KATSINA GOBARAU MUSEUM
(RESTORATION OF AN HISTORICAL RELIC)

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(RESTORATION OF AN HISTORICAL RELIC)

By

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This Thesis work is submitted as a partial Fulfilment of the Requirements for the award of the Degree of Master of Science in Architecture - (M. Sc. Arch.)

To:

The Post-Graduate School
Ahmadu Bello University,.
Zaria - Nigeria.

July 1987.

DECLARATION

I, DAIYABU, KABIR MOHAMMAD, hereby declare, that this thesis is my authentic work under the guidance of Dr. F.W. Schwerdtfeger, and that the chronological sequence of texts, in the compilation and edition of this thesis remain solely the achievements of the author. No part of this work may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, except in the case of brief quotations without the prior permission of Department of Architecture, A.B.U., Zaria.

This declaration was made by me, Alhaji Daiyabu, Kabir Mohammad in July 1987.

CERTIFICATION

This thesis entitled, KATSINA GOBARAU MUSEUM by DAIYABU, KABIR MOHAMMAD meets the regulations governing the award of the degree of Master of Science in Architecture of Ahmadu Bello University and is approved for its contribution to knowledge and l literary presentation.

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DEDICATION

DEDICATED TO MY LATE GRANDMOTHER -

HAJIA HADIZA - BANGO (SO)

AND

MY FATHER - DAIYABU, KURFI

"ART IS ENHANCED BY LIMITATIONS, AND
FREEDOM MAY EASILY LEAD TO ANARCHY"

MARIO SALVADORI

ACKNOWLEDGEMENT

'With God all things are possible'. I am greatly indebted to God for sparing my life to see the end of this course. And I also doff my cap for my parents, I am Heaven and Earth indebted to them for making me proud among my counterparts. Thanks for your milk of human kindness.

I can never forget to extend my gratitude to my supervisor, Dr. F.W. Schwerdtfeger for his guidance and academic support. Many thanks also goes to the remaining members of staff of the Department of Architecture, the Head of Department, Dr. Tukur Sa'ad, the year Co-ordinator, Arc. M. Muftwang, Arc. Mas'ud Abdulkarim, Arc. Shim Adesina. I also express my thanks to Mallam Sani Ma'aruf, Department of Urban and Regional Planning - for his advices.

My unreserved and sincere thanks to my studio friends, Arabi Bello, Bashir Adamu, and Shuaibu Ummah, for their usefull criticisms.

My endless thanks goes to my brothers and sisters, Umaru, Ahmadu, Abdulsalam, Hindetu, Safida, Iyatu, and Zainab, for their concern and care.

My special thanks is due to my bosom friends, Ali Uwais Manix, Danju, Idris Nyam, Awwal Manga, Binta Yero, Maryam Kurfi, Hassana H. Adamu, Jennifer

Onwurah, Tessy, Yusuf Kazaure, Lamido Maigana, for sharing their life with me throughout my stay in A.B.U. Zaria.

Oncemore, I thank all those whose names are not mentioned here but contribute in no small measures to seen the success of this thesis, To you all I say, "God Bless".

THESIS ABSTRACT

KATSINA GOBARAU MUSUEM

INTRODUCTION

The 350 years old Katsina Gobarau minaret, built during Habe dynasty of rulership by Korau, was built to serve as a mosque at that time. The minaret today is a state of disrepairs and left to the mercy of weather. Katsina being an historic town has many historic and cultural heritage, but lack facilites to express it formally. During an exhibition titled "THE ARTS OF THE HAUSA" presented at Commonwealth Institute, London as part of world of Islam festival in 1976, many of the exhibits came from Katsina. Katsina would represent an ideal base for such a display.

PROBLEMS

To avoid the instant disappearance of such historic relic, there is a need to restore and preserve it. To show some respect on traditional building construction, since something valuable is left to start with. In view of these and other reasons, there is a need for an institution to bring together all these cultural attributes at a single forcal point within the town. Possibly, a museum - to restore, preserve, and exhibit them.

Henry H. Saylor - defines a museum as a building, or place, for the preservation, and public inspection of rare and instructive objects.

GOALS

The main aim is to restore/preserve and exhibit GOBARAU minaret and other antiques. It is also aimed at educating and providing recreational facilities. It will also provide avenues for public enlightenment and a place for people to come together see/discuss their cultural heritage.

OBJECTIVES

To educate, i.e by constructive instruction and enlightenment of public, hence facilities like lecture halls, libraries, auditoriums, etc. Curotorials for proper restoration of the minaret and display of collections, articulated spaces like offices for administration, exhibition galleries, research and preparation laboratories, workshops, etc are needed. Finally, public services and enlightenment facilities for public enjoyment like garden, snack shop, bar, restaurant, craft shop, and temporary exhibition concourse will be provided.

ARCHITECTURAL SIGNIFICANCE

The complex is to be designed as an entity to give it the character of massive Hausa architecture and harmonise the complex both in form and content, means of using architecture as vehicle for cultural expression and preservation,

CONCLUSION

The museum should give a new architectural entity, that will incorporate the traditional and modern types of architecture so as to bring a visual tie between the two.

QUOTATIONS

"WHO WOULD NEGLECT TO CONSIDER GOOD TASTE?
TO IT WE OWE SO MANY PLEASURES, THE MEANS BY WHICH IDEAS TAKE DEFINITE SHAPE".

CLAUDE NICHOLAS LEDOUX

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"ART - IS SOLVING PROBLEMS THAT CANNOT BE FORMULATED BEFORE THEY HAVE BEEN SOLVED, THE SHAPING OF THE QUESTION IS PART OF THE ANSWER"

PIET HEIN

INTRODUCTION

An important strand in Nigerian Nationalism was, to use the bombastic phraseology of our flambouyant politicians of the hilarious 1950s, cultural resorgimento. To the Nationalists a rich cultural past. Real or invented, was the bed-rock of National identity and respect. Understandably, therefore, conscious attempts to record, preserve and interprete what evidence survices on the Nigerian past can be traced to the so-called proto-nationalists of the nineteenth century. By and large these attempts have assumed two main forms. The one is the study of Nigerian history, as conventionally understood, on the basis mainly of written and oral sources. The other is concerned primarily with the collection, preservation and study of relices of the material cultures of Nigerian peoples using those methods and techniques more usually indentified with archeology and museums.

The preservation of cultural heritage is a worldwide phenomenon that is not only restricted to the Nigerian people. Culture as we know is the end result of what a society has created and continues to create by itself and for itself, generations after generations. Culture is the sum total of the way of life of a particular society.

Much has been said and written about the cultures of different races or nations. Professor B.W. Andah, in his book, "African Development in Cultural Perspective" draws the attention of Nigerians to the urgent need to arrest the present cultural anomie affecting many African peoples. The anomie, he asserts, is the offshoot of the external influences on our culture which has led to many African countries basing their development programmes on educational and constitutional systems that are alien to their cultural outlook and that it is because of this that real development has eluded such African Countries and peoples.

Professor Andah then suggests that, "Given our present malaise and confusion between the old and the new orders characterising all spheres of our lives, our country's disease calls for a very drastic surgery", such a surgery, as I understand, is the preservation of Nigeria's cultural heritage and identity which will reinstate an appropriate pride in our cultural selves. A specialist hospital is needed for such a lerculean task and such a hospital, I dare suggest, is the Museum.

Museum is the custodianship of culture, it is perhaps in the recognition of its important role that different countries have at one time or the other established National Museums.

Viewed in proper perspective, museums can be seen to be powerful instruments of popular education affecting the social interacts of our people. The need for the rapid diffusion of new knowledge is not constant but varies in accordance with the rate of change in the social environment when a soceity can afford to pursue traditional paths, customs and habit are the best educators; when science or politics or industry suddenly breaks through into new fietos, the community stands in danger of chaos until methods of spreading the essential facts of the new outlook have been discovered and perfected. There can be no social stability, until a changed environment has been reduced in men's minds to accepted custom based on a common understanding of the forces at work It is this element in museums - their use as modern means in the struggle for popular enlightenment - that has caused them to flourished so successfully in our times. One of the problems facing museums today is that their solemn appearance and the quiteness inherent in them tend to repel people from them, thus reducing their popularity. And as museums are meant to serve the public, attendance and popularity is the only yardstick that determines its success or failure.

In order to avoid such problems, the architect employed to take up the project has to introduce certain secondary functions in order to attract the chentale that is the community for which the museum is meant to serve. Such secondary functions include recreational facilities such as theatres, cinemas, restaurants, bars, educational facilities like libraries, classrooms, and also using the primary function of museums that is exposition to educate the visitors. Perhaps, there was atime when the two words entertainment and education, would have been considered as summarising fairly adequately the functions of a museum in any society. Other roles, especially political, economic and psychological have been added, and many more are being sought for. In other words one of the main impacts on the museum of the turmail in contemporary society is to make it a more complex institution that it was hitherto and to confer on it a multiple of roles each of which it is expected to perform satisfactorily in oder to meet the increasinlgy exacting demandings its many publics. The museum like any other specialised building, has its problems. These are in the areas of circulation, security, damage, entry and exit points, fire hazards and the decay of museum artifacts.

This thesis is intended to research into ways of minimising or total erasure (where possible) of these problems. The details of these are in chapter seven.

Chapter one, discusses briefly the definitions of museum, brief history, and roles of museum.

Chapter two deals with brief history of museums in Europe. This was done because Nigeria is greatly affected by historical events in Europe.

The studies into architectural trend in the design of museums in other parts of the world outside Nigeria was done in chapter three. This chapter is also devoted to a study of Nigerian arts and museums. The study on Nigerian arts was included because in this country the history of museums is linked with the discovery of the art of past ages. It is therefore important to study the trend of art in the past and future since the art works will form the main body of the exhibits which in turn will affect the design.

Chapter 7 deals with the design as submitted for the final examination.

"JUST AS WE TAKE ADVANTAGE OF WHAT IS, WE SHOULD ALSO RECOGNISE THE UTILITY OF WHAT IS NOT"

LAO TSE

CHAPTER 01

1.01 WHAT A MUSEUM IS

"Museum" has often been defined in a manner that reflects the peculiarity of certain countries (e.g United States) and also in a manner that shows, even within the international council of museums. The search for a perfect definition, has only succeeded in illustrating a changing opinion, on what the museum is and what its role should be.

The Chambers Dictionary defines a museum simply as 'a building in which objects of artistic, scientific, or historic interest are kept, and displayed'. The definition of museum has serioulsy gone beyond this, infact there is not a single definition that has been wholly accepted even though a number of them have been offered.

The UNESCO, in 1968, during its regional seminar on the educational role of museums defined a museum as 'a permanent establishment adminstered in the general interest, for the purpose of preserving, studying, enhancing by various means and, in particular of exhibiting to the public for its delectation and instruction groups of objects and specimens of cultural value; artistic, historical, scientific and technological collections, botanical and zoological gardens and aquarium.

The rapid increase in new types of museum - technical, scientific, agricultural, ecologica, ethnographical, throughout the world has stretched the traditional definitions to breaking point. For many years the International Council of Museums (ICOM) has tried hard and progressively to define a museum in a way which might be found reasonably satisfactorily all over the world, this has lead to the modification of the definition times and again, with a diplomatic phrase added here and an explosive word removed there.

The 1971 definition embodies the wisdom developed over the years of arguments, conferences and international battles. In this, ICOM defines the museum as 'an institute which serves the community'. It acquires, preserves, makes intelligible, and as an essential part of its function, presents to the public the material evidence concerning man and nature. It does this in such a way that it provides opportunities for study, education and enjoyment.

As pointed out by Richard Grove, 'The museum is nearly a unique peculiarity'. A hospital is a hospital, a library is a library; a rose is a rose, but a museum is colonial Williams Burg, Mrs. Wikerson's Figure Bottle Museum, the sealion caves, the American

Museum of natural history, and Noell's Ark Chimpanzee Farm and Gorilla show.

If the word museum is required to cover both the American museum of natural history and Mrs. Wilkerson's Figure Bottole museum, it would inevitably have outlive its usefullness.

Because of these ambiguities in the application of the word museum as the illustrated case above that led the ICOM to completely overhaul the definition of museum in 1974. It dotted the i's and crossed the t's during its tenth general assembly that year, the following definition was then adopted 'A museum is a non-profit making, permanent institution in the service of society and of its development, and open to the public, which acquires, conserves, researches, communicates, and exhibits, for purpose of study, education' and enjoyment, material evidence of man and his environment.

This defination was not left to go single handed, there are some few sub-definitions attached to it to comply with the museums designation, these are as follows.

- Conservation institutes and exhibition galleries permanently maintained by libraries and archieve centres.
- Natural, archeological, and ethnographic

monuments and sites, historical monuments and sites of a museum, nature for their acquisition, conservation and communication activities.

- Institutions displaying live specimens, such as Botanical and Zoological Gardens, aquaria, vivaria, and so on.
- Nature reserves (Game Reserve) and
- Science Centres and Planetaria

Based on this, it can be clearly seen that the term museum cover a wide range of institutions. It also has the right to the name 'Museum' than was the case thirty years ago. It will now be more appropriate to define the scope and limits of the museum to one who intends to design at the initial state. Different people throughout the world who were professionally involved in museums work has their own definitions.

In Japan, the definition is given in article 2 of Museum Law (Law No. 285 of 1951; revised several times) states that:

> "A museum as used in this Law shall mean such organs (excluding citizens' public halls under social education law and libraries under the library law), which have the purpose of collecting, keeping in custory inclusive of fostering, and exhibiting materials concerning history, fine arts, ethnic customs, industries, natural science, and so on, in such a way that they are offered for public use under educational care, and of conducting business to serve for people's cultural attainments, research, survey, and survey pctaining to such materials".

Like it has been said from the begining, that, museum has been defined in a manner that reflects the peculiarity of certain countries and also in a manner that shows, even within the ICOM, some also base their definition on what the museum is and what its role should be.

A number of people put the didactic function of museum first and define a museum base on that. They define a museum as "a didactic institution which carries out its task of cultural dasemination by audio visual techniques which are employed in display areas of various kinds".

There are some people also who base their own definition of museum on the function of a museum as a custodian of culture. First, the words 'culture' and 'cultural' are much used outside the English speaking countries. The institution of conservation

and methodology of museums in Budapest believes that, "a museum is a cultural institution, performing tasks of collection, research and education".

SAN FRANCISCO Museum of conceptual art, describes itself as functioning on two levels; "As a store house and library for documentation of events and happenings, and conceptual projects from all over the world, but primarily as a place where these may take place and be witnessed".

Many museums see their prime functions as that of preserving the relics of the past. The National Museum of DENMARK considers itself to be "an institution for assembling the material evidence of the past for display to the present and conservation in the future".

The National Museum of GHANA takes a view which seems to be more theoritical. They define a museum as "An institution which acquires, preserve, and presents material to the public, not for profit, but for their information and emjoyment. The museum should take the interest of all sections of its community into consideration, it should highlight some of the current tropical subjects in the community, such as agriculture, health, and politics. It should not acquire everything but should encourage the community to cherish its culture".

The definition of the museum seems endless, but whatever the definition, it remains true that a museum is essentially an institution in which objects - a better phrase, perhaps is 'real things' - are the principal means of communication. This Dr. Alma S. Wittlin used when she wrote, that,

> "Establishments in which objects are not used at all, or are not used as main carriers of messages, are not museums, whatever their qualities may be otherwise. A place in which people are exposed to changing lights or to a galaxy of light and sound unrelated to objects may offer a new kind of symphony or canival, according to its quality, but it is not a museum ...".

"HISTORY, IT HAS BEEN SAID, OFFERS A SERIES OF ANSWERS TO WHICH WE DO NOT KNOW THE QUESTIONS"

1.20 MUSEUM HISTORY

In the course of the nineteenth century or so, the Nation-State became a kind of golden calf around which the peoples of Europe sang and danced. They went on doing so heedlessly until the wars. In consequence of European imperialism in Africa and Asia people in the third world contracted this infection. The result was that, after Europe had became sadly disillusioned with Nationalism and Nation-State, third world peoples began adopting these golden calves, and began singing and dancing around them like the Kiplines and Bellocs of a bad past.

The word "Museum" is dervied from the Greek word "Mouseion" which applied to the sanctuary dedicated to the houses of Greek mythology. But the art of collecting materials of antiquity for preservation dates from an early period.

Museums originated in Egypt where in the 3rd century B.C. apart of the palace of the Potemaic Kings in Alexamria was used to house the library of Alexandur the Great and was further known as a place of learning. This amply shows that though museums at that time did not apply to housing of collection of works of art. The idea did exists in Greece, one can then safely date the origin of museums at this period.

1.21 MEDIVEAL CHURCH:

Until the 15th century, collections served two purposes. They were the accumulation of objects for either religious ends or for personal engagement. The treasures of the sanctuaries of DELHI, the Athenian Acropolis, or the Medieval Pilgrimage Churches serve the first aim. The acquistion of the rare, the curious and beautiful by the princes and popes of the Italian Renaissance served the second.

The two prerequisities necessary for a museum occured during the HELLENISTIC and ROMAN period which saw the founding of private collections and a search for antiquities and again during the late Italian Ranaissance. From there the spread of the notion of the museum runs parallel with the Renaissance ideal, an ideal in which at every level the acquisition instinct played an important role.

1.22 MUSEOS

The CESARINI museum in Rome opened in 1500, the FARNESE in 1546, the UFFIZI in 1589, it was not until almost a hundred years later that the Asmolean museum at Oxford was openned in 1679, to house a collection first started by JOHN TRADESEANT, a gardener emplyed by Queen HENRIETTA MARIA after he had visited Virginia in 1637 and which then consisted of Botanical and Natural History specimens.

1.23 GALLERIES

In the seventeenth centry only distingushed travellers and foreing scholars, were as a role, permitted to see the collection belong to the European princes, which were often housed in the palaces. After 1700 the general public were admitted to the Imperial Gallery in VIENNA on payment of a fee. And there were similar opportunities in ROME at the QUIRINAL Palace as well as at the ESCORIAL in MADRID, Spain.

In FRANCE, opening of the LOUVRE museum in 1681, signified the advent of museums here. In the subsequent century the British museum started in old MONTAQUE HOUSE as a result of Sir HANS SLOAN's bequest in 1759 and in Germany William VIII of HESSE established the KESSEL GALLERY in 1760. In AMERICA, the first museum was a room set aside in HARVARD UNIVERSITY in 1750 for a collection of interesting objects - stuffed animals, and birds, a model of a ship, tanned human skin, the skull of an Indian warrior - and called the "respository of curiorsities."

1.24 SYSTEMATIC ORGANISATION AND PUBLIC INTEREST:

What changed the relationship between museums and the public in a fundamental way was a long succession of INTERNATIONAL EXHIBITIONS began by the great

exhibition in London in 1851. These exhibitions benefitted the museum by giving them a social importance.

The educational aspect of museums during the second half of the 19th century had a sternly disciplined and almost religious flavour to it. The museums were temples of self-improvement which made few consessions to human weakness and which were places so cold and repelling in their nature.

In present day 20th century certain changes had made museums to change so drastically from the cold stillness that prevails in the 19th century to a lively centre of cultural interaction as most museums are commonly referred to in the United States. Museum programmes have tended to include concerts, films, plays, dance, programmes and other performing art activities. Using such programmes to lure throngs of people in the museums is now a well accepted practice.

1.25 HISTORY OF NIGERIAN MESEUMS:

Before the different parts of what came to be Nigeria were brought under British colonial control, collections of cultural objects existed in different places, like in some Nigerian families, had some collection of cultural objects relating to the history

or religious beliefs of that family. There were, ofcourse family and village shrines, that contained objects of religious significance. These objects were not kept in good condition in those days. Since there were no museums.

Until in 1945 when the first museum (a small museum) at ESIE, near ILORIN, was opened. There were individuals that contributed in the establishment of museums in Nigeria, among these individuals, the activities of three stand out, for they, perhaps, more than any others, played the main part saying a solid foundation for the development of Nigerian museums.

K.C. Murray, in 1943, persuaded the government to set the Nigerian antiquities services. It was through the efforts of Murray and Fagg that the second oldest museum in Jos was founded following the discovery of the NOK Figurine Culture in Southern Zaria Province in 1944.

H.E. Duckworth, in 1933, was the first to conceive the collection of traditional works of art (He was a former Editor of a Nigerian Magazine).

B.E.B. Fagg, came to Nigeria in 1939 as a cadet in the Nigerian administrative services. He also together with K.C. Murray persuaded the Nigerian government to set up the Nigerian Antiquition service

in 1943, they made their collections of their own, to try to protect works of art from foreign buyers and neglects.

Today, there are over twenty museums in Nigeria and a number of ancient sites and monuments. There are five (5) fully established museums which include; the Jos museum opened in 1952, Lagos museum, opened in 1957; Oron, opened first in 1958, suffered damage during civil war, reconstructed and opened again in 1977; Benin, opened in 1960; opened first in 1960 while the present building was opened only in 1973, and Kaduna, opened in 1975. Projected museums are to be established (and are being established) at Enugu, Ibadan, Sokoto and Maiduguri.

The Gidan Makama Museum - Kano, is a National Museum but not in the same sense as those mensioned above. The Ife Museum started as a regional one but the splitting of the former Western Region into States now makes it difficult to classify.

Local museums include, Sokoto, and Argungu and the museums at Katsina and Bauchi. There are University Museums at Nsukka, Ibadan, Ife and Zaria, run solely by the various institutes of African studies, or Centres for Cultural Studies.

1.30 FUNCTIONS OF MUSEUMS

In 1971, at the general council meetings of ICOM, in Grenoble, an African delegate from Benin is recorded to have made four specific points about Museums; "Museums, were not integrated into the contempoarary world, and formed no real part of it; they were elitist, and of no use whatsoever to the majority of people in all countries; they were obsolete; and they ought to disappear, so that the public money could be spent to better purpose".

This contribution by the Benin delegate is reported to have directly inspired the museum experts from Latin America to organise 'a round table (conference) on the function of Latin American museums in the contemporary world' - which resulted in the idea of the integrated museum. To be sure, UNESCO's quarterly review - museum - gave the proceedings of this Latin American conference a special edition.

It is because the museum is today conceived as a living organism that should be responsive to changing needs of society that Mr. Kenneth Hudson insists that "Those in charge of museums should ask themselves, with some frequency, such a question as 'why does this museum exist? How relevant is it to the needs and conditions of the society in which it exists? What is its main task? How do I measure its success?

It has often been said that the museums as an institution an idea came into being in Renaissance Europe to minister to the aesthetic taste of the aristocratic classes. But even in those days when this limited conception of the nature and purpose of the museum obtained, the connection between that institution and the past, between it and history, was probably not in doubt. True, works of contemporary masters were collected and appreciated. But so were earlier works. But what is more significant is that those who collected even the contemporary works knew they were engaged in the preservation of elements of their own civilisation for the entertainment of future generations, and that the older these works became, the more they would tell later generations about the period and society that produced them.

With the broadening out later of the conception of the role of the museums to include education, the undeniable organic link between the institution and history was made more manifest. The museum was seen to educate its votaries not only in the aesthetic appreciation and emotional enjoyment of the works of the circumstances and periods from which the art pieces came and the message they carry. The result is that, today, most museums would admit the importance of their role as costodians of vital historical records.

The developing countries of the world frequently stress the importance of museums as a means of spreading and reinforcing the national consciousness or as they often express it, the National Culture. To be independent is to asserts the vigour and autonomy of one's own culture and it is thinkable, that museums, schools, newspapers or any other means of public enlightenment would think or act differently. Since the primary function of a museum is storage and preservation for view, then one is tempted to ask why do we preserve artifacts, that in most cases require a high level of technology? Artifact are preserved in order to:

- Enlighten the people of its cultural and historical values of the past.
- So that people can be able to admire and appreciate works of art.
- For posterity, since human values form a very important part of artifacts,
- To serve as an entertainment.

Preservation means protection of the objects against natural process of destruction by physical or chemical decay of attack by organisms such as mildew or insects, pests.

The other main function of museums is to exhibit for view. To exhibit has been defined as "To show"

a definition so benigh as to almost deceive the viewer. In order to exhibit the museum curator has to present his specimens to the public in a condition as closely approximating to their original appearance as is possible. Display, is the most important material but if he does not make good use of it in good displays. much of his works will be ignored by the public. He must so arrange his specimens that each individual one can be enjoyed on its own without the intrusion of another. An exhibit must first catch the eye of the passer-by, arrest his attention and encourage closer sustained examination.

African museums have seen their roles in terms of public forums, which aim at both the preservation and encouragement of the cultures of the various communities or peoples concerned. The 'SUKUMA' museum, near Nwanza, in TANZANIA, is established with such an objective in view. According to Hudson, the museum has a research committee, arranges exhibitions of traditional artifacts and organises a school of Tanzanian handicrafts and a group of dancers. IN GHANA, the National Cultural C$_e$ntre, located in Kumasi, has been designed "to provide for rest and recreation and to reflect and promote cultural heritage.

The National Museum at ONIKAN, LAGOS, boast of a kitchen, which only serves different Nigerian dishes, but also, runs television programmes to educate Nigerian on how dishes in other parts of the country are prepared. The National Museum, in KADUNA, maintains a crafts workshop as well as a shop where the finishes are sold. The ESIE Museum, still maintains its local community outlook for it contains a shrine which is still being used by the peopie.

1.31 CONCLUSION

So far, what has been attempted is to highlight the museum as a complex institution, which, like all other institutions has been reflecting on human society and, using its resources, responding to its needs; in doing so, there is a danger in over-reaching to its limits or over-stretching those resources. In addition, museums have taken on new roles. But are those based on the facilities which museums have and on competencies which their personel alone command? It is suggested here, that those are more important questions to which museums should address themselves. In addition, it may be pertinent to make an observation or two. Can museums, which are the temples of the past fail to take a greater account of their traditional role in society? For if in their quest to be public forums they assume the responsibilities of other institutions, then one wonders what they themselves temples of the past - will leave behind.

1.40 TYPES OF MUSEUMS

1.4.1 Art Museum

The first art museum was established by Alexander Lenior in the Cloister of Detil Augustine which he planned to be "picturesque educational and tasteful". It was established mainly to prevent French collections from falling into the hands of English Adventurers as was the case immediately after the revolution. This museum remained until 1815 when it was disloved. Another spectacular museum was at Louvre called MUSSE NADOLEON and was comprised of works of art seazed by Napoleon from all parts of Europe. Though it was short lived, it was memorable for its splendour. The freely admitted public saw, for the pleasure of seeing the first works of Europe all in one place. In addition a richly illustrated publication gave required information about the objects which really was splendid colletion of Europe's heritage of art.

As a consequence of the awakening following the founding of this museum, national interest was taken by the public in founding public museums.

These public museums differed from private ones as should be expected. Private collectors tend to satisfy their own tastes and only in the collection of Vienna was there no interference by an Emperor in

the acquisition of objects as was the case in other places. But in public museums the collection were mainly meant to appeal to the taste of the public.

The artist MECHEL was the first to arrange painting in chronological order according to their "SCHOOLS". His system became the accepted rule in the newly established public museums. The print room was first introduced in Vienna where ADAM BARCH first established a systematic organisation of prints collecting.

In the new spirit of serving the public, an attitude developed after the revolution, many private collections were used to establish museums wherever the funds to do so was available.

1.42 HISTORICAL MUSEUMS

Romantic ideas born after the French Revolution and during the hectic days of Napoleon led to desire to preserve for posterity objects of art connected with antiquity. Medevial ages with its ages of chilvalry, was the particular age whose works of art were most sought after preservation purpose. Museums were therefore established to house these glories of the past. The first of this type of museum was founded in 1852 by HANS VON AUFRFSS in Nuvemberg. More museums built in the same line as this first later appeated in PRAGUE and ZURICH.

1.43 FOLK-LORE

In the year 1870, TJE NORDIC museum of Stockholm took the lead in the preservation of folklore and peasant art. Open air museums and folk art centres were established there under ARTHUS HEZFLIUS. Other open air museums were started in SKANSEN(Sweden) in 1899 and also in Finland and other European countries.

1.44 MUSEUM OF SCIENCE

This type of museum were devoted to applied sciences. It became necessary, with the specialization of museum organisation, to have a special branch to deal with this subject.

Museums of sciences first appeared in Paris in 1626 but under the name "TADIN DES PLANTS". Since then, the name had been changed to museum of science, to differenciate it from museums of natural history.

Discoveries by DARWIN and many other anthropologists helped very much to increase the activities of these museums and many of them were established all over the world. The oldest museum of the lot, JAROIN des Paris, was established in 1626 as a herb garden for medical purposes. It was reorganised in 1793 as a kind of public University of Science based on its manifold collections.

Great Britain's oldest museum of sciences is the Ashmolean museum established in 1682 by the University of Oxford. A 1925 reorganisation changed the museum to one illustrating history of science.

Most important of Britain's science museum is that which forms part of the British museum, supplemented by the Geological museum. KEW GARDEN with its Herberium and other Botanical ones of its kind.

In Germany, the Berlin museum of Ethnology is one of the outstanding ones of its kind.

In the United States, many museums of this type exists. The foremost one having been established in 1773. Others include museum of comparative zoology, American museum of Natural History established in 1869, and may others.

1.45 MUSEUM OF HISTORY AND INDUSTRY

This kind of museum, as the name implies, is used to house historical objects of industry. The oldest one is the Conservatais National des arts et melier de Paris, founded in 1794.

The Dutche Museum in MUNICH founded in 1903 and opened in 1925, became, prior to world war II, an outstanding museum on technology, badly damaged during the war, attempts are now being made for a complete restoration.

Museums of Sciences and Industry, established in Chicago in 1926, is gaining an outstanding position in importance among world museums of this type. In the mid 1950s exhibits were being installed at the rate of ₦4000,000 per annum.

"ART - IS THE VOICE OF SILENCE, FOR ONLY SILENCE, PREVAILS BEFORE KNOWLEDGE"

ANDRE' MAIRAUX

CHAPTER 02

2.00 NIGERIAN ARTS AND MUSEUMS

2.11 NIGERIAN ARTS

The role of art in Nigerian society is an important one for all who are concerned with the advancement of Nigerian culture, Nigerian thought and the Nigerian personality. It should also concern the present generation of Nigerians whether they are interested in art for art's sake or not. Infact no emergent Nigerian State tody, can afford to ignore the urgent role of art.

The terms Negro arts, traditional art, primitive art, tribal art, and all such aesthetic cliches which have become the currency of aesthetic evaluation of works of Nigerian art, must not be reconsidered in the light of the present Nigerian view. These cliches together with the influences they exert on the critical mind, should now be regarded as part and parcel of the evangelical, educational, social, economic, and even the political chapters of the colonial past; because art in present-day Nigeria is seeking a new role, and this role that must be given to it by the Nigerian peoples.

Art is not static. Like culture, art changes its form with the times. It is setting the clock back, to expect that the art-form of Nigeria today, must resemble that of yesterday, otherwise the former will not reflect the Nigerian image.

In the passing Nigerian social context, the Nigerian view of his art was a view which was not an objective or an analytical view of art. The first time that we Nigerians recieved the word "art" as applied to the creative imagery of our ancestors, was at the begining of the European colonialization of the African countries. The word has its limitations when defined. To mean the same sense as for instance, the Ibo word 'nka'. Art is defined in the English dictionary as "human skill as opposed to nature. Skillful execution of an object in itself; skill applied to limitations and design as in painting, etc. Thing in which skill may be exercised; certain branches of learning serving as intellectual instruments for more advanced studies as Bachelors, Master of Arts, one who has obtained a standard of proficiency in these; black magic, practical application, of any sciences; industrial pursuit, craft, guild; company of craftsmen; finesses, those in which the mind and imagination are chiefly concerned; Knack; Cunning; Stratagem".

2.12 NIEGERIAN CULTURE

On the eve of the Second World Black and African Festival of Arts and Culture, it is necessary to recall that today no problem is more important for black people, than that of Black Culture. Black people engaged in discussing and often disagreeing about Negritude or the African personality.

But what is 'Culture'? To define it, it will be necessary to compare it with civilization. "Civilization" is the combination of facts and social phenomena, structures and values which characterize any given society. "Culture" is within the framework of this "civilization". The combination of its values; in one word, its spirit. It follows from this that each race, each ethnic group, each nation, indeed, each society has its own values. Because there is a black race, and a black ethnic grous, there is similarly, a black civilization and a black culture. The Arabs are divided on practically every issue except that which really matters, that is their culture - ARABNESS.

Black culture is a set of values orginating from, and originating to, blacks as is expressed in their different national socieities.

Our black culture is so strong that is expressed even in the way we walk, laugh or cry. The German

philosopher, HERMANN VON KEYSERLING used to say that the Americans dance, walk and laugh like the blacks. To expand on the observation of Keyserling, we know that since the end of the 19th century, since what I call "The Revolution of 1889", European arts and through it, the art of the world, have been influenced by black arts.

Most of Nigeria's past and culture has only recently begun to be known. Much of the historical past of the country's culture is therefore not known and many students of history will find that there are literally no records of the period before the advent of Europeans.

But Nigerian art had been known in Europe for quite a long time. The first explorers from the Portugal who visited Benin in 1494 spoke of the splendour and art of that city. Nigerian art dates from even a much longer period. This has been substantially proved by the findings at the Plateau area.

The earliest assemblage of objects of art which can be said to belong to a definite culture is the collection of stone tools which belongs to a developed stage of the Schuillian hand axe cultures; probably dating from 200,000 years ago.

Neolithic ground and polished stone ores have been found in great quantities in Nigeria and are often in association with tottery, queries, and perforated stone digging - stick weights.

Traces of Neolithic Industries, which are probably recent in their establishment and whose tool comprises of minute stone barks, points blades and scrappers have been found in conjunction with pottery in a number of cave dwellings and open sites.

2.13 NOK CULTURE

A very important discovery was made in Nigeria in these recent times which added to the historians collections of facts about Nigeria's cultural past. The important discovery at NOK of a high culture which had been dated being between the period 500 B.C. to 200 A.D. have helped to bridge the gap that have been created between the Neolithic period and the Ife Bronze era.

The discovery was made in 1944 of a beautiful Terra Cotta Jemah head and was linked at once with an earlier and isolated discovery in 1936 of a small monkey head at a small village called NOK, near a mine, southwest of Jos. The name of the village became associated with the head and was used to denote the various objects in this collection.

Numerous Nok Terra Cottas have since been excavated from this area spread 100 miles long stretching from Katsina-Ala in the Southeast to Kagara in the Northwest.

The pottery figurines in the collections which include humans, animals, and even vegetable forms are of the greatest interest and exceptional artistic merit. The makers of these objects obviously had the knowledge of metal working though they still use stone implements in their works. They also knew about tin mining as was proved by the presence of tin beads in the collection.

There has been great speculation lately about the connection between the Nok culture and the Ife Bronzes and even more recent Nigerian arts. It have marked affinities if this could be proved then historians can become certain once and for all about the originality of the Ife Bronzes.

2.14 IFE CULTURE

This culture must have flourished between the 9th and 15th century A.D. Though no certain date has been fixed for their age and no one is really clear as to their origin.

The objects in this collection were discovered in 1938 when a quantity of bronzes heads turned up in Ife, bureid below the foundation of a house. Earlier

discoveries linked the objects with these found at TADA and JEBBA. The Benin bronzes were later found to be a culture branching off from the Ife one.

The Ife bronzes are of a high quality and are regarded an masterpieces in world circles. They are cast in the "cire-perdue" techniques which has been suggested as coming to Nigeria from either Asia or Egypt via Abysinia and Chad. But whatever its origin, this technique has given Nigeria its proudest art heritage.

Following the discovery of this culture attempts many speculations were put forward about their origin. Some historians stated that the bronzes were cast and transported from overseas to Nigeria. This was proved wrong when Terra Cotta heads of the same culture were found and it was evident that they could not have been transported long distances. It has also been suggested that the artist (or artists) responsible for the sculpture was not a Nigerian. No one can definately prove this suggestion wrong and the only contention is that works in similar style has been found in other parts of Nigeria.

1.15 IGBO CULTURE

The Igbo head of bronzes objects were discovered in 1939 and comprised of a drinking vessel and ritual objects all curved with a most deep feeling for decorative art.

These objects were first discovered by a well digger who used the vessel to water his goats. A District Officer saw him and realising the value of the objects got details of its history from the well digger. Excavation of the site yielded the treasure there and the objects were found to bear marked resemblance to objects in the Ife culture.

It has been suggested that a fleeing priest from Benin must have carried the objects to Igbo-Ukwu. But this spectacular speculations, like the other have no evidence to support it.

2.16 WOOD CARVINGS

The art of wood caring is highly developed in the Eastern provinces of Nigeria. Unfortunately wood cannot last long in the tropics. The country has therefore lost a lot of the ancient carvings which existed in the mid 14th century and were seen by Ibn BATUTA.

Most of the carings are maks used for dancing, but the figures carved in the Ibibio area of the East Nigeria have a dignity which is ponderous and sometimes lidicurous. Some of the older carvings were burnt by overzealous missionaries but fortunately for use there were a lot of pagans at the time and some of the carvings were preserved. The technique

being used in those days is now completely lost and modern Ibibio carvers do not produce the standard and type of work that their forerunners turned out. The age of some of the wood carvings from Oron has been established at 200 years.

2.17 STONE CARVINGS

Stones are used in so many things including its used in worship. This occurs in some parts of the country. There are two major areas where such happens. They are Ife and Ogoja. They mostly use curved stones.

The curvings particularly found in Ogoja are mostly in form of rounded reliefs. But they are not of very high standard, they are sometimes very crude. The stones with form of rounded reliefs were usually curved on stones and they represent anatomy of a human body. The famous stone works is the "OPA ORANYAN". They are mostly the carvings that are usually dim and mysterious in origin. The Opa Oranyan is monolithic in shape, similar to shape of an elephant tusk and has heirogfyphic characteris punched into it with a nail. The markings are yet to be discyphered by any one.

It is in ESIE in ILORIN province, where the largest collection of a stone carvings are found in

Nigeria. But of no value as been regarded as, they are in form of a group of some eight hundred figures in soft stone. They are about 2ft high representing human figures at a seating pasture. These figures were speculated to have been left there by some fugitives from Oto Oyo after they deserted the town in 1937.

2.18 CONTEMPORARY ART

Today, there are fewer young people interested in learning carvings, and at present there are lesser carvers than there used to be before.

At present there are many Nigerian arts especially those described in this chapter that found there way to Europe and America, especially the Bronze figurines discovered in Benin. To stop this, act of stealing Nigerian arts to Europe and America, Nigerian government set up an Antiquities Services in 1943 with powers to build museums at Ife, Benin, Jos, Kaduna, Kano, etc with headquarters at Lagos.

Some of these museums are studied in the next part of this chapter with crictism, proposals for improvements and necessary comments.

"THE ONLY USE OF A KNOWLEDGE OF A PAST,
IS TO EQUIP US FOR THE PRESENT".

WHITE HEAD

2.20 NIGERIAN MUSEUMS (CASE STUDIES)

2.21 GENERAL ILLUSTRATIONS

Apart from the basic and major need to stopping of stealing Nigerian arts abroad hence the need for having an antiquities services, which includes museums to preserve, restore as well as conserve Nigerian arts. The department of Antiquities established in 1943, is the backbone of the museums in Nigeria. The Nigerian museums are the areas of the department of antiquities since they go to sites, to excavate historical objects, restore them, and exhibit them.

E.H. Duckworth, whom K.C. Murray referred to as a member of that group of officials in the Education Department interested in starting museums in Nigeria, in his address to the Antiquities Commission (10th September, 1954) mensioned that, "... many of the old crafts, especially, those of wood carvings and brass casting, are in very great danger of dying out owing to lack of support...".

KC. Murray 'rightly called the "founder" of Nigerian museums, once stressed the relevance of the urgent need for museums in Nigeria, he said:
.., "About the art works in every province, a tale of destruction could be told ... The ancestral figures in the Oron District are every one damaged ...

Many of the large slit-drums of the Anang are becoming neglected and are left unsheltered in the open ... In any parts of Ibo no longer used the carved doors but have thrown them on the ground. The Old bronzes remaining in Benin are left laying on a mud alter without satisfactory protection. The magnificient Ife Bronzes are piled in a broken glass-case along with delicate Terra-Cottas and others are heaped in an old pertol box. In all parts masks and head dresses for dances are rotting away or thick cover of soots covers and interior eaten by borers.

As we have seen, from the above statements made by different people, the need for a museum was really inevitable.

The Antiquities Ordinance was passed in 1953. In 1954, the Antiquities Commission was then inaugurated and its first meeting held. If the year 1953 therefore marks an important stage in the development of Nigerian museums, 1954, also marks a turning point in their history, for, since that time the Central Government has assumed full responsibilities, through the Antiquiies Commission, for drawing up policy for the preservation of Nigerian antiquities, and through the Federal Department of Antiquities, has borne the responsibilities for establishment of National Museums and assisting other types of museums in the country.

Today, there are over twenty museums in Nigeria, and a number of ancient sites and mmnuments. Some of these museums are, Esie Museum in Ilorin, Jos Museum, Kaduna Museum, Lagos Museum and Gidan Makama Museum Kano. These museums are now studied individually as case studies.

2.22 THE JOS MUSEUM

The Jos Museum, established in 1952, was officially opened in 1953 under the Antiquities and Ordinance Law passed in 1953. But before this time, there were museum and antiquities services and had been very active before this date. Around the time Jos Museum was opened there was Tin Mining in Jos, and so many discoveries were being made of original archeological interest. But today, not many people realise, that, the Tin Mining was responsible for the foundation of the museum. It was the collection of items dug up in the 1920s and 1930s during mining operations and kept in an improptu "museum", which first attracted the attention of archeologists to the area. The history of the museum is closely linked with that of the mining industry. The museum is the second oldest museum in Nigeria after the small museum in Esie, near Ilorin, which was opened in 1945. For many years, Jos was the headquarters of the Federal Department of Antiquities until this was eventually transfered to

Lagos. It is the second largest museum in the country offering a wide range of exhibits and facilities for visitors. It is also the principal research station for the Department.

In 1943, K.C. Murray persuaded the Government to set up the Nigerian Antiquities Services. It was through the efforts of Murray and B. Fagg that this museum was founded following the discovering of the Nok figurine culture in Southern Zaria Province in 1944.

The Jose Museum occupies a large piece of land in Jos. The museum is also well off any major road which saves it from the unnecessary traffic noise as well as pollution of exhausts from cars. Another very interesting aspect of this museum is its setting against a completely natural background that is characteristic of the plateau. This is a sloping landscape with rock outcrops here and there.

The museum serves so many functions with different faces. It has centre for museum studies, the bindary and auditorium, the library, offices, and laboratories as well as the exhibition galleries with their stores, all of which are constructed with sand crete and concrete materials.

The Centre for Museum Studies students' hostel is of mud and takes the round shape plan characteristics of the traditional architecture of the Plateau people.

The pottery museum is more or less a covered corridor and is accessible ffrom the main gallery. The pots are displayed along the wall. The pots on display are almost entirely from the Northern part of the country. Close to this is the children's museum which consists of three mud huts at the three corners of a triangle, of mud construction.

The museum shop too is of the round mud house plan and located near the entrance to the Natural History Museum or the zoo, close to the museum shop is the Bauchi Light Railway along where early locomotive engines and coaches are exhibited. Next to the train exhibition, is the science museum exhibiting artifacts manufactured using Tin and Ore found in Plateau area.

The most interesting part of the museum complex is the museum of traditional Nigerian architecture (MOTNA). This part of the museum exhibits traditional buildings across the country. The architecture of the different buildings is reflective of the weather of that part of the country from which it comes. This stretches from the steeply roofed rectangular houses in the South through the round huts with steep roofs of the Middle Belt to the rectangular and flat roofed compounds of the North.

The Bight of Benin is a Mid-Western compound which is rectangular and constructed of mud. The entrance to the compound has a tiled tower projecting skyward and is characteristic of an Oba of Benin's palace. This compound houses the restaurant and the bar.

From the eastern part of the country there are mud houses covered with gable roofs. This is demonstrated by the Onitsha compound.

In the Middle Belt the round mud huts are roofed using such materials as banboo rods, the raffia trunks and fronds and thatched grass. Buildings demonstrating this kind of architecture include the Rukuba compound, the Pategi compound, the Amphi-Theatre, the Abuja Palace and the Tiv compound.

From the Northern part of the country, the roofs become more and more flat. The Zaria Mosque and the Katsina Palace lend credence to this. The materials used for construction here are chiefly mud and "azara". From the palm tree, the buildings have little and small openings. This type of construtions is well suited to the weather condition prevalent there, that is, the hot summers with little rainfall and the cold dry winters. The thick mud walls and roof serves as a natural insulation, keeping off mud much of the heat from penetrating into the building and also preventing the cold dusty and dry winter winds internal access.

The Motna - The museum of traditional Nigerian architecture project is an open air museum of the most important examples of Nigerian architecture in the form of full scale exact replicas. Theproject was designed and has been supervised by Professor Z.K. D'wachowski, the Chief Architect of the Department, work started in 1973 and the first phase was officially opened in 1978.

Motna will be a unique museum of its kind in Africa and due to the special character of the exhibits, unique to the world.

The Galleries - The permanent exhibition gallery is the most important function in the museum. Objects are displayed in it for visitors to see and have a feeling of the past.

The exhibition gallery is of ethnographic type. This proves it from the type of display made in it.

The Ethnographic objects on display include carved Ibo and Idoma face masks, Benin and Ife bronze castings, Hausa and Yoruba musical instruments, Hausa and Fulani traditional dresses, and material from the Jukun and Mumuye and others around the country.

There are two main archeological displays in the permanent exhibition gallery. The first of these

display materials of the palaeolithic period, that is, the early stone age. Such objects include the stone artifacts as the axes of the old Owan Industry, followed by the Acheulian Industry specializing in land and cleavers.

The second major archeological gallery display features materials from the Nok culture collections. This display is one of the attractions in the gallery. The Nok culture is a very renownced and remarkable corpus of Terracotta figurines.

Critics: Like all other museums, the Jos museum has its own share of problems, success and failures. The attempt at the preservation of our architecture is definately a commendable effort. This is really worth copying especially in the proposed Katsina Gobarau Museum for the preservation of the Gobarua Minaret which this thesis is suppose to research on. It is treated in chapter five (05).

Looking at the aspect of our architecture to blend into the new museum to help in providing a condusive internal environment for museum objects, and to serve as a communication link between our present and past architecture is another field of which this thesis is going to look into. Really, the architecture

of the exhibition galleries in the Jos museum does not look appropriate for its function. Outside of the carved wooden pillers along the corridors, nothing much can be commended here.

The building is plain with large bare windows opening directly into the exhibition gallery. Although the aim of introducing natural light into the galleries is commendable, its overall effect may be negative. These is no attempt at either filtering the distructive ultra violet radiation contain in natural light, as well as reduction of the intensity of natural light when it may be so required.

The windows were placed very high up, this helps in providing wall surfaces for exhibiting such objects as paintings, drawings, photographs and so on. A closer analysis, however, reveals that the vertical placement of the windows allows for incoming light to fall on the observer rather than on objects.

The dehumidification of the exhibition gallery has been noted to be purely done mechanically. Although it is not possible to completely ignore the use of mechanical systems in modifying museums internal environment, appropriate architectural planning can go along way in reducing the dependency on it.

2.23 KADUNA MUSEUM

The National Museum, Kaduna, was opened (incidentally, the first to benefit from the new policy on museums and antiquities in Nigeria) in 1975.

The museum is located along the Ali Akilu Road, Kaduna. It is readily accessible from all parts of the town by motor vehicles and by foot (pedestrians). The museum seems to be located in a certain place, in such a way that it is bounded on the North by a petrol filling station, on the South by the Ministry of Lands and Surveys, on the Eastern side by the Main Road, and by the Railline on the West.

The museum building itself does not strike one as a museum. This is probably because it was not designed as museum in the first place.

A one storey building with eastern access faced of stone work. The ground floor houses the exhibition galleries, a store, a telephone exchange and a senior staff toilet.

Detatched from the main building (behind) is the Craft Village with a hair dressing saloon, spaces for weaving,mats making, pottery, bronze/metal works, museum shop, restaurant, and a bar! The materials employed for the buildings here are local, mainly mud for the walls and grass for the roof. The roof is

actually made up of zinc, but thatch is used on top to cover it so as to give it the full appearance of Hausa Traditional Huts. South of the main museum building si an isolated building that serves as a workroom for the painters, and the fine artists.

The upper floor of the main museum building contains the offices, the photography unit, the laboratory, stores, and a library which is not opened to the public.

The whole building of the main museum is of sandcrete and concrete frame clad with lead bearing brick walls. It has wide windows of plane glass on eastern side exposed to the direct rays of the sun. But the windows of the display galleries and stores were rendered with internal cladding of timber and boarding materials thereby been denied the functions of lighting and ventilation which are very vital in the exhibition galleries. This made the lighting and ventilationg of the galleries possible only by artificial means.

The Galleries:

All in all, there are three exhibition galleries in the museum, they are both located on the ground floor.

1st Exhibition Gallery - The gallery into which one enters from the main entrance displays articles mainly from the craft village, like leather works, e.g sandals, bags, textiles, blacksmiths works, pottery,

brass works, etc.

2nd Exhibition Gallery - The south end gallery, exhibits historical objects, mainly of archeological finds, it is here that one can find such legacy of 2,5000 years of Nigerian Treasures. The objects found here are some famous Nigerian sculptures from the famous Nok Culture in Kaduna State. Also found are some brass and bronze work mostly from the Southern part of the country.

3rd Exhibition Gallery - The North Gallery is what one may call the folk and ethnographic museum. The objects displayed here are mostly masks, masquerades, ritual objects; musical instruments was regalia, tobacco smoking pipes and may other objects.

CRITICS:

Lighting in the galleries is purely artificial. Artifacts in the history and archeological gallery are lighted with florescent lamp fittings with no evidence of filteration of the light to remorse the harmful ultra violet rays. Almost all objects are displayed in glass cases, some of which are tight and may be harmful to some artifacts.

The remaining two galleries are lighted with Tungstein Lamps from conservation point of view.

These are safer than the fluorescent lamps but lack the cooling effect of the fluorescent which the observer tends to prefer.

Ventilation is purely artificial with the use of unit air conditioning systems. Although this may be the best method of controlling the internal environment, it must be borne in mind that not all museum artifacts require the same environmental conditions.

Circulation here follows the random pattern, that is, it is not defined. There is a staircase for vertical movement but it will take a visitor a frustrating long time to locate the offices.

Generally, the following are rounded-up as the summary of dissentments in the museum.

- The present site is too tight with no provision for future expansion.
- Visitors car parking seems to be missing.
- The museum is too close to the road, hence poses danger of gas pollution to the artifacts.
- Noise from the vehicles causes distraction to visitors.
- The open spaces i.e the courtyard, is not properly co-ordinated.
- The filling station nearby posses danger and fire hazards.
- Rail line behind the museum posses noise, gas pollution, and vibration danger to the museum.

2.24 NATIONAL MUSEUM, ORON - LAGOS

The National museum, Lagos, which is the biggest in Nigeria was built in 1956/57. It is also the administrative headquarters of all the other museums in Nigeria. It houses the bulk of the Department of Antiquities, and other Enthnographic Departments.

The present buildings are planned round a courtyard. The entrance has in large and leads to the galleries, with offices above, Workshops and stores form the other sides of the courtyard. Further extensions are being planned at the moment to include stores, restaurant and lecture halls. Also, study rooms with a reference library attached.

GALLARIES:

The museum has three major exhibition galleries.

1st Exhibition Gallery - Contains Ethnographic objects. It exhibits wood carvings, from Oron (regarded as the oldest wood carving in African), Yoruba carvings; water spirit masks, fro Igboland, Calabash and pottery.

2nd Exhibition Gallery - Smaller, located on the groundfloor level, it contains the largest Terracotta Nok head, from one of the specialize cultures that flurished in Nigeria some 2,000 years ago. Terracotta

from Ife, some famous Ife Bronze heads, a very fine 1m high Obbori Bronze figures, Brass bowls, from Bida, and archeological store tools.

3rd Exhbition Gallary - The Benin gallery, on the 1st floor, contains some famous works, bronze plagues from the walls of Oba's palace, a unique queen mother's bronze head, beuatiful bronze leopards, carved tusks, and other Ivory carvings.

CRITICS:

Like other museums of the country, this museum also lacks physiognomy in nature. It has no defined architectural feature that can identify it as not belonging to the class of other blocks of offices.

The functional layout of the museum is generally good, but there is overcrowding of objects, hence they restrict viewing sequence.

Lighting system is dominantly artificial with little natural lighting. The artificial lighting was used to advantage in pin pointing special objects.

The present museum's library serves a very good base for research with 5,000 books and periodicals on Africana, etc.

2.25 ESIE MUSEUM - NEAR ILORIN

Before the different parts of what came to be Nigeria were brought under British colonial control, there were no museums in Nigeria.

Duckworth in his anxiety over the delay in constructing a proper Nigerian museum to ensure the stone figures discovered at Esie would be stolen unless they were protected, appealled to Nigerian government for a museum.

In 1945, the first museum (a small museum) at Esie, Near Ilorin was then opened.

Esie has the museum because of the stone figurines discovered there. It is in Esie in Ilorin Province where the largest collection of a stone carvings are found in Nigeria but of no value, as been regarded as they are in a form of a group of some eight hundred figures in soft stone. They are about 2ft high representing human figures at a seating posture. These figures were speculated to have been left by some figutives from old Oyo after they deserted the town in 1937.

The Esie museum though national, still maintains its local community outlook for it contains a shrine which is still being used by the people.

2.26 GIDAN MAKAMA MUSEUM, KANO

Before 1500, Sarkin Kano Mohammadu Rumfa, was persuaded to build a new palace free from the non-Islamic customs; but associated with the old palace close to Dutsen Dala.

According to tradition, a smaller temporary structure - it might already have existed as a form of a farm or country residence - was built for the Sarki while he supervised the errection of Gidan Rumfa; the present palace. At an unknown date, this building became the residence of Makaman Kano, one of the important title in the Kano political system.

In the early 1950s, the structure was divided into three parts; the Gidan Makama Primary School; the central area which remained the home of the Makama and the main suite of rooms which became the Gidan Makama Museum. In the more recent times, it became a national museum under the National Commission for Museums and Monuments.

GALLERIES:

Unlike the other museums, Gidan Makama museum has a different way of presenting their exhibits in a different kind of exhibition galleries. The galleries are divided into rooms, each has a different kind of display in chronological order.

Room 1: 'Zaure' - This part of this monument is the 'Zaure' or entrance room. The of pillars to support the roof in place of vaolts suggests it is a very early part of the Gidan Makama. The gallery shows the illustration of examples of building techniques, important examples of monuments, military and domestic architecture.

Room 2 Contains materials relating to legendary of the past until examples from current archeological excavations.

Room 3 - Shows examples of traditional architecture, displays history of Kasar Kano, States and land of Kano, and growth of kinship and government; from earliest times to about 1800.

Room 4 - Small waiting room devoted to the Jihad of Usman Danfodio, the establishment of the Emirate Government, and events of 19th century.

Room 5 - Displays materials, illustrating aspects of Kano Civil War, the reign of Emir Aliyu, the British invasion and the overthrow of the Sokoto Caliphate.

Room 6 - Displaying the diversity of the city's economic life and the technical skills of the citizens.

Room 7 - Shows Kano under colonial rule.

Room 8 - Devoted to Islam, seeks to illustrate to the non-muslims, the basic beliefs, to both the stranger and the believer.

Room 9 and 10 - Examples of arts and crafts of Kano, the works of weavers, embroiders, and leather works.

MAIN COURTYARD

The crafts village where craftmen exhibits their traditional skills, a hair dressing saloon, and rooms 8, 9 and 10 as well as the Emirs Throne.

CRITICS

The museum is of local constructions with mud walls and rectangular mud dome roofings. The whole museum complex, being of mud need serious maintenance almost annually. The buildings are preserved in the traditional way of preservation. This is by applying "Makuba" as rendering material; cracks are quickly filled by using mixture of "Katsi" with Mud. Rotten "Azara" are replaced immediately.

Ventilation - There is little or sometimes no natural ventilation in the galleries. The only source of ventilation is through the use of air conditions. This could be harmful to some artifacts.

Lighting is also provided by the use of flourescent lamps of Tungstim bulbs. Natural lighting is totally absent in some galleries like room 7.

Circulation pattern in the galleries is very poor,

This happen rather due to arrangement of artifacts or careless representation of public (visitors).

The storage room for non-displayed objects is too small, as well as being placed very far away due to poor functional set-up. The laboratory and the darkroom have same problem as the store room.

There is no clear distinction between the exhibition area and shops.

Recreational facilities like courtyard, bar, restaurant are completely missing.

2.90 FOREIGN MUSEUMS

2.31 GENERAL ILLUSTRATION

The study of present state of museums around the world is very essensial for any one who is engaged at present in designing new museums. This is very necessary so that one will avoid the mistakes of others. Mistakes they say, are an unavoidable evil. This is why the study of history is so important. History essentially is the study of the events of yesterday (including the mistakes) and adapting (correcting them) such events for a better tomorrow.

The problems involved in museums are generally similar worldwide. The method of solving these problem differenciate from environment to environment. When one is engaged in solving such problems, then he has to do it, with consideration of the environment where the museum may be located. The disparity in environmental conditions from one climate to the other calls for different conceptual approach by the different designers. This, therefore, necessitates this author to look or study some museums from the foreign world, including those in the country.

Museums are faced with problems familiar to many other institutions. This changes the approach and context of museums, thus they have to be presented again in a new way. For this reason, the study of some

of the problems facing museums in different parts of the world is very necessary in order to find a reasonable solution.

2.32 SOLOMON R. GUGGENHEM MUSEUM, N.Y.

ARCHITECT - FRANK LLOYD WRIGHT

The museum was designed by Frank Lloyd Wright, a famous architect known worldwide. The museum is located somewhere in New York (America). It is for the exhibition of works like paintings and fine arts.

The general shape (character) of the plan is circular; and a five storey high building. The walls slant gently outward formings a gaint spiral. The spiral is partitioned into chambers that are fully airconditioned. It has a giant glass dome on the apex.

The floors are formed by continous ramp running round a central gallery on the ground floor and toplit by the glass dome.

The galleries are lit by a combination of flourescent fittings between the skylight and a lower sheet of frosted glass, and front light fixtures lund on the ceilling and following the U-shape form of each compartment. The machine room and auditorium are placed in the basement level.

There are several criticisms levelled on this museum. The first of these was natural light introduced into the building. The light from outside fell directly

on the observer's eye rather than the objects being viewed.

The ramp which forms the spiral floor is hailed for its ability to direct the visitor in a straight course from one floor to the other. However, critics complain that the spiral nature of the building could have a negative effect of drawsiness on the visitor.

Like the Nigerian Museums, ventilation here is also provided by mechanical systems. Even though, it is agreed that the ideal environemtn for museum pieces is the air conditioned space, it is generally recommended that air conditioning should only be employed where the economy is buoyant.

The glass dome, though it may work in a place like New York, where their main problem may be that of increasing the ambient temperature, it will definately be a failure in a hut country like Nigeria.

2.33 MUSEUM OF WESTERN ART, TOKYO

ARCHITECT - LE CORBUSIER

This museum was designed by Le-Corbusier, another famous and reknown architect known worldwide. The museum is located in Tokyo, capital city of Japan.

It has square plan. It is characteristically of a reinforced contrete structure clad with precast concrete elements. It is a one storey building with four galleries turbing about a central space top-lit by a large pyramidal skylight. It is possible to look into the central gallery as one goes round the galleries.

The lighting galleries protrude through the roof, daylight gets in through the heat absorbing were glass of the upper sidelights, and is directed the diffusing glass below onto the walls of the galleries. The rooms are lit by a combination of natural and artificial light directed through the glass screen at the mezzanine level.

Criticism has it that, in the case of natural lighting, it is a success, but like the Guggenheim museum, the maintenance of internal environment is purely articial.

2.34 HOKKAIDO MUSEUM OF MODERN ARTS

BASIC SPACIAL-COMPOSITION POLICY - SPACIAL INTERGRATION OF FUNCTIONS AND STRUCTURE:

The design of this museum was made to provide two large display spaces (a) - For permanent collections and (b) For visiting exhibitions (a smaller) gallery. The two were related to each other not by

placing them side by side, but, by placing the smaller one on top of the larger one - solves a number of problems. Over the larger one, spaces for snakc bar, and research departments were created. This resulted in the use of two triangular (roof pitch 1:2) blocks set by symmetrically side by side.

The roofing was made in a form of stepped roofs instead of single sloping slabs. This has the following merits as - (a) it prevent snow sliding (Advisable to allow winter snow to pile up), (b) Terraces created from these step levels to provide sense of openness for the rooms facing them.

From the plan, one can see a clear seperation of movement lines made by placing the general/public entrance on the south and the freight and staff entrance on the north. Each of the two exhibition rooms also have two entrances. From this there is possibility of handling heavy traffic during special exhibitions by means of corridors, also bringing in and removing works of art and changing the decorations in one exhibition hall without obscuring on the operations in the other exhibition rooms.

The storage space for exhibition equipment and operation rooms placed beside the display rooms.

2.35 VILLA MUSEUM, ITALY

ARCHITECT - RICHARD MAYER

This is a museum for modern arts (City of Florence, Italy). The museum was planned to make strict preservationists - shudder, but completely within the new spirit of building modern facilities that respect the visual richness provided by older buildings. It is a new architectural entity, incorporating two existing walls of the stable of the 19th century villa strozzi. The old walls visually tied the new building to a nearby structure.

The walls of the existing buildings were to be saved as they were by the original villa architect, GUISEPPE POEGI, as in independent important part of the original structure - for poggi, a screen to hide the lesser building beind. MEIER, has taken great care to match his new materials to those of the original buildings, which was constructed of a dark grey stone (and later covered with stucco, which will be removed in the new work).

The visitors passes through (or in this case, around) a confining introduction of the spacial drama beyond, the main room of the museum is to be a multi level space, connected by ramps (Between the second and third levels) to a remote exhibition space (lower level).

Alternating solid and transporent wall planes will provide surprise views of Florence in the distance, as well as of the exhibition hall, all from various elevations and angles.

2.36 DENVER MUSEUM, ITALY

ARCHITECTS - JAMES SUDLER ASSOCIATES

The Denver Museum, in Milan, Italy, is an un-usual and provocative in design and plan, exceptional in its functional clarity. The lively Denver museum building breaks with tradition in both museology and architectural expression to provide a 79 year old instituion - the only major museum in the mountain region - with the first real means of displaying its extensive collections of arts and artifacts.

Only artificial light are used for the displays placed easily into a pontiaxioms, when there are only facades to design, makes a composition of openings.

Windows of varied sizes were used in a highly sophisticated pattern, cunningly to display great artistry in design.

In plan, the building seems to be two cubes joined by a core element, in elevation, however, it is a multi plan or structure of inexplicit geometry, tantalizingly but indefinably, reminiscent of something

medieval and most particularly provocative in its utter unrelatedness to anything in Denver's past or present.

Eleven galleries were needed for the museum's extensive collections of American, Indian, Medieval and oriental art. The small site would not have permitted the typical horizontal solution, but since Dr. Bach, wanted no skylights, stacking the galleries, presented no problem, infact it offered an almost unique opportunity to design as directly for the viewer as far they viewed.

The galleries were two to a floor, and each are 10,000 square feet in area, exhibit space that can be seen by the average viewer in 45 minutes (the average attension span for museum goers).

Each gallery is directly accessible from the elevation lobby, and with only two galleries per floor, the visitor always knows where he or she is, and can easily and quickly go from entrance to gallery. Elevator lobbies, light and airy, contrast with the galleries where a low level of illumination is used. Lighting equipments is exceptionally flexible.

2.40 CONCLUSION ON CASE STUDIES

2.41 NIGERIAN MUSEUMS

From the study of Nigerian museums, it can be seen that, they have many problems more than solutions. This made them at the moment not measured up to what they should have been. Although, all the museums are confronted with problems, amongst them, is the problem of scientific research and the presentation of its results to visitors, fast as all the museums must workout an efficient administrative system so as to co-ordinate their different activities.

Another problem seems to be facing Nigerian museums is their seldom appearance and the quiteness inherent in their popularity. As museums are meant to serve the public, attendance and popularity is the only yardstick that determines its success or failure.

At present, the existing museums now under the control of the Department of Antiquities do not in anyway satisfy what should be its role in the education of the populace. The decision of the Museum Association of Tropical Africa to have its officer in Nigeria must have been a great step forward by this country in the complete re-organisation of museum administration. The establishment of a school in this country to train museum technicians in Jos under the auspices of the UNESCO will help in producing the much needed trained

staff to run this country's museums and will also bring together students of the same subjects from all over Africa.

2.42 FOREIGN MUSEUMS

Most of the museums in most European countries at the beginning of world war I were owned by the government. Museum work was therefore carried out in a traditional and conservative manner. Only men with dynamic personalities could prevail on the government to affect changes in museum administration.

The museums of the foreign countrues are found in most of their big towns, they house price less and rich works of art.

The foreign museums were designed as a tribute to its role in the civic life of the community. They also designed as imposing and monumental. Many contemporary architects have argued convincingly that a museum need not be monumental, but one can point out that a church need not be monumental but has always been.

Their museums were mainly designed to house their varied collections and little attension was paid to beauty and gradeur. In accordance with the demands for functionalism museums were designed to give the best form of display to the exhibits. The galleries

were designed to have the best illumination and objects were displayed to the best advantage. Their external appearance became less pompus and formal. Distracting and meaningless architectural emblishments gave way to the simpler treatment associated with contemporary architecture.

"REASONS AND OPINIONS CONCERNING ACTS ARE NOT HISTORY, ACTS THEMSELVES, ALONE, ARE HISTORY" ...

BLAKE

CHAPTER 03

3.00 BIRNIN KATSINA

3.10 HISTORICAL BACKGROUND

Katsina walled city is one of the original Hausa States (Hausa Bakwai). Its first dynasty was founded by Kumayo a grandson of the legenary of Daura. He however ruled at 'Durbi ta Kusheyi' near Mani, 25 kilometres south of the present town. The establishment of powerful centres of commerce and iron working in the area where the present town was later established in the 15th century led to the overthrow of the Durbi's. A new dynasty was established which lasted for 300 years until it was overthrown by the Jihadists in 1807.

The new dynasty was established by Korau consolidated itself and small settlements around Korau's palace were walled to form the nucleous of "Birnin Katsina'. It came to grow as a centre of crafts and industry and learning.

Korau established the beginning of a more centralised political system, built up a hierarchy of "Sarakuna" (village and ward heads), regulated the major focus of economic activity, exercised

tighter control over the affairs of the palace and capital and organised the army.

By the 15th century Islam was firmly established in the area. A number of scholars from Timbuktu visited Katsina. But for a short period Katsina was under the Songhai Empire. It however regained its reason by 1554 and during this time the city had grown considerably in size with a curcuit of 7 or 8 miles.

By the end of 15th century, the kingdom of Katsina emerged from certain important social and political changes. These are:-

- The centralisation of political authority in Government based in Birnin Katsina, whose central instituion was Sarkin Katsina - Power.
- The expansion of trade - Economy/Trade
- The building of a citadel (mosque) in the Birni)Religion.
- Active encouragement of Islam by the Rulers)

In the 16th and 17th centuries, Katsina went through an unsettled period situated as it was between the powerful Borno Empire to the east, Songhai and Kebbi to the north and west and Kano to the south. Although the kingdom survived, conflicts and political upheavals were produced and in 1801, 'Gozo' the ruler, was assissinated. This was at the time of Islam reform movement led by Usman Danfodio.

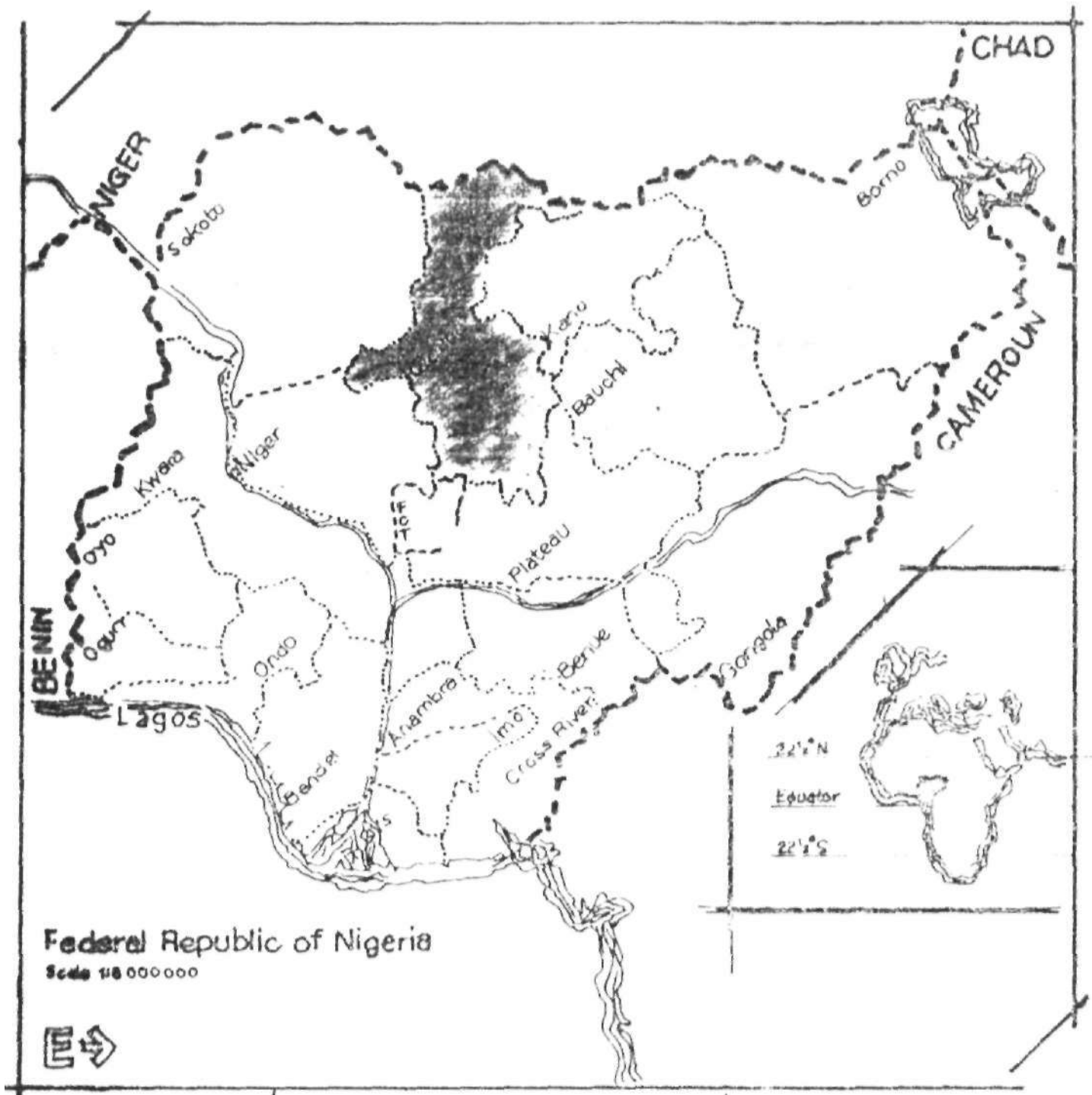
By the begining of 18th century Katsina reached her peak of prosperity and power. A centre of commerce manufacturing and learning many caravan routes were converging in her direction.

There was relative decline in the begining of 19th century as a result of Fulani Jihad which later led to the establishment of Fulani dynasty.

After a confused period during Usman Danfodio's Jihad, Umaru Dallaji, a Fulani, was appointed Emir, though at first the leadership was diffused, it was only some years later, under the rule of Bello (1844-1870) that the Emirate system was consolidated. But during the peace after the Jihad, Katsina flourished and reached its peak of prosperity and power.

3.11 INFLUENCE OF TRADITIONAL ELEMENTS ON TOWNSCAPE

Katsina walled city, has continued to retain much of its traditional characters. The most important building complexes are the Emir's Palace and the Central Mosque, which are located almost in the centre of the town forming the focal point. The market is another important place, not only as a commercial centre, but also potraying the socio and cultural values of the people. The wall and gates are also very prominent; they were built during the reign Mohammad ..... in the 15th century.



KADUNA STATE LOCATION MAP

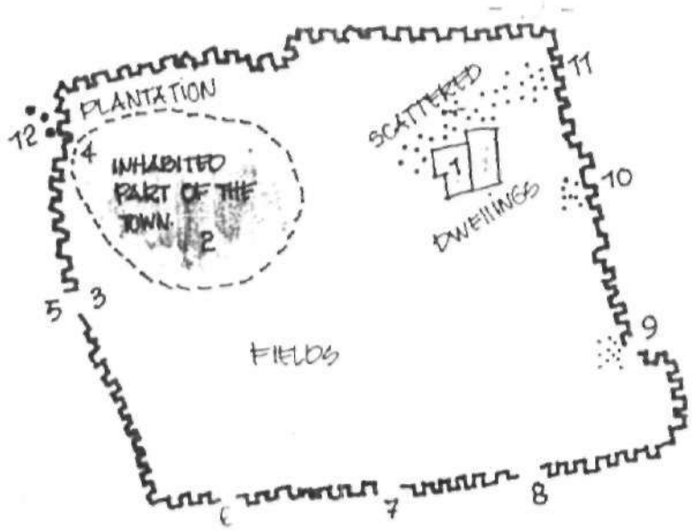
There are now 9 gates, K/Kaura, K/Guga, K/Yandaka, K/Marusa, K/Durbi, K/Sauri, K/Waziri and Sabuwar Kofa.

There are other important architectural and historic elements, such as GOBARAU MINARET which is the remains of a mosque built in the 15th century. Old Katsina Teacher's College is also an impressive building; depicting Hausa traditional architecture and also important as an educational centre of Northern Nigeria. Finally there are other traditional houses scattered in various parts of the town.

3.12 KATSINA TODAY

Katsina is unique among the walled settlements of Northern Nigeria, in that development has been confined to the area encircled by the town wall, except for the Government Reservation Area and the newly developed industrial centre to the south along Kano Road. Some educational institutions are also located outside the walled city.

The walled city is divided into four major districts, each consisting of a number of wards (Unguwanni). Figure 1.02 shows the unguwanni (wards pattern). Each district is headed by a 'Wakili', and each ward by 'Maiunguwa', (ward head). Formally these local leaders were responsible for collection of taxes and monitoring developments in their areas of jurisdiction.

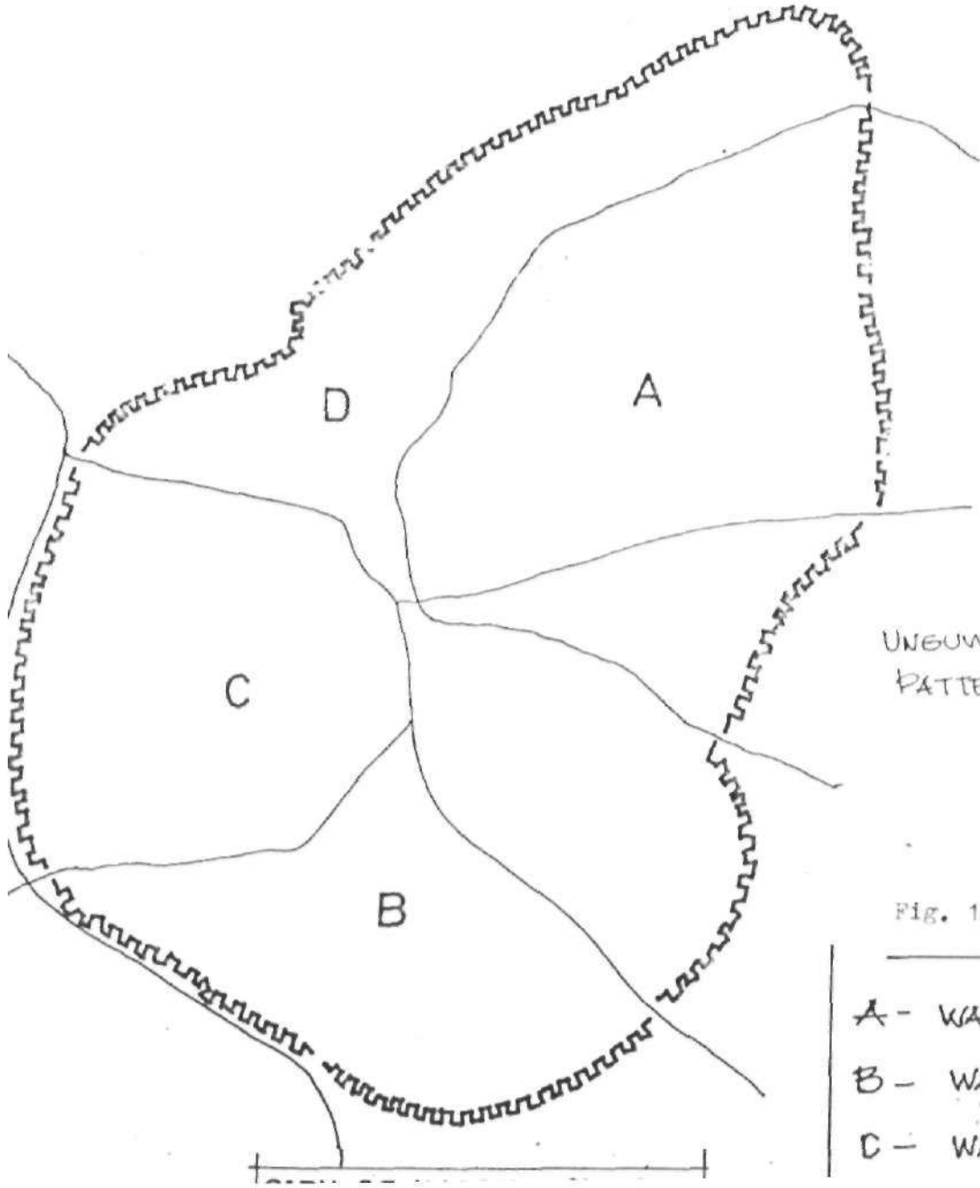


CITY OF KATSINA IN 1854.

Fig. 1.00

1- KAISINA PALACE
2- MARKET
3- OLD MOSQUE
4- KOFAR GUGA
5- KOFAR YANDAKA
6- KOFAR KWAYA
7- KOFAR GAZOBI
8- KOFAR KAURA.
9- KOFAR MARUSA
10- KOFAR DURBI
11- KOFAR SAURI
12- CARAVAN CAMP.

*KOFA = GATE



UNGUWANNI (WARDS PATTERN).

Fig. 1.02

A - WAKILIN GABAS.
B - WAKILIN KUDU.
C - WAKILIN AREWA.

With the abolition of poll taxes, they are now responsible for registration of marriages, birth and death as well as other functions. They are very important agents to be utilised for development control and organisation of community development projects in their areas; since they are still respected and have a good knowledge of their areas of jurisdiction.

The town can be divided into two sections. The old traditional core of the city and the relatively new areas built after 1960. The later area is planned according to the colonial grid pattern, while the former developed organically according to the Hausa traditions. There are also some old settlements near the gates.

3.20 PHYSICAL CHARACTERISTICS

3.21 LOCATION

Katsina Walled City is located in the extreme north of Northern Nigeria, less than 40km to the Boarder with Niger Republic. It is situated on a spur of land between two water courses. The 'KORAMAR GISU and KORAMAR TILLA', which flow in a north-easternly direction. The town lies on latitude 12^{o}-58'N and longitude $7^{o}45'$E at a height of about 500 metres above sea level.

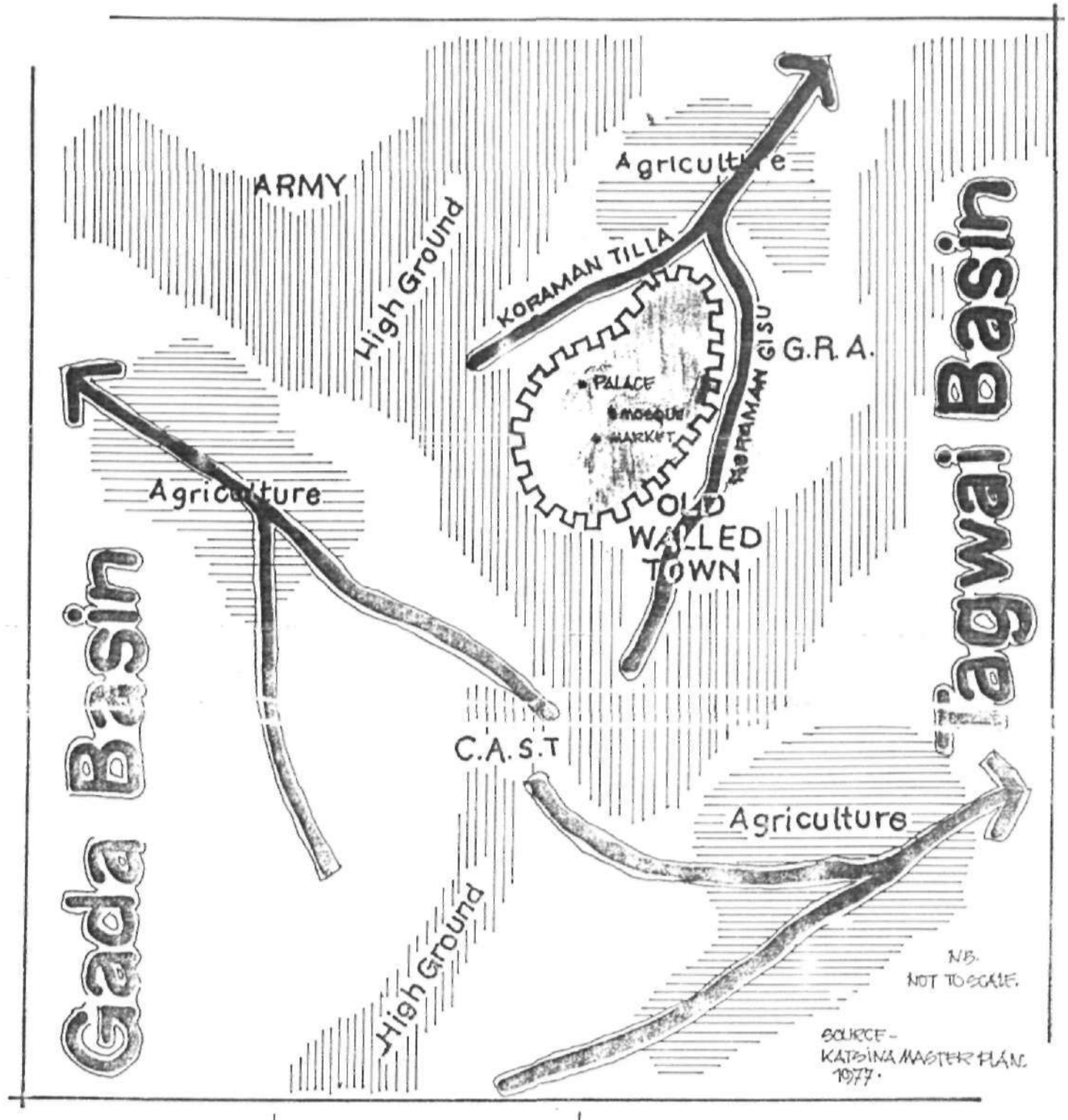
3.22 KATSINA LANDFORM AND DRAINAGE

The old Walled City of Katsina is been built on a spur of land between two water courses, the Koramar Gisu and Koramar Tillah, which flow in a north-easternly direction, and is at a narrow, neck of the water shed between Gada and Tagwai River Basins, just to the south east of the settlement another ridge runs from south west (Katsina Polytechnic) to north east (Woman Teacher's College and G.R.A.). To the south east, the land drains gently into Tagwai valley (now dammed at Ajiwa for water supply). The high water shed ridge that then continues south wards is arid and barely supports the Barawa Forest Reserve.

The general direction of flow of drainage in the Katsina Walled City is dictated by the ridge of high ground that runs from the water tank to the Emir's Palace. So flows are north west to the north water courses outside the walls and south east to the eastern water course outside the wall. Two north-east water course collectors need to channel this flow on either side of the logical out fall beyond Kofar Soro.

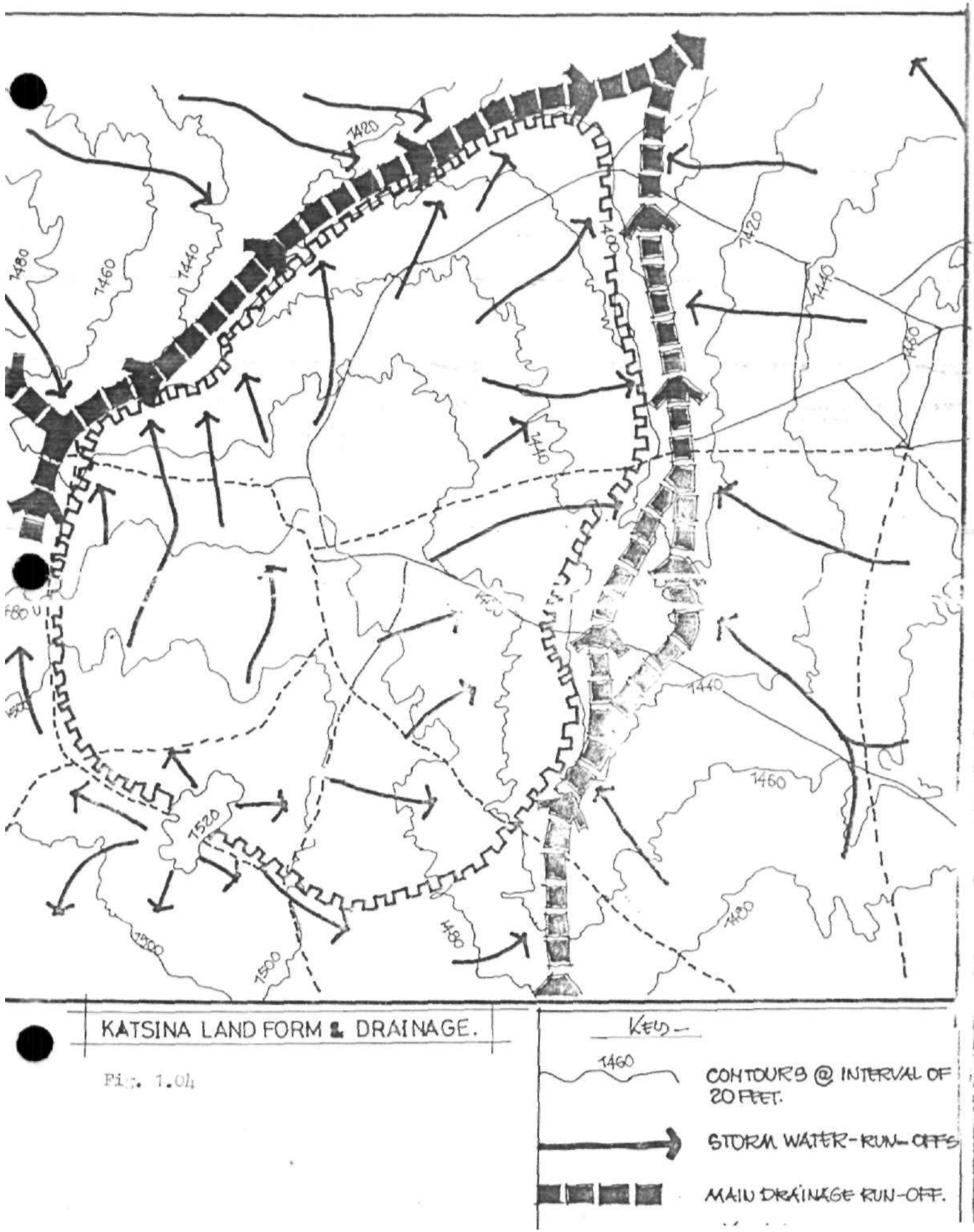
3.23 KATSINA SOIL GROUP

The soil comprises transported sandy or loamy materials overlying rounded quartz pebbles and clays derived mainly from the weathering or cretaceous



KATSINA LAND FORM

Fig. 1.03



KATSINA LAND FORM & DRAINAGE.

Fig. 1.04

conglomerates. The soils are often quite permeable and this explains the existence of very few streams in the area. The profile characteristics of the soil is dependent on the permeability of the underlying rock. Generally the lighter textured soils lie on higher slopes, where they are better drained, while loamy soils lie on the lower slopes.

The top soil over the whole region is sandy in nature and non-homic. This is probably due to the extensive local drifting of material during the dry season. All the soils are generally easily cultivated except in the areas of shallow deposition where pebbles tends to impede cultivation. However, the top soils tend to dry out very quickly.

3.24 GEOLOGY

Katsina, is underlained by sedimentary rocks of cretaceous age, comprising the Gundumi formation. Lithologically they consists chiefly of coarse, purple and mottled, feldspathic grifts. Impersistant inter-relations of bluefish and purplish clays are occassionally present in the grifts, while bands or horizons of quartz pebbles are common at certain levels. The sediments roots on an uneven floor of pre-cambrian basement complex rocks although in general they dip at a low angle to the north-west. Inliers of the

basement complex rocks can be seen at several localities in the valley of the Koraman Gisu, these consisting of coarsely crystalline, porphyritic granites and granite gneisses.

3.25 VEGETATION

Katsina lies in the Sudan Savannah region. This type of vegetation is made up of short grasses and some stunted trees; such as cacia, dumpalm and boabab. All these trees are adopted to the dry environment. Three factors which affects the vegetation in the area are climate, man and his livestock. There was an attempt to plant some trees in the town, especially around the wall and along some major roads, as shelter belts against desert encroachment. This practice should be encouraged under the present climatic conditions of the area.

3.26 HYDROGEOLOGY

Katsina is located in a part of Northern Nigeria where the crystalline rocks of the basement complex (a poor source of ground water) have been over lapped by the drift deposites; hence ground water is obtained from the sediments of cretaceous gundumi formation. There are no permanent stream in the area immediately surrounding the town. However water supply for the

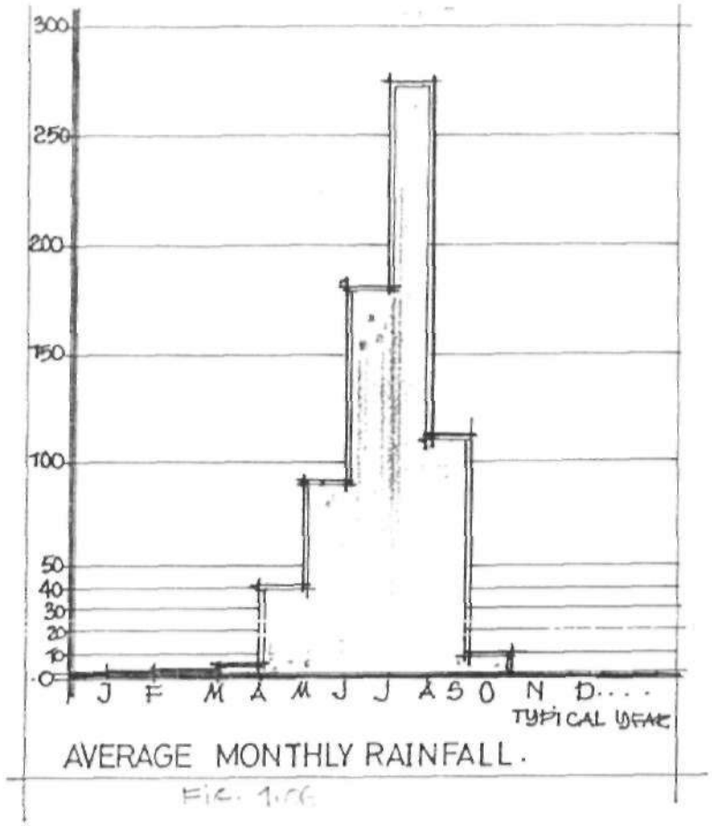
town is from Ajiwa Dam Scheme. A dam built over River Tagwai about 15 kilometres away from Katsina.

3.30 CLIMATE

Located about 1126 kilometres away from the sea, Katsina ($12^{o}58'N - 7^{o}45'E$) possesses a tropical continental climate with distinct wet and dry season. The wet season lasts for only 4 to 5 months when the influence of S.W monsoon is felt; usually from May to September. Therefore the fainfall in the area is very unreliable. The mean annual rainfall is about 700mm, but can be as low as 400mm in some years.

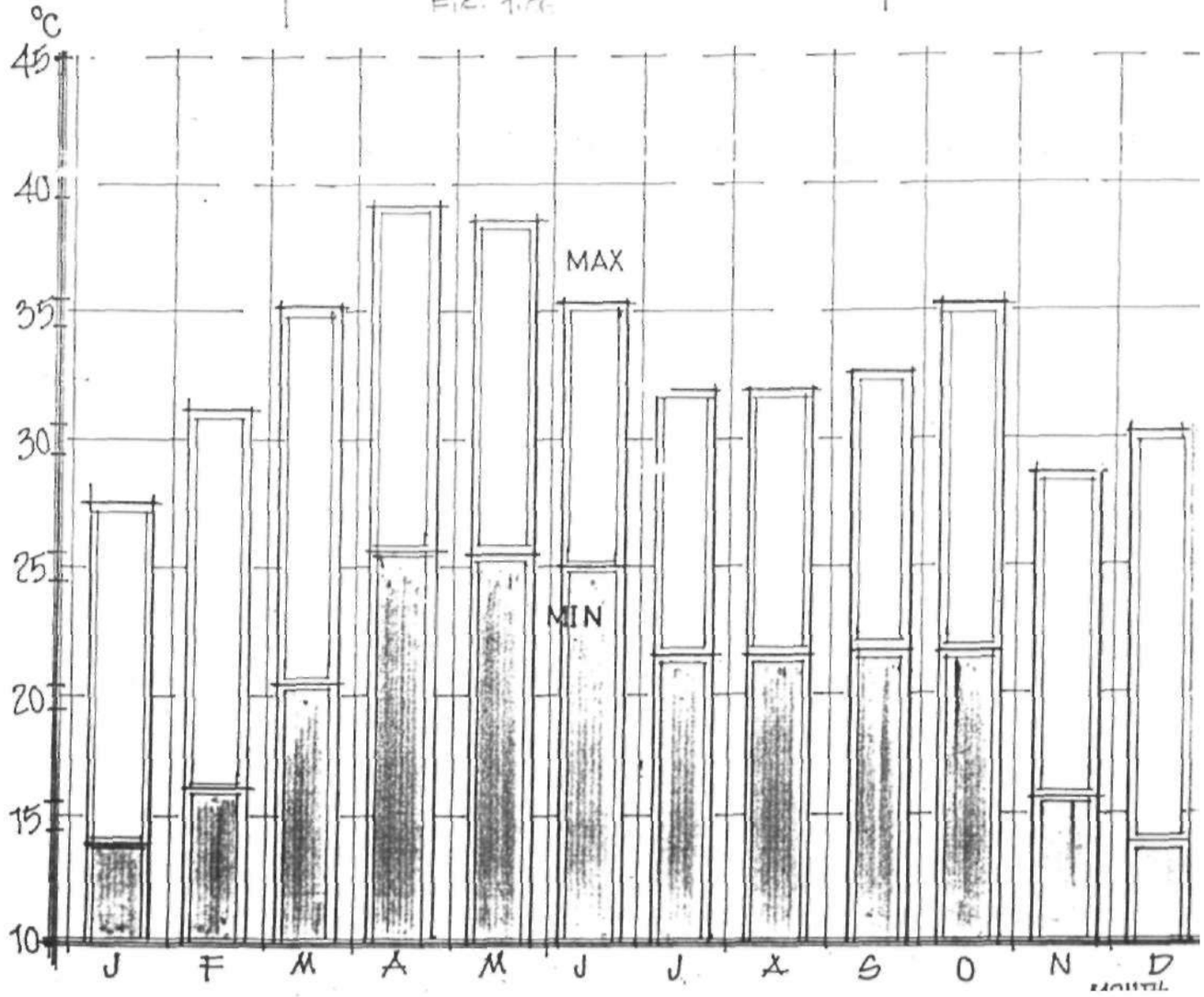
3.31 TEMPERATURE

Temperature is generally high throughout the year, with mean annual temperature of about $32^{o}C$. The temperature varies from season to season, with the lowest temperature recorded when the north-east trade winds are blowing in November, December and January. The range of temperature also varies from season to season. Fig. 1.05 shows the temperature variation in the area.



AVERAGE MONTHLY RAINFALL.

Fig. 1.11



3.32 RAINFALL

The rains usually start in June or July. During these rainy months the south-westerly winds are dominant winds and are heavily laden with moisture. They produce zones of intense convectional rainfall. In contrast with the southern part of Nigeria, there is only a single rainfall maximum in the month of August. The mean annual rainfall varies from 1950mm (46") to less than 700mm (28").

Fig. 1.06 is the rainfall recorded at Katsina Airport showing rainfall in a typical year.

3.33 EVAPORATION

Evaporation is usually high during the dry season when the atmosphere pressure starts, evaporation lowers to a certain value of about 5.6ml. This happens around the month of August which usually is the month with highest rainfall.

3.34 WIND

In Katsina, just like all other towns in Northern Nigeria, the wind directions follows the two seasons of rainy and dry seasons.

The two types of air masses prevail in Katsina are the dust laden harmattan of the North East Trade wind

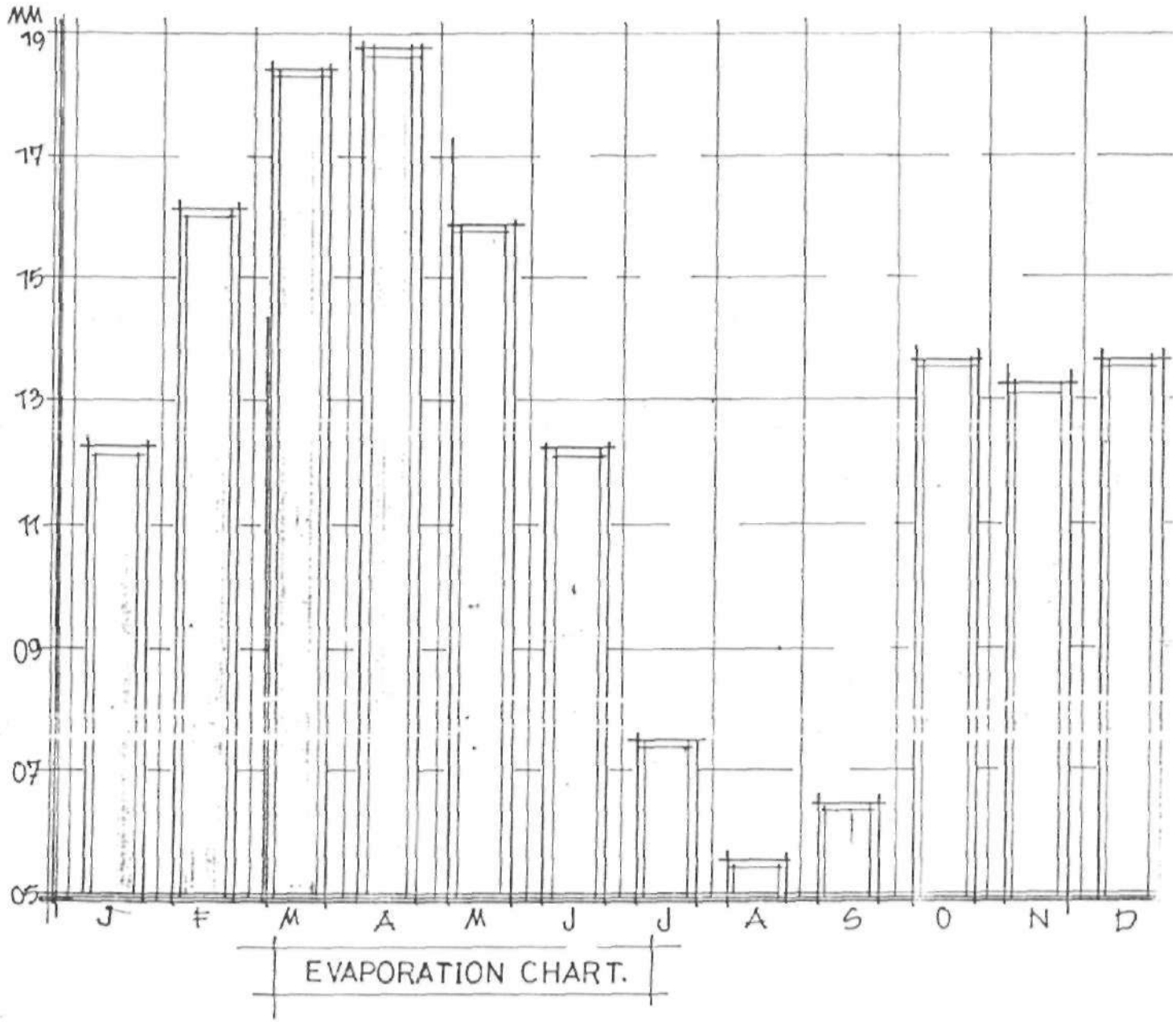


Fig. 1.07

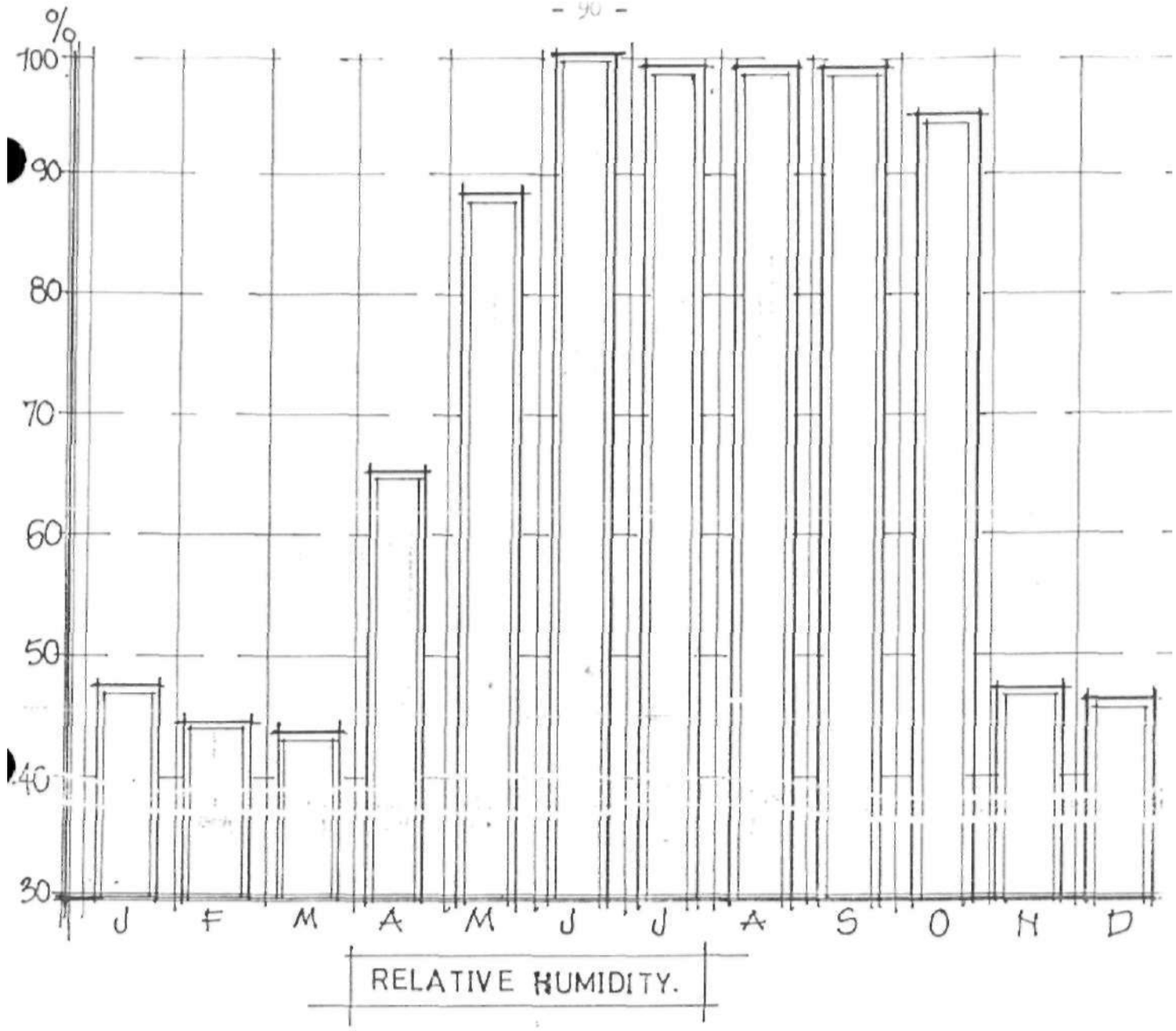


Fig. 1.08

(Nov. - March) and moisture laden south westerlies from the Atlantic.

- Dry Season (Winter-Harmattan period - Nov - Feb.
- Hot Season - Mar - Apr.
-Thunderstoms and Squals - May - Jun.
- Wet Season - Jun - Oct.

3.39 RELATIVE HUMIDITY

Relative humidity is always very low. In January, it is between 20-40 percent, rising 60% in August.

Fig. 1.08 shows the chart for relative humidity in a typical year.

3.40 POPULATION PROJECTIONS

3.41 POPULATION TRENDS AND PREDICTIONS

The variable factor in comparison of age structure of population with those for model population with appropriate motality levels is the birth rate. For such a comparison for mortality levels 9 and 11, and growth rates 0.25, 0.30 and 0.35.

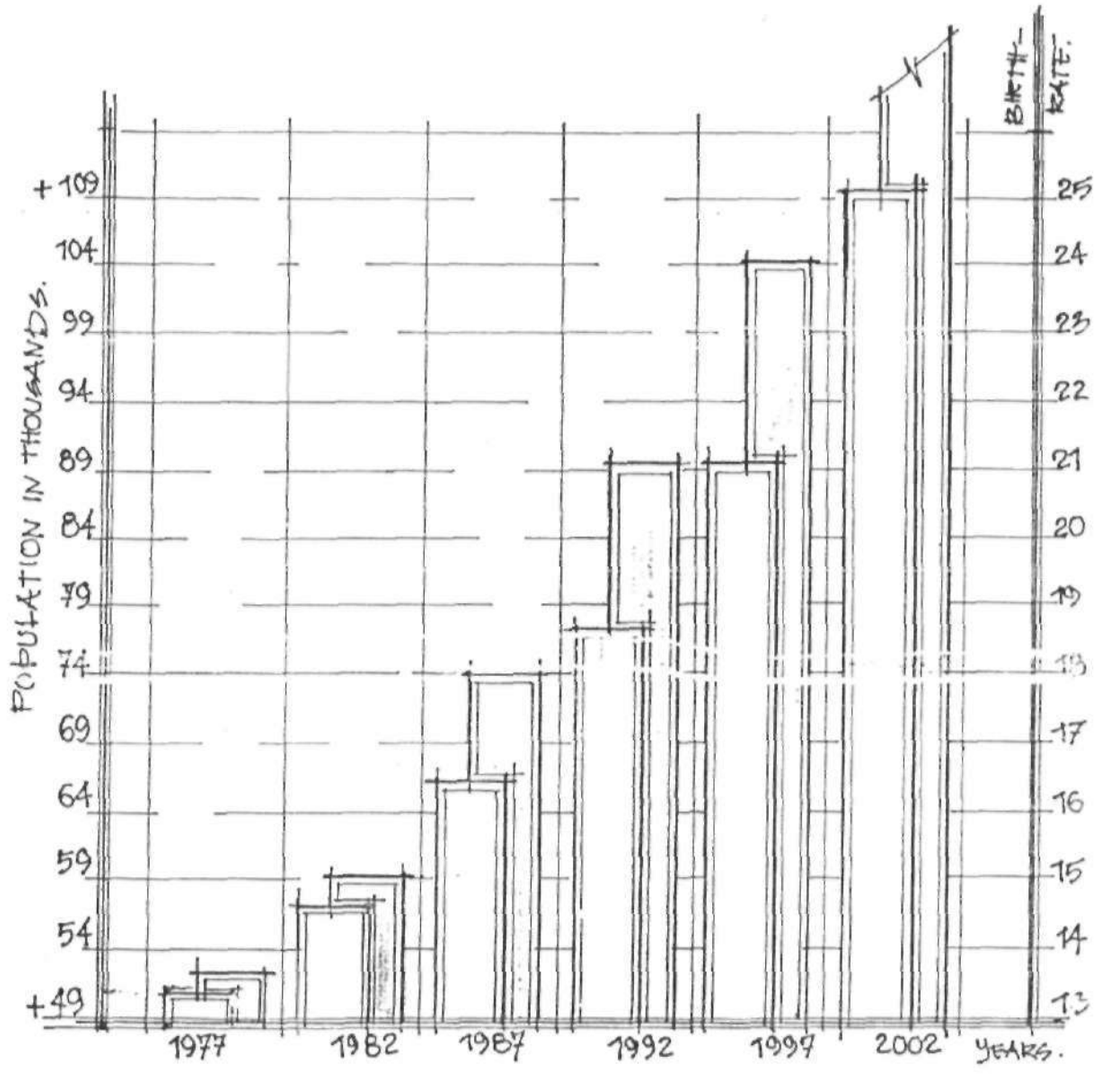
The use of cummulative proprtions for such comparison is generally recommended (rather than simply comparing proportions in particular age groups) since it reduces the effect of the usually high levels in age misrepresentation which is characteristic of such surveys.

For Katsina, in order to check the estimates, projection was carried out using COHORT-SURVIVAL RATE TECHNIQUE. This is possible to do this for Katsina since the size of the town is sufficiently large for the use of the technique to be valid. The technique applies for survival rate to the population at the base year (1977) and projections of the population was made to the target year on the basis of these survival factors. Thus the method takes no account of migration.

Using this method, a likely population of 230,000 was suggested by the year 2002. Since migration will probably raise this figure, it seems to confirm the trend population projection result of 288,158 provides a reasonable base.

3.42 EXISTING EDUCATIONAL SCHOOL AGE POPULATION

There are considerable differences among the educational attainments in groups adults dependants, who are mainly female. The female have the lowest level of educational achievements, with 9.5% of the group - having no education. A further 82.6% have Koranic education only. There is however a marked change in educational levels amongst the current school age population, the Koranic education appears to be in decline with only 32.9% in contrast to a



MALE POPULATION TRENDS

SOURCE - KATSINA MASTER PLAN 1977.

Fig. 1.09

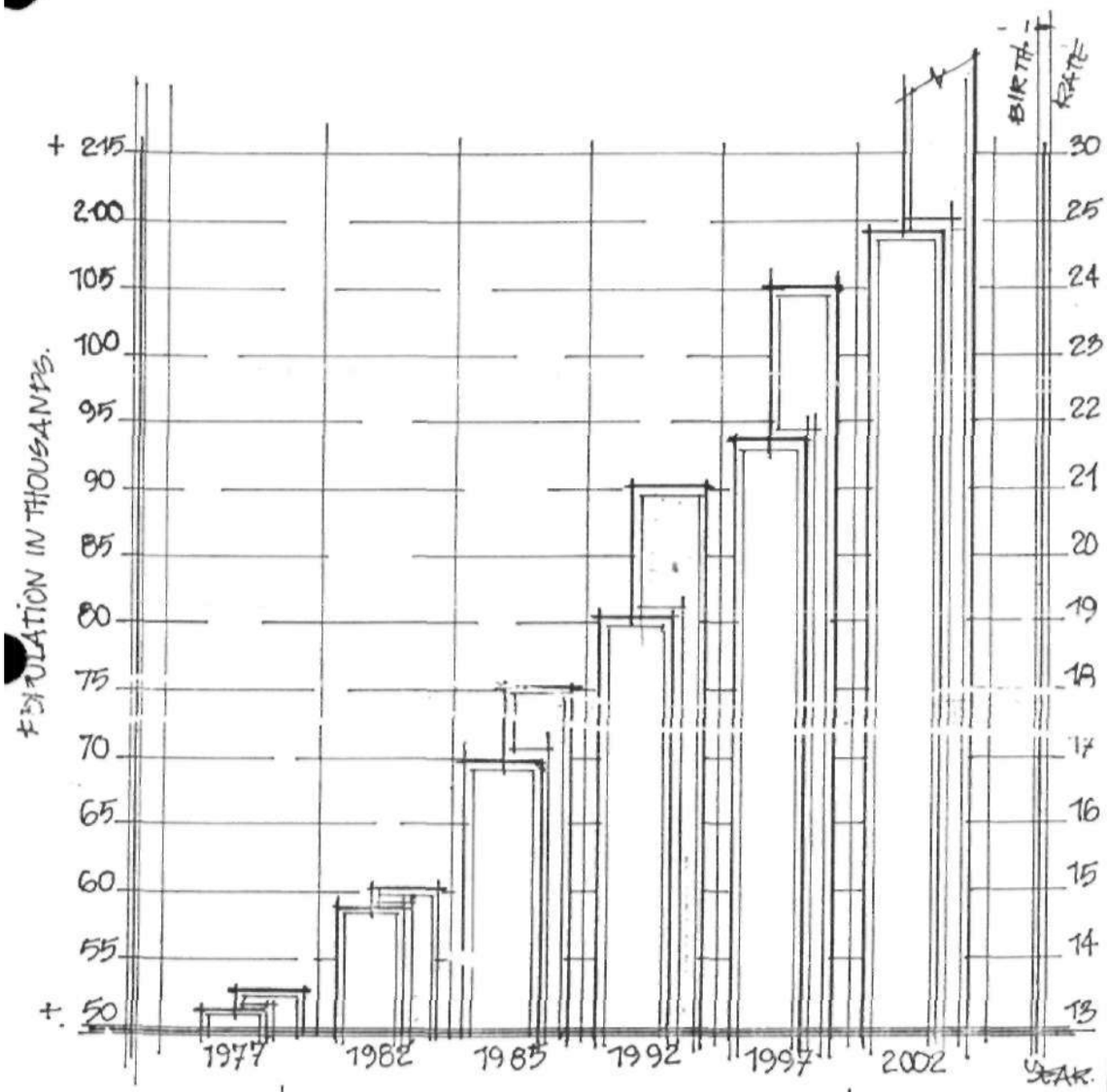

POPULATION IN THOUSANDS.
+ 215
200
185
100
95
90
85
80
75
70
65
60
55
+. 50
1977
1982
1985
1992
1997
2002
YEAR.
BIRTH-
RATE
30
25
24
23
22
21
20
19
18
17
16
15
14
13
FEMALE POPULATION TRENDS...
SOURCE :-
KATSINA
MASTER PLAN
1977...

Fig. 1.10

much higher proportion among the population as a whole. All together 56.7% are receiving some level of State education.

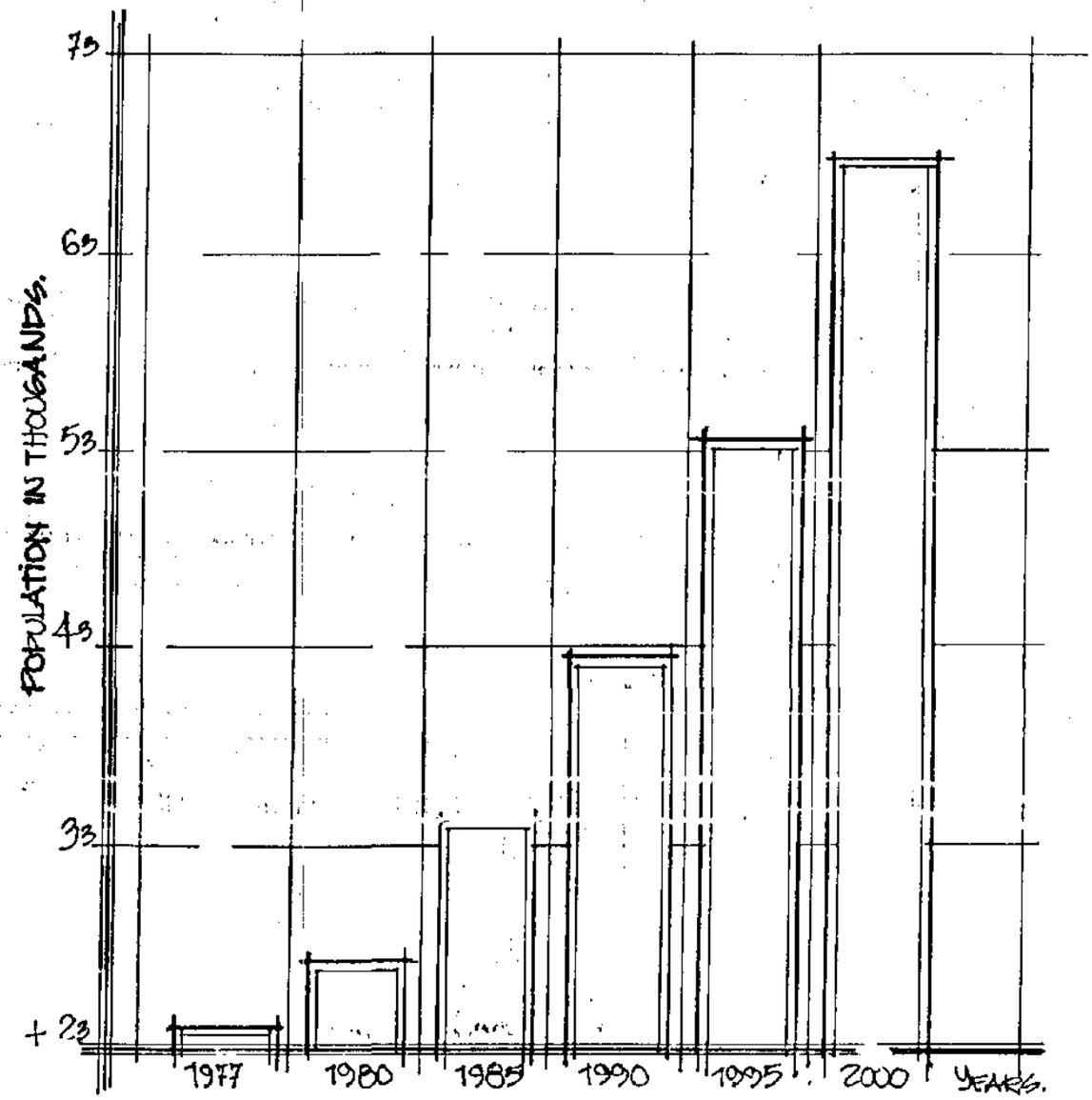
The estimated school age population with the total primary school enrolment for 77/78 session provide a general guide to the extent to which children are being drawn to school 55.2% of children in the 6-14 age group were attending primary school while in estimated 47.6% are attending primary school at present.

3.43 POPULATION FORECAST

A comparison of the 1977 estimates with the population enumerated at the time of the 1952 census (which appears more reliable than the 1963 census) indicates that during this period the population increased at an average annual rates of 4.69%.

The first forecast reflects a continuation of the current situation with survival rate of level 11 producing a life expectancy of 45.00 for female and 42.12 for males. Together with a birth rate of 0.0494 for female and 0.515 for male.

The current situation - forecast produces a population of 212,000 for Katsina by 2002 compared with an estimated population of 100,000 in 1977.



EXISTING EDUCATIONAL SCHOOL AGE POPULATION

Fig. 1.11

SOURCE:-
KATSINA MASTER PLAN
1977...

TABLE 01:

	Males	Females
Birth Rates	0.0515	0.0494
Death Rates	0.0215	0.0194
Life Expectancy at Birth	42.125	45.000

Mortality Level = 11

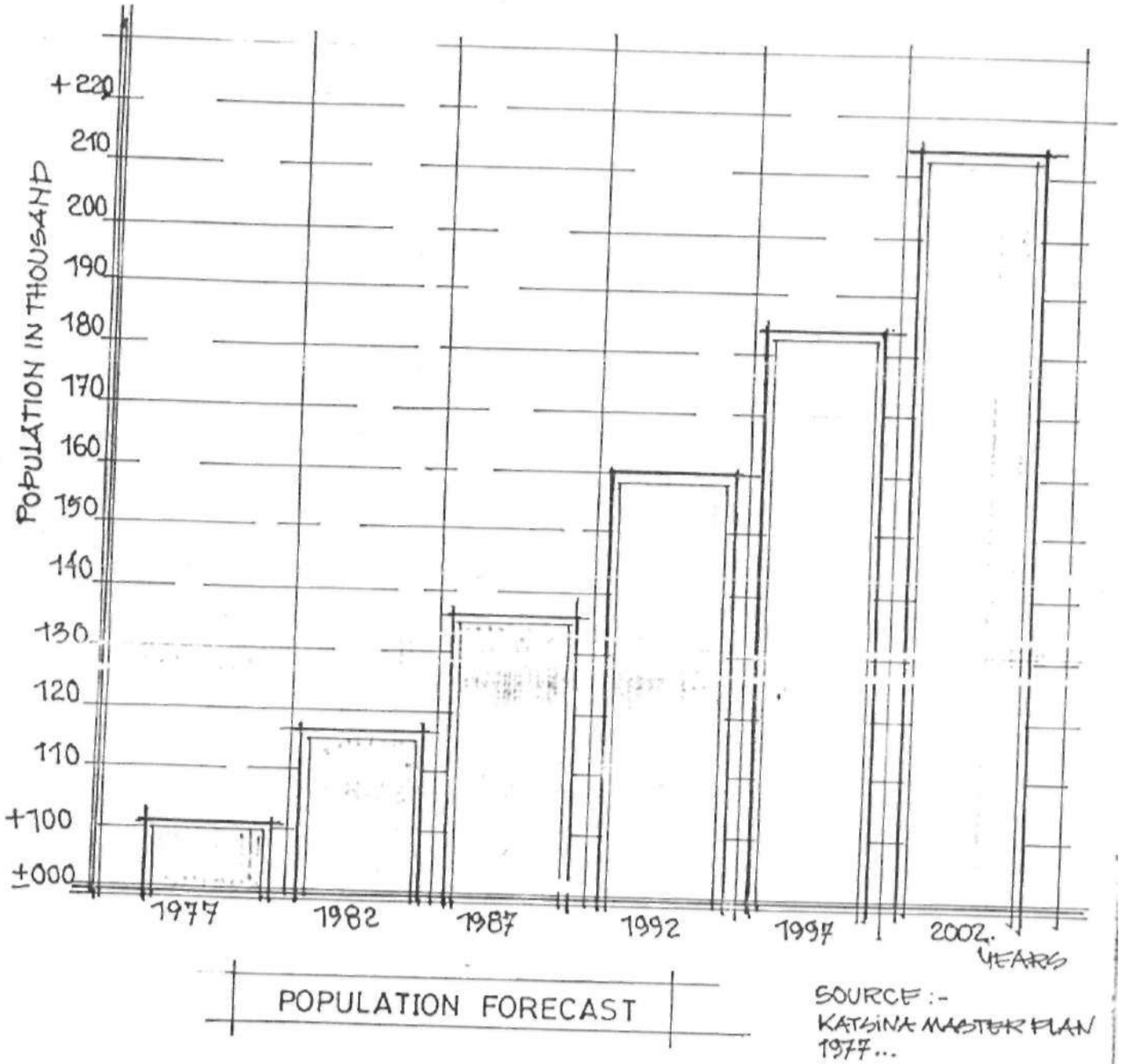

POPULATION IN THOUSAND
+220
210
200
190
180
170
160
150
140
130
120
110
+100
±000
1977
1982
1987
1992
1997
2002.
YEARS
POPULATION FORECAST
SOURCE :-
KATSINA MASTER PLAN
1977...

Fig. 1.12

"THE HISTORY OF AN AGE FINISHES WITH THE AGE,
ITSELF, AND WITH THOSE OF ITS REPRESENTATIVES,
WHO HAVE EXPRESSED IT"

GUSTAVE COURBET

CHAPTER 04

KATSINA GOBARAU MINARET

4.00 INTRODUCTION

Minaret (Hasumiya) in Hausa. The Katsina Gobarau Minaret was built about 300 years ago. It was built to serve the purpose of a mosque as well as a watch tower for the town. The minaret has been left and is today being conserved by the people of Katsina as a symbol of history of Katsinawa.

It is a great pity, such historical buildings are always ignored and little or no care have been taken on them. These structures not only they can be beautiful and appealling to the eyes but they can also reflect the changing lives of people. Buildings are living history.

Things are changing, fast, very few buildings are being protected in this country, but conservation of such buildings is gaining grounds in some parts of the country. Some of these are those that reflect certain cultural background of the people around them.

The aim of this thesis is to study Gobarau Minaret as well as to find a way of conserving it, both

physically as well as socially. Socially, in the sense that, museum will be designed around it, such that, the minaret itself becomes a monument, and an artifact in the museum.

4.10 THE SOURCES OF MINARET ARCHITECTURE IN WESTERN SUDAN

The origin of masjids (mosques) are obscure, the word mosque was used in Kur'an, particularly of the Meccan Sanctuary. The Ka'aba - (Al-Masjid-Al-Haram) and also applied to pre-Islamic Arabian Sanctuaries

The essential mosque structure was basically a rectangular enclosure, partially roofed and oriented towards Mecca. The Ka'aba in Mecca is the Alqiblah or Orientation (changed from direction of Jerusalem to that of Mecca) has continued to be fundamental to mosque design.

The mosques have a number of features that arouse from the demands of rituals; the performance of the daily prayers, the Friday prayers, etc. The minarets were used for the call to prayer.

After the conquest of Egypt was completed, the Arab armies trooped into North African Coasts to penetrate the Maghrib and Spain overthrow the Byzantine government and began to establish urban centres.

4.11 ISLAM IN WESTERN SUDAN

It was through Muslim Berber traders (who since the introduction of the Camel to North Africa had developed the Saharan Caravan Route and established and controlled the gold trade with the Begri states). That Islam was first introduced to Western Sudan and that mosques were first built in Negro Africa.

Most of the mosques built showed the evidence of minarets with them. Where the mosque excavated in

- KOMBI Saleh, The size of the mosque was about 46m x 23m. Similar to Kombi Saleh are those found in
- CHINQUETTI, in the Northern Adrar, typical of Oasis Settlements. Its mosque has sanctuary and square pinacled stoned minaret. It dates back to 13thC.
- TICHITTI, South East of Chinquetti on the route to Walata and TIMBUKTU, another great mosque was found there, its stone mosque minaret are many centuries old though much restored.

- WALATA, of recent settlement, dates back to muslim merchants from Ghana in 1224 A.D. Their style is somewhat different from the preceeding towns.
- HAUSALAND - Expansion of Islam and the development of mosque building reached the Hausa states particularly Katsina and Kano in the 14th century.

Wangarawa from Mali brought Islam to Kano, Mohammadu Korau brought Islam to Katsina during his reigh (C1320-53). During Rumfa's time, Abdulrahman, came to Kano and established Islam, he ordered Rumfa to build a mosque for Friday prayers and to cut down the sacred tree and build a minaret on the site. The Rumfas mosque was refered to by the use of word 'SAWMA' - (SAUMA'A) - and the derivation of the Hausa term for a minaret 'SUMAYA' and (more commonly) HASUMIYA.

The later Hausa mosque form is similar to Songhai/Mali structures in TIMBUKTU, but the dominance of the minaret is a new factor and can be compared only with the mosque of AGADES. The stepped and ramped Hasumiya at Katsina, the GOBARAU Minaret - is the only example of its kind in the Hausa States was re-built under the direction of Frank Daniel, a European in 1927.

4.20 HISTORICAL BACKGROUND OF GOBARAU MINARET

Mohammadu Korau, from Yandoto in Sokto province came to Katsina in 1300. He challenged the then Emir Sanau in a traditional wrestling, he succeeded in defeating Sanau, killed him with a short sword which is still preserved in the Emirs Palace. After his victory, Mohammadu Korau later introduced Islam to the people. He called some learned mallams and scholars from far and wide, even some who previously would have gone to Timbuktu to expand Islam.

There was then the need for building a citadel (the mosque), Korau then called for the building of a mosque. A suitable site was selected near the Town's Market where there is large concentration of people. This is the present location where Gobarau Minaret today stand. This mosque built was the Gobarau Minaret.

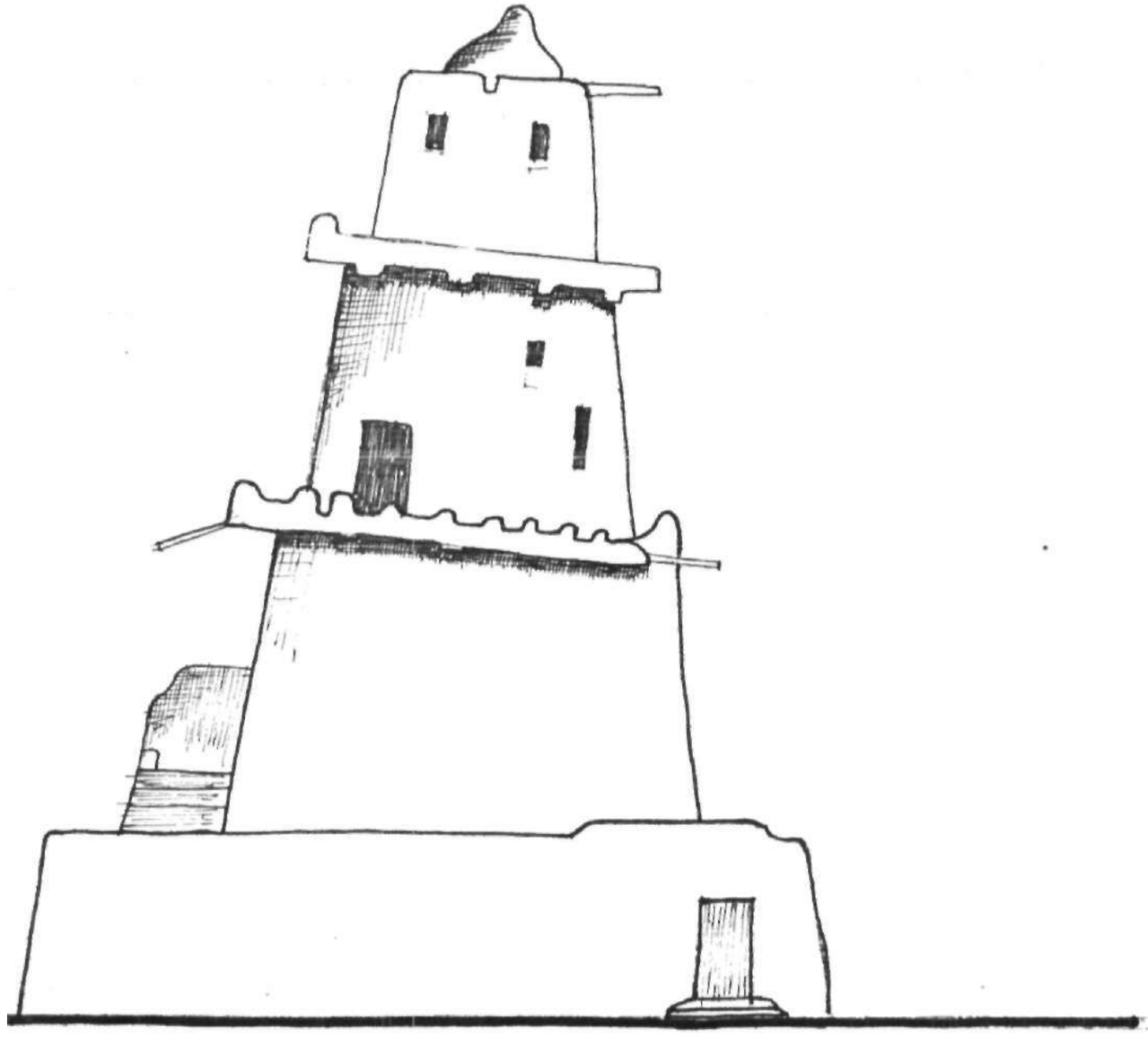
The Katsina Gobarau Minaret was first built in the 15th century. It is about 350 years old. The original one was about twice higher than the present minaret, but it collapsed after about 200 years later. When the British people came to Katsina in 1923, Frank Daniel directed the rebuilding of the minaret in 1927.

4.30 CONSTRUCTION AND STRUCTURAL STUDIES ON GOBARAU MINARET

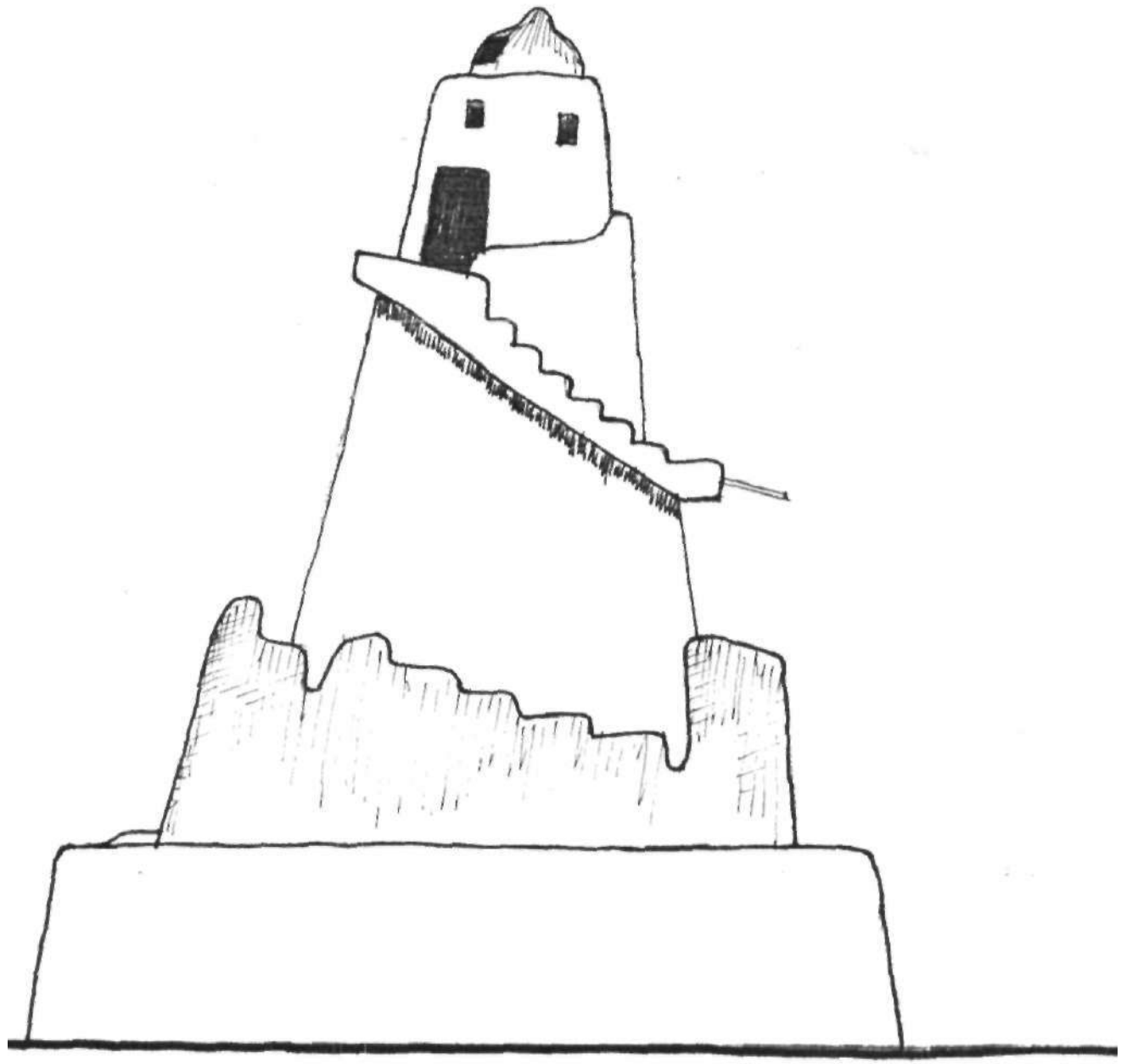
The Gobarau Minaret, in Katsina, built of mud and Azara is about 20 metres tall. It is constructed just like any other traditional mud building except the central column which seems to be the major structural member in the minaret. Mud is layed in trenches dug as foundation trenches to a thickness of about 30cm and mud bricks are arranged according to the thickness of the walls.

The groundfloor unit has no openings in it, after the wall was erected and the square form of the base achieved, it was filled up with stones and laterite, then consolidated to form a very strong base for the higher floors and their structure to rest on.

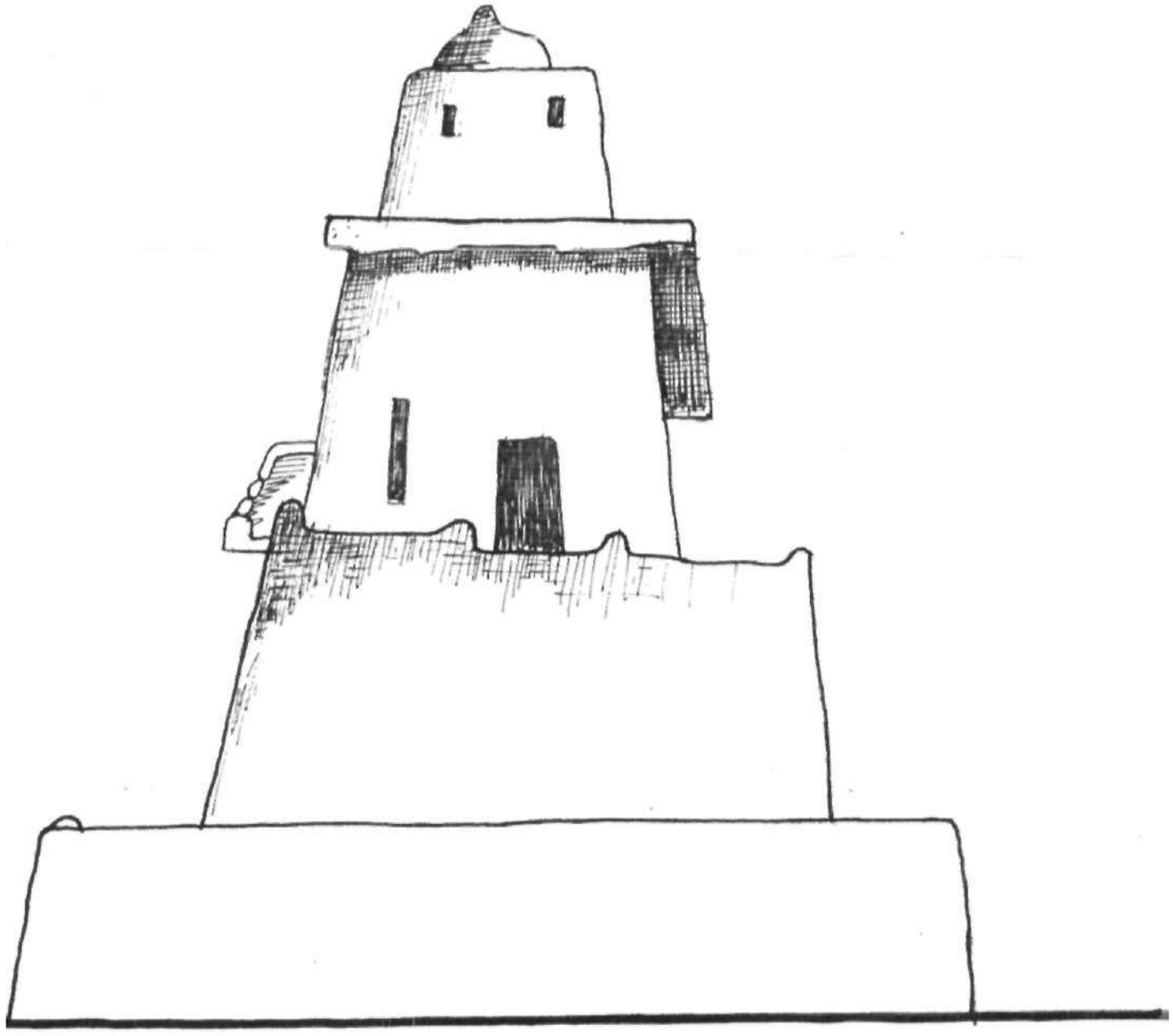
The stairs (Matakala) consists of steps which are far from being identical in size and shape. Their rise ranges from 20cm to 35cm, while the trends ranges from 30cm to 90cm (although most of the wider types might be conceived as just landings). These are also ramp types of steps that takes one from first floor to the top floor level. They follow the shape of the floor levels.



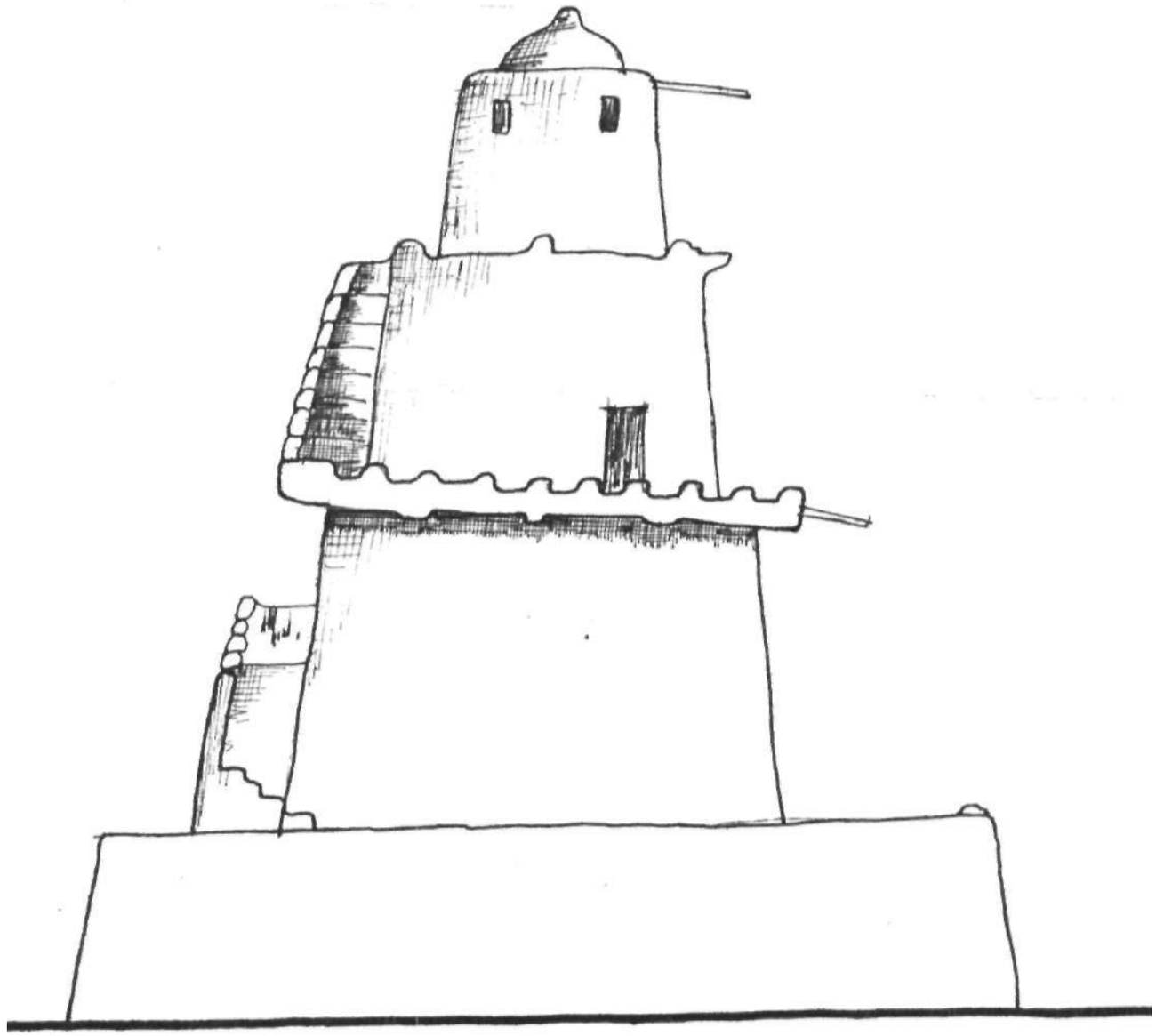
APPROACH ELEVATION.



EAST ELEVATION.



SOUTH ELEVATION..



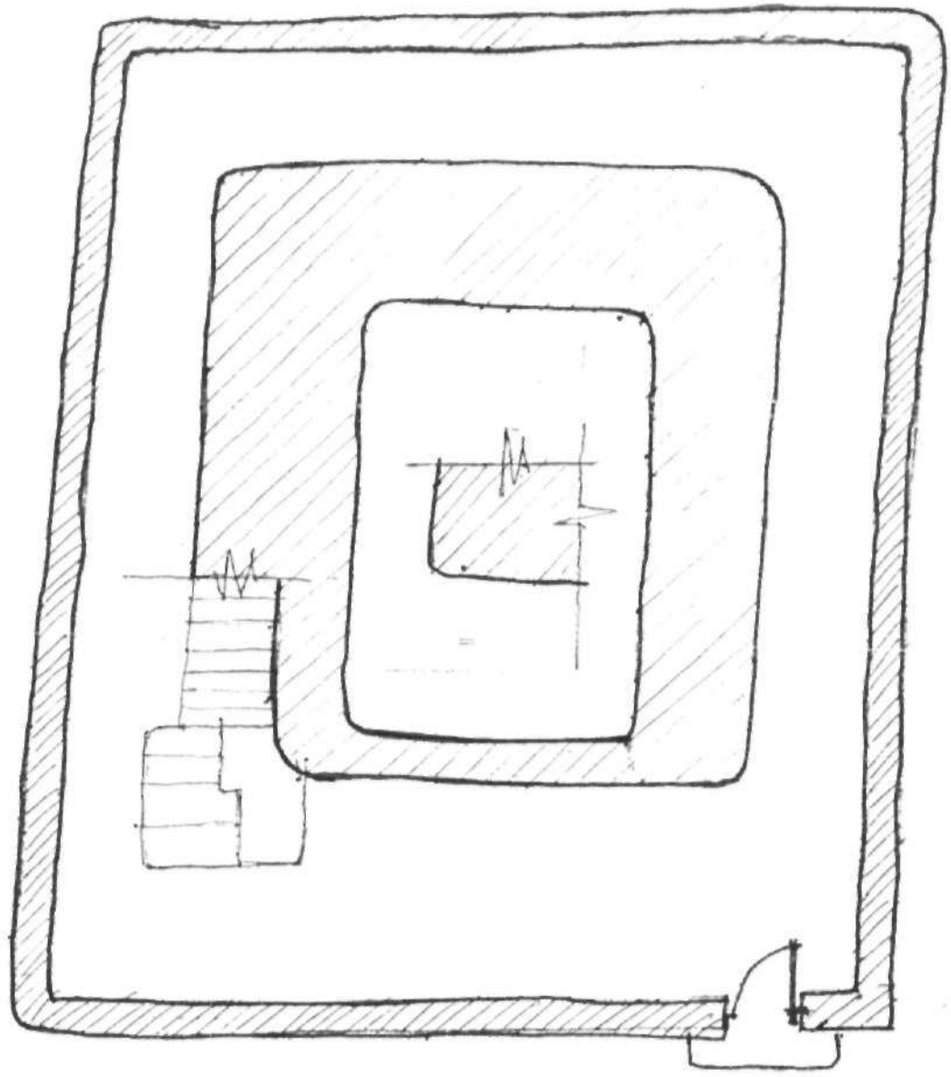
NORTH ELEVATION.

FLOORS - The ground floor level consist of a solid and strong structure which forms the base for the support of the upper floors. The ground floor was constructed with thick walls about 80cm. It is filled with stones and laterite. The large column of mud was constructed at the centre from the base as the major structural member.

WALLS - The walls are made up of mud bricks (Tubali) of varient shapes and sizes. The clay bricks are layed after the shallow foundations to the required thickness of the wall, they are sticked together with wet mud. This kind of clay mud walls provides very good heat insulation.

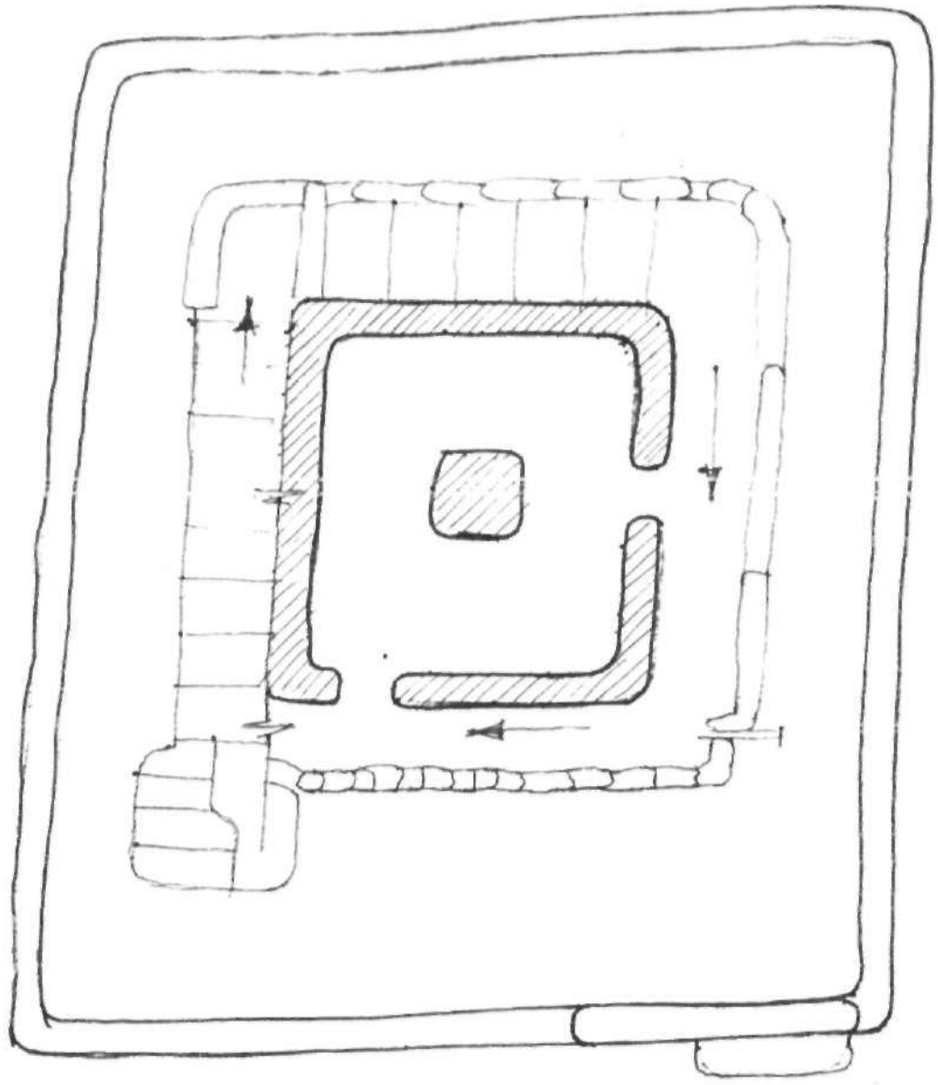
CENTRAL COLUMN - The central column of the minaret starts from the base to the apex of the minaret. It is the main support for the whole minaret. The column tapers from base to apex which is a result of structural requirement and space accommodation. The column also supports the roof structure.

ROOF - The two basic Hausa mud roof construction methods were used in Gaborau Minaret. The 'Shimfida' Flat Roof Construction based on treabeatian and the 'Baka da Tulluwa' based on Arch Vaulting and dome roof construction. The 'Shimfida' has the span of 1.8m. This method involves Arch Vaulting and Azara arrangement.

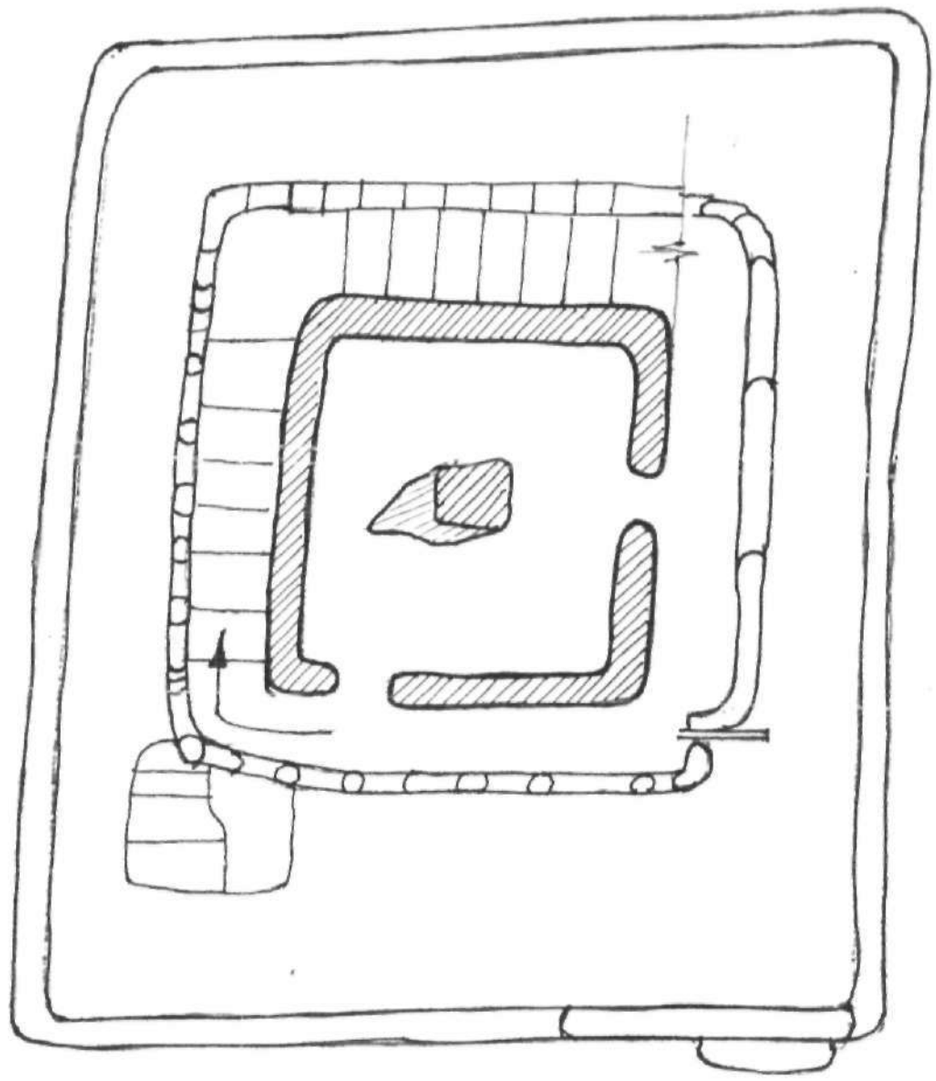


GROUND FLOOR PLAN.

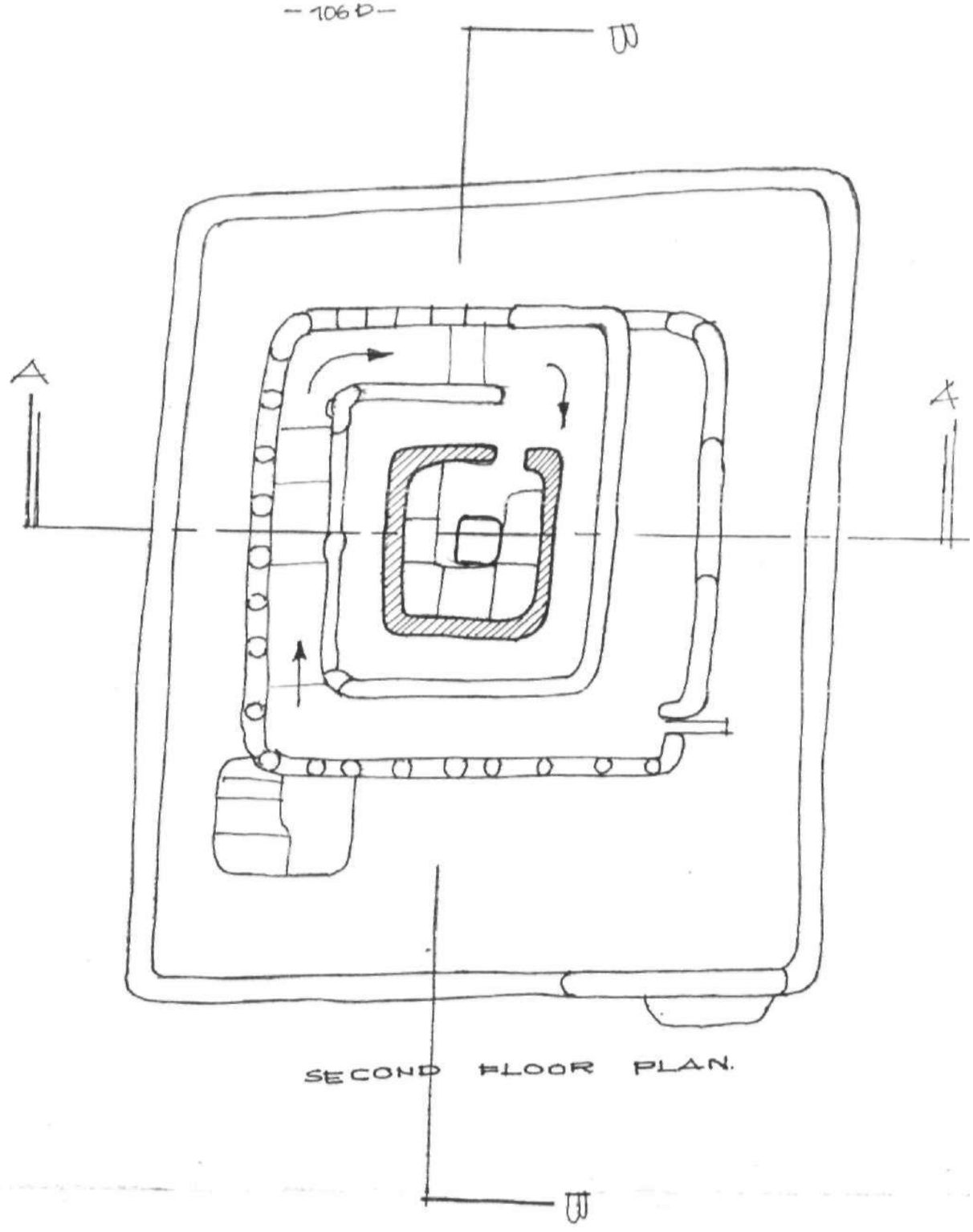
1:50.



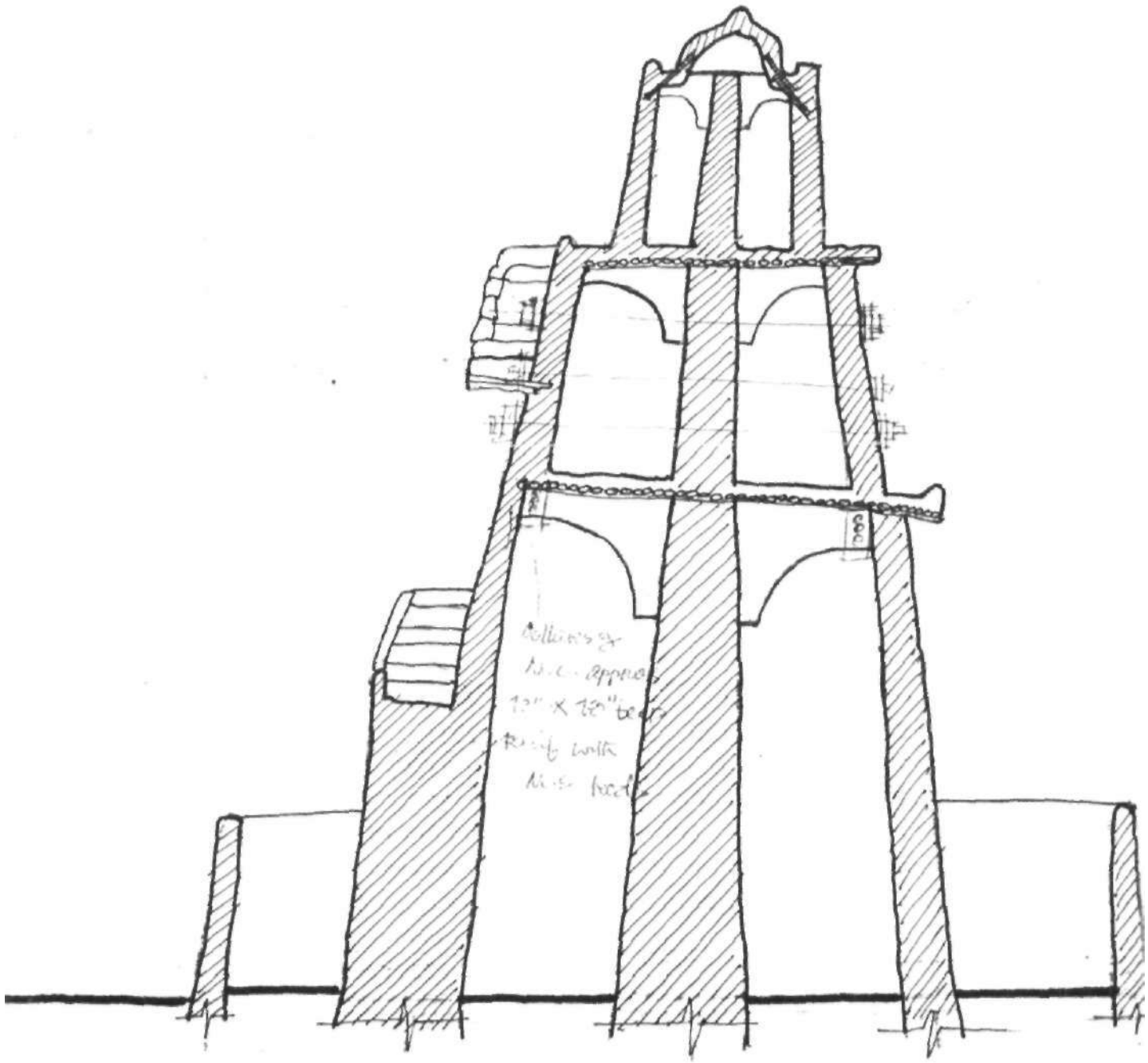
FIRST FLOOR PLAN 'A'



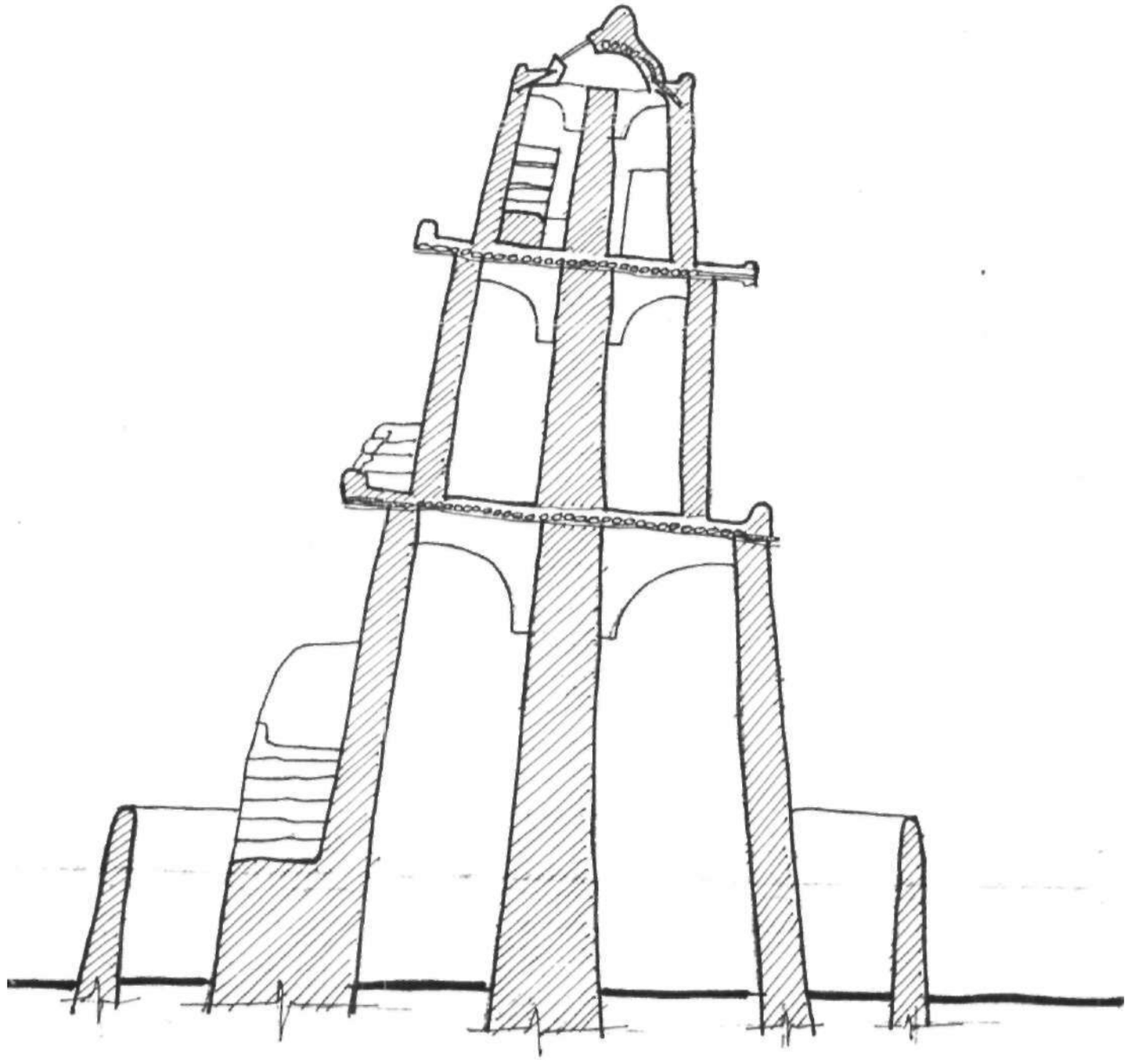
FIRST FLOOR PLAN 'B



SECOND FLOOR PLAN.



SECTION B-B.



SECTION A'-A

4:40 CONCLUSION

The step minaret in Hausa minarets seems to have replaced the Hasumiya Minaret in Hausa mosques, following the Fulani Jihad (conquest) and is almost certainly a Fulani innovation - one with as apparent antecendents - in Songhai/Mali mosques where the stairways is invariable inside in minaret.

The Hausa mosque building then seems to have placed considerable emphasis on the Hasumiya minaret, in much the same way as in Songhai!Mali structures. Later and more substantial mosques in the larger urban centres, notably Kano and Katsina, were dominated by very heavy Hasumiya towers. 19th C Fulani rule was accompanied by the building of mosque without minaret towers but with external staircases for the call to prayer.

The extent to which mosque design was modified due to the teachings of religious reformers like Usman Danfodio is still obscure. Why, for instance, are the Mihrabs of the Hausa-Fulani mosque rectangualr in form and why were the Habe Hasumiya minarets replaced by the Matakala (step-minarets) in the 19th C? It seems possible that the change may have been for religious reason, but no evidence has been provided to support it.

"WE CANNOT THEREFORE, PRESUME THAT,
AESTHETICS CONSIDERATIONS EXISTS AT THE
BECINING, THE BEGINING OF ART IS IN SILENCE"

LOUIS KHAN

CHAPTER 05

RESTORATION TECHNIQUES

5.00 RESTORING MONUMENTS, HISTORICAL BACKGROUND

Only the last hundred years or less has there been any serious research on artistic, as distinct from literary, monuments. A rule of thumb approach to restoration has lasted right down to many restored monuments. Restoring a work meant, quite simply, adapting it to fufill new function and to satisfy the canons of contemporary taste. During the Renaissance, classic antiquity was regarded as an infalliable teacher and a matchless source of inspiration, but almost unbounded admiration for celebrated monuments, its authentic witness, did not render them sacrosanct. However lofty their aspirations, however passionate their devotions to the humanities, it is difficult not to feel that, it extolling antiquity, these early classicists were really seeking the admiration of their contemporary for their own elaboration of the original. Not all the arts use the same methods, Architecture ranks as an art in the same way as painting and sculpture, but unlike other works of art, building, its requirement conditions both the living significance of architectural monuments and their resortation.

When an architectural monument no longer serves the purpose for which it was built, its conservation ceases to be a practical necessity and becomes a purely cultural tasks. The importance attributed to which will depend on the cultural maturity of succeeding generations and their sense of the urgency of preserving their cultural heritage.

5.10 GENERAL PRINCIPLES

The architect restorer can benefit from recent research on traditional building materials. Reports are available on the deterioration of various materials in different climates; Techniques should be worked out on the basis of experiements, which have shown good results; practical, traditional materials and methods should be combined with proceedures based on precise scientific experiments - though the restorer, who is an architect by training and must remain one, will still need to exercise his acute critical faculties.

The fact that material form, content and intrinsic beauty are all equally important makes it imperative to apply a wide variety of techniques. Different materials will demand different methods, subject perhaps to change with the fluctuation of artistic values. This makes it extremely difficult to lay down any hard-and-fast rules. It is nevertheless essencial to work out practical methods and collate specific

technical information regarding the behaviour and use of various materials (suitability, durability, resistance, colour, dimensions, volume, and so on).

5.11 WHAT IS RESTORATION?

How does restoration differ from conservation? All those concerned with conservation will agree that, in principle, it means maintaining edifices to prevent them from falling into disrepair, and repairing previously disfigured parts. In practice, when dealing with important buildings, an economic factor is almost always involved.

Restoration is partly justified when it adapts for new purposes edifices that had ceased to have any, but only the condition that the restorer has creative and artistic ability can ensure that the reconstructed or new elements are in harmony with what remains of the original.

The need for careful historical, technological and structural research is evident, further research will frequently be necessary, so that plans for restoration are nearly always provisional. For major edifices it should be made a general rule not to embark on restoration without first making an exhaustive study that includes the exterior, the individual sections, the roofs, the foundations and even the most remote and inaccessiable parts where deterioration may have occured; a survey alone is not sufficient.

5.12 WHY RESTORE?

Restoration is seldom undertaken until deterioration has reached an advanced stage. At this point, the need for it cannot be questioned, whereas the need for preventive measures earlier can always be questioned and work differed for financial reasons, such being the case, the problem is almost invariably to restore a monument in a more or less advanced stage of degradation, caused by all kinds of factors - the passage of time, weathering, infiltration of water, and so on.

The state of conservation of a monument can depend on both climate and location. If cold North winds occur, the windward sides of buildings suffer more than the sheltered sides.

When such deterioration occur in monuments, the general rule is that, a thorough preliminary investigation which takes account not only of the original forms but of all subsequent changes must always be made before embarking on any restoration whatever.

A monument can be striking token of continuity, if its main significance is to recall a person, an event, a stage of civilization, any modification introduced lessens this evacative value and should be avoided.

In deciding whether or not restoration is justified, it is not only the degree of deterioration that counts, but the purpose, and the methods that can be used. It is better to maintain a monument in its existing condition until its value can be more properly appraised than to subject it to ill-considered changes, however well-intentioned.

5.20 CONSERVATION AND RESTORATION: OPERATIONAL TECHNIQUES.

Conservation refers to the systematic measures taken to keep monuments in good conditions - including measures needed for the care of particular parts, such as roofs, fixtures, etc. Restoration means, restoring the structure to its normal static and functional condition in order to re-equip it to fulfil its original function or to fit it for a new purpose.

This distinction does not imply that conservation is more important than restoration or vice versa. Indeed, conservation often depends on careful everyday use, efficient mantenance, with due attention to heating, lighting, water distribution, refuse disposal, ventilation, etc.

5.21 CONSERVATION

An important monument which has survived so far must be preserved intact at any cost. Routine maintenance should affect structural and appearance as little as possible. However, it is a mistake to skimp on everyday upkeep repairs. Minor routine repairs are not emergency measures, and should be carried out with as much care as restoration proper.

Major maintenance, involving larger budget requirements, is necessary for these parts of a structure which need periodical renewal or which are particularly liable to damage due to wear and tear. These include work on (a) Foundations, (b) Roofs, (c) Floors and Interior fixtures, etc.

Let us now take these items one by one.

FOUNDATIONS:

Repairs may have to cope with (a) the disintegration of foundations through faulty construction or (b) collapse due to the weight of later additions made to the building. If the strata upon which the building was errected are level and firm the disintegration of the foundations may not imperil the building; if the strata are irregular, serous damage may follow, because of tilting and the loss of equillibrium.

Repairs to damaged foundations are done section by section. First excavation are made along the walls over long stretches, about 3-4.5 metres, the walls of the excavations must be shored up. The old foundations then be demolished across their while thickness, each time, the new section of foundation must be rebuilt immediately. The next step replacing the damaged parts of the foundations, is to repair damage part of the building proper. Where the collapse of the foundation is caused by overload resulting from additions to the original building, the situation can be remedied by demolishing the whole or part of the additional sections.

ROOFS:

Roofs are normally considered to have two component parts: the supporting frame and the covering.

The supporting frame is, in some cases, visible from the inside of the building, of which it then forms an integral part. The materials and structures should be conserved, provided they are sound and do not constitute a fire hazard.

Roofs or flat roofs which consist of wooden frames covered over with protective layers of earth and straw; span roofs consisting of thick layers of straw or cane; roofs made of the bark of trees; and other types exists. They vary from region to region

and use various local materials and techniques. It is important to prevent these particular local techniques from dying out. It is not possible to make any general recommendations, except as regards materials which are used in virtually the ame way in various places, such as baked clays, which are extremely common in various forms, all over Europe and Asia, America and Africa.

FLOORS AND INTERIOR FIXTURES

Floors and pavements can and do play an important part in determining the character, not only of the interiors, but of entire architectural ensembles such as squares, gardens, terraces, etc. They can be of a great variety of types. Simple mud floors, patterned floors in two-coloured tiles such as those of Bibliotheca in Florence.

The commenest method of restoring floors is to replace them. This is usually done with materials similar to the originals in design, shape and colour. Old floors should not be wholly replaced except where completely worn out or destroyed by accident, and even so, only if they are not unique of thir kind.

5.30 PROVISIONAL OPERATIONS AND PRECAUTIONARY MEASURES.

5.31 SUPPORTS

Temporary supports or props are frequently required urgently. A building in danger of collapsing, an unsound facade, a corner about to rotate which would undermine the whole structure, a sagging floor, and so on, require props to prevent collapse and by the time required to plan and carry out the necessary restoration.

5.32 DRAINAGE

Drainage may take various forms, such as permanent measures to drain ground water away from a building when crypts or basements are subject to permanent or periodical flooding; or temporary measures to drain water out of excavations made for the laying of foundations. The only way of dealing with this phenomenon would seem to be to lower the water by means of dikes, locks, and so on. But the measures taken in every case depend on local conditions and the available resources.

5.33 CEMNTATION

In the case of buildings standing on ground whose solidity is impaired by the infiltration of water, the ordinary procedure has invariably been to drain off the water. This, however, does not always prove

satisfactory since it may lead to changing the conditions of the soil rather than consolidating it. A new system, initiated in the course of the 19thC; has gradually spread that of consolidating the ground by cementation. This is done by boring down to the repaired depth, blocking off the area to be consolidated and injecting under pressure a liquid, slow setting, Portland Cement mixture. This method too is unfortunately risky and must be applied with the greatest care.

5.34 HUMIDITY CONTROL

The effect of prolonged contact with soil soaked with water. Humidity usually spreads along the surface layers of plaster, spoiling the surface and causing patches of damage, though the wall itself may be in good condition. Drying the walls, cutting them at the base and inserting a layer of some isolating materials to prevent capillary action; lowering the water table. Since a wall which had once been soaked through will obviously be more vulnerable to damp in future because it becomes porous, investigations have concentrated on methods of cutting into the wall at the base and insulating it from the foundations.

5.35 PARASITES

Another danger to building materials is systematic destruction by insects. The most dangerous are termites (white ants) against which early and vigorous measures must be taken,for with their varocious appetites. They quickly reduce timber to a thin shell riddled with tunnels. Several commercial means of treatment exists, varying from the injection, under pressure of insecticides to dismantling affected wood and immersing it in solutions which will kill the insects and destroy eggs and larvae.

5.40 SUMMARY

Historically and artistically important buildings have been disappearing at an ever-increasing rate during the 20thC. In part such destructions or wear is due to natural process in which stone is converted to gravel, sands, clays, and earth; timber to humus; metals to oxides, and salts. Geological and climatological factor, bacteria, fungi, and the higer plants degrade such materials in their natural state as well as when they are found in buildings. Moreover, industrial wastes, in which acids, salts, and many organic compounds are introduced into the atmosphere and water supplies, attack monuments as much as they affect the biosphere adversely.

Catachsms have taken their toll. Floods, earthquakes, volcanic eruptions, violent storms, have levelled or destroyed important structures in the long history of human civilisation. Nevertheless, the most serious threat is MAN. Wars, the action of vandals, even neglect, have razed countless monuments; and economic and social factors pose the biggest challenge to the conservation of our material cultural heritage.

The rising price of desirable urban real estate, the cost of paying skilled craftsmen to carry out conservation or restoration work on buildings made before power tools existed, means that it is frequently less expensive to destroy groups of historically or artistically important buildings and replace them with ones of contemporary design, than to restore or adapt them to meet acceptable standards of lighting, sanitation, and so on. Thus it happens, that a scheduled monument remains, but bereft of the buildings which were historically associated with it, and surrounded and dwafted by high buildings.

High buildings and mass housing developments are found everywhere, so that the modern sections of Tokyo, London, New York, Lagos, resembles each other more than they do in the older quarters within their

respective boundaries. Traditional architectural patterns developed over the course of generations in relative isolation have produced marked differences between one place and another. Preservation programmes should help to perpetuate urban variety and maintain continuity between the present and past generations.

"NATURE HAS GIVEN US NOT KNOWLEDGE ITSELF,

BUT THE SEEDS THEREOF"

SENECA

CHAPTER 06

6.00 SITE ANALYSIS

6.10 SITE LOCATION:

Katsina Gobarau Minaret is located within the boundary of Katsina town. It is within the arewa ward north end of the city. Katsina has an attitude of about 500m above sea level. It lies on latitude $12^{o}58'N$ and longitude of $7^{o}45'E$. The soil around the minaret mostly comprises of crystalline rocks of the basement complex and sediments of cretacious Gundumi formation.

The area around the minaret is densely populated with residential houses north, and south of it. East of the minaret is a large Borrow-pit, while west of the tower is a major road leading to the market. The market is around 1000 metres south of the tower. South of the minaret before the residential unit, is a primary school with six rows of classrooms. Vegetation is fair around the area with mostly neem trees and delonix trees only. There are little or no grasses (Sahara type). The area is endowed with essencial services, like electricity, telephone and water services. But generally, there is poor sewage and drainage layout.

6.20 SITE SELECTION:

Since the regulations of the National Commission on Monuments and Antiquities require that no structure should be build around the minaret in order to preserve the minaret, while the main objective of having a museum around that area is to enhance the monumentality of the minaret. And the fact that the whole area around the tower is built up makes it difficult to find an adequate piece of land for the museum close to the tower without going demolishing structures.

6.21 SITE PROBLEMS

The major problem is to find a suitable site as close as possible to the minaret, if possible to enclose the tower. Because of this reasons, there is then the demand that for the museum to be possible, near the tower some buildings in the area have to be domolished in order to secure a piece of land for the museum. In considering which of the buildings to be demolished, some criterias were followed both economically wise and functionally.

The criterials followed were Adaptability, Accessibility, and Demarcation. Under adaptability, considerations were made ,as, that, the site for the

proposed museum should not cause conflict between the museum and the functions in the area. The site should also have easy accessibility for both the tourists who have never been to the city as well as other visitors living in the city. Care must be taken in demarcating the site not to hide the museum completely from visual accessibility. After considering all the above, a site enclosing the minaret was selected, although with little problems and proposals to be solved and made. The site has to be cleared of some buildings in order to make way for the museum. The Borrow-pit east of the site is also included. There are proposals made on this borrow-pit, to be discussed later.

The demolitions to be made comprieses of the following. The residential compounds, North of the minaret, are to be demolished. No resettlement is needed for them since the Federal Government had already acquired the whole site so as to preserve the minaret.

The primary school south of the minaret is to be resettled about 120 m north of the tower. There is an annexe primary school with only one row of 3 classrooms. There is also adequate site enough to accommodate the primary school.

On the borrow-pit. These proposals were as follows:-

(a) To live it as it is, and avoid development there. The disadvantage of this is that, since it is the major collector; of drains from compounds, strong odour will be blown into the site. It also blocks chances for future expansion. But it is the cheapest solution economically wise.

(b) To Drain away and fill - this will allow for use as future expansion after five years. It could also be used as a garden for recreation, which will also increase good views and green areas missing. But this is expensive considering the size of the borrow-pit. In 1977, Max Lock Group computed the cost of filling this borrow-pit at the rate of ₦6.00 per $1m^3$ - it was found that it will cost about ₦1,478,880 (First Tier Rate).

(c) To Reshape it and use as Water Reservior - Considering Katsina to be a dry town in terms of rain, water reserviour could be very useful for both the museum itself and the public in general. It will also increase some cooling effect in the surrounding environemt. It is relatively cheap to implement.

(d) To Develop and put Amphitheatre -

Considering the nature of the area (climatically) an amphi theatre will be very hot (heat absobery). That, it might be un-comfortable to be used during the early evening hours. It will also emit heat to the surrounding environs. There will also be problem of water drainage. It will also be very expensive to construct.

6.22 SITE ZONING

The area of the chosen site was divided into functions of the museum which was done base on the conditions existing on the site. These are, the noise zone, quite zone, viewes, accessibility, as well as existing structures on site. The functions of the museum were divided into 4 major functions as follows:

(a) The exhibition space, which is the focus of the museum for the display of the exhibits. This part of the complex needs to be sited close to the major entrance as well as in a quite zone of the site.

(b) The educational facilities, mainly lecture theatres and library, needed to be placed in a quite zone as well as close to the entrance. They do not need good views, since good views may distract attention of readers.

(c) The administration unit, this is rather a private function in the museum complex. It is placed at a corner close to the tower, since the resoration laboratories are contained in the administration unit.

(d) The recreation facilties, ie. the restaurant, bar, etc were placed close to the Borrow-pit for views as well as water coolings, they are also close to the tower for crisp and clear view of it.

The main entrance is placed south of the site where a new access road will be proposed off the existing major road from the market.

The noise from the major road will be zoned away by planting caniferous trees to buffer from noise, dust, and pollution.

The parking spaces will be situated infront of the major entrance wouth of the museum complex.

6.23 SITE CONCEPT/STRUCTURE

As a base for site concept and structure, for the distribution of functions within the museum complex, the streak system as well as courtyard concept adopted. The systems were used in zoning the functions within the museum complex while other problems were solved in the design concept.

The streak system divides the spaces into:-

(a) Exposition - For all kinds of exhibitions.

(b) Recreation - Including open and enclosed space if possible green areas, libraries, theatres as well as courtyard.

(c) Facilities - Including laboratories, where exhibtions are prepared, offices to organise and run the museum workshops and different social facilities.

The advantages of using this streak system are:-

1. Systematization of the functional program which will enable the most flexible and that means optimum utilization of the building.
2. Visitors will be allowed to see only the necessary parts of the complex they are supposed to without having to go through spaces they have nothing worgh doing with.
3. Specialised visitors will obtain optimum condition for examining the exposed artifacts and for taking part in the demonstration of some of the process.
4. As part of themuseum program, there will be organised spaces for recreation, educational as well as temporary exhibitions.

"WE MUST NEVER START SOMETHING OVER AGAIN,

BUT ALWAYS MATCH FROM SYNTHESIS TO SYNTHESIS,

FROM CONCLUSION TO CONCLUSION"

GUSTAVE COURBET

CHAPTER 07

THE DESIGN REPORT

7.00 DESIGN BRIEF

This thesis is supposed to be a design of a museum on a historical site in Katsina. This historical site consist of the gobarau minaret - which was built about 300 years ago, to serve the function of a mosque. The museum is to preserve, restore, and exhibit Gobarau Minaret as well as other antiques and works of art that relate to the tradition and culture of the people of Katsina in particular and Nigeria in general.

The museum will be designed in such a way that the museum underline the prominence as well as enhance the monumentality of the minaret, so that the museum and the minaret will be seen as an integral unit. The complex will be contemporary in character and construction with some elements of traditional architecture to identify it with the sorrounding environment.

The museum will also be designed to serve as an educational, recreational and cultural centre. The museum will also have administration with the following administrative hierarchy.

Director General

- Deputy Director (Admin)	- Deputy Director (Research)
- Museum Curators	- Curators
- Snr. Ast. Secretaries	- Ethnographer, Arheologist, and Historian
- Administrator (A.V. Unit)	- Chief Technical Officer
- Accountant	- Chief Exhibitioners
- Executive Officer	- Chief Photographer
- Asst. Executive Officer	- Conservator
- Clerks	- Craftsmen
- Gardeners	- Artisans
- Securitymen	- Museum Guards

From the above, administration, it is possible to extract the following functions with some certain aucilliary facilities, to ensure the smooth running of the complex; viz -

- ADMINISTRATION UNIT
- MUSEUM DISPLAYS
- DOCUMENTATION
- COLLECTION/ACCESSIONING
- CONSERVATION
- STORAGE/COLLECTION
- VISITOR SERVICES
- RECREATION
- EDUCATION

7.10 BRIEF DEVELOPMENT

7.11 ADMINISTRATION:

The administration is divided into two units, the central administration and the museum administration for centralisation of functions, as well as for easy running of the complex. The administration units consist mostly of offices, record stores, design studio, as well as some laboratories.

7.12 MUSEUM DISPLAYS:

This include spaces for the display of the exhibits which will be the main focus of the complex. It consists of 3 main permanent exhibition galleries and two temporary exhibition concourses.

7.13 DOCUMENTATION:

For determining the nature of the materials and its use as well as documenting artifacts for record purpose before keeping for exhibition. This mostly consists of offices, photographic, laboratories, drawing room, handling areas, etc.

7.14 COLLECTION/ACCESSIONING:

The collection and accessioning unit is for the receiving of new materials, artifacts and objects for displays, as well as organising to buy new artifacts. It consist of delivery area, some few offices, and some circulation spaces.

7.15 CONSERVATION:

This consists of preservation workshops for the preparation of the materials before exhibition or storage in order to protect them against deterioration. Under this unit are some offices, restoration, lab.,conservation workshop, loading bay area, etc.

7.16 STORAGE/COLLECTION:

This is the main storage section for all the artifacts, objects and materials collected from the conservation department for safe keeping before going for exhibition. It consists of the main collection store, handling area and circulation area.

7.17 VISITOR SERVICES:

This is the reception area including the main entrance. It contains sourvenir shop for open and participating exhibitions. Other functions here include information desk, meeting room, shops, shopstores, concourse for temporary exhibition and entrance hall.

7.18 RECREATION:

This is introduce to increase the popularity of the museum so as to attract more people as well as for generating more funds for the museum. Things available here include cafe, restaurant with a kitchen complex, bar and barstore, some few offices, etc.

7.19 EDUCATION:

Since one of the purpose of a museum is to educate, a unit is curved out to take care of all educational facilities for the success of educating the public. Functions included under this unit are multi purpose theatre, audio visual theatre, library, media resource centre, some offices, and so on.

7.70 SCHEDULE OF ACCOMODATION:

7.21 ADMINISTRATION (CENTRAL)

- DIRECTOR GENERAL	1	$24m^2$
- DEPUTY DIRECTOR (ADMIN)	1	$20m^2$
- D/DIRECTOR (RESEARCH)	1	$20m^2$
- D/DIRECTOR (EDUCATION)	1	$20m^2$
- SECRETARIES	3	$36m^2$
- ASST. SEC.	1	$12m^2$
- ACCOUNTANT	1	$16m^2$
- EXECUTIVE OFFICER	1	$12m^2$
- ASST. EXECUTIVE OFFICER	1	$12m^2$
- CHIEF SECURITY OFFICER	1	$12m^2$
- RECORDS STORE	1	$16m^2$
- MUSEUM CURATOR	1	$12m^2$
- CLERKS/TYPISTS	6	$24m^2$
- DESIGN STUDIO	1	$28m^2$
- LOBBY	1	$12m^2$
- LAVATORIES	4	$12m^2$
TOTAL		$288m^2$

7.22 MUSEUM ADMINISTRATION:

- SENIOR ASSISTANT CURATORS	3	$36m^2$
- SECRETARIES	3	$36m^2$
- EXECUTIVE OFFICER	1	$12m^2$
- ASSISTANT EXECUTIVE OFFICER	1	$12m^2$
- CLERKS/TYPISTS	4	$16m^2$
- RECORDS STORE	1	$8m^2$
- CONVENIENCES	4	$12m^2$
TOTAL		$132m^2$

7.23 DOCUMENTATION AND RESEARCH:

- ASST. DEPUTY DIRECTOR (RESEARCH)	1	$12m^2$
- SECRETARY	1	$12m^2$
- CHIEF PHOTOGRAPHER	1	$12m^2$
- ASSISTANT PHOTOGRAPHER	1	$8m^2$
- PRINTING OFFICERS	3	$24m^2$
- ARCHIVES - MICRO FILMS	1	$16m^2$
- PHOTO LABORATORY AND STAFF	1	$45m^2$
- DRAWING ROOM	1	$24m^2$
- HANDLING AREA - 10%	1	$16m^2$
- LAVATORIES	3	$12m^2$
TOTAL		$161m^2$

7.24 STORE/COLLECTION:

- MAIN COLLECTION STORAGE	3	$106.5m^2$
- HANDLING AND CIRCULATION	25%	$28m^2$
	TOTAL	$134.5m^2$

7.25 VISITOR SERVICES:

- ENTRANCE LOBBY	1	$8m^2$
- INFORMATION AND WAITING	1	$10m^2$
CRAFT SHOP	1	$9m^2$
SHOP STORAGE	1	$12m^2$
SHOP CONTROLLER	1	$12m^2$
MEETING ROOM	1	$48m^2$
CONCOURSE (TEMPORARY EXH.)	1	$100m^2$
	TOTAL	$195m^2$

7.26 MUSEUM'S DISPLAYS:

	1	$12m^2$
MUSEUM OF HISTORY ARCHIVES		
- ASSISTANT CURATOR	1	$12m^2$
- HISOTRIAN	1	$12m^2$
- CHIEF EXHIBITOR	1	$8m^2$
- PERMANENT EXHIBITION GALLERY	1	$150m^2$
- TEMPORARY STORE	1	$12m^2$
- INTRO. GALLERY	1	$12m^2$
	TOTAL	$206m^2$

MUSEUM OF ARTS AND ARCHEOLOGY

- ASSISTANT CURATOR	1	$12m^2$
- ARCHEOLOGIST	1	$12m^2$
- CHIEF EXHIBITOR	1	$8m^2$
- PERMANENT EXHIBITION	1	$175m^2$
- TEMP. STORE	1	$12m^2$
- INTRO. LOBBY	1	$12m^2$
	TOTAL	$231m^2$

ETHNOGRAPHY AND FOLK MUSEUM

- ASSISTANT CURATOR	1	$12m^2$
- ETHNOGRAPHER	1	$12m^2$
- CHIEF EXHIBITOR	1	$8m^2$
- PERMANENT EXHIBITION	1	$132m^2$
- TEMP. STORE	1	$12m^2$
- INTRO. LOBBY	1	$12m^2$
		$188m^2$

7.27 COLLECTION/ACCESSIONING

- RECEPTION/DELIVERY AREA	1	$8m^2$
- COLLECTION OFFICER	1	$8m^2$
- SECURITY GUARD OFFICE	1	$16m^2$
- CIRCULATION AREA	75%	$6.5m^2$
		$38.5m^2$

7.28 CONSERVATION DEPARTMENT:

- CONSERVATOR	1	$12m^2$
- TECHNICAL OFFICER	1	$12m^2$
- ASSISTANT TECHNICAL OFFICERS	2	$16m^2$
- CRAFTSMEN	3	$20m^2$
- ARTISANS	3	$20m^2$
- RESTORATION LABORATORY	1	$96m^2$
- CONSERVATION WORKSHOP	1	$30m^2$
- LOADING BAY AREA	10%	$12m^2$
- LOBBY	1	$12m^2$
- storage	1	$6m^2$
	TOTAL	$236m^2$

7.29 EDUCATION:

- CHIEF EDUCATION OFFICER	1	$12m^2$
- ASST. EDUCATION OFFICER	1	$8m^2$
- ADMIN. AUDIO VISUAL UNIT	1	$12m^2$
- LIBRARIANS	2	$16m^2$
- TYPISTS/CLERKS	4	$20m^2$
- STORAGE/FILLING	1	$8m^2$
- LIBRARY STORE	1	$8m^2$
- THEATRE (MULTI PURPOSE)	(200)	$170m^2$
- A.U. THEATRE	40/50	$32m^2$
- LIBRARY	50	$115m^2$
MEDIA RESOURCE CENTRE	1	$20m^2$
- LAVATORIES	3	$12m^2$
	TOTAL	447

RECREATION:

- KITCHEN SUPERVISOR	1	$12m^2$
- ASSISTANT KITCHEN SUPERVISOR	1	$8m^2$
- RESTAURANT	1	$64m^2$
- KITCHEN COMPLEX	1	$24m^2$
- STORAGE	1	$12m^2$
-DELIVERY AREA	25%	$25m^2$
- LAVATORIES	3	$12m^2$
- BAR	1	$48m^2$
- BAR STORAGE	1	8m2
- OUTDOOR GARDEN	%	
- LAVATORIES	6	$28m^2$
	TOTAL	$213m^2$

PACKINGS:

- STAFF PACKINGS	10 Cars	$168m^2$
- PUBLIC PACKING	20 Cars	$336m^2$
- DELIVERY PARKING	2 Trucks	$39.68m^2$
- CIRCULATION	30%	$164m^2$
		$707m^2$

- TOTAL AREA FOR COMPLEX = $5,176.5^2$.
- ALLOWANCE FOR CIRCULATION = 15% = $776.47m^2$
- GROSS AREA FOR THE COMPLEX = $5,952.975m^2$
- TOTAL SITE AREA = $7,674m^2$
- EXPANSION = 7,674-5,952.975
  = $1,721.025m^2$

" A PROBLEM WELL STATED, IS A PROBLEM HALF SOLVED"

CHARLES KETTRING

THE DESIGN

7.30 PROBLEMS IN MUSEUM DESIGN:

" The problems of museum design increases each year. Everybody seems to know what a museum should be. Few are in agreement as to what a museum should be". Robert Gretton.

This statement, gives us an insight into the problems faced by museums all over the world. These problems are identical and are found in every part of the world. They revolve round six subheadings thus:-

(a) Circulation

(b) Security

(c) Damage

(d) Entry and Exit

(e) Fire

(f) Decay

7.31 CIRCULATION:

Circulation here refer to the movement of people, both workers and visitors, and museum artifacts.

Circulation as provided in this museum is for both horizontal and vertical movements. For horizontal movement, walkways, corridors, and passages are provided. Sections of the museums opened to the

public are directly accessible from the main entrance. The workers and freight movement is through the second entrance to administration.

7.32 SECURITY:

Museums and art galleries contain objects of value. Some have priceless articules and must maintain the highest level of security. Even those with relatively mundane contents, however, should be provided with good security systems. Traditionally, reliance has been mainly on attendants or warders; in these cases it may be important to design each gallery for maximum visual courage from warding positions.

Modern practice still considers the human element to be important, but suplements it by mechanical and electronic measures. These are usually mult-level.

1. Prevention of removal of objects by placing in a secure cabinet, or fixing to solid structure, then,
2. Detection of successful removal by alarm, visual or audial, followed by -
3. Prevention of removal from building.

7.33 DAMAGE

Occasionally the aim of the criminal is not theft but iconoclasm. Only protecting the object behind glass, perspex or polycarbonate is fully effective. Some curators prefer the use of a fence, may be a rope, to keep the distance of the visitor from enjoying the exhibits. It is normal to prohibit the carrying of obviously harmful objects such as umbrellas, therefore there is need for cloak rooms. Also, the design of a gallery does not allow for ledges, nooks or crannies where percel bombs could be hidden.

7.34 ENTRY AND EXIT:

The checking of entry into a museum or art gallery by Turnstiles or electronic detection helps to maintain security. The fewer these points of entry and exits, the better or more effective the control. In this museum there is only one main entrance and exit for the galleries.

7.35 FIRE:

Damage to objects in museums and at galleries is caused not only by the fire itself but evenmore by the use of water to fight fire. Empahsis is therefore placed on prevention rather than cure. This is why the borrow-pit is included in the museum area and water reserviour is proposed in the borrow-pit. The structure and the finishes of the museum have been selected to be as incombustible as possible.

Smoke and heat detectors are recommended and fire extinquishers should be of types that minimise damage.

7.36 DECAY:

Everything in the world tends to decay, museums try to exclude the agencies of decay, and slow up the inherent process. The agents of decay as regard museum objects are many in different forms. This are:-

(a) Temperature and Humidity.

(b) Light.

(c) Deleterious elements in the air.

(d) Insects, moulds and so on.

(e) Materials used in display.

Of these agents, humidity is considered to be more dangerous to museum objects and operates in conjunction with temperature.

7.37 LIGHTING:

For objects to be seen, lighting is required. The quantity of light required for viewing objects is not easily specified but is dependent or the situation and the context of that situation within museum viewing.

As essential as light may be, it is at the same time one of the most potent agents of decay of museum objects.

The International Council of Museums (ICOM) listed those objects likely to be susceptible to be

harmed by light as: Textiles of all types, leather, feathers and paintings. Also noted were books, microscopic preparations and many natural history specimens, such as animal skin. Certain wood tend to darken and wood stained with dye can fade. Certain colourants in pastels may also fade.

Also disturbed by lighting are some jewellery, objects of metal, and mineral (inorganic) substances such as ceramics, enamels, glass and stone are practically proof against deterioration by light.

The extent of damage to these materials depends on these factors:-

(a) The intensity of the radiation,

(b) The total time of exposure of the materials in light.

(c) The quality, that is the spectral composition of the light source.

(d) The intrinsic capacity of the individual materials to absorb and be affected by radiant energy.

The ultra-violet component in the light is most potent in causing petrochemical degradation and this should be eliminated as far as possible. This can be done by interposing an ultra-violet absorbing filter between the light source and the museum object. Such filters are in form of vanishes or plastic sheets and films.

The standard recommended lighting given after due consideration of the factors are:-

300 Lux - For objects insensitive to light e.g metal, stone, glass and ceramics.

150 Lux - For objects of medium sensitivity e.g oil and tempera paintings, undyed leather, wood, horn, and ivory.

50 Lux - For objects particularly sensitive to light e.g water colors, prints, and drawings, textiles and costumes, manuscripts and miniatures dyed leather and many natural history specimens. The Lux, is the measurement of intensity of light equal to one lumen/square metre.

The following principles are also recommended for exhibition spaces:-

(i) Storage rooms and galleries should be kept unlighted when not open to the public;

(ii) Direct sunlight should always be regoriously excluded by the use of blinds, louvers or curtains;

(iii) Light sensitive materials should not be kept on permanent exhibitions unless conditions can be strictly controlled;

(iv) Ultra-violet absorbing filters should be used where appropriate. This can be affected by using special slightly - tinted glass in the cases.

If show cases are internally lit, the heat output from the light source must be kept as low as possible, and if spot lights which can generate heat are used as an external sources of lighting, every precaution must be taken to ensure that they do not cause an undesirable rise of temperature inside the show case. Show cases should not be inside as air tight as possible.

7.40 GENERAL OBSERVATIONS:

7.41 SITE LOCATION:

The general location of proposed museums, i.e the site, mostly are prefered at the centre of the town with better access transportation, but with less fatique from the noise of traffic, ensier acquisition of land (a lower cost) with atmosphere of less laden dust and gases, which when not poisonous are, to say the least, unpleasant.

7.42 MUSEUM SERVICES:

They are generally set aside to an area of about 50% of the total space available for museum complex to services of the museum. There must be easy communication between the public rooms and the museum services, it is also possible to seperate these two sections, so that they can function independently.

7.43 PLANNING:

If the meseum is to overlook a public street, it will always be advisable:-

(a) To seperate it from the stream of traffic by a belt of trees or even by flower beds.

(b) To set back the entrance in a quite corner.

(c) To allow spaces for a public car park.

(d) To think of future expansion i.e by regarding the portion to be built as a neucleus of a cell capable of multiplying itself or at least of joining up, according to plan, with future enlargement.

7.50 ARRANGEMENTS:

7.51 MUSEUM OF ARTS AND ARCHEOLOGY

The size of the room and height of ceiling was determined by the nature and dimensions of the works to be exhibited. A suitable measurement with accommodation to a height of about 4m was reached. Showcases to be used will be set in the walls - which can be equipped with locking devices and antibuglar safeguards, to be lit by artificial means.

7.52 MUSEUM OF HISTORY OR ACHIVES

This need little space for the showcases in which their exhibits are placed, and comparatively larger and numerous. Storerooms for the documents are to be kept in reserves.

7.53 ETHNOGRAPY AND FOLK MUSEUM

The exhibits here will be kept in showcases, they are often large and cumbersome, they require a good deal of space, if this is done with genuine pieces, and properties or full sized replicas - strong artificial light should be used here as being more effective than day light, hence its being located at the basement level.

7.54 ENTRANCES

The entrances will be as few as possible, to facilitate supervision and security measures. The public entrance was placed quite seperately from others. This leads into the vestibule where certain essential services will be located. The entrance hall was designed to be attractive even to the casual passerby, it also provides an easy introduction to the building, a point from which the individual visitor can find his way without difficulty, and where large parties can greeted and assembled.

From here, visitors take to the staircase which leads to any of the three exhibition galleries. The idea is to prevent delay should there be crowd.

7.60 SPACES:

7.61 TEMPORARY EXHIBITION HALL

Space needed for various temporary purposes, spaces for temporary educational exhibitions, etc. This space is set:-

(a) Apart from ittenerary followed by visitors to the museum to act as an appetizer.

(b) Close to the entrance hall and leading directly from it.

(c) It will be fully equipped with safety devices (side doors, independent electric system, isolated from rest of the buildings with regard to heating and acoustics).

- There will be provisions for dividing the room into two or more by means of hangings or easily moveable partitions.

7.62 STOREROOMS AND RESERVES

These are rooms for reserves, need not to be on the same floor with exhibition rooms. They may be in basements, in special rooms, set aside for them in seperate rooms, or in old buildings.

7.63 LIBRARY

The library is meant to serve both staff and public - the walls, doors and floors are lined with

protective materials against fire and sound coming from the rest of the museum. It is most readily accessible from the main entrance through the staircase.

7.64 OFFICES

The offices are for management and administration. Some of them are connected to the museum, through the main entrance, but with seperate entrances.

7.65 LABORATORIES

The restoration laboratory is accessible both from within the museum and from outside. It is provided at the basement level close to the minaret. It is to be lit artificially and ventillated both naturally and artificially with anti-fire devices.

The photographic laboratory is situated around the administration zone among the offices with direct access from workers entrance.

7.66 WORKROOMS

Located near restoration laboratory, placed on the basement level to avoid noise, filtering to exhibition rooms. It will be properly equipped for carpentary, electrical, and mechanical repairs.

7.70 SERVICES:

7.71 TECHNICAL AND SECURITY INSTALLATIONS

Even where money is scarce, it is never wise to begrudge cost for the best technical equipments for a

museum. Satisfactory functioning of such equipment leads to saving in management and maintenance and also in wages.

7.72 HEATING AND VENTILLATION

Most important thing in the choice and application of these is to avoid damage to museum contents. The chief dangers are:-

(a) Excessive heat or variation in temperature.

(b) Fluctuation in the degree of humidity in the air.

(c) Drought of hot or cold air blowing on pictures hung near radiators or air vents.

7.73 ELECTRICITY

All wires, controls, and fittings should be connected by a number of independent circuit to a main switch box placed near quarters for technical supervision.

7.74 PROTECTION AGAINST THEFT

Best of all safeguards is complete isolation of museum building and its out building from any other premises. By

- Method of Fencing,
- Application of electrical devices.

7.75 PROECTION AGAINST FIRE

Done by the following:-

- Site protection against fire hazards.
- The method of building, i.e materials used.
- Safeguards in immediate vicinity.
- Choice of construction materials.

7.80 ARCHITECTURAL CHALLENGES:

7.81 THE DESIGN

The building must function well and demonstrate energy conserving materials, and devices coupled with an expressed response to environmental constrains.

7.82 RESOURCE AND ENERGY USE

The building should be as self-sufficient as possible within design and monetary limits, short recovery periods, of materials and devices should be considered.

7.83 USER COMFORT

Physiological and psychological comfort of users must be ensured. For example, by zoning, spaces can be either heated or cooled depending on the function. Humidity is needed to avoid weathering of plants, static shocks, and chapped skin usually associated with "Indoor Deserts".

"SYMMETRY IS NO MORE A GENERAL LAW OF
ARCHITECTURE THAN EQUALITY IS A LAW OF SOCIETY".

EUGENE VIOLET LE-DUC

7.84 LOW MAINTENANCE

Materials and systems should be easily repaired and simple in operation. Passive systems requiring little or no attention are best.

7.90 CRITERIA FOR CHOOSING THE SHAPE OF THE MUSEUM:

In choosing the shape of the museum, three guiding principles were used:-

a. The original i.e the indegenous architecture adopted by the people where the museum is sited.

b. The cultural significance of the museum.

c. The energy requirement of the museum.

The indegenous architecture mostly adopted around Katsina, being in Northern Nigeria has always been the mud traditional construction with plane walls sometimes with decorations. They mostly have the 'Zanko' with mud dome roofing.

The use of the zankos as can be found even in the Gobarau Tower was adopted for this museum so that, it blends with the sorrounding buildings even though constructed with modern materials.

Other criterias considered are;-

- The grouping together of activities that have similar functions to save spaces and simplify circulation problem.

- The utilization of advantages offered by site conditions i.e drainage to follow natural drainage channels.
- Greater floor to ceiling height is used in rooms requiring natural ventilation since it permits warm air to rise and be vented out.
- Openings provided are designed to adapt to the change in weather. This is done by using the open balconies and terraces for the different elevations.
- Water bodies, water fountains, and the large courtyard planted are used to help in reducing the ambient air temperature.

" HALF OF ART IS KNOWING WHEN TO STOP!

KABIR.

CHAPTER 08

8.00 CONCLUSION

The main aim of this thesis is to provide a museum that will be integrated to a historic site and to solve the problems of existing museums. Another aim of the thesis is to preserve and find ways of restoring Gobarau Minaret, a historic monument built in Katsina, 300 years ago. Although this thesis deviated alot of ideas were used that are borrowed from both foreign and home designs of museums, and has been successfully been brought to a very honest and logical conclusion.

There are many problems that have been faced some of them successfully solved while some have been dismissed with most reasonable and sensible suggestions. Amongst such major problems tackled were the problem of tight site and large site constrains which indirectly influenced most of the concepts of the design of this museum. This I'm sure will make the museum more adaptable to the physical, and cultural conditions of the people of Katsina.

The siting of the museum within the city of Katsina and on the historic site within which there is already an established programme of activities on

the site provides an adequate solution of attracting the chantale by channelling the passages of movement to the minaret through the museum.

Recreational facilities were also provided within the complex to attract more chantale.

Historically and artistically, important buildings have been disappearing at an ever-increasing rate during the twentieth century. This thesis has been designed to stop such great losts.

It is also the aim of this thesis to meet the appropriate internal and external environment for the preservation of both arts, artifacts and historic monuments.

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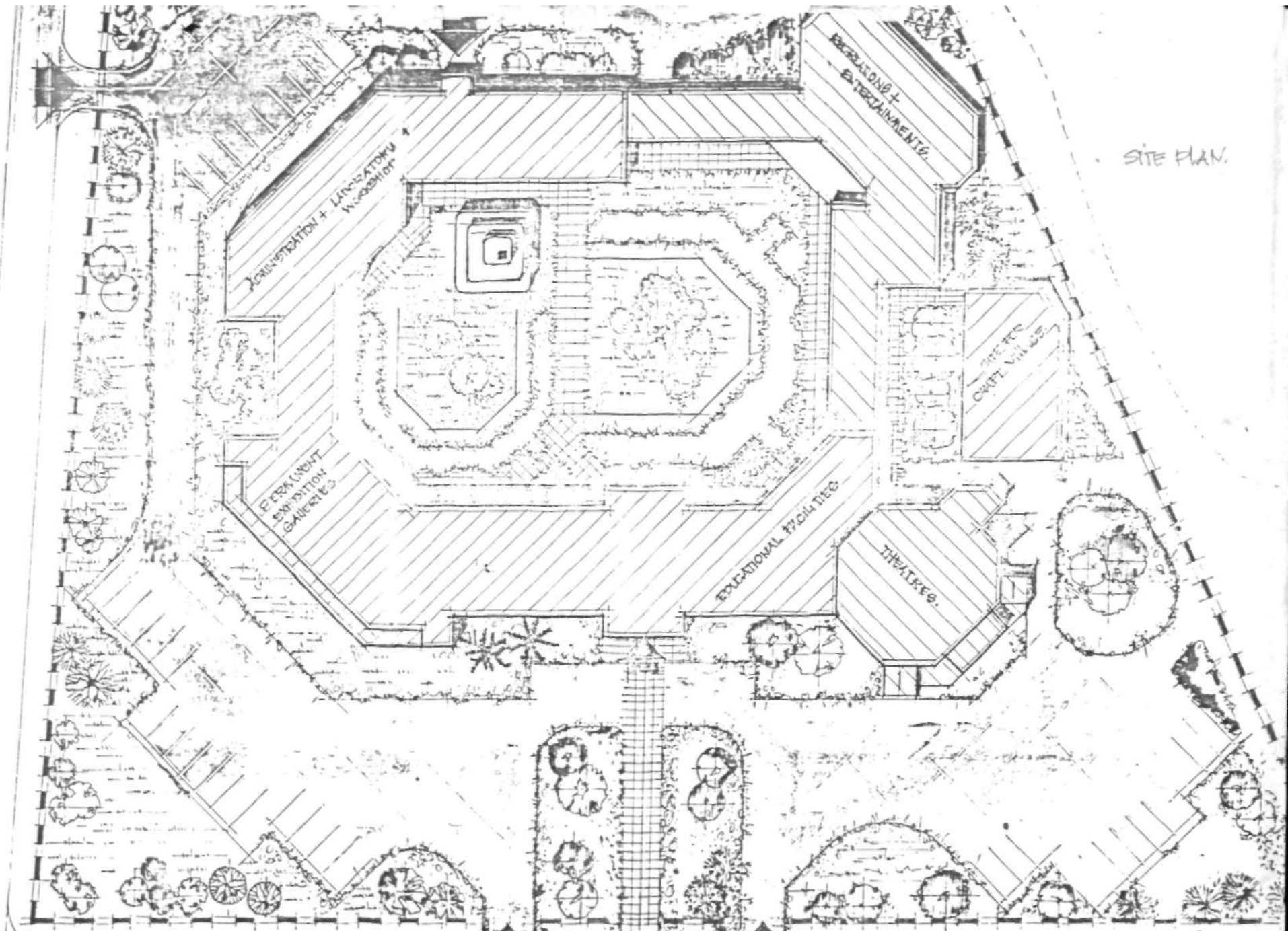
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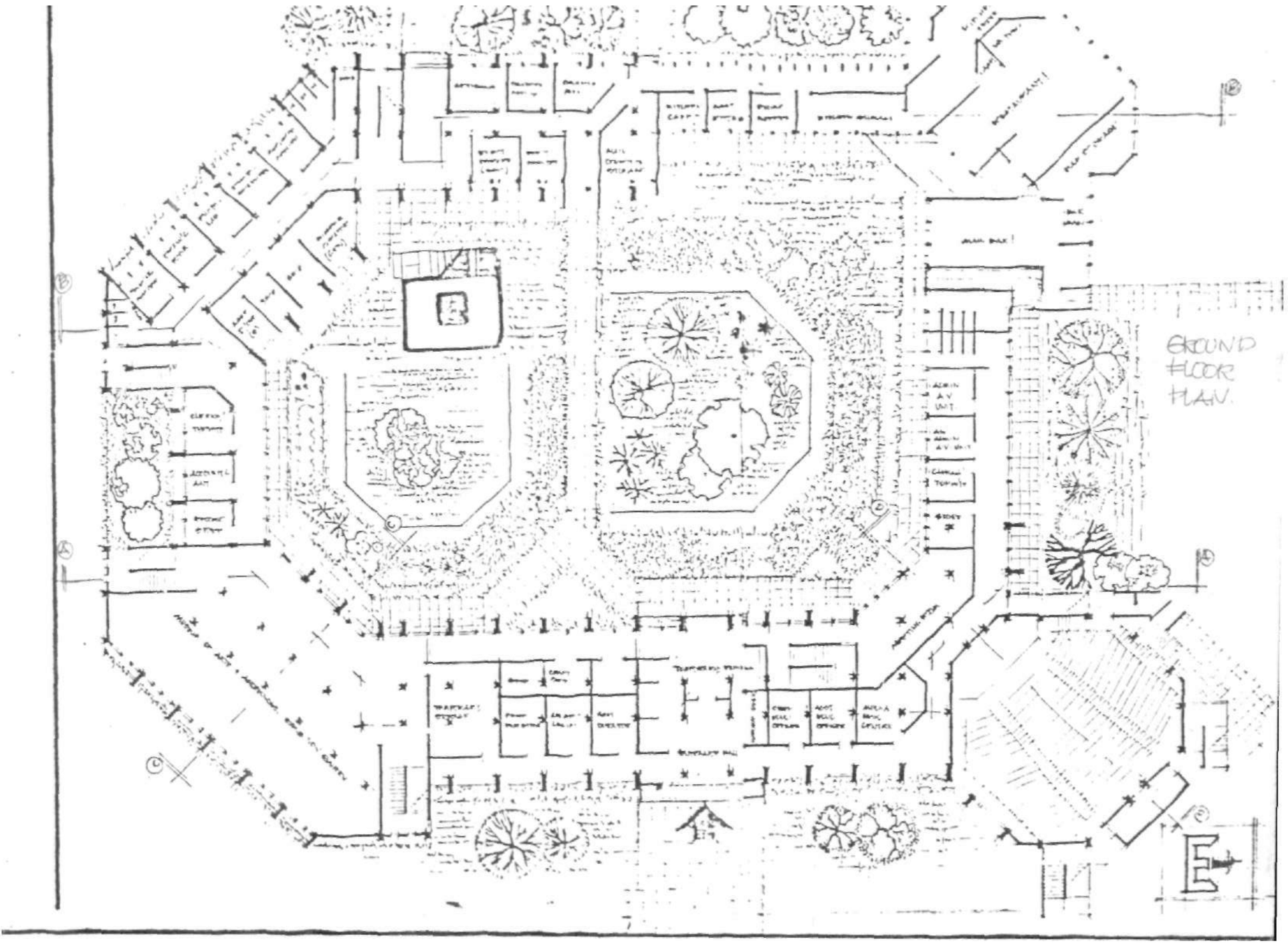
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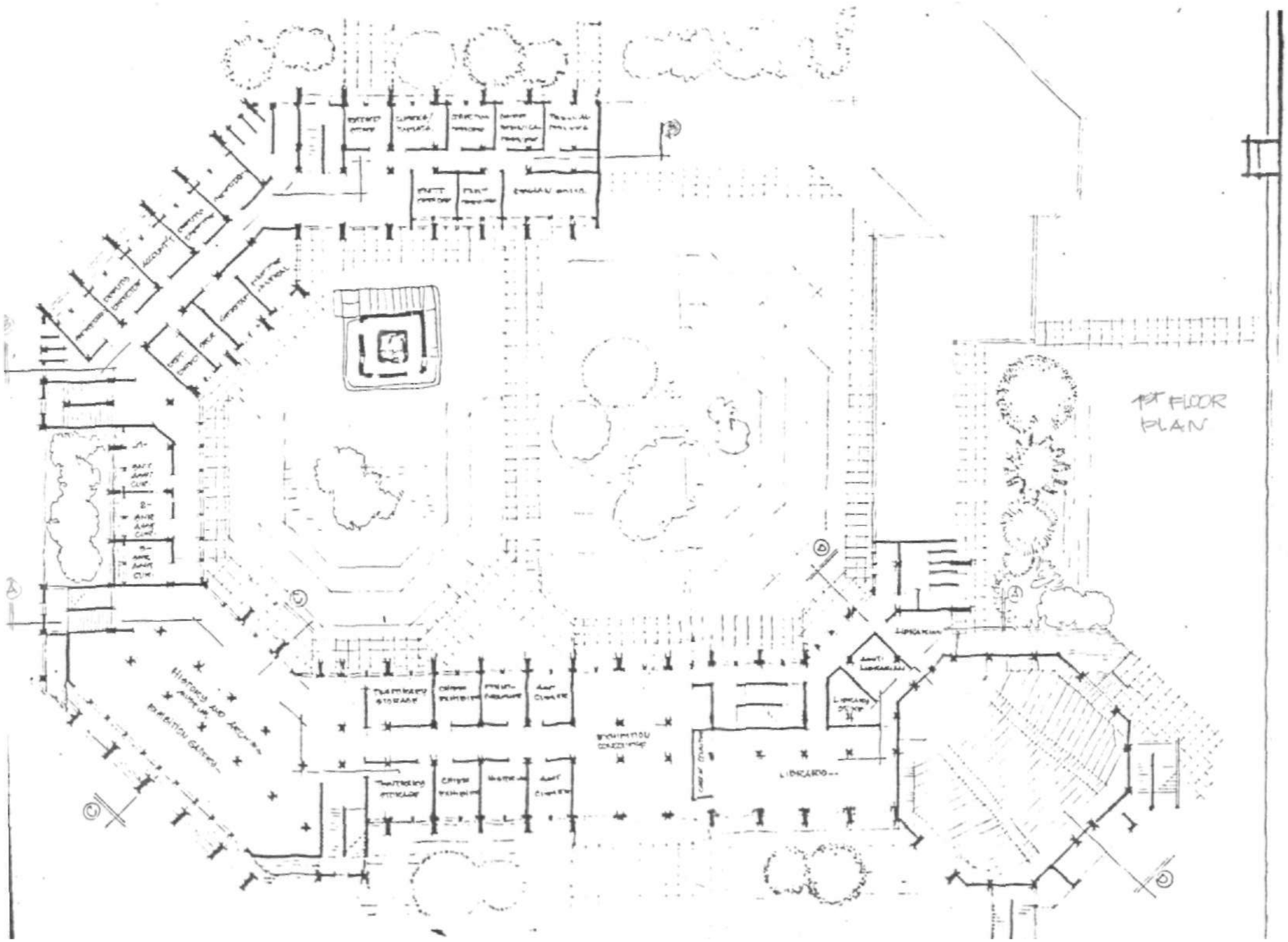
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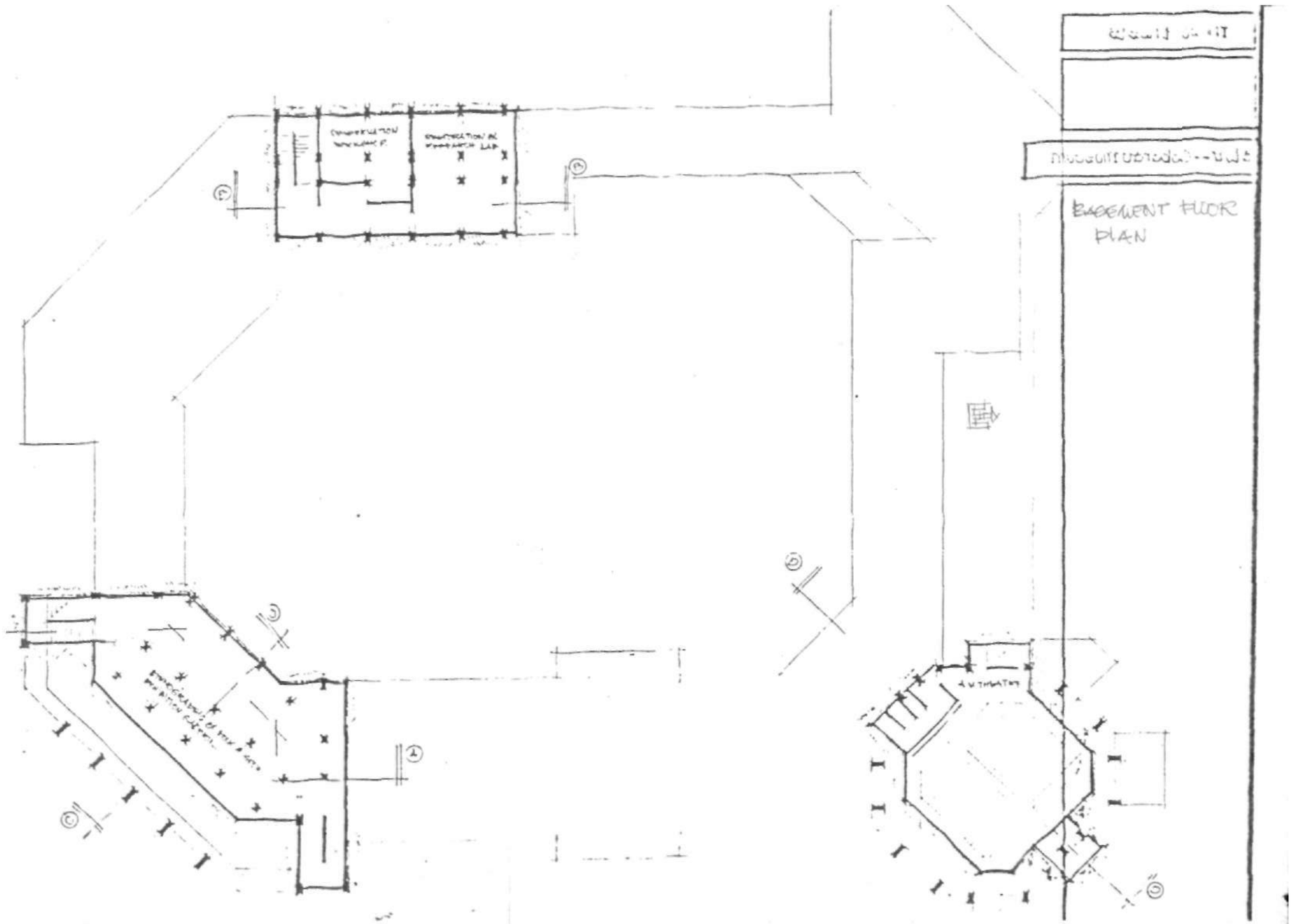
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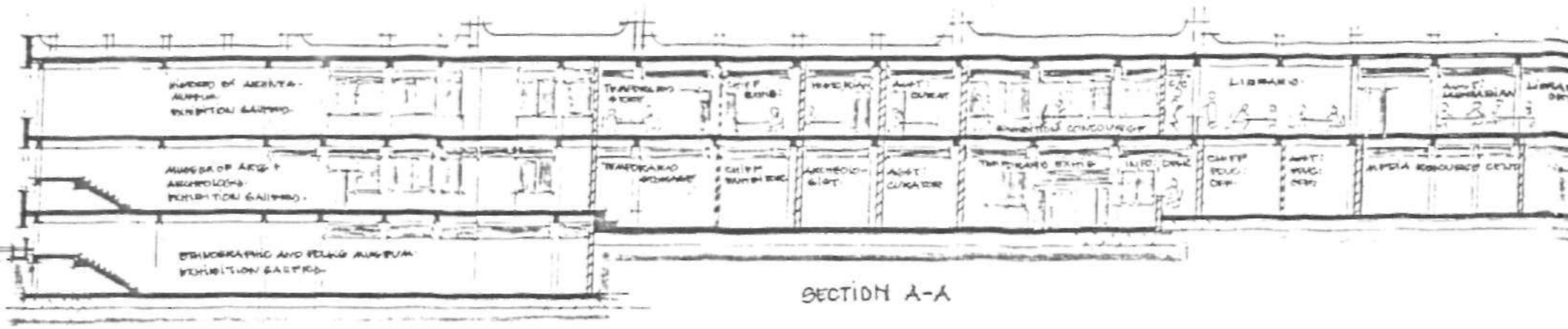

RECREATIONAL + ENTERTAINMENTS.
ADMINISTRATION + LANGUAGE LABORATORY
PERMANENT EXHIBITION GALLERIES
EDUCATIONAL FACILITIES
THEATRES.
CRAFT VILLAGE

SITE PLAN.


GROUND
FLOOR
PLAN.


1ST FLOOR
PLAN

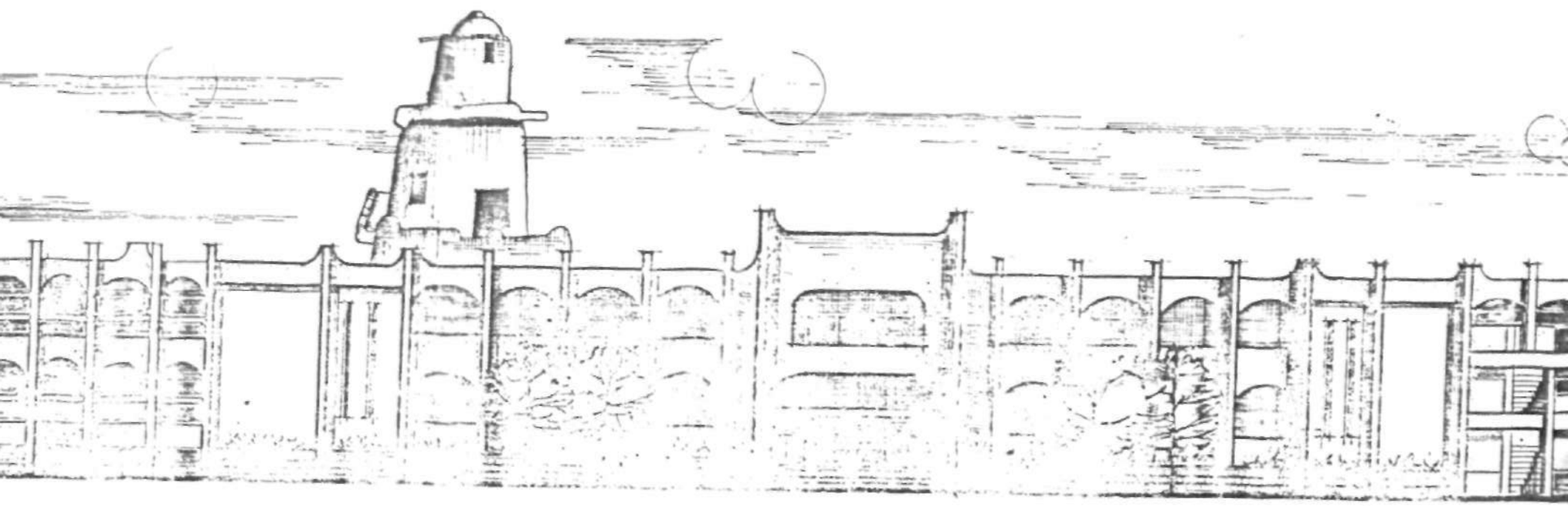

BASEMENT FLOOR
PLAN

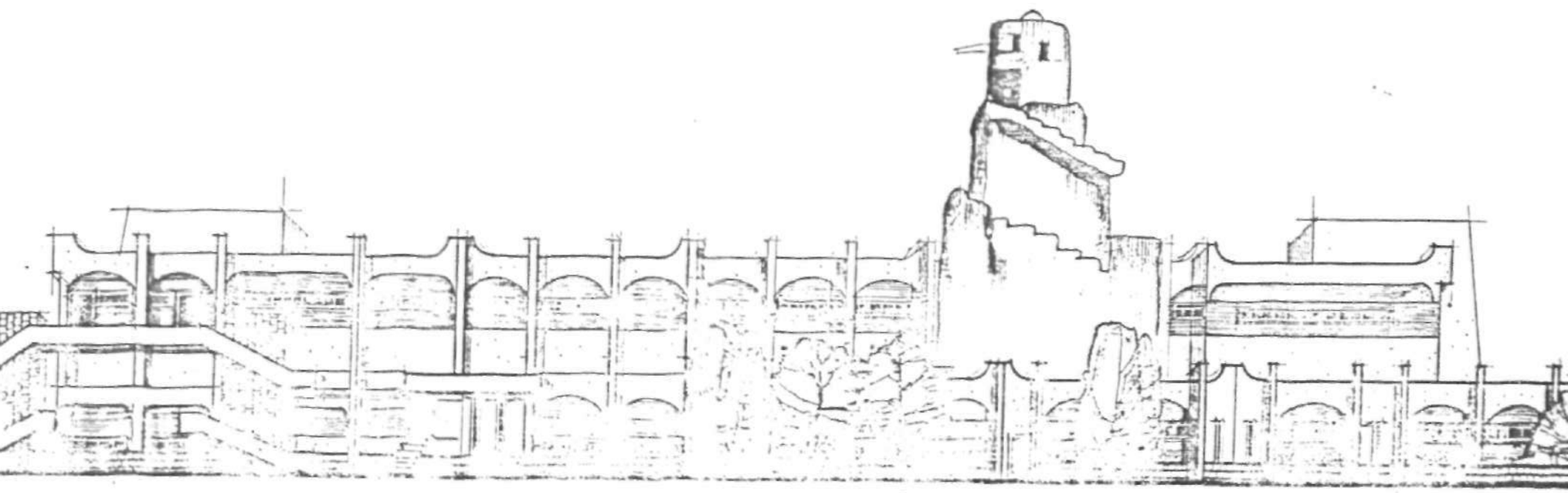


SECTION A-A

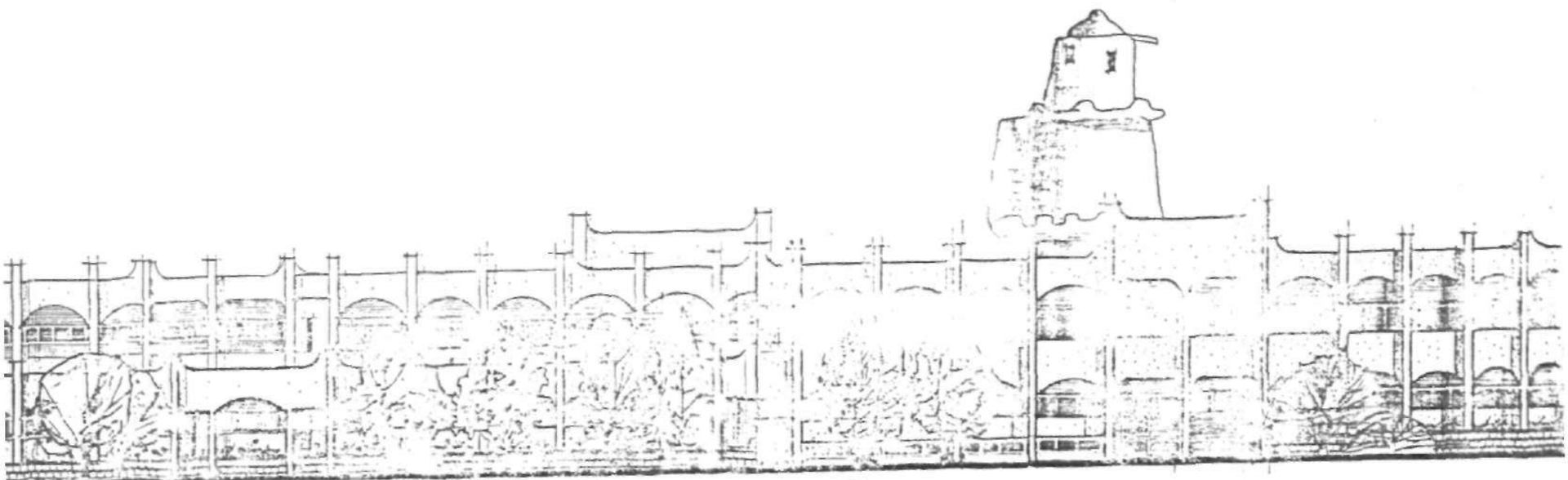


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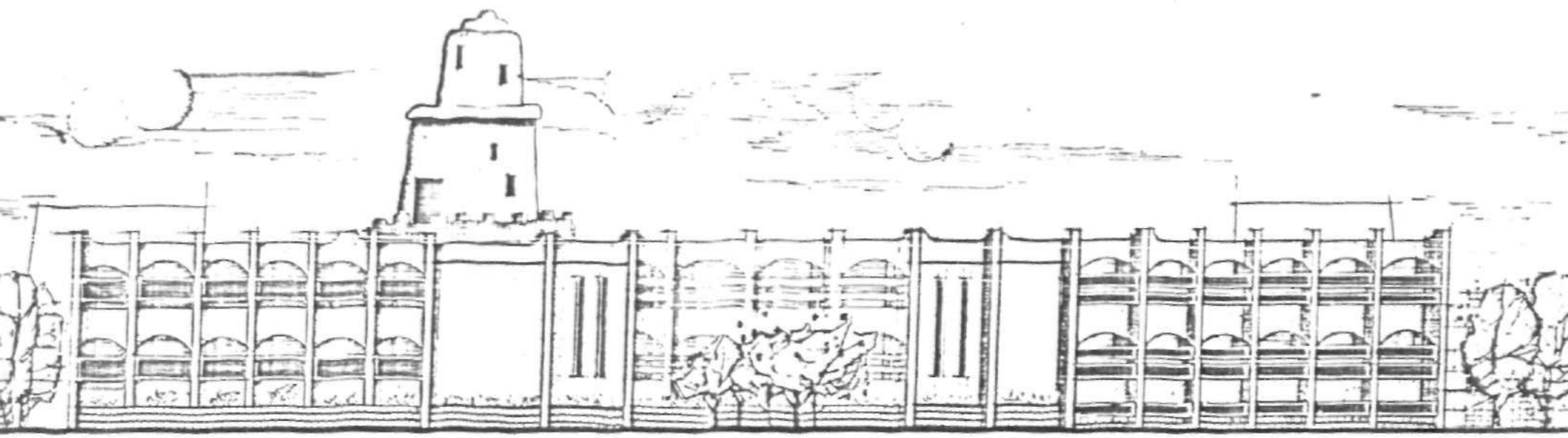




EAST ELEVATION



NORTH ELEVATION...



WEST ELEVATION...

na Gobarau Museum...