairs in Nigeria are organized by either State Government, their agencies or State Chamber of Commerce: The kaduna and Lagos Trade fairs tagged International, have always been handled by the chamber of commerce of their respective states.

3.3 KADUNA INTERNATIONAL TRADE FAIR

Historical Background:

The Kaduna International Trade Fair Started in 1974 with only thirty five Stands booked by twenty Nigerian Companies. The second Trade Fair was held in 1976, then followed by the last domestic fair held in 1978 with sixty-nine local Companies participating.

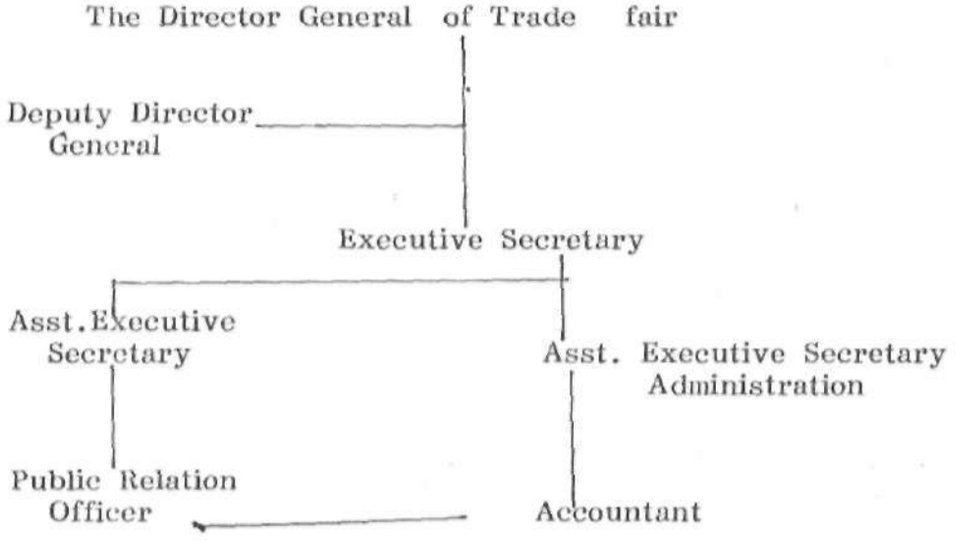
The Kaduna Chamber of Commerce who are the Organizer decided to make the event international in 1979, thus began the annual international trade fair. Countries like Britain, West Germany, Japan, U.S.A. and France were some of the participants at the first international fair, about one hundred and twenty five local companies took part in the fair and sales were estimated at over ₦ 18million.

The fair has since been held annually and the volume of trade, participants and visitors has been increased tremendously.

b. Organisation And Administration

The Kaduna International Trade fair is a sole venture of the Kaduna Chambers of Commerce (a voluntary Organisation of business concerns designed primarily to promote business interest of its members). The fair is organised and managed by the Secretariat of the Kaduna Chambers of Commerce through Committees. Below shows the administrative structure.

The Administrative Structure



c. Committees

The Committees through which the fair is organized are as follows:- Security, Finance, Protocol, Printing, Services, Temporary employment, special duties, Information, Public Relation and Health Affiliation of a German Fair promotion firm Kaduna as Kaduna expo International is responsible for the promotion of the fair in foreign countries.

d. Participants

Participants come from all over the country and some from neighbouring and overseas countries. Foreign participants came from mostly traditional participants (e.g. Germany, U.K. U.S.A., Bulgaria, Senegal etc). The below table shows the foreign indigenous participation since inception and 1991 attendance according to industrial group. It is observed that the consumer and services companies superced manufacturers number.

Record of Participation in Kaduna International Trade Fair

YEAR	NUMBER OF LOCAL FIRMS	PARTICIPATION FOREIGN FIRMS
1979	124	82
1980	135	20
1981	139	44
1982	350	199
1983	300	49
1984	200	73
1985	350	52
1986	400	150
1987	584	152

Table 3.1 participants in Kaduna

Analysis of Foreign Participation

YEAR	FOREIGN PARTICIPANTS	
1980	Foreign Participants	
	Germany Companies	12
	Italy	8
1981	Austria	20 companies
	British	24 "
1982	British	28 Companies
	Germany	171 "
	Others	10 "
1983	British	10 Companies
	U.S.A.	25 "
	South Korea	14 "
1984	U.S.A.	27 Companies
	India	10 "
	France	18 "
	Notherland	3 "
	Other Countries	15 "
1985	America	32 Companies
	Netherlands	14 "
	Canada	2 "
	France	4

Table 3-2 Foreign participant at Kaduna Fair

KASHIM IBRAHIM LIBRARY

3.4 ABUJA TRADE FAIR

The First Trade Fair in Abuja (Federal Capital of Nigeria) was a specialized trade fairs. It took place on Saturday May 25th - 8th June 1991 at the old parade ground Festival road Garki Federal Capital Territory, Abuja. The specialised fairs enjoys the full support and co-operation of the Federal Government the Federal Capital Development Authority (FCDA) and NACCIMA.

Its specialised nature is attributable to the involvement of members of O.A.U., ECOWAS, the organised private sector including other international organizations that would be participating in the fair, the emphasis of which has been placed on the exhibition of local technology for international consumption and the encouragement of self reliance. Thus the fair was organised by Abuja Chamber of Commerce, Industry, Mines and Agriculture.

In relation to utility services, Abuja Chamber of Commerce offers a variety of utility services including installation of electricity, water, telephone, telex and hotel reservation for the use of exhibitors and visitors at moderate charges.

3.5 DIFFERENCES BETWEEN TEMPORARY AND PERMANENT TRADE FAIRS SITES

Two periods of development of almost all trade fair centres are clearly marked. These are Temporary Structures (period mostly associated with the time the fair is erractic normally at the early stage).

Permanent Structures:- This is the final phase by which time the fair has become stabilized.

TEMPORARY SITE

The logic is that the success of the fair is tested at the early stage and when the fair prove to be a success then a fair site is established. However, in an established fair town a new fair site dosen't necessary go through the first phase.

PERMANENT SITES

It has been mentioned earlier that the first known permanent fair site was established in 16th century at the Saint German Fair Site in Paris, while that of Nigeria was established in Lagos. The exhibition hall of Saint German was a rectangular stone edifice divided into rectangular compartments by six parallel aisles running longitudinally and another set of five aisles running across stands are then errected along the aisles.

The modern trade fair building were mostly errected after the second World war.

In Nigeria, most trade fair center started with a temporary site they after graduated to permanent. This is mostly started with permanent structures. Examples of permanent site/structure are Lagos, Kaduna, Ilorin, Bauchi, Enugu, e.t.c.

CHAPTER FOUR

4.0 AN APPRAISAL OF PHYSICAL INFRASTRUCTURES IN TRADE FAIR CENTERS IN NIGERIA

Trade fairs in developing countries are organised in dismantle (broken down) structures. These structures lack utilities and infrastructures. They also have very little or non in term of permanent building services for example permanent electricity supply, drainage and sewage services.

Pedestrian and vehicular access roads are always having bottle necks and poorly laid out. In some cases the trade fair site are not planned at all, which leads people into a situation of chaos.

They appear to have no conceptual planning and visitors find it difficult in locating where they want to visit. Communication by participating firms or countries are either absent or poorly presented. These lapses can be seen and explained vividly as follows.

4.1 UTILITIES SERVICES AND INFRASTRUCTURE

Water supply lines are not extended to the site. Visitors cannot get water to drink as a result.

4.1.1 Water Supply

It is obvious that participants and visitors to trade fair centres in Nigeria have difficulties in getting portable water. Most people depend on soft drinks to cool their thirst. The reason for this is lack of provision of pipe line on the site.

Thus, the proposed International Trade Fair Abuja will be provided with supply line for drinking water and other uses. Water supply is readily available in Central Business District (developed area) and will be extended from here.

Considerable economics in drainage may be effected by the use of combined drains or private sewers. There is no exact distinction between the word drain and sewer but the most generally accepted definition is that pipelines under privately owned land are called drains and pipelines laid and maintained by local authority under roads are called sewers. The economic advantage of a combined drain is that it reduces drain - runs from each building and the expense of individual connection to sewers.

To be considered also is the public toilet facilities within the trade fair centre. Public toilets facilities are not fully considered in the existing fair complexes in Nigeria. In some cases where there are toilets on the site they are not easily located. So also it does not flow with the circulation of the visitors. Nearby corners are used in some cases as toilet which eventually cause air pollution and health hazard. Attempt will be made to properly integrate the toilet facilities on site.

Water storage on the site should be discouraged because it has several disadvantages which might be summarised as follows.

Contamination is one possibility, especially if the cistern provided is not well covered and this is a matter for careful consideration since stored water may be used for drinking as well

as fire fighting Stores might be drawn back into the mains through the ball value in the event of suction occuring in the riser, storage cisterns apart from contamination, it also give room for wastage of space, adding to the cost of construction.

4.1.2 Garbage Disposal

Most Nigeria trade fair sites are lacking in waste disposal. It is either waste bins are absent or they are not placed in the proper position, papers and garbage litter all the site, which make the site very dirty.

Garbage disposal is not dependent on any fixed system and can therefore be done in many ways. Land fills were once the most popular method of disposing of all solid wastes. To collect garbage on site, the basket bin can be placed in the appropriate position on site. Moveable bins and wheel bins can be used also in some cases. Constant collection disposal of this waste is necessary for neatness of the environment.

With time Abuja will get to the stage whereby recycling of garbage will be applicable. Thus garbage will be separated into reliable materials and combustible for thermal power plants and similar facilities. If this method is employed it will generally save our environment (trade fair sites) from getting dirty due to the fact that the company/authority for recycling will be responsible for the garbage collection.

In this thesis the equipment and method of collection is given The traditional dustbin remains a cheap method of disposing of waste from building.

As a guide, location may be determined on the basis of stand holders (exhibition space belonging to an individual) should not have to carry refuse more than 30 meters and that collectors should not have to carry bins more than 35m. Bins up to 0.11m can be suitable and may be handled manually. If the volume of waste increases substantially there may in the future be need for two container rather than one.

The labour involved in collecting waste can be reduced and greater quantities can be handled by using paper sacks rather than dustbins and since sacks are not emptied, collection can be considerably cleaner. In fitting the sack is supported and fixed on a ring attached to a mounting plate also supporting a lid. The planning and hygiene considerations for dustbin apply equally to paper sacks, but the latter cannot take quantities of hot ash.

To simplify collection and make mechanical handling possible larger communal containers can be employed in the trade fair center. Special collecting vehicles are required to handle and empty the containers which are much larger than dustbins. About $0.08m^3$ of storage per exihibition stand per day.

In essence, the galvanised mild steel, plastic refuse bin and paper plastic can be use.

4.1.3 Rain Protection

Adequate protection from heavy rain should be provided in form of deep verandahs wide overhangs and covered walkways, adequate road drainage should be ensured and stagnant pools avoided.

4.2 ILLUMINATION

Most Trade Fair sites in Nigeria lack proper illumination both artifical and natural. Moreso, trade fair activities in this country are basically conducted during the day.

In Ilorin for instance, the trade fair complex was built without provision for adequate lighting. As at the time the author visited the site,therearen't enough lighting. No adequate street security lights. Visitors are limited to only day time activities at the centre due to no lighting facilities.

4.2.1 Natural Lighting

Natural lighting is an essential part of the design of Trade Fair Complex. Good quality lighting in building depend on contrast, i.e. variation between light and dark without glare. Its proper design is necessary for many reasons e.g. It help visitors to see and recognise objects with minimum eye strain, the better the light the easier it is to see and moves. Old people for instances need more light than the young, although some need more than others, even in the same age group.

Good lighting also means even lighting i.e. the avoidance of shadow patches which can cause eye fatique. This, however must not be confused with 'shadowless' artificial lighting.

Observed also in the existing trade fair site is glare disability glare, discomfort glare and reflected glare.

One of the important factors in determining interior lighting condition is the use of colour. Blues and greens in the tropics produce a feeling of coolness.

Red and orange should be avoided in the trade fair design unless needed to produce sharp contrasts or to focus attention.

To have a good lighting in exhibition halls consideration must be given to the location of windows, orientation, external surroundings, sun-control devices and the type of glass used. The placing of windows is important; high windows admit more light than lower ones. Tall windows also admit light further into the room but increase the tendency of glare. Ceiling heights also affect lightings, the higher the ceiling the greater the illumination in proportion to the openings.

4.2.2 Artificial Lighting

Most of what has been said about natural lighting applies equally to artificial lighting. In a trade fair complex, whatever the conditions it is necessary that the standard of illumination be high enough to allow the eyes to function effectively whether at work or leisure.

The type and level of lighting needed will of course depend on the purpose for which it is to be used. For interior lighting flourescent tubes will be used. It consumes much less current than incandescent lamps. Security and search lights is needed for night visitors, so that exhibition and facilities of the centre can be run in the night.

4.3 TELECOMMUNICATION

There is need to have good telecommunication net work within the complex. This will help both participant and visitors to the trade fair complex to properly coordinate affairs properly.

This will also make long distance calls possible within the complex. Good communication net work will help to monitor the entire complex.

4.4 CIRCULATION

Another major complex problem of the existing trade fair sites is circulation. Circulation is not only important but indispensable . Consideration for good circulation are as follows:-

A complete separation of pedestrian and vehicular traffic in the whole complex is very important preference will be given to pedestrians safety, as car owners eventually turn out to be pedestrians on site.

There is need to provide adequate parking spaces both private and public vehicles. As much as possible various types of vehicular traffic be separated from one another e.g. delivery vehicles public buses visitors and participants. This will improve convenience and general attractiveness of the complex.

The amount of parking space needed per car can be reduced with double or triple parking which in most cases requires the services of parking attendants during trade fair time.

The problems of transportation of heavy goods and materials will be considered.

KASHIM IBRAHIM LIBRARY



PLATE 4.1 POOR MAINTENANCE AT LAGOS FAIR

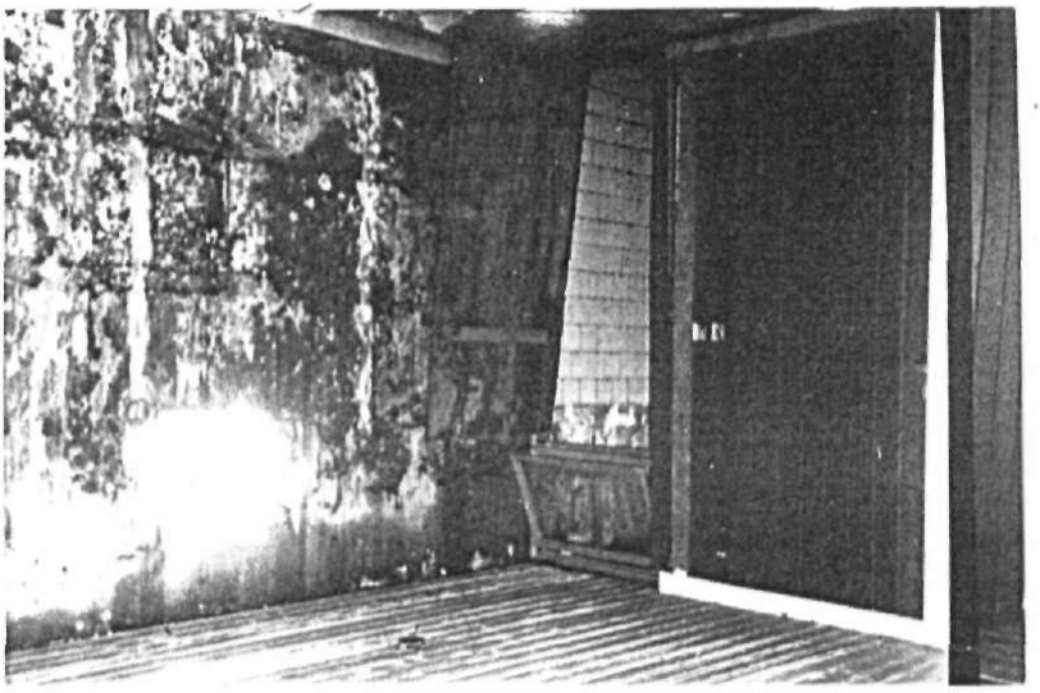


PLATE 4.2 DILAPIDATED STRUCTURE OF THE FAIR



PLATE 4.3 PUBLIC TOILET BUSSY AND OUT OF USE

CHAPTER FIVE

5.0 CASE STUDY

5.1 CASE STUDY - HOME EXAMPLES

5.1.1 Lagos International Trade Fair Complex

INTRODUCTION:

The project was conceived by the Federal Government of Nigeria and designed by a Yugoslavia Firm named "Enego Project". It was completed in time for the 1978 international trade fair which tested the site. The fair had a large turn out which was accommodated by the exhibition spaces provided by the complex.

The project was aimed at promoting trade fairs in the country, and in the third national development period trade fair complexes were ear-marked for some State Capitals.

Since 1978, the site has hosted trade fairs until when the Military siezed the complex and claimed that it is their land. The Ministry of defence was moved to the complex. In 1987, the ceasure order was reversed and the complex was handed over to the Lagos State Chamber of Commerce for future fairs.

BRIEF

Twelve exhibition halls of 7400m^2, 605000m^2 open air exhibition area. Three restaurants, Amusement park, Festival Spuare, Maintenance Centre, V.I.P. Block, Administrative Block, Car park, Bus Station, Taxi Station, Police Posts, Public Toilets, Hostel, e.t.c.



PLATE 5·1

THE ADMINISTRATION BLOCK OF LAGOS INTERNATIONAL TRADE FAIR

473256



PLATE 5·2

LAGOS INTERNATIONAL TRADE FAIR THE FEDERAL PAVILION





PLATE 5·3 ENTRANCE PLACE



PLATE 5·4 RECREATION AREA OF THE FAIR

ABUBAKAR TAFAWA BALEWA LIBRARY

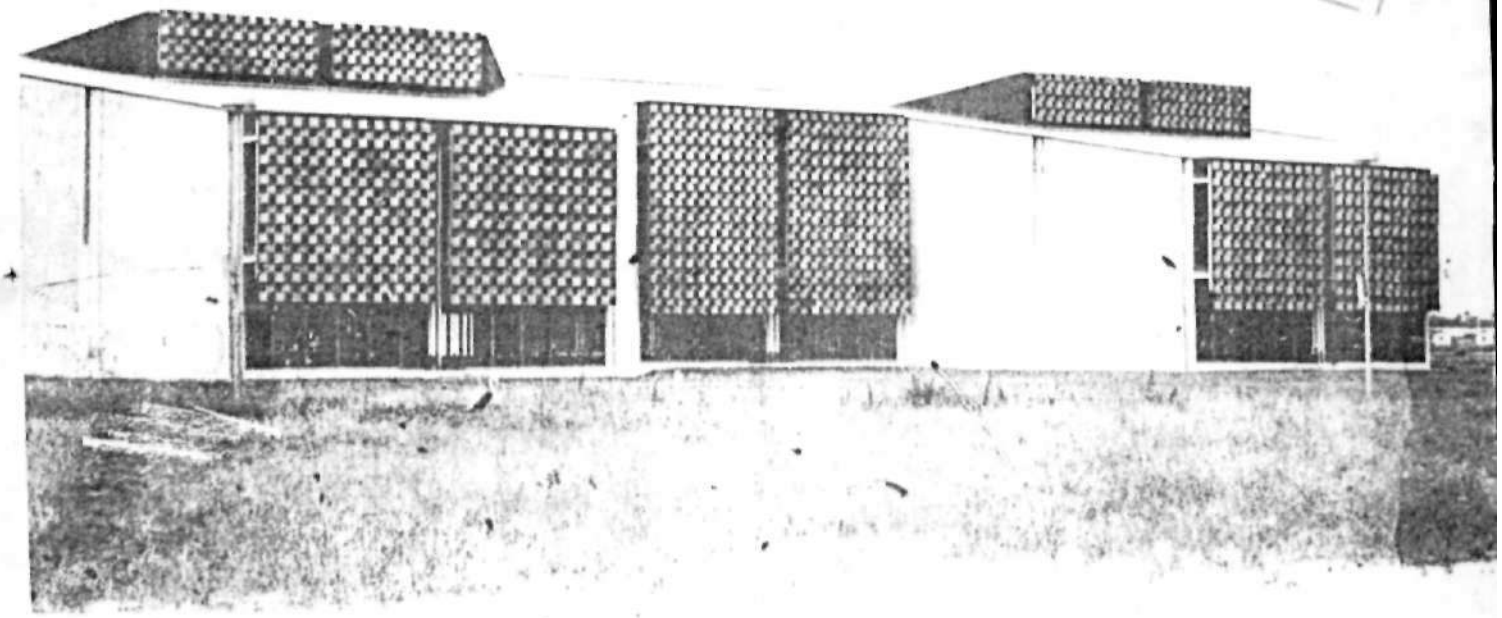
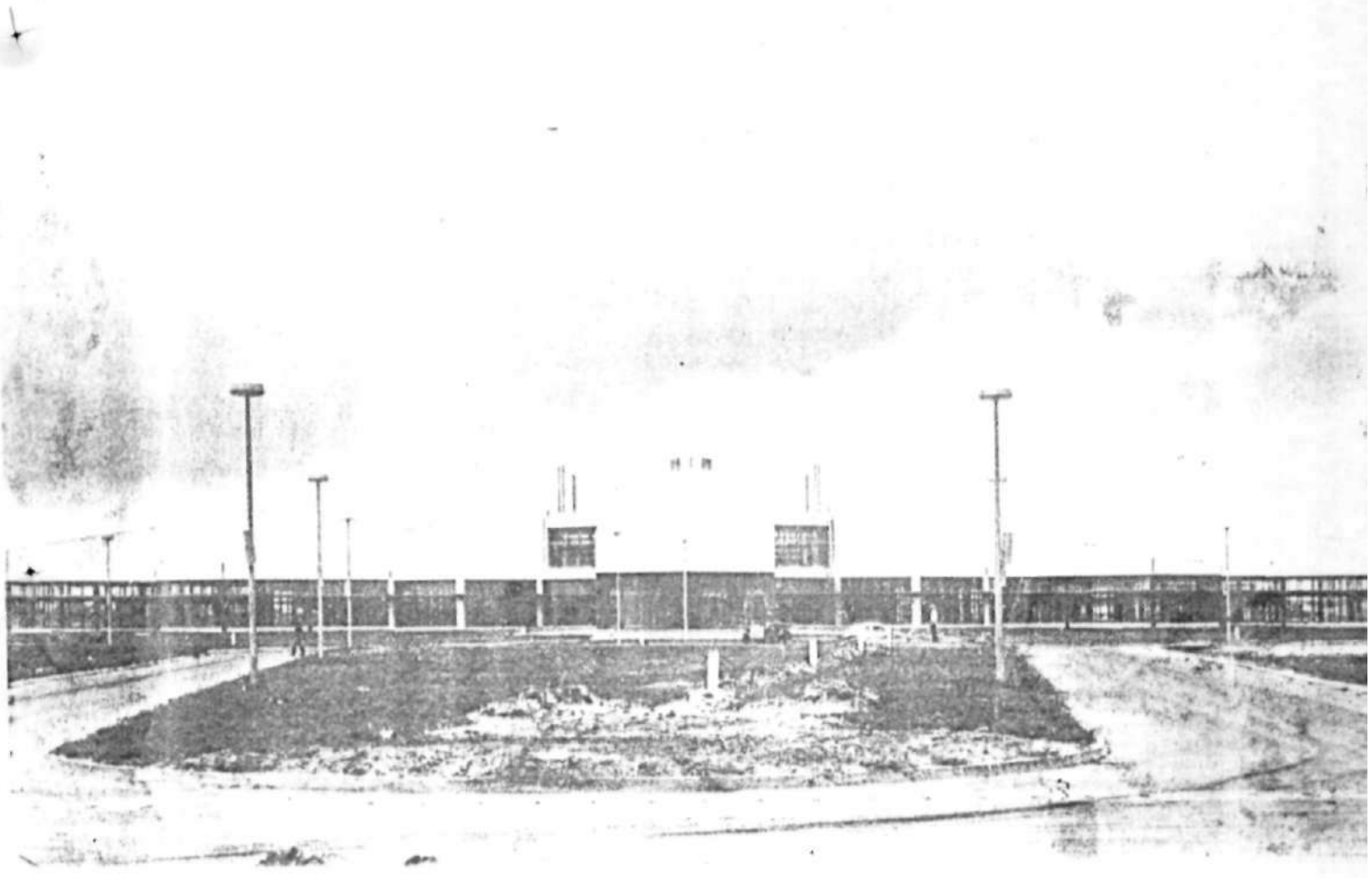


PLATE 5.5
NIGERIAN ORGANIZATION OF LAGOS INTERNATIONAL TRADE FAIR



ONE OF THE EXHIBITION HALL (PLATE 5.6)

SITE

The site is a flat piece of land located along the Lagos - Badagry expressway which is out of the way of the hustle - bustle of Lagos metropolis. The reduced areas are mainly service roads for the supply of exhibits.

DESIGN:

Disadvantages:

(i) The dispersed location of pavilions is tiring to visitor especially in the absence of internal transportation service;

(ii) Traffic control is not strict enough to ascertain that all due revenue is collected through sale of ticket;

Advantages

(i) Good integration of functions and zoning concept used;

(ii) Flexibility of space in the exhibition halls;

(iii) The pavilion wall are mostly made of glass curtain wall and a corrugate bronze for shading which reflect Yoruba Carving;

(iv) Each exhibition halls is equipped with reception area and public address system.

5.1.2 Kwara State International Trade Fair Complex, Ilorin

INTRODUCTION:

The project was the State Government's Conception and was designed by Kwara State Ministry of Works. It is located in Olorunsogo area of Ilorin. The trade fair exhibitions are local. The participants are mostly Nigerians Companies and Government.

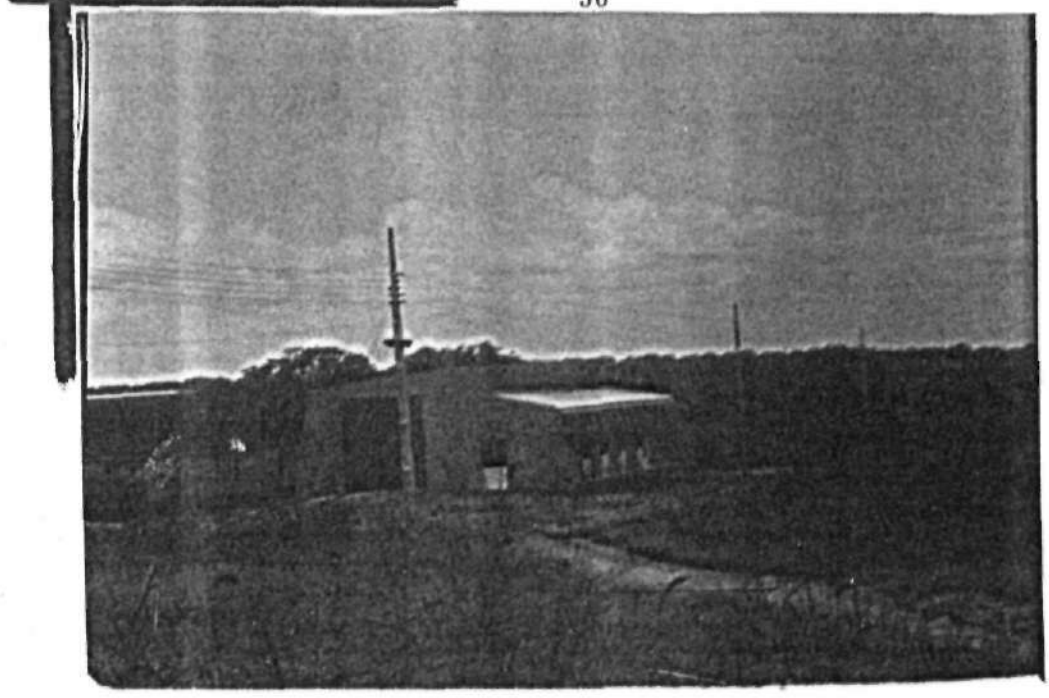


PLATE 5.7
THE MAINTENANCE BLOCK OF KWARE STATE TRADE FAIR COMPLEX ILORIN

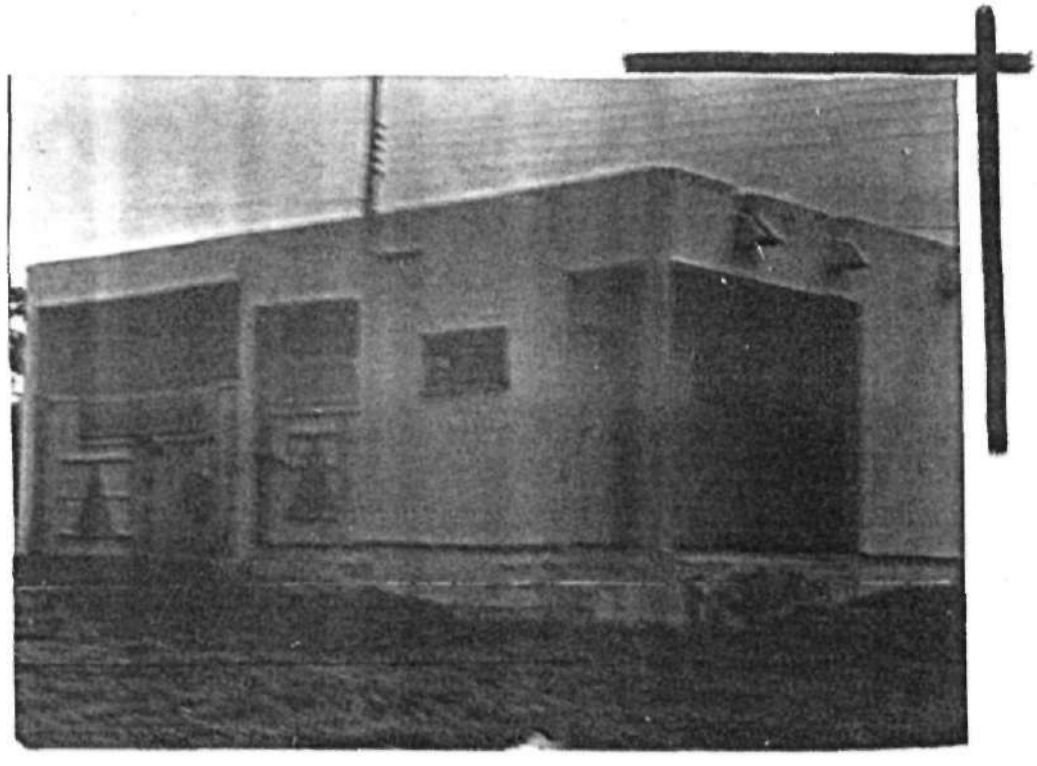


PLATE 5.8 GATE HOUSE OF THE FAIR

BRIEF:

1. Administrative Building
2. Exhibition Pavilion
3. Police Post,
4. Fire Service
5. Gate House/Ticket Room
6. Health Services
7. Restaurants
8. Public Toilets
9. Space for Cultural Show

SITE PLAN

Areas are zoned according to functions which, however, were grouped according to exhibition, Administration, Health, e.t.c. Provision were made for public, staff parking and trailer's parking.

DESIGN CONCEPT

Linear concept was adopted in the design. The pavilions were of different types which allowed free movement circulation to the visitors. The site are divided into the cultural shows space which comprises of the information centre and offices. The state pavilion defined mainly for the Government and the third are the private participants - pavilion/shopping.

MERIT:

i. Free movement/Circulation) through the pavilions
ii. Good separation of service roads/parking from other entrances.
iii. Good integration of functions;
iv. Good planning brings about continous movement of the visitors through the pavilions.

KASHIM IBRAHIM LIBRARY

DEMERIT:

i. Too much dust during exhibition

ii. The security of the exhibited items cannot be guaranted;

iii. Poorly illuminated interiors

iv. Lack of future expansion

v. No adequate services such as telephone booths, portable water and public toilets. Those available are not sufficient for the users.

5.1.3 Kaduna International Trade Fair

INTRODUCTION:

Kaduna international trade fair holds at Muritala Square which is situated in the heart of the original Administrative Centre near Lugard Hall, Kaduna. The site is the property of the national sports Commission and is given to the organizers of the fair on lease for between ₦ 15,000 to ₦25,000. Hence the fair organizers are not authorised to erect permanent structures on the site.

SITE PLAN/DESIGN

The zoning of the site is done in a rudimentary way based on nationality of participants. There are four zones tagged A,B,C. and D. Zones A and B consist mainly of international participants and joint venture (Foreign - indigenous), Companies Zone C houses indigenous Industries and State Government while Zone D houses general goods and household equipments.

The site generally consist of temporary structures although there are eight permanent structures located in Zone A and B. There are also two permanent lavatories and toilets booths. These are the only permanent structures on the site.

DESIGN AND EXHIBITION METHOD:

There are two kinds of stands easily recognisable at the fair.

THE EXPO INTERNATIONAL SHELL SCHEME:

These kinds of stands are found in the permanent exhibition halls and are remniscent of the prevailing international style of trade fair exhibition. In the scheme plywood or glass in aluminium frame are used to demarcate three sides of the stand while the fourth one is left completely open. Name tag for the company is placed as fascia to the open side. This situation allow for the use of exhibition technique in advertising products.

GRAND PAVILIONS

These are found in sections A,B, and C and are well planned pavilions employing professional architectural skill in their designs. These stands are constructed by large companies and State Government.

DEMERIT:

i. A glaring pitfall in the design is the absence of sequential circulation where by a visitor is taken through the site without much effort.

ii. Absence of resting areas and recreation for children.

iii. Restuarants are concentrated in a corner of the site.

iv. Lack of paved and covered pedestrian way which express the visitor to the Scording sun and a lot of dust raised by the Pedestrian rendering the place a health hazard,

v. Poor layout; the layout of the exhibition stands put some exhibitors at a disadvantage which will not be the case in a properly laid out exhibition ground.

vi. Lack of future expansion

Vii. No adequate services such as public toilets, Portable water, Vehicular circulation and supply of goods.

5.2 FOREIGN EXAMPLES

5.2.1 National Exhibition Centre, Birmingham, U.K.

The national exhibition centre Birmingham was opened in 1976 after three years of construction. The project was commissioned designed and built in four years.

LOCATION:

The site is located five kilometres from the Centre of Birmingham which is roughly at the geographical centre of England. The site is 310 acres in size and it adjoins Birmingham Elmdon airport. On the West, it is bounded by an inter-city rail-line and by major trunk roads and motor ways on the east.

SITE PLAN

There are six exhibition halls Congregated on the Northern part of the site. The hotels and a lake for collection of rain water are stationed around the middle of the site. The parking areas are on the Southern part of the site. There is also a wooded reserve area on the Western part of the site.

THE EXHIBITION HALLS:

The exhibition area is about 100,000m^2 and is concentrated in five interconnected halls. Radiating from a central piazza consisting of the administrative Offices, Shops, entrance, banks e.t.c. The sixth exhibition hall is about a 1000m^2 and can be used as a separate entity or in conjunction with the other five.

SITE PLAN

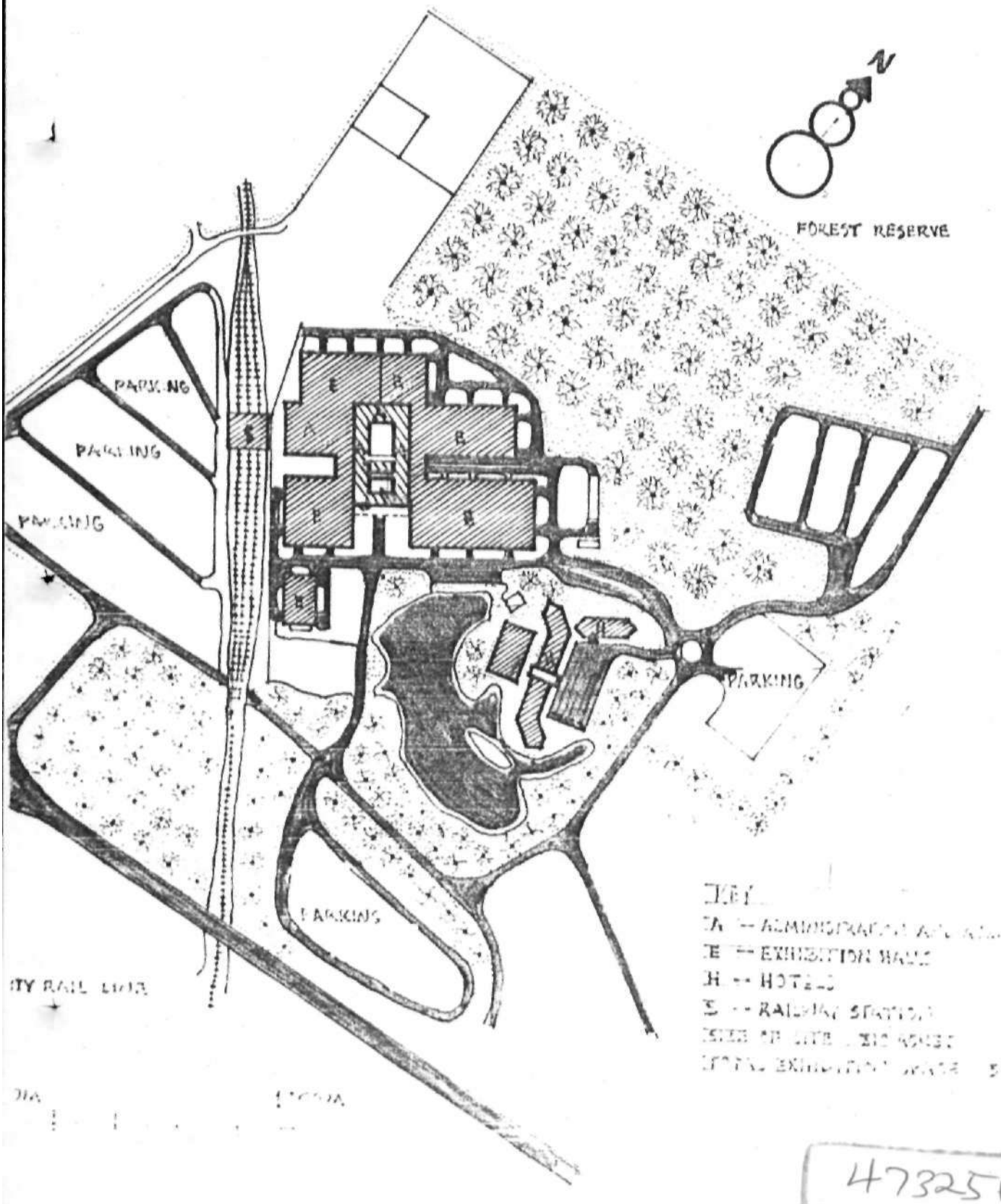


FIG 5.11

NATIONAL EXHIBITION CENTER, BIRMINGHAM, ENGLAND.

473256
NA
628.5

FOREIGN CASE STUDIES.

NATIONAL EXHIBITION CENTER, BIRMINGHAM, ENGLAND

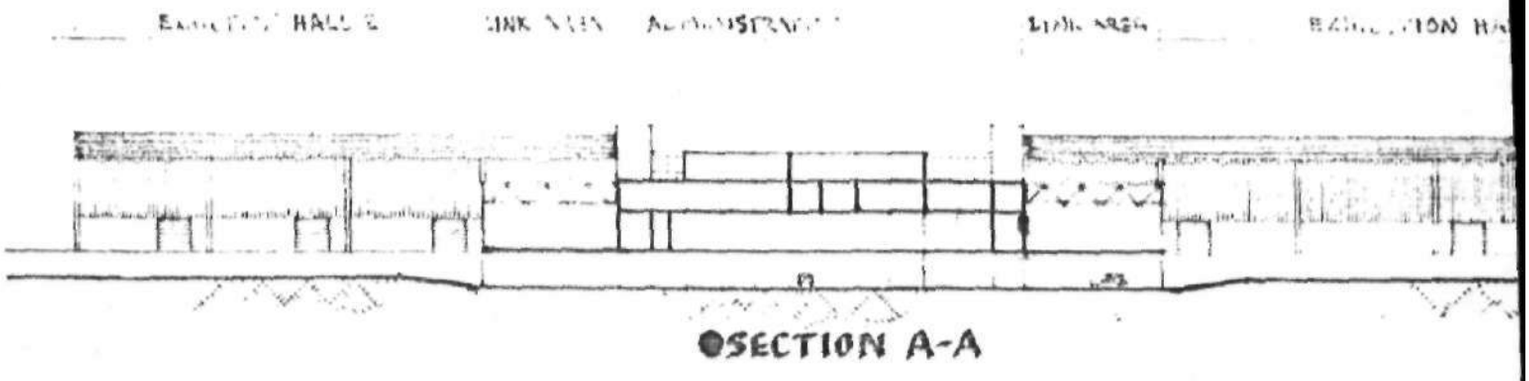
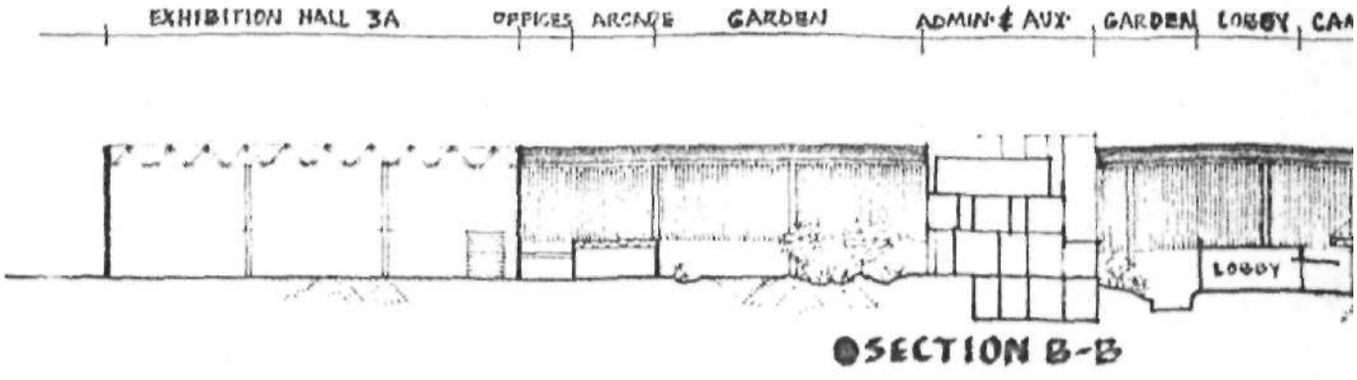


FIG 5·2 NATIONAL EXHIBITION CENTER, BIRMINGHAM.



KASHIM IBRAHIM LIBRARY

DESIGN:

The halls were designed on a 15 x 15m module with hollow steel columns at 30 x 30m centres supporting space frame roof in 30m bays supported by steel trusses. The space frame employed the BSC Nodus joints. The halls employed natural kighting through monitor roof light and high level patent glazing. The external walls are cladded in precast concrete panels and square corrugated steel sheets.

SERVICES

Each hall has one or two main walkway tunnels which contain services like water, gas, electricity, drainage, compressed air and telephone. These are connected with service ducts of 300mm diameter at 6m centres.

EXHIBITION:

Fiars participants are allocated space requested as long as payment is made. The exhibitor then arranges his space as is required by his exhibits. Often the exhibits are just arranged in the open.

DATA

Opened	1976
Site	Birmingham
Area of Site	310 Acres
Total Exhibition area	90,000m^2
9 Restuarants	1480 Places
Accommodation	2 hotels
Water	17 Acre lake

Parking	15000 Cars
Colum Spacing	30 x 30m.
Space Frame	30 x 30m bay

MERIT:

i. Exhibition can take place in each of the halls regardless of the others;

ii. Special attention was paid to circulation of disabled persons, hence difference in floor level is eliminated and lifts are wide enough to accommodate invalid chairs. exhibitionism, rather it is anonymous.

iii. The grouping of hall makes the complex susceptible to spread of fire. It is too formal thus eliminates a part of fairs which radiate fun.

5.2.2 International Trade Fair Ground, Tripoli

INTRODUCTION:

The international trade fair ground at Tripoli Libya was intended to open up the region of its location to commercial activities. Located in the vicinity of Tripoli. It is served by a major express road and the port of Tripoli. It was intended to serve as the nerve centre of the Commercial development.

BRIEF:

1. Administrative Building
2. Exhibition Pavilion
3. Libya Science and Housing Museum
4. Amusement Park

V. Experimental Housing

vi. Open-air Theatre

vii. Multi-purpose Theatre

viii. Heliport

ix. Accommodation.

SITE PLAN:

Area are zoned according to functions, thus similar uses are grouped according to: Exhibition, Administration, Recreation and accommodation. Attempt has also been made to achieve total harmony to eliminate the chaotic nature of similar projects.

DESIGN CONCEPTS

The concept of a single large exhibition pavilion was adopted. The pavilion consists of a large roof of 738m by 69m supported by two huge columns at intervals. The roof over hang sideways to shade the main walkways as well as prevent rain from reaching stands sideways. Thus the pavilion is essentially a roof and a floor. Walls are eliminated.

CRITIQUE:

Due to its continuity, spread of fire in the pavilion cannot be easily checked. The Administration Building has not been located at the centre or any strategic location in relation to other buildings, especially the exhibition pavilion.

5.2.3 Permaret Trade fair Site, New Delhi, India.

INTRODUCTION/DESIGN CONCEPT

The Indian Government Commissioned RAJ REWAL to disgn the complex. Rewal chose to explore indias architectural past and derived

plan forms Taj-Mahal. The computer designed space structure is also a reference to the Jalis of Mushal period.

BRIEF:

The complex consist of five pavilions. A large one and four small ones. The large one called the hall of nation span 78m. The smaller ones grouped together form the hall of industries and span 44m each. The plan is composed of one large hall of 256sq.ft connected with four smaller halls of 144Sq.ft by means of ramps enclosing a central courtyard for outdoor displays and meetings. As in the traditional Indian pattern of public spaces, the courtyard emerges as the focal point of the scheme.

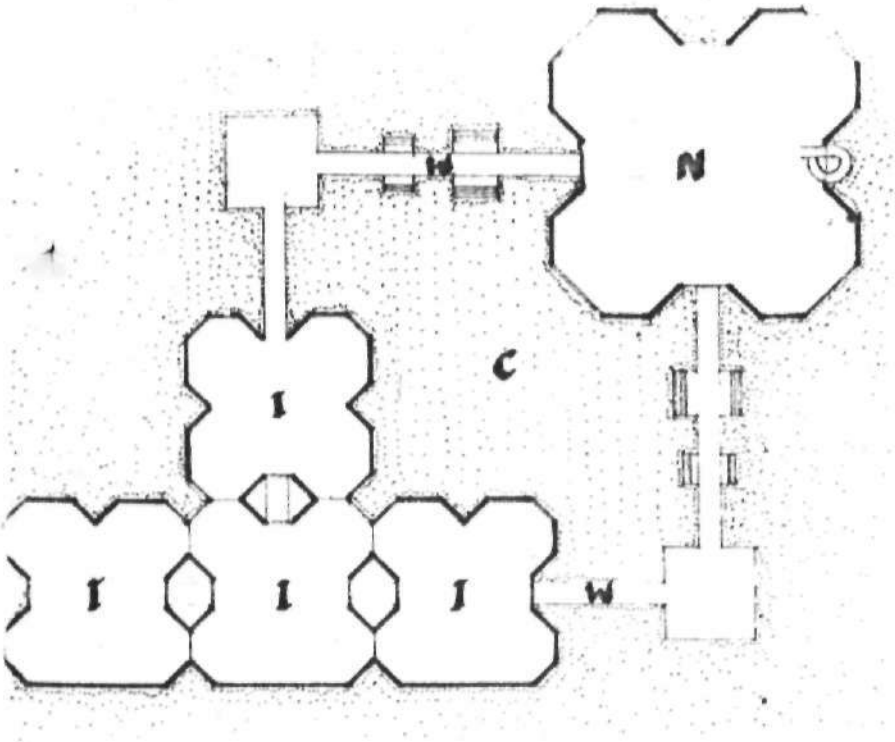
DEMERIT:

The complex lacks warehouse which forms part of principle requirement of a trade fair complex. It also lack recreational/ Amusement faciliities which attract visitors.

MERIT:

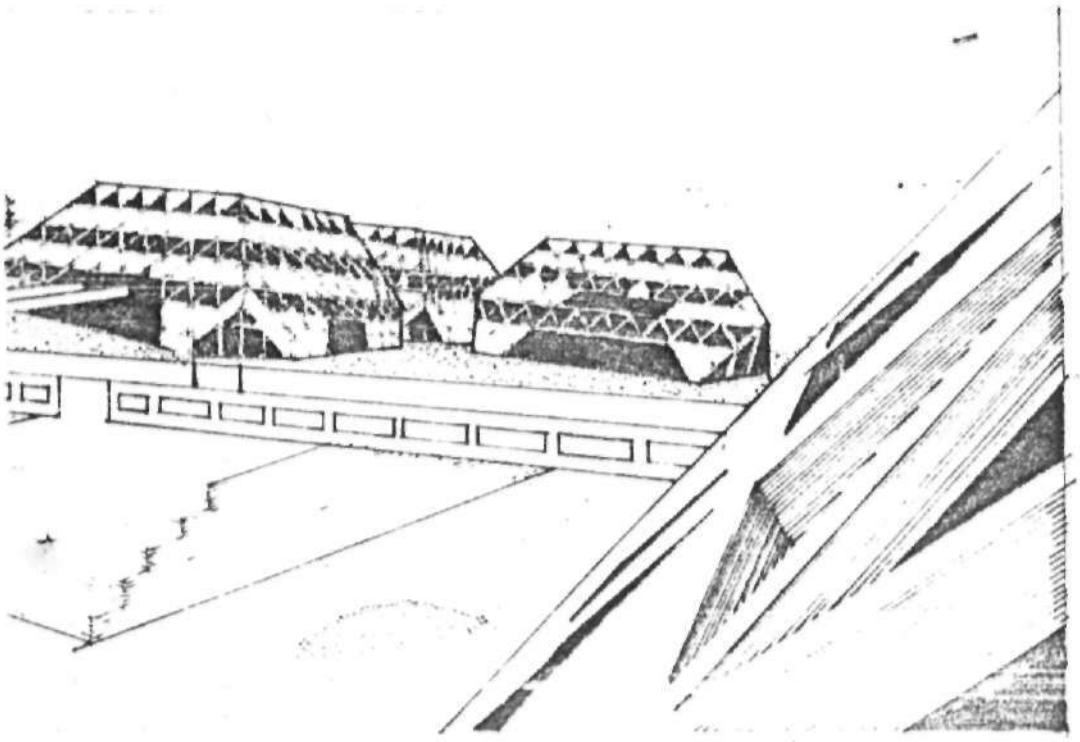
The structure is built of concrete and acts as a dome. It also off-set the climatic problem faced by buildings in tropical climate by providing shade as well as thorough ventilation.

44M / 44M / 44M / 78M /



KEY
C COURTYARD
1 HALL OF INDUSTRIES
N HALL OF NATIONS
W WALKWAY

PLAN OF EXHIBITION HALLS



/IEW OF THE HALL OF INDUSTRIES

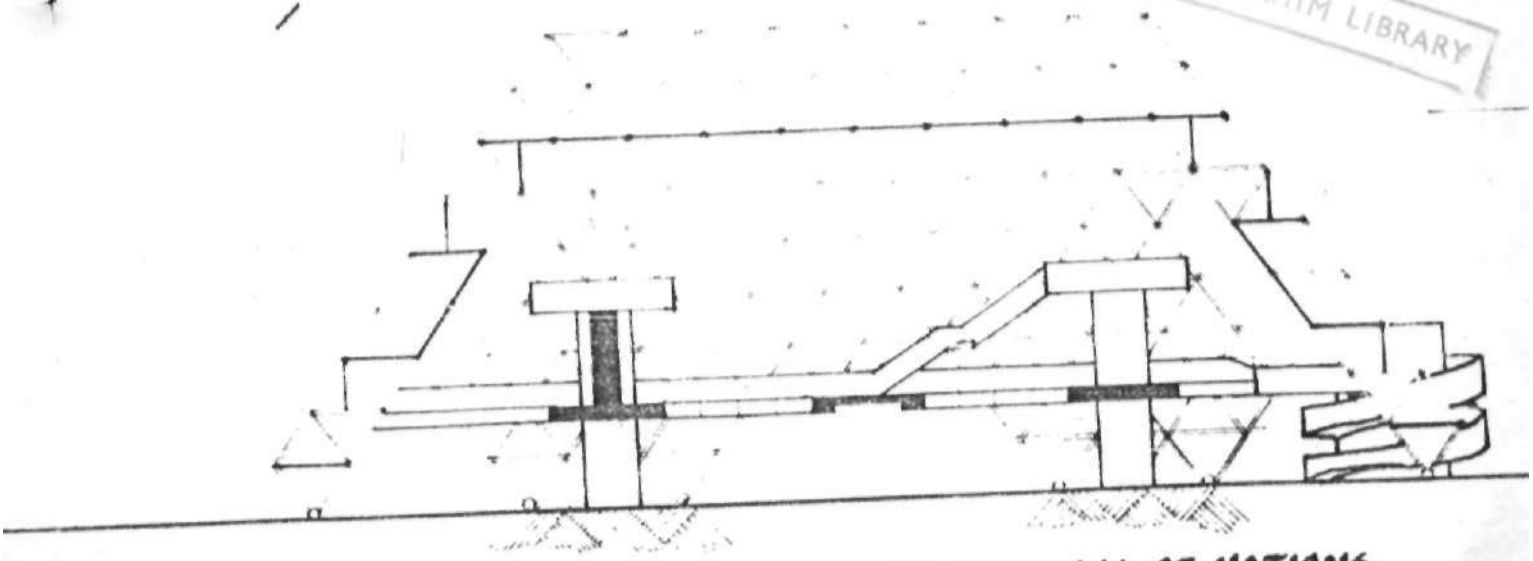
FIG 5·3 TRADE FAIR SITE NEW DELHI, INDIA

VIEW OF THE HALL OF INDUSTRIES

PERMANENT, TRADE FAIR SITE
NEW DELHI, INDIA.

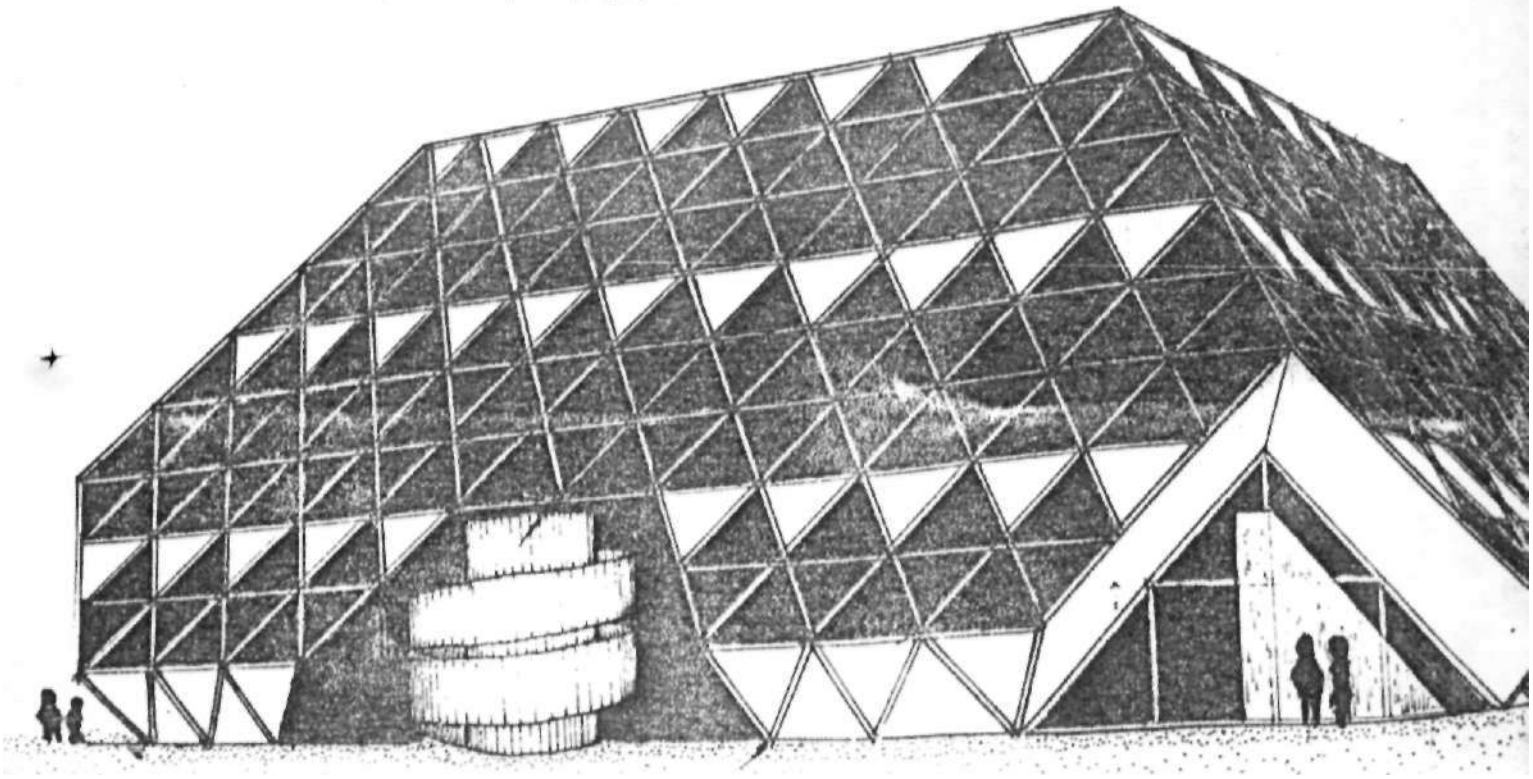
KASHIM IBRAHIM LIBRARY

78.00M



SECTION THROUGH THE HALL OF NATIONS

FIG 5.4 PERSPECTIVE VIEW OF THE HALL OF NATIONS.



CHAPTER SIX

6.0 SITE AND ENVIRONMENT

The Federal Capital Territory (FCT) is an 8000sq km area bordered by Niger, Kaduna, Plateau and Kogi States. The area lies just above the hot and humid lowlands of the Niger/Benue trough.

Communication: The territory is presently served by four main roads the north/south A2 road between Koton karfi and the Abuja Kaduna road, the east/west road between Keffi and Abuja, the north west/ south west between Minna and Abuja and the east west (A124) road between Bida and Abuja. No rail service is currently in existence in the FCT. Air links to nearly all part of the country are in existence, The closest regular service being to Kaduna.

Services: The Electricity supply to the Federal Capital Territory is from a 330/183VN service and from the National Electricity grid. The Usuman and Gurara rivers are major water sources.

6.1 SITE LOCATION

The site is a vast expanse of land (about 360,000m² or 36Ha located to the northern part of the Federal Capital; bounded by a proposed (Express road) trunk. A high way and on other sides by minor roads. The site have the advantage of nearest to Abuja International air port.

Access: The site is highly accessible owing to its proximity to an highway mentioned above. Easy access from within and around the city is therefore assured.

6.2 THE SITE - GEOTECHNICAL DATA: PHYSIOGRAPHY

The site is at Kwukuaba which have an north east slope, rising from an elevation of 459m in the south east to 447 in the north east. The plain of Kwukuaba is characterised by an undulating terrain on which can be found several riverine depressions.

6.2.1 Geology

Some parts of the area (Phase II) is characterised by plains of metamorphic, sedimentary rock with an intrusion of younger igneous rocks, including the biotite, granite.

6.2.2 SOIL

The soil is underlain by soils derived from granite gneiss and mignatite soils are not quite stony.

6.2.3 Vegetation

The vegetation is basically park savanna, surrounded by high trees. The site comprises of dispersed trees and high grasses.

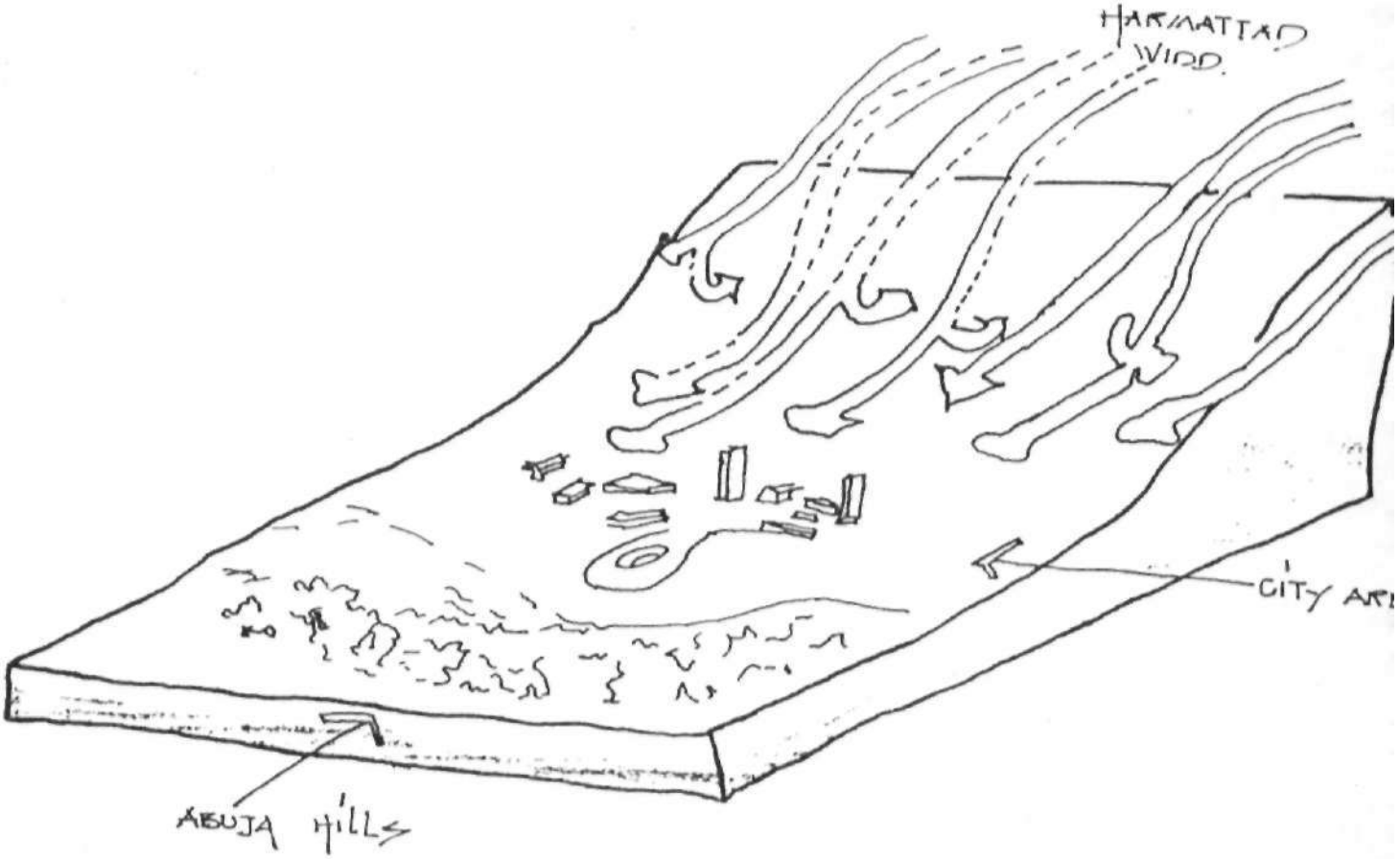
6.3 CLIMATE

Temperature Humidity:

Highest temperatures occur in the dry season when there is little cloud cover. Diurnal variation of as high as $17^{o}C$ known to occur during this season. The presence of cloud cover during the rainy season effects a drop in maximum temperatures. The diurnal variation getting as low as $7^{o}C$ in the month of July and August.

HARMATTAN WINDS [NE] OVER THE FCT DURING THE DRY SEASON [5-6 MONTHS].

FIG 6.1



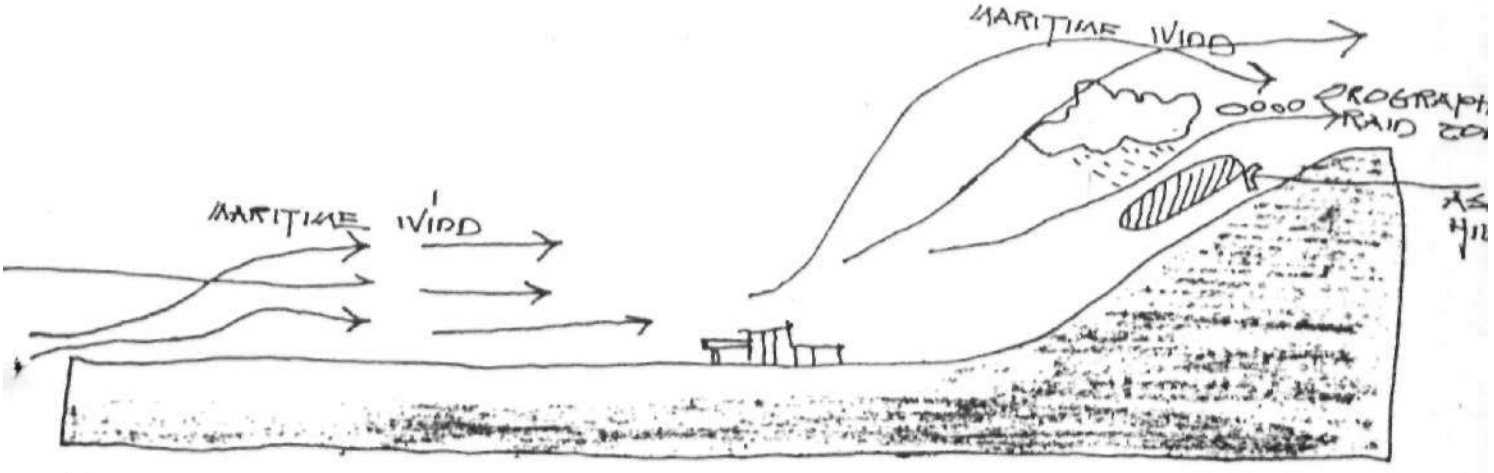


FIG 6.2

MARITIME [MONSOON] WINDS OVER THE FCT DURING THE WET SEASON [6-7 MONTHS].

The relationship between temperature and relative humidity at 0700 hours is given in the figures. Relative humidity falls to as low as 20% in the FCT during the dry season and climbs as high as 95% during the rainy season. The interplay of the temperature and humidity factors determines level of human comfort with high temperatures and low humidity as in the dry season, the general effect is one of dessication. While the reverse situation in the wet season results in a "heat trap" with little heat loss by evaporative cooling.

Design Implications:-

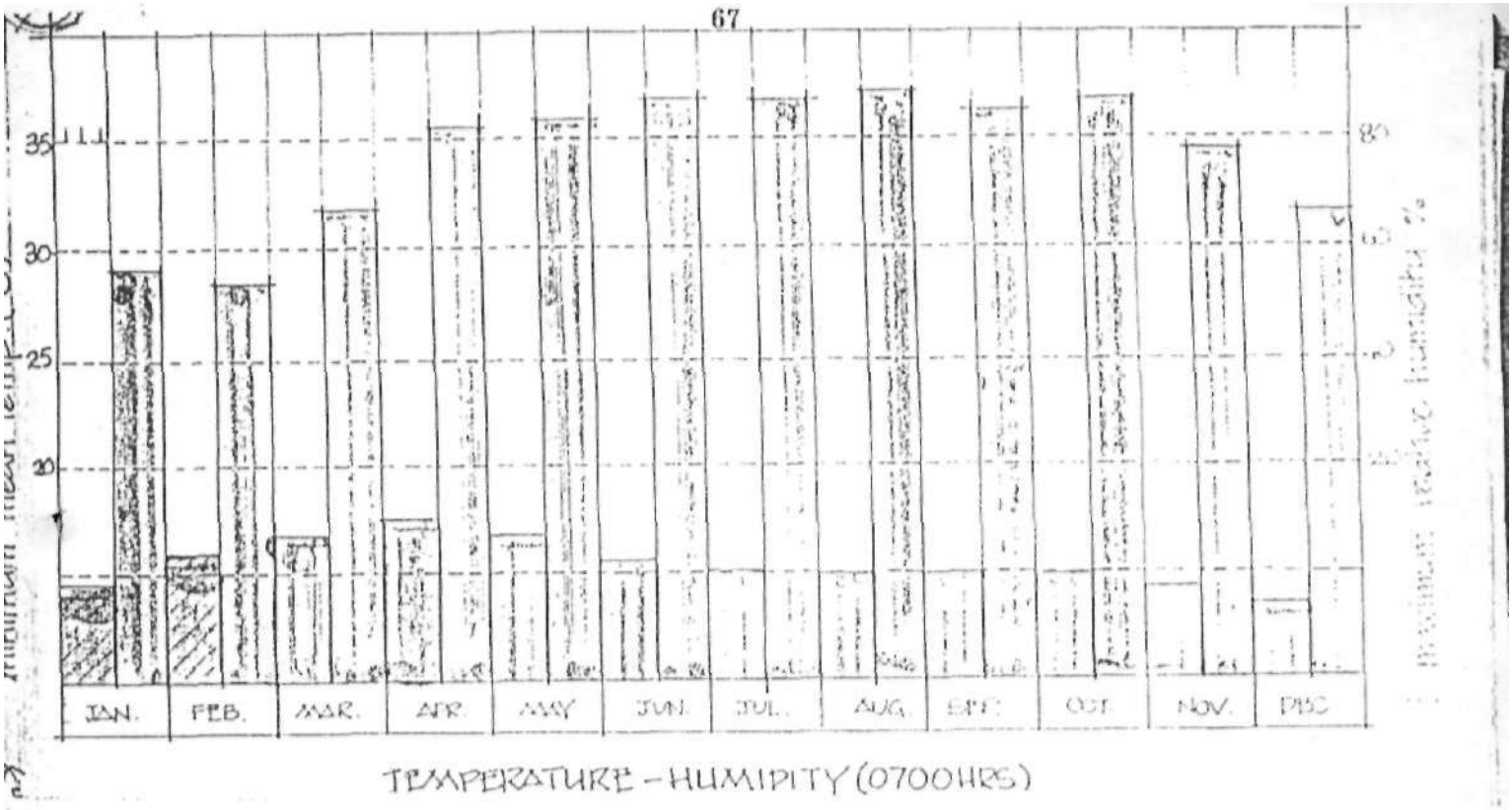
A adequate cross ventilation of habitable area is highly desirable for all year comfort in the FCT. Thus, since the dessicating effect brought about by the high temperature; low humidity situation can be countered by effective shading.

6.3.1 Rainfall

The rainy season commence early in April in the North Eastern part of the Federal Capital Territory, lasting between 6 to 6 1/2 months and ending towards the end of October. Much of the rain (about 60%) is concentrated within the months of July, August and September.

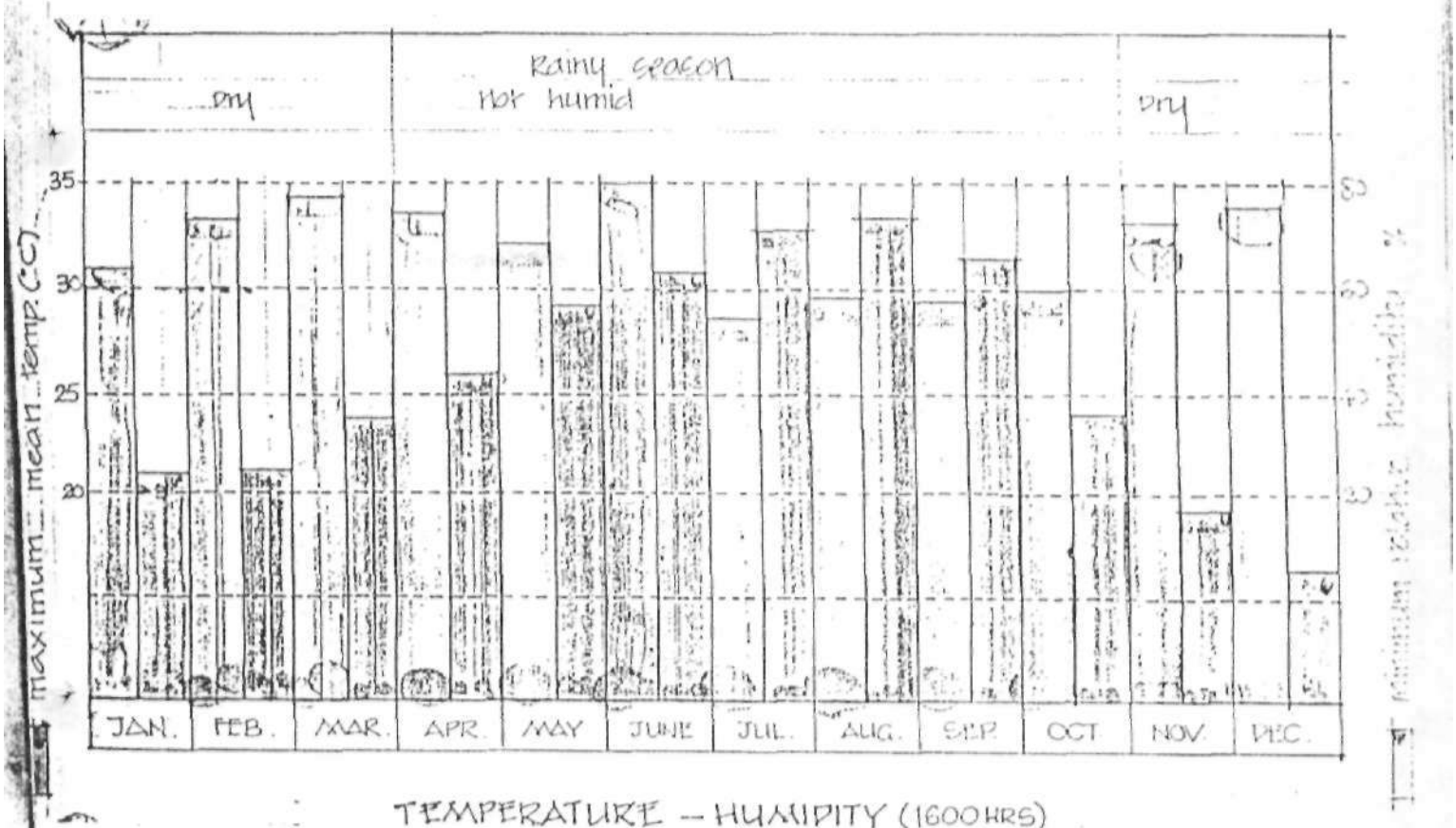
Design Implication:

Drainage system capable of holding large volumes of water are required. Squall lines, resulting to strong wind and intense rainfall, occur and can cause serious damage to properties especially roofs and finishes.



TEMPERATURE - HUMIDITY (0700HRS)

Fig 6.3a. FCT, temperature- humidity (0700HRS)



TEMPERATURE - HUMIDITY (1600HRS)

Fig 6.3(b) FCT, temperature-humidity (1600HRS)

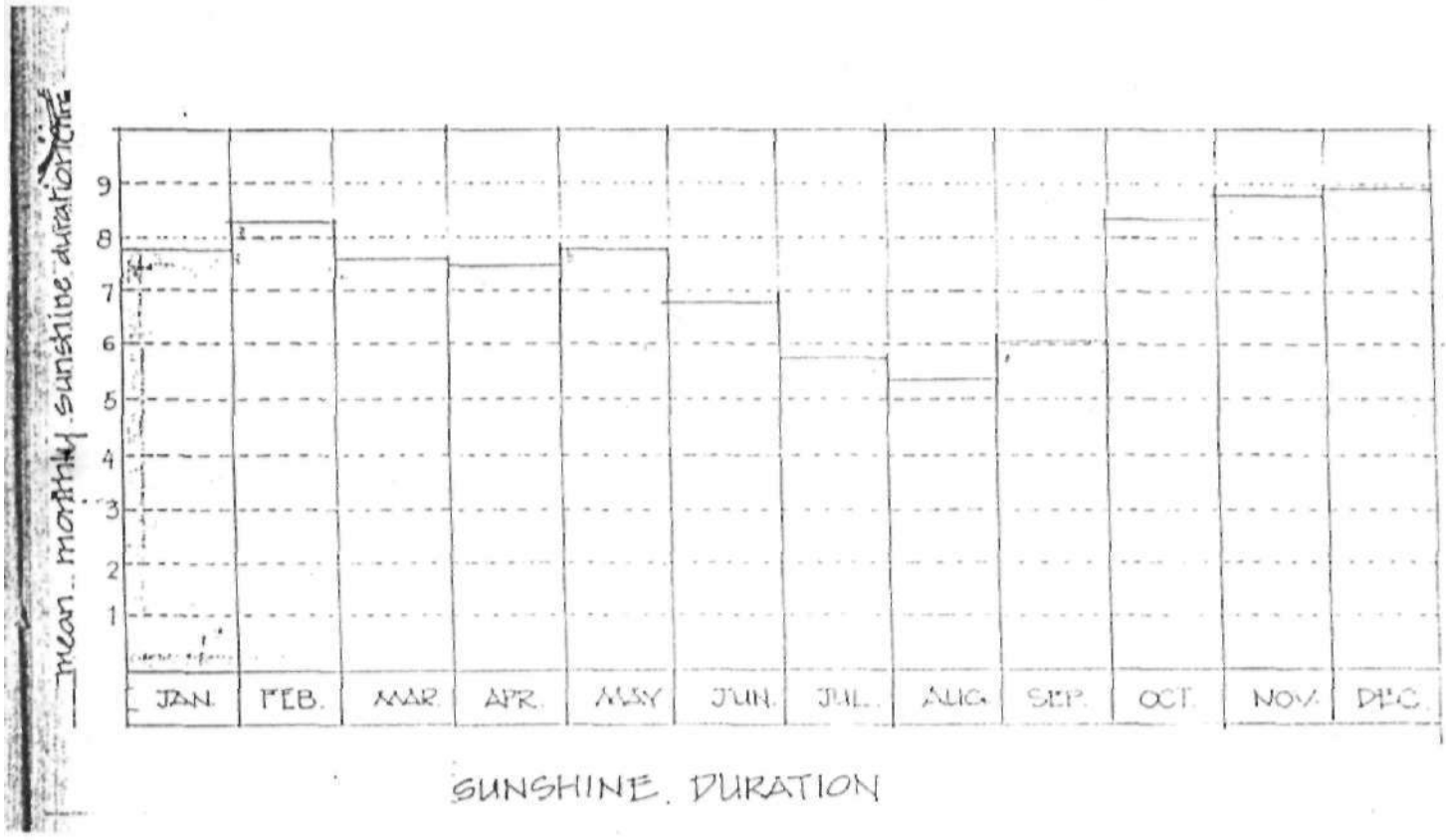


FIG 6.4 FCT SUNSHINE DURATION.

6.3.2 Sunshine

An annual amount of about 3500 Hours of sunshine is recorded over the Federal Capital City. Sunshine hours are most in the dry season when there is very little cloud cover.

6.3.3 Winds;

Two major winds or air masses are at play over the Federal Capital Territory; the tropical continental air mass associated with the North-east trade winds of Saharan origin and the tropical maritime air mass associated with the moisture laden south-west moonson winds originating from the atlantic ocean. These winds are responssible for the dry and rainy seasons respectively.

Design Implications:

The maritime winds blowing in a south westerly direction are cooler and generally more desirable than the harmattan winds.

Building orientation should therefore be such as would take advantage of the maritime winds while the harmattan winds could be screened off by the use of barriers; trees, walls etc. or by proper orientation.

6.4 COMFORT ZONES

The comfort zone range between $29^{o}C$ - $32^{o}C$ for temperature and 30 - 70% for relative humidity. The charts above indicate that conditions in the FCT are hardly ever within the comfort range hence there is need for proper control measures through design.

CHAPTER SEVEN

7.0 GENERAL PLANNING CONCEPTS/DESIGN PROPOSAL

Some basic planning concepts are analysed as follows with their merits/demerits outlined. The design proposal are given in this chapter.

7.1 PEDESTRIAN PRECINCT WITH PARKING ENCLOSED BY RING ROAD

The following are the qualities of the principles

- Pedestrian/Automobile traffic is seperated here.
- Horizontal spread of buildings possible.
- Traffic problem in junctions with mixed vehicles of parking area.
- Practicable for small centres.

7.1.2 Precinct Interlaced By Vehicular Rules:

The following are the qualities of this principles:-

- Traffic chaos results due to numerous junctions
- Pedestrian circulation not safe
- There is poor access to service vehicles
- Practicable for low rise centres with pedestrian bridges.

7.1.3 Centralized Delivery And One Way Traffic

The following are the qualities of this principle

- Light/heavy traffic is separated
- Better good, delivery and supply
- Enormous pedestrian/automobile conflict
- Pedestrian bridges required to link the two separated parts.

7.1.4 Pedestrian centre With End Parking

The following are the qualities of this principle

- Expansion is very possible along the other two ends
- In this concept two ends are bounded by parking
- Lateral expansion of parking is also possible
- Servicing of core areas (exhibition goods) may be difficult.

7.1.5 Precinct With Central Parking

The following are the qualities of this principle

- Here all traffic park in the central lot. This may result into central congestion.
- The unity of the site is broken by the road/parking

7.1.6 Central Precinct With Peripheral Parking

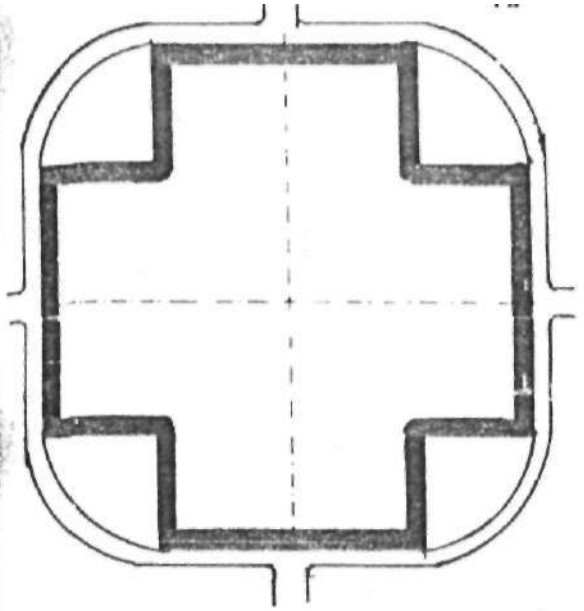
The following are the qualities of this principle

- Suitable only for high rise centres
- Congestion of traffic possible
- Typical of American centres
- Not economical

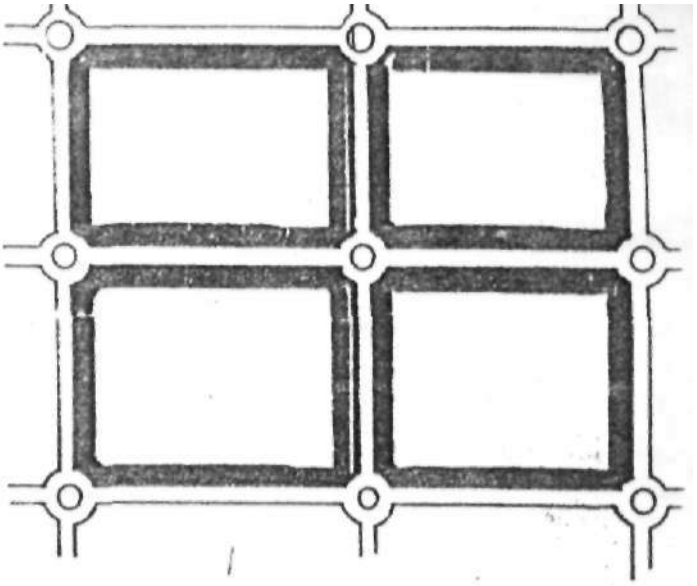
7.1.7 Centre With Central Traffic Junction

The following are the qualities of this principle

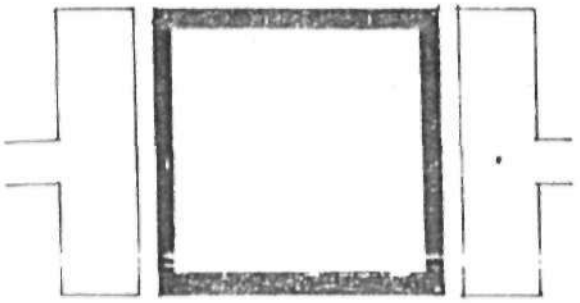
- Road side parking results, thus congestion
- No separation of heavy/light vehicles
- Easy access to service trucks



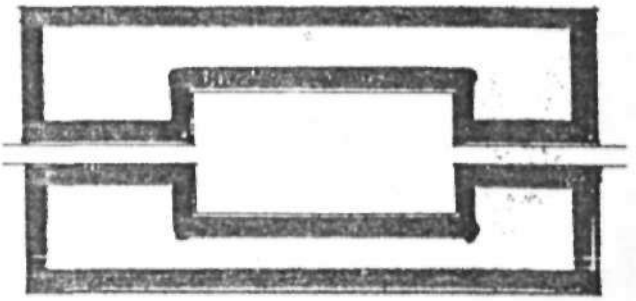
PEDESTRIALISED PRECINCT WITH PARKING ENCLOSED BY RING ROAD



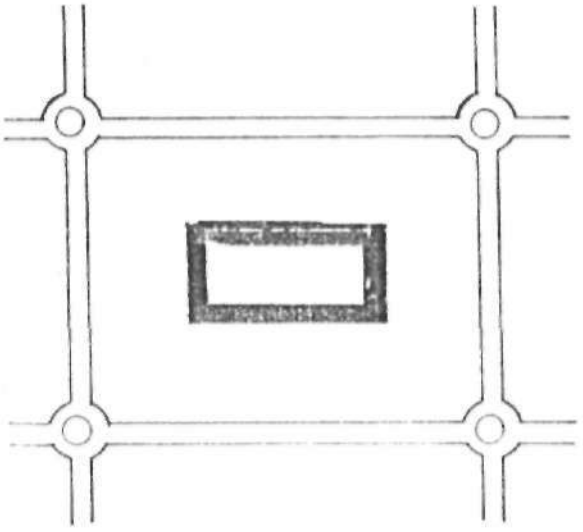
PRECINCT INTERLACED BY VEHICULAR ROUTE



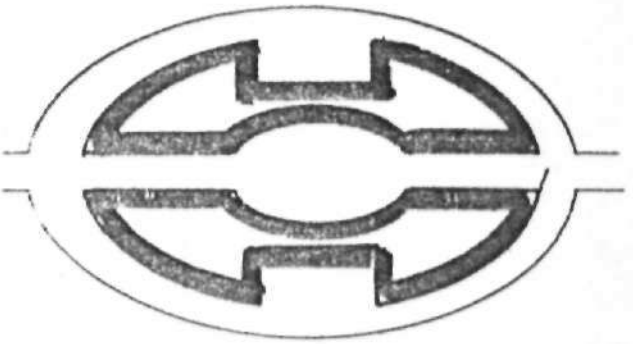
PEDESTRIANISED CENTRE WITH END PARKING



PRECINCT WITH PARKING (CENTRAL)

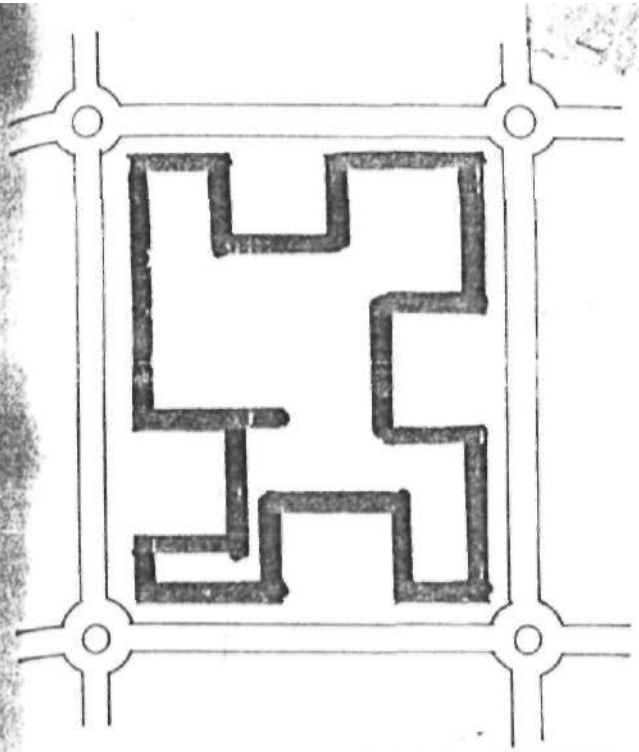


CENTRAL PRECINCT + PERIPHERAL P PARKING

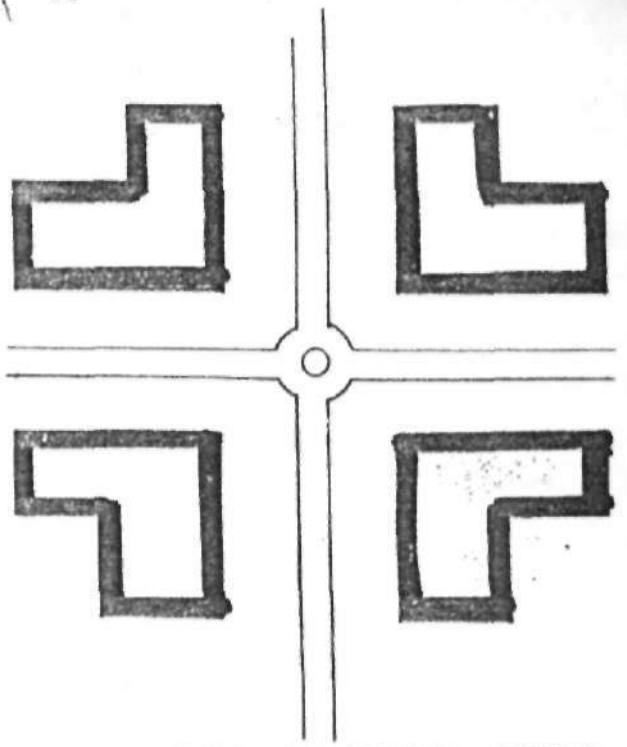


CENTRALISED DELIVERY + ONE WAY TRAFFIC

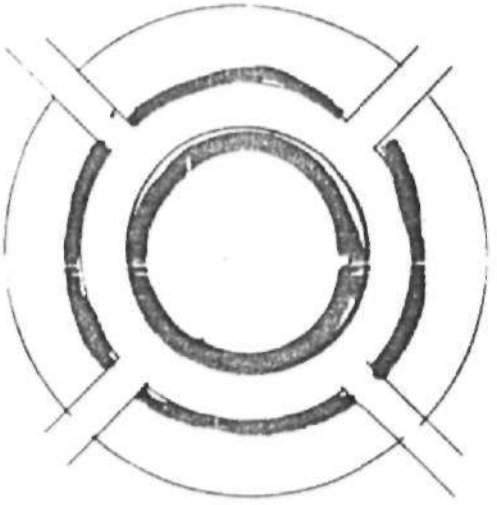
FIG 7.1 PLANNING CONCEPT ANALYSED



PEDESTRIANISED PRECINCT WITH ENCLOSED PARKING



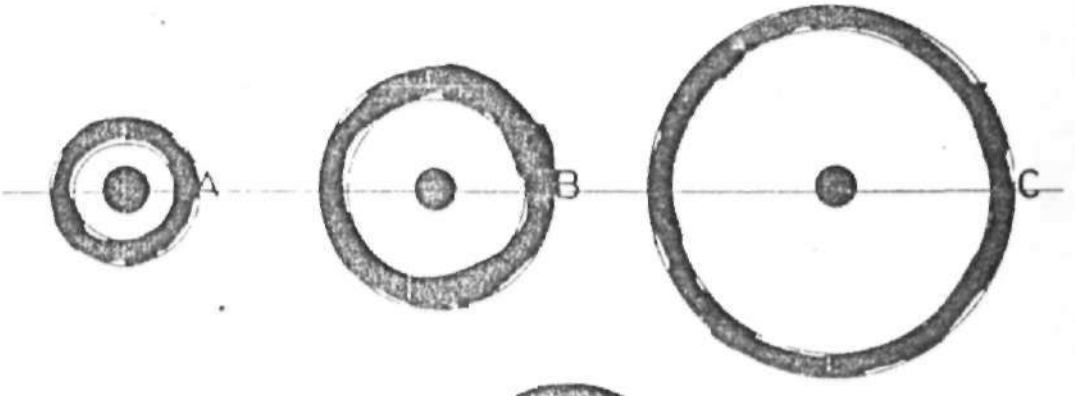
CENTRE WITH CENTRAL TRAFFIC JUNTION



PERIPHERAL PARKING WITH RING ROAD

FIG. 7.3 PLANNING CONCEPT

KASHIM IBRAHIM LIBRARY



CENTRAL CORES LIKE A AND F ARE MORE COMPACT
OTHERS ARE BROAD AND LARGE

ACCESSIBILITY

7.1.8 Pedestrian Precinct With Enclosed Parking

The following are the qualities of this principle

- A very pratical concept
- There is sound access to service trucks
- Proper car access to building structures
- Good for low rising commercial centres

7.1.9 Peripheral Parking With Ring Road

The following are the qualities of this principle

- Enormous circulation problems
- Suitable for comfort high rise centres
- Several pedestrian bridges required.

7.1.10 Relative Accessibility

The following are the qualities of this principle

- Trade fair centres varies in shapes and size viz, enlongated, concentrated and dispersed, hence different relative accessibility but controlled.

7.1.11 Linear And Axial Planning Concept

The Disadvantages of the Axial

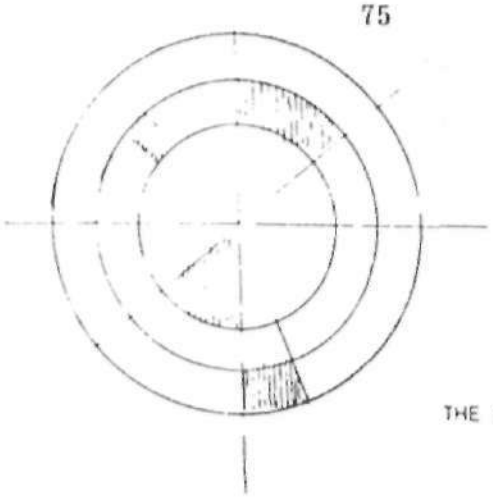
This concept has a single spine along which expansion takes place. New segments can easily be added. This concept is good because it provides the possibility of easy as well as simple expansion coupled with looped circulation pattern.

7.1.12 The Dandali Traditional Concept

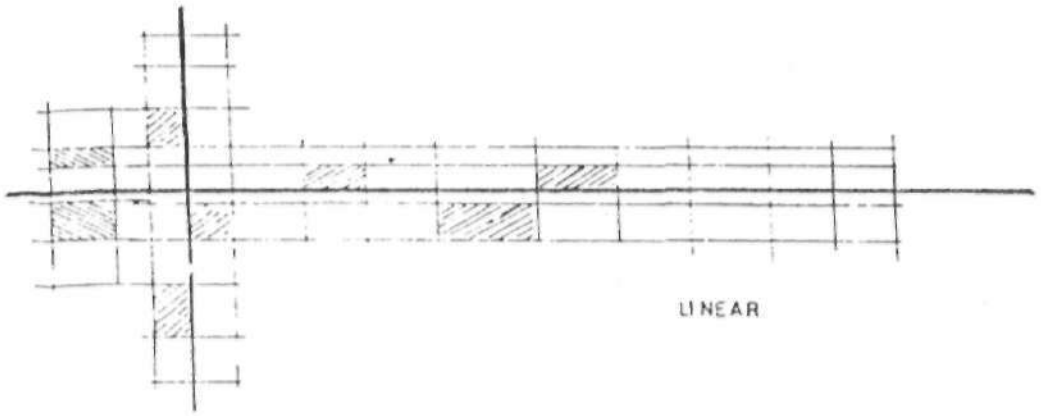
This looks like practicalization of the multiple nuclei concept The Dandali is the Basic unit in the town planning and it has centralised services. These are grouped to form wards which make up the town fair.

ARCHITECT NEED TO THINK AND DEPEND ON GOD.....
..... THOUGHT OF A CONCEPT TO USE—

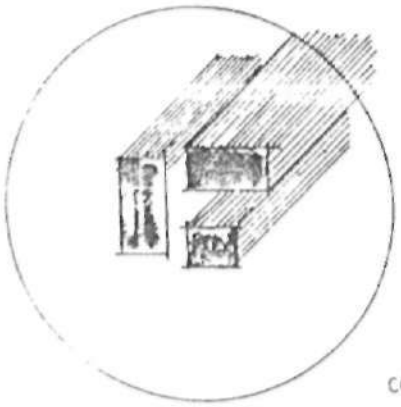
AJETOMOBI R.O
1992 THESIS



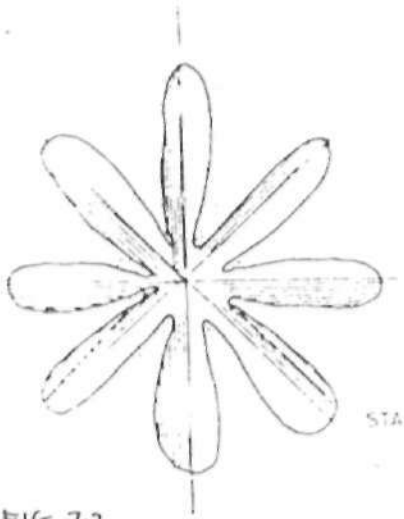
THE RADIAL



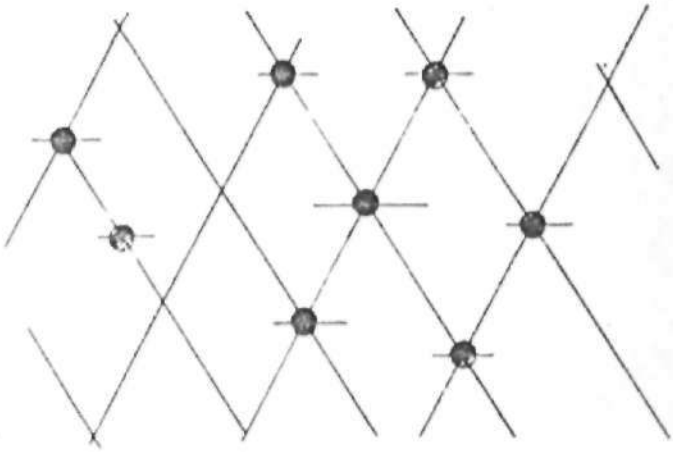
LINEAR



CORE



STAR



GALAXY / MULTI CENTRED

FIG 7.3 DESIGN CONCEPTS (MACRO LEVEL)

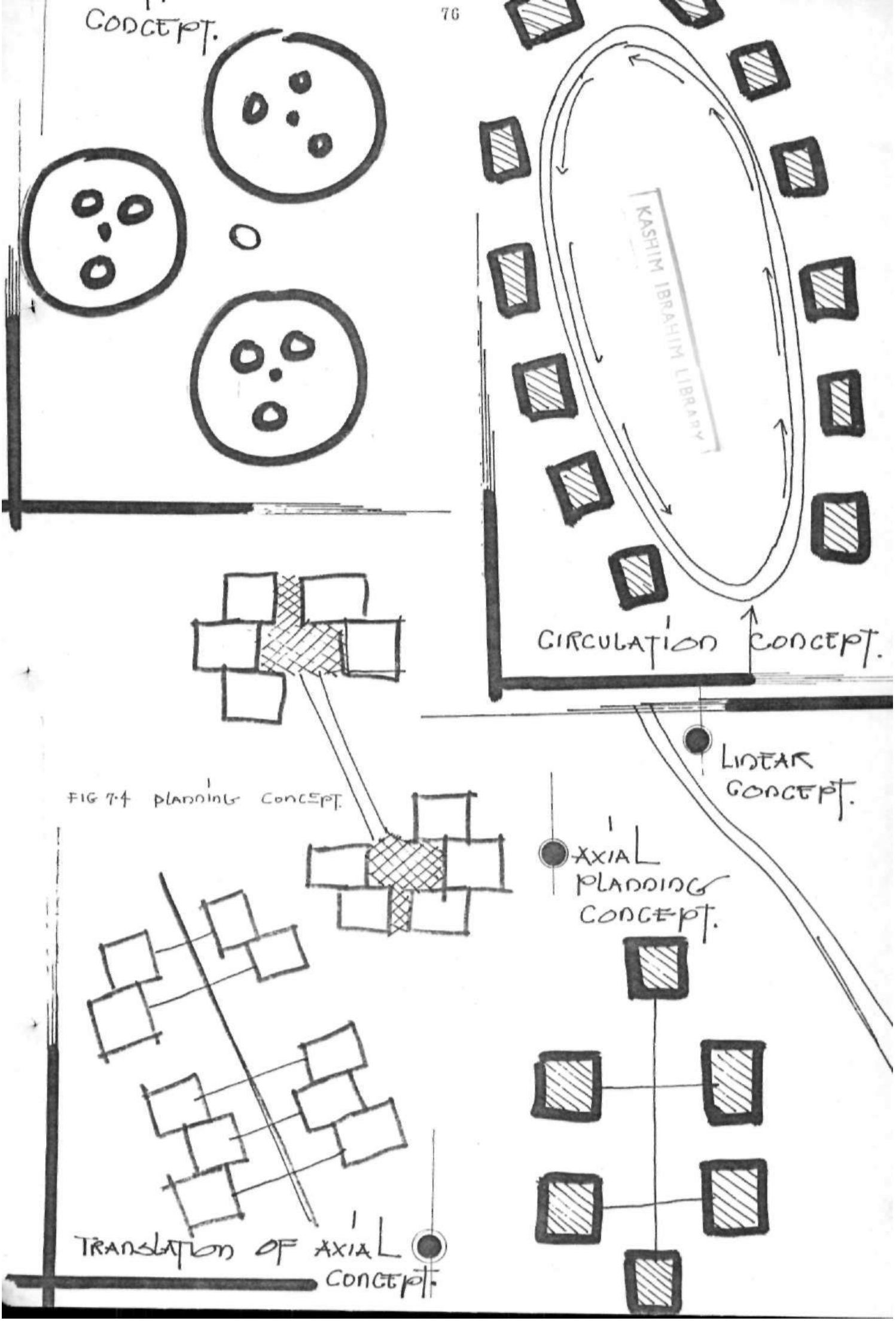


FIG 7.4 PLANNING CONCEPT

7.1.13 Multiple Nuclei Concept

This is a system of planning that has hierarchy or nuclei with the smallest nuclei forming larger nuclei. This is the case with Hausa town planning.

7.2 GENERAL DESIGN CONCEPTS

Some basic design concepts are analysed as follow: on both micro and macro levels. This is in the bid for a viable and functional design concept that will allow for a dynamic and flexibility of the complex.

7.2.1 Radial Concept

The radial concentric system has a direct line of circulation for centrally directed flows. It is characterised by a central core with radiating extensions. This concept is closed and hemogeneous. However, it is subject to central congestion, local flow (circulation) problem and difficult building sites.

7.2.2 The Linear Concept

This concept is adoptable to linear growth e.g. a long limiting edge or linear site. There is easy access from a central road. This is most simple and easy to construct with convenient building site.

However, the long linear extension makes services and circulation expensive and lacks a dominating focus,

7.2.3 The Core System

It is parked into a continuous body with peak density and activity in the centre. This is characterised by more vertical than horizontal land use. Expansion is along the plane. This is one major method of emphasizing unity.

/ LINEAR – WITH CENTRAL CORE / NODE.

ESSENTIAL FEATURES.

* THE CORE
* THE RADIAL EXTENSION [SEGMENTS]



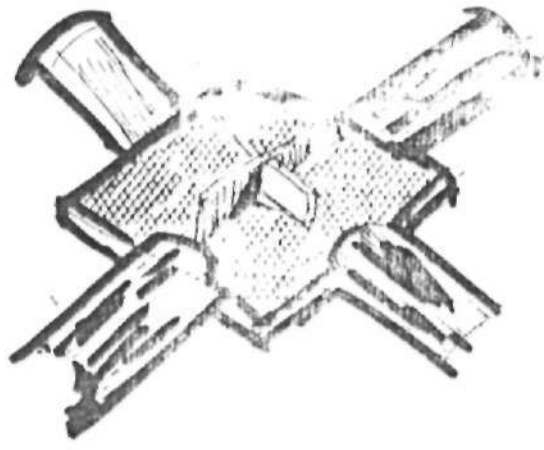
* AERO SCREW

* this is Analogous to the space frame Construction.

* THIS CORE = THE NODE.

* THE NODE AND THE MEMBERS WORK TOGETHER HOMOGENEOUSLY AND IN UNITY

Analogy to moont- demountable exp- collapsible of- frame structur-



ring expansion
teral extension.

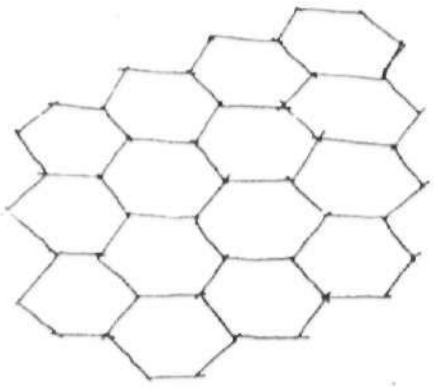
A:

LAST PACKING EXPANSION

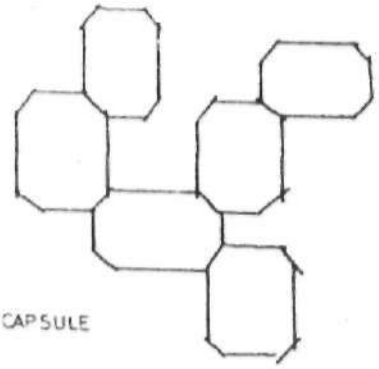
DISADVAN-
- less the pre- Circul-
- poor in ur-
- If na Tiring PARTICIPA VISITOR

FIG 7.5 Analysis Planning & DESIGN CONCEPT

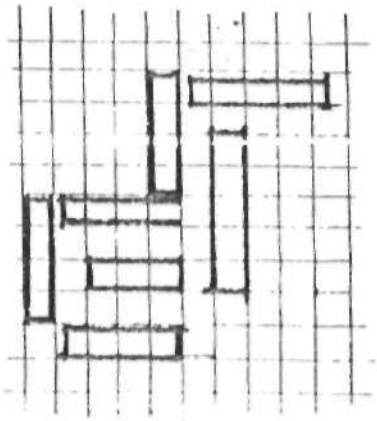
KASHIM IBRAHIM LIBRARY



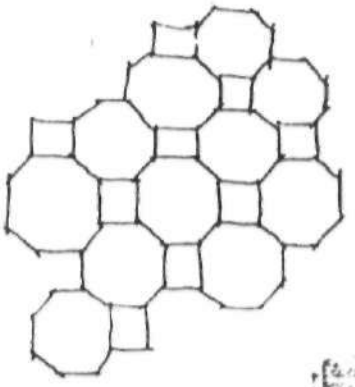
HONEY COMB



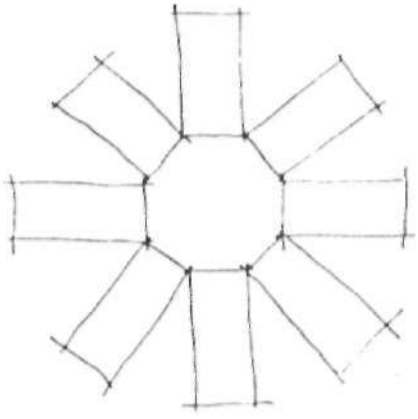
CAPSULE



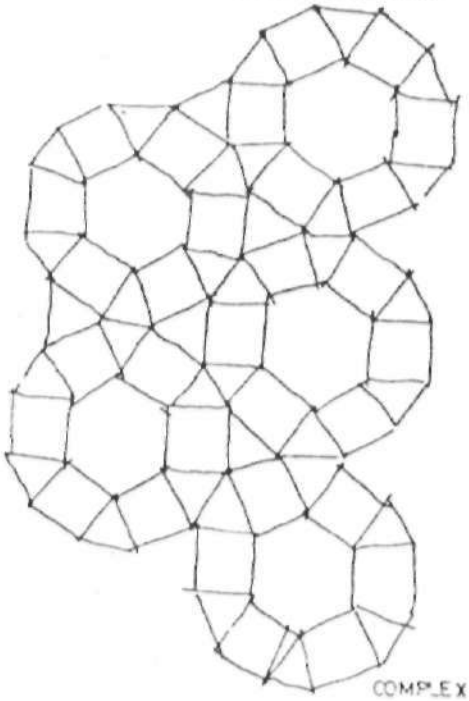
LINEAR GRID



OCTAHEDRAL GRID



RADIAL GRID



COMPLEX POLYGONAL GRID

FIG 7.6. DESIGN CONCEPTS (MICRO LEVEL)

7.2.4 The Swastika

This form, when expanding, leads to congestion and circulation problems. The major disadvantage (as with linear) is that it is rigid.

7.2.5 Capsule Formation

Expansion radiates from the centre and other capsules are formed from radiating.

7.3. PROPOSED PLANNING CONCEPT

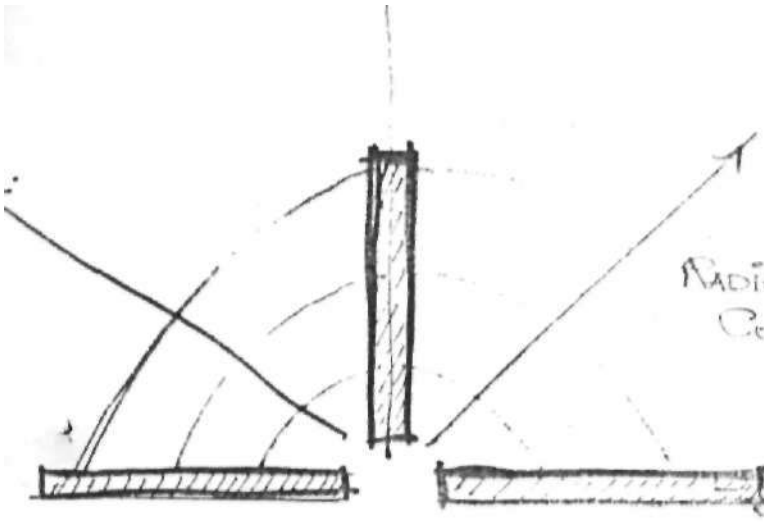
From analysis of merits and demerits of various planning concepts, the peripheral parking with ring road and multiple nuclei concept found to be very practicable for trade fair complex design .The pheripheral parking gives a sound separation of pedestrian and vehicular traffic and also provide adequate access to cars.

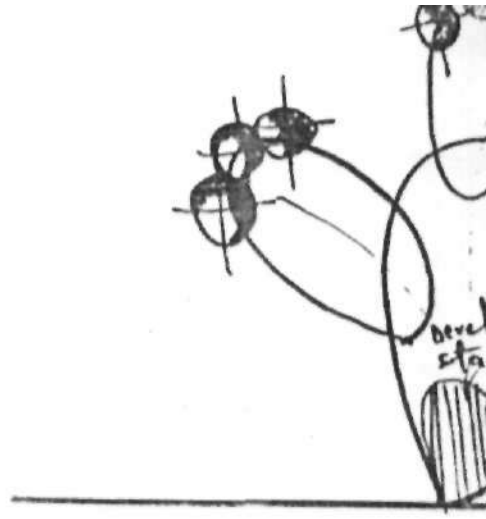
However, an improvement of these concepts (i.e. the pheripheral parking with ring road and multiple nuclei concept lead to what is termed as the bicycle wheel concept". The core of the wheel in this design is the plaza which is termed C.B.D. in traditional town set up. Other functions of the complex radiate from the plaza.

Thus, the concept have a good advantage of circulation, providing sound access for vehicles, sound separation of pedestrian and vehicular traffic and the ease of expansion.

7.4 PROPOSED DESIGN CONCEPT

Having analysed various design concepts the linear and radial concept are most suitable. The radial concept has the merit of being homogeneous and close at various stages giving room for easy circulation and good functional relationship.





PROPOSED DESIGN CONCEPT

DO I
THE CA
AIDS

OVER ALL DESIGN CONCEPT — AN organic growth conc
design to enable a sys
stimulus of the popula

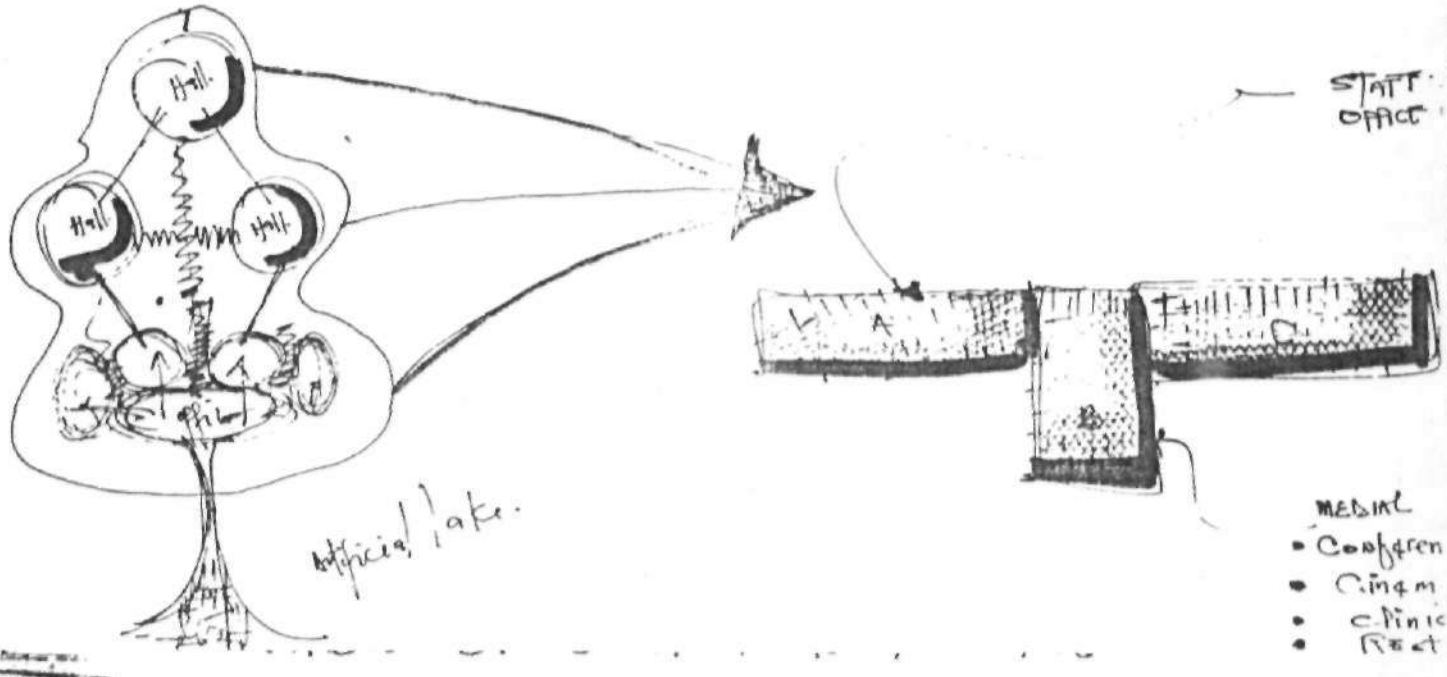


FIG 7.7 DESIGN CONCEPT.

Thus, the linear concept gives simple building sites/shapes but with a linear extension ofdevelopment.

7.5 DESIGN PROPOSAL

Design Formulation/Brief

The design proposal is to serve the future growing population of Abuja and its environment. It will also serve the entire country and foreign countries inclusive. It is required to serve other functions apart from exhibition purposes.

Thus, the design consist of the following:-

i. Permanent Trade Fair exhibition Halls

ii. Permanent all year round shopping complex

iii. General exhibition/demonstration rooms. Useable throughout the year for minor exhibition these could be put of item (i)

iv. Conference centre

v. Business centre/office complex

vi. Two Restaurants

vii. Theatre/Multipurpose hall

viii. Day care centre

ix. Clinic/children playing ground

x. A medium size hotel

xi. Other supportive infrastructure such as water reserviour, a police post, plaza, etc.

7.6 LAND REQUIREMENTS

Function	Site Area
Hall for individual Nigerian exhibitions	$900m^2$
Hall for international organisations	$900m^2$

Hall for nations	850m²
2 Restaurants	300m²
Federal Pavilion (Abuja)	100m²
State Pavilions	30,000m²
Recreational Facilities	30,000m²
Out door Exhibitions	70,000m²
Day Care Centre	240m²
Children Play Ground	2,900m²
Shops	2,900m²
Toilets and Refuse dumps	100m²
Maintenance yard/Fire service	100m²
Amphi Theatre	
Plaza	
Administrative Block	

7.7. SCHEDULE OF ACCOMMODATION (Design Area)

ADMINISTRATIVE BLOCK

Ground Floor

Bank	151sqm
VIP Section	161sqm
Conference Hall	481sqm
Multi purpose Hall	730sqm
Commercial	156sqm
First Floor	
President's Office	152sqm
Other functions (Library, Board room etc)	190sqm
Other Offices	224sqm

7.7.1 Plaza

Ground Floor	916.9sqm
First Floor	377.9sqm
Upper Floor	

7.8 DESIGN SYNTHESIS

Some design criteria are considered. These criteria are:-

i. The fair should be easily accessible

ii. There should be effective separation of vehicular and Pedestrian traffic

iii. Effective parking area

iv. Effective expansion of light and heavy vehicles

v. Articulate Drainage system

vi. Articulate Fire precaution system

vii. Effective integration of various spaces.

viii. Good planning to meet climate

ix. Capable of solving problems of physical infrastructure.

In following the above criteria with the planning concept a good site zoning was adopted. The site was zoned into categories:- The Administrative Area, Exhibition Area, Hotel/Recreation, Amphi Theatre etc.

The Administrative area is at the main entrance and it consists of four floors. On the ground floor are multi-purpose hall. Theatre, shops,circulation space, seminar room, Reception, VIP lounge etc.

On the first floor are office for trade fair Managements. The second, Third and Fourth floors are lettable office spaces.

Close to the administrative block is the Amphi theatre which contains the Police post security unit, public toilets, stores, lounge etc. The amphi theatre can take over 4,000 people. It has the V.I.P. seating area, a stage and public seating area.

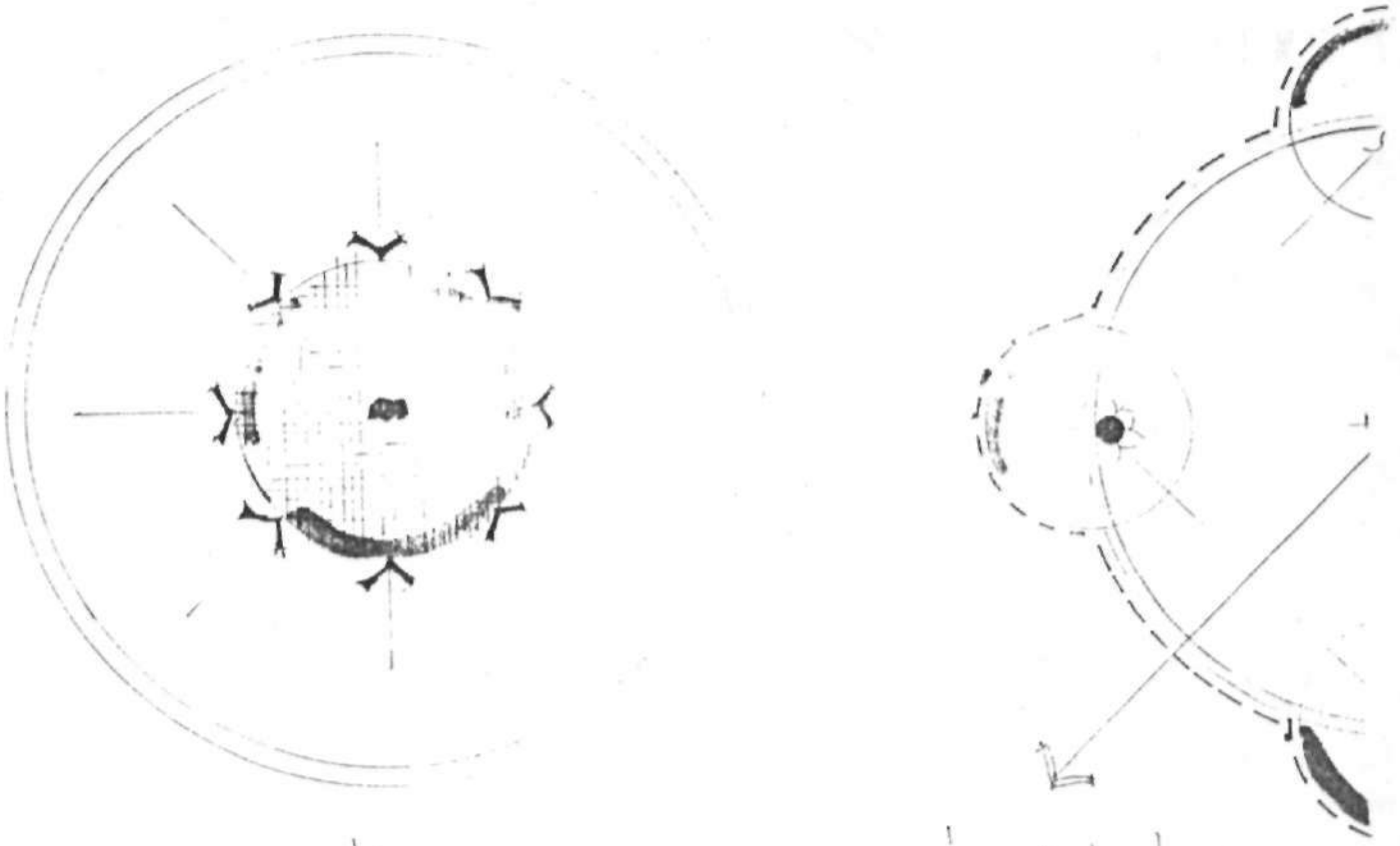
From the amphi theatre and the administrative block, the body of the design can be approached - that is the exhibition area. The exhibition area is divided into 3 sections namely:- The hall of Nations, Hall of Individual Nigerian exhibitors and the Hall of International Organisation and States Pavilions. All the halls are being surrounded by out door exhibition spaces. Revolving round each exhibition space is parking lot meant for the exhibitors.

At the heart of the exhibition zone is the plaza. The plaza consists of the telecommunication floor, observatory floor and a restaurant.

Furthermore, the fair consists of Recreation area, Hotel, Day care centre, Children Playing Ground - all located at the northern part of the site.

7.9 DESIGN PARADIGMA.

RADIAL DEVEL



In the Quest for an Ideal Design
..... The Truth and Ideal of Architecture
is Concept. By R.O. Ajetomobi

BICYCLE WHEEL

DESIGN CRITERIA.

- THE FAIR SHOULD BE EASILY ACCESSIBLE
- THERE SHOULD BE EFFECTIVE SEPERATION OF VE VEHICULAR AND PEDESTRIAN TRAFFIC.
- EFFECTIVE PARKING AREA.
- EFFECTIVE SEPARATION OF LIGHT & HEAVY VEHICLES

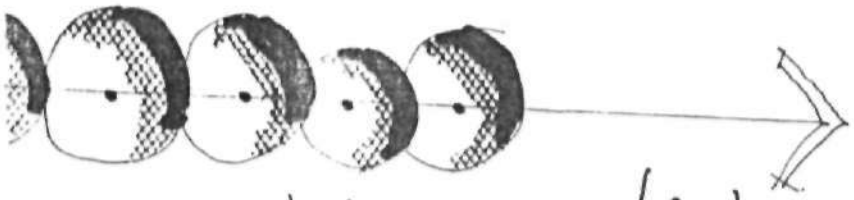
- AR
- AR
- EFI
- GO
- CAP

WAY OUT IN THE DESIGN — AJETOMOBI 1992.

FIG 7.8 DESIGN CONCEPTUALIZATION.

QUEST FOR AN IDEAL CONCEPT.

CONCEPTS...

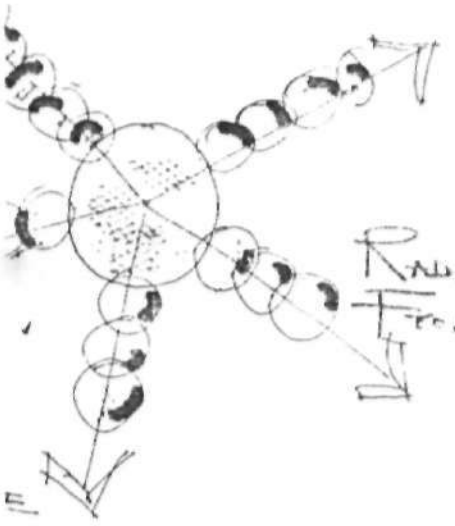


LINEAR EXPANSIBILITY

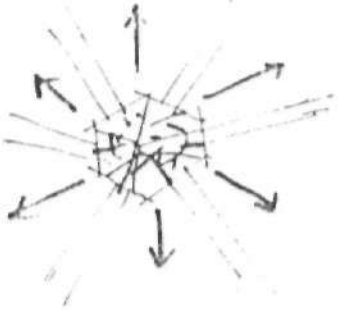
DEMERIT.
- HAS PROBLEM OF C
COULD BE BORIC
FIRE HAZARD.
- MONOTONOUS
DISTANCE.

(LATERAL EXPANSIBILITY)

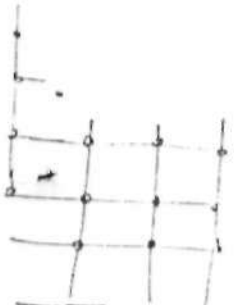
ADVANTAGES.
MAXIMUM ACCESSIBILITY
LONGER SERVICE LIFE
IN EXTRA COST.



RADIAL OUTGROWTH
FROM A COTE.



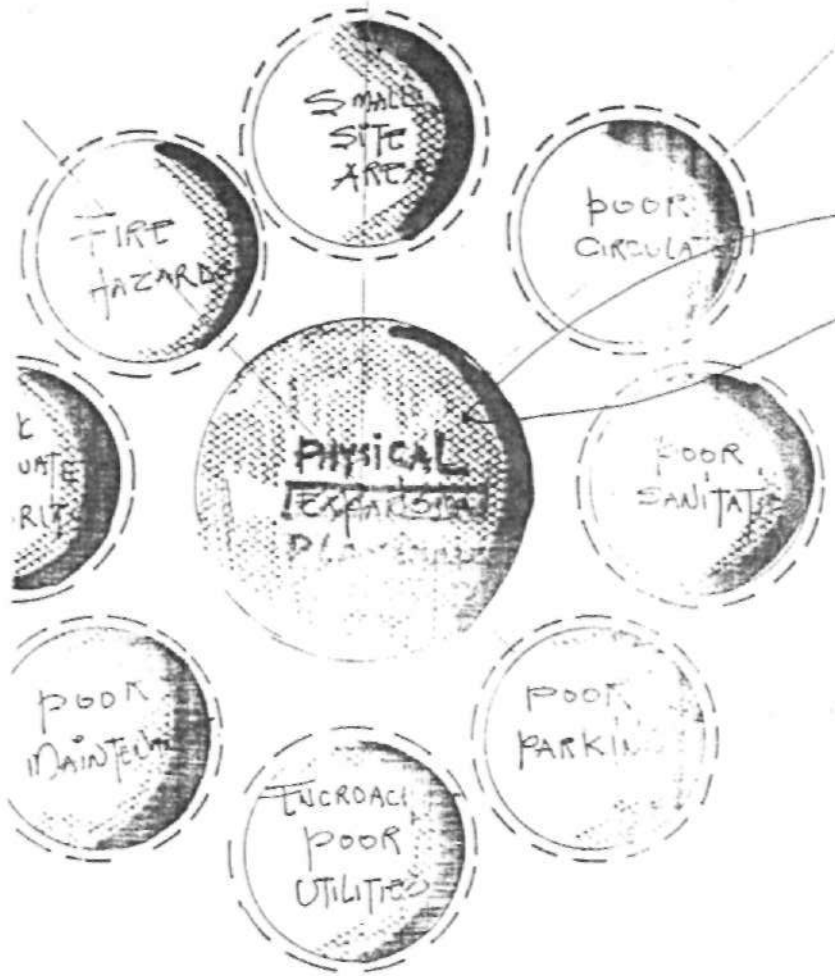
THE NODE SYSTEM.





THE QUEST FOR AN IDEAL DESIGN

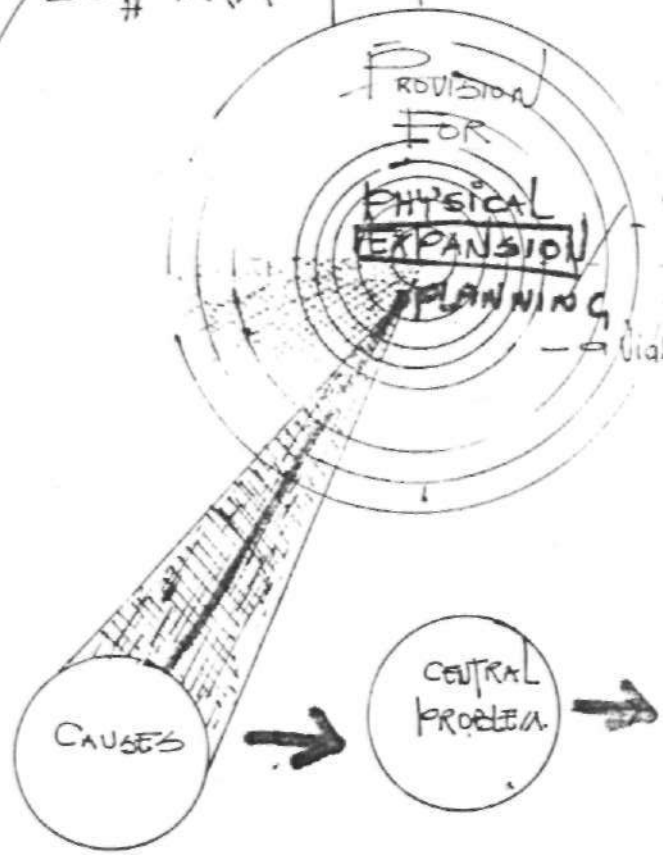
KASHIM IBRAHIM LIBRARY



relationship between problems.

Using Architecture To the above problems.

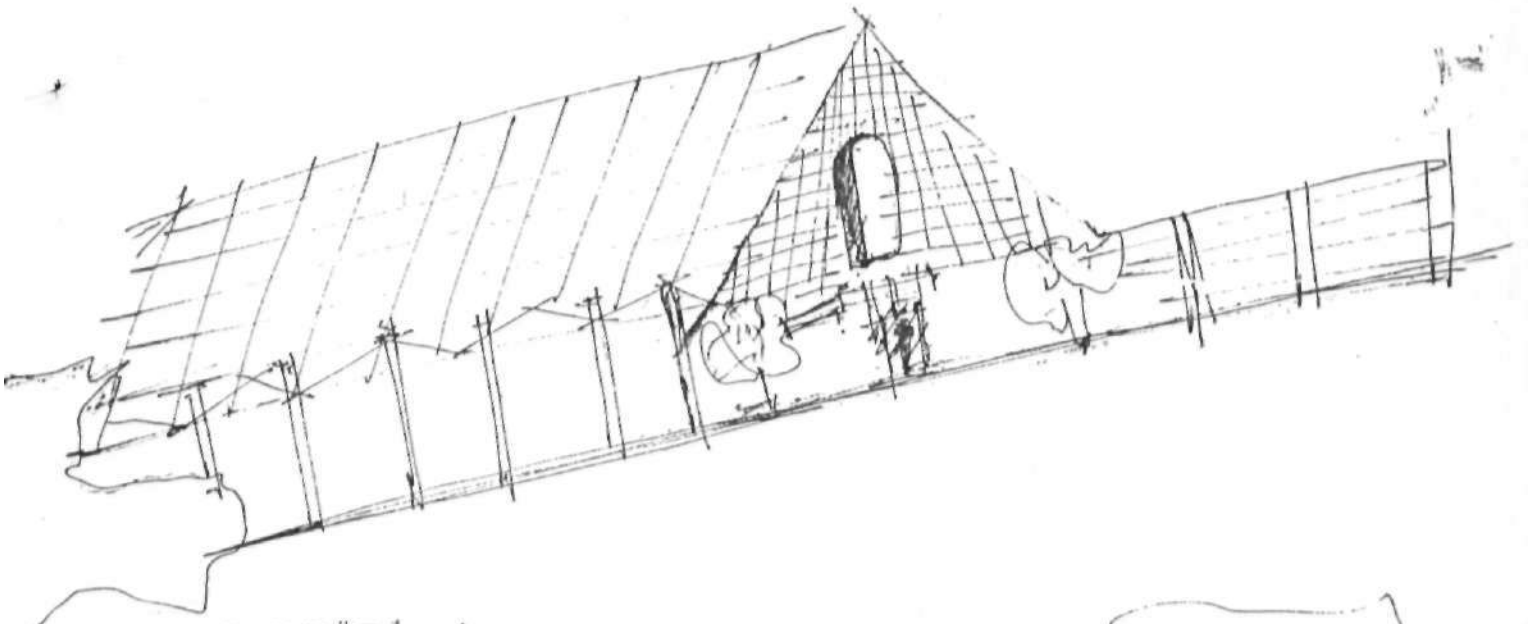
PHYSICAL INFRASTRUCTURE solution



— a viable remedy.

NEW APPROACH ⟶ solving the problem from causes rather than consequences.

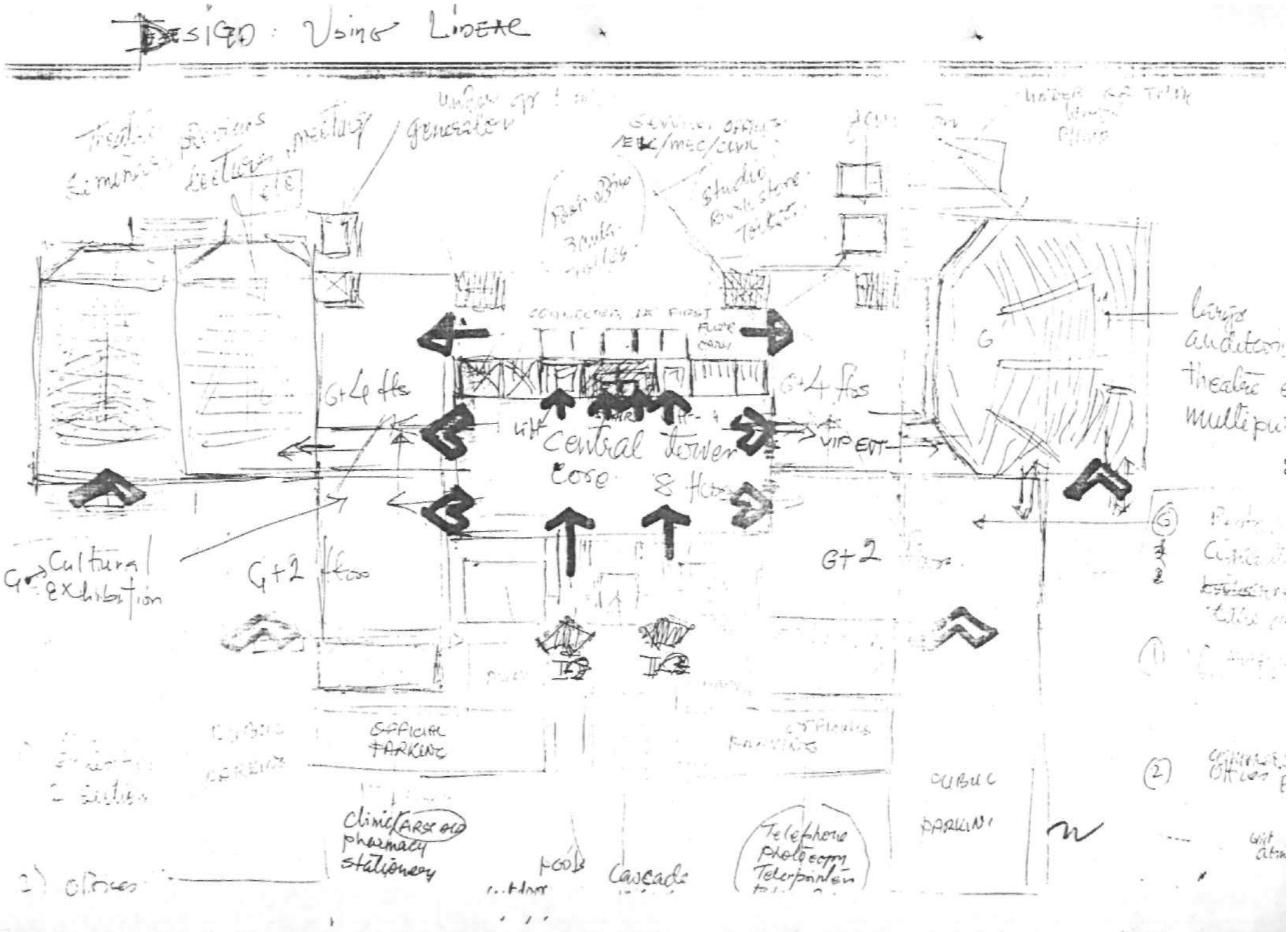
Exhibition Conception.

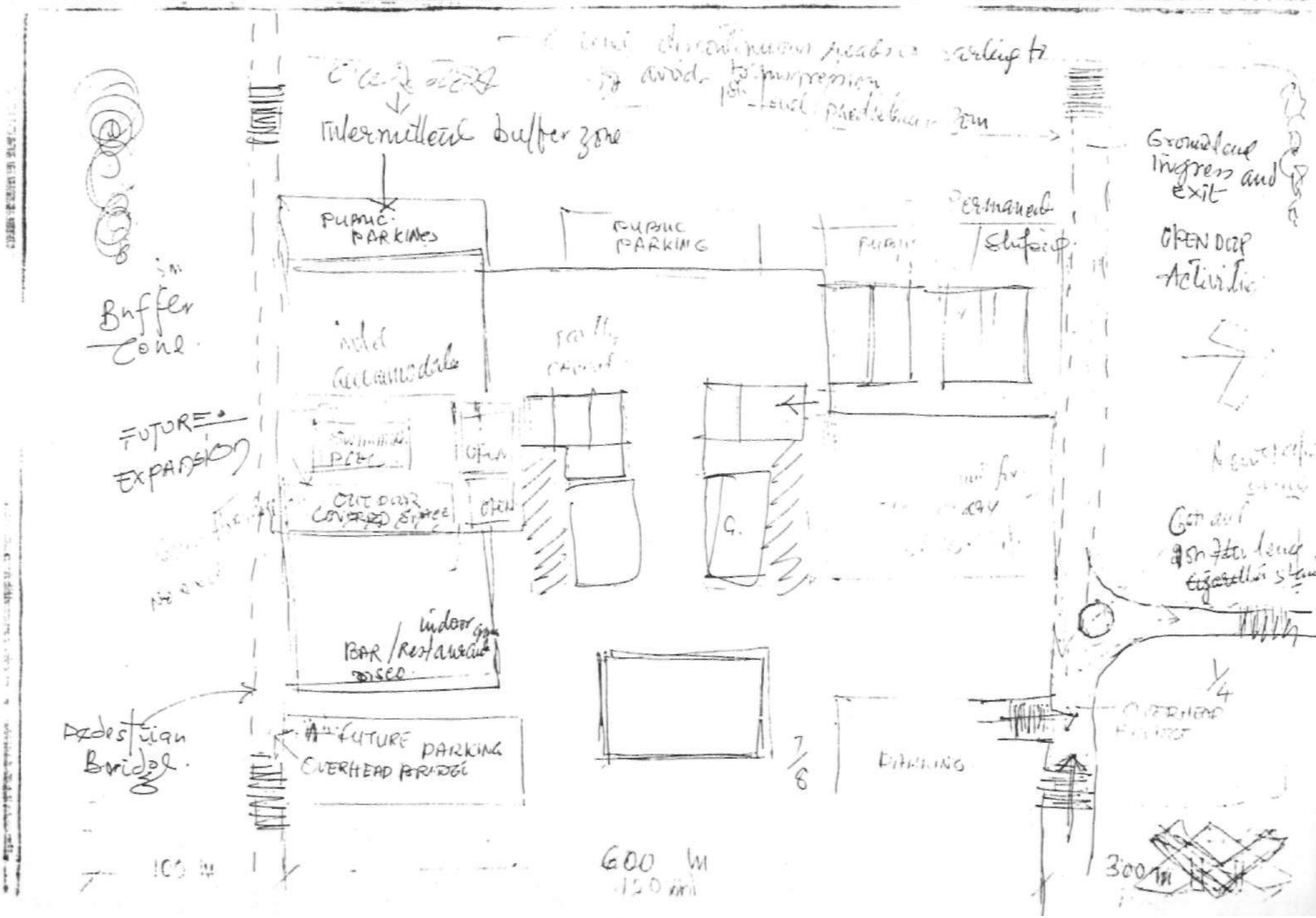


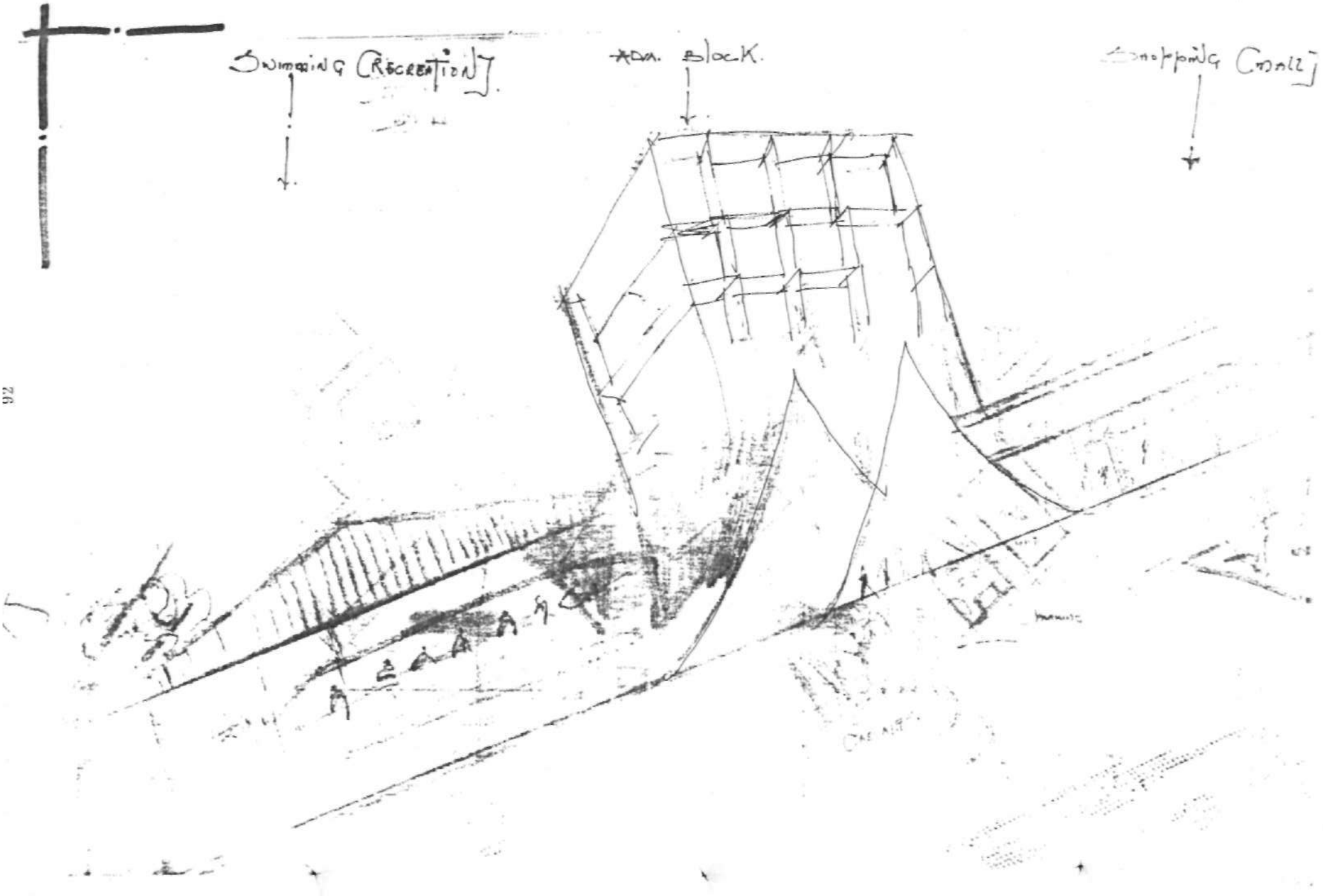
CONCEPTUAL:-

- Adopted the 3 major languages in NIGERIA
- Housed travel cut-up for the planning Concept.
- Situational Composition — Yoruba traditional house built.
- Use of materials for decoration (Ibo traditional decoration).



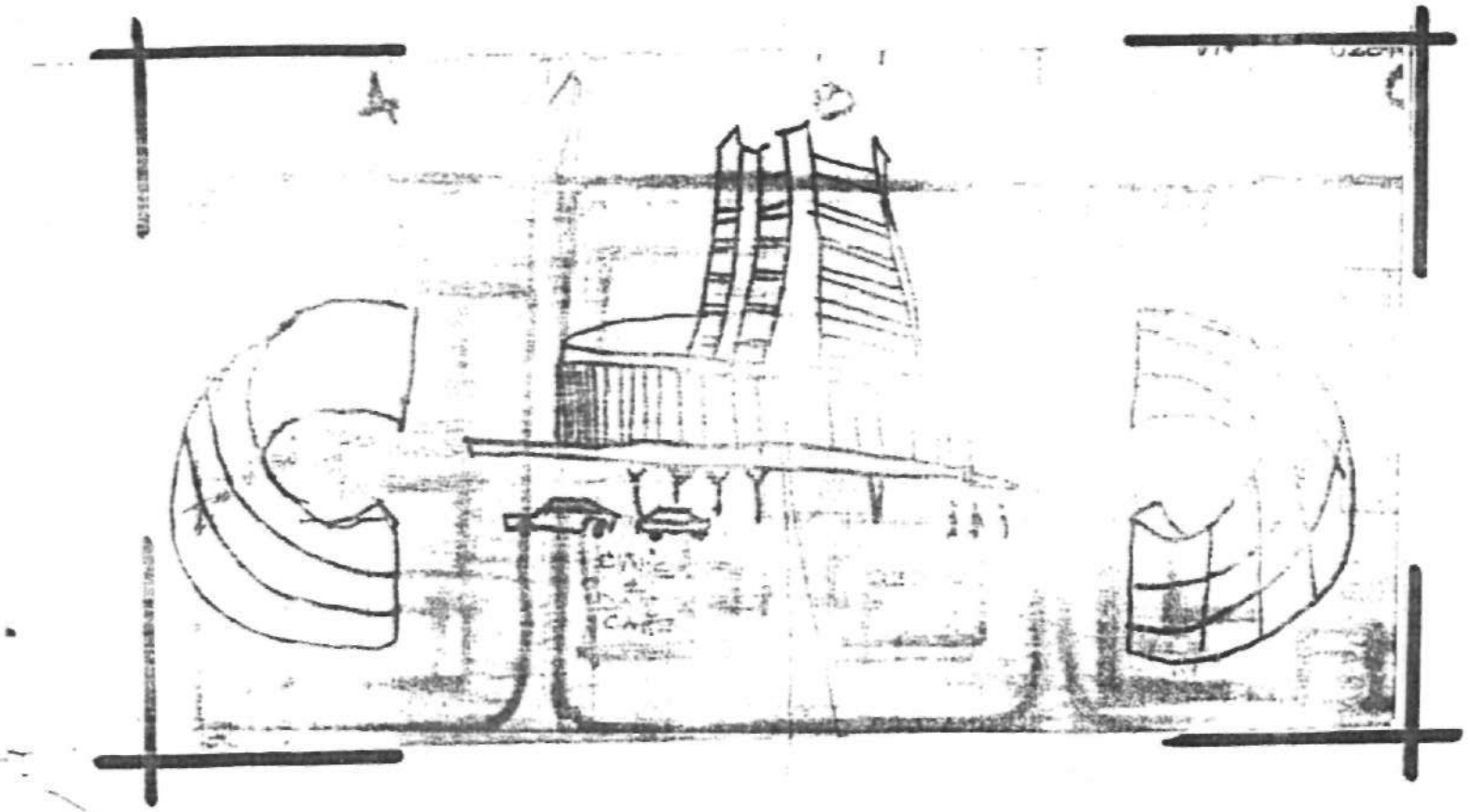

DESIGN : Using Linear
Under ground generator
Central tower
core & floor
G+4 flrs
G+4 flrs
G+2
G+2
Cultural / exhibition
large auditorium theatre
OFFICIAL PARKING
Clinic
pharmacy
stationery
Cascade
Telephone
Photocopy
Telexprinter
CUBUC PARKING
2) offices


Intermittent buffer zone
PUBLIC PARKING
PUBLIC PARKING
Permanent
Ground level ingress and exit
OPEN DECK
Buffer Zone
FUTURE EXPANSION
OUT DOOR COVERED
OPEN
OPEN
indoor
BAR / Restaurant
Pedestrian Bridge
FUTURE PARKING
OVERHEAD BRIDGE
PARKING
1/4
7/8
600 M
300 M


Swimming (Recreation).
Adm. Block.
Shopping (Small)

CENTRAL CORE — RE IDE

In the quest for an ideal design [illegible] conception



A.

MEDIUM ASPECT

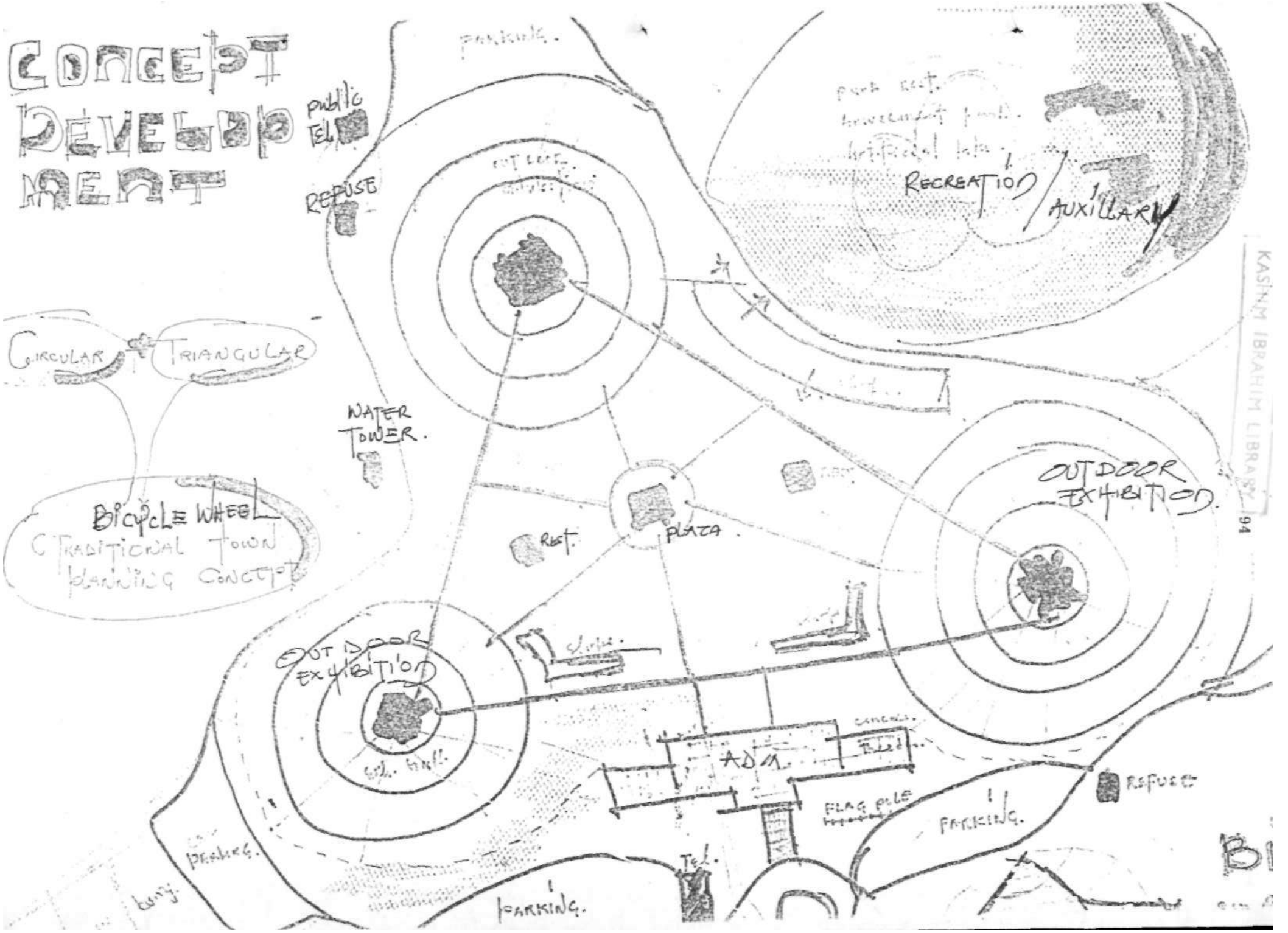
- Conference centre
- Day care / clinic
- Restaurant

- Exhibition halls.
- Office complex.

DEMERIT.

* Vertical [illegible] discouraged. Exhibitions
* Cost.

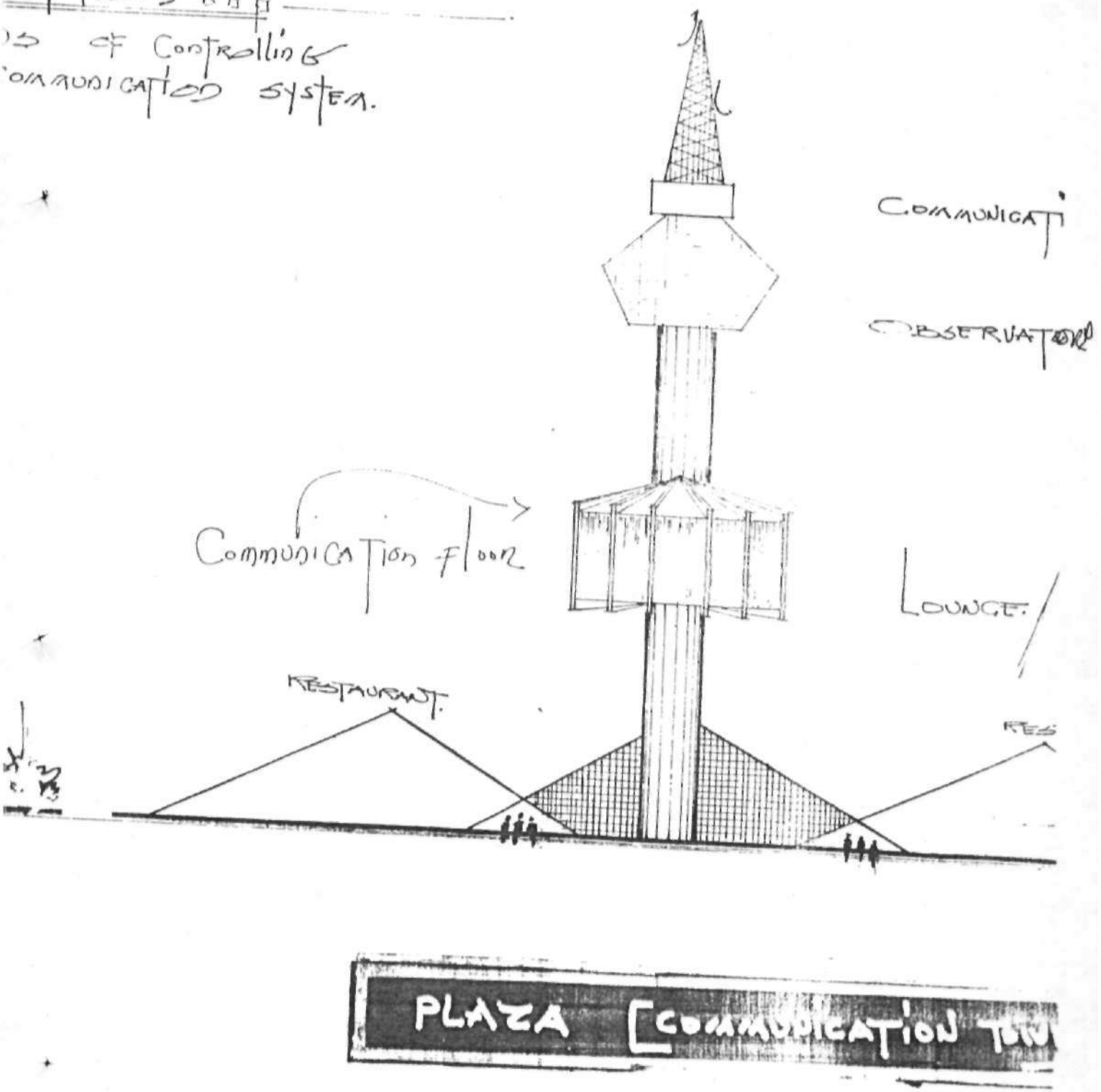
CONCEPT DEVELOPMENT



KASNM IBRAHIM LIBRARY 94

CEPTION

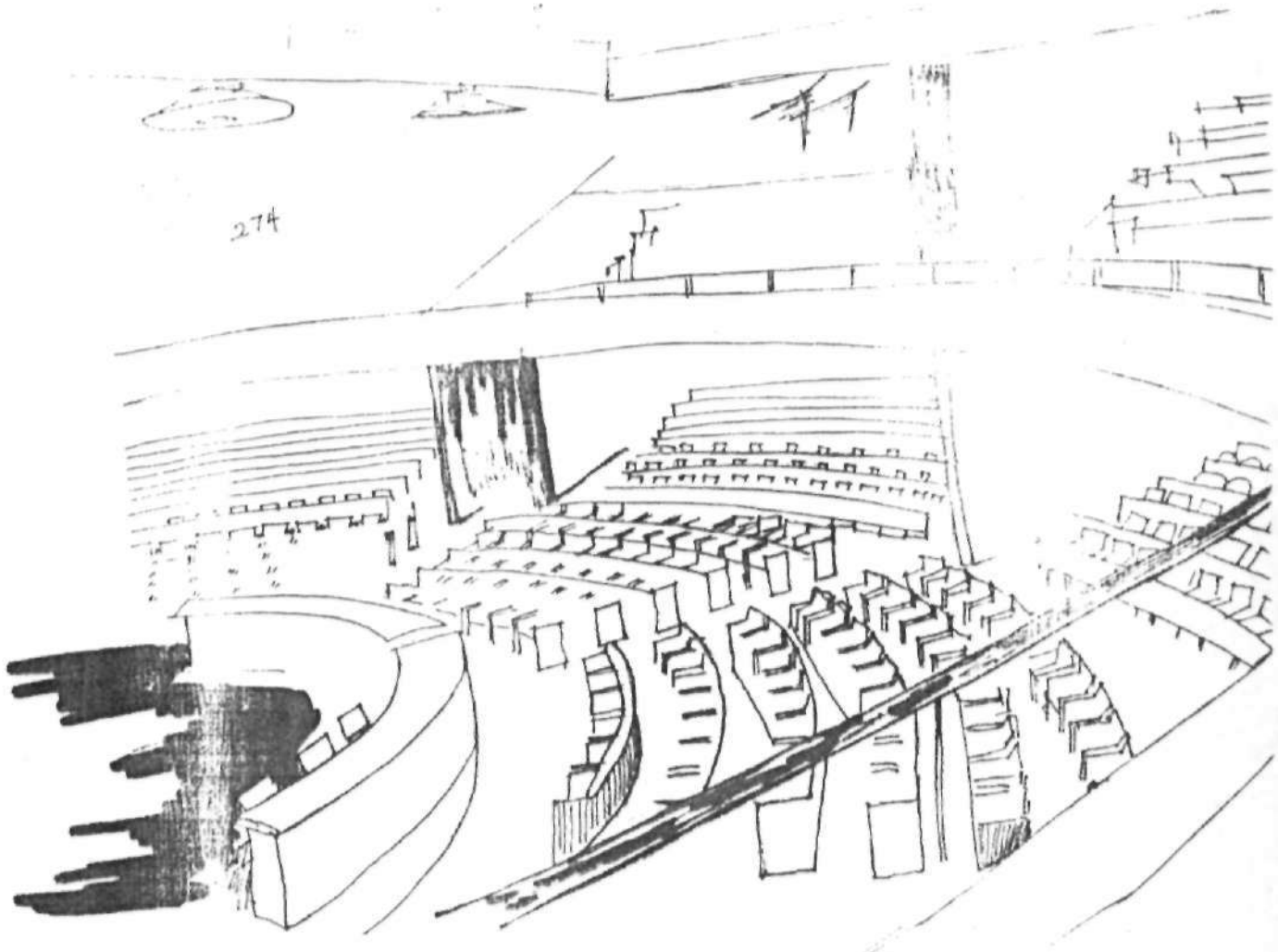
...s of Controlling
...OMMUNICATION SYSTEM.



PLAZA [COMMUNICATION TOW

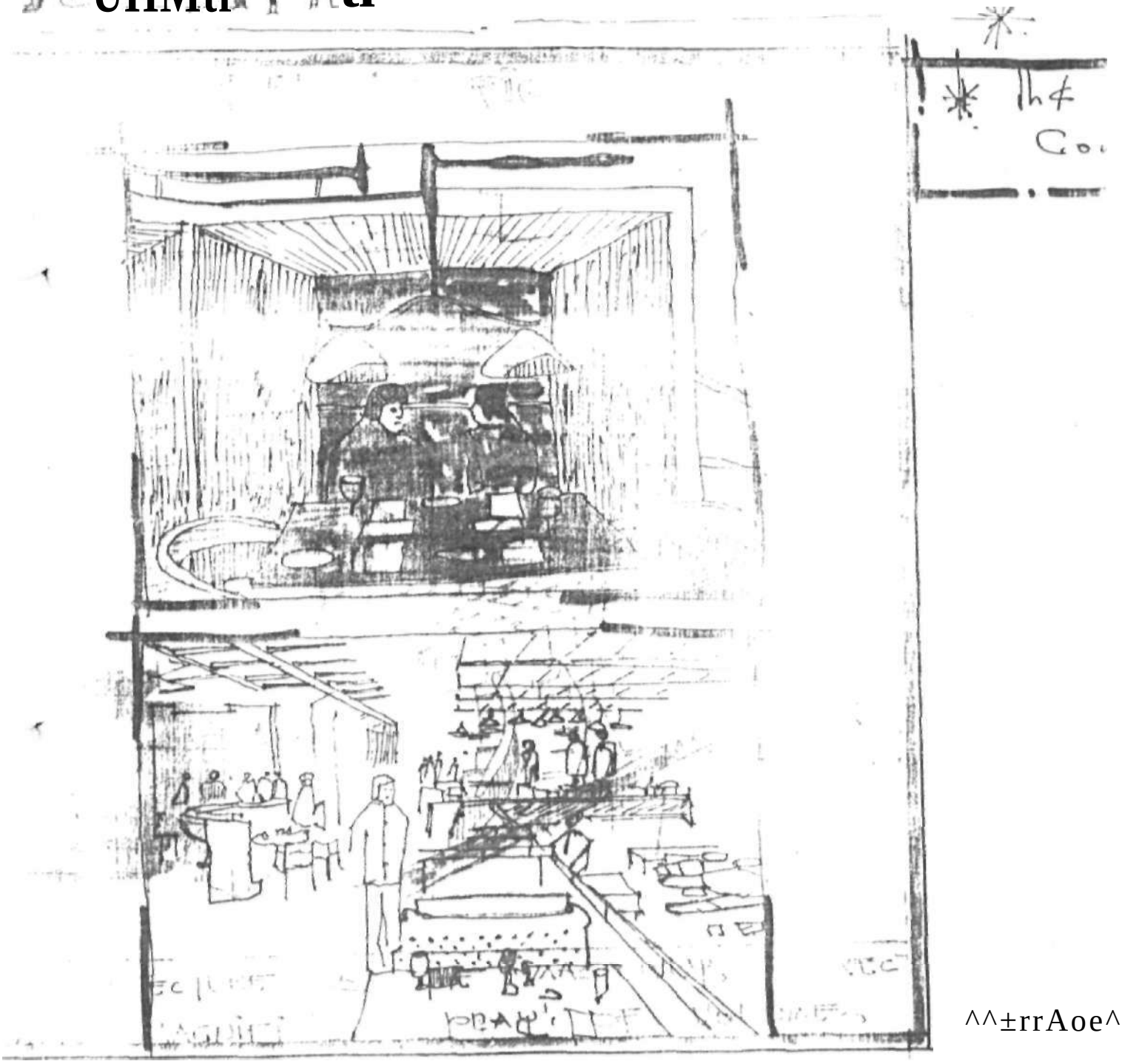
SCHEMATIC VIEW

THEATRE INTERIOR

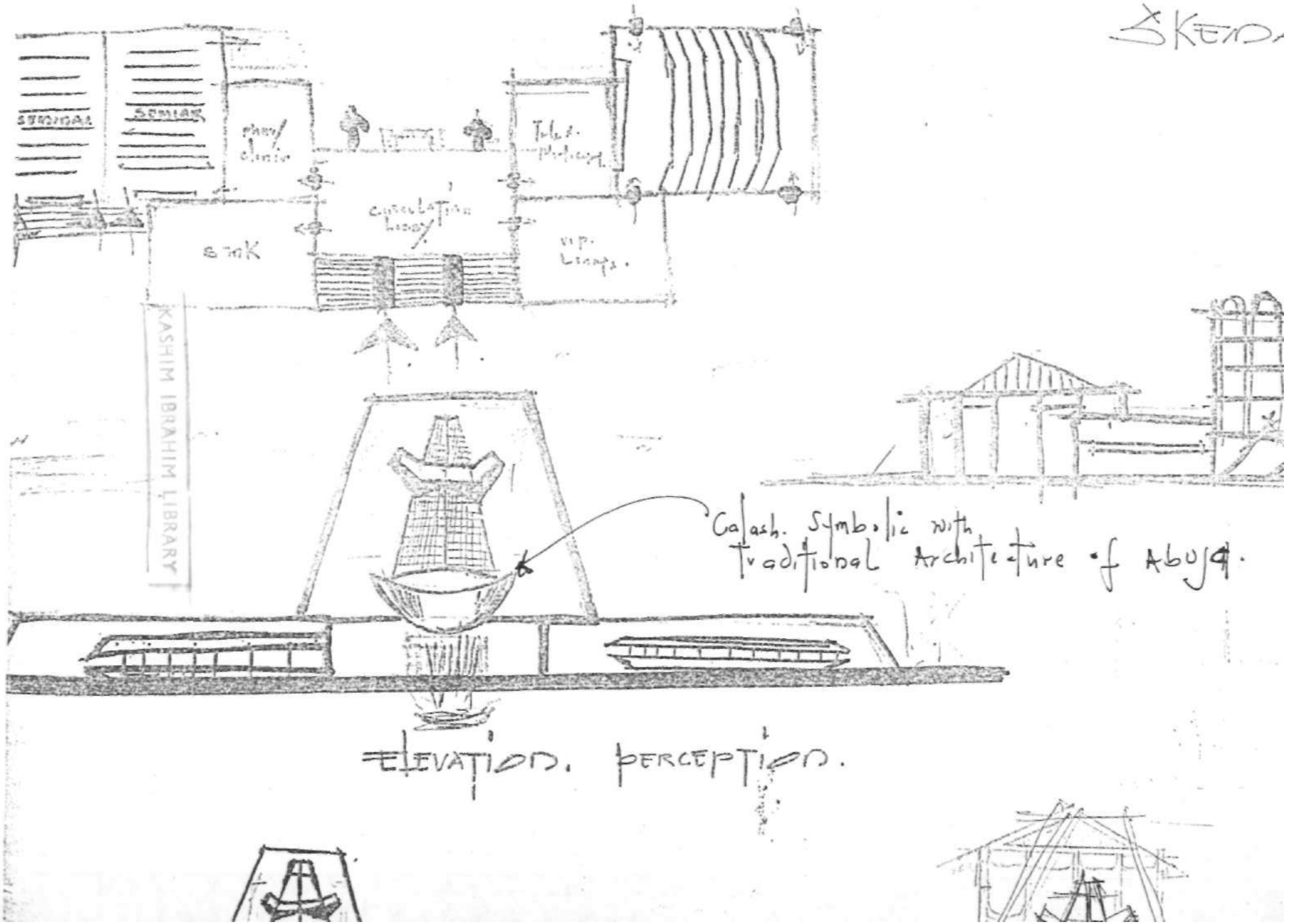


"ARCHITECTURE IS THE MASTERLY, CORRECT AND MAGNIFICIENT PLAY OF VOLUMES BROUGHT TOGETHER IN LIGHT"

— LE CORBUSIER

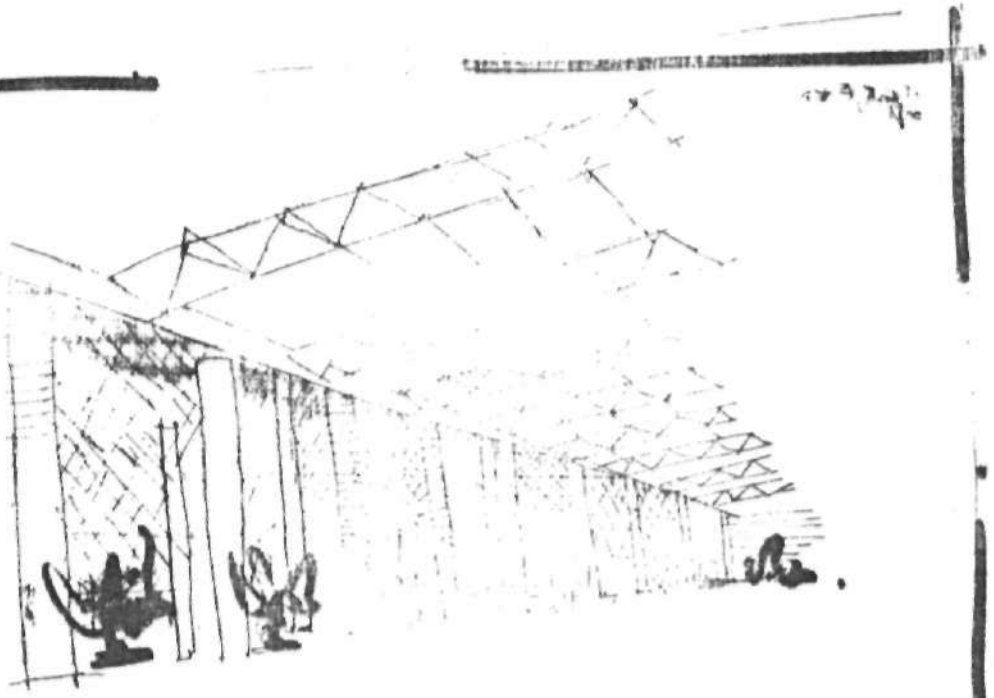


^^±rrAoe^



KASHIM IBRAHIM LIBRARY

EXHIBITION HALL



INTERIOR [DESIGN] SKETCH.

* USE OF MATERIALS.

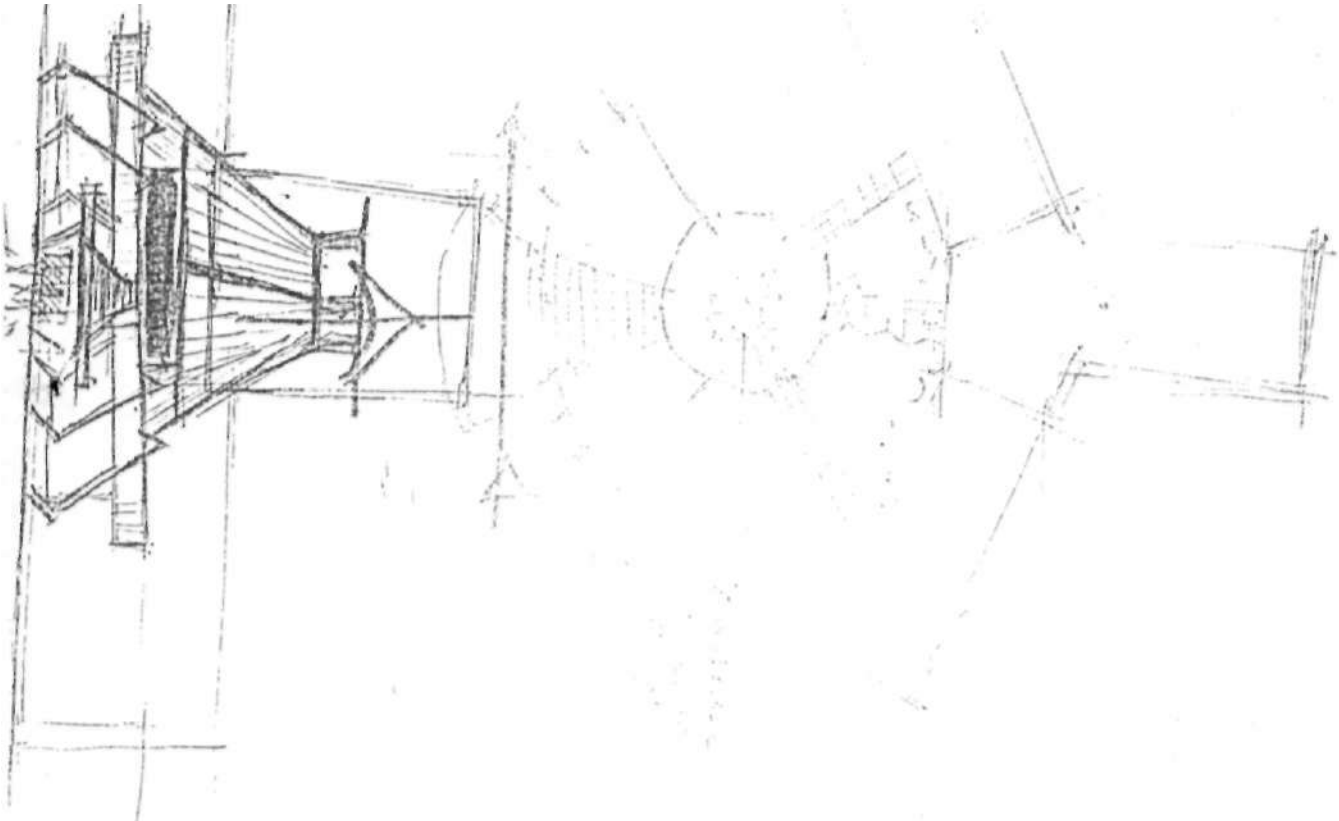
ILLUMINATION INTO THE EXHIBITION IS ALSO AN IMPORTANT CORE.

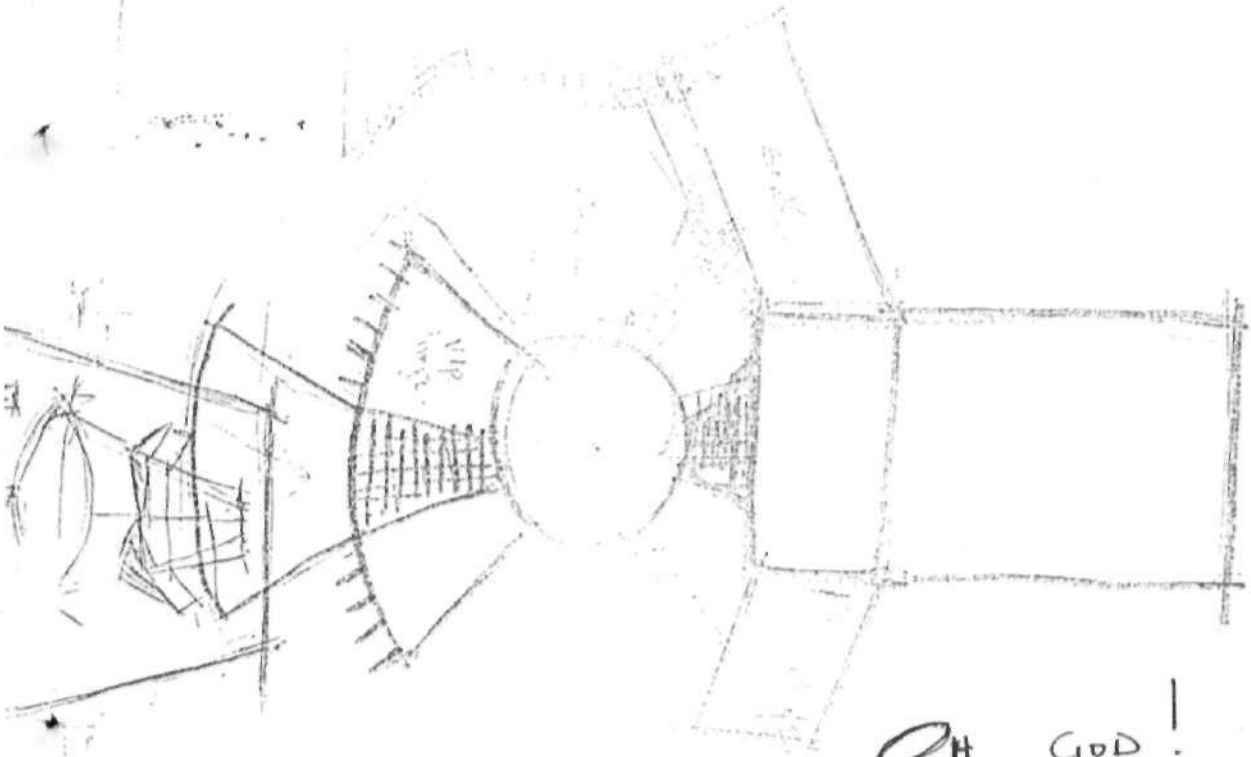
DOES ARCHITECTURE SOLVE PROBLEMS?

A GOOD DESIGN USING CONCEPT GIVES SOLUTION

AJETOMOBI 1992.

—FOR GREETINGS.





OH GOD!
OH ARCHITECTURE!
HOW CREATIVITY CAN
BRING LIVE, PEACE,
BEAUTY .....
TO MANKIND.

CHAPTER EIGHT

8.0 DEVELOPMENT AND MANAGEMENT

This chapter recommends ways in which the project will be accomplished. The development schemes so far have been conceived and worked out into an architectural Master piece that needs a helping hand to bring it into reality. All these are discussed in this chapter.

For sound development and Management, it is recommended that an authority be constituted under F.C.D.A. Abuja alternatively the Abuja Chamber of Commerce and Industry to operate as a composite body, charged with the responsibility of all the management and development affairs of the new complex.

8.1 ADMINISTRATIVE STRUCTURE (COMMITTEE AND PARTICIPANTS)

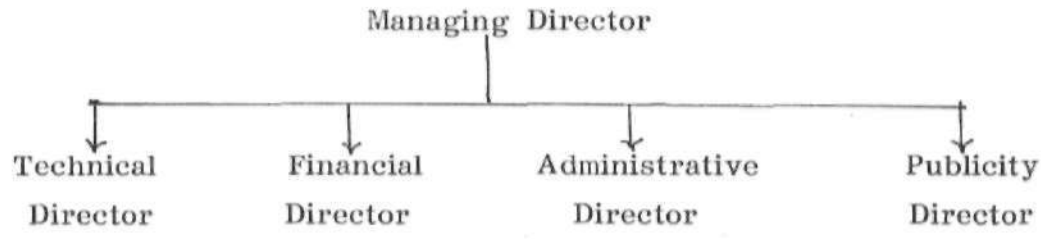
The project, if executed will be a large complex. If the management of Abuja Chamber of Commerce, Industry and Agriculture are to be responsible for its Management, a much larger Management staff than the present skeletal stall will be required.

A united Nations Suggested Management Structure is hereby recommended which will be both for the fair and the complex.

MANAGEMENT

Managing Director
Technical Director - Maintenance
Financial Director - Cashflow and Accounting
Director of Administration - Personnel andCasual Staff
Publicity Director - Public relations, Protocol
Coordinates Official Events.

Management Chart



8.2 CONSTRUCTION METHOD

The existing condition in Abuja is the guiding factor before deciding on the construction methods to be used. Abuja climate is being considered so also the availability of building materials and the calibre of labour force that exist in Abuja.

Most of the materials for the walls are sandcrete blocks due to the climate; so also aluminum frame of 6mm clear glass sliding windows and flush doors will be used. In addition, some windows will be shaded externally with sun shading elements or devices,

In looking at the constructional problems in this area, the roofs will be made of corrugated aluminium and Abestors sheets and well anchored to the walls while parapet walls will be used in some cases.

8.3 IMPLEMENTATION STRATEGIES (Phasing)

The implementation strategies will be based on finance and order of importance of the structure.

Thus, the project will be phased into three (3). The first phase will comprise Administrative block (ground to 1st floor which involve seminar hall, conference, Bank, Offices e.t.c.

Also in phase one are an exhibition hall. 50% of the exhibition hall, Maintenance, shops e.t.c.

The second phase will comprise one exhibition hall, completion of the office block police post, refuse disposal area, road network e.t.c.

Lastly, the remaining facilities will be in the third phase. These include all the auxilliary functions recreation area, hotel e.t.c.

8.3.1 Finance

The financing of this kind of project normally are of the greatest cause of anxiety to developers. Financial institutions always find it very difficult to loan huge sums of money for this kind of a project. Several developers face this type of problem, an example being Onisha urban country council when their consultant Engineers Travers Morger and Partners - proposed a new market then at about £ 500,000 (₦1000,000) Luckily some of their members found it a risk worth taking, they influenced it and it was done. The Eastern Region Development Corporation was therefore influenced to grant the necessary loan.

Thus, a total annual return of about £ 80,000 was realised on the average of which £10,000 was spent annually on supervision and maintenance. The council paid £35,000 annually and spent the balance on its other commitments.

To the investors the enterprises quoted above have been a success. It had brought large profit to the respective council.

Also various people have been served through the provision of the various facilities within the market. However, this is a big opportunity to all investors.

Apart from inviting a finance company/developer to be responsible for this project another means is the government. Both the Federal Capital Development Authority Abuja (F.C.D.A.) and the Federal Government will have stakes in the success of Abuja international trade fair complex, therefore there is the need for them to contribute to its success.

Another way of raising fund is through launching. A wide publicity is necessary through media houses, television houses radio brocasting station e.t.c. People, State Government, Companies e.t.c. will be invited to the launching for their generous donations.

A public enlightment programme is necessary and funded by the authority to enlighten the general public about the need to resolve this crucial problem. The programme can be co-ordinated by the authority and a group of sociologists and other professionals. An appeal fund will be launched along with this programme. The programme thus serves as a stimulus for positive response of the people in raising reasonable funds for this development.

The coordinating body of the enlightment programme shall solicit funds from voluntary agencies in money services or donations in kind to the scheme. Funds shall be solicited from multilateral organisations who will encouraged to assist in providing technical assistance or anything relevant to the success of the scheme. This thesis can be published and copies sent to various contributors to further get them committed to the successful materialization of the scheme.

After a successful take-off of the scheme, comes the challenge of effective management to enable a sound revenue generation for subsequent growth of the scheme,

This can be achieved through a proper consultation with Estate Management professionals to exploit the revenue generating potential of the scheme to the maximum by channeling this revenue towards future development of the scheme.

8.4 REVENUE GENERATION AND EXPENDITURE

The following are recommendation revenue generating sources and expenditure areas for effective management by the authority revenue sources.

i. Toll gate fees from all visitors/vehicles entering the site

ii. Rental fares on shops, stores, plaza e.t.c.

iii. Revenue from periodic activities exhibition halls and out door exhibition;

iv. Revenue from entertainment functions;

v. Long vehicles and other delivery vehicles can be taxed for using the motor park facilities on the site. Advetisement and bill boards within the site e.t.c.

vi. Other means of generating revenue can be initiated by the authority concerned.

8.4.1 Expenditure

i. Payment of Staff allowance

ii. Sound maintenance of facilities

iii. General service (e.g. private security services cleaning electrical and water supply e.t.c.

iv. Servicing of loan (if any)

v. Conscious saving for future development.

8.4.2 Income Flow And Revenue

Since almost all the facilities included will be capable of generating revenues, it is possible to estimate the expected income flows from the project. All income earned less maintenance and running costs and about 20% savings will be handed back to the Federal Government or those that financed the project until the total cost of construction is recovered.

It is importatnt to appreciate or know the diiference between cost recovery and profit maximisation. Under profit maximisation principle, the Federal Government would insist on getting a return equipment to what it could have earned from the money invested in the centre if that money were invested in say, a commercial bank or a very well paying industrial venture. This is also the equivalence of the opportunity cost of the money.

The cost recovery principal implies that the same amount of money expended on a particular service will be recovered intact.

8.4.3 Payment process

All the facilities will be leased to users in the same manner, the other complex owned by the Federal Government is leased to users. The following annual revenues will be expected.

Trade Fair Complex	₦ 9,000.000
Conference centre	100,000

Restuarants	50.000
Day Care centre	50.000
Cinema/Theatre	100.000
Clinic	50.000
Hotel	2,000.000
Commercial Bank	50.000
Other incidental	100.000
Total Gross Revenue	₦ 12,000.000

Annual maintenance and running costs inclusive of Local Government taxes and rates will consume about ₦ 3,000,000 leaving approximately the sum of ₦ 9,000.000 payable to the Federal Government (owner).

The table shows how the loan will be repayable within a period of 10 years,

Annual Repayment Projection

1993	₦ 7,000.000
1994	8,500.000
1995	9,500.000
1996	10,000.000
1997	15,000.000
1998	18,000.000
1999	20,000.000
2000	20,000.000
2001	20,500.000
2002	20,500,000
	157,000.000

In this projected sum, if the Government finance the project by spending about ₦ 150 million, it will be able to recover back its money within 10 years of the initial expenditure.

8.4.4 Preliminary Sourcing of Materials And Costing of the Trade Fair centre Abuja

Item	Material	Cost
1. Land preparation, Security and fencing - Total land perimeter of ₦500/m	Cement & Brick	₦ 1,500.000
2. Storm water drainage including culverts and paving for 3.500m at ₦ 250/m	"	
3. Design work, Architectural plans Studies legal fees e.tc.	Local	
4. Construction work for the site using a storey building at ₦ 2,000 per m^2		
5. Conference centre meeting rooms shopping complex offices Accommodation, clinic, Day care Restuarants, banking hall total at ₦ 3,000 per m^2	Local Material	
6. Auxillary facilities	Local	₦ 1,000.000
7. Transformers Switchover devices, electricity reticulation	Mostly Imported materials	₦ 5,000.000
8. 2 Standbye electri generators of 1050KVA each, fuel storage e.t.c.	imported	₦ 5,000.000
9. Water storage tank	Local Fabrication	2,000.000
10. Incinerator and waste disposal	Local	100.000

11. Access roads and internal	Local	1,000.000
12. Medium size hotel to accommodate 150 people	Local but some fitting will be imported	₦ 20,000.000
Sub Total Contigencies		
Grand Total		

8.5 ALTERNATIVE USES OF INTRASTRUCTURE ON SITE

The proposed Abuja international Trade Fair Complex may not last for more than eight days for its annual event. Thus the questions that comes to mind is the feasibility of putting up such gigantic structures for an eight days in a year event. The site can be used for other events some of which are analysed below:-

8.5.1 Infrastructure On Site

The total that is integrated in the development of the complex is open to use throughout the year and is to reduce the hotel accommodation problem of Abuja especially during the trade fair period.

i. Multi-purpose Hall:- This can be used for holding conference and staging plays/Drama

ii. Exhibition Hall:- It can be rented out for occassional use like wedding ceremonies, parties, indoor sporting.

iii. Recreational park:- It will be open for all-year round usage. The uses of the park and other facilities such as the plaza help in enlivening the site.

iv. Office Accommodation:- Offices will be rented out to companies/individuals who are interested. With the scarcity of offices in Abuja. It will give room for sound patronage.

CHAPTER NINE

9.0 CONCLUSIONS

An exercise in trade fair design is an exercise in both exhibition and market design, since the fair combines exhibitionism with buying and selling. Thus, the exhibition aspect is given high considerations - together with Administrative block.
It is endowed with a variety of planning possibilities and also various design concepts were tried.

In International trade fair design a medium is provided for expressing traditional architectural theme and modern technological achievements. The medium used in this design are the planning concepts, finishes and decoration.

The thesis has elaborated widely on the complex phenomena of physical infrastructure in Nigerian Trade Fairs. This can only be achieved with maximum concern, initiatives determination and utmost dedication on the part of the government. Various private organisations, agencies, phillantropic organisations are expected to Cooperate whole heartedly in achieving this objective

It is hoped that future trade fair complex designers will rise to the challenge and take a cue from this work and achieve better results.

The complex will establish and boast the Abuja International Trade Fair both within the country and in International fair circles because of the image it possessed.

The planning of our future trade fair complexes must bear in mind the importance of physical infrastructures and try to adopt a workable planning concept in other to marginalise the problems of trade fairs.

"Planning is that conceiving faculty which must recommend ways and means of transmitting the possibilities and impossibilities of today into realities of tomorrow".

Finally if a tree could make a forest the author would have proceeded straight to implement this modest effort.

To the government organisations F.C.D.A. and others ---- over to you. And to the academicians, and our future generations, this work remains a philosophy and a point of reference.

BIBLIOGRAPHY

1. Aliyu, A.Y. (1985) Trade Fairs as Instruments of Industria Mobilization In damina, J.G. Hamza, M. and Adegbile P.O. (eds) Impact of Trdae Fairs on Economic Recovery; Proceedings of a seminar organised during the February 1982 Kaduna International Trade Fair.

2. Alol, R. (1960) Esposizioni Architecture Allestiment Virico Hoepli Editore Milano, Italy.

3. Architect's Journals 83 March, 1976. National Exhibition Centre, Birmingham U.K.

4. Architect Journal 1977 February 1982 Delhi Trade Fair Complex, India.

5. Hodder, B.W. and Ukwu, V.I. (1969) Markets in West Africa: Ibadan University Press, Ibadan, Nigeria, pp. 25-31, 126 - 149.

6. Jewell, D. (1978) Public Assembly Facilities John Wiley and Sons, New York U.S.A. pp. 64 - 75.

7. Lettersten, Cr. (1978) Services for exhibitors and Visitors of International Fairs. In Proceeding of the International Union of Trade Fairs Seminar in Turin 23 - 28 April, 1979.

8. Lippsmeier G. (1969) Building in the Tropics Callwey Verlag, Munich West Germany pp. 27 - 178.

9. Locks, Max and Partners (1967) Kaduna 1917, 1967, 1977. A survey and Plan of the Capital Territory for the Government of Northern Nigeria.

10. Modulo (3) (1962 Project for International Permanent Fair of Tripoli, Lebanon.

11. Moebel Interior Design 18 (8) August, 1972 Exhibition pavilion at Hannover.

12. Morley, J, Chandler, K.A. and Obrien, J.E. Protection of steel from corrosion In: Proceeding of a Conference Organised by the Metal Society in Association with Cleveland Institution of Engineers 16 - 17 May, 1979.

13. Neufert, E. (1980) Architect's Data Vincent Jones (Eds) George Atkinson, John Thackara Richard Mils, Granada London, Toronto, Sydney. New York. pp. 235 - 239 346, 407 - 409.

14. Orlowski, J. (1979) Fairs as efficient tools for Industrialisation of Developing Countries. In: Proceeding of the International Union of Trade Fairs Seminar in Turin 23 - 28.

15. Sebestyen, G. (1977) Light Weight Building Construction George Godwin Limited, London, John Wiley and Sons New York pp. 5 - 20, 87 - 88. 94 - 139, 148, 165-248.

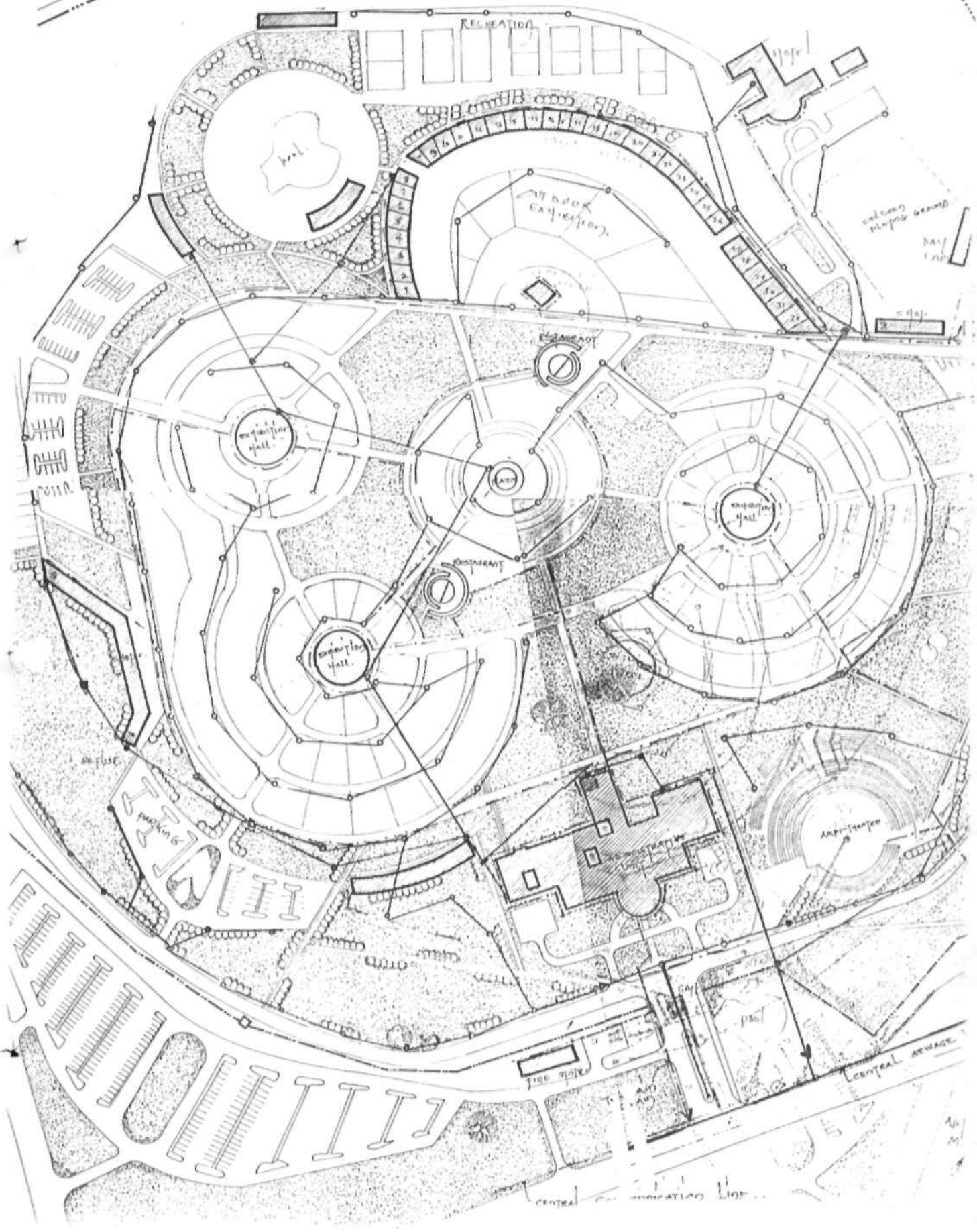
16. Seyller, R. (1976) The Origin of fairs and Evolution In: Proceeding of the International Union of Trade Fairs Seminar in Turin 23 - 28 April 1979.

17. Wildt, H.T. (1979) Criteria for choosing a site, Building Construction and Their technical Design.

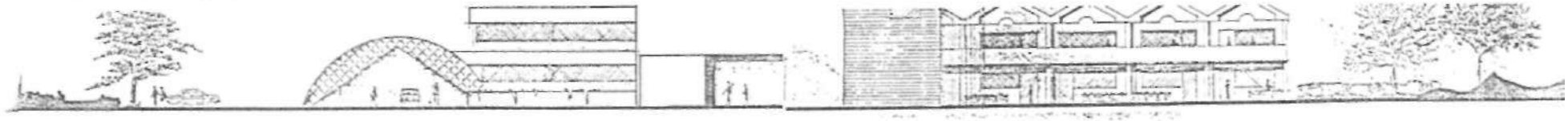
18. Wildt, H.T. (1979) Technical Services: In proceeding of the International Union of Trade Fairs Seminar in Turin 23 - 28 April, 1979.

19. Yakubu, Anwav A (1988) Kaduna International Trade Fair Complex M.Sc. (Arch) Thesis.

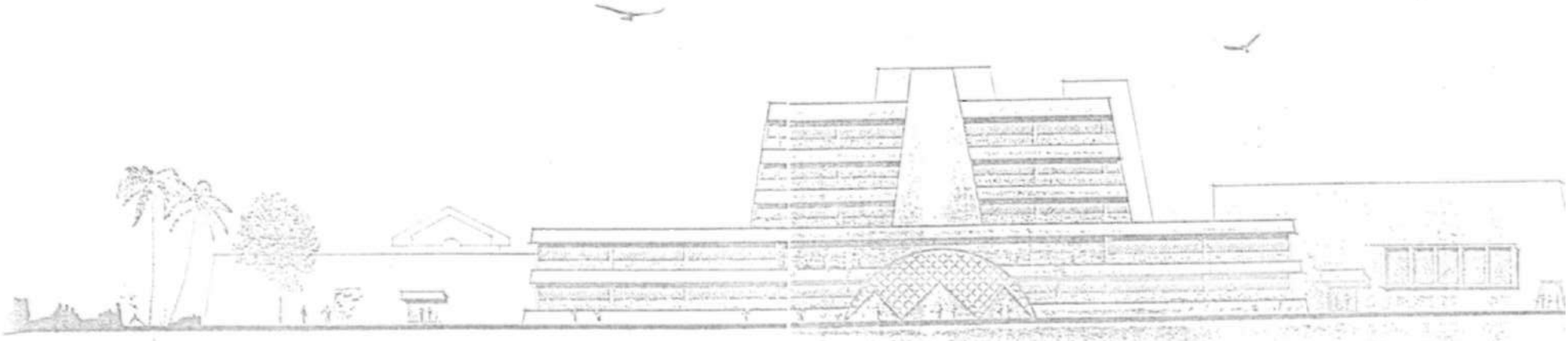
ng


RECREATION
POOL
RESTAURANT
RESTAURANT
REFUSE
PARKING
ADMINISTRATION
AMPHITHEATRE
FIRE STATION
CENTRAL DRAINAGE

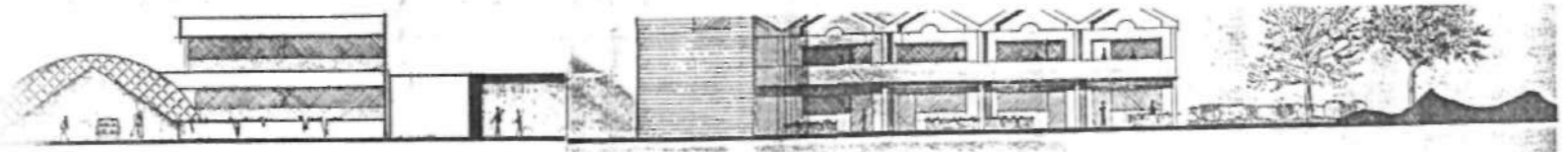
Store
Kitch
Store
Lounge
Store
Kitchen
Store
Lounge



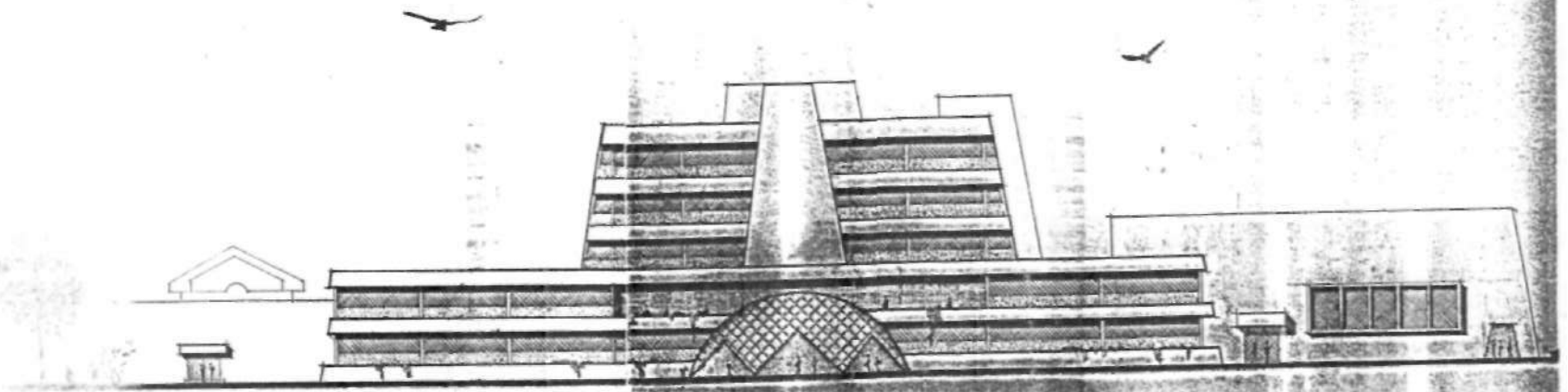
EAST ELEVATION.



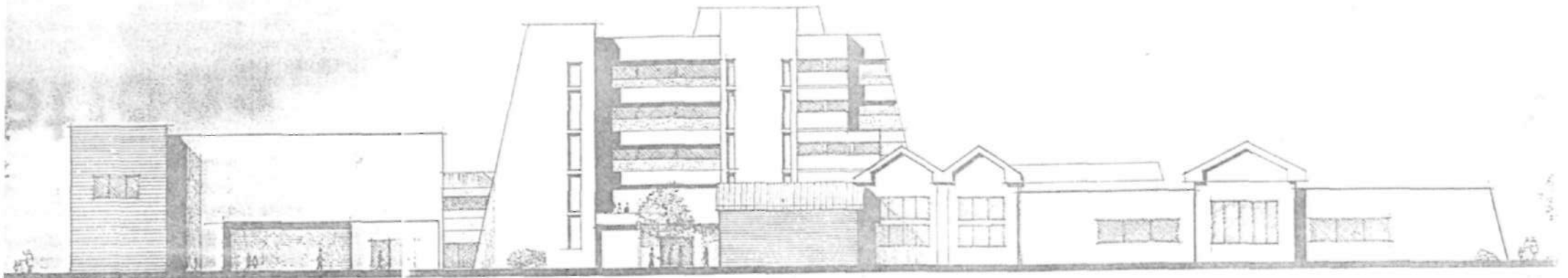
SOUTH ELEVATION.



EAST ELEVATION.



SOUTH ELEVATION.



NORTH ELEVATION.

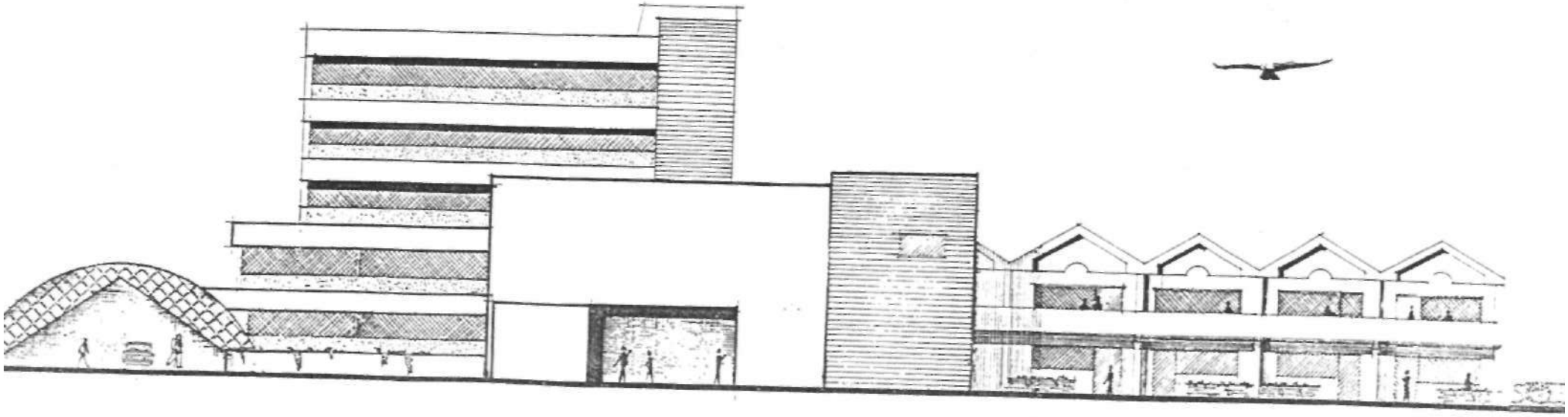
ABUJA INTERNATIONAL TRADE FAIR COMPLEX

DATE

WEST ELEVATION.

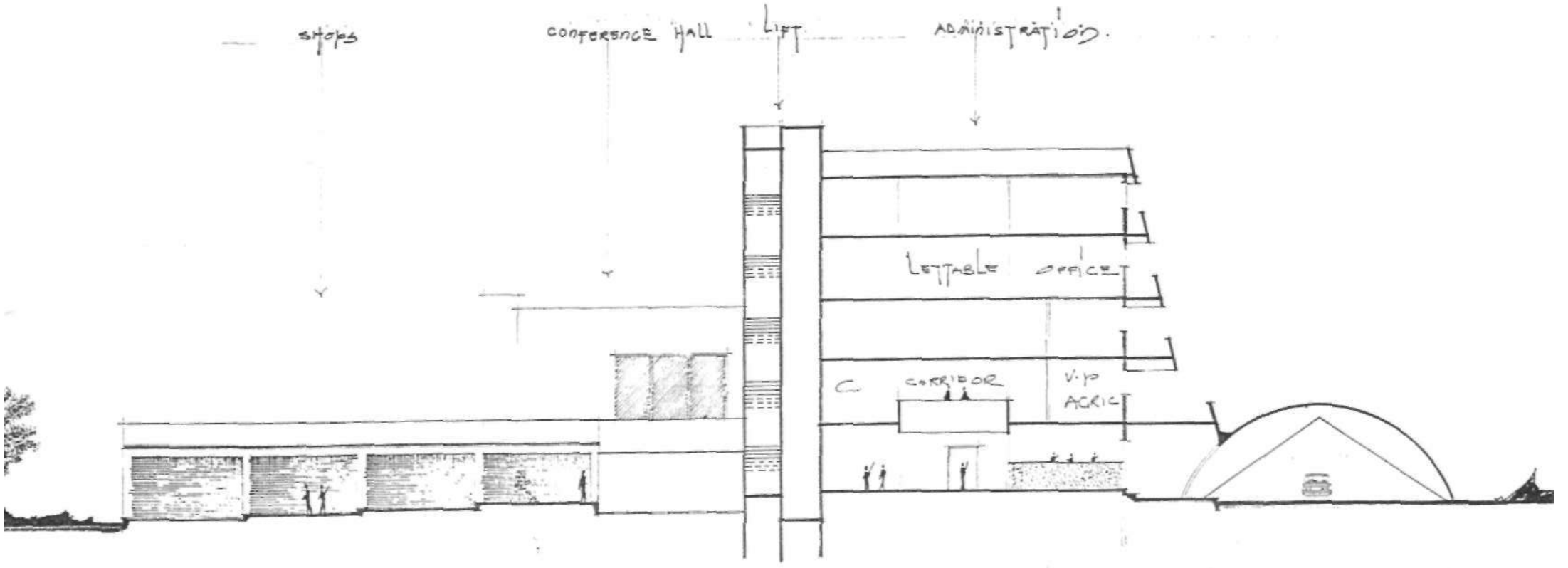
DMINISTRATIVE UNIT.

KASHIM IBRAHIM LIBRARY

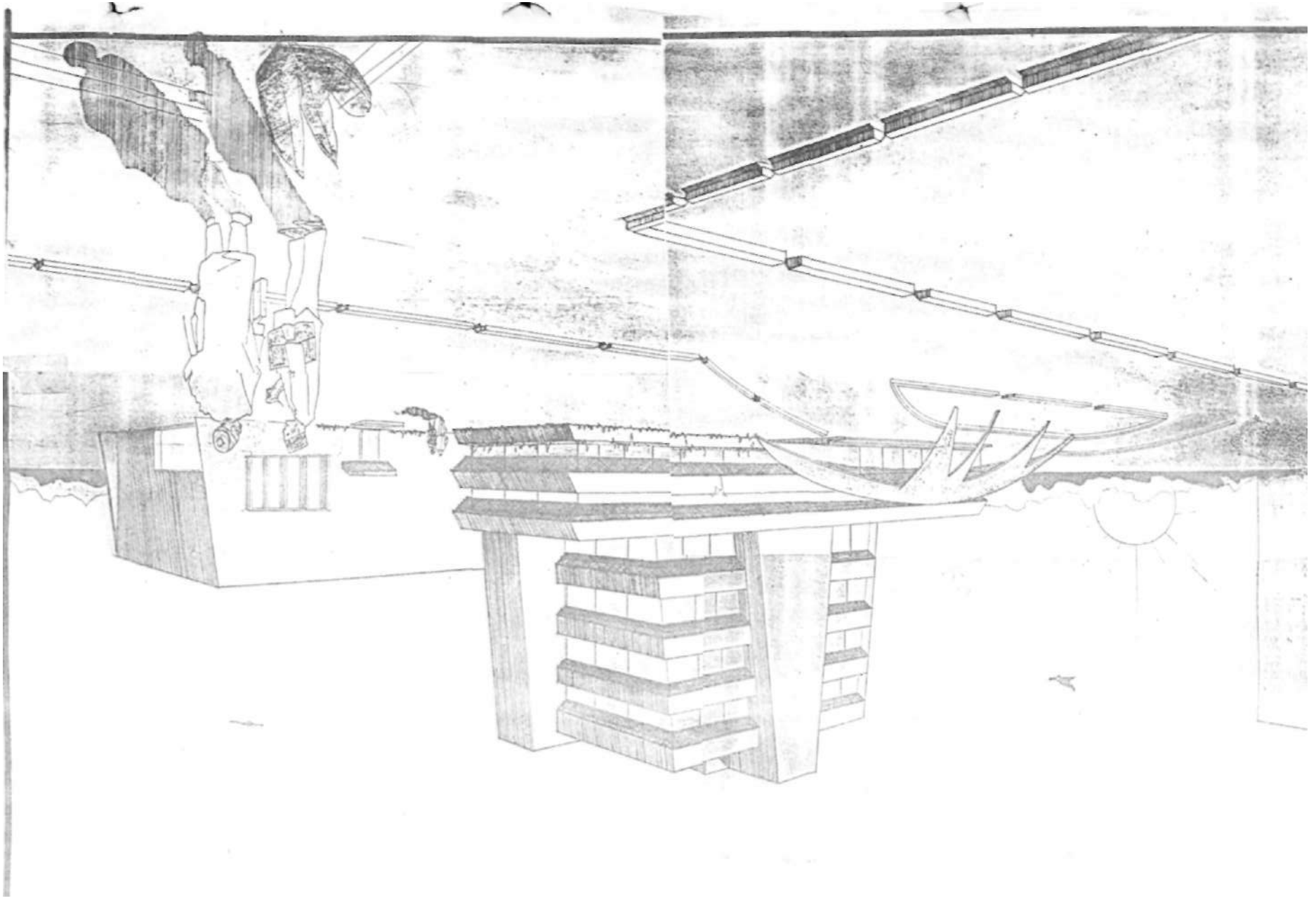


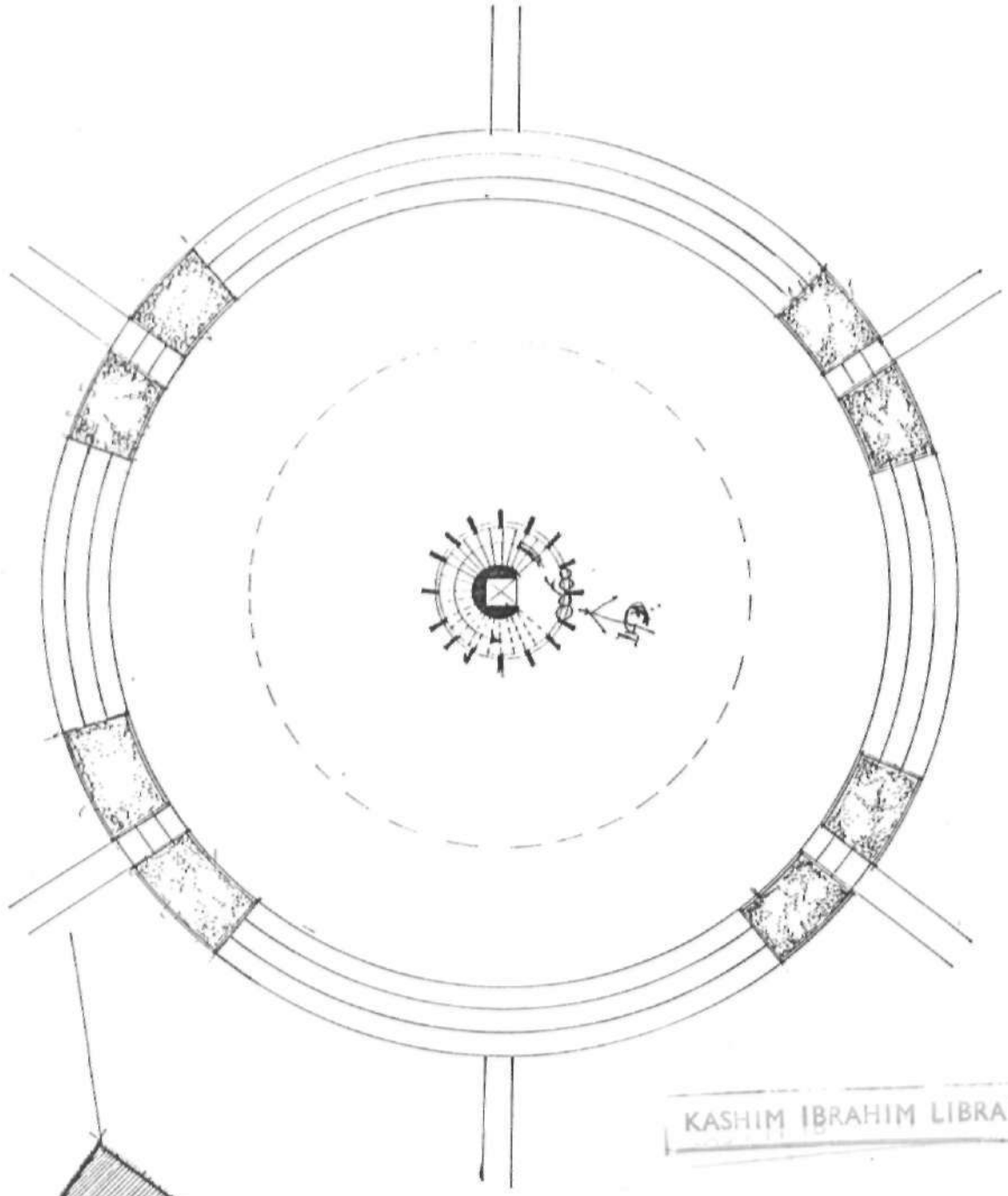
EAST ELEVATION.

ADMINISTRATIVE. UNIT.



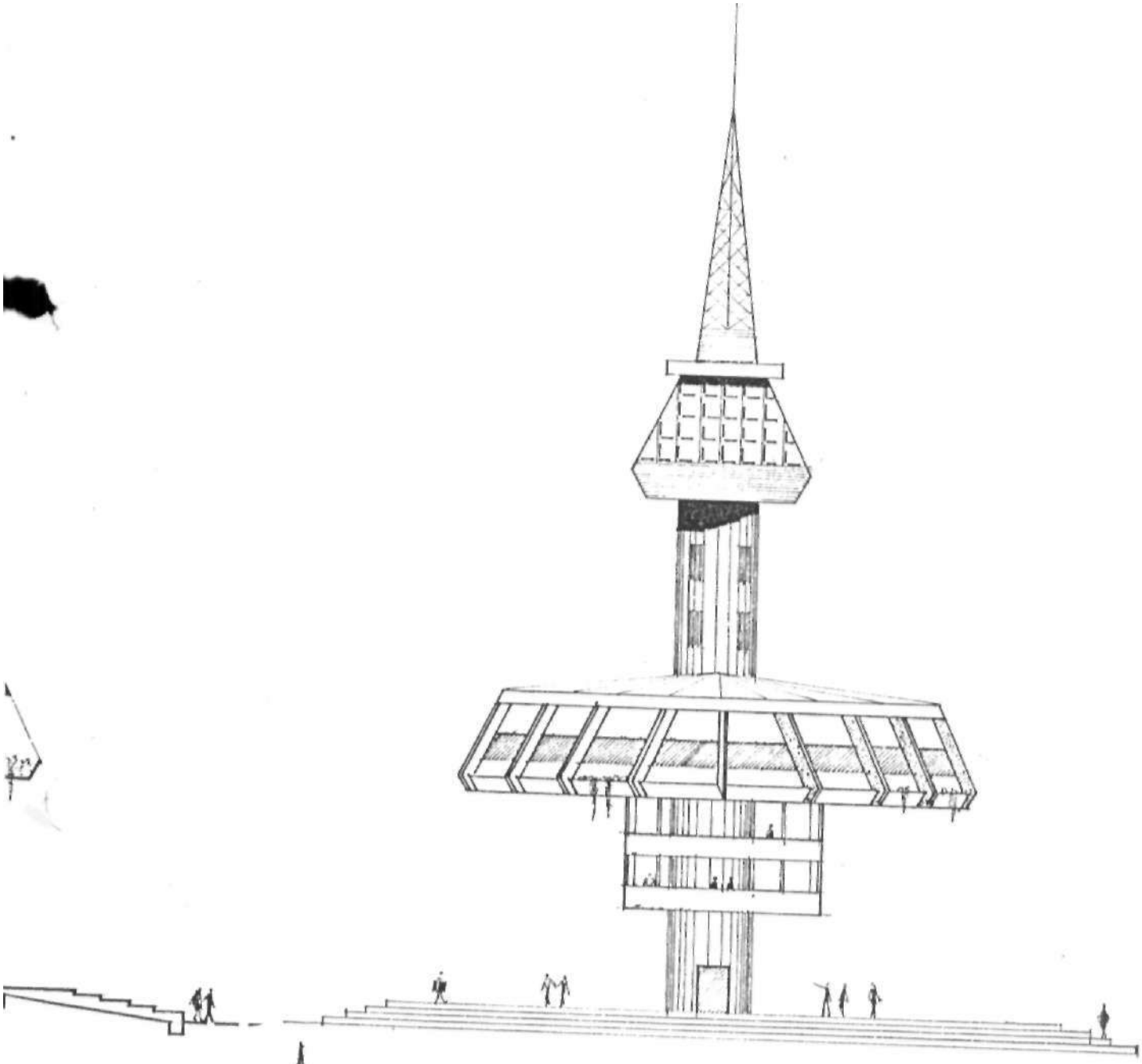
SECTION J-J



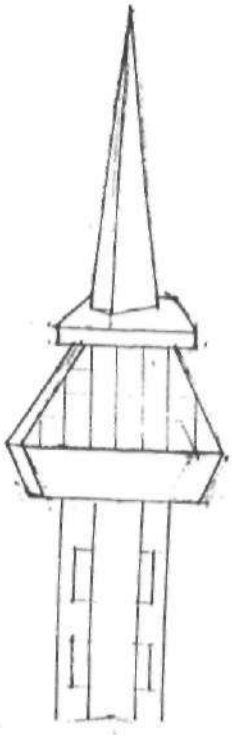


KASHIM IBRAHIM LIBRARY

GROUDD FLOOR PLAD.



ELEVATION



APPROACH

JSTRATION
TO EXHIBITION
RING ROAD
stage
public sitting
public sitting
public sitting
grass
landscape