# ADAPTATION OF TRADITIONAL DESIGN CONCEPTS FOR KANO STATE HISTORY AND CULTURE BUREAU COMPLEX

**BY**

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**A thesis submitted to the Postgraduate School, Ahmadu Bello University, in partial fulfillment of the requirements for the Degree of a Master of Science in Architecture**

**DEPARTMENT OF ARCHITECTURE**

**FACULTY OF ENVIRONMENTAL DESIGN**

**AHMADU BELLO UNIVERSITY ZARIA**

**August, 1989**

## DECLARATION

I hereby declare that this thesis has been written by me and that it is a record of my own research work. It has not been presented in any application for higher degree. All quotations indicated and sources of information are properly acknowledged by means of references. While the bibliography is at the end of the write-up.

MUKHTAR ABDULHAMID

August, 1989.

## CERTIFICATION

This thesis report entitled The Adaptation of Traditional Design Concepts for Kano State History and Culture Bureau Complex by MUKHTAR ABDULHAMID meets the regulations governing the Award of the Degree of MASTERS OF SCIENCE IN ARCHITECTURE OF Ahmadu Bello University, and is approved for its contribution to knowledge and literary presentation.

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## DEDICATION

In memory of my late father ABDULHAMID and late grandmother HAJIYA FATIMA.

And to my mother for her untiring prayer.

ACKNOWLEDGEMENT

In pursuing of this work it is natural for one to come across many up's and down's before being rewarded with whatever one wants to achieve at the end-to be successful. For this reason, a lot of people deserve special gratitude from me. First, I wish to express my sincere gratitude to my mother,my uncles and my family and family friends especially in person of Professor A.N. Suwaid, Mall. Mukhtar Atamma, S.M. Shanono for the continued assistance and guidance they have been giving me throughout my span of study and their untiring prayers just to see me successful in life.

I am heavily indebted to my Supervisor Mrs. A.Y Mohammed for her supervision, assistance and guidance to see me through this project without which it could not been possible for the resultant to become a reality. I am also obliged to Dr. Solanke of the Department of Architecture, whose keen interest in my academic development and valuable contributions he rendered to me proved useful and that which I cherished and will continue to cherish.

I wish to express my obligation to Mr. M.M. Muftwang and M.D. Ahmed, B.N. Ahmed with whom I had a number of views in common. I wish to express my thankfulness

to the Department of Architecture and all members of the staff that contributed directly or indirectly in moulding me to a shape capable of facing an M.Sc. Thesis through constructive criticisms and suggestions.

I cannot forget to mention the Government of Kano State which has taken burden of financing me throughout my stay in this University.

I also wish to express my sincere gratitude to all friends that we stayed together for years both in the school and at home. Notable among those in the school are my former room mates/friends: Bello Babura of Department of Mathematics, Mohammed Bashir, Usman Garba, Zailani Ayagi. Others include Tijjani Mohammed, Ugini, Sani Sale, Abu Ali, Abdu Jibrin, Aminu Bello, Kabiru Yau, Abubakar Chafe, Mahdi to mention but a few. At home, such persons that I cannot forget include: Munnir Nababa, Kamal Abdu, Maikudi Inta, Hafizu Uba and members of the "Delinquent Group": Choko, Chiko, Sule Habu, Lasa. others include Mohd. Lawan, Yusif, Ammani, Ibrahim Ado, Salisu Tata. I am grateful to those whom it is not possible for me to write all the names within this space.

I can not forget to mention, the Kano State History and Culture Bureau Officials who have contributed enormously to the successful completion of this

project, notable among them is the Director, HOD research and documentation and HOD creative arts.

I thank Almighty Allah for giving me the strength to accomplished this task and also for His continued guidance and assistance in this world.

## ABSTRACT

There is a growing concern from different communities towards the continous decline of their traditional heritage. This declined is brought about by the industrialised society. One third of the world's population faces the strains of adopting to the impositions of modern architectural style -Traditional style not considered fit from the begining of the twentieth century.

Hausaland is not left out from the present confusion of accepting modern style brought about by the industrial society. Many traditional buildings in Kano are fast disappearing and some are losing their traditional out-look due to infiltration of modern culture into our traditional cities.

In the design of Kano State History and Culture Bureau Building, traditional culture played an important role. Three concepts of Hausa traditional designs are employed. They are: the concept of verticality, which is the building is only two stories reflecting the traditional concept of vertical height. Other concepts are the use of large, open courtyard; the concept of decorations on the building wall, the use of less glass area at various approaches to the building. And

the concept of space-Hierarchy of space in domestic

traditional architecture. The product of the design is the combination of traditional culture with that of modern conception of space-Hybrid concept.

In whole, there is the complete adaptation of traditional design concept in the office design of the Bureau and at the same time utilizing the modern architectural and planning ideas of office design in the Bureau's complex. The building is an overall semblance of a Hausa land Architecture - Kano in particular. The result is Architecture of regional identity peculiar to Hausa region and at the same time looking aesthetically modern.

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Introduction

A lot of communities the worldover had indulged themselves towards evolving an architecture peculiar to them.

We here in Nigeria in general, and Hausaland in particular, would not fold our arms and look at the fate of our traditional architecture - traditional buildings being neglected and destroyed without any effect at preserving reviving and revolutionazing it towards an architecture that is indigenous to us.

The decline of Hausa Traditional architecture in Kano is affected by current modern developments not only in Blacks' History but the world over. The products of Hausa traditional builders are gradually disappearing due to the impact of western culture-the products of Master Masons. The aesthetic forms seen on walls and ceilings of the houses, the structural solutions of the great Daurin Guda - Hausa-vault that allows various spaces to span from 4.5m to 8m without any form of Western knowledge of physics or developed on the mud walls are some of the great achievement of the builders.

Today, we have little of that to show to our future generations and the external world to learn from. This research would be centred around Kano mostly.

Today, we have little of that to show to our future generations and the external world to learn from. This research would be centred around Kano mostly.

It is not surprising to choose Kano as my focal point of study, apart from being my area under this study, it is also the centre in terms of Hausa culture, Hausa Architecture for more than two decades. In essence "Kano environment has nurtured some of the most outstanding figures in the history of traditional Hausa Architecture" (Saad 1987).

Discussion would be centred towards the basic characteristic features that form traditional Hausa architecture and other related features in which it differs from the architecture of other regions. For the question of indigenous architecture to be accepted within the society, there is a need for me to look into the problems associated with Hausa traditional architecture, the modern solutions that prevent failure of buildings and combining them together to evolve a new solution-indigenous architecture. Even though indigenous architecture cannot be wholly revived in one single work, it can be revived through the collection of such works and the level of patronage by the users clients.

For a positive response towards the call of indigenous architecture to be effective, a thorough understanding of the nature of Hausa society is very crucial.

A grasp of Kano History, its structure, general environmental context and evolution of the architectural technology is therefore necessary for such a study. The outcome of the study is later utilize towards evolving architecture of regional identity.

Regional architecture is an evolution of new architecture identified to a particular region or place that retain a strong link to its own past and at the same time utilizing the ideas of modern architectural solution.

# CHAPTER ONE

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ZARIA, NIGERIA.

## 1.0 TRADITIONAL ARCHITECTURE

### 1.1 Hausa Traditional Architecture in Historical Perspective

The development of Hausa Traditional Architecture in a Historical perspective was discussed by Saad (1983). He explains that a thorough understanding of the nature of Hausa History, social and cultural organisation is very important in having a vivid picture of Haus Architecture. And above all, understanding of the relationship between neighbouring communities is crucial to the understanding of Hausa Architecture.

He went on revealing that the definition of Architecture itself is an issue shrouded by the clouds of controversy, with a number of points of disagreement among scholars in that field/ (1983, p.3). In the circle of European art-Historians, the term is applied only to those buildings of marble and stone that possess among other things, the quality of "Permanente". However, Saad reports that the recent, "architectural theoreticians", art-historians presumably under the influence of cultural anthropologist, have seriously questioned this definition of architecture". The new conception of architecture as exponentiated by this new group of workers now

includes the "total man built-environment". However, according to Saad, even employing the discorded art-historians criteria of monumentality, permanence and spaciousness, a number of indigenous or African Architectural works certainly qualities for inclusion in that class, Among such architectural works are places and town wall of the Hausa societies. To this effect therefore, it has become incumbent to trace down in a rather brief context, the historical development of the Kanawa's (Kano people) society and evolution of its architecture up to the present time. This will enable the render to have the background knowledge, cultural and social understanding required inorder to study and appreciate the architectural nature and practices of Hausawa, in particular the Kanawa.

## 1.2 Evolution of Hausa Architecture

In the long struggle to develope the various types of buildings in this world, manking fought against one powerful enemy-gravity. Accordingly, the difficult task faced by man is the supporting of the sheltering elements above the enclosed space (Hamlin 1953). Various solutions to architectural problems gave rise to many of the most characteristic architectural forms. Different communities working on their own problems enabled them to produce an architectural "Style" that is distinctly their own. "Style" is a term used to define a whole body of work

with certain common characteristics, peculiar to a place, people or region under a common cultural denominator.

Hausaland is a typical set-up. It has a homogenous culture and legendary does exist, as has been discussed later within the chapter. However, Kano enjoyed a higher flourish in architectural masterpieces than all the other Hausa States. Kano, was more prosperous and powerful, and had greater contact with the outside world than any of the Hausa States. This is by virtue of its location at the sourthern most teminus of the tran-Saharan trade routes. This could be one of the reasons why Kano architecture developed faster than its neighbouring Hausa States.

In the begining, the settlement that grew at the bottom of Dala Hill can be concieved to be made up of compounds/rooms of thatch branches and stocks. Contact and advancement gave way to the timber stocade and to the more popular wattle-and-daub. Not long after the discovery of wattle-and-daub, thick wall was introduced into the cast of Magina.

The introduction of the single column within the walled enclosure not only increased interior spaces, but also paved way for the discovery of other advanced form of structure Hausa vault. This period coincided

with that of the Babban Gwani, a master builder from Kura district of Kano.

## 1.3 Traditional Design Concepts

Before discussing the Hausa traditional concepts, there is a need to look at the backgrounds of what constitutes the Hausa society in general and Kano in particular.

### 1.3:1 Hausaland

Hausaland is an area lying south of the Sahara and West of the Sudan (fig. 1.1). It is inhabited by groups and individuals sharing similar customs, culture, religion and architecture. It is an area where Hausa culture and language predominate.

Legend tells us that there are seven ligitimate Hausa States which was founded by Bawo, son of a hero called Bayaidda. Bayajidda went to Daura and settled there. In the course of his stay he slained a snake which restricted access to a well in the town of Daura except on weekly basis, when the incident was reported to the Queen that the snake was killed by settler, she married him.

The marriage union gave rise to a son, Bawo, who in turn and had six sons who founded the Hausa Bakwai -

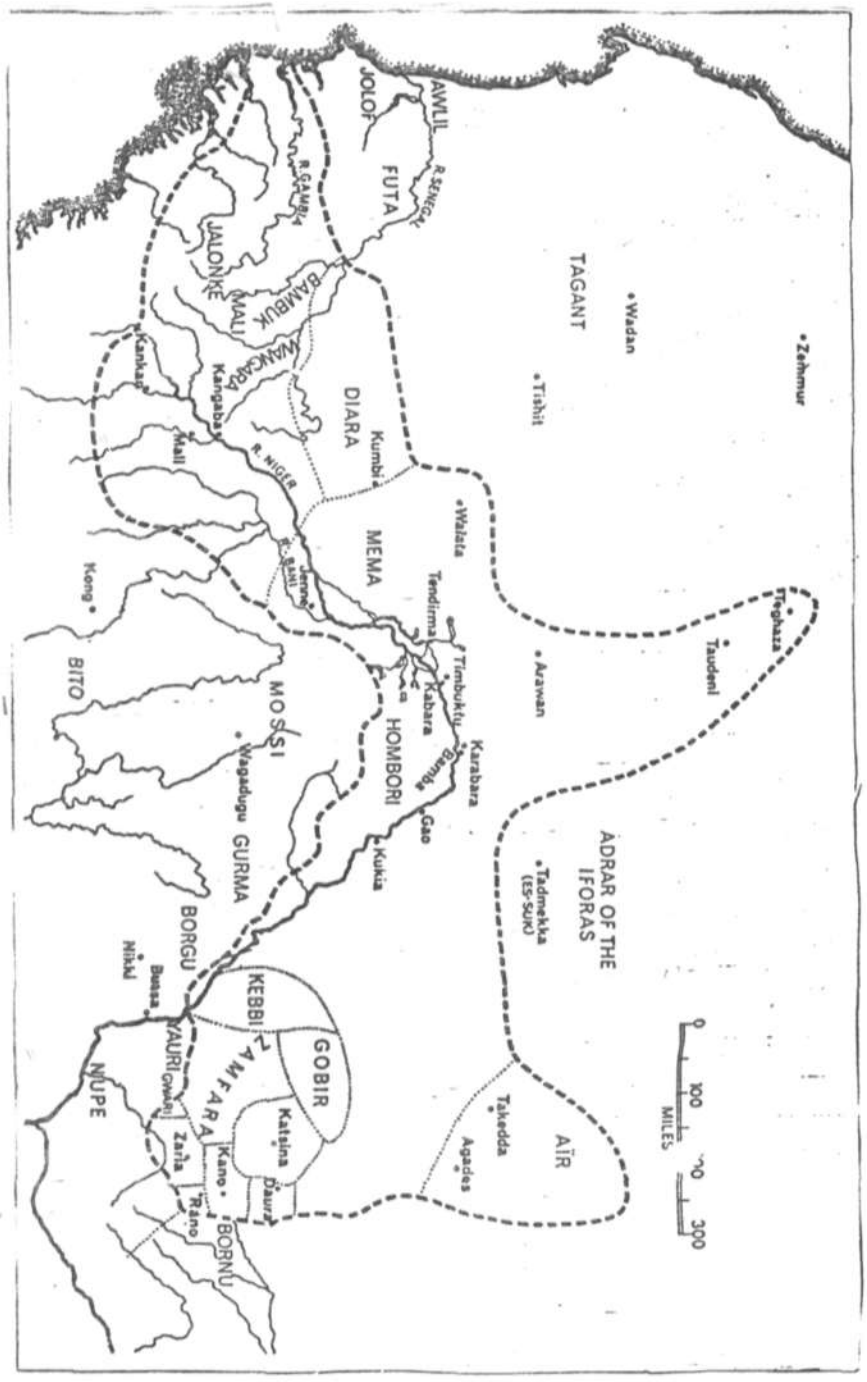



FIG.1·1 THE SONGHAI EMPIRE SHOWING THE HAUSALAND

Seven Haus States. They are Daura, Kano Auyo, Katsina, Gobir, Rano.

1.3:2 Birnin-Kano-City of Kano

The city of Kano is among the seven legitimate Hausa States. The city of Kano is one of the most ancient and most powerful among the Hausa speaking tribes that mae up the Hausaland (Saad 1987). It is the largest city of the sudan region and is probably over one thousand years old. It existed as a commercial could-roan throughout the centuries, enjoying the strategic position where ancient trans Saharan routes met (fig. 1.2).

In ancient times, the city controlled a formidable army, especially cavalry. The rulership of Kano graduuted from the priest chiefhood, to the nominally muslim Habe to the fully islamised Habe, back to the nominal muslim and then finally to the Islamirevivalists led by the Fulani.

1.3:3 It People

Kano situated in the Sudan Savannah zone of West Africa is mainly inhabited by Haus-Fulani people and speak the Hausa" language as the sole representative of their native area and is being adopted as their own lingua-franca.

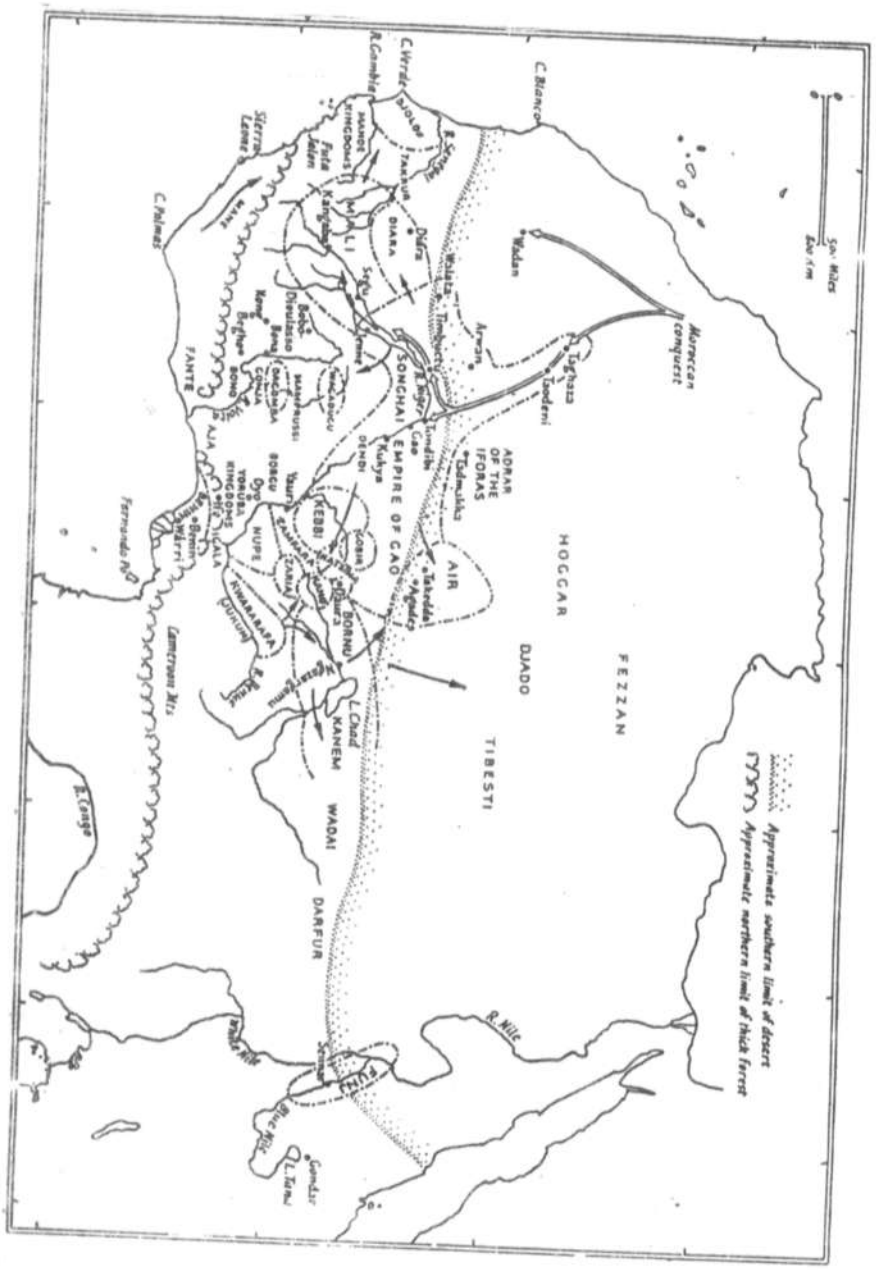



FIG. 1·2 TRANS-SAHARAN ROUTES IN STATES OF SUDAN.

The term "Hausawa" refers to people of Northern Nigeria and Southern Niger who speak the Hausa language as their first language and sharing similar customs, culture and Islamic religion. The non-muslims Hausa speaking populace are often refered to as Maguzawa" of which the population is small in proportion compared to the Muslim-Hausa population. The "Maguzawa" are those who fled from the city to villages when Islam was established.

1.3:4 Occupation

From its early, Kano had been the focus of relatively rich and densely populated region. With the majority of the populate engaged in subsistance farming. Nevertheless, there is a high degree of occupation specializarion as can be witnessed from the early settlement near Dala Hill. The inhabitants engaged in iron smelting and fabrication. The early trade relations went as far as the mediteranean east, concentrating on the export of skillfully fabricated leather and metal work, weavery, embroidery. Other include fishing and dying. The tax assessment report for Kano in 1926. lists 85 occupation categories within the city wall alonde (Paden 1926). The most important ones are those mentionedabove.

In rural areas, there is a lower level of development in skills compare to the ones in the cities. This is

mainly due to lack of contact with the outside world in terms of trading. Another reasons for the lower level of development in skills, the rural people shifted to part time work of craftsmandhip during the dry season while during rainy season they engaged in tilling the soil. The most interesting thing about the rural people in terms of architecture is that they often "arrived at solution which are much simpler, more economical and more rational than any of those arrived at by the city master Mason" (Saad 1981).

Nowadays, occupational specialisation in the city had turned towards furniture making, light industries (metal) and the production of different kinds of consumption goods for a fast growing market.

## 1.4 Kano Architecture

Roughly 1000 years ago, mud architecture already existed in Kano at a scale great enough to serve as fortification (fig. 1.3). Monumental architecture or military architecture, come into the scene in the period 1003-1134 AD, (Palmer, 1028). At the ideal community compound scale however, the monumentality of the city wall was not expressed. Instead, houses of the inhabitants were probably mostly thatched, with musd compounds restricted to the older part of the city



INSIDE THE WALL OF KANO OLD CITY



OUTSIDE THE WALL OF KANO OLD CITY

FIG.1.3 FORTIFICATION OF KANO OLD CITY '1983'

in particular the Jakara area, near the bottom of Dala Hill. They were realised in their simplest and smallest possible anthropometrical proportions, because the mastery of enclosing completely large spaces came much later, in the dynamic architectural complexity of bulding in mud in the ancient city. According to Barth and Clapperton, that the section of the city inhabited by the Hausa, or Habe, was built almost entirely of mud (and therefore constitutes the oldest settled part of the city) and that inhabited by the fulani built in thatch, suggest credence to the presumption.

Kano history maybe divided into two distinct phases. The pre-jihad period which are characterised by the founding of the city. It is characterised by buildings which are mainly walls and gates of the city. While the Jihad period withessed the period re-establishment of the Islam by the fulani Jihadists.

The period from the middle to the end of the 18th century from all indications seems to be period of architectural revolution in Hausaland including Kano. This period also witnessed the establishment of master craftmanship, guild organisation within the city-states of Hausaland. By that time, the Hausa builder has already perfected the structural techniques or principles that made the building been associated with the Jihad possible.

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The first generation of Fulani fulers after the Jihad continues the tradition of building simple mosques, with the undecorated hypostyles hall filled with circular pillars spaced at about 2.0 meters intervals. The Fulani leadership provided the necessary impetus responsible for the architectural revolution that occured in the second half of the 19th century. It is this epoch that Saad refers to as the "Babban Gwani" or Bakan Gizo" era, when more and larger mosques were built in splendour, to accomodate the teeming number of faithfuls and converts. The post-jihad period was the period of palatial and residential architecture development when the Fulani rulers were accustome with the Hausa people.

1.4:1 Decline of Kano Architecture

With very few exceptions, the architecture of many West African cities and indeed the whole of Africa is now very much steeped in modern architecture reflecting non of our cultural rules from any angle we view it.

Kano, as a city, is no exception. Many factors are responsible for the present sorry state of affairs with respect to traditional architecture. One of the reasons is the introduction of a new and more durable materials. Our materials of low durability are been

replaced with materials made from a new technology. The change of taste by the bourgeous in favour of copying alien structure is another determining factor towards a new direction of architectural development.

1960's and 1970's witnessed the era of master plan (Saad 1983, p.21). Traditional buildings demolished to give way to new roads instead of utilizing the old narrow winding roads that reduce speeding cars.

This is an admirable goal but the way the proponents pursued it is destructive.

The influx of "petro dollars" during the "oil boom" in the 70's is another factor responsible for the decline of traditional architecture. Reinforced concrete was introduced and a lot of people, the wealthly and the ruling class relies heavily on implanting foreign models on the traditional soil. The uplift in social status and standards of living of various person brought about by the influx of "petro dollar" has been a determinant in the new direction of architectural drift.

For example, 1939, late Emir of Kano, Abdullahi Bayero ordered the demolishing of the indigenously constructed mosque that stood at the Kofar Arewa and a new modern one (which he saw on his travel to Pilgrimage) was erected. This mosque still exists.

The adjustment of traditional architectural ideals to the tune of modern building materials is slow. of recent, the Kano Magina have adopted reinforced concrete to play the structural music of the Daurin Guga, but only for the rich patrons. However, according to Saad, the Hausa builder seems to be fighting a loosing battle, since the "bulk of the wealth is now moving into the hands of a new class of Nouveau riche contractors who do not cherish the old ways of building" (Saad 1983, p.23).

## 1.5 Traditional Concepts

African indegenous architecture does not have an architecture of public institution like offices and schools. The related public institution found within the Hausa societies are the mosques and palaces. These category of public buildings are restricted to worship that is the mosque. While the palace is a semi-public place designed for the Emir to receive visitors and also for running the administration of the city. In summary, the palace is a seat of political power.

Since there is absence of public institutions especially offices in traditional context, it is therefore necessary to delve into discussions of domestic architecture - the Hausa, in order to understand and

extract the basic concepts associated with the physical layout of the house. These concepts are analysed and later utilize in the adoptation of office design in Hausa context.

1.5:1 Townscape Planning Concept

The Hausa settlements developed from the adoptive, self assured political states whose economies developed with the increased production of commodities for trade and from contact with the outside world together with technological advancement. One of the most striking factors of the old Kano city planning is the "concept of continous space" (Mohammed 1984, P.2531). By this effect the whole habitation could be basically visualised as a gradation of one space within another, like a set of concentric circles. Such structure is composed of the open elements - the "Paranoas" and the closed elements "the noas". The open elements comprises of the exterior of the buildings and the spaces in between them, whereas the closed elements comprises of the building itself which is often geometrically composed of cubes of rectangular, square and irregular shapes.

The study of the traditional concepts provide the necessary understanding of the traditional concepts.

Certain basic principles of the concept would be extracted in order to be utilized and adopted in the design of the Bureau buildings. The whole Bureau design would become a reflection of traditional culture at the same time would not be in conflict with the modern architectural solution.

Like every other Hausa city, Kano city consist of a number of households which collectively form an Unguwa - ward. These various households are connected with winding narrow roads or footpaths opening onto an open space called Dandali. These winding narrow roads or footpaths linked up with wider streets called Layuka which are motorable (fig, 1.4).

The structure of the city which consisted of numerous narrow winding footpaths, that open onto occasional open spaces Dandali, the motorable Layuka that linked up with the rest of the city, the walls of the various households, the terminal Loko and occasional water ponds, the nucleus of the city, all combined together with the wall surrounding the city, gave the city its physical appearance of an organic character that is perculiar to Hausawa. In effect this physical appearance of the city is dictated by the basic socio-politica-religious nature of the Hausa people.

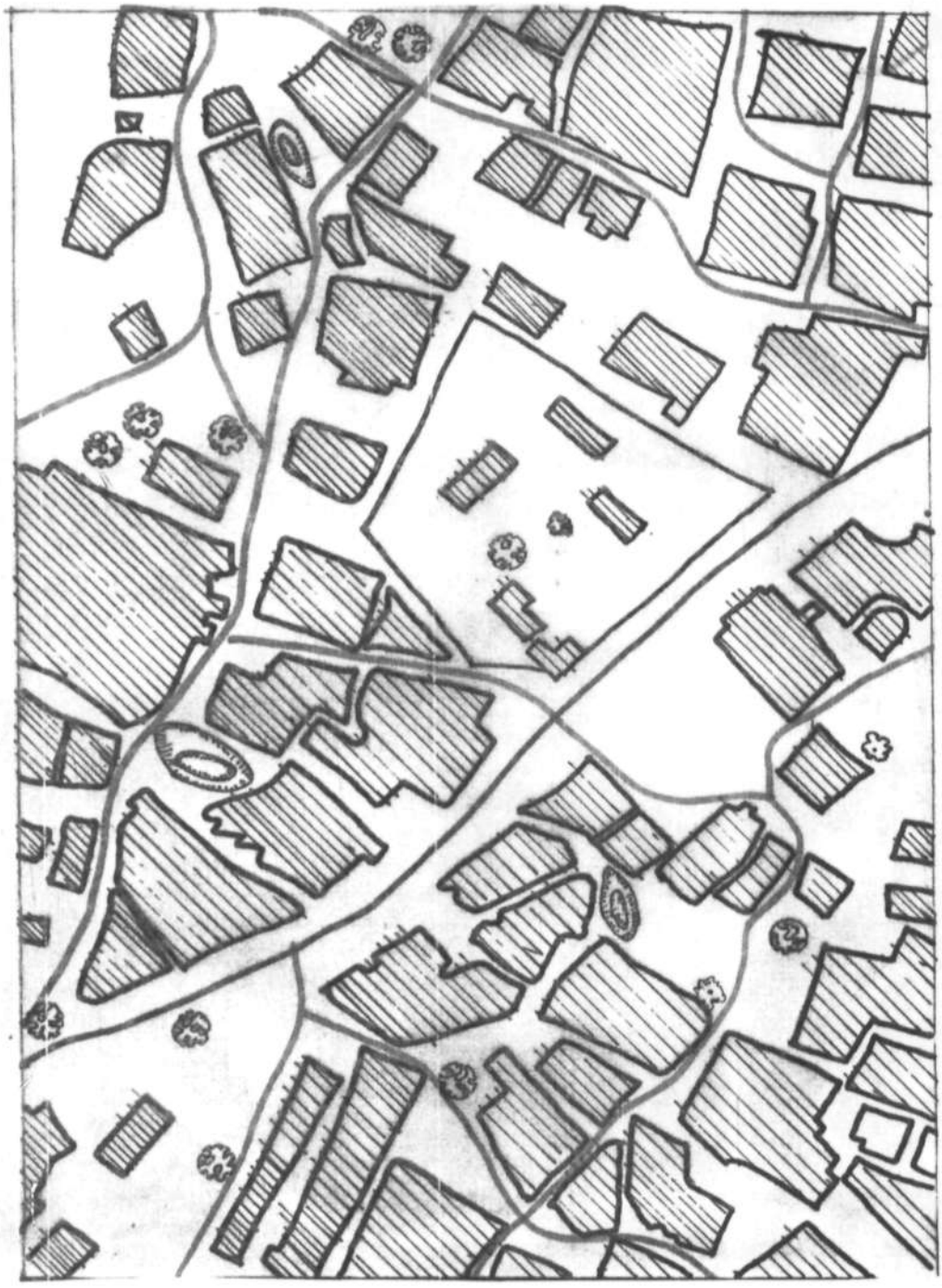


FIG 1-4 SHOWING TRADITIONAL TOWNSCAPE CONCEPT, WITH PATTERN OF ROUTES AND OPEN SPACES

1.5:2 Neighbourhood Concept

The Hausa-built environment consist mainly of domestic architecture compounds. A number of households are grouped together in a cluster form with a space between them. These houses open onto open spaces Dandali (fig. 1.5). This is term the neighbouhood concept. It is a group semi-private space for those households that form the space. Its various functions ranges from gathering, social interaction, religion, commerce to recreation.

1.5:3 The Basic Plan Concept

Among the Hausa, building is a family concern. The Hausa spatial orientation of space appear to reflect a concept of the socipo-cultural aspect of the Hausa.

The institution of marriage is an important element in understanding the Hausa culture in relation to House form-typical Hausa dwelling. The house form is mostly rectangular, square or irregular in shape with a massive tall wall surrounding the Gida, with little or no opening to the outside world. This wall forms the boundary between one's private domain and the public-realmbeyond, Haraba.

The basic plan of the Hausa compound can be visualised and divided into three zones (fig. 1.6) with the

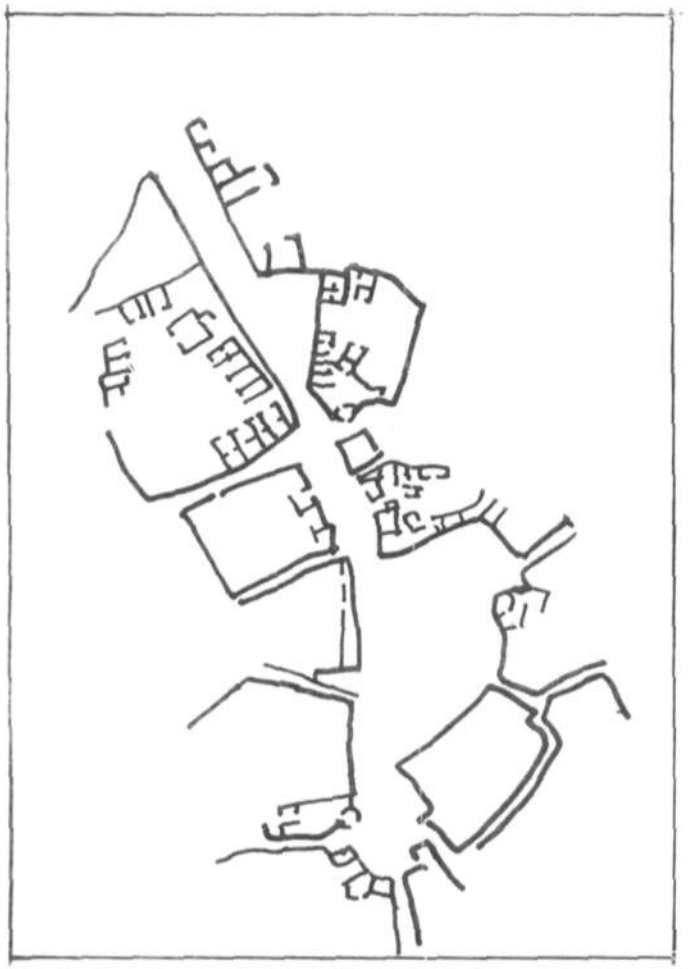


FIG. 1·5. NEIBOURHOOD CONCEPT IN HAUSA SOCIETY (URBANOWICZ, 1979)




FIG. 1.6 TYPICAL HAUSA COMPOUND - GIDA.

fourth intermediary zone called Shigifa. The innermost zone is considered the private zone serving the wifes as dictated by Islamic injuction of marriage. The semi-private zone consists of rooms of the unmarried male children and guests. The public zone comprises of the Kofar-Gida entrance into a reception called Zaure. The Zaure admits person or group of person without any knowledge of their behaviour or relationship.

The fourth zone known as th Shigifa- transistion zone is the point between the semi-private zone and the private zone. Here one can find pens for goats and sheep as well as rumbu-grain store. In other homes this distinction is never noticed because pens and rumbu are situated in the semi-private zone. The transition zone provides access to the female occupants of the house in relation to their relatives.

The structure of the African family is organic, usually a house consist of Maigida, his wives, children, dependants, relatives and grandmother or grandfather as the case may be. Usually, a house is passed from one lineage occupants to the other after the demise of the previous occupants. The present day compound indicates the degree of transition the Hausa compound have undergone - from mere spatial orientation of

structures and spaces to the most advanced form of house providing the degree of privacy for the segregation of sexes.

It is not a mere concidence that traditional African architecture is found in traditional house forms. The compound remains the basic plan concept and is highly indicative of the organic nature of African family.

1.5:4 Courtyard Concept

The courtyard is the centre of socialisation within the Hausa compounds. "The traditions of the sedentary Hausa pagan all suggest a conceptual organisation of a space around a centre"(Adesina 1986) while the nomadic insisted on "directionally". For example, to those Hausa who respects their tradition, the entrance should always be on the West, so that an entering one always faces the cast (Mecca). This situation is influenced by Islam. The Hausa spatial orientation suggested by Nicholas, however, appears to reflect a conceptual compromise between the sedentary "centrality and normadic "directionality". The material expression of the compound is the presence of a large, open courtyard placed central in the compound and a prescribed entrance orientation.

The courtyard enhances the micro-climatic condition of the house. It is the centre of socio-economic activities of the house.

15:5 Environmental Concepts

In adopting to the various climatic conditions, the Hausa have created an extremely attractive environment composed of building whose sculptural forms give expression to the plastic nature of mud that prevent penetration of rainfall.

The thick mud wall insulates the rooms from the heat of the sun.. The heavy rainfall associated with the Savannah region allows the use of large gutters that draws the rain water as fast as it falls on the mud roofs. The use of long tin sprouts discharge the water away from the building in order to prevent the continous wearing of mud walls.

The use of small, high windows to reduce glare and draught has been adopted in the traditional architectural expression. These solutions have helped in solving the adverse climatic condition of the savannah region. A solution without any known knowledge of environmental science.

1.5:6 Symbolic Concept

The architecture of West Africa transcends from that of mud and thatch construction to symbolic meanings of decorations and their effect. This is the area where the Hausa Magina have excelled themselves within the western sudan region (Saad 1981).

Zanko - The use of zanko on the walls especially at the corners and edges of rectangular"square building was to protect these areas from the torrential rainfall.

The origin of the Zanko-Pinacle is still shrounded in mystery. Some considered it to have evolved from the palace. This hypothesis stem from the fact that buildings higher than one storey, including the pinnacle itself, were restricted to the palace and related royal or princely structure. Some are of the view that the pinnacle manifested itself from the Emir's turban (part of the turban that form two pointed rabbit-like ears).

The zanko has become the conspicous feature of decoration on buildings. It is used on doorways-entrances which become the hall marks of all later urban Hausa traditional architecture.

Decoration this is another area of architectural development in Hausa architecture. The utilization of the plasticity of clay by the Hausa Magina, led to the evolution of decorative work both in the interior and exterior faces of buildings.

The development of wall decoration is affected by

many factors; social economic and political forces within the Hausa society. It occurs when Hausa society was undergoing various faces of change.

In the pre-islamic era, the decorative patterns of old buildings were mainly giving information about certain events that happened. The most obvious example is the Zaure of the palace in Daura. The pattern of decoration is a snake which tradition says was killed at Daura by the founder of Hausa States. In the post-islamic jihad, the pattern of decoration changed from that of the animistic type to the "monotheism" of Islam. This provides boom Era in the development of Hausa decoration. The departure from animistics to monotheism provided a stepping stone towards greater freedom exhibited in the field of decoration to Hausa builders.

The work of Mallam Mikaila and Bala Gwani of Kano stand the testimony of time. Their work can be seen in the Zaria Friday mosque - Mallam Mikaila while that of Bala Gwani is seen in Soron Ingila in the Kano palace (Saad 1981).

In summary, symbolic concept is used to give the exterior of buildings a splendid apperance and at the same time enhance the aesthetic appearance of the building.

Other elements used to define Hausa architecture are arches and domes. Although, they originated from

the north Africa due to influence of Islam but were yet adopted by Hausawa. These are seen mostly in public places like Mosques and palaces. Thus the use of arches and domes is not confided into the various compounds of influencial ones even the less previlege ones in the society do use them in their compounds.

During the 14th century, the Hausaland witnessed the conversion of sudanic monarches to islam and the growing awareness of the arab form strongly influenced the construction of the monarchs palaces. The evolution of dome in Hausaland can be linked to this century. E Evidence of importation of termite resistant palm timber into northern Nigeria enable the Hausa to construct domes and clay roofs of almost monumental dimension. By 1446-1489, imported timber arches were doubled which paved way for the construction of domes of extra-ordinary symmetry to be constructed.

The use of timber in arches and dome construction was replaced by the discovery of Azara - deleb palm tree found in Hausaland. This discovery later gave rise to a more sophisticated solution of covering large space by the use of false arches arranged to give what is known as Hausa vault. The traditional architecture of Hausaland is architecture of wonder, unique and independent style. The architecture without any understanding

of any Newtonian physics and or environmental science studies.

1.5:7 Vertical Concept

Hausa traditional design concept opposed the use of vertically building going many storeys-high. This is mainly attributed to the structural limits of our building materials. The Azara-deleb palm tree allows the building to two storey high due to its structural limitations. Other reason is that it prevent visual intrusion into other compounds.

From the structure of the Hausa society, there are many class strata. There are those class of people who can afford to build many storey high while the less privilege cannot build such structures. If the tradition allows such situation to stand, the privilege one stand the chance of visual instrusion into the private domain of the less well-to-do person. In essence, the Islamic injuction of privacy-women not to be seen may be defeated.

Therefore, in keeping to tradition, buildings can only be two story.

# CHAPTER TWO

## 2.0 MODERN ARCHITECTURE

### 2.1 Modern Architectural Concept

"International style" or modern architecture was established in 1932 by organisers of the first international exhibitions of modern architecture at the musuem of modern art in New York. It has come to represent the main stream of Modern Architecture from about 1920's to the end of 1950's.

The style went on to say that it "comprises of a single body of disciple, fixed enough to integrate contemporary style as a reality and yet elastic enough to permit individual interpretation and to encourage natural growth" (Nuttgens 1983, p. 259). There is a new conception of architecture as volume rather than mass (solid). The modernists went on to say that axial symmetry been replaced by regularity as the chief means of ordering designs.

The modern concept of modern architecture disregards the social and aesthetic value of the user when it comes to design. The proporents went on to say that the modern international architecture concept has a universal form-language which is a result of a logical outcome of

a rational approach to design with a new material and techniques. The bewildered on looker is told that these new forms devoid of heritage (alien) are "functional" or economical or that /the shape is a result of discovery of new materials and technique but rather these forms are simply rationalization of style preferences" (Brolin, 1976). Modern concept intentionally defies its older neighbours rather than standing beside them in peace. wherever western civilization has penetrated impersonal forms introduce upon the traditional profiles of cities, town and villages.

The visual preferences of the modern movement were accompanied by implicit assumption of how people live or should live rather than how they live. They thought, the societies of the world share a common cultural denominator. The architects of the modern movement always recognizing as part of a social revolution, architecture was to become, not just a witness to, but a definite agency in the creation of a new socitey (Nuttgens 1983).

When architectural revolution took place in the early twentieth century, all traditional styles were declared null and void to the point where putting an ornament to a building was considered a criminal act. Architects looked to airplanes and machines for inspiration instead of admiring Michalangelo or Gothic Cathedral. This

aesthetic revolution took place due to two main reason:

a) Technological progress offered new building materials like Glass, Iron, Steel and Concrete. Reinforced concrete was explored and used to find lasting solutions to modern architectural and urban problem.

b) The flowering of capitalism in the 19th century created a growing wealthy middle class that could afford materials which they cannot afford previously. This lead to the elitist modern architecture of today demanding that all traditions be abandoned. A complete twist from traditional to modern architecture.

Rules of compelling moral force has to be established to make the break with tradition comprehensible and acceptable to the public. To help the acceptance of the new architecture, leaders like Walter Gropius described the creation of modern architectural concept as the "inevitable result of a logical process of design" (Brolin, 1976). Modern architectural concept looked the way it did simply because architects obeyed certain demands. These demands are honesty of materials; honesty of structure; honesty in that the function of a building is reflected in its forms; an apparent evolutionary bias favouring simplicity; honesty that reflects the true spirit of the time in its architecture rather than reflecting elements of the past.

As Brolin saw it in the morality of modern architecture, styles can change, but there is no alternative to truth.

The most publicised attributes of modern architecture are; functionalism; the quality of fulfilling a purpose directly without any wasted effort.

Simplicity of architectural form went hand in hand with functionalism. Simplifying a building without impairing its ability to serve its purpose meant getting rid of non-essentials, the buildings functional quality was thus enhanced. Economy to eliminate everything that is not useful or necessary in practical terms.

One might believe that functional architecture would be easier to maintain than traditional buildings. Yet maintaining large flat stucco surfaces" - the symbol of functional architecture of the 20's and 30's more difficult than taking care of less machine like rough cast plaster work or exterior surfaces broken up by ornament where normal weathering and cracks developed within the walls enhanced the building's physical appearance that appeared intended.

While the dust and dirt on the surfaces of the walls of traditional buildings enhanced the building physical appearance. Nor is the popular belief that modern design is cheaper than traditional design necessarily

true. The open plan of the modern house, and its relatively large areas of glass, has always been more expensive to heat and cool than traditional houses with rooms of smaller windows.

The architects mission is to re-design the world in his own image, and the architect's considers that his value apply to all societies. Certainly, he considers that less civilized peoples can only profit from adopting his way of life" (Brolin 1976). This view, is a legacy of western colonization.

Actively encouraging the modern style, modernists set about trying to standardised the building industry according to a set of principles that would create a consistent modern architecture that does not reflect human or cultural differences, but rather than architecture that will be produce enmass. But a problem exist through the adoption of mass production and standerdization techniqes. The modern architectural concept would create impersonalized monotonous city scapes devoid of strong, individualistic touch of the designer intentionally. Some architect were of the opinion that mass production cannot eradicate individual expression. As Walter Gropious put it, that the restrictions of mass-production would not totally eradicate individual expression because of manipulation of the depersonalized, standardized elements, the designer could achieve diversity.

There are a few examples of countries which suffered the dilema of the modern style concept.

INDIA

In India, "architecture has never recovered from cobusier Chandigarh, the Punnjab/Haryana Capital commissioned in the nations liverty and independence" (Peter 1983). The country is covered with an inappropriate m modern architecture and even the most simple house has concrete roof slab and offten cast concrete wall as well, though making the buildings climatologically unsound and the structure expensive.

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AHMADU BELLO UNIVERSITY
ZARIA, NIGERIA.

ALGERIA

An example of countries with culturally different perceptions of space is, when algeriens became independent, the Algerians moved into the high rise buildings that had been built for the french, but instead of using the rooms as were intended to be used they removed all the doors and broke through many walls in an effort to open up the living space (Brolin 1976). Whereas the European had required physcial barriers to insure their privacy, the Algerians prepared large open space, having other means of ensuring the privacy of their family by not inviting strangers into the household.

The ideology of modern architecture is not a bad approach but the way the propoents pursue it is destructive, justifying their omnipotent approach with the stated belief that everyone in the world has the same basic social and physical needs.

## 2.2 Regional Concept

Regional architecture is an evolution of new architecture identified to a particular region or place that retain a strong link to its own past and at the same time utilizing the ideas of modern architectural solution. It is an up-shoot of traditional architecture whose planning makes use of purely traditional concepts and the materials of construction used are those found locally. It is an architecture of simple forms telling the tales of great ingenuity, and architecture with distinctive style.

The architect is posed with the question of what are the factors responsible towards the call to regional identity. As it is been witnessed in Africa that traditional architecture is fast disappearing due to cultural change. The introduction of more and durable building materials is also a factor that is responsible for the decline of our traditional architecture. The influx of petro-Naira gave rise to many wealthy middle class that afford materials which they cannot afford previously.

They tend to copy aleins structure and solutions because they have seen them in their travels or read about them in magazines.

Urbanization, modern needs cultural contact and solutions, new awareness, availability of new and cheapter materials are some of the factors which in unison are eroding thelast vestige of indigenous traditional architecture. Tradtional cities and even the rural areas are riddled with the wave of change, the introduction of new oulture-modern international style.

Beautiful mud buildings are being domed with corrugated roofing sheets blinding the eye if they are not rusted. Glazed openings looking distinctly out of place on mud walls, these are some of the view that grace the eyes in most rural areas and the cities. This type of architecture, traditional forms roofed in modern technology or traditional forms dressed in traditional materials without recognizing the socio-cultural implications of designed spaces as did some colonial buildings in Kano like the Gidan Dan Hausa, Gidan Benimister and so forth would not provide an appropriate solution to the concept of regional identity.

The question of indigenous architecture or rather regional identity has generated a lot of interest for quite sometime and many people have termed the

discussions as a mere academic pursuit.

Traditional architecture is a reflection of the socio-cultural aspects of the people and is in many aspects "a mirror of the society" (Adeyemi 1985, p. 1). From this definition, it is an uneasy task for a designer seeking to create a regional identity, because traditions are constantly changing due to cultural assimilation. In trying to achieve this regional identity, some factors has to be donsidered and a deductive approach is applied to arrive at a more better principle or a combination of them, that will fit into our socio-cultural lifestyle. These principles are:-

1) Instinctive approach: Reversal to the other tradition of using less durable materials of short duration which requires regular maintenance. There are dangers in direct transplant of indigenous technology.

Traditional technology involves direct rule of thumb approach" (Adeyemi 1985 p.3), a reliance upon builders intuition resulting in wastage of materials from trial and error factor. This would entail the construction of structure in the traditional forms by means of basic raw materials like vegetable materials and mud. The advantages of this can be highlighted under economic, social, cultural, and climatic factors. Taking the economic point of

view, the money drain through the importataion of building materials would be minimised.

On the socio-cultural side, traditional structures are symphathetic to the environment, the people are more conversant with the materials and methods of construction. People are free to express themselves architecturally, since architecture is a physical facet of people culture. It implies that such traditional structure depict the culture of the people. It is evident that spatial organisation within settlement are dependent to varying degrees on the cultural practices of the people.

The climatic factor is related to the comfort of the inhabitants. Mud Architecture has solved the adverse climatic conditions of this region a solution without the use of alien technology.

Having listed a few of the advantages of this approach towards regional architecture, a look at the disadvantages would be much good. This approach is not advisable and cannot be applicable at this changing time. This approach simply implies the discarding of modern ways and going back to old practices. It will not escape to be mentioned about the role the society is making towards the success of regional style. Society is dynamic and it is expected that progress is made in concept

with the dynamism. Modern technology, social and economic needs require solution which traditional architecture is not able to solve due to structural limitations of the materials. The durability of most of the traditional architectural materials is for a short duration and this does not help much in the attempt towards regional architecture. Therefore, the call for technological advancement will enhance our architecture indigenous to ourselves.

2) Composite culture approach - which allows the traditional and modern types standing side by side. It involves the repetitive use of traditional forms dressed in modern technology showing none of our tradition, reflecting none of our socio-cultural heritage within the design spaces. This approach is a serious set back towards regional identity and has nothing to do with serious architectural thought.

3) "International Plagiarism" approach: creating a deliberate contrast. Abondoning of traditional culture and style and taking up the international culture, a total break from traditional culture and vestiges of the cultural past. In this regars, the architect completely disregard the cultural

differences of the occupants, and at the time, the architect infused his own value judgement of world-wide uniform homogeinity of modern architecture that is functionalism and simplicity(the quality of fulfilling a purpose directly without any wasted effort).

This approach offered little room for innovations and a continued repetition of plainer walls structures that is monotonous. This approach is unsuitable and uncalled for towards regional identity.

4) Evolutionary approach fall midway between the extremes, it involves the integration of certain aspects of traditional architecture to certain aspects of modern architecture. It is a kind of synthesis of good aspects of traditional architecture with modern conceptions of space and technology. The point here is identifying the merit and demerits of traditional architectural solutions in terms of forms, materials technology, space concept and incorporate them with these aspects ehich stand modern architecture to an advantage and not conflicting with one another.

Through this process, the abandoned traditional styles can be wholly embraced by the introduction of strong materials of longer duration without necessarily losing the traditional style. This process

is known as "Hybrid concept".

Francisco Bullrich, in his book New Direction in Latin American Architecture(196)), made two points which deserve mention about the process of trying to evolve an authentic architectural expression (Regional Identiity). One is that it is generally assumed that the mere transcription of some objective regional fact is equivalent to an authentic artistic expression. This he says is wrong because transcribing objectively has never produced a genuine work of art. Secondly, it is also assumed that there exist something such as a constituted colonial entity whose distinctive expression must be revealed. "This is also wrong, because according to him, it has been impossible to discover a thing as an priori national essence which is expressed artistically expost factor. National expression, therefore, will never be the result of programming or of theoretical pre-occupation, as these measures could only lead to clinches but not the result of a genuine creative process.

Various approaches has been identified and discussed for the achievement of an indigenous architecture of regional identity. For one to fully compressed and make choise of one of the approaches, it would be proper to look at how certain countries derived architecture indigenous to them.

MEXICO

The search for a national architectural expression in Mexico passed through a lot of phases and experiments by various architects.

The first movement in the late twenties and early thirties headed by Villagian Garcia, Juan O' Garman and others. This movement considered ornaments as symptoms of mental poverty. They built pure white boxes whose inner walls were covered with huge frescoes that has had the distinct account of social protest.

After the demise of this movements, architects such as Yenez and O' Garman were filled with desire to find a form of National architectural expression. This was achieved through the integration of the arts. This artistic integration involved the use of large mosaic mural covering the facades portraying social protest. It also potrayed the Mexican people's love for decorations. A famous example of this, is the main library of Gudad Universitaria, Mexico city.

MILAN-ITALY

The Yale Domitories designed by Eoro Saarien, the Torre Valasca in milan was not in conflict with the tradition. It is indeed modern building which fit in with the surroundings without sacrificing their modernity.

CUBA

In Cuba, the wind of revolutionary change gave impetus to architects and other professionals alike towards na national identity and a search for an architectural expression. Despite the ideological approach the concept underlying most of the products were truely traditional. Example are Pricardo Parro's plastic Arts School and Modern Dance School in Havana. There include Vittorie Garattis Ballet School and Music School in Havana.

The Cuban Pavillian at Expo '67 montrial where the interior was worked out in relation to direct political and social propaganda is another example. In the examples cited above, various deductions ean be made. Firstly, the fact that other countries have been able to evolve architectural identities should serve as an inspiration. Secondly, the process and the result have all been based onfactors peculiar to the countries. Structures alone are not the sole features employed in the evolution of authentic national expression. Forms, materials, vegetation are also very important features. In the examples where authentic expressions successfully evolved there is no instance of a complete reversal to traditional solution or the birth of entirely new architectural styles, What has occured has been the marriage of modern solutions and traditional inspiration.

## 2.3 Hybrid Concept

Despite what the proponents of change say, traditions do persist. A rejection of traditional behavioural patterns by the modernists was implicit because the modernists are in total rejection of traditional architectural forms. However, the past may be dead for the architect, but it lives for others.

There are many ways in which different people or groups use and perceive their homes, neighbourhoods and cities. By denying social continuity the architect falls to recognise and accomodate these differences in perception. The result is a complete break between the groups behavioural pattern and the building they occupy. Consequently, there is physical damage to buildings, creating artifical Schisms between the past and the present. Modernists refused to recognised and respect the value of tradition as a stabilising factor in human relations, particularly in time of change. The modernists thought that all over the world share the same cultural denominator. The modernists felt that they can decisively effect people's way of life through changes in the physical surroundings.

Other factors inherent in the rejection of tradition was the introduction and discovery of moern machine that made the past and its traditions seem irrelevant.

There was also the belief that by eliminating those elements in buildings that serve no practical purpose, such as ornament, architecture could function harmoniously with the laws of nature.

All these ideas were brought to architecture in part through an imperfect understanding of the evolutionary theory. According to the modernist erraneous interpretation of the Evolutionary theory, that progress and change is inevitable and society was forever moving towards something better. It is true that change is an accepted phenomenon but the way it was pursued is undesirable. The Evolutionary theory postulated that species were continually adopting to their surroundings through the perpetuation of advantages mutations, and the species evolved towards a more perfect form, useless organs or species, withbred away. It was the law of nature and beyond man's control, man could only marvel and submit. The theory of Evolution also supported the well entrenched concept of economising action, and therefore, functionalism since life itself was guaranteed by the elimination of all but the essentially, why shouldn't the architects choices be guided by the same principle?

From the discussions, the modernist are suppressing the creativity of the masons as well as the traditioal architects. The bounds of creativity have now been

guided by the twenteth century architecture (Modern architecture) while the masons are no longer patronize by the ruling class. This resulted in the continued dying away of traditional art. But the designer has a responsibility. He can evoke the spirit of a place (whether it be modern or traditional) through mass, detail, texture and other tools of his visual craft. By utilizing the existing reminder of the past in conjuction with the modern solution to a new building, the desirable character of a place need not be lost. If each new building retain something of the past, at the same time bring something new, it will in many respects become the mirror of the society.

In the context of hybrid concept, the first thing is that it should be a conscious desire to produce a work of art. The production of the work of art involves meaningful integration of the local features in modern solution. It should involve the provision of facilities that are to serve the peculiar behaviours of the people of catchment area. Hybrid concept, here therefore, involves the combination of the traditional elements, styles and conception of space with the modern conceptual solutions and technology. It involves the integration of local landscape features as a fool for self expression as mentioned under the Brazilian experience. The type of plants use should be in their natural habitat and familiar to the people.

The Hybrid concept in view of this sought to complement the traditional technology with the use of reinforced concrete. The choice of concrete is not a abitarary, besides being a universal element, it is also local, it is found and available in Nigeria. The introduction of thick walls due to climatological problems and less glass in the building would not be left out.

It is necessary that local architectural solutions are find out and integrated in the design. The climatic, social and cultural features of the locality must be identified and incorporated in the design. The hybrid concept is one complementing traditional solutions to modern solution, with the socio-cultural factor of a locality as a constant factor.

In conclusion, the search for a regional character cannot be found in a single work, it can only be achieved through several collective works, each designer consciously searching for a new language of expression until a satisfactory end is achieved.

# CHAPTER THREE

## 3.0 OFFICE BUILDING

### 3.1 Definition of Office

Definition of office building in a broader context will be too limiting because various functions are performed in office. Office essentially involves working outside home. However, in a nutshell, the office building can be described as a built-up space prescribed for the accumulation, processing and dessimination of information. The information can be inform of verbal, documented or in material form depending on the particular function the users made it to serve. Office is also concerned with the organisation of people and goods and their movement. The precise definition of an office rests with whatever is so regulated within the organisation.

Similarly, the demands it makes on any building shell will be governed by the scale and complexity of the organisation it controls, the type of communication, whether physical or non-physical employed in such control, and the means by which the information so transmitted is assembled, monitered, stored and accessed.

### 3.1:1 Definition of Office Areas

The efficiency of a building is usually measured in terms of the ratio of the usable office area to the gross area of the building.

1) Work place areas: Otherwise known as the usable areas are essentially spaces in which it is possibe for people to work at desks. This area also includes circulation within the office.

2) Primary Circulation: This area of the building is defined as the essential circulation space required to provide access and means of escape to work place areas. Primary circulation usually takes up between 10% and 15% of the net usable of the building.

3) Core: The core is the conglomerate of elements brought together for ease of services and construction. This area includes spaces for lifts, stairs, ducts and lavatories.

## 3.2 Evolution of the Office Building

The office building, at its present stage can be considered to be a contemporary development; the need arising from a positive development in peoples way of life.

Functions that are now being performed in the offices were formally executed in places as such; homes,

palaces, town squares, market places and religious buildings. However, that was the practice when a lot of other facets of human progress to conquer his environment were not articulated. This aspect can be seen in the case of developed country like East Germany; in 1907 Germany had 13-million manual workers and 2-million white collar workers. In 1961, 12 million manual workers were matched with seven million white collar workers (Hohl, 1968). This reflects the fact that a highly industrialized mation and more people have to work at the desk. This was the beginning of Office(s).

## 3.3 Desk Task, New Aspects

Desk work is predominantly concerned either with managerial decision making or with the combination, subject to certain rules of facts, and figures ie. data processing; a task increasingly assigned to machines. The polarity between the head and the body is architecturally reflected in the distribution of different functions to different floors, with the management at the top and equipment at the lowest floors. In between, we have the army of employees whose number despite all productivity measures are steadily growing, here impulses received from the management are received and are more or less modified and later executed.

The organisation and also the architectural tasks of office design can easily be represented by an electric circuiting, diagram (Hohl. 1969); while keeping the voltages as steady as possible working impulses introduced into widely ramified network are required to lead as directly as possible, to productive power output. Built into the circuit are control centres, storage cells and protection devices to guard against short-circuits and current losses. For a long time, this model concept has been adopted in practices on the basis of careful studies.

Efficiency exports organise the flow of papers, suitable office furniture and equipment of all kinds serve to eliminate more and more of the "resistance" the creation of a suitable environment offering favourable conditions for creative thinking and for communication and storage of result is the function of the architect.

Among secondary tasks associated with the construction of an office building are the means encsuring the physical and psychological well being of the staff which, to some extent governs the output. In addition, means must be provided to prevent the depreciation of assets.

## 3.4 Office Design Concepts

The concept of office design is based on either of

of two principles;-

1) The open plan (open layout)

2) The closed plan (closed layout)

The open plan: the layout without corridors. This system permits better utilization of the entire floor space available for offices. The open layout, which has large artificially lighted and ventilated rooms has been evolved in the united states (JOEDICKE, 1962, p.17).

The open plan is based on the subdivision of the office floor into large spaces in which separate rooms, whose length and depth are variable are provided for the senior staff only. The open layout dispensing with separate corridors call for an efficient air-conditioning system and rely heavily on artifial lighting as a permanent adjunct to natural lighting.

Apart from the dis-advantages stated above, it has it's own advantage. The open plan:

a) Permits better utilization of the available space
b) Cuts out considerable cost of installing and re-arranging movable partitions, facilities.
c) Permits much more economical lighting installations.
d) Saving in space.

Planning in office building on plan may be based on either of the two principles.

The various rooms are accesible from corridors (in which case-single, doube and tripple layouts maybe distinguished) or alternatively, access to the various part of the layout is gained directly from the utility core and corridors are dispensed with. Summarily, access to the various part of office building are gained through one of the following -

1) Single-zone-layout: Rooms are accessible from a single corridor which has rooms on one side of the corridor only (fig, 3.1). It is most suitable for building such as schools, hospitals where requirements of hygiene rather than economy are the determining factors.

2) Double-zone layout: It is a typical solution for a medium-sized office building (JOEDICKE 1962, p.10). Access to a double zone layout maybe provided in the form of a main and a secondary staircase, a central utility core, two utility cores of equal importance or one centrally located utility core in a connecting unit of the building (fig. 3.2). It is extremely economical and satisfactory. In high multi-storey buildings the space requirements for utility cores increase so considerably that the double-zone layout with utility cores located in the office zone becomes questionable arrangement. The vertical circulation facilities take up valuable

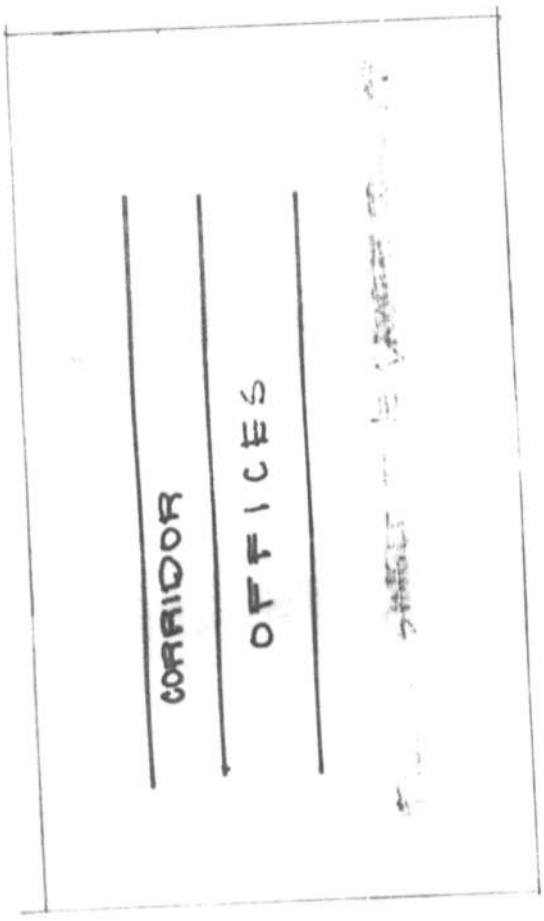



FIG 3.1. SINGLE ZONE LAYOUT.

office space, and their location within the office zone complicates both the structure and the internal planning of the building. For these reasons, the triple zone layout was evolved as a typical solution for very high office building.

3) Triple zone layout: All circulation facilities and sanitary accomodations are places in the third or central zone, in the interior of the building. The offices are arranged without interuption along the external walls. It is, of course, possible to illuminate and ventilate corridors from the end walls but it becomes necessary to provide additional artificial lighting and ventilation for the deeper interior zones of the building. The triple zone layout (fig. 3.3) offer avadantages from the view point of aesthetic and structural design. It is also extremely economical.

With low building it is disadvantageus to adopt this type of layout, as the utility core will then fall far short of filling up the spaces, available in the central core unless, of course, the building is to be use for a special purpose requiring a large number of small subsidiary rooms, which can then conviniently be located in the core.

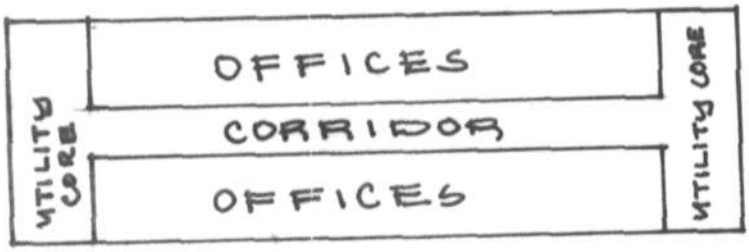



FIG 3.2 DOUBLE ZONE LAYOUT CONCEPT

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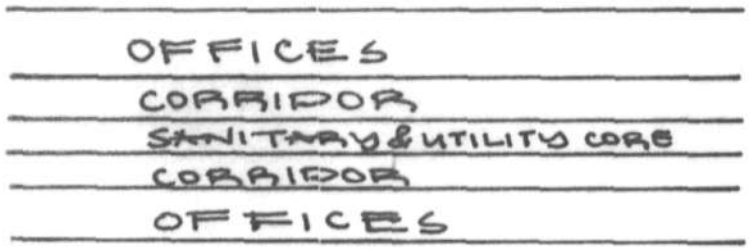



FIG. 3.3 TRIPLE ZONE LAYOUT CONCEPT

3.4:1 Closed Layout:

Closed layout individual room system is the basic principle of the closed layout. Its basic principles is that of providing access to the various parts of the floor by means of corridors (single, double and or triple layouts). The basic unit of accomodation in this concept is usually a room, designed for one or two persons.

The advantages of this type of design includes:-

- Provision of built-in facilities like recreational amenities.
- It can develop a building to give a wide range of space types relevant to its pattern of work.
- It can create an image and yet not tempered its flexibility.

It's disavantages is that the building form can be two closely designed to fit the organization changes, the result would be severe restructions by the building form to the new in-coming organization.

3.4:2 Open Layout

The open layout is designed for the sole purpose of providing rentable office space. Vertical circulation elements are placed centrally or in an off-centre, depending on circumstances (fig. 3.4).

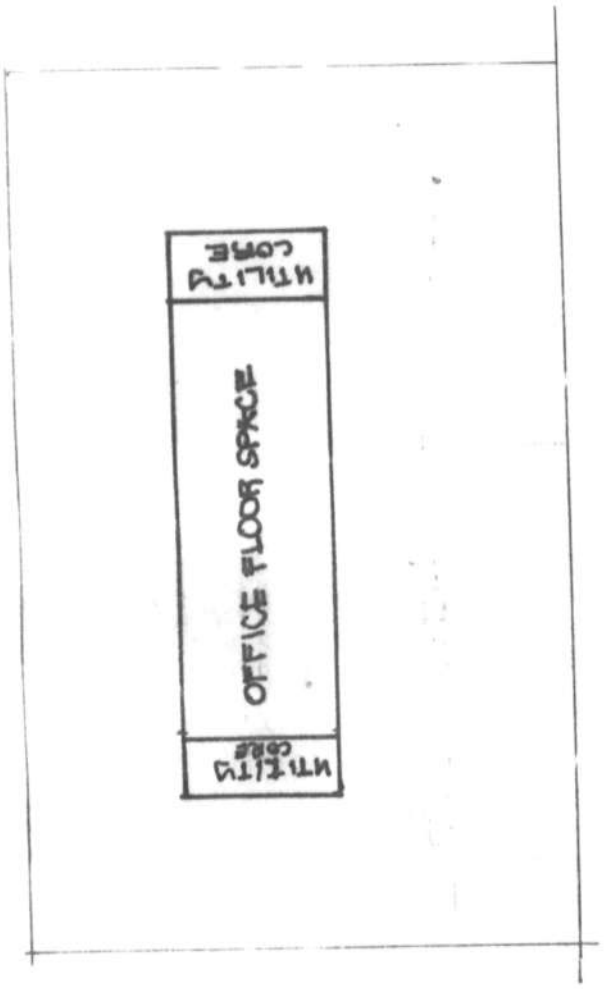



FIG. 3·4 OPEN LAYOUT CONCEPT

3.4:3 Special Layout:

In office architecture, single-storey buildings permit the use of special plan that differs from the usual single, double, or triple zone layouts.

At atrium concept is developed in which rooms are arranged around a small enclosed courtyard-atrium with shrubs and plants (fig. 3.5). Rooflighting is provided.

## 3.5 Analysis of Office Design Requirements

As has been stated earlier, there are two categories of office building, namely:

a) The closed layout

b) The open layout

Analysis of the office building will be done under different elements of the building.

### Office Shell

The shell is all that is provided for the duration of the life of the building, the structure, the envelope and the basic services. They can be classified into distinct and recognizable types.

### Office Spaces

Floor plans break down into different categories of space suitable for ordinary office rooms, and for

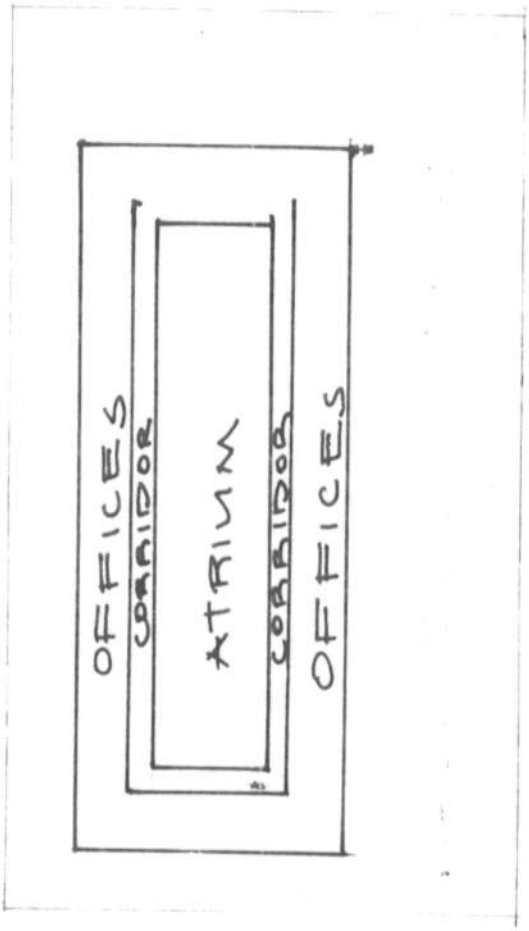



FIG. 3.5 ATRIUM CONCEPT

open rooms, and for open planning. Spaces and office activities are closely related factors affecting shells. Many factors affect the shape of office shell, namely, site density; light and ventilation; fire regulations; design concept.

## Site Density

Density of development on site maybe restricted as on these, restrictions of heights of building and regulation of the plot ratio-built up floor space. Allowance must normally be made between the building and road lines.

## Light and Ventilation

The depth of office space may be influenced by the amount of day light possible with maximum glazing. Usually with depths greater than 12m, and glazing on either side, workshops, do not receive enough natural light. Possibility of ventilation can also affect the shape of the building shells.

## Fire Regulation

According to building codes, certain basic principles have to be applied to provide satisfactory means of escape. The distance measured along the escape route between the farthest point in any office and

either the exist door from the storey on the exit door to the green air, the travel distance is critical. This distance affects the location of cores and escapes stairs,

- Where escape is possible in any office to an exit door from the storey should be less than or equal to 46m.
- Distance between two adjacent exits from a storey should be 61m or less.

Depth of space is defined as the distance from the main core or maincirculation to the perimeter. Four basic depths may be distinguished shallow depth 4.5m (minus circulation); medium depth 6.10, deep depth 11-19m; very deep space over 20m.

a) Shallow space allows reasonably proportioned rooms with perimeter ventilation alone sufficient. Double zone spaces produce a shell depth of 12m. Shallow space is essentially linear. Its most common use is that of small rooms linked by a corridor. It is well suited to subdivisions into small tenancies.

b) Medium depth space: Some work places here will not be adjacent to a window wall. Double zone spaces will give a shell depth of 18.22m rooms and will not always be well proportioned, however, but this types of space can provide a variety of shell forms.

c) Deep space can be divided into separate tenances. Large spaces however are suitable only for organisation.

Grids

A building designed with the use of grids responds more flexibly to the changing needs of users. There are two kinds of grids in office buildings;

a) Structural grids: these grids define zones for major elements in the building. Example structure, major areas used by services. These zones are located in the horizontal and vertical planes. The choice of an internal grid depend on the type, size of spaces required in the building. Economic spans of structural systems chosen, and the third is floor loadings. Economic structural grids at normal loadings vary from 5-9m.

b) Colums: in respect of planning office layout, columns should be placed as far as possible. This location is critical because columns may fall in inconvinient places and may not coincide with partition lines. Minimum usuable width for a single room is 2.4m and should be a nearer to 2.7m. Columns grids should then be a multiple of this figure so that a desk can be placed across the room. Room depth (single) is best between 3-4m.

Mullion

Spacing determine where partitions can be placed. Window mullions in cellular offices determine room width, therefore spacing is important.

Structural Grid in a Vertical Dimen tion

Building regulations define minimum floor to ceiling heights for offices. In general, the deeper the office spaces, the greater the floor dimension, because of greater depth required between ceiling and slab for service ducting.

Space Standards for Layouts

Space standards are the means of controlling the allocation of space in office buildings to individuals or activities. There are formal expression of status.

Organisation may express status in three ways:

a) Allocation of space in increasing amounts in progression up the organisational heirachy.

b) Enclosure - Grades above a certain level may be entitled to a separate room.

c) Furniture - entitlement to certain items of furniture (example) a carpet; is stratified in relation to the organisational structure.

d) Desk space - space standrads vary from one users

to the other. They are composed partly of space required for furtnitue, partly of space for circulation immediately adjacent to the workshop, and partly of space used to express rank or status.

Office Environments

Services distribution are of two kinds:-

1) Horizontal distribution of services
2) Vertical distribution of services.

Bringing services to the workplace depends on the services themselves, the configuration of the building and its intended use. This configuration implies patterns of workplace servicing.

Shallow plan buildings will depends on perimeter and core servicing requiring little lateral distribution. Deep plan will require longer lateral services distribution.

# CHAPTER FOUR

## 4.0 KANO STATE HISTORY AND CULTURE BUREAU

Background-meaning and function:

The Kano State History and culture Bureau (KCB) established in 1987 to replaced the then existing Kano State Arts Council.

The Bureau is a non-profit making, permanent institution in the service of the society. It is a public institution open to the public for the purpose of acquiring knowledge, conserves and exhibit to the benefit of the society. It is a place established to the general populace for the purpose of study, education and enjoyment of man and his environment.

In addition to office spaces that monitor the activities of the KCB, other amenities and functions exist that render services to the teeming populace. They include exhibition spaces for all kinds of traditional exhibitions related to the people of Kano, the theatre for performance as well as the provision of library for the purpose of establishing knowledge. Others are the auxiliary facilities to support the educational as well as the document/research section. The auxillary facilities are the laboratory, the archives, and the research facilities.

Since the KCB has various functions which owerlap with each other, it becomes imperative to indulge in an in depth study of the individual unit function(s) as well as various case studies in order to arrive at a more comprehensible history and culture Bureau complex. A look at the aims and objectives of the Bureau, would therefore, becomes necessary.

## Aims and Objectives

### As an Office

- It becomes the administrative centre of history and culture affairs of the state.
- Centre where information about the History and Culture of the state are dessiminated, process and stored.

### As a Museum

- It becomes the custodian of traditional culture of the state.
- Display of objects.
- Entertainment of populace through Drama, Film etc.
- Educating people about the various aspect of traditional culture.

Summarily, the KCB building would therefore, becomes an architecturally preserve traditional heritage.

## 4.1 Case Studies

The idea is to find out the various concepts and planning ideas of both the traditional building types and the office designs. The arrived concept(s) that can be adopted and incorporated in the KCB design, so as to have a building that strongly reflects traditional culture and at the same time looking modern.

## 4.2 Traditional Building

The idea is to find out the main architectural elements including the Hausa planning concept of the Hausa traditional architecture. For this reason, quite a few number of houses are chosen for this study and which stand to be Hausa architectural "Master Pieces" within Kano metropolis.

### 4.2:1 Gidan-Dan-Hausa

This building is located at Dan-Hausa Road, Kano within the vicinity of Nassarawa quaters. It dates back to 1917 when it was designed and supervised by Hanns Vinscher alias "Dan-Hausa". Many Europeans administrators used the house as their residence.

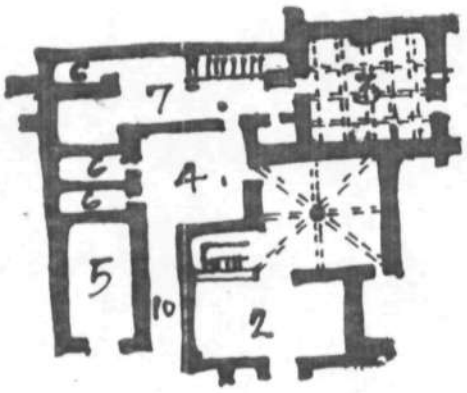
Later the house was transfered under the custody of Kano state Arts Council by the State Ministry of works.

Other functions of the house was the turbining of Chiefs and Emirs in the past years. It is presently an antique as nobody occupies it. The credit goes to the master mason and Dan-Hausa for such a good and remarkable work the mason's achieved with the use of local building materials.

The house is one storey (fig. 4.1), surrounded by a traditional mud wall. One is greeted on approaching the house by the massive monumental, well and elaborate decorative gates. The gates are the main sources of ingress and egress to and out the building site. The longer axis of the building lays on the north-south direction with the main facade on the north side. From the main facade is an entrance hall, moving fast it are two lounges.

One for guests and the other strictly for the family households and closed friends. These two lounges are linked to each other by a small walking space, It has few arch openings which made the walking space interesting.

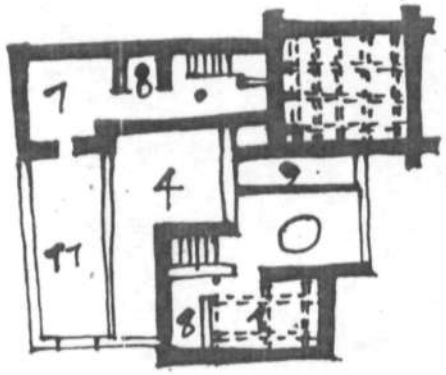
The lounges are differentiated from one another by referring to the first lounge as Zaure Mai Kafa Shida while the second one is termed as Zaure mai kafa goma sha biyu. The first lounge opens to the inner courtyards of the house by a single opening door. A narrow




KEY

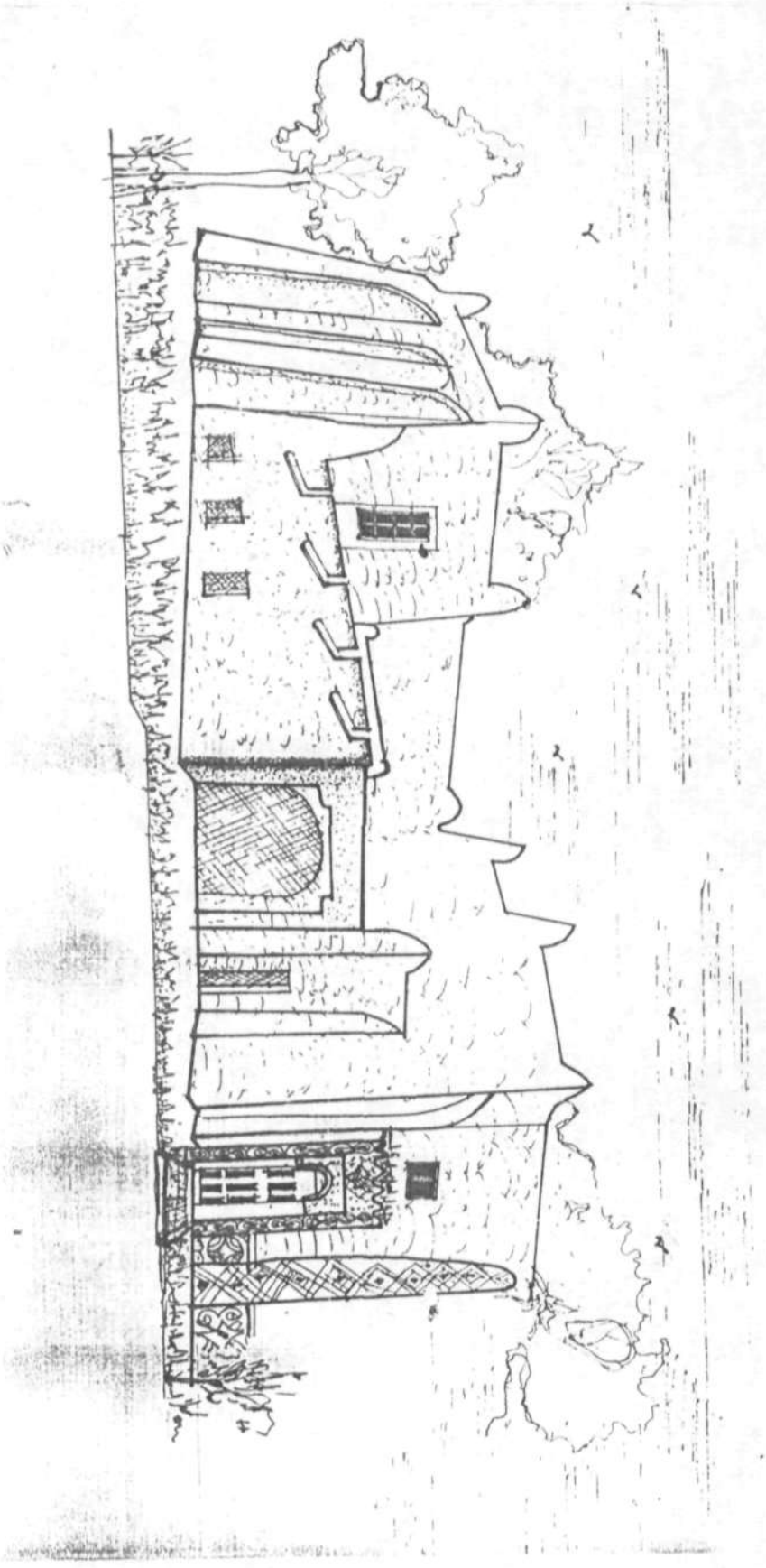
1. BEDROOMS
2. LOUNGE
3. DINNING ROOM
4. COURTYARD
5. GARAGE
6. STORE
7. KITCHEN
8. BATHROOM
9. ROOF-TOP
10. HALL

GROUND FLOOR PLAN




FIRST FLOOR PLAN

FIG.4.1 PLAN OF GIDAN DAN HAUSA



PERSPECTIVE OF GIDAN DAN-HAMSA.

passage linked the second lounge with dining room, kitchen and store, A series of flight convey one to the upper floor where the bedrooms are situated. The upper floor consists of bedrooms and toilets only, while the bedrooms (two in number) are served with a roof terrace-each bedroom has its own roof terrace.

It is evident that the building is constructed using the traditional building materials, methods and techniques but the basic planning conept of the Hausa people cannot be seen in the building. In whole, the planning concept and ideas is completely alien to our culture.

Materials

The basic materials used is mud and azara in the construction of the house but the tendency is that the mud is wash away by rain water which in effect requires constant maintenance, while the azare can only move to a storey high due to its limitation considering its weak tension force.

Windows are casement type, combination fo wood frame and glass while the doors are completely of wood.

Decorations

The exterior facades are decorated with different kinds of motiffs that are typical of Hausaland. The

motiffs are mainly drawn with white paint over a black background while the paintings are either brown or white to complement the colour of Makuba, the interior painting is completely white in colour with decorations over brown paint within the interior.

Finishes

The finishes applied to the building is Makuba whih is brown in colour. It blends the building with the surroundings and acts as a preventive against rain erosion to a greater extent, unlike mud finishes. The internal finishes are mainly fine sand plaster and paintings over the plasters.

Roofs

The roofs are mainly flat in nature except the family lounge and the dining area where intricate ceiling patterns can be seen due to its value and height. As these places are designed for larger gatherings, the interior is also designed to entertain the occupants and the guests. These ceiling patterns ranges from a series of parallel and crossing Baka-vaults. Hence, the decorative ceiling pattern and the paintings do a lot in satisfying the curious ones.

4.2:2 Gidan Benimister

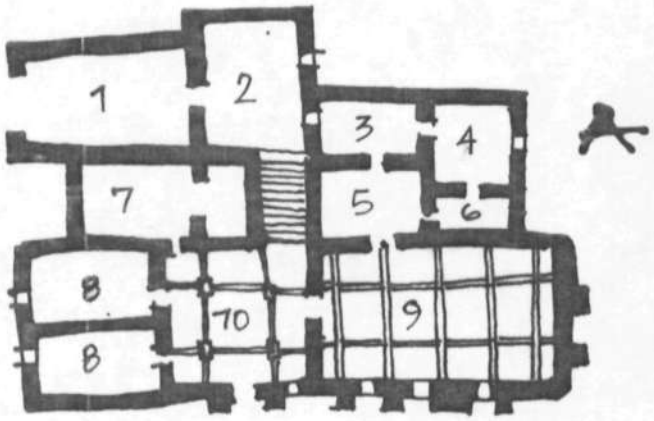
Located along Sokoto Road in Kano. It was constructed at the same time with Gidan Dan-Hausa by the same mater mason but it's supervision was done by Beninmister, after whom it was named and called to date. It followed the same process of handing over to the state Arts Council just like its counterpart Gidan-Dan-Hausa in 1977.

The building is two stories (fig. 4.2). Its main facade is defined by the adorned buttresses with different designed motifs. Moving fast the entrance is a hall, to which two rooms a lounge, a toilet and series of flights leading to the upper floor are found. The staircase opens into the family lounge while the family lounge also opens into roof terrace by an openable door. Like the Gidan-Dan-Hausa, the bedrooms also have sleeping roof terraces. Coming back to the ground floor, the garage is linked to the store while the pantry opens into the main lounge.

It is a typical European dwelling with absent of effective courtyard, Zaure et cetra. All other characters in terms of materials, finishes, roof types are similar to that of Gidan-Dan-Hausa.

4.2:3 Gidan Resident

The house situated along Kashim Ibrahim Road of Nassarawa vicinity, Kano. It was the first to be built




KEY

1. GARAGE
2 STORE
3 DINNING RM.
4 KITCHEN
5 PANTRY
6 STUDY
7 BATHROOM
8 GUEST ROOM
7 LOUNGE
10 HALL
11 ROOF TERRACE
12 FAMILY LOUNGE
13 ROOF TOP
14. BEDROOM

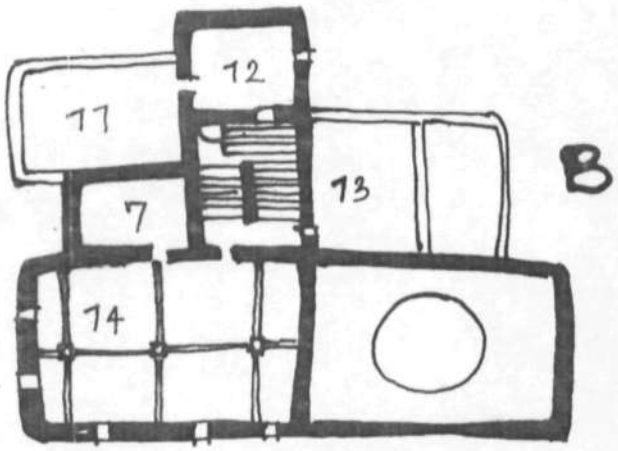



FIG4.2 PLANS OF GIDAN BENIMISTER
A. GROUND FLOOR PLAN; B-UPPER FL. PLAN

by the colonial administrators for the sole purpose of housing the Resident of Kano who was then the administrative head of Kano. This house is located close to the administrative offices of the European administrators now known as Government House, Kano.

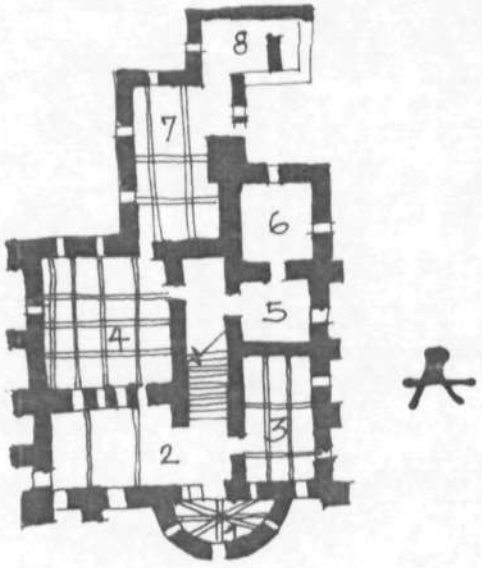
After independence, the house was later handed over to the Government of Kano State but seizes to be the house of the Governor as a new building was constructed housing all necessary offices and the Governor's lodge. Many Europeans occupied the house from time to time but it is presently occupied by the House-Keeper of the Government House.

The building is true of a European dwelling in that the whole house is under one roof (fig. 4.3). Rooms opens into one another directly. It has two bedrooms, a lounge, a study, dining room, kitchen, store, bathrooms and a pronouncedentrance hall. It shares the same attributes as Gidan-Dan-Hausa.

4.2:4 Gidan-Kakama

Gidan Makama is located within the Kano old city along Emir's palace Road.

It is opposite the present Emir's palace. Built in the fifteenth century by the then Emir Muhammed Rumfa as a palace before the construction of the present Emir's palace was in effect. After the completion




KEY

1 ENTRANCE HALL
2 LOUNGE
3 STUDY
4 DINNING ROOM
5 PANTRY/KITCHEN
6 STORE
7 BEDROOM
8 BATHROOM
9 ROOF TOP

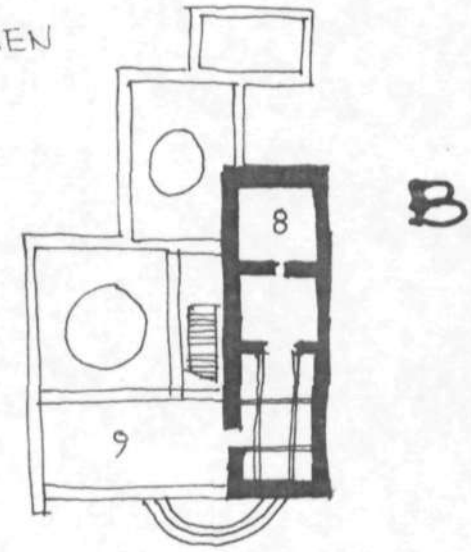
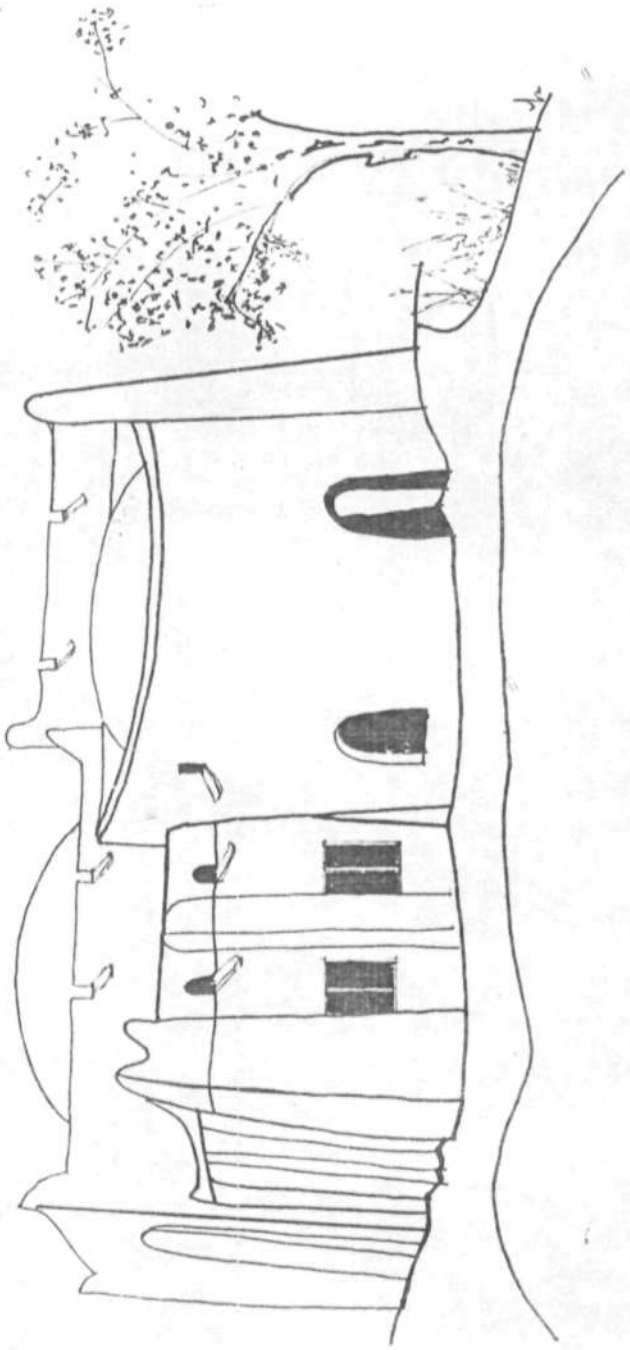



FIG.4.3 PLAN OF GIDAN RESIDENT
A-GROUND FL. PLAN; B-UPPER FL. PLAN



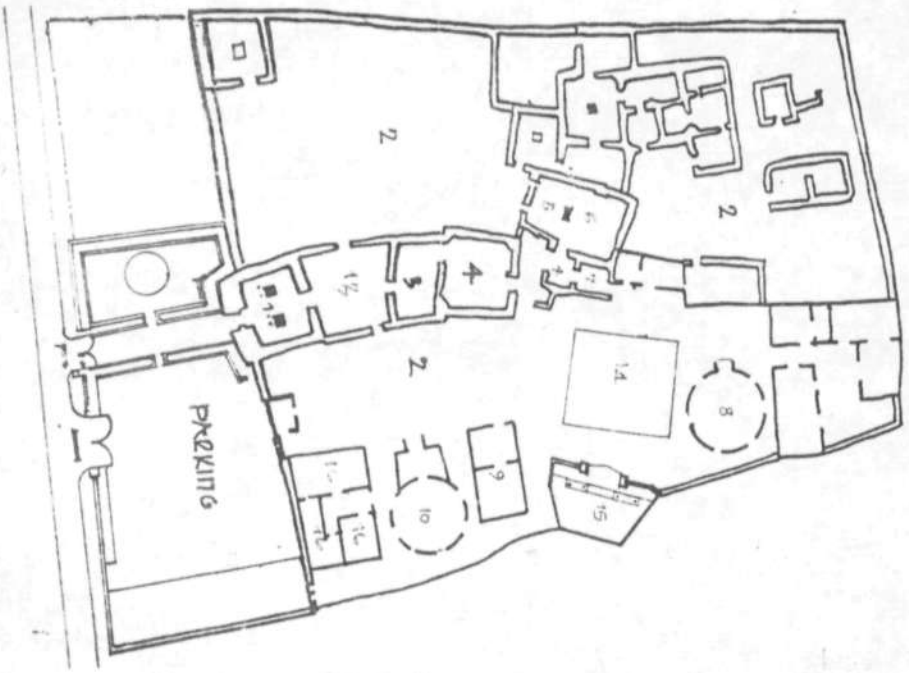
PERSPECTIVE OF GIDAN RESIDENT.

of the present palace by Muhammed Rumfa, he left the old palace for the then Makaman Kano after whom the house was named and called to date as "Gidan Makama".

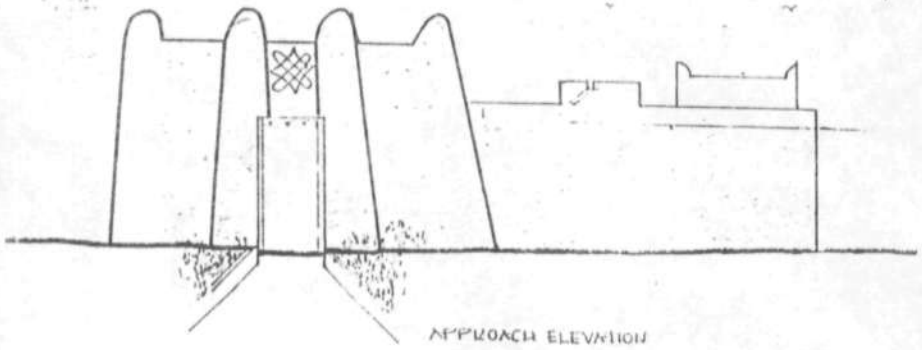
Gidan Makama could have been a very good example from the conceptional point of view, but its function has changed from that of a "House" to a "Museum" (fig. 4.4) which consequently affected the whole planning ideas as new structures were erected to this effects. Nevertheless, it still exhibit the various typical of Hausa building traditions:- rectangular, square, circular and irregular.

The materials used were solely of traditional type-mud untill the recent innovations of some flats roofs that are being replaced by corrugated irons sheets. The finishes are also made of Makuba both externally and internally except for some few spaces that are painted in the Bride's wing. Different types of roofing system are visible in this house, ranging from the popular flat type to the dominical and conical types.

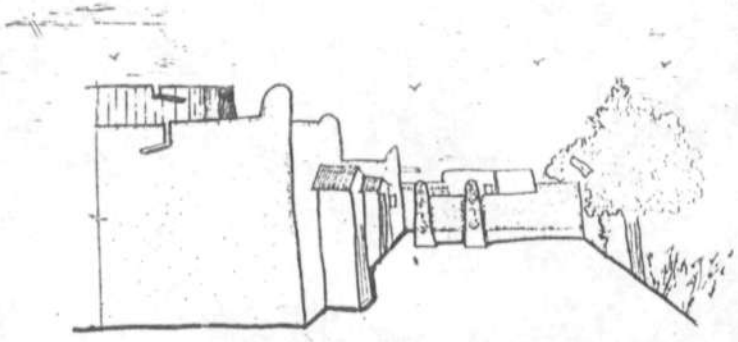
The Gidan Makama is a structural Hausa edifice being solely reflecting the Hausa traditional patterns of living and building. Although being converted to a museum, it will not satisfied the conditions for proper museum as is witnessed by lack of adequate ventilation,




PLAN



APPROACH ELEVATION



INTERIOR OF GIDAN MAKAMA

FIG. 4.4 - GIDAN MAKAMA - PLAN AND ELEVATION
1-ENTRANCE HALL; 2-COURTYARD, 3-EXHI. GALLERY; 4-MAKAMAS WING;
5-LOBBY VOID; 6-MUSEUM GUIDE; 7-EXHI; 8-RECEPTIONIST; 9-STORE.

lighting and circulation but nevertheless it is a correct step towards preserving our traditional heritage as many of our traditional buildings are fast disappearing.

4.2:5 Gidan Makama as a Museum

In the early 1950's, the structure was divided into three parts, the Gidan Makama Primary School the Central area which remained the home of Makama and the main suite of rooms which become the Museum. The Gidan Makama Museum is now under the National Commission for Museum and Monuments, unlike the exhibition galleries in other museums, the Gidan Makama Museum has a different way of presenting their exhibitions in a different kind of exhibition galleries. The galleries are divided into rooms. Each room has a different kind of display in chronological order.

Room 1 "Zaure or entrance room: The gallery shows the illustrations of examples of building techniques, important examples of monuments, military and domestic architecture.

Room 2 - contains materials relating to legendary of the past.

Room 3 - shows examples of traditional architectures, displays history of Kasar Kano - land of Kano and

growth of kingship and government, from earliest times to about 1800.

Room 4 - small waiting room devoted to the Jihad of Usman Dan-Fodio, the establishment of the Emirate goernment and events of the 19th century.

Room 5 - displays materials, illustrations, aspects of Kano Civil-war, the reign of Emir Aliyu, the British invasion and the over throw of the Sokoto caliphate.

Room 6 - shows Kano under colonial rule.

Room 7 - devoted to Islam, seeks to illustrate the non-muslims, the basic beliefs to both the stranger and the believer.

Room 8 & 9 - examples of arts and crafts of Kano, the works of weavers, embroiders and leather works.

Main courtyard - where craftsman exhibits their traditional skills, a hair dressing saloon, and rooms 8 & 9 and 10 as well as the Emir's throne.

Critics

The building is of local construction, with mud walls and rectangular mud dome roofings. The whole structure being of mud need regular maintenance almost annually.

Ventilation: There is little or sometimes no natural ventilation in the galleries.

This could be harmful to some artifacts. Lighting is also provided by the use of flourescent lamps in some galleries like room 7. There is no adequate lighting in the rooms. Circulation pattern in the galleries is very poor. This happens rather due to arrangement of artifacts or careless representation of public (visitors).

The laboratory and the dark-room have being placed very far away to other functions. This is due to poor functional set-up. There is no clear distinction between the exhibition area and shops.

Recreational facilities like Auditorium, are absent.

## 4.3 Designed History and Culture Bureau and Museums

The aim of this study is to know the elements or functions constituting the Bureau as a whole and later make conrrections to arrive at a model type of Bureau. The aim of the study is also to give some in-sight about the zoning concept and functional inter-relationship.

The final lesson is to draw the basic concept and complement it with that of traditional one to evolved a Bureau of within our socio-cultural context.

### 4.3:1 Sokoto State Histy and Culture Bureau

Established in 1987, was until its recent renaming was called Sokoto Arts Council. The Bureau located

at Unguwar Rogo Road, within the old city of Sokoto.

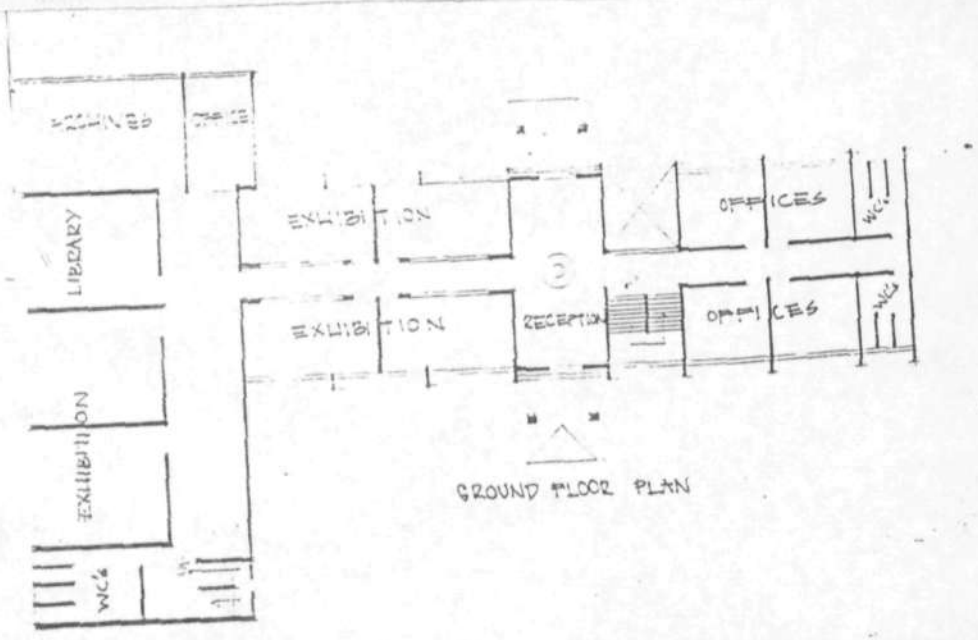
The building is two stories housing the administrative functions, exhibition galleries, library as well as other auxillary facilities (fig. 4.5). The galleries are permanent exhibition areas, while the library and archive provides visitors with Sokoto literature. There was little or no attempt to preserve the architectural heritage of the place.

Critics

Like all other public buildings, the Sokoto History and Culture Bureau has its own problems. There is little or no attempt to preserve the traditional heritage within the building, The only traditional approach was the use of few arches at the front elevation of the building (fig. 4.6). Also there is absent of traditional planning concept like the absence of courtyards.

The architecture of the exhibition galleries does not look appropriate for its function; overall effect of introducing natural light into the galleries is negative.

Circulation pattern is also poor. There is continous jamming between those leaving the gallery and with those coming into the gallery. Functional layout of



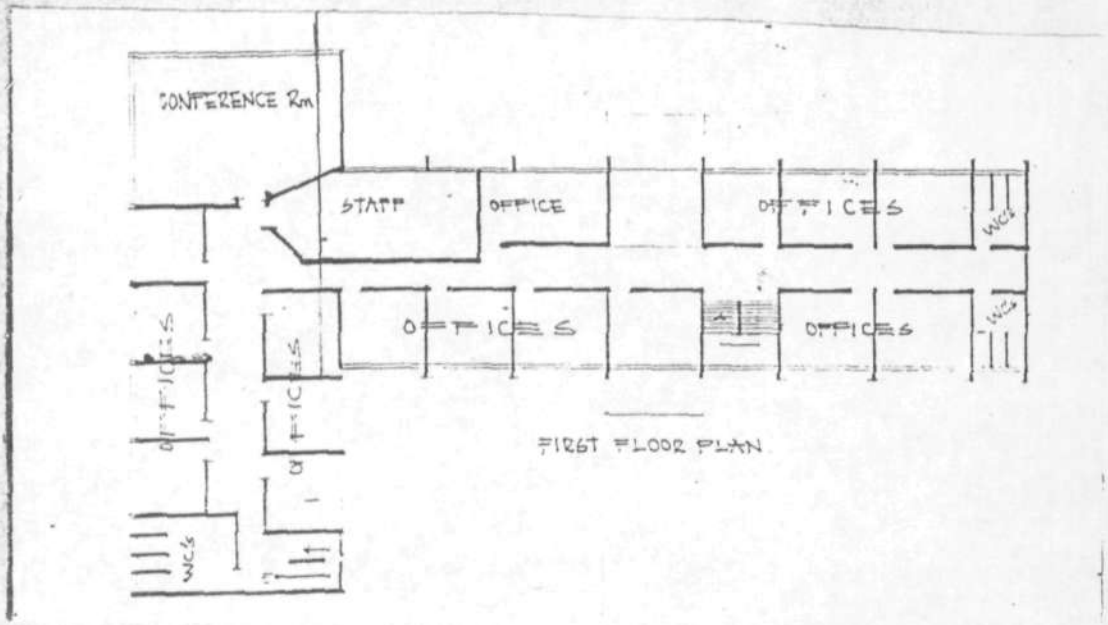




FIG. 4.5 PLANS OF SOKOTO STATE HISTORY AND CULTURE BUREAU.

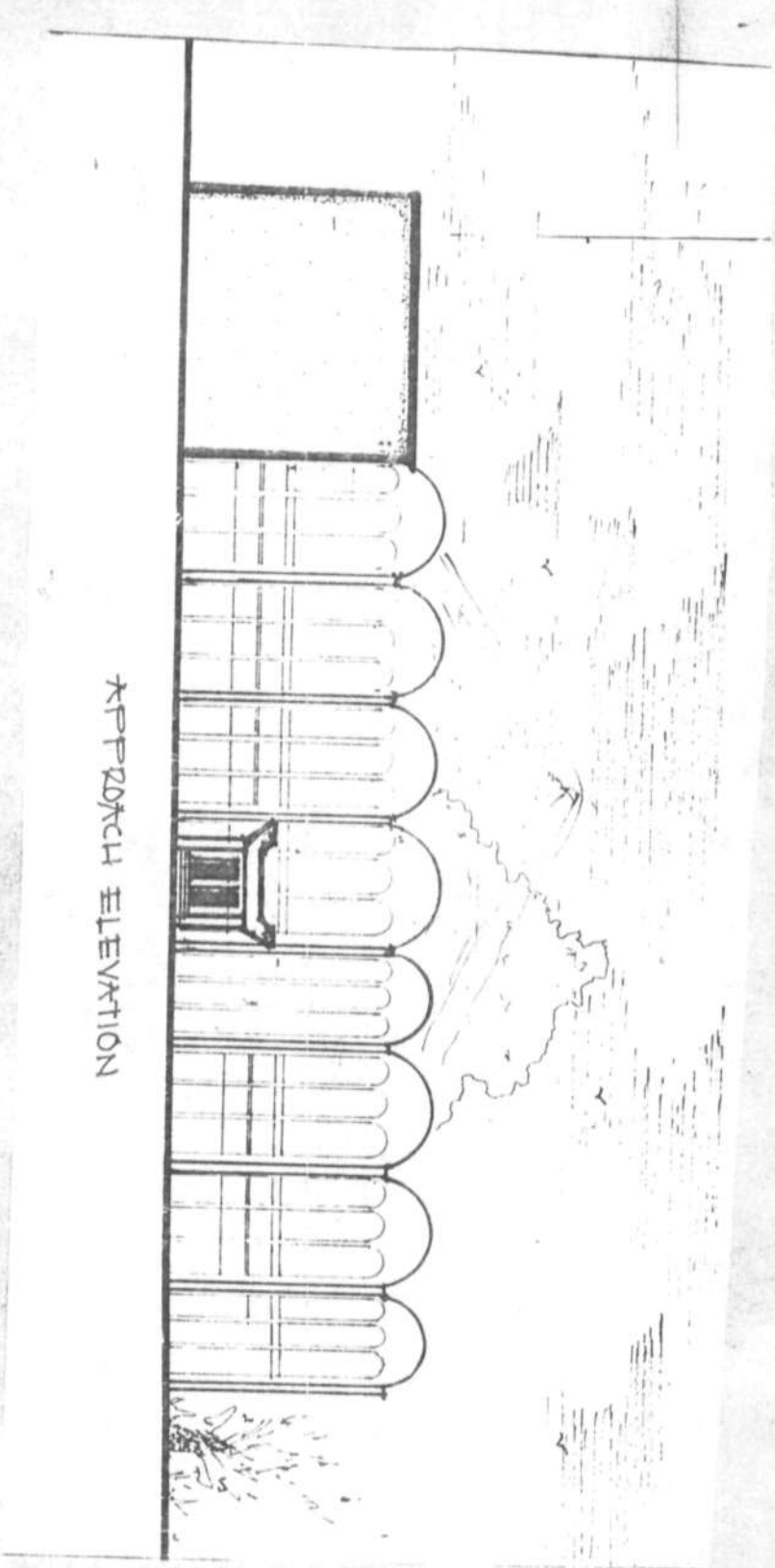



FIG.46 ELEVATION – SOKOTO HIST. AND CULTURE BUREAU.

of gallery is not forthcoming. Corridors are double-loaded as a result, lighting and ventilation is not sufficient.

There is poor zoning of functions, the semi-noisy zone situated adjacent to the quite zone-the library is just adjacent to the gallery allowing noises to disturb those who study in the library. Therefore, the presence of the library near the gallery is not commandable.

Overall ventilation and lighting within the building is not adequate.

Recreational facilities like Auditorium, are absent. The overall outward appearance of the building is disturbing in the context of the traditional style. The result is that, little is seen or learned of the traditional architecture and traditional culture.

The good aspect of the design is the location of services at corner sides, eventhough the escape staircase does not open to the outside in case of emergency. Other good aspects of the design is the definition of the public spaces concentrated at one side (left side) on the ground floor while the remote area to public houses the administrative functions which is located on the upper floor.

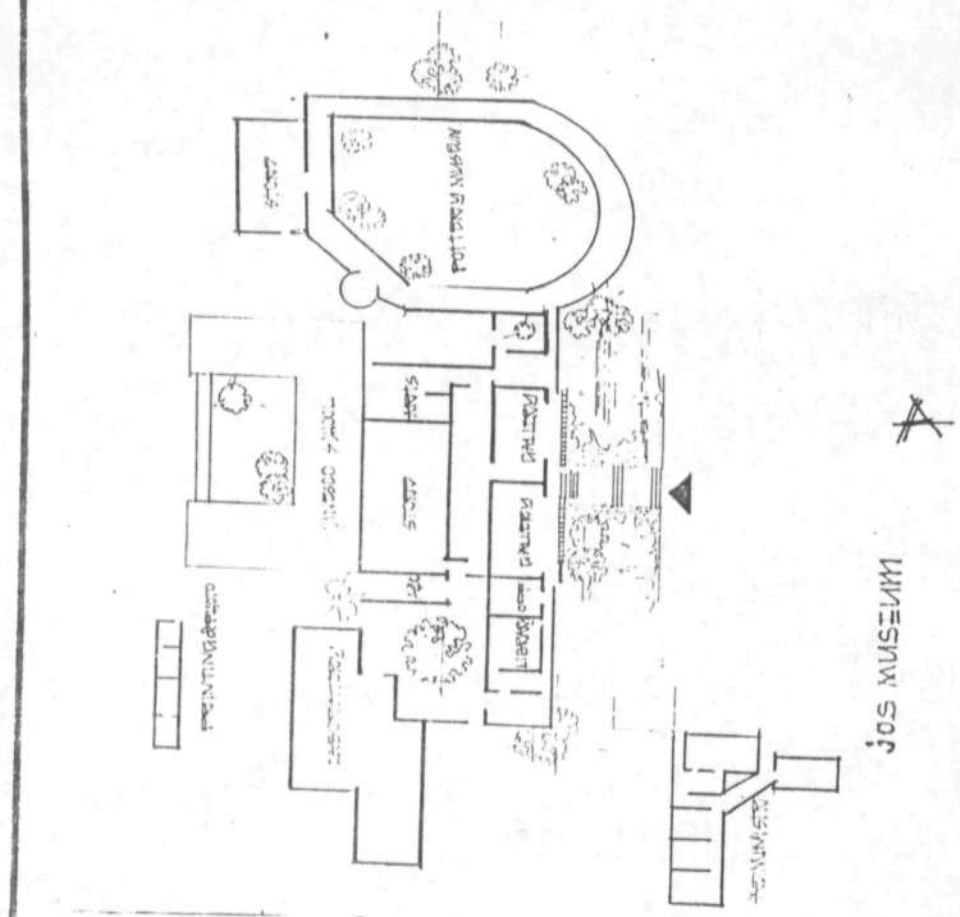
## 4.4 Museum

The idea is to find out the displays housed and those related functions present in my proposed Bureau complex, in order to grasp basic planning considerations and circulation patterns.

### 4.4:1 Jos Museum

Established in 1952, was officially opened in 1953, under the Antiquities and ordinance law passed in 1953. The museum the second oldest museum in Nigeria after the small museum in Esie, near Ilorin, which was opened in 1945. It is the second largest museum in the country offering a wide range of exhibits and facilities for visitors (fig. 4.7). The muesum serves so many functions with different faces. It has centre for museum, the bindary and auditorium, the library, offices and laboratories as well as the exhibition galleries with their stores all of which are constructed with sandcrete and concrete materials.

The most interesting part of the museum complex is the museum of traditional Nigerian Architecture (MOTNA) where traditional buildings across the country are exhibited to reflect the weather condition of that of the country from which it comes from. MOTNA will be a unique museum of its kind in Africa and due to the



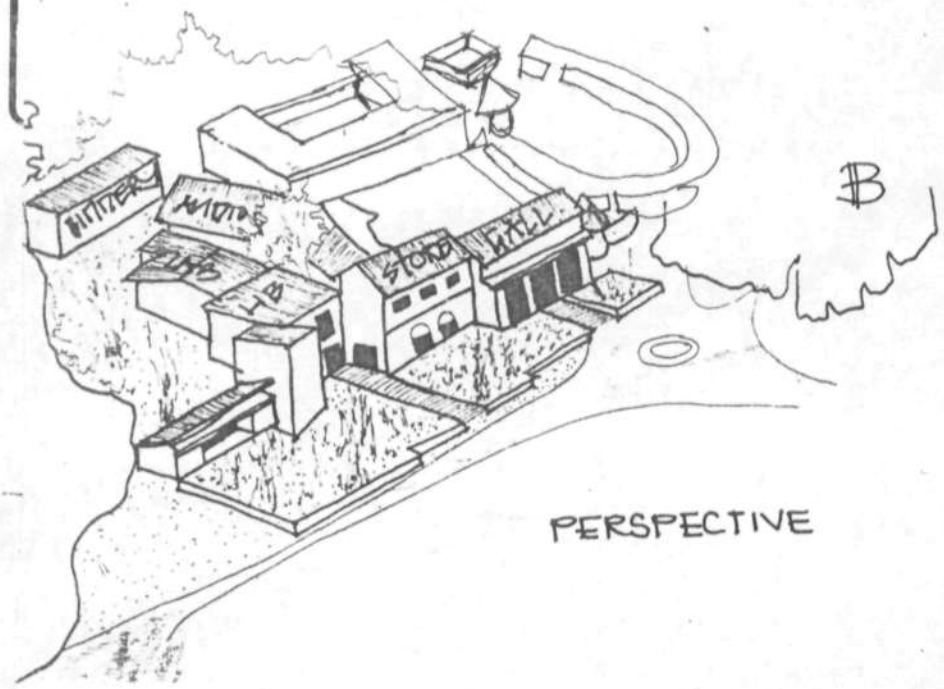




FIG. 4·7 JOS MUSEUM: A-PLAN AND B-PERSPECTIVE

special character of the exhibits, unique to the world.

The galleries-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.

The ethnographic objects on display includes carved Ibo and Idoma face masks, Benin and Ife bronze casting, Hausa and Fulani traditioanl dresses, and materials from Jukun and Mumuye and others around the coutry.

There are two main archeological displays in the permanent exhibition gallery. One of the displays materials is the paleolithic period, that is, the early stone age - stone artifacts. The second major archeological gallery display features are materials from NOK collections.

Critics

Like all other public places, the Jos museum has its own share of problems, success and failure. The attempt at the preservation of our architecture is definitely a commendable effort.

The architecture of the exhibition galleries in the Jos Museum does not look appropriate for its function. Outside the carved wooden pillers along the

corridors, nothing much can be commended there.

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

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

The dehumidification of the exhibition gallery is done mechanically. Although, it is not possible to completely ignore the use of mechanical system in modifying environmental internal spaces, appropriate architectural planning can go along way in reducing the dependency in it.

4.4:2 Makama Museum:- (See Makama Museum 4.2.5)

4.5 Designed Public Buildings - Office Buildings

It has been discussed already in chapter three of

the various types of office planning and concepts. The idea of undertaking this case study is to find out the concept that can be adopted and incorporated with the traditional concepts in the design of history and Bureau building without one conflicting with the other.

4.5:1 Open Layout

Mile High Centre, Denver, Colorado, U.S.A. Designed by I.M. and Associates. The Mile High Centre at Venver was designed for the sole purpose of providing rentable office space. For this reason the certical circulation elements have been centrally located so as to provide access for all the offices in a floor.

The scheme provides large open-layout office areas of 22.86m depth on one side of the utility care, and individual offices of 7.62m depth on the other side (fig. 4.8).

Advantages

- The absence of partitions makes for a substantially cheaper farm of construction than the closed plan.
- It permits rational utilization of the entire floor space available for offices.
- Permits much more economical Righting installations.

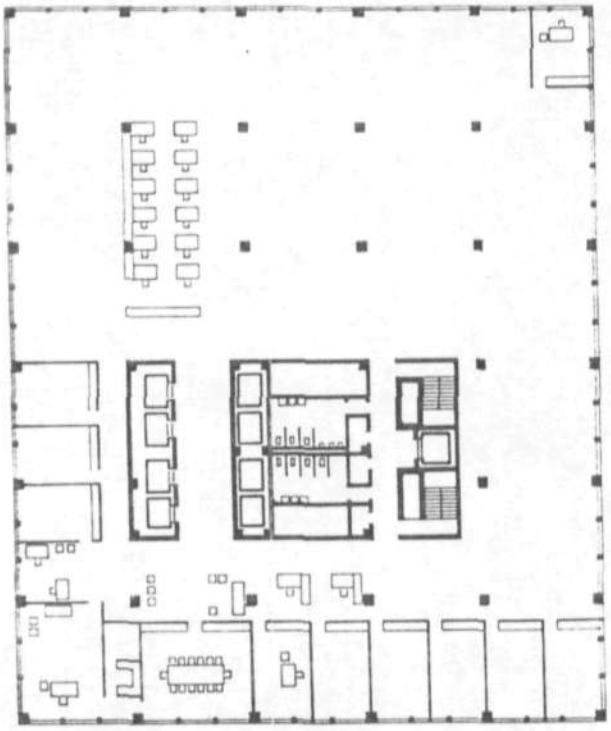


FIG 4.6 MILE HIGH CENTRE, DENVER, COLORADO, U.S.A

Disadvantages

- Generate a lot of noise
- There is lack of privacy between individual or groups
- Rely heavily on artificial lighting as a permanent adjunct to natural lighting.

4.5:2 Closed Layout

a) Single zone layout

Ministry of Labour and Social Welfare, Mexico, It is a seven storey building designed by Fedro Ramtrez Vasquez and R. Mijares. The main staircase of this building is located at the junction of the two slab blocks. In as much as the depth of the staircase is less than that of the adjacent office zone, the building presents a sort of constriction, on plan which in elevation serve to give prominence to the staircase as a link between the two blocks.

The secondary staircase are at the ends od the two corridors (fig. 4.9).

Building like this, are uneconomical,

b) Double Zone layout

Administrative building for the Livestock and Meat Control Board, Proteria, South Africa.

An elongated, narrow building of four storeys. Two utility cores give access to the double-zone

43. A typical floor. Scale 1 : 600.

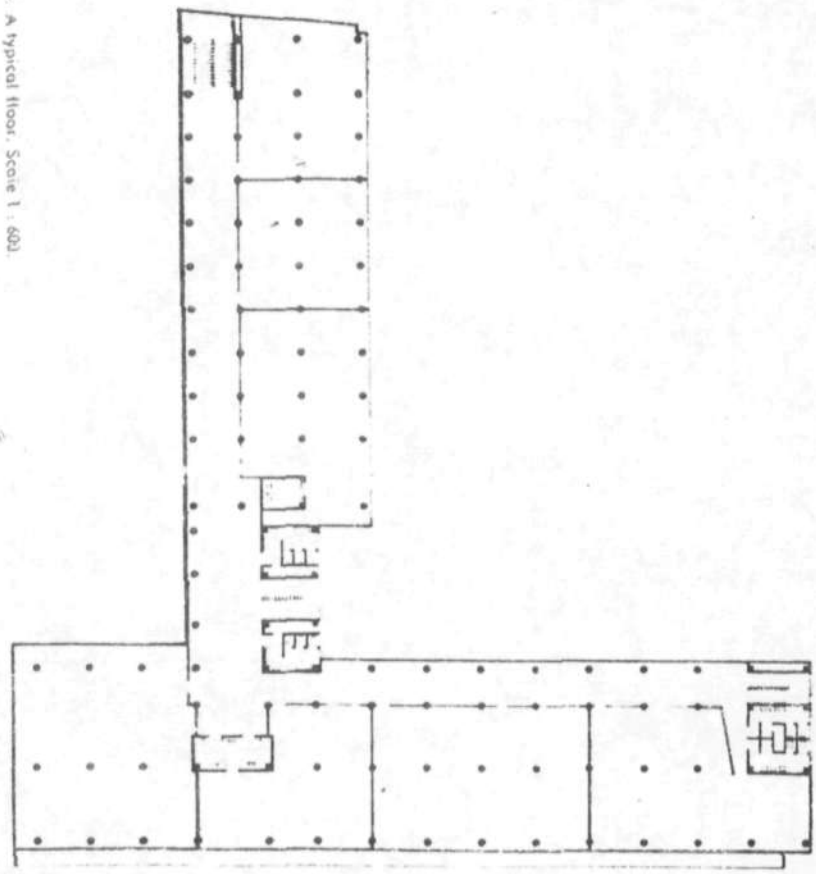


FIG.4·9 PLAN - MINISTRY OF LABOUR AND SOCIAL WELFARE, MEXICO.

layout. The two staircases are on the north side of the building.

Oppostie the east staircase is the main entrance, the west staircase is for internal circulation. An assembly hall is accomodated in an annexe which is connected to the main building by a short coveral passage (fig. 4.10).

Layout with staircases presenting this kind of arrangement are suitable only for the office building of a decentralised administrative organisation withou regular predestrian traffic in and out of the building.

c) Triple zone layout

Phonix-rheinrohr A.G. Administration building, Dusseldort, Germany.

The design constitutes an interesting attempt to combine the advantages of the triple zone layout with the more intimate atmosphere of the double zone layout.

The vertical circulation elements are places at the centre adjoining these are what maybe regarded as two double-zone layouts. In this way the floor plan is divided into two distinct parts, each of which is assured the practical as well as psychological importance of direct communication between the offices on the left and right of the corridor. The corridors are not excessively long and receive direct daylight from the end walls (fig. 4.11).

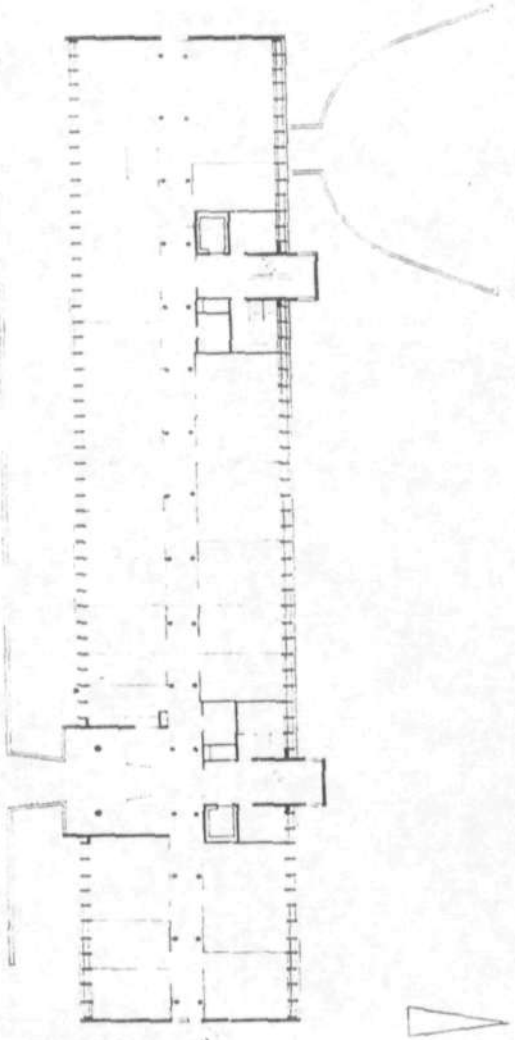


FIG. 4·90: ADMINISTRATIVE FOR THE LIVESTOCK AND MEAT CONTROL BOARD, PRETORIA, S. AFRICA.

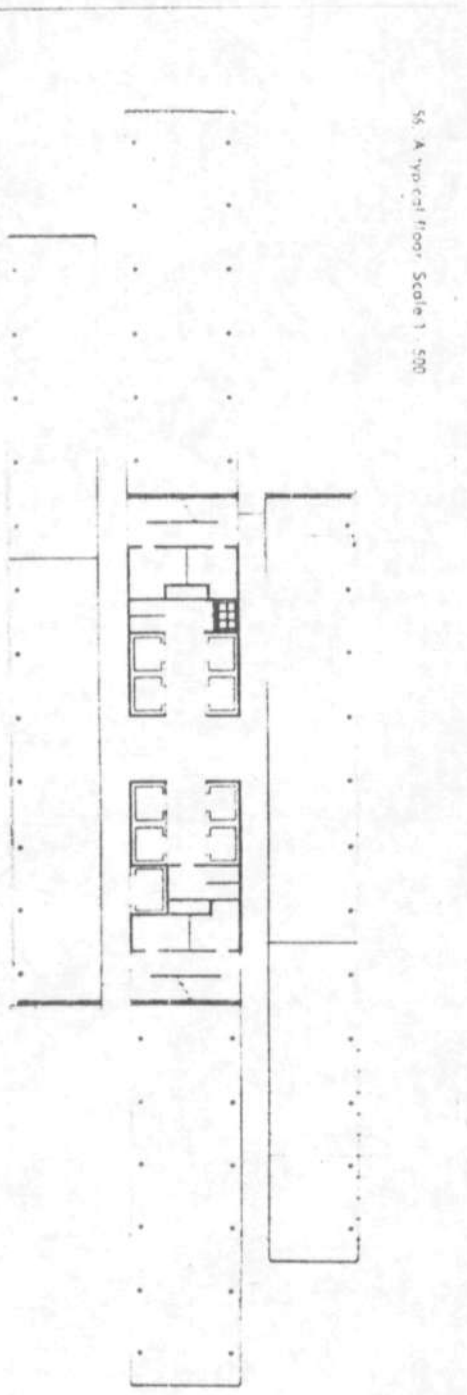



FIG. 4.11 – PHONIX–RHEINROHR A.G.
ADMINISTRATION BUILDING, GERMANY.

Advantages

- Less noise generated from individual rooms.
- Absolute privacy
- Offices are arranged without interruption along the external walls.
- It splendid the aesthetic and structural design of the building.
- It is economical for high rise buildings.

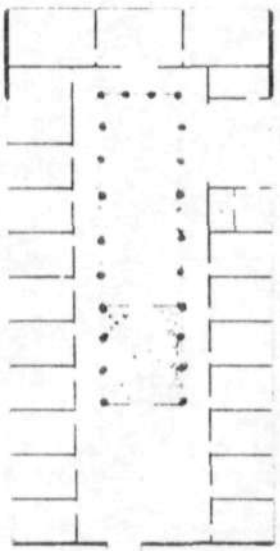
Disadvantages

- Relatively expensive
- Vertical circulation facilities in multi-storey building.take up valuable office space and their location within the office core complicates both the structure nd the internal planning of the building.
- Requires artificial lighting and ventilation for the interior zones of the building.

4.5:3 Special Layouts

Administrative building of Messra. Schlumberger, Ridgefield, Connectictu, U.S.A. (fig. 4.12).

In office architecture, single storey buildings permit the use of a special plan that differs from the usual single, double or triple zone layouts. For



PLAN

FIG 4·12 – ADMINISTRATIVE BUILDING OF MESSRS. SCHLUMBERGER, RIDGEFIELD, CONNECTICUT, U.S.A.

this administrative building, the architect developed an atrium-like scheme. The offices are places along three external walls of the building. The secretariat, library and conference room are in the interior, grouped around a small enclosed courtyarf with shrubs and plants. Rooflighting is provided.

# CHAPTER FIVE

## 5.0 DESIGN CRITERIA

### 5.1 The Site

Site location is along Mallam Aminu Kano Way within the walled city of Kano Metropolis. The site is owned by Kano State History and Culture Bureau. Therefore, selection of the appropriate site for this has become easy but there is basic criteria for adopting the existing site.

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#### Zoning

There are several basic zoning regulations for the siting of public places. The site development has to conform with the laid down zoning conditions in Kano. The Bureau site is within the officially accepted public zone. The proposed History and Culture Bereua Headquarter being the main Bereau throughtout Kano with its Secondary branches spread at all the local Governments are of the state is therefore sited within Kano metropolis area of the state. The Bereau is sited within the old city being area of legation and existed long before the development of other areas within the state. The idea of siting the Bereau on Dala Hill could have been much welcomed but due to scarcity

of land and open spaces around the Hill, it could not be possible.

The site is surrounded by a lot of public places, institutions and open spaces on one side while the other side of the site is flanked with a lot of residential houses with a connecting road leading to Warure and Sani Mainagge quaters.

Accessibility

The site is quite accessible from different places. It is accessible by means of roads and pedestrian routes. The location of the site at a major road, along Aminu Kano Way is the point where both the vehicular and pedestrian reached the site.

Suitability

Kano being an old city for more than two and half centuries, has a lot of buildings and area of historic importance. Inside the old city, almost everyland is fully developed except the few ones left as open spaces. The less developed area is around Goron-Dutse while Sani Mainagge quarter is a newly formed area around the site. Traditional houses were demolished to give way to a newly constructed road linking Aminu Way with Kofar Mata Road. This is the bad side of the coin

brought about by the industrial culture, demolishing traditional compounds in preference to road construction.

The suitability of the site is its tendency to be patronize by people and also its existing location provides visitors the opportunity to pass through the traditional Kano city and consequently meeting and passing our traditional heritage.

Appeal

The adopted site is appealing scenerically, To this effect, the site has a view across the Goron-Dutes Hill. Adjacent to the site is ditch separating the site with the open spaces on the north side while on the southern side the site is flanked with residential buildings (fig. 5.1). Crossing the major road is Mallam Aminu Commercial College which is facing the site directly.

Site Analysis

Please refer to site analysis diagram (fig. 5.4).

Topography

The site is part of larger area of public institutional area with a ditch behind the site, There is evidence of gently slope towards the ditch, in short

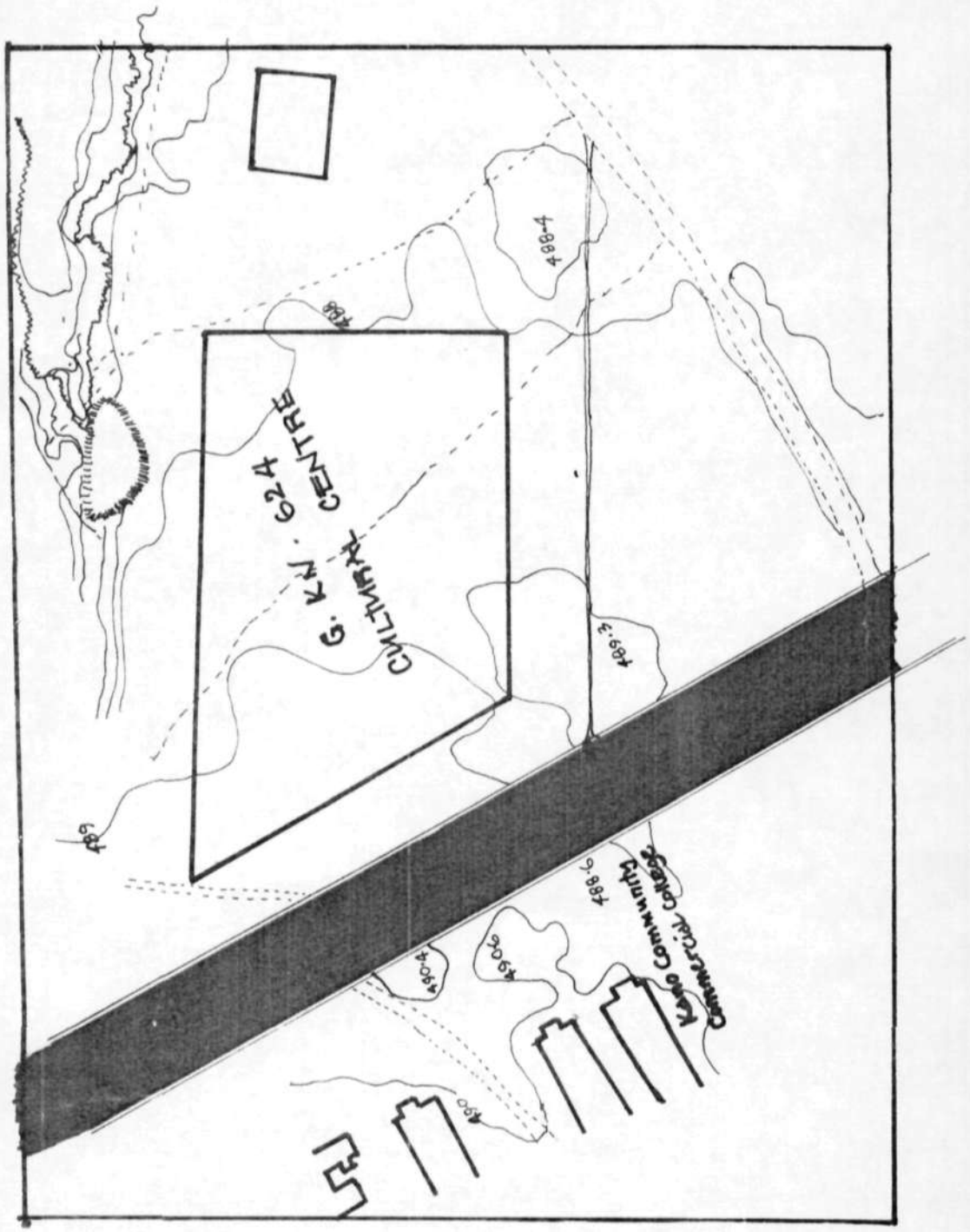
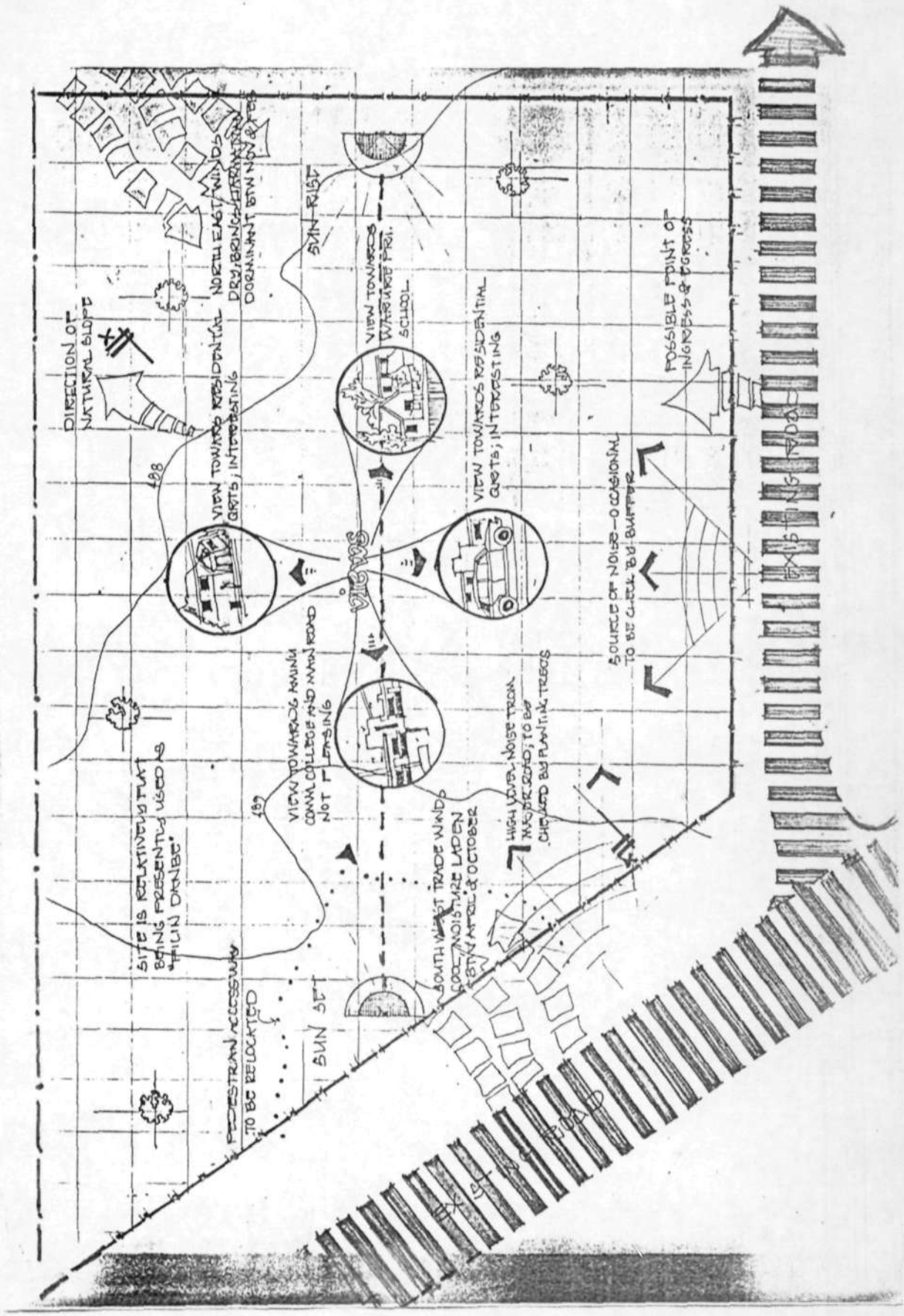



FIG. 5.1 THE SITE AND ITS SURROUNDING AREA




SITE ANALYSIS 1:500

the site has a flat terrain and will not require any specific solution due to its flat terrain nature.

Circulation

Vehicular and pedestrian circulation around the site is confined to two sides. To the west side is Aminu Kano Way, that services the whole area. Access to the site will preferably be taken from the other secondary untarred road which serves both vehicular and pedestrian traffic to some part of Sani Mainagge. This road will serve both the vehicular and pedestrian traffic to the site as their source of ingress and egress to the site. Ã possible side service entrance to the site is tapped from the untarred road would be appropriate.

Views

The view from the site cutting across the open spaces to Goron-Dutes Hill is the most splended the site possess. Efforts will be made to take advantage of this view as mush as possible.

The view towards community commercial college premises to be good but could be uneventiful due to lot of vehicular traffic passing.

Views towards psychatric hospital and Warure residential area are not of much scenic value to the site.

## 5.2 Physical Data

### Geography and Topography

The city of Kano is situated in the north of Nigeria at latitude 12°02"N and longitude 80° 32"E at the north eastern edge of the north central plateu area.

Kano belongs to the Sudan vegetation zone. The area around Kano city and its metropolitan area consists of an undulating plain. Only the Dala and the Goron-Dutse Hill in the west of the city form imposing landmarks with elevations of 518m and 534m above sea level. They rise above the surrounding areas some 30 to 40m. The present built-up areas are at elevations of between 455 and 490m.

### Climate and Vegetation

Main Air currents: Kano lies in the tropical continental northern climatic region, where the climate is dominated by the influence of two major wind current; the tropical continental airmass (Harmattan winds) from the north-east with hot dry air lasing from October to March.

The maritime airmass from the south-west with cooler but warm humid air lasts from April to October.

During the months of December-January, the harmattan winds is at its height blowing thin dust over the state

from the Sahara Desert. At this time the temperature can fall as low as 10°C. The dry air facilitates the transmission of noise thus increasing problems in house design and siting of industrial zones. The combination of dry and still air during the draught season results in a noise problem. Sound is transmitted over great distances unless impedded by a buffer, natural or man made.

Precifitation

In Kano, the wet season - depending on the movement of the maritime airmass-lasts from May to September.

From March to May, the dry, cold air turns into dehumiditised, searingly hot air temperatures rising up to about 35°C. Rainfall is concentrated between June and September and the rains are proceeded by voilent dustorms followed by tornadeps mainly during the month of May, and at the end of the rains in the months of September and early October. Annual rainfall is 879.20mm. It varries from year to year ranging from 635 to 889mm. Rainwater is removed from the roofs of building with the use of large gutter and big spouts, which drains water from the roofs as quickly as possible.

Humidity

The climate of Kano is somehow ardous with relatively wide and rapid changes in temperature and humidity. Humidity at times can rise up to 100% in an area considered characteristically dry. The mean daily maximum and minimum temperatures are 33.1°C and 15.85°C respectively.

For comfort to be achieved where the humidity is low, the use of large open courtyards, man-made pools, will increase the velocity of the wind and removed the hot dehumitized air. Air-condition can as well be employed articially.

Temperature

Temperatures are a determing factor design construction for tropical regions.

The temperature in Kano rises to a maximum during the dry season. The coldest month is January with a mean daily minimum of 12.8°C and a mean daily maximum of 30.2°C. With the approach of intertropical covergence zone the temperature increases to a mean daily maximum of 38.4°C and a mean daily minimum of 1°C in April and May.

For comfort to be achieved in buildings, the use of mass construction-thick, solid walls, is therefore applicable in the design.

Sunshine

The duration of sunshine is one determining factor in design. The mean daily hours of bright sunshine are very constant in Kano, 9 hours per day or slightly less for most of the year.

A need to cut down the amount of rays heating the interior of spaces is necessary to achieve a conducive working space. Use of sun-shading devices is therefore necessary for openings at east and west side of the building. Orientation of the building on north-south axis would be more appropriate with little or no openings at the East-West direction of the sun.

Geology, Soil and Vegetation

The geology of Kano is characteristically big pre-cambrian basement complex rocks that outcrop widely throughout the area. They are mainly composed of gneiss and schist into which have been included the "older granites" forming the conspicous inselberg of the region. The gneiss is altered at the surface into red laterite, varying from clay-sand gravel to sandy clay, passing down through grey lateritic rock into the un-altered bedrock at depths.

## 5.3: Schedule of Accomodation

The brief for this Bureau is derived mainly from the official of the Kano State History and Culture Bureau and later ammended to meet the requirements of an ideal type of Bureau. Basic data is from the Bureau Headquarter and architectural standards.

In the preparation of this programme for the design the architect adopted the structure of the Bureau at present but making provision for the maximum expected staff strength based on the data got for the staff strength as from last year 1987 to date. Also discussions were carried with heads of all sections on the ideal number and structure's.

### 5.3:1 Calculating Space Requirements

In calculatin the space requirements of the functions of the History and Culture Bureau Headquarter, a basic formula was adopted i.e. individual space standard x numbers + allowance for immdediate ancillary + 15% factor for primary circulation. Account was taken of the variations of levels of staff etc.

### 5.3:2 Schedule of Accomodation

(All dimensions in meters square).

## Administration

| Office of the Director | Area/$m^2$ |
|---|---|
| Director's office | 45 |
| Deputy Director | 48 |
| Confidential Secretary | 45 |
| Secretary | 36 |
| Assistant Secretary | 30 |
| HEO Administration | 30 |
| EO Administration | 30 |
| Transport Officer | 33 |
| PRO | 30 |
| General Office | 36 |
| Registry | 36 |
| Conference Room | 70 |
| Coffee Room | 22 |

Usable space area per person = $0.76m^2$
stores and toilets.

## Accounts Department

| | |
|---|---|
| Accountat | 30 |
| Senior Accountant | 30 |
| Account's Clersks | 48 |
| Store Officer | 24 |
| General Store | 60 |
| EO Accounts | 30 |

Usable space are per person = $0.76m^2$
stores and toilets, clerks room.

| | Area/$m^2$ |
|---|---|
| Toilet | 20 |
| Staircase | 15.75 |
| **Entertainment** | |
| Multi-pupose theatre | 81 |
| | 160 person based on space standard of $0.5m^2$/ person. |
| Open air theatre | 180 |
| | 360 person based on space standard of $0.5m^2$/ person |
| **Mini-Museum** | |
| Exhibition Galleries (5 in no.) | 60 |
| Curator | 24 |
| Artifacts store (2 in no.) | 24 |
| Out-door Exhibition | 144 |
| **Services** | |
| Souvenir shop | 54 |
| Reception lobby | 204 |
| Information room | 20 |
| **Research and Documentation Unit** | |
| Library control | 37.5 |
| Library | 120 |
| Archives store | 30 |
| Archives Exhibition | 30 |

| | Area/$m^2$ |
|---|---|
| Audio Visual room | 37.5 |
| Librarian | 30 |
| Store | 14 |
| Toilets - 0.76$m^2$ useable space per person. | |
| **Research** | |
| HOD Research and Documentation | 30 |
| Secretary | 16 |
| HEO Archeology | 30 |
| Archeology Officers - (3 in No) | 24 |
| Archeology lab. | 108 |
| Photo Room | 16.5 |
| Map Room | 16 |
| Changing Room | 13.5 |
| **Documentation Unit** | |
| HWO language and literature | 30 |
| Lanfuage and leteature officer | 30 |
| Assistant language and literature officer(2) | 30 |
| Audio-visual | 48 |
| HEO Research | 36 |
| Research Officers (2 in No) | 30 |
| Assistant Research Officers (2 in No) | 24 |

| | Area/$m^2$ |
|---|---|
| Creative Arts Unit | |
| HOD Creative Arts | 36 |
| Secretary | 30 |
| HEO Creative Arts | 30 |
| Drawings Studio | 108 |
| Camera men office | 24 |
| HEO Performance | 36 |
| Performance Officers | 33 |
| Editors Room | 30 |
| Editors Room | 30 |
| Editing Room | 24 |
| Recording Studio | 42 |
| Printing Room | 30 |

## 5.4 Design Concepts

### 5.4:1 Conceptual Approach

Before arriving at a concept that could be used for the design of this Kano State History and Culture Bureau building, it is important to draw the basic concept(s) that go with the traditional solutions and adopt it in the design of offices. On achieving this, the two ideas could be merged to effect the desired goal of adopting traditional concept(s) in the design

of offices, which is process of synthesizing the past with present to produce an effective end result-Hybrid concept.

5.4:2 Traditional Concept

"Buildings are the physical translations of the ways of life of a people" (Adeyemi 1976). It is the socio-cultural factors that greatly affect the physical planning of Hausa cities.

One of the most striking factors of the old Kano city planning is the "concept of continous space" (Mohammed 1984, p.2531). By this effect, the whole habitation could be basically be visualised as a gradation of one space within another, like a set of concentric circles. Such structure is composed of the open elements and the closed elements as is been discussed in chapter two.

The most important element in the settlement of Kano city is the compound-Gida. It is the socio-cultural factors that greatly influenced the physical planning form. It cannot passed without mention that to a broader extent, certain indigenous conceptual ideas derived from socio-cultural in the planning of compound certainly exist. These are the Soro and the Tsakar-gida the whole series of them join with other structures

to form the Hausa Compound.

Cultural aspects like the Biki and resting activities of the household utilize established courtyard. It is the focal point of socialisation. The courtyard also serves as a bridge connecting the different section of the house.

The Shigifa second entrance is a transition zone between different sections of the house. It serves as a bridge between the semi-public zone and the private zone.

Summarily, the whole concept of traditional architectural planning is that of a common quarangle (Sarari) core which is multi-purpose in function around which other facilities exist and flow into one another.

### 5.4:3 Designed History and Culture Bureau and Public Building

An analysis of some functions in the designed history and culture Bureau buildings and museums studies, showed that they had a common planning concept. The plan of each is organised so that the most heavily used spaces are located nearest to the circulation spine. The spaces on the plan includes special public facilities, services and parking.

In the designed office buildings studies, it showed that the offices in various levels are provided with a common vertical firculation elements placed centrally at side of the buildings that provides access for all the offices on each floor.

A basic grid is used which is repeated through the whole structure and open plan is achieved for efficient use of floor space. Where a room is to be provided, a partition is used. In effect the whole building is flexible enough to allow for the changing needs of the organisation or any incoming organisation, especially offices that are designed to be rented out. Spaces on the plan includes parking, services and office rooms. In all the buildings studied, the parking is at a bottom, followed by services for public usage while the administration section is either pushed away from the visitors or it is located at the top level floor. In effect there is a reduction in volume of users as one goes vertical with reduction in noise level.

Functionally, History and Culture Bureau's buildings can be divided into three. Special Public Services; Entertainment, Library and exhibition; the administrative unit which include office of the Director and other administrative personnel; the support facilities; laboratory, parking and research facilities.

## 5.5 Adoptation of Traditiona Concepts in Office Design

The new state of mind does require that architects suppress their creativity. The bounds of creativity can be broadened in the refined exploration of the crafts of architecture, encompassing such problems as how skillfully the desigher can evoke the spirit of a piece whether it be modern or traditional. By using what exists as a stepping stone for what is to come, the architect can reinforced rather than undermine the character of neighbourhood and cities any time a building is added. If each building retains something of the past at the sametime bring something new, the desirable character of a place need not be lost.

Here therefore, the first thing for the approach is that it should be a conscious desire to produce a work of art. The desire to create a work of art of means of expression is an important factor in the context of regional identity.

In the eontext of adopting traditional concepts in office design is nothing more than a hybrid approach. It involves the meaningful integration of local features in modern solution. It involved the provision of facilities that are to serve the socio-cultural lifestyle of the people of the catchment area.

Landscaping has been mentioned as a very important tool for self expression under the Brazilian experience. The concept will also involve the meaningful integration of local landscape features. The type of plants used should be those familiar to the people of the region. The plants should be in their natural habitat and employed for specific functions.

In continuing to adopt traditional concepts in office design, two concepts are utilised. The concept of office planning layout and the traditional concept associated with the Hausa compound. From the office concept, the atrium concept is utilized but modified to reflect the socio-cultural aspect of the people. The adoptation of this concept is best suitable for small size office buildings. The use of the small enclosed courtyard will not be utilised here. Instead it is replaced by a well established large, open courtyard where other related functions exists around the courtyard. This now form the centre of socialisation within the Bureau's complex as is the case with the Hausa compound.

The introduction of Soro but in a refined manner can be utilized. This can be done in a way that the reception canopy of modern architecture acts as the Kofar Gida while the reception hall is the Soro. It is the establishment of the reception hall and courtyard

with the whole series of other structures join together that will form the Bureau's basic form, it will be an analogue architecture of Hausa compound.

The complex will be zoned according to the zoning concept of the Hausa Compound. The most public functions comes at the periphry of the complex while the remote or non public places are at the background of the complex.

In conformity with the traditional concept, the building can only go to two storeys. The functions placed on the top most floor will be the administrative unit, in effect there is a reduction in the volume of users as evident also in the planning of office studied earlier.

The concepts of decoration, curved walls, arches, domes and horns has often been narrowly limited to compounds. It can as well be applied or adopted in the design of public buildings within the context of Hausa regional identity.

The use of reinforced concrete to complement traditional technology as a structural element is not arbitary. The concrete besides being a universal element is also local. Local in the sense that it's constituents are produced locally. The choice of reinforced concrete has double advantage over the mud and Azara used at structural elements. It has double advantage-strong, durable and structurally sound.

Summarily, the whole concept to be adopted is based on that of the traditional compound because traditional culture and social-organisation finds its greatest expression in the design of Hausa compound to the extent that it dictates its form. This concept studied and other related is imposed on the design of the KCB complex.

# CHAPTER SIX

## 6.0 THE DESIGN REPORT

### 6.1 Building Form

The design is done in such a way that the main entrance to the building respects the pedestrian and vehicular traffic. With this, a visual contact is directly established between the pedestrain and the vehicular traffic moving towards the Bureau complex.

The main entrance has an overall traditional outlook. It is monumental, symbolic and inviting with motifs and bricks facing beautifully adorned to it.

The background elevations closely respects the traditional styles of the Hausa Architecture, with traditional elements at certain places.

The entire building is zoned according to decreasing volume of users. The highest concentration point of users is placed closed to the entrance by the nature of its function.

The focal point is the entrance lobby from there various routes radiates to different part of the complex. The lobby flows into the courtyards by means of small space called "Shigifa" second entrance as distinctly defined in various traditional compounds. The "Shigifa"

is a transitional zone between one zone and the other. The various functions exist and flows into the courtyard giving an overall nature of continous space.

The highest concentration points is the mini-museum located next to entrance lobby. This zone called Public Zone offers services to all public visiting the complex. Next to this zone is the support facilities for the smooth running of the public functions.

The semi-noisy zone is where the studio, theatre is located while the library is loacted at the priavate zone. The semi-noisy zone where the theatre is loaated is flunk on one side of the building with a beautiful lawn for public relaxation. A side entrance for the pedestrian traffic is provided off the major high-way. Tnis enables the pedestrian to come directly to the theatres without necessarily passing through the entrance lobby.

On the upper level floor, is the remote or private zone where the administrative unit of the Bureau is located. This floor houses the offices belonging to the topmost cadre of the Bureau.

## 6.2 Site Planning

Entrance to the site is restricted to two points. One for the pedestrian and the other serving the

vehicular traffic. The major entrance plays the role of ingress and egrees function. The entrance leads to a porte-cochere" at the main faceof the building. The main entrance serving the pedestrian and vehicular is taken from a side road off the major highway. The entrance provide ingress and egrees to the site. Another side entrance is established that conveys one to the service yard.

Parking for several cars is provided both for the staff and visitors at the front side of the building. Also parking lot is provided for cyclists and motocycles just off the main parking bay. Series of lawns flank the rest part of the building. Open air exhibition spaces is provided at various strategic points which is curved from the lawn.

In whole, the degisn is based on the concept of "continous space concepts" with the large open courtyards providing different functions ranging from relaxation, socialisation et cetra. The courtyard which is multi-purpose in function around which other facilities exists and flow from one space to the other without precisely any point of demarcation.

In fact, the design is based on zoning space grouping. The whole building is a monumental one with geometric forms, rectangular in nature stacked on each other,

resulting in an overall outward semblance of a traditional compound. It is two stories, thus obeying the traditional concept of verticality.

For details of forms and other elevational treatments are left to the drawings (Appendix _). Outside the theatre, a seating terrace is provided for the relaxation of the audience. For details refer to site plan (Appendix I).

## 6.3 General Planning

The planning of the Bureau building is based on the basic criteria of zoning the public functions away from the non-public functions. Also zoning is achieved by separation of levels according to the noise generrated from each level and the various activities that occur within each level.

## 6.4 Circulation

### 6.4:1 Horizontal Circulation Concept

The basic shape (rectangle) adopted controls the concepts for circulation. Major circulation routes revolved around the courtyards. It goes parallel to the courtyards.

6.4:2 Vertical Circulation Concepts

For going up within the building a system of staircases are provided within the building. Fire escape stairs is located at one end of the building while about 3 fire exists doors are provided on the ground floor within the building. A major vertical circulation point is located at the reception lobby, centrally located and contains a system of staircase.

6.5 Structural Concepts

The building is basically of mass construction with few columns at certain points. The majority of the columns are located at the circulation spine corridors where they sprang to form various arches around the courtyard. Most of this columns are non-structural in function.

In whole, the building envelop is structural since the structure is two stories, there is no need for frame structure construction.

6.6 Materials and Finishes

The main materials used for the building is sand-crete block. All beams are of reinforced concrete.

The theatre is furnished with acoustic ceiling

and panels on the far end of the curved wall of the theatre. Also acoustic panels are used on the walls of the interior of the theatre and recording studio. For detail of recording studio finishes, refer to drawing.

Bricks facing is introduced at some places while mosaics and motiffs decorations are introduced on the plane walls of the elevations.

## 6.7 Summary and Conclusiton

The thesis can be said to be into two parts, part one dealing with Kano land, its people and architecture. While part two comprises of the design of the Bureau building.

The history of Kano has been studied and the factors responsible for the development of the city and the architecture of the region including some cities within Western Sudan. A looked at how the culture has played a significant role in fashioning the environment and architecture of the place-Kano, was done.

I have gone on to analyse the problems responsible for the continued decline of architecture in Kano and even within the Hausa-land. This was attributed to contact with new culture of the industrial world as

well as the introduction of new and more durable materials.

Discussions on how to revive and preserve our traditional heritage follows, so that the younger generations will have something to learn from the past. To achieve the desired goal of regional identity, a look at the problems and prospects associated with our indegenious architecture was discusse. And factors responsbibee for the present decline of traditional architecture in Kano was analyse. A proposal was underway and how this situation could be arrested and reversed. Various ideas were discusseed as how this could be done to save the situation, it includes total turn-over to traditional architectural solutions, the hybrid concept; or the adoption of International styles.

Each of these approaches has its own merits and demerits. The best approach adopted is the hybrid concept that appears to offer a satisfactory result. This approach has been employed in the design of the Bureau complex. A survey of local architectural solution identifies. In essence the cultural aspect of the people of Kano have been provided and taken care of in the design of the Bureau that is in terms of privacy in the Hausa compound, use of courtyard, the zoning concept at cetra.

It is the survey that offered the opportunity of picking up the features that are advantageous and then complemented with the modern conception of space. It is later adjusted to suit the traditional local conditions and the purpose for which the building is meant to serve.

As many people misunderstood the concept of tradition, that tradition can only be achieved through the use of mud and thatch. The tradition is much more than that, it depends on whether or not the people who use it will actually share the values that the design embodies. Occastionally when it happens, the design is completely successful. If each new building retains something of the past and at the sametime brings something new, the desirable character of a specific place need not be lost.

Traditional Kano city have played a very significant role within the Hausa land and even beyond. This is seen in its ability to spread its ideas and techniques to many cities and towns across the Southern Sahara. The ideas and techniques widely spread was that of the building arts associated with master masons. The discovery of Hausa-vault - the Bakan-Gizo are some of their great achievements.

It is therefore not surprising to say that the master masons have a lot of inexhaustible reserviour of aesthetics, technical as well as conceptual wisdom locked up in their minds waiting to be tapped and utilized as educational resources. Examples have shown that when they are given the encouragement and patronage, the master builders are capable of handling the most complex technical problem at the same time adopting their technique to suit the needs of the time. This encouragement should come from various organisations, governments as well as the general populace. By this, the rich traditional architectural heritage of Kano would be restored and evolution of the much talked about regional identity would become a reality.

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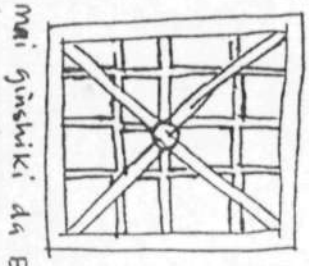
Triumph Newspaper May 7, 1985.

# APPENDIX I




TRADITIONAL FORMS

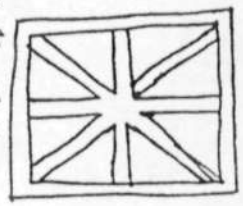
# APPENDIX II



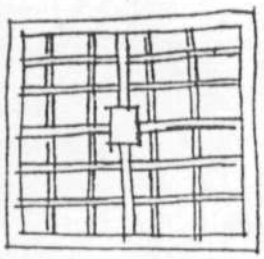
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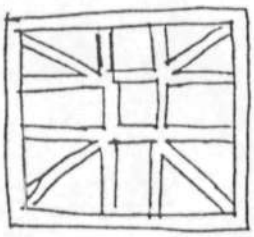
Guga mai laima



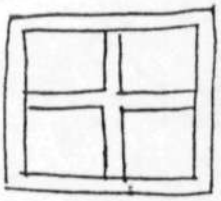
Rufin Tulluwa



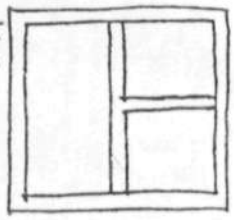
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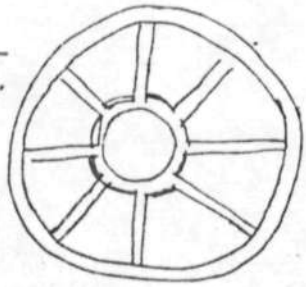
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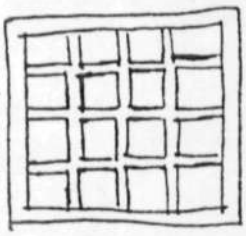
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Kafar Kaza



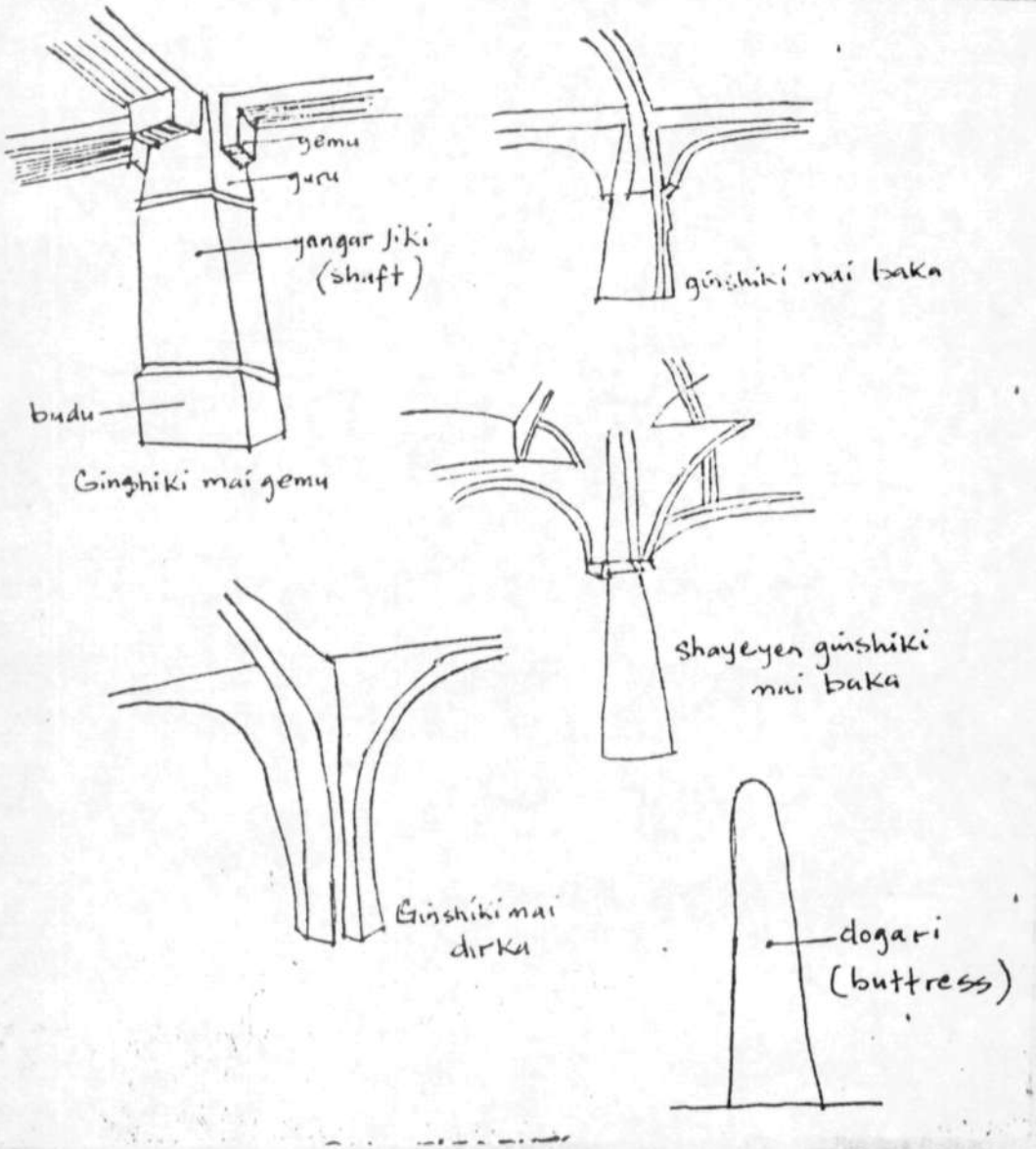
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Bakin Rijiya Hudu

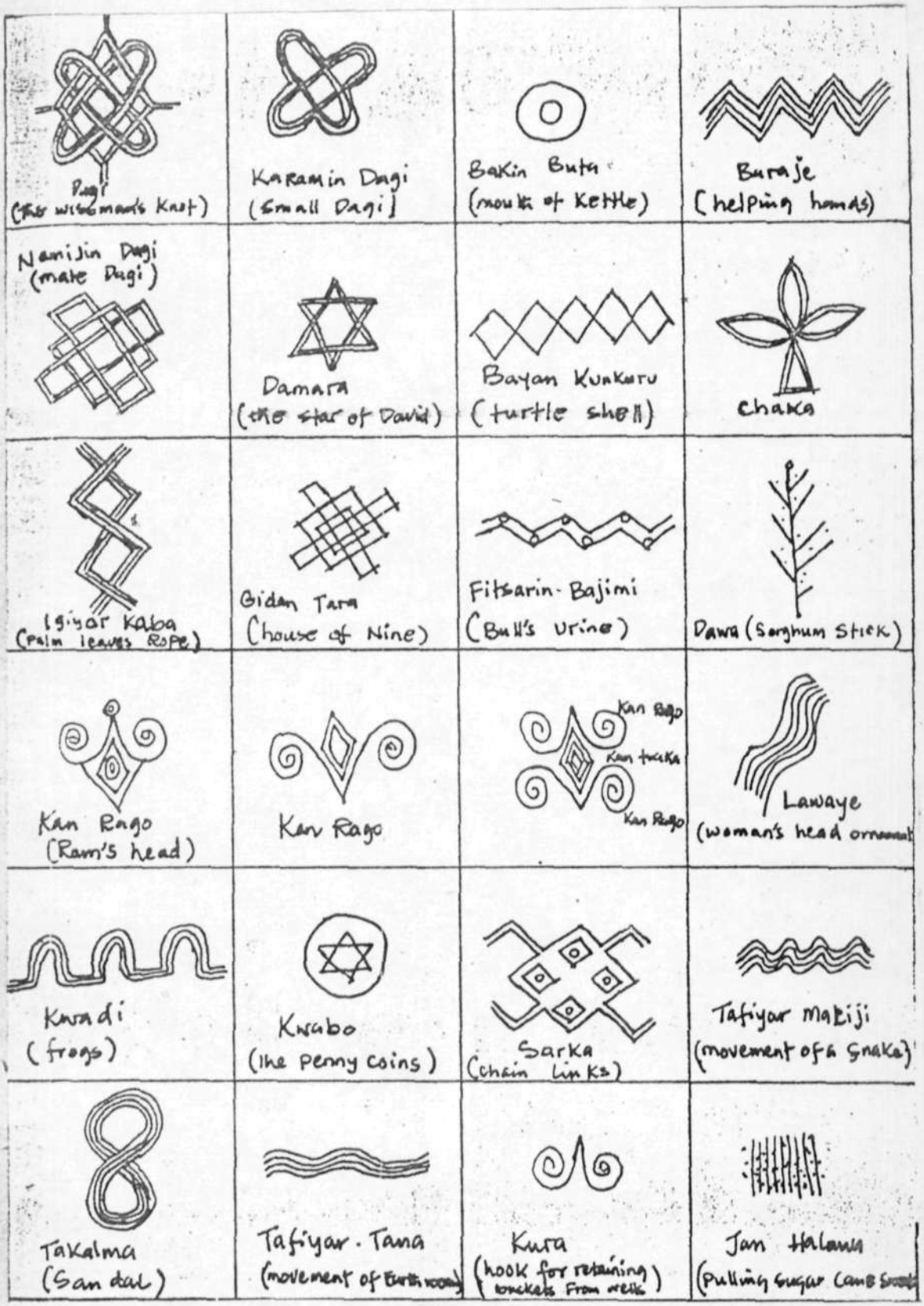
CEILING PATTERNS OF HAUSAWA

# APPENDIX III




STRUCTURAL ELEMENTS (GINSHIKAI)

# APPENDIX IV




PATTERNS AND MOTIFFS OF THE DECORATOR

# APPENDIX IV

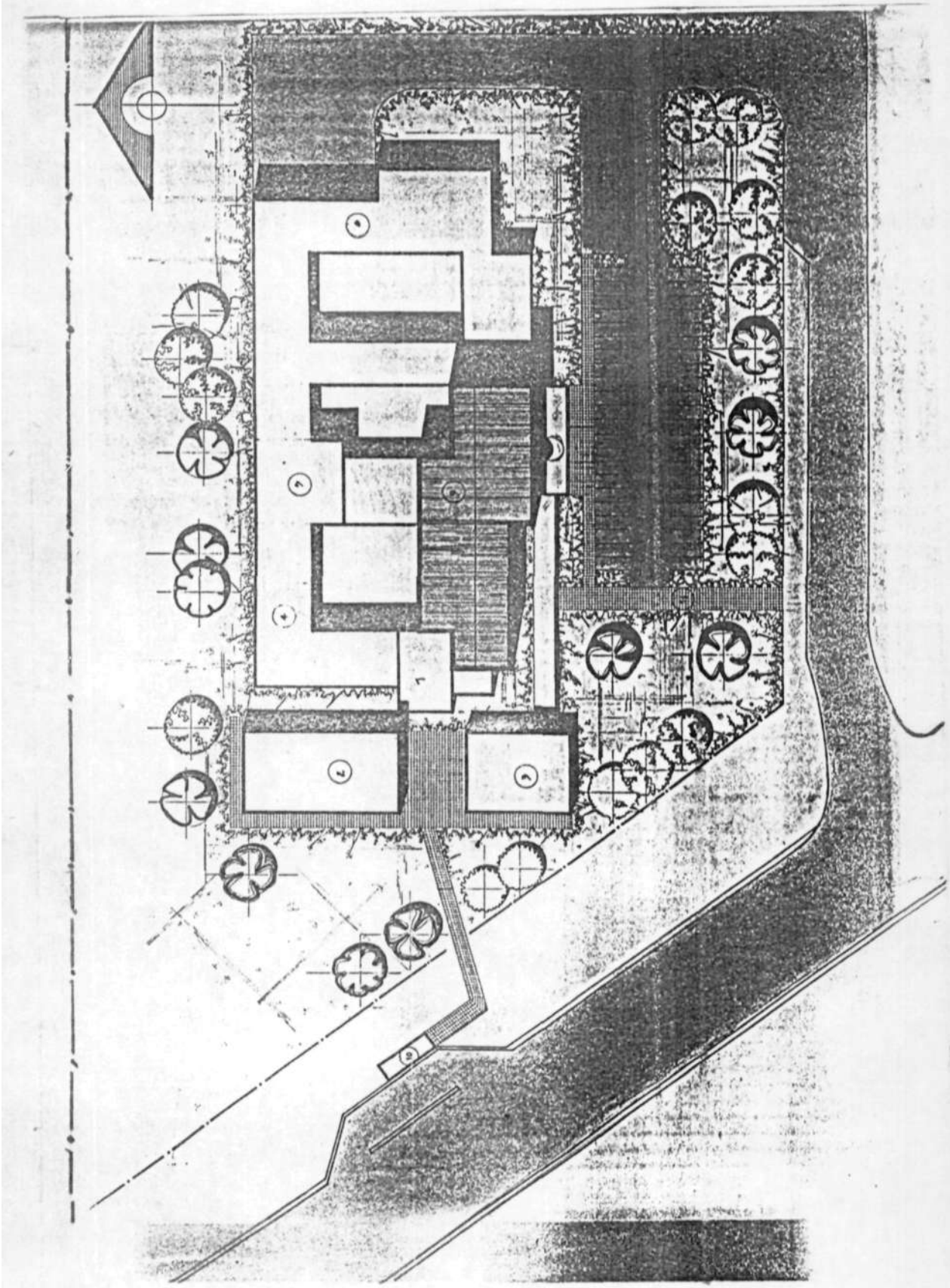
## SYMBOLS AND PINNACLES

### PINNACLES

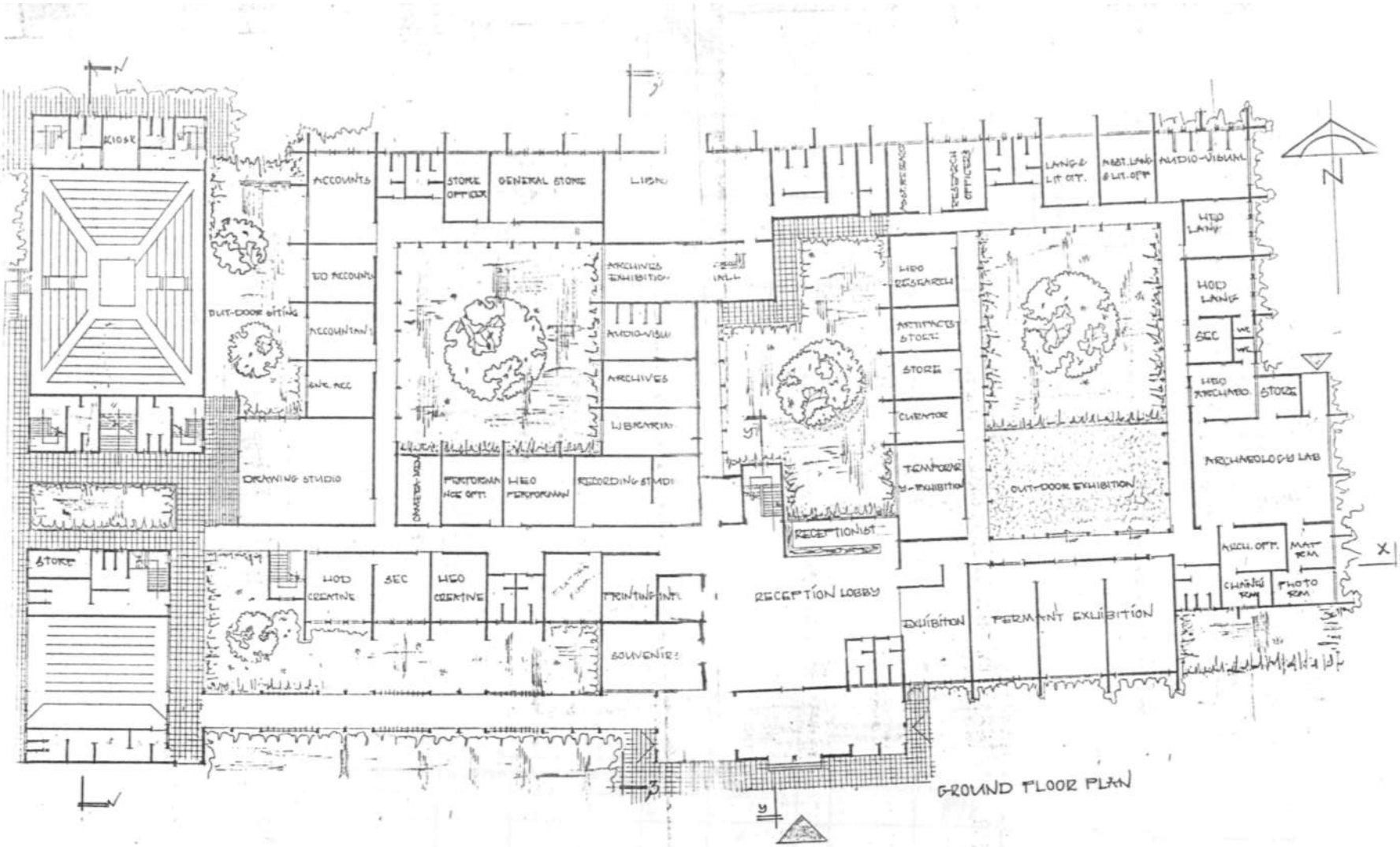


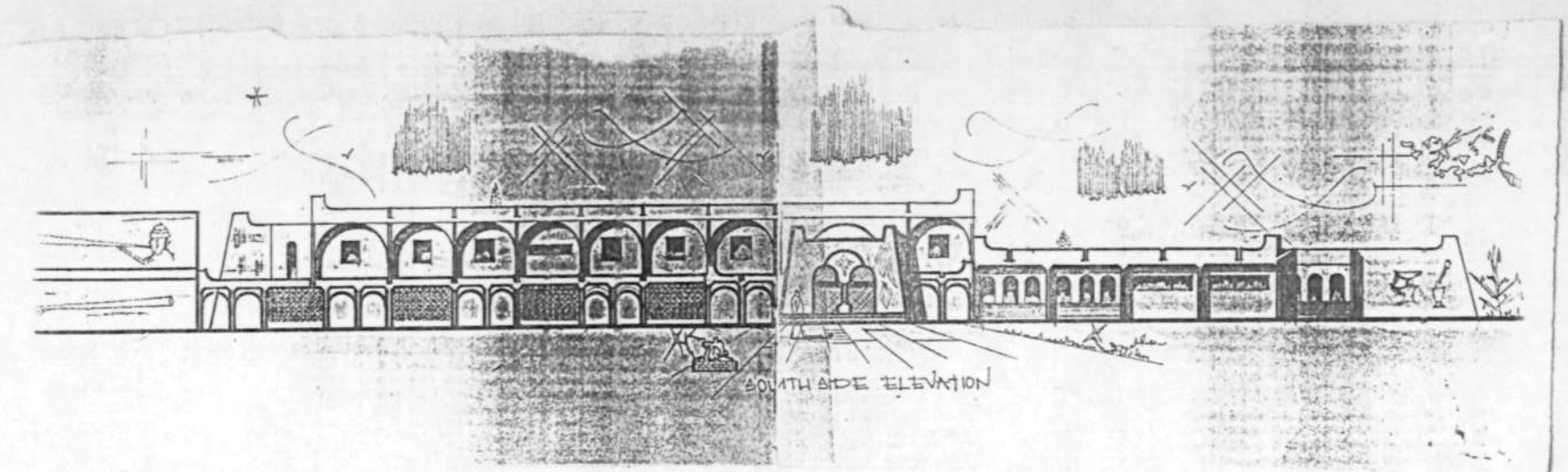

### OPENINGS

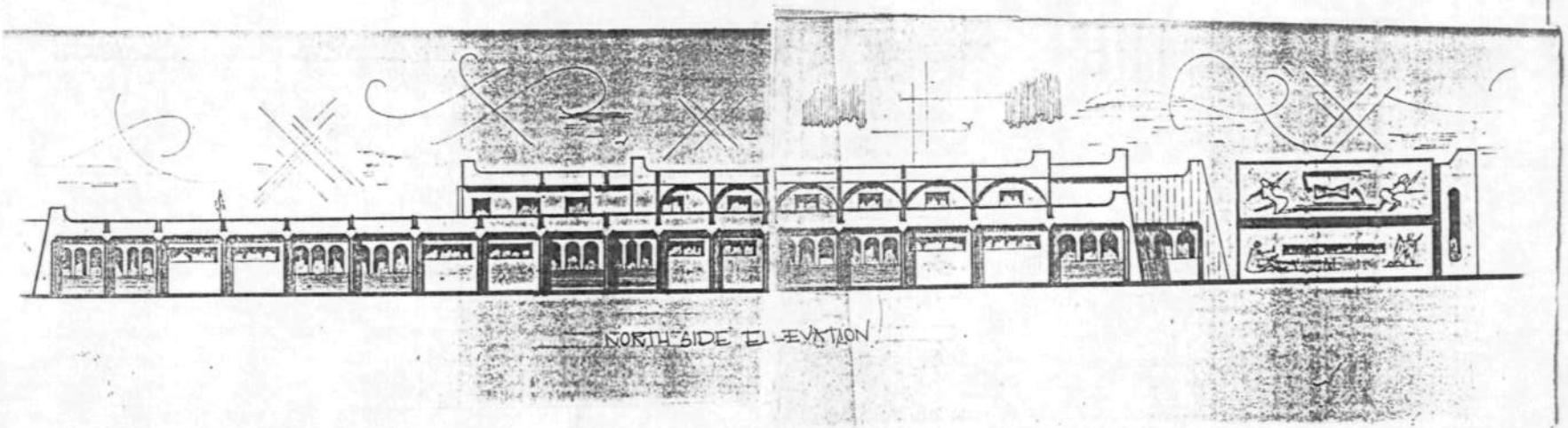
# APPENDIX



SITE PLAN 1:500

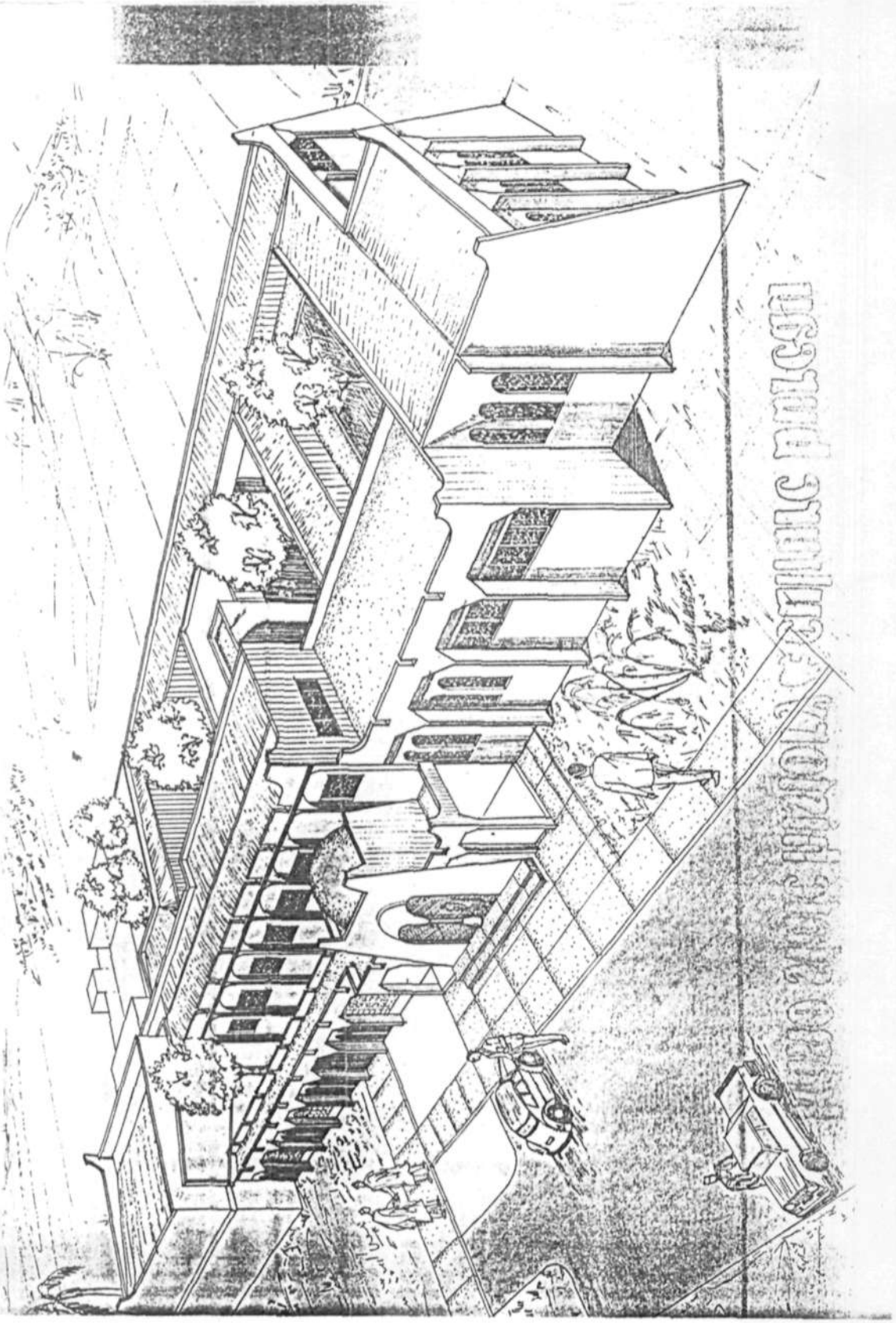

ACCOUNTS
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GENERAL STORE
LIBN.
ARCHIVES EXHIBITION
INFO.
ED ACCOUNTS
ACCOUNTANT
ASST. ACC
OUT-DOOR SITTING
DRAWING STUDIO
AUDIO-VISUAL
ARCHIVES
LIBRARIAN
CAMERA-MAN
PERFORMANCE OFFT.
VIDEO PERFORMANCE
RECORDING STUDIO
RECEPTIONIST
VIDEO RESEARCH
ARTIFACTS STORE
STORE
CURATOR
TEMPORARY EXHIBITION
OUT-DOOR EXHIBITION
RESEARCH OFFICERS
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ASST. LANG. & LIT. OFF
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SEC
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STORES
ARCHAEOLOGY LAB
ARCH. OFT.
MAT RM
CLEANING RM
PHOTO RM
STORE
HOD CREATIVE
SEC
VIDEO CREATIVE
PRINTING UNIT
SOUVENIRS
RECEPTION LOBBY
EXHIBITION
PERMANENT EXHIBITION
N
Z
X
Y
GROUND FLOOR PLAN




# ELEVATIONS

APPENDIX



PERSPECTIVE

KASHIM [illegible] LIBRARY
AHM[illegible] UNIVERSITY
ZARIA [illegible] NIGERIA.