# The search For African Identity For Corporate Buildings COMMODITY EXCHANGE MARKET, ABUJA

By

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## DECLARATION

I, OYELEKE TAIWO BABAJIDE, hereby declare that this dissertation is the result of an honest research undertaken by me and that no part of it had been accepted for publication in any journal or magazine.

All sources of information have been duely acknowledged by way of reference or otherwise.

Student's Signature

01·09
Date.

## CERTIFICATION

This thesis entitled COMMODITY EXCHANGE MARKET, ABUJA, by OYELEKE, TAIWO BABAJIDE meets the regulations governing the award of the degree of Master of Science in Architecture (M.Sc. Arch) of Ahmadu Bello University and is approved for its contribution to Knowledge and Literary presentation.

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|---|---|
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| External Examiner | Date. |

DEDICATION

To my late Sister, Oyedayo Oyeleke, whom time and fate never allowed me to know, to percieve and to understand.

ACKNOWLEDGEMENTS

In the research and compilation of this thesis, there have been moments of doubts and outright confusion. It would be criminal not to acknowledge those who have helped reduce apprehension by their relevant contributions at one stage or another.

First of all I would like to express my appreciation and gratitude to my mentor Arch. W.B. Qurix whose genuine interest in corporate architecture saw useful avenues in this thesis. His endless encouragements and contributions definitely helped form the core of the design. I would also like to acknowledge the contributions of other staff of the Department of Architecture, A.B.U. Zaria. Their critiques during internal thesis reviews went a long way in shaping this thesis. The Data-Room staff were also very helpful during the research especially on information from previous thesis of this nature.

Next I would like to acknowledge the contributions of Oladimeji Adene and Olusegun Oladipo, my classmates and flatmates. You are certainly 'corporate' people to allign with on any pedestal. To my other colleagues notably Leo, Y.Z, Moji, Aminu, B.A, M'Bash and Ayodele R.A. with whom I started this stint together way back in November 1984, I say it

hasn't been easy but better days (or contracts) lie ahead. It's been fun working together.

My special thanks go to the numerous friends I have made along the way. Inspiration comes in different ways and you certainly 'touched' up my thougths and efforts. 'Dapo Robinson, Akin Bodunde, Oshioma Brai, Aide Akhibi and 'Dele Ogunromubi are definitely friends in need. And to my "Soulmate and Playmate", Comfie ....you made this thesis more comfortable to work on. Thoughts of you will certainly Linger on.

I wish to express my whole hearted gratitude to my parents Abioye and Jibike Oyeleke, your investment and interests in concretizing my dreams can only be qualified not quantified.... To you and the rest of the immediate family - Oyesoji, Oladapo, Kehinde and Oyebola, I say thank you for everything.

Lastly, I thank Almighty Allah for giving me the strength to see this phase of my life through.

Taiwo B. Oyeleke

18:08 hrs 050989

Samaru, Zaria.

"..... the architect who combines in his being the powers of vision, of imagination, of intellect, of sympathy with human need and the power to interprete them in a language vernacular and true - is he who shall create poems in stone....."

Louis H. Sullivan.

## ABSTRACT

PREAMBLE:

African cultural heritage in the field of architecture is becoming too difficult to conserve especially with the arrival of modern technology. Corporate buildings in African urban centre have embraced today's broader AESTHETICS with little or no regional expression. With the current drive for nationalism in African countries, the role of the architect should be an exploration into the rich architectural history of our societies in the search for regional identity which can be further developed with today's technology. It is believed that this is within the architects sphere of influence and success would mean identifying with the average user of the designed space.

A commodity exchange market for the African Trade community has been chosen to practicalise the proposal,

MOTIVATION;

The choice for the commodity exchange market as the proposal project for this thesis is not arbitrary. With the current difficulties facing African economies, a forum where commodity dealers can exchange papers, information and ideas they ensuring the movement of

produce from area of surplus to those of scarcity can go a long way in remedying the situation. This would ultimately reduce price fluctuations of primary goods, facilitate export and ensure that industrial raw materials are in steady and adequate supply to boost output and stabilize prices„ This corporate building backed with appropriate expression could mean a break-through for African economies.

GOAL & OBJECTIVES

(i) To identify basis trends relevant to African Trade and Architecture and incorporate them within the context of contemporary modern architecture, setting an appropriate balance between 'spirit of place and 'spirit of the times'

(ii) To identify architectural and operational constraints that might have constricted the utilisation of existin facilities of this kind, thereby designing to ensure maximum utilisation of the exchange. To design to cater adequately for both staff and clientele thereby boosting costomer index and African trade in totality.

(iii) To design so as to be able to expand or otherwise as flexibility demands. Striking a balance between the need for individual freedoms and the 'great corporate image'

PHILOSOPHY

This thesis is unique in the sense that it seeks to provide a single facility to alleviate a common problem for a largely diverse peoples. UNITY IN DIVERSITY is the philosophy for this thesis and focus will be on factors that can enhance harmony, unity and interaction rather than on those that will further expose the already wide diversity. This can be trying as allowance has to be made for equal representation without breaking the common bond.

SCOPE AND LIMITATIONS

The exchange market in mind is to encompass a trading house which embraces the features of a secondary market where information is swapped amongst dealers and transactions are made via telephone and telexes as well as some features of a primary market with facilities like shopping mart's and exhibition space(s). Other facilities might include multi-tenant office space for lease by trade related agencies (Banks, Insurance, advert...) and conference facilities. Other

supporting facilities may be incorporated as it is the strong belief of the author that the amalgamation of different related facilities into a single entity has greater advantages then if they were left on their own. Buckminister Fuller, the genius /architect seems to agree as he said about his principle 'synergy' and I quote "the whole should be greater than the sum of its component parts'.'.

It is hoped that the Economic Commission for Africa (E.C.A.) will buy the idea of an exchange market and fund it together with the Nigerian Government who already have a proposal for a facility of this kind. An appropriate site that will further encourage its use will be sought in Abuja - capital city of Nigeria - which has a high degree of geographical centrality to all Africa. An estimated target population of 2,000 persons (workers and users) will be worked on until a clearer design brief emerges after the design analysis. The market size of the year 2,000 A.D. shall be in focus.

## METHODOLOGY

Literature Review of prevailing and part African trade and commerce patterns will form a basis for design decisions as this project is not a 'life one'. Trends in trade especially as far as the Norths South

disparity is concerned will be carefully analysed and objective conclusions drawn as part of design synthesis.

Case studies of international trade FORA both in Africa and abroad will form a backbone of the analysis as they will expose the way and manner which facilities to be provided. Operational aspects of secondary markets shall be in focus rather than theoretical aspects.

personal dialogue and interviews with commodity dealers and interested parties will also form useful data for this thesis.

In the search for African identity for this corporate building, documentation of traditional African architecture would be made and digested for utilization. Focus will be on forms and imagery as against function in the traditional sense.

The thesis is thus broken down into four parts: The Research, The Feasibility for the project, A selective synthesis and the proposal itself.

Designing is seen as a creative and problem solving process. Information must be gathered on the objectives for the space and the nature of the activities to be performed in it. The creative process of generating a number of solutions - alternative potentials, is next.

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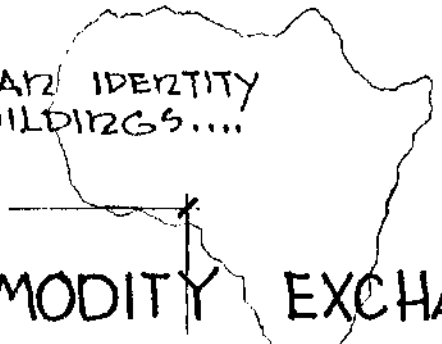
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THE SEARCH FOR AFRICAN IDENTITY FOR CORPORATE BUILDINGS....



... COMMODITY EXCHANGE MARKET, ABUJA.

WHAT PEOPLE WANT TO SEE IS THIER OWN MEANINGS IN THE ENVIRONMENT - WITH THIER OWN SYSTEMS OF VALUES, FROM THIER OWN FRAMES OF REFERENCE, SHAPED BY THE EXPRESSIVE SYSTEMS THAT THEY SHARE WITH THIER COMMUNITY, BUT NOT NECCESARY WITH THE DESIGNER.

J.P. BONTA (1979).

# SECTION A: RESEARCH

## 1:0 ARCHITECTURE & IDENTITY

### 1:1 Introduction

In spite of the inspiring achievements of modern Architecture in the last fifty years, there has been an upsurge of mounting criticisms against the architecture of concrete, steel and glass. These critisicm have been paradoxical in the sense that the antagonists of modern architecture, privately lust after the very architecture they have condemned. This has compelled one to explore the basis of this contention. The argument has not been that modern architecture has failed completely in providing better buildings in the society. Quoting A.L. Huxtable, America's most distinguished critic- "No scholar or critic denies the validity or importance of the modern movement. Anything so pervasive and long lasting cannot be all bad... Modern architecture is an immense, magnificient and undeniable fait accomplish parralled only by a few periods of similar creative magnitude in the history of civilisation....."[1]

The nagging issue is hence why architects continue to borrow randomly from technologies whose practical values do not contribute to a societies sense of good life. Designed spaces, it is agreed, should serve as perceptual cues about the type of man who uses them.

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Different societies have over the years established standards and criteria about the concept of architecture. The idea of beauty varies from one culture to another hence all societies cannot embrace one style and adopt it in totality. A sense or spirit of place must be clearly expressed in the physical disposition of their architecture. This would be deeply rooted in their religious tendencies, societal and cultural values and icons, climatic prevalences as well as materials readilly available. All these constitute the identity or individuality of a society. This identity has bearing to forms and elements established over the years and can be local, or regional. D.H. Lawrence, a renown anthropologist asserts that: "Every continent has its own great spirit of place; every society is polarized in same particular locality which is home, the have land; different places on the face of earth have different vital influences, different vibrations, different polarities with different starts, call it what you like, but the spirit of place is a great reality." This idea of spirit of place has influenced architects over the years and has led to successful designs within the spirit of the times. Apart from the traditional manner of building, the physical environments of a place can also suggest design forms. Osear Niemayar says about his designs.

For Brasillia, the capital city of Brazil: "the strenght line, hard, inflexible, created by man doesn't attract one... What does draw me is the free and sensous curves, that I find in the mountains of my country, in the Sinousness of her rivers; in the clouds of the sky and in the waves of the sea."[2]

On the other hand, architects cannot divorce their works from the contemporary styles predominant in urban centres all over the world. They see the need to identfy with current expressions of techniques and symbol of use in the design of spaces, whether or not it suites their own socio-cultural or climatic inclinations. It is a natural and logical consequence of psychology - the feeling of not being left behind of being up to date. Many styles have emerged over the years of which the latest is the so-called modern architecture and it has tended to overide all traditional concepts. These styles are not limited to a particular function or to a particular locality. The mosques, temples and churches of the middle ages all had the same concept of grandeur and reverence despite their obvious differences in different localities. Architecture in this context is thus a manifestation of current technology rather than a product of functional and sociocultural tendencies.

Variations have to exist and do exist to every contemporary style. Substyles will continue to emerge within the broader framework of a style to effect the inequality of the variables that affect architecture. C.S. John (1983), unpublished thesis asserts that "Every style of importance in architectural history began first in its country of origin and remains intact and unchanged within the area of cultural and perhaps climatic similariti Beyond this, variations are introduced to the original styl either spontaneously or intentionally."[3] There can thus be no rigid central themes or official ways of designing as long as cultures and climates differ.

The long range question is however not whether the 'Spirit of place' or the 'spirit of the times' should be the guiding principle in design, but how far a compromise situation is successfull. A rigid adherence to either of the two can be unsuccessfull. Architects have to continue in their search for understanding the traditional concepts inherent in every society and utilize them convincingly within the framework of contemporary styles...

## 1:2. The International Style

An architectural revolution took place in the early 20th century all as offshoot of the industrial revolution. All traditional styles were declared null and void and

architects looked on to machine, factories and industries for inspiration. This aesthetic revolution took place for two main reasons:

(i) Technological progress offered new building materials in glass, iron, steel and reinforced concrete. The modernists felt that the new materials should be exploited to help find solutions to modern architectural and urban problems.

(ii) The flowering of capitalism in the late 19th century created a growing wealthy middle class. Inexpensive manufactured goods were now available and lust for sumptous ornament reduced considerably. This break with popular traditional taste was the beginning of the elitist modern architecture cum the international style of today.

In progagating this new architecture, Walter Gropius discribed it as the inevitable result of a logical process of design. Modern architecture looked the way it did because it obeyed certain demands based on honesties.... of materials, of structure and of function. Above all it reflects the true spirit of the times in its architecture rather than reflections of the elements of the past. Obvious sources of visual inspiration for this architecture are basically simple "clean" and "coldly precise" qualities that were first

appreciated in the tools of modern times: airplanes, ships, industrial machinery and buildings. These became the origin of modern architects' anti-traditional Iconography. They however never said modern architecture would be more acceptable because it was more beautiful; instead, the theorized about a visual art and rationalized their choice in exclusively moral (honesty, truths...) terms.

Thus modernists using poetic associations devoid of any rational basis, relied on the moral weight of culturally accepted premises to enforce essentially unpopular aesthetic choices. The ideas grafted on to architecture came from a number of influences including:

(iii) From Capitalism: The system wherein all energies are focused at increasing efficiency, at getting most return for the least investment. This approach worked towards the exclusion of all elements, such as ornament, that served no practicable purpose, and the rejection of visual complexity in favour of simple forms that it was felt, would serve the basic needs of life.

(iv) Technological and Scientific Success: This encouraged the workship of change. It followed from the belief in the inevitable improvement of

life through technology and that social and aesthetic traditions were irrelevant.

The international style which is the 'spirit of today' has its roots in this line of thought. The practicability and eventual success of it is not however as logical it was when being propagated at that time.

1:2:1 Problems of Modern Architecture.

Two basic problems that face modern architecture today are those that only very few modern architects have been able to handle.

(i) After over 50 years of indoctrination, the majority of the public remain indifferent or hostile to the modern aesthetic. The predicted universal acceptance has never come to pass.

(ii) Evidence shows that throughout the world, modern architectural and planning ideals have failed whenever the architect disregards the social and aesthetic values of the users. A growing reaction to this condition includes a desire to try to be 'different' rather than fit in. And a new disposition of non-western cultures, which formerly accepted modern architecture because of a sense of cultural inferiority, to try to

recapture their own traditional aesthetic and social values. The disillusionment with modern architecture came about because architects imposed their values on a public that did not share them.

1.2.1.1 Visual Impositions

Proponents of the international style' say that its universal form language is the logic outcome of a rational approach to design with new materials and techniques. The onlooker is told that these new forms devoid of heritage are functional or economical or dictated by new materials and techniques, but these are only rationalisation of style preferences. There is no practical inevitability of modern forms. It intentionally defies its older neighbours rather than stand beside them. It attempts to shock rather than sympathize. While architects look upon the new architecture with pride, laymen eye it horrily. At the 1964 world's fair, a "city of tommorrow" was exhibited showing the most advanced concepts in modern architecture and planning. Unaware of this the tour guides miscalled the exhibits the "city of sorrows".

1.2.1.2 Social Impositions:

The visual preferences of the modern movement were accompanied by inexplicit assumptions about how people live or how they should live -- assumptions defined by the architects' personal values and built

into each design by his placement of doors, windows and walls. Few laymen or even professionals see any alternatives to the prevailent sterile, anonymous architecture and the ideology that defends it. The most resigned assume this architecture's naked forms come from economic necessity; the more enthusiastic see it as a symbol of prosperity and modernity. In either case, there has never seemed to be a choice about it because modern architecture has never been presented as a style, it has been considered as a movement of truths for so long that we are unable to think of it as a set of arbitrary systemized aesthetic choices. By now, it has become an ideological prison that traps all and sundry as soon as they are initiated into its rules or 'truths'.

### 1.2.2 Successful Adaptations

Architecture in some countries have been largely considered as being able to successfully retain their traditional concepts within the framework of the international style. Japan is one country that immediately comes to mind. Tradition here is different from that of the west, and not naturalistic or primitive - as in Latin America - but cultured and highly sophisticated and has been effected by western contibution, developed in an original way and has attained results of international importance though amidst many difficulties and controversies.

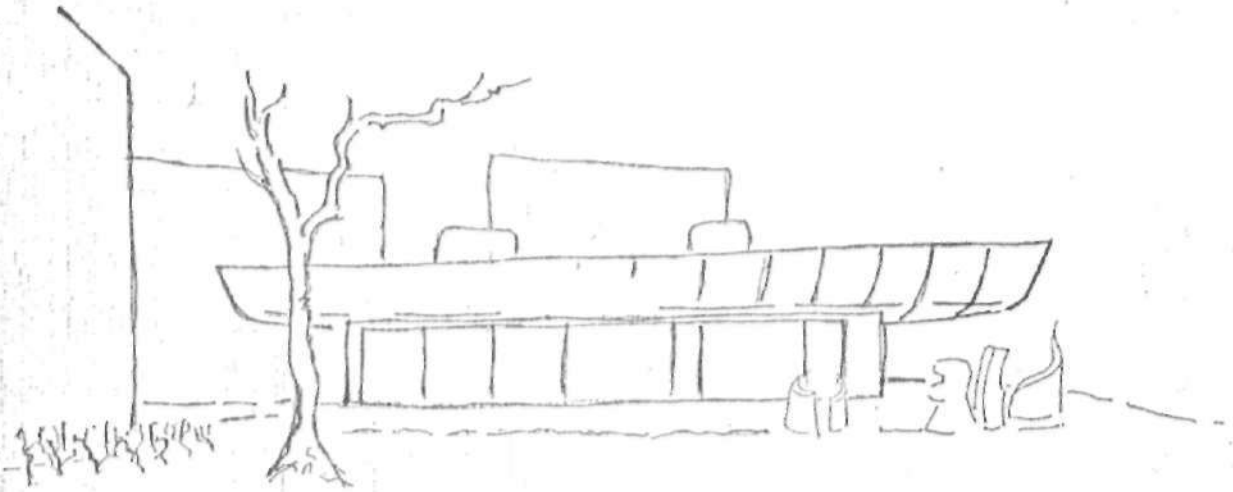
Bruno Tant from 1933 spent some time in Japan and made a decisive contribution to the study of local tradition, distinguishing the short lived elements from the ppermanent ones, still capable of development. This laid basis for architects to follow - use of more permanent concepts rather than superficial ones. The emphasis was the atmosphere one was trying to create not necesarily on the materials used. Kenzo Tange, one of the first architects to introduce modern architecture into Japan says of adaptation: "... modern architecture and Japanese traditional architecture have common characteristics - simplicity, standardization, openess, spaciousness and lightness, Architecture always should be a reflection or expression of social structure... this structure should not be considered static, but dynamic - always advancing forward from the past to the future and having the energy to accomodate newer and more suitable styles". He however sounded a not of warning at the C.I.A.M. conference in 1959 that "Tradition can, to be sure, participate in a piece of creation (as a catalyst), but it can no longer be creative itself. I therefore want by all means, my buildings to be free of the label traditional"[4]. Kenzo loves tradition and its architectural achievements, but never commits the romantic error of assuming that temporal limits do not count. He knows that for our present situation,

solutions are needed which are distinct from all traditional architecture. A fourth generation of architects in Japan is one to which Kisho Kurokawa of the metabolist group belongs and they set out to synthesize the best of both worlds:- the quint essence of Japanse cultural history and the more pragmatic functionally rational modern architecture. Kisho had this to say on tradition vis-a-vis modern architecture: "... although I reject traditionalism, I attach great importance to the influence which the culture of one country may exert on another. It is my belief that the cultures of different countries will stand individually, but can be together if allied with technology, to provide the future language of architecture. That modern architecture appears diffuse is proof that the cultures of different regions each contribute to the language of modern architecture, and as a result, modern architecture will probably come to speak not with a lingua franca, but with a complex and many faceted language."[4] His philosophies of design include the mobility and population trends of the Japanese, their Buddhist culture and reliance or wood, but utilizes the technological orientation of modernization. With the Japanese concept of continuity in architecture, society and nature, he developed his concepts that of an en-space - a semipublic space, circumventing the schizophrenic duality, or inside/outside of the

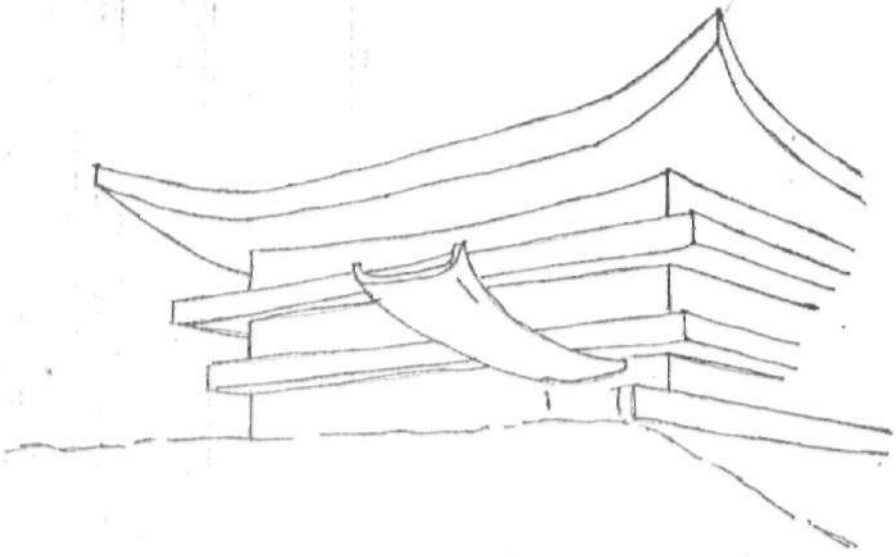
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west. Traditionally, these spaces are found in Japanese streets and merge outside with private living accomodation within using light screens. A good example of a project in which he successfully utilized this concept is in the head office for the Fukwoka Bank (1975). Later this enspace concept was broadened into a concept for architecture of the street. This took cognizance of the fact that traditionally, the Japanese never had plazas or squares, Activity took place in the streets. A second concept is the Jiga-a Buddhist word for identity and self. He used this concept to explain his capsule architecture notably in the Nakagin capsule tower. (Other examples are contained in fig. 1.1).

Also in Mexico, buildings have been designed in perfect harmony with the ideas of the so-called international style, but still posses their own individual and remarkably fascinating character. The Mayan culture of the 3rd-9th century A.D. still find expression with mural decorations. The curves and decorations of modern architecture in Brazil are also successful adaptations. The physical environment as well as traditional values of the people had continued to inspire Oscar Niemayar in his designs for Brasillia. (See fig 1.2).

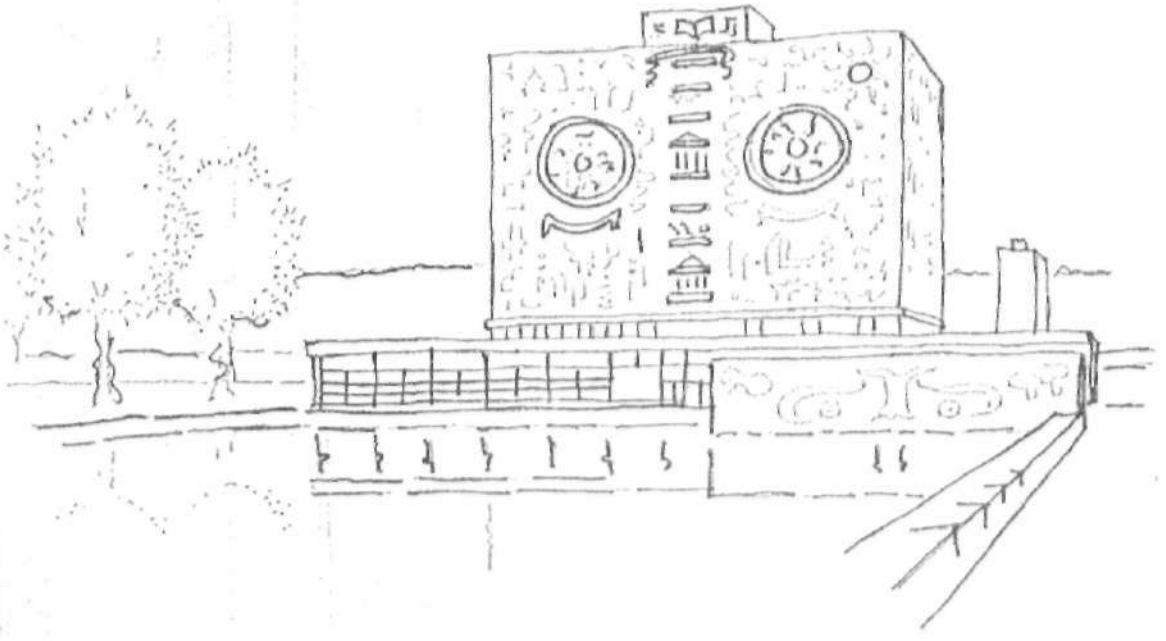


- TOKYO METROPOLITAN HALL, JAPAN
  KUNIO MAYEKAWA, 1958-61
  ELEMENTS TAKEN FROM TRADITIONAL JAPANESE ARCHITECTURE USED IN THE CREATIVE WAY

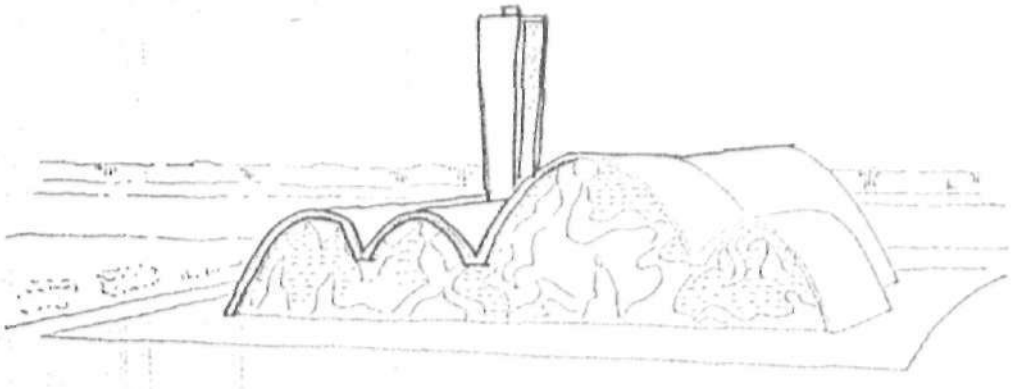


- HIRAOKA CITY HALL, JAPAN
  JUNZO SAKAKURA, 1964
  FORM AND ARCHITECTURAL ELEMENTS OF A TRADITIONAL JAPANESE PALACE USED AS INSPIRATION.

FIGURE 1:1 – JAPANESE VERNACULAR ARCHITECTURE STIL FINDING EXPRESSION IN MODERN ARCHITECTURE.
– SOURCE : REF 3



CENTRAL LIBRARY, UNIVERSITY CITY, MEXICO
J. O'GORMAN, J.M. VELASCO, G. SAAVEDRA 1951–53
MURAL DECORATIONS USED IN A WAY TYPICAL OF ANCIENT MEXICAN ARCHITECTURE



CHURCH OF S. FRANCISCO, PAMPULHA, BRAZIL
O. NIEMEYER, 1943
DYNAMIC FORMS OF REINFORCED CONCRETE SHELLS
MODERN ART MURAL DECORATIONS

FIGURE 1.2 - OTHER SUCCESSFUL ADAPTATIONS
—SOURCE : REF. 3

Venezuela, Isreal and some other countries also have strands of architecture deeply rooted in traditional concepts.

1.3 On Africa

African countries, most of them being newly industrialized have tended to embrace western culture as a sign of progress and prosterity thus grasping at almost anything western with hunger that was taken as proof of the wests' cultural superiority. There are certainly important reasons for people in traditional societies to desire change - better medical care, increased food production, efficiency and many more. But if traditional physical contexts must change to some degree because of modernization, the new physical arrangements should be as well adapted as possible to the traditional living patterns that they will accomodate. Neglecting the sociological patterns of a society will definetely render any piece of architecture, no matter how efficient, in adequate. Kaj Bleguad Anderson in 1977 talked about the quality of life in urban centres in Africa - "in order to build and to shape the environment for the future, it is absolutely, necessary to understand the past-qualities inherent in them. Without this understanding no genuine African architecture can emerge. Planners will continue to borrow randomly and expensively from foreign models and conflicting ideas on national build targets and how best to fulfil them will persist".[5]

This view, is shared by many people, architects, sociologists and laymen alike, but foreign imports and even direct replices of western buildings continue to appear in our urban centres. These sterile, glass skin buildings are looked at as symbols of prosterity by architects to the dismay of the public at large who don't regard them as reflections of the society. The disparity between the traditional (rural) buildings and the modern (urban) architecture has been of major concern to all. It is as if the two communities (rural and urban)have nothing in common i.e. different frames of reference, standards and criteria about aesthetics and society. This might be true to a large extent, but architecture hasn't helped bridge the gap by the "compromise solution" or "synthesis of traditional values and modern techniques". Cultural autonomy has been known to exist even recently in Africa despite influences The Djeme mosque in western Africa is one such example. The phallic nature of their sculptural mass architecture was retained despite Islamic introduction. Many other examples exist, but they are not easily achieved. Oyekola M.B. in his proposal for the ECOWAS fund Headquarters, Lome (unpublished thesis 1988) listed conditions limiting regional expression:

(i) Industrialization

(ii) Ease of communication or travel and awareness

(iii) Rising cost of traditional materials and skilled labour.

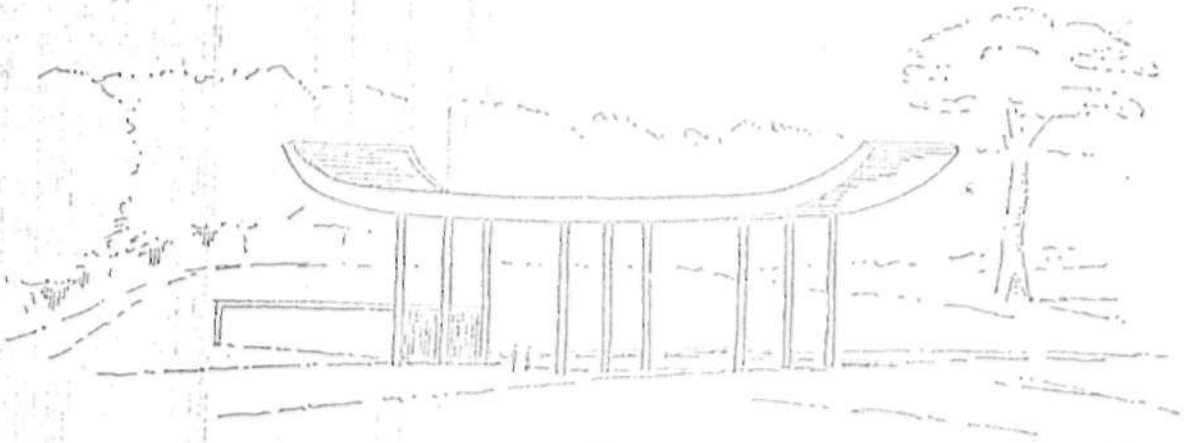
(iv) Abstract qualities inherent in new concepts of space with materials and pyschological satisfaction.

(v) Spirit of times.

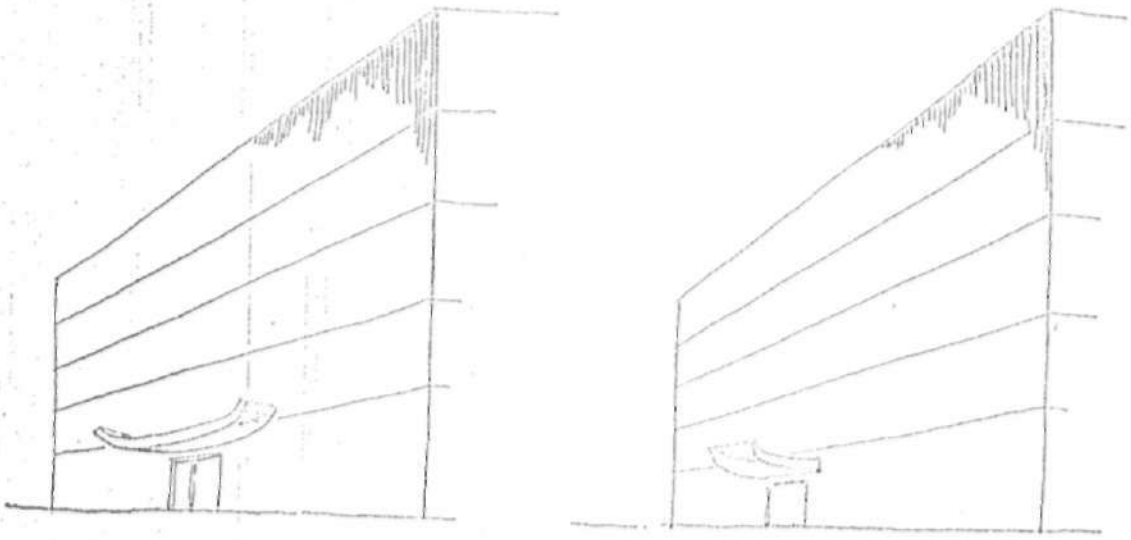
He was however able to arrive at a reasonably successfull compromise solution using both the 'symbol of use' and the 'expression of technique' approaches. Many architects have also been able to arrive at similarly successfull attempts in Africa notably - Pierre Goudiaby, Atepa, Hassan Fathy and Fola-Alade. (See figs 1.3 and 1.4 for other examples).

## 1.4 Corporate Identity

The issue of appropriate identity for corporate buildings has been left open without direct definition for some time now. No clear cut expression has been operationalised making communication and meaning ambiguous Emphasis has been often made on size and volume of premises as well as contemporary architectural techniques to impress the observer. Corporate body slogans are not usually followed up by their architecture. This is an area this author feels there is need for examination.

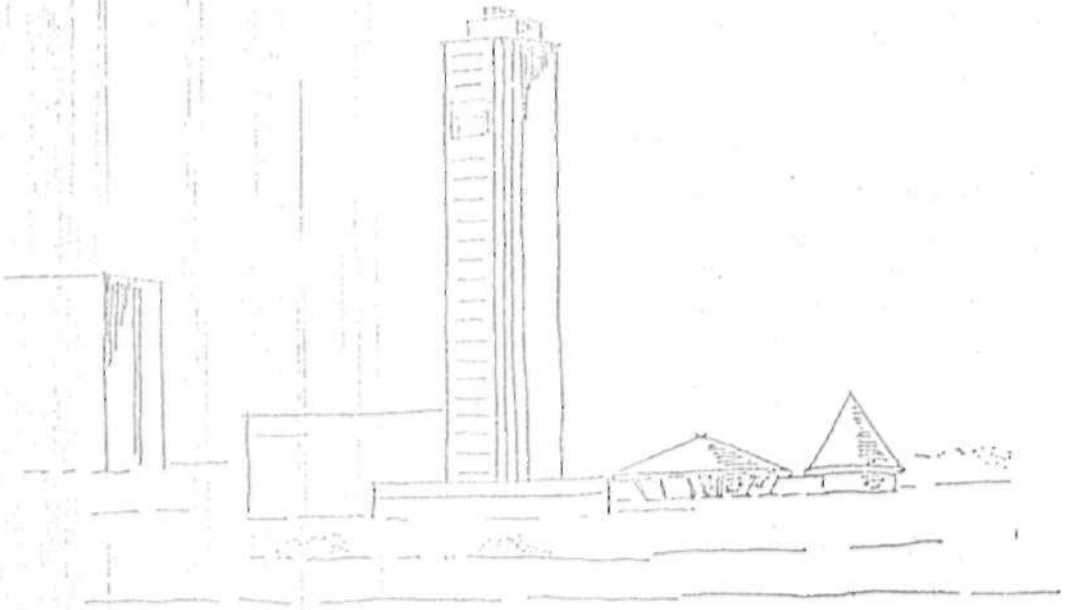


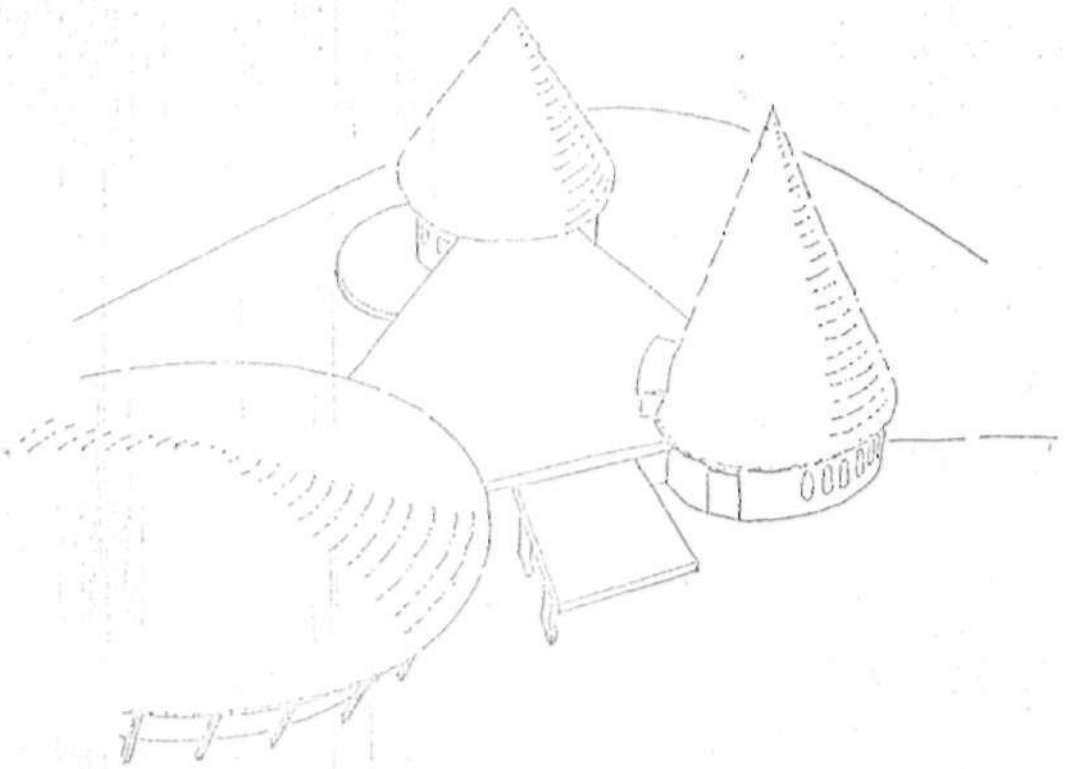
■ ENTRANCE GATEWAY, UNIVERSITY OF SCIENCE AND TECHNOLOGY, KUMASI, GHANA. J. OWUSU-ADDO 1968
FORM OF THE TRADITIONAL ASHANTI STOOL



■ a,b SYMBOLIC FORM OF THE TRADITIONAL ASHANTI STOOL USED FOR THE ENTRANCE CANOPIES AT SEVERAL HOUSES IN GHANA

FIGURE 1.3 AFRICAN IDENTITY ACHIEVED IN THESE BUILDINGS
SOURCE : REF 3





HOTEL IVOIRE, ABIDJAN, IVORY COAST
FORM OF COTTAGES TAKEN OVER FROM TRADITIONAL AFRICAN ROUND HUTS. SIZE INCREASED, PERMANENT MATERIALS USED

FIGURE 1:4 ~ ATTEMPT AT ADAPTATION INTO MODERN ARCHITECTURE - (SOURCE - REF 3)

An example of a corporate body - say a bank - abbrogating itself as being courteous and efficient, but lacking internal or external order in its premises is ambiguous. Another goes - 'Big, strong and reliable' - but its corporate headquarters potrays smaller and weaker architecture. Ambiguity again and by no means exhausted. Corporate identity must go hand in hand with its architecture for coherent and clear messages of intentions. Why identity is of critical significance to corporate buildings is because of the nature of its business. It is in the customer service and customer engagement business where questions of imagery and opinion assume proportionately greater importance in wooing the public. W.B. Qurix in his design for the Kaduna Stock Exchange (unpublished thesis 1987) asserted that "corporate buildings must not only establish a prestige reputation and confidence for their customers, workers, and executives, but should also exude the elegance and sanctimony normally associated with the world of finance". This intention would however be more convincing of corporate identity is allowed to play a major role in design.

Identity defined as individuality and personality in the Chamber's Diction ry has bearing to culture and sociology, but its also deeply rooted in function. The form a desinged space takes should be a manifestation of the identity of its users,

but the function to which it would be put to has to be expressed also. Louis Sullivan in Kindergatten chats said and I quote "Just as every form contains its function and exists by virtue of it, so every function is engaged in finding its form". This is saying that a bank should look like a bank, an insurance company should look like one and also the peculiar service or structure of each should also be expressed architecturally.

1.4.1 Form and Imagery

The issue of identity has its final impact or test on the form of an architectural space. Zanzan Uji in an M.I.A. article asserted that "physical form elements in the built environment act as perceptual ones, conveying symbolic information and non-verbal messages to the perceiver". Comprehension and perception will depend on the legibility of the encoded information in the design form. Architects communicate concerns about buildings by emphasising some form elements while suppressing others. This techniques calls for subtle and often difficult decisions. "After selecting an overall communication image, the architect formulates a hierarchical list to ensure that a less important concept or element does not take precedence over a more important one" - Zanzan Uji concludes. This is to ensure that the image perceived is legibly appropriate. Kevin Lynch in

the Image of a city describes imageability as being - "that quality in a physical object which gives high probability of evoking a strong image in any observer".

It is thus the form created by the combination of lines that can produce an image that is capable of awakening all shades of emotions in us, arresting our attention for a long period of time that is desired. Francis Cling in form, space and Order in Architecture (1979) says of form that "it provides a most sussinct medium of communication between the designer and the user of built environment" Visual properties of form will include orientation, position, texture, colour, size and shape. Shape is however the principal characteristic of form. It can be archetypal, cultural or personal, and the use to which a building would be put will determine the way and manner in which the building form is articulated and expressed. Together, the shape and form coalesce and synthesize into the image.

Knowledge of forms is the basis for a whole range of visual imagery which includes both memories of the past and imaginative explorations of the future. The past has to help formulate concepts for the present and the future. The Exchange market for Abuja is not intended to be a relic of the past,

nor an edifice of the fast decaying present, but a symbol of the radiant future. The form and image eventually arrived at are certainly evaluation criteria for this thesis. Compromises will no doubt have to be made and this is alright as long as harmony is not jeopardised.

## 1.5 The Future.

Modern architects have intionally ignored the importance of the fact that the present and the future are deeply rooted in the past. Throughout history, traditions have been modified to fit new situations while retaining their original signal purpose. As the value of tradition is rediscovered we will not just formulate another set of preconcieved ideas about the proper way to make a building fit in patterns, we need a new state of mind. We have to acknowledge or the proper way to accommodate behavioral without fear of loosing our individuality that this new state of mind calls for compromises which does not require that the architect suppress his creativity. Creativity knows no bounds and can be broadened in the refined exploration of the craft of architecture, encompassing such problems as how skillfully the designer can evoke the spirit of place (modern or traditional) through mass, detail, texture and other tools of visual craft.

By using what exists as a stepping stone for what is to come, the architect can reinforce rather than undermine the character of neighbourhoods and cities everytime a new building is added. As a premise to other research and eventual synthesis, we need to examine this words of wisdom by Kenzo Tange:

> I venture to say we need a symbolic approach to achiecture and urban spaces in order to secure humanity, human meaning and human value in architecture and urban space... Can modern technology restore humanity?... Can modern civilization find channel linking itself and a human being?... Can modern architecture and urban space be again the place for building up a human character?

His theoretical answer and that given by his architectural and town planning works are affirmative and for the reasons above he can be accounted one of the great personalities in the field of architecture in the second half of the 20th century.

A study of the African people and their trade patterns is necessary at this stage.

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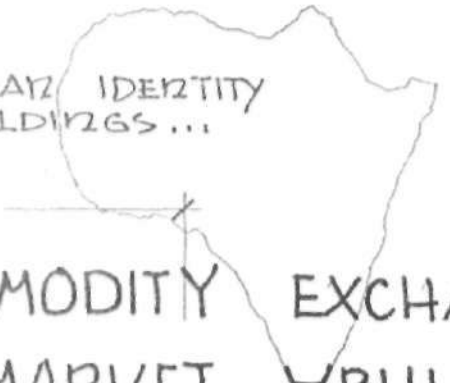
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THE SEARCH FOR AFRICAN IDENTITY FOR CORPORATE BUILDINGS...



... COMMODITY EXCHANGE MARKET, ABUJA.

I THINK IT IS AFRICA, WHERE MAN PROBABLY BEGAN, THAT CAN GIVE MEN HOPE OF A NEW LIFE. EVEN MORE, I BELIEVE, AFRICA SO NEAR TO A NEW START, CAN SET AN ENVIABLE EXAMPLE TO THE REST OF THE WORLD...

G.E.W. WOLSTENHOLME (1965).

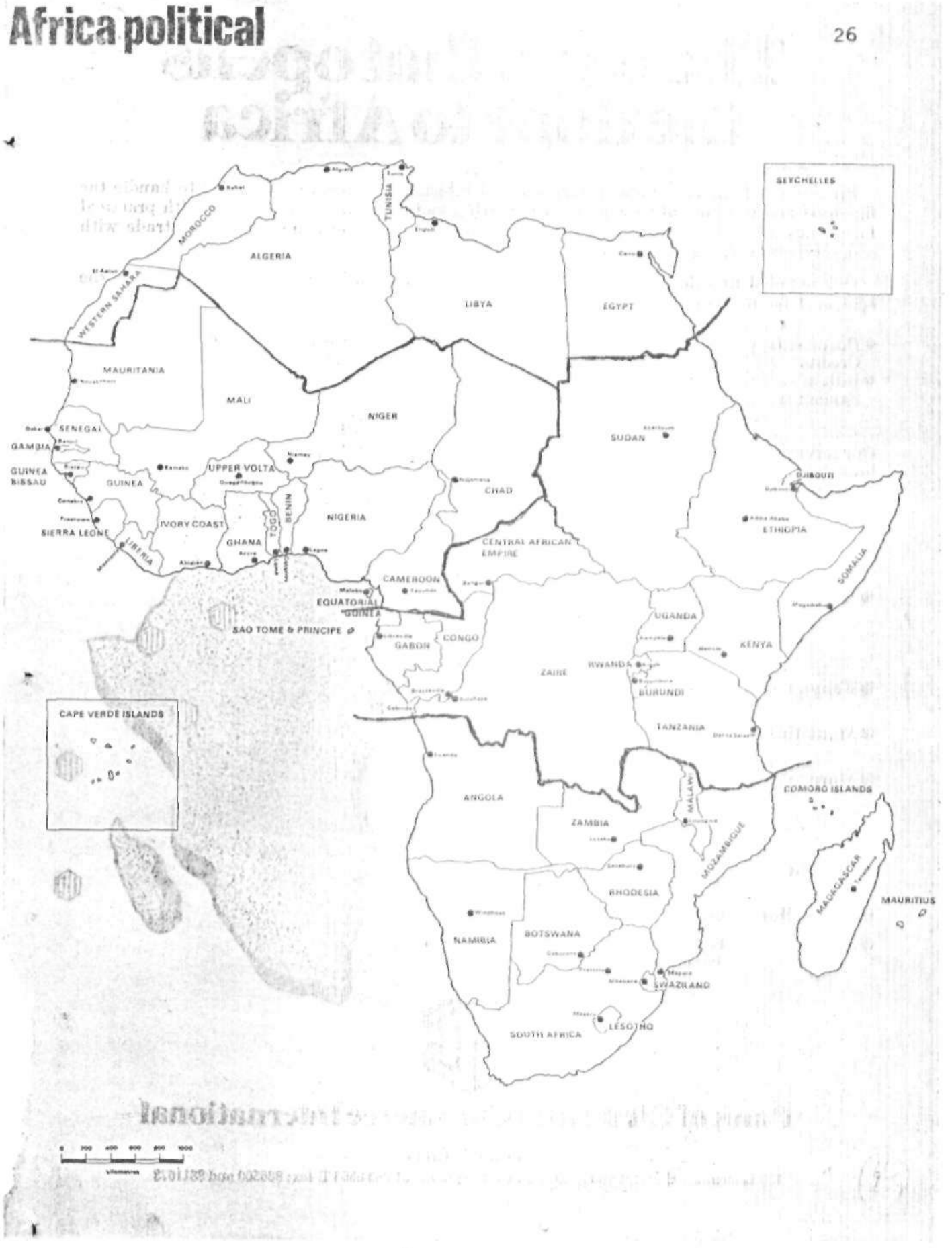



FIGURE 2:1 ~ AFRICAN STATES. — Source: E.C.A. Bulletin 1978

## 2:0. HISTORICAL PREMISE

### 2:1 Africa : Physical Environment and Peoples.

Within its 30 million square kilometres (about a quarter of land surface on earth), Africa contains widely diverse environments. Vast plains, repledent volcanoes, arid wastes, soaring mountains and palm fringed beaches are but a fraction of this diversity. Relief shows that Africa is high in the South East and low in the North-West. Plains are a dominant feature in the continents landscape. In the drier regions and in the areas of deposition, they are astonishingly horizontal and smooth. In the humid zone, permenent valleys provide slightly more divertified relief. More than half of Africa is however arid or semi-arid, but the coastline is distinctive for its beautiful beaches often stretching many kilometres of rare-rocky headlands. Within this interesting physical environments contains over 430 million people - about 10% of the world's population.

#### 2:1:1 North Africa

The Sahara dominates North Africa like a sea of arid land. Some of its peoples live close to the oasis, which scatter the desert, growing dates and where irrigation allows, barley and vegetables. Others lead long lines of camels, heavily laden

with salt, cloth and western-made goods along ancient the caravan routes that have been trade across the sahara for over a thousand years.

Islam has ordered the spiritual life of most North-Africans and the Nile river has helped sustain those who dwell close enough to it.

2:1:2. West Africa

Earliest written records of Muslim traders who crossed the Sahara and reached the great Kingdoms of the Middle Niger reflect these societies as being dynamic and organised. By some 4,000 years ago, man in this region had acquired cattle and as the Sahara began to dry out, he strides southwards, driving his herd in search of pasture.

The Fulani are essentially cattle people, and their great herds represent not only their main form of wealth, but indicates the status of the individual. They traded meat, hides and dairy products with other peoples like the Hausa, who live in tse-tse belt, and take grown foodstuff in payment. From the 13th century they began to convert to Islam, introduced by their Berber cousins and by Arabs involved in trans-saharan trade: This new religion provided them with a new and dynamically unifying force.

In the past decade or more, drought has jeopardised their traditional way of life, advancing implacable dryness of the desert climate. In West-Africa, the most heavilly populated region in the continent, land- particularly fertile land is at a premium. So many who have seen their drough-stricken herds reduced to rotting carcases have now come, destitute to towns and cities where they struggle to adjust.

The Sahelian zone might have been the world of pastorialists, but South of it, cultivators are supreme. Sorghum and millet are well adapted to dry conditions while rootcrops such as cassava and yams thrive in the forests closer to the West-African coast.

2:1:3. East-Africa

To traverse the Great-Rift valley of East Africa is still to experience something of primordial Africa, an area little touched by the outside world. In its far north, man's presence is hardly evident, for this area is too hostile that few choose to venture there. The Awash river flows down from the Ethiopian highlands and around here live the Afar who depend on the river for their survival. To the East and the West of the Rift stretch the high and largely featureless plains of the African Plateau.

Vegetation changes from patches of grass and low shrubs to fuller and more vigorous grass cover with trees appearing singly further South where rainfall is more.

Drought has also hampered main survival in these parts. Ethiopia is the worst hit, but northern Kenya and Sudan - indeed the entire Sahelian fringe as far west as Mauritaria are also affected. The Sahel is in essence a marginal area where total aridity of the desert begins to give way to kinder climates where rains though erratic and highly seasonal still give room for some cultivation. The Masai are pastorialists and their cattle their means of livelihood and status symbol. Some marry women from cultivator tribes such as the Kikiyu so that their crops can augment their diet. For many however, the only alternative to life with cattle, is to leave and drift to the cities in the hope of making a living.

Rwanda is the most densely populated country on the continent with an average of 140 people per square kilometre and 96% of them dwell in the rural areas. Burundi, to the south of Rwanda, is also heavilly populated and is facing acute 'land hunger' - leading to migration to neighbouring countries like Tanzania and Zaire whose economies are also underdeveloped. Kenya is largely the most developed economy in this region as foreign

investment is high and widelife is gainfully utilized.

2:1:4 Southern-Africa

The Bantu-speakers in this region are divided into many separate groups amongst them, the Xhosa and Zulu in today's South-Africa; the Shona and Matabele in Zimbabwe; the Owambo and Herero in Namibia, the Bemba and Tonga in Zambia and the Ovimbondu in Angola. The large number of tribes indicated reflects the diversity of languages within one broad linguistic family bound by common values. Land was never owned by individuals or groups, but by the community in care of the Chief. Cattle was also a measure of wealth and status in these communities.

This region is vast, its soil potentials low, but mineral deposits are almost abundant. Diamonds of unsurpassed quality is washed down the sea from the Great Orange River and are a major source of wealth. Uranium and Gold are other deposits found in large quantity in this region. In the face of such wealth and riches, competition is becoming fiercer with foreign powers juggling for influence. Independence is still denied in some territories.

## 2:2. African Trade Origins.

Chamber's dictionary defines trade as the buying and selling of goods. It further explains that trade is the exchange of goods in consideration for an equivalent in legal tender or another good. This concept of trade was already well established over much of Africa on a local basis and has been closely linked with developing urban centres with markets as focal points . The inhabitants of scattered homesteads and villages realised the benefits of having recognised market places to exchange commodities. Most people could produce enough to meet their immediate needs and as faster developed and there were surpluses with which to trade, systems arose whereby different commodities from different regions could be exchanged: Kolanuts and groundnuts, cotton, hides and skins, gourds, pottery and metal ware as well as foodstuffs of amazing variety.

The economic vitality of these urban centres-closely linked with markets-in precolonial Africa seriously challenges those who perpetuate the myth of Africa's backwardness. Today, the big markets of Senegal, Ghana and Mali are dominated by women and the goods for sale indicate the changing tastes of the people and their ever-widening avenues of communication.[3]

The old Egypt and environs, being the first civilization in the continent, was booming in trade long before it reached its epoch during the pyramid age from about 2700 B.C according to early travellers to this region. Old Egypt gained it's wealth not from conquest, partly from trade and mainly from agriculture. Agricultural marketing was centrally administered rather than coorporative. The construction of pyramids - permenent royal tombs - could both re-emphasize the centralised state and guarantee economic security by providing work through the lean season. Egyptian writing - hieroglyphics - evolved for trade and commerce and also to mark ownership.

KASHIM IBRAHIM LIBRARY
AHMADU BELLO UNIVERSITY
ARIA, NIGERIA.

Egypt was the focus for trading and nomadic groups from the more arid west, east and south of the Nile valley spread their products through localised trade. Wood, building materials and precious stones were all brought down to the Nile for sale. Gold that was mined at Nubia was also sold along with Ivory and Ebony along the Nile corridor.

2:2:1. Trans-Saharan and Coastal Trade

Until the portuguese outflanked the ancient trade routes over the desert and approached Africa from the sea in the early 1500's the trans-Saharan connection dominated much of Africa's early history. The Berbers

and the Arabs were the middlemen, trading West-African supplies in constantly growing markets far away. The Romans and Portuguese imported African merchandise: they well appreciated leather made from skin of goats in Katsina and dyed and tanned in Morrocco. In return they traded cloth, Knives, horses and above all salt to the West Africans. Hacked from slabs and crudely crushed, rocksalt from Bilma and Taoudenne' fetched its weight in Gold. Slaves, Ivory beads and copper were also exchanged for salt at established centres like the riverside markets of Lake Chad.

Most of this trade took place within the Savannah of the West-Sudanic belt. Technology is said to have followed the trade routes from the North-African coast. The Saharan rock drawings of chariots suggest two routes to the Sudanic area: to the bend of the Niger at Gao and to the west of Timbuctu. These trade patterns laid the commercial basis of the Medieval Western Sudanic Kingdoms. The Hausa position at cross roads for trans-saharan trade for instance, led to powerful markets and later major commercial centres.[2]

The site at Begho was however probably the first in the series of 'international market' towns. It was a centre for trade with the north and dates from at

least the 14th century. It facilitated the well recognised Ashanti trade links which gained ascendancy over other tribes and gradually won almost total control of the gold and slave trade of West Africa.

Trade and commerce along the coast had also assumed a new tenor as a direct result of events in Europe especially after the industrial revolution. From the start, emphasis was on the provision of raw materials for european industries. African farmers were encouraged to grow groundnuts, rubber, cocoa and coffee. Food production for local markets took second place to the more profitable cash crops. Timber, cotton and palmoil were shipped out of Africa in large quantities.

The cowrie shell was standard currency throughout much of the coast. It had little intrinsic value, but it was easy to handle and count and almost impossible to counterfeit. The West-African market system has been built over many centuries and and is specialised and still becoming more cosmopolitan.

### 2:2:2. Other Major Trade Locations

Large markets also grew in the North-East of Africa with new opportunities opening with the establishment of regular sea-borne trade from 205 B.C. Roman occupation in some territories increased the demand for luxury

goods and silk from Africa. Ethiopian and Algerian trading empires extended as far as Syria and beyond Rome to Greek. Items dealt in belie the image that Africa was simply a source of Gold, slaves and Ivory: Rubber,, undressed cloth, flint glass, brass used for ornaments, sheets of soft coppery used for cooking utensils and cut for bracelets and anklets for women, iron made into spears and much more were traded in.

Further East, Portuguese influence in trade was significant especially along the coastlines of Bantu. They brought in crops they found in the Americas, notably maize and cassava and traded them for minerals. Zambesi was a principal entreport for commerce on the east-African coast and Swahili was the language to become to commercial lingua franca of the interior. Strong trade links also existed with India and this led to Indians dominating the financial structure and costoms administration of some territories like Zanzibar.

The the 18th and 19th centuries, the town of Lamu on Kenya's northern coast gained further trade contacts with Asian markets. Trade flourished with goods from Asia and those from the interior being marketed in this parts. Today, the town's streets recall the more prosperous past when the Arab

D'hows came to trade finely worked daggers and hatchets, glass vessels, wheat and crisp cotton cloth for ivory, slaves, tortoise shell, and rhinocerous horns.

2:2:3. Traditional African Market Scenario

African markets are colourful, lively, noisy and existing places. Most are open with temporary stalls and only very few have lock-up storage facilities. But inspite of their generally untidy and chaotic appearance, they are usually well organised. Similar products are sold in the same area of the market place and specialization either in terms of age, sex or ethnic grouping obtains. Some form of market authority is subjected to sellers for peace and orderliness. Eating and drinking spots form an integral part of market places. Service shops like Tailors, Barbers or repairshop might also be found.

Indigenous market places in Africa seem to be largely confined to northern and western Africa with smaller pockets in parts of East and North East Africa. One possible explanation for their locations is that while some markets might have arisen out of the needs of local and neighbourhood exchange, most bigger markets are more associated with long distance (or at least external) trade contacts and is only

possible in those areas of relatively high population density and where polical control can guarantee market peace.[3]

Periodicity is characteristic of over 75% of all African markets in response to limited demand. It is logical and expresses a need to contact a wider and more varied section of goods and people. On the whole, the traditional African market place apart from being an exchange centre for goods is also a place for social intercourse and dissemination of information. It forms an integral part of the socio-political focus of a settlement.

2:2:4 Colonial Trade Pattern.

The colonial period in most African territories brought about stronger trade links with foreign countries. Partnership pacts were signed to tap underutilized resources from colonies in exchange for technological and manpower expertise. Raw materials needed for European industries were got from their colonies in return for manufactured goods. In the coastal regions of Gold-Coast (Ghana) and Nigeria, long acquaintance with European trade and education helped generate new wealth by offering for export cocoa, palmoil and palm Kernels. It also

became feasible to build railways to extend both effective control in the interior and promote the export economy.

In such British colonies, the export trade was handled through statutory export monopolies known as marketing boards. This was a well developed system and channelled the sale, purchase and export of local produce. Prices offered were low compared with what obtained in the world market, but the system compensated by ensuring steady and reliable market for local produce.

All foreign powers with colonies in Africa had different trade relationships with their colonies and the laid down systems still prevail today despite independence. France and her colonies (Ivory Coast, Togo, Rep. of Benin etc) still transact large quantities of goods amongst themselves and price indexes in such colonies are manifestations of prices in France. The cost of living index, until recently, was lower in British than in French Africa as the French buy and sell at higher prices though in greater volumes.

## 2:3. African Trade and Development

The part played by Africa in the international market is that of a primary goods exporter and an importer of manufactured goods. The degree to which

international trade benefits the nations of Africa - in economic terms - is directly dependent on the terms of trade between primary and manufactured goods. Terms of trade is the ratio of the unit value of imports to the unit value of exports. While it is true that over the last decade or so, Africa has been able to get higher prices for its exports, it has only been able to increase the volume by about 2%. The growth in volume of imports into Africa has been by about 50% at higher prices. This has thus not been in the best interest of African economies.[4]

The notorious fluctuations in the prices of primary goods has also severely restricted the effectiveness of planning and thus marred economic development, the prices of these goods is directly dependent on the economies of the export markets. Prof. E.A. Adedeji of the Economic Commission for Africa (E.C.A.) in a paper on Africa's Economic crises has been substantially affected by the cyclica asserted thus "Development/fluctuations in the economies of the industrialised countries particularly the European Economic Commission (E.E.C) countries (which form major export market for African goods) due to excessive external dependence". This dependence coupled with huge debts owed foreign nations makes African economic development almost impossible without meaningfull assistance by the developed countries.

Self-reliance and Import substitution have also been advocated as the solution to alleviating the problems facing Africa and indeed the third world. North-South: A programme for survival - the report by the Independent commission on international development issues under the distinguished chairmanship of Willy Brandt - emphasized that the people and governments of the South have the primary responsibility of solving their own problems. The report further said "The South needs and wants to be more self reliant in order to complete the process of political independence with economic independence; But this does not mean separation from the world economy; Rather, it means the ability to bargain on more equal terms with the North, to obtain a fair return of what it produces and to participate fairly in the control and running of international institutions". The South of which Africa forms a large part, complain that the origin and initial power structure of the Brelton Woods institutions limited the capacity for changes and even the General Agreement for Trade and Tariffs (G.A.T.T.) set up by the United Nations was not sufficiently relevant to their special needs.

One thing is however clear, that economic development in Africa needs a strong industrial base to take off. Agricultural produce need to be processed and made into more valuable manufactures to fetch better prices in the

world market. Today manufactures account for less than 10% of African exports, while 90% is accounted for by primary products of which crude oil takes a lion share of 60%.[4]

2:3:1. Goods and Markets for Imports and Exports.

Majority of African countries are dependent on only one or two products for over 70% of their export revenue. A breakdown from the **Encyclopedia** for Africa (1982) uncovers this:

| | | |
|---|---|---|
| Burundi and Rwanda | - | Coffee |
| Gambia | - | Groundnuts |
| Libya and Nigeria | - | Crude Oil |
| Mauritania | - | Iron Ore |
| Zambia | - | Copper |
| Chad | - | Cotton |
| Benin Republic | - | Palm-Oil |
| Liberia | - | Iron Ore and Rubber |
| Sierra Leone | - | Diamonds and Iron-Ore |
| Botswana | - | Diamonds and Meat |
| Uganda | - | Cotton and Coffee |
| Ghana | - | Cocoa and Timber |
| Algeria | - | Crude-Oil and Citrus Fruits |
| Gabon | - | Crude-Oil and Timber |
| Somalia | - | Live Animals and Bananas. |

...Table 1

This dependence of so many countries on this little variety of produce is disturbing especially as price fluctuations are experienced every now and then. Oil rich nations like Nigeria, Libya and Algeria fetch favourable prices and development is evident in these countries. With Gabon, they account for 9% of crude-oil production in the world. Mineral producers are next in line for fair prices. Uranium, cobalt and chromium deposits are abundant in East and Southern Africa, but many are still under exploited. Almost all the worlds diamonds, 80% of its gold, 30% of its phosphates, 20% of its copper, 25% of its manganese and 10% of its Iron ore is found in Africa. Coffee, cocoa and cotton also enjoy favourable terms of trade relative to other primary products. Ivory Coast, followed by Ghana, Nigeria and Cameroun are major exporters of cocoa and with other minor producers account for about 2/3 of the world's cocoa production. Cartels bringing these major producers [illegible] will certainly ensure better bargain for fairer prices in the world market.[4]

Imports into Africa consisted mainly of consumer goods in the early 1960s, but as primary industries were gradually set up for home markets, emphasis changed to capital goods, machinery and transport equipment. Crude-oil, crude raw materials, chemicals, iron, steel

and non-ferrous metals also form a large percentage of imports, 55% of these imports come from European countries while about 50% of our exports also go there. The Lome convention of the African and the E.E.C. countries encourage trade flow between the two. Most goods exported (over 90%) get to the European countries duty-free because of this agreement, yet the volume of exports is declining. U.S.A., Japan and the communist countries are other major export markets. Together, the industrialized world take up over 4/5 of Africa's exports.

2:3:2. Intra-African Trade.

The volume of trade amongst or between African countries is disturbingly low and this can be attributed to three factors:

(i) The similar nature of the goods they produce and consequently trade in. It is only logical for this to happen as weather conditions and technology are similar in this countries. Inter-regional trade is slightly better because of wider differences in produce: Citrus, Corn and wine from North-Africa is traded with the tropical cash-crops in West and East Africa. Preferential trade amongst countries with economic ties e.g. E.C.C. W.A.S. - exists for steady and reliable marketing.

(ii) Industrial underdevelopment has also limited the volume of trade between african countries. Industrial takeoff will see goods currently being imported from outside Africa being absorbed from neighbouring countries. As of now, growth in industrial activity is only about 6% per year and this falls below United Nations standards. Only primary industries exist to a reasonable percentage and even they are aimed for local markets mainly. Linkage to secondary industries haven't been sufficiently implemented.

Some North-African countries have however been able to set up some industries whose manufactures compete with and in european markets. This is probably due to their geographical position and availability of cheap labour. Import substitution in the form of light manufactures especially cigarettes, beverages and textiles have taken off in some countries too. Many also engage in the assembly of imported components mainly vehicles and electronics thus have wider market within Africa.

(iii) Organising the tedious business of exporting has also marred efforts at increasing trade between African countries. Poor communications, complicated tarriff structures, and costom regulations as well as transport inefficiency are bottlenecks which have to be removed for easier organization. Smuggling accounts for large, but unquantifiable volume of trade amongst countries. This happens particularly in West Africa where countries with higher costoms duties and weaker currencies are exposed to smuggling of imported goods from those with weaker tariff systems and comparatively open frontiers.

2:3:3 Foreign Domination and Dependence.

As has been established, trade patterns and their terms are largely dominated by foreign countries. They have the machinery and know-how to facilitate export and control prices. African countries have had little opportunity to participate in the processing, transportation and marketing of their commodities. They have hence faced violent prices, tariff and non-tariff barriers on their exports leading to uncertainties and inadequate investment to further develop their resources.

African countries are becoming more wary of the generosity of foreign countries-as it leaves them open for manipulation-which has in the past proved

inconsistent and unfavourable to the development process. They can however not do without them as expertise and capital is too low for sound industrial takeoff. Infrastructure and machinery have to be in place and operational and this is only possible through foreign aid and participation.

Banks, corporate bodies and service companies (e.g. construction) have been set up by foreign countries in Africa to generate funds and tap underutilized resources. The advent of multinationals which scatter African countries are worthy of mention. What appears to be trade between countries (ie. African and foreign countries) is in effect intrafirm transactions or part of a network of trade between multinational corporate enterprises. A substantial volume of trade is transacted in this way with the countries not getting full value for their produce. With indigenization going on in many countries, Africans are getting stronger participation in these transactions today.

2:3:4. Role of Economic Groupings.

Various organizations and institutions have been set up by different bodies, to find solutions to and rectify the trade disparity currently infavourable to Africa; all seem to agree on some basic problems with probably different solutions; but their impact hasn't

been fully felt in real terms. These organizations range from the United Nations outfits like U.N.C.T.A.D. (United Nations conference on trade and development) to African continental and regional concerns like the E.C.A. (Economic Commission for Africa) and E.C.O.W.A.S. (Economic Commission for West-African States). Attempts have been made to lesson trade regulations and tariffs between countries and to facilitate them with easier credit facilities. The African Import-Export Bank set up by the African Development Bank (A.D.B) and the West African clearing house (W.A.C.H.) are examples of this attempts.

Most of these economic groupings however usually have political undertones and lack total sincerity and commitment to see their laudible proposals operational. A resolution to face the crucial issues at stake rather than selfish proposals will see these groupings realising their goals.

2:3:5 The Stock and Commodity Exchange Markets.

These two secondary markets have been widely developed in foreign economies, but are only beginning to emerge in African countries. They are both institutions necessary in the economic framework of every - country to facilitate trade and commercial endeavours both locally and internationally.

The stock exchange forms part of the capital market and its major function is - "to mobilise and allocate a country's limited resources amongst numerous competing alternative uses" - quoting Alile H.I, the Director General of the Nigerian Stock Exchange.[5] It raises finance to assist companies and economic enterprises to expand and modernise. It functions hand in hand with the private sector especially development Banks in providing management, technical and market services to corporate clients.

The commodity exchange market is yet to gain prominence in the economies of most African countries. "No machinery has been set up to develop a patterned growth of commodity trading; none to collate information of commodity utilization and conceptions of scarcity are at best a guess" - in the words of Okpomphwu, I. of the Financial Post.[6] The commodity exchange market has been described as the industrial underbelly of African economies and as the key to sustained economic life. Economists and captains of industry have called for the belting up a market like this in Nigeria, but the modalities are still being worked out. Such a market already exists in many foreign countries and has helped organise trade and markets of export commodities.

The significance of the stock and commodity exchange markets in seeing sound economic development for would-be industrialised countries cannot be overemphasized. African economies have been facing problems for decades since independences because they are not operating within the realities of the present and because they lack the capital and infrastructure to develop latent resources and rekindle latent economic ventures.

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THE SEARCH FOR AFRICAN IDENTITY FOR CORPORATE BUILDINGS...



...COMMODITY EXCHANGE MARKET, ABUJA.

THE OPTIMISM SPRINGING FROM NEW POLITICAL INITIATIVES IN SOME AFRICAN COUNTRIES HAS, UNFORTUNATELY, NOT BEEN MATCHED BY BRIGHTENING ECONOMIC PROSPECTS. A DYNAMIC SELF-REGULATED COMMODITIES EXCHANGE MARKET COULD CHANGE THE WHOLE ECONOMIC STRUCTURE OF AFRICAN ECONOMIES."

C.A. UDOH (Jan. 1988).

## SECTION B: FEASIBILITY

### 3:0. MODALITIES FOR THE COMMODITY EXCHANGE MARKET

### 3:1. PREMISE

The relevance of a commodity exchange market in the framework of modern economies has already been established in the previous chapter. It has been described by the Nigerian Institute for International Trade as the "industrial underbelly" of developing economies. The Institute further highlights that "if the farmer and producer of commodities have to swim or sink in the market, then it is time to give thought to properly organising the market such that information is more cheaply available and trading better regulated. Such a commodities exchange should stimulate production that will make the local sourcing of our industrial raw material needs possible and increase exports of agricultural raw materials, breaking the monocultural base and independence on fossil fuels for foreign exchange earnings."[1]

A commodities exchange market will thus stabilize the process of identifying who wants to purchase what quantity of what; industry projections potential sources and their counters will be exposed so that income can be meaningfully projected to reduce the level of uncertainty and encourage

investment in agriculture.

The emergence of such a market could mean the scrapping of the highly critisized commodity boards in Nigeria. Their functions have been highly monopolistic and their operations far from well organised. The present system whereby the various commodity boards offer prices to the farmers, purchase all the commodities and then sell at higher prices without regards to a reasonable return to the farmers is the very cause of low agricultural productivity.

Today, Nigeria has massive industrial projects, that as a matter of survival must utilise local agricultural products. Therefore, the nation needs a system where farmers will have the possibility of concentrating on production alone, instead of the current system where farmers are both producers and speculators. An organised market in which the government has a price support mechanism is ideal for farmers and cooperatives since it shifts the agricultural risks away from them. This in turn will increase production because financial institutions will be more willing to make investments in the agricultural sector.

To achieve the ultimate goal of an enlightened, structured and organised free market for agricultural goods, public information campaign is of primary

importance.[2] This is to forestall some of the misgivings that have characterized the operations of the stock exchange; and to cut out a relevant image to ensure the wide and efficient clientele necessary to make the market flourish both locally and internationally.

3:1:1 Setting Objectives for the Market.

The major objective is to create a trading information framework through which commodity producers and consumers or their agents can interact to promote marketing distribution of agricultural commodities. Other objectives will however include:

(i) Reducing seasonal price fluctuations in the agricultural produce sector, thereby forstering price stability.

(ii) Motivate farmers through the reduction of marketing risks. The farmer's income and security is protected by price support mechanism through the government or financial institutions.

(iii) To harmonise and stabilize prices of agricultural commodities in Nigeria and the African Region to favourably compete with other identical commodities.

(iv) To satisfy agro-based local industries whose produce will ultimately compete favourably with foreign goods and induce development in the industrial sector.

(v) To facilitate export and lure foreign exchange holders into commerce.

These objectives are contained in a bulletin of the Nigerian Institute for International Trade). Ideally, the implementation of these objectives will necessitate the close functioning of this market with other corporate bodies especially credit providing and risk covering ones. A facility for the market might thus require the provision of speculative leasable offices spaces for banks, insurance companies, advert agencies and other trade related agencies.

3:2: Nature of the Market.

The exchange market is a mechanism for more effective dissemination of information on the demand and supply of commodities traded. The commodities market is modelled like the Nigerian Stock Exchange; the four main participants are:

(i) The Farmers

(ii) The Brokers

(iii) The Government/Financial Institutions.

(iv) The Industrialist.

KASHIM IBRAHIM LIBRARY
AHMADU BELLO UNIVERSITY
ZARIA, NIGERIA.

The law(s) guiding the creation and maintainance of the market should be made by government. The regulatory or operational rules will be worked out by the Director General and a team of exports. The enforcement of this regulation will be the combined duty of the operative legal system and the commodities market administrative headquarters.

The framework is basically the establishment of a comprehensive system of regulation within a statutory framework based so far as possible on self regulation subject to government surveillance. - See Fig 3.1.

3:2:1 Administration:

The Exchange is governed by the Governing Council which has its Chairman and Directors. They are responsible for policy making. But the Chief Executive of the exchange is its Director-General and oversees day to day affairs of the exchange. Under him is the General Manager who coordinates the three arms of the exchange namely: Export, ECOWAS and Domestic. Each of the arms is headed by Assistant General Managers. (See Fig 3.2).

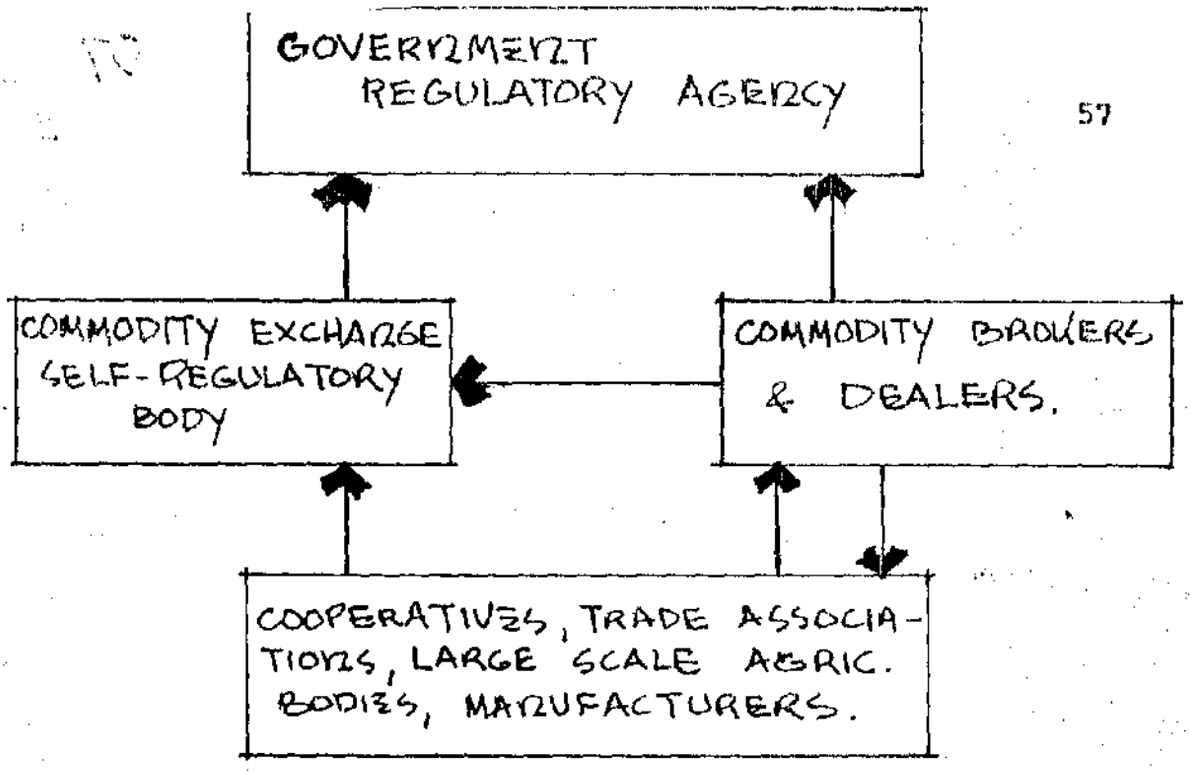



FIGURE 3:1 – FRAMEWORK OF THE ESTABLISHMENT OF A COMPREHENSIVE SYSTEM OF REGULATION FOR THE COMMODITY EXCHANGE MARKET.

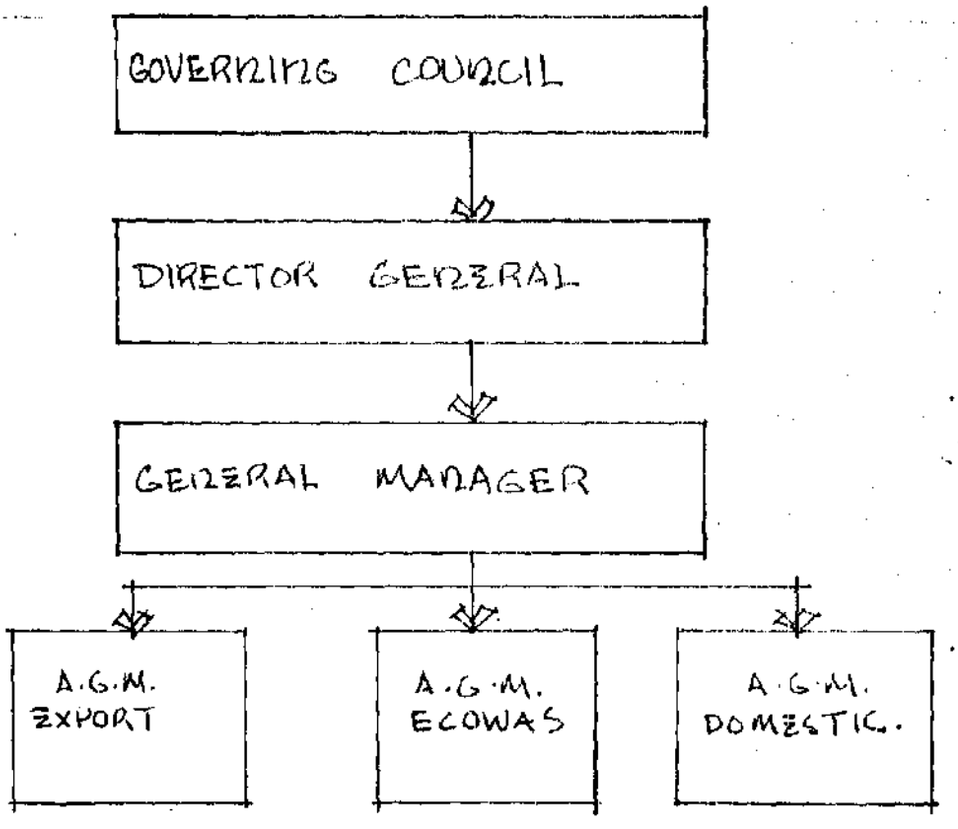



FIGURE 3:2 – ORGANISATIONAL FORMAT OF TOP ADMINISTRATIVE MACHINERY (SOURCE: NIGERIAN INSTITUTE FO INTERNATIONAL TRADE).

The responsibilities of the administration include:

(i) Handling policies, government and inter-government relationships and handling relationships with the other foreign markets.

(ii) Handling and controlling export market and participants.

(iii) Working out Ecowas unity market and attracting Ecowas business.

(iv) Managing all tones and stratifications of trade marketing and enforcing regulations.

The criteria for locating facilities of the exchange market should depend on such factors as volume potential of transactions, reasonable spacing of stratifications; proximity to producing areas and sometimes, proximity to borders and ports to attract neighbouring countries into participating in the market.

These are also contained in the bulletin by the Nigerian Institute for International Trade and it suggests Abuja for the International Commodity Exchange Market and Lagos, Ibadan, Portharcout, Aba, Kaduna and Kano for local ones).

3:2:2. Membership:

There will be two types of membership of the exchange, namely the Non-Dealing members which include foundation Members (these are members who sign the Memorandum of Association of the exchange when the Commodities exchange to incorporated under Chapter 37 of the Nigerian Companies act) who take up specified number of shares in the establishment and ordinary Members (these are those other than the foundation members who by application are admitted to the membership of the Exchange). The Dealing members which include individual persons, firms or corporate bodies licenced by the council of the Exchange to deal in authorised commodities.

3:2:3 Activities:

The following activities are the ones studied when approaching marketing from the functional classification:

| | | |
|---|---|---|
| Handling | Storing | Advertising |
| Delivery | Selling | Promotion |
| Transportation | Research | Financing. |

These functions are not mutually exclusive. The commodities market is an organised market in which commodities are bought or sold either on the spot

market or in the future market-with the commodities not necessarily physically exchanged, that is only rights to ownership need be. The owners are not as well physically present as buying and selling are done by licensed agents (Commodity Brokers and Jobbers) who are the only ones permitted to deal on the floor of the Exchange.

The Commodities Exchange Market is public in nature. All price changes are fully publicised through newspapers and other media; just like every trade on the London Commodity Exchange and various Commodity Exchanges in America are made at open outcry on the exchange floors and are immediately made known to all interested parties through stickers and posting on brokerage firms' quotation boards.

The idea of this type of specialised market has been going on since 18th century in Europe, North America and South-East Asia. Thus the practice is not something new; however, it must reflect the inherent basic socio-economic structures of each policy. In Britain, the commodity markets developed in response to the industrial revolution of the 19th century. Fluctuations in the prices of Raw Materials as a result of expansion in domestic and international trade in the finished manufactured goods thus manufactured desired to build their stocks in

ancticipation of increasing demand for their products. The impetus is not different in the United States of America. However, In Nigeria and indeed Africa as a whole, the situation is not that of demand, but that of supply.

3:3. Streamlining For the African Trade Community

In order to develop an appropriate brief for the Commodity Exchange Market in mind, the commodity exchange market proposed by the Nigerian Government is to be streamlined and complemented with other supporting facilities. This is to ensure maximum utilization on the African pedestal.... to cater for the size of the market in the year 2,000 A.D. and beyond.

CLIENT/SPONSOR:

The Nigerian government, private entrepreneurs and corporate bodies in collaboration with the Economic Commission for Africa.

OCCUPANCY:

Multitenant, Representatives of the African and World trade community including importers, exporters, brokers and Bankers. Nigerian and Foreign trade agencies; Private firms and organisations.

LOCATION:

Central Area Abuja, Federal Capital City of Nigeria; The geographical centrality of Abuja to other African cities is a major advantage.

FUNCTIONAL UNITS.

EXCHANGE MARKET

(i) Exchange floors - Call over Rooms.

(ii) Brokers/Members Lobbies + Lounge + Rest Rooms.

(iii) Council Chamber

(iv) Bureau de Change.

(v) Telexes/Telephones and Computer Facilities.

ADMINISTRATIVE COMPLEX

(i) Exchange Administrative Offices.

(ii) Speculative Office Spaces.

(iii) Maintainance and Services

(iv) Storage/Archives.

(v) Restrooms, Executive Lounges.

SUPPORTING FACILITIES

(i) Restaurant(s) and Coffee Bars.

(ii) Shopping arcade

(iii) Library

(iv) Exhibition Space.

(v) Business Centre

(vi) Reception Lounge + Rest Rooms.

CONFERENCE FACILITIES.

(i) Conference Foyer + Rest Rooms

(ii) V. I. P. Lounge

(iii) Press Facilities

(iv) Interpreter's booths

(v) Conference Hall (Plenary)

(vi) Committee Rooms/Banquet

Figure 3:3. Explains the possible functional disposition of these units. This brief proposal gives an insight into the user's requirements. As can be seen, the exchange market is essentially a multipurpose business and trading facility. Case studies of the like facilities will thus be made in the next chapter.

3:3:1 Administrative Framework.

The functions of the administrative staff of the market will hence be overseeing the running of the composite units as well as the primary responsibilities to the Commodity Exchange Market. Its functions are thus:

(i) Regulation and overseeing exchange market activities.

(ii) Overseeing and organising Conferences of trade and related manner.

(iii) Leasing-out and maintainance of speculative offices.

(iv) Administration of supporting facilities.

(v) Generation of funds for market operations from leases, sales or otherwise.

An organisation format of the administrative machinery of the exchange market is shown in Figure 3:4. This is worked out based on the requirements of the Nigerian Commodity Exchange Market and case studies of relevant organisational charts like that of the Nigerian Export Promotion Council (N.E.P.C.) in Apapa, LAGOS. It shows the governing council as the board of directors of the market with the Director General as its Chief Executive Officer. 3 major Departments, each headed by an Assistant General Manager are to be provided for: Export Production and Marketing; Research and publications and Finance and Adminstration. A hierarchy of staff thus exist ranging from the executives to the senior staff and then intermediate and junior staff.

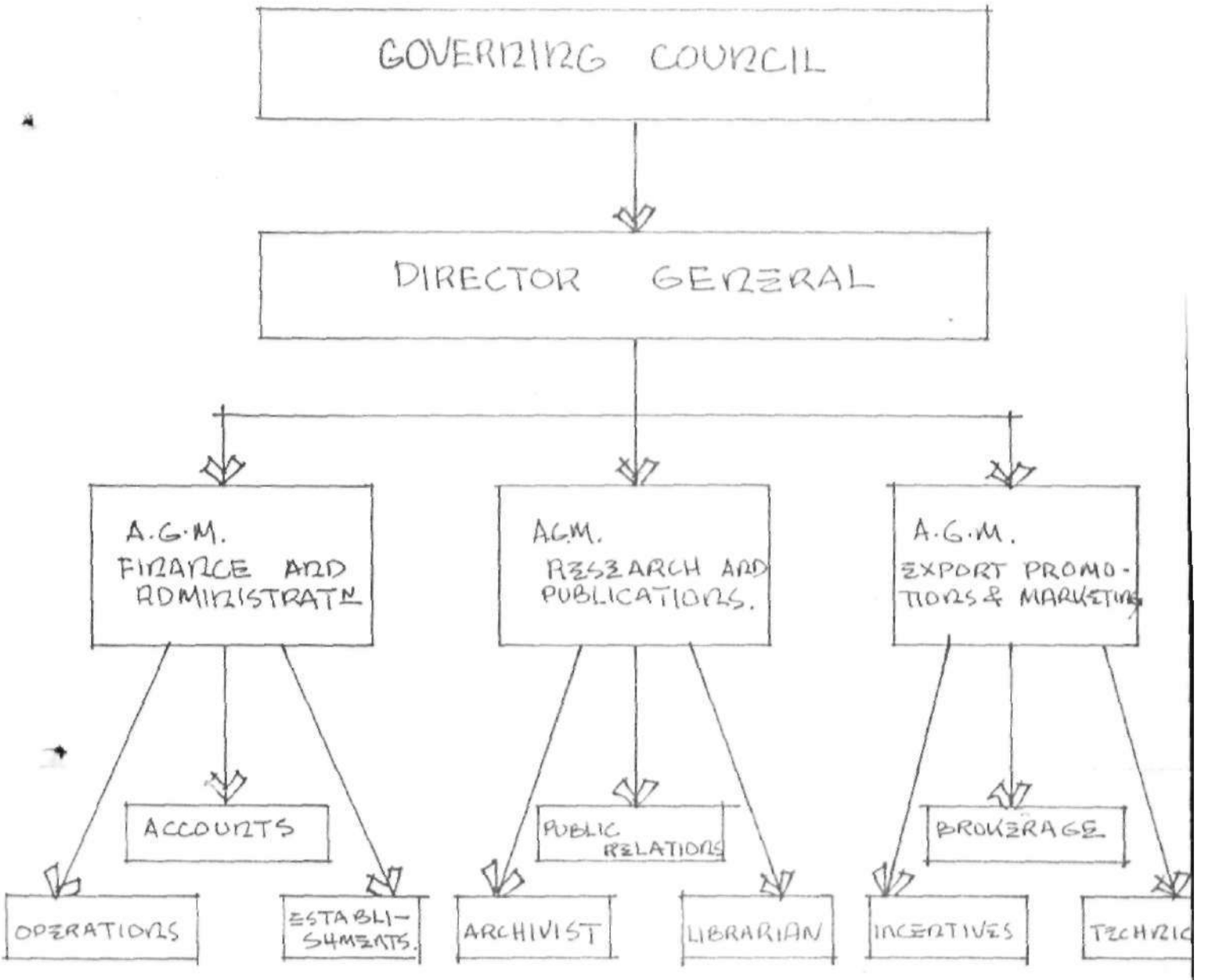



FIG. 3.4 — STREAMLINED ORGANISATIONAL FORMAT FOR THE COMMODITY EXCHANGE MARKET — TOP ADMINISTRATIVE MACHINERY.

Due to the peculiar nature of this thesis in that it is not 'life project', the designer will attempt to make the proposal as flexible as possible. Spaces that can easily be converted for different purposes is desirable. Expandibility is also desirable as economic trend could change necessitating a larger facility. For these reasons, it can be assumed that phase one of the project is the one to be designed.

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THE SEARCH FOR AFRICAN IDENTITY FOR CORPORATE BUILDINGS...



...COMMODITY EXCHANGE MARKET, ABUJA.

MOST EMPLOYEES IN ADVANCED ECONOMIES WORK IN OFFICES. OFFICE WORK PRIMARILY INVOLVES HANDLING INFORMATION AND MAKING DECISIONS BASED ON SUCH INFORMATION. THIS DEFINITION HIDES ENORMOUS VARIATIONS IN SIZE OF OFFICE ORGANISATIONS, OFFICE TECHNOLOGY AND STYLE OF MANAGEMENT...

ERST NEUFERT (1973)

CHAPTER FOUR.

# 4.0 CASE STUDIES

## 4.1 The Exchange Market Phenomenon

Exchange markets are not new in the municipal framework of societies. Markets in precolonial Africa and indeed today are essentially commodity exchange centres. They are also centres for social intercourse and dissemination of ideas. They laid commercial base for towns and cities springing up. The Agora of the typical city in Ancient Greece was also a trade mart in the heart of the business district. Roman Fora as far back as A.D. 110 also served the purpose of exchange markets. The typical Arabian souk of the middle ages have also witnessed more formal trade activities with development.[1]

In the choice of case studies for this thesis, the designer has limited himself to two categories of projects. Those that are believed to serve the same kind of functions as the Abuja facility will posses and those that offer rich possibilities for regional identification. What constitutes the identity each project has will be sought and the background for this will be explored.

## 4.2 Trade Fair Complex, Badagry, Lagos

Background:

Designed by the Modulor Group in collaboration with foreign partners, the Trade Fair complex was ø

established and funded by the Nigerian Government to host international trade fairs and promote trade related activities. A large and fully constituted complex, it became operational in 1978 and has since then hosted over 15 international trade fairs.

Layout: Located along the Lagos-Badagry expressway, a Ring Road circles the complex. A regulated ingress leads to a multipurpose plaza around which offices, conference facilities, halls restaurants and a shopping complex are situated. A trade fair ground complete with spectators' stand adjoins the access building, Paved green areas lead one to the Exhibition halls of various capacities. Parking spaces as well as information and security booths are located at other access routes. A hotel for delegates and participants at trade fairs and conferences is located along with guest chalets outside the Ring Road.

Large open spaces for the erection of pavillons are abound. Wide walkways link exhibition spaces on two level easing circulation around the complex. They are linked to external and internal staircases and they also serve as vantage observation galleries during exhibitions.

Facilities:

(i) Exhibition: 12 exhibition halls of different capacities as well as purpose made (privately erected) exhibition pavillons are found within the complex. A multipurpose plaza integrated within the entrance building serves as a changing gallery for periodical exhibitions. They exhibition spaces as well as temporarily erected pavillous all become alive during trade fairs.

(ii) Conference: 2 conference halls are housed within the access building. Modern facilities including simultaneous interpreters' system (S.I.S) are employed to equip them. A well equipped business centre which can also serve for conference is also available.

(iii) Shopping: A shopping mart is located on the ground and first floors of the access building. It is leased out to various trading concerns to sell items ranging from books and cosmetics to machinery and other hardware.

(iv) Restaurants: 3 different restaurants are found within the complex. Each one is run by different caterers hence each one has its own speciality.

(v) Office spaces: Lettable office spaces are also available for lease in the complex. The Nigerian Tourist Board has taken up a huge part of the office space available.

(vi) Others: The fair ground, the hotel, the guest chalets as well as information, telephone and security booths make up the remaining facilities in the complex. These facilities are hardly utilized unless there is a major trade fair taking place.

Construction: prefabricated components are used extensively in the design and construction of buildings in this complex. Modules of various geometric shapes (polygons mostly) are arranged in an effective and pleasant manner. One very interesting feature of the design is the waffle grid flooring system. The modules are circular edged triangles and form ribs carrying loads to the circular colums. This is very innovative and gave possibilities to wide spans with only glass partitions for most spaces.

The sunshading devices are also innovative and effective as they pleasantly characterize the facade's of the buildings of the complex. The changes in axes complemented by elements in the interior like the triangular flower beds add aesthetics to the overall quality of construction.

Design Appraisal: the diverse facilities in the complex and this manner in which they are integrated suggest design success in thur project. The utilizat

of the complex has however been an area of concern. This is basically low primarily because of its location far from the financial nerve centre of Lagos. It only comesalive during major trade fairs and practically abandoned the rest of the time.

Site organisation and circulation is commendable as well as the unusually interesting design components. Maintainance of the complex has also been a major problem as technical know-how and materials to repair or replace components are not easily available within the country. Makeshift attempts have been made in maintaining the complex leaving obvious signs of juxtaposition.

Material utilization and form composition in the design of the complex are basically foreign leaving the complex without regional identity. No atrempt was made to merge the complex with its environment. The international approach at designing the complex is a major flaw in the buildings, else it is a laudable design worthy of note.

4.3. The Kenyatta Conference Centre, Nairobi, Kenya

Architects: Karl Henrik Nosvik.

Client: The government of the Republic of Kenya.

Location: The conference centre is set in an open area of nearly a quarter of a square mile in the very heart of Nairobi.

Background: The Kenyatta conference centre became operational in July 1973 and since then over 216 international conferences have been held there. It highly functional hence has been well utilized. is/set on an open area of nearly a quarter of a square mile in the very heart of Nairobi.

Layout and Facilities: The centre itself consists of an extremely large planary hall to the East, a striking beautiful amphitheatre to the west and a twenty six story administrative tower mounted in between. On the twenty-six floor of the cylinderical tower is a revolving restaurant from which panoramic views of Nairobi can be appreciated.

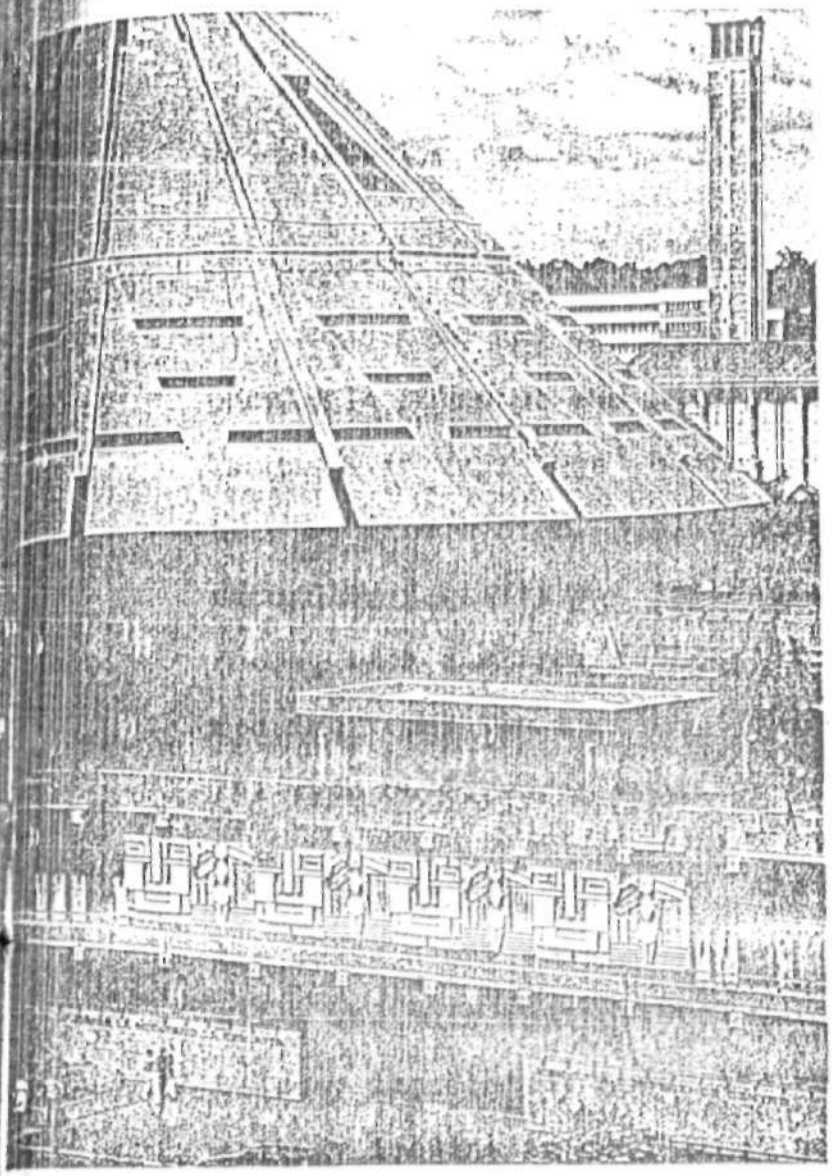
Plenary Hall: Facilities include complete sound amplification and recording systems, interpretation booths with simultaneous interpretation by wirelers system in up to seven languages and two observation galleries.

The total floor area is 26,000 $ft^2$ which may be furnished to the hirer's requirements. Seating alone can accomodate four thousand delegates, or up to three thousand with tables. Banquets can serve two thousand, five hundred people, while cocktail parties may host up to five thousand people. The hall also functions for exhibitions.

A Tower Block: The Tower block has multipurpose office spaces for lease in its majestic twenty-six floors. Banking facilities, post services, travel agencies, insurance companies and the like are represented. These offices spaces are open and can be partitioned to suite various office accomodation.

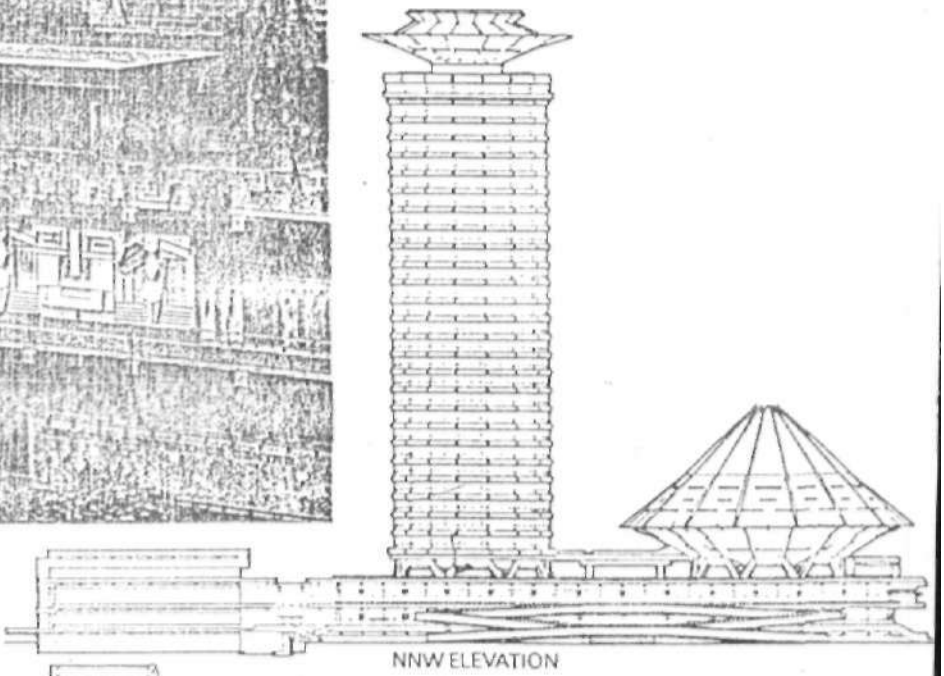
Design: The Kenyatta conference centre has been described as one of the most practical complexes of its kind in the world. It has achieved some sort of African Identity in the symbol of use play. The conical African roof has been styled for the amphitheatre. A juxtaposition of slots and louvres on this mushroom-shapped edifice enhances its aesthetic qualities. The cylindrical office tower is clearly visible on the skyline of Nairobi. It is dramatically rooftopped by the inverted-cone shaped revolving restaurant. The third building consists of the L shaped podivin as base.

One of the major problems with this kind of design, being circulation has been solved using different levels. The two main entrances are located in the podium on opposite sides and are linked by the reception hall. There is access to the offices and restaurant via staircases and lifts; or to various meeting rooms located under the plenary hall or to the amphitheatre through walkways and staircases. The roof concourse also links the tower to the amphitheatre.



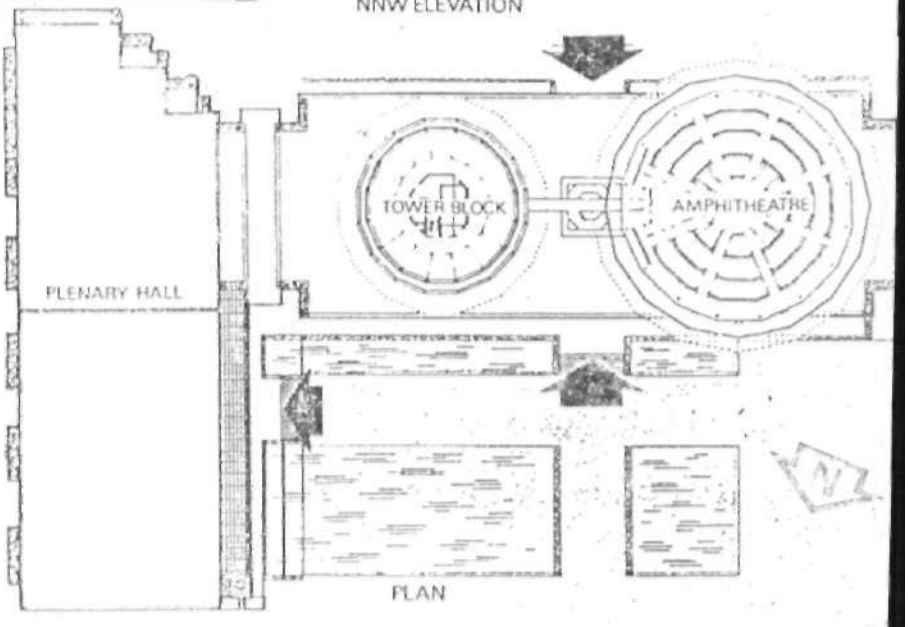
*Left: The South-East entrance, with the covered walkway to the Amphitheatre in the background.*

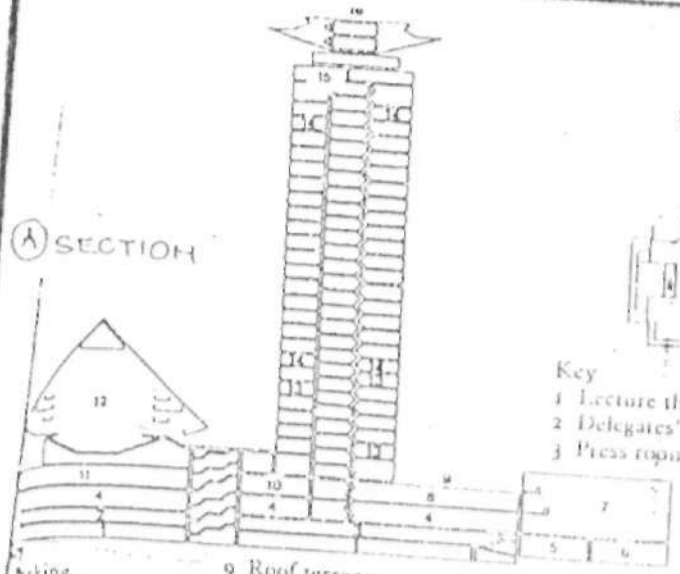
*Below: Condensed Elevation & Plan.*




*Below: The Central siting of the KCC.*



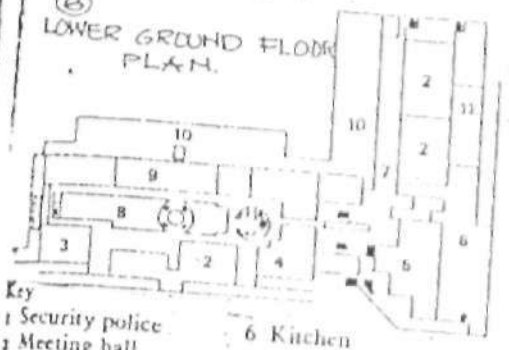




Ⓐ SECTION

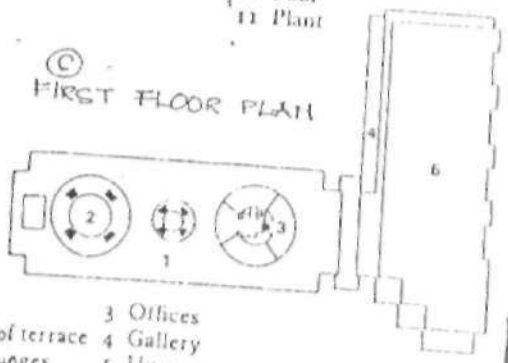
Parking
Documentation
Procurement
Entrance hall
Lounge
Meeting room
Plenary session hall
Press room
Roof terrace
Lecture theatre
Delegates' lounge
Amphitheatre
Offices and
Committee rooms
Revolving restaurant
Helicopter landing pad

Ⓑ LOWER GROUND FLOOR PLAN.



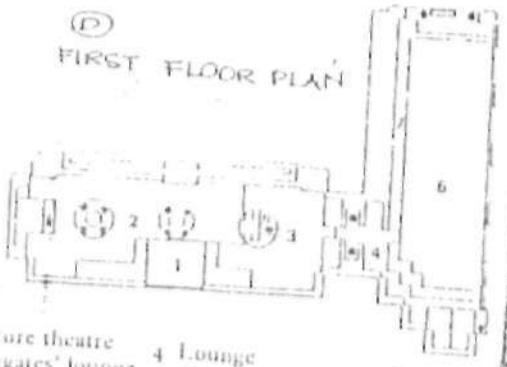
Key
1 Security police
2 Meeting hall
3 Telephone exchange
4 Personnel
5 Cafeteria
6 Kitchen
7 Lounge
8 Procurement
9 Documentation
10 Pool
11 Plant

Ⓒ FIRST FLOOR PLAN



Key
Roof terrace
Lounges
3 Offices
4 Gallery
5 Upper part of session hall

Ⓓ FIRST FLOOR PLAN



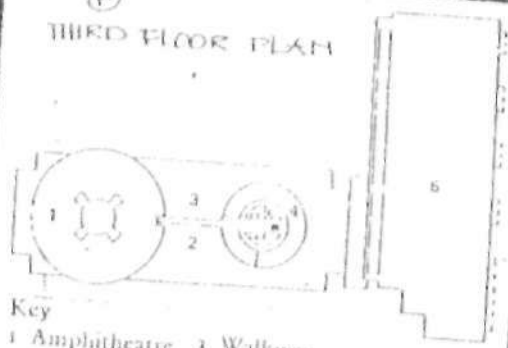
Key
1 Lecture theatre
2 Delegates' lounge
3 Press room
4 Lounge
5 Upper part of session hall
6 Interpreters
7 Gallery

Ⓔ GROUND FLOOR PLAN



Key
1 Entrance
2 Hall
3 Plenary session hall
4 Bank and post office
5 Pool
6 Registration
7 Document distribution

Ⓕ THIRD FLOOR PLAN



Key
1 Amphitheatre
2 Roof terrace
3 Walkway
4 Offices
5 Plenary session hall roof

KENYATTA CONFERENCE CENTRE.
NAIROBI – KENYA.

Appraisal: A very successful design by most standards. Very elaborate with maximum respect for flexibility and circulation. The revolving restaurant and the African style conical roof of the amphitheatre are very innovative. The location of the centre is also excellent enhancing its utilization on a daily basis.

4.4 The World Trade Centre, New York, U.S.A.

Architects: Minoru Yamasaki and associates (Troy Michigan) and Emory Roth and sons (New York) as associate architects.

Client: Port Authority of New York and New Jersey.

Location:Lower Manhattan, bounded on the west by West street and Hudson River: as the South by Liberty street, on the east by church street; on the north by Barclay and Vesey street.

Background: Built at a total cost of ₡900,000,000 (nine-hundred million dollars), the world Trade centre is the result of delibrations by a world trade corporation set up in 1946 to see the feasibility of an international trade market place in New York. Its professed purpose is to serve as an international centre for financial, commercial and governmental organisations concerned with world trade. It also centralises trade information agencies in the port-area as well as stimulate the entry of new companies

into world trade. It was hoped that it would strengthen the economy of the city as well as add prestige and lustre to the whole metropolitan area.[2]

Occupancy: Multi-tenant; representatives of the world trade community including exporters, importers, freight forwarders, costom house brokers, international bankers, U.S. and foreign trade agencies. Full occupancy, 800 tenant firms and organisations.

Layout: A five-acre plaza is flanked by two 110-storey North and South Towers: each 1,350 ft high and 40,000 square feet total floor area. The north- and south-East plaza buildings are each 9 storeys high including concourse level. The U.S. costoms offices occupies an 8-storey building on the Northern part of the plot. A total plot size of 16 acres, the World Trade Centre is accessible via subways, buslines and vehicular roadways. Intra-building transportation consists of 25 express and local elevators and skylobbies. It has a total office area of 9,000,000 square feet with average daily population of 50,000 employees and 80,000 daily visitors.

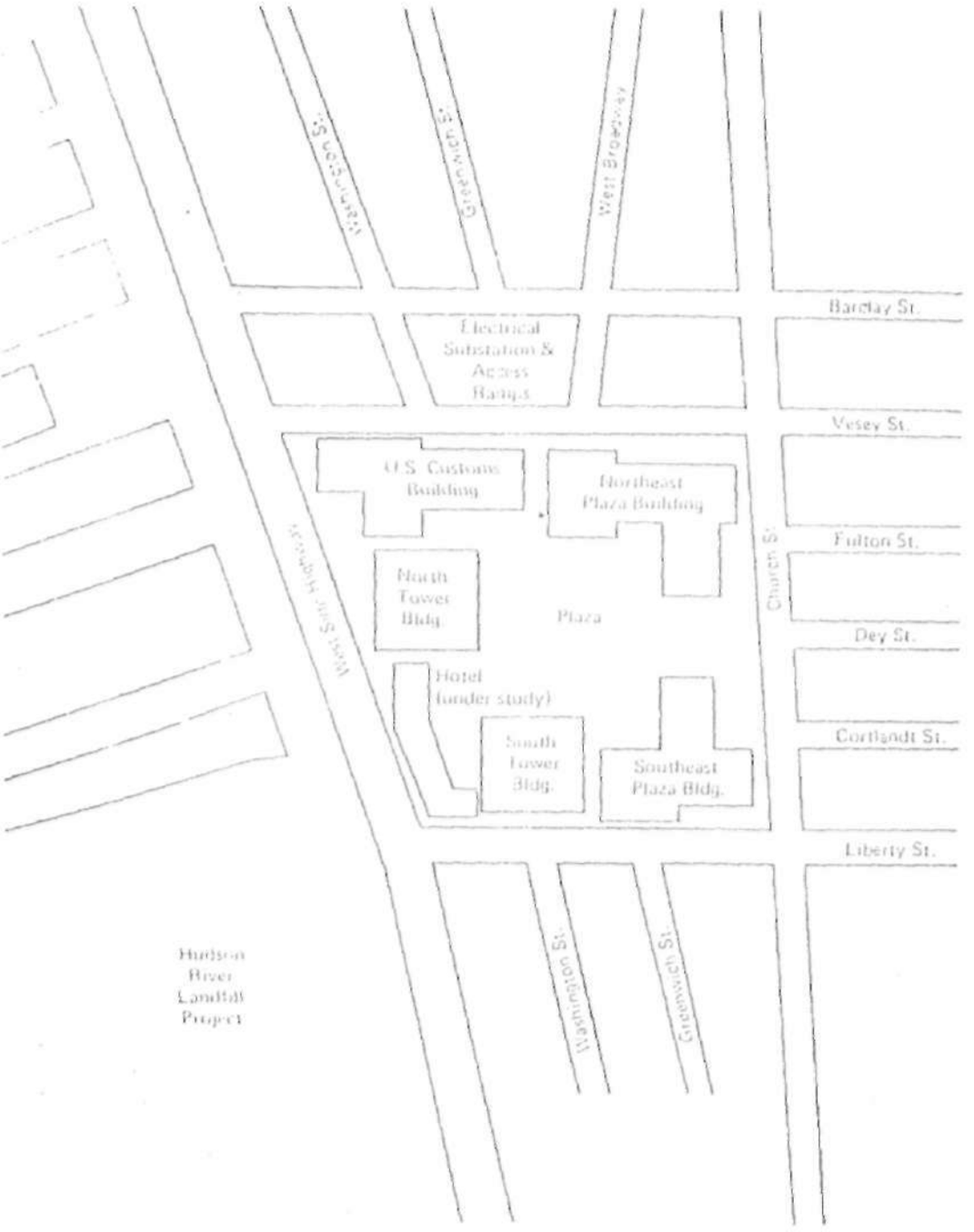
Facilities: The office spaces in the centre are divided into different categories each complementing the other. These include a 72 storey trade mart, a 30 storey world commerce exchange, a 20 storey trade

trade centre gateway and a 8 storey securities exchange. An internal pedestrian concourse for shops and commerce is accessible from the five acre plaza. Parking space for 1,600 vehicles is provided for. A hotel space is also provided for to generate funds and further complement the existing facilities.

Flexibility and Efficiency: Column free floor spaces of the World Trade Centre Tower Buildings provide utmost flexibility and efficiency. Easy space layout regardless of office size. Conference Rooms, private office, reception and open areas can be placed in the most efficient locations without obstructions. An example of the New York cotton exchange, the coffee and sugar exchange and mercantile exchange sharing a single trading floor in the new ultra-modern south-east plaza building without problems of partioning is commendable. Clearing facilities, lounges, meeting roomes and an integrated computer communication system are available to add efficiency to the centre.

Design Appraisal: Two renown critics hold separate views of this centre. Von Eckardt in Los Angeles Time: "this ensemble (lower manhattan skyline) will be rudely disrupted by Yamasakis' double intruders which are straight and stark and simply sanked off at the top. They will stick out like unspeakable slabs dominating everything within 30 miles radius".[2]

Site plan, The World Trade Center



Ann Holms of the Housten Chironicle: "A stunning creation - its soaring metallic structures are clean but not sterile, its plaza at the base are surrounded by buildings and galleries reminiscent of classical architecture in Italy"[2].

Shortcomings, there are definitely in the rigid, but elegant disposition of the twin towers, but the design objectives were certainly achieved. Facilities are excellently provided, utilization has been a tremendous success while circulation and services within the centre have been problem-free. "A project that will be noticed and identifiable throughout the world" is the laid down design criteria by the clients and this has been achieved beyond doubt. It typifies the idea of a skyscrapper as a product of competitive economy; it allows the city to gather in a central core with a massive amount of space organized and equipped for work.

## 4.5 European Free Trade Association Headquarters (E.F.T.A.), Switzerland

Client and Users: The European Free Trade Association.

Location: Geneva, Switzerland.

Layout: The nine storey headquarters building for the E.F.T.A. is situated near the place desnations, Geneva, a site made available FIPOI, a foundation responsible for housing international associations with headquarters in the city. Designed to accomodate

a staff of 500; the project consists of a total floor area of 9000m$^2$ out of which 6,500m$^2$ are of offices, 450m$^2$ for the storage of records and 2300m$^2$ of conference rooms and hall areas.

Accomodation per floors: 2nd floor basement: services and air raid shelter.
1st floor basement: services and parking spaces for 70.
Ground floor: Reception hall, coffee bar and conference rooms.
Mezzanine level: exhibition gallery, interpreters and press offices.
1st to 6th floor: offices
7th floor: staff club, porters flat, services.

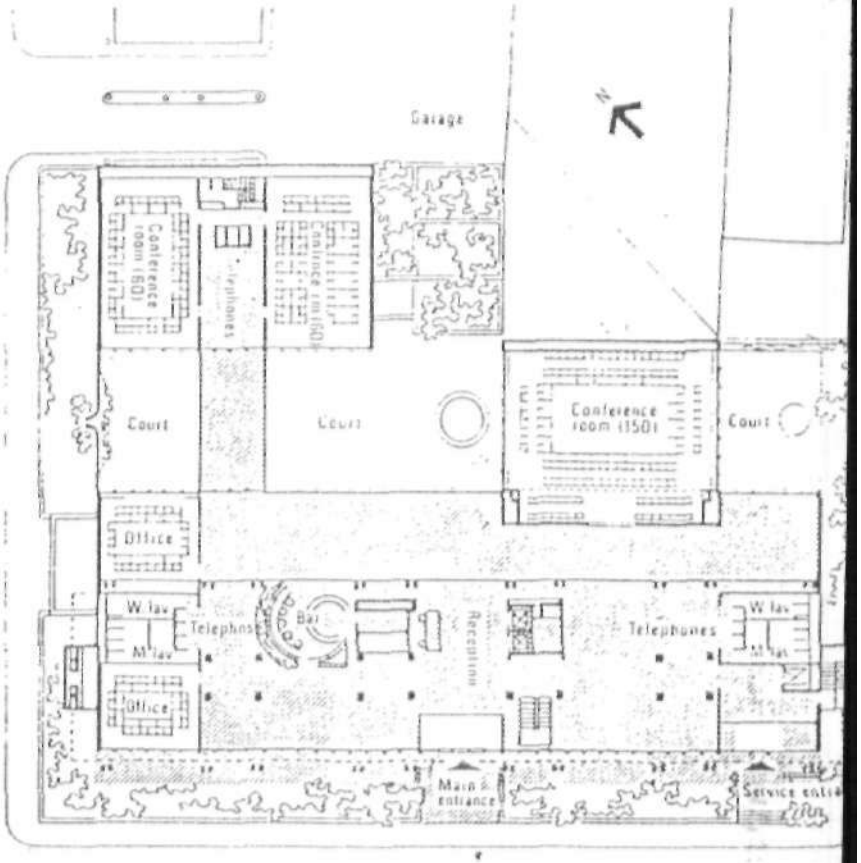
Design and Construction: Construction consist of reinforced concrete columns forming double free standing portal frames, which pass into the roof top services area.

Lateral stability is achieved by placing of the escape stair tower and the flue tower structure at the ends of the elongated structure. The facades consist of aluminium framed curtain wall with anodised panels. Pivot windows are used throughout and at ground level, the large areas of glazing feature light and heat absorbing glass. Besides main escape stairs, two eight-person lifts and a document conveyor serve all floors.

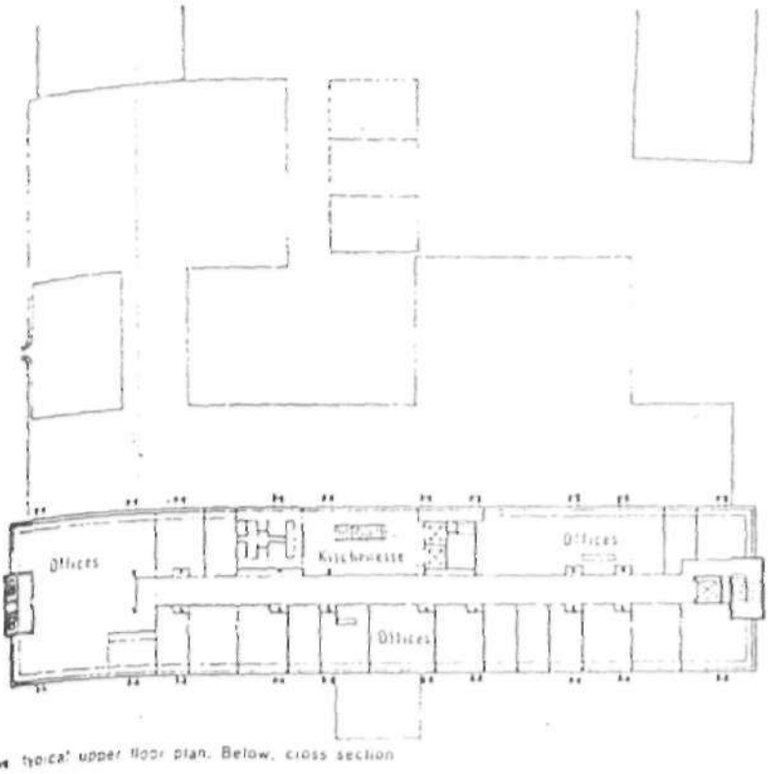
GENERAL VIEW



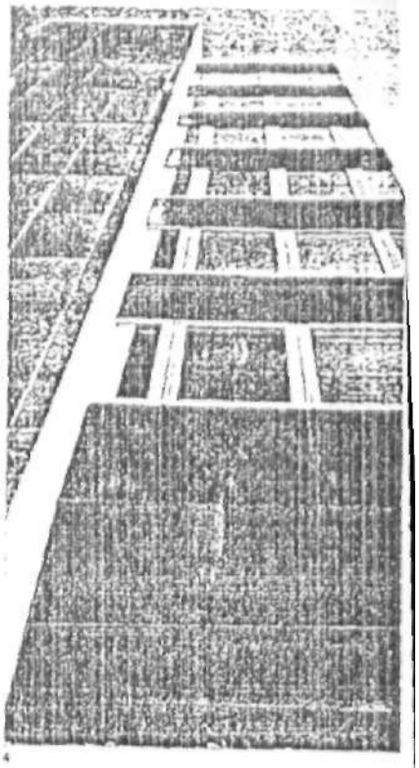
GROUND FLOOR PLAN.




1 General view of the EFTA headquarters seen from the UIT building. To the left are the conference rooms with their internal courtyards
2 Part of the entrance façade of the building
3 Detail of a Val Calanca clad granite wall in one of the interior courts
4 Detail of an end façade
5 View of one of the granite paved interior courtyards.

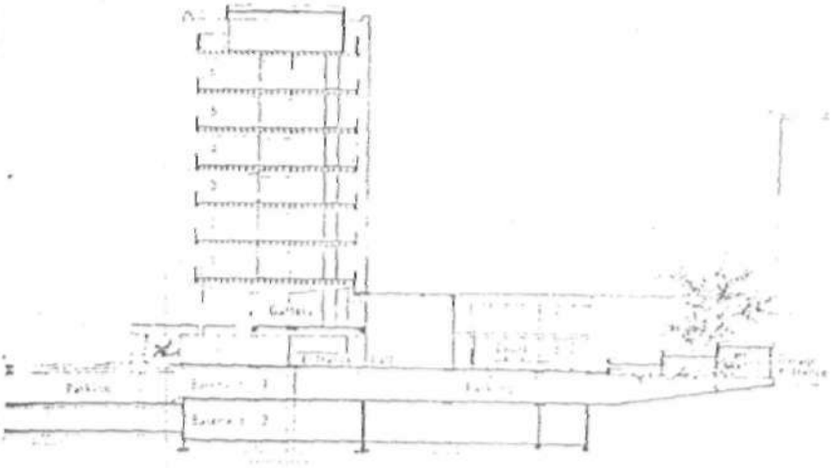



Above: typical upper floor plan. Below, cross section



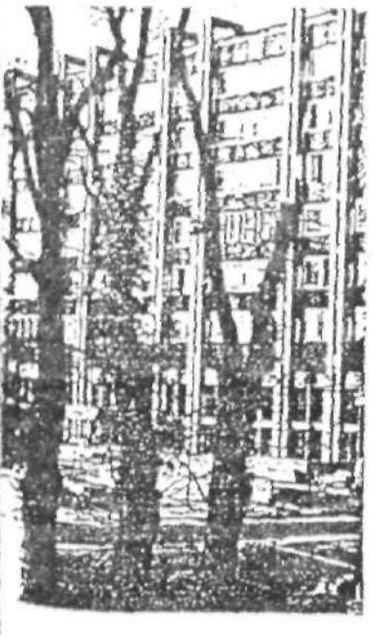
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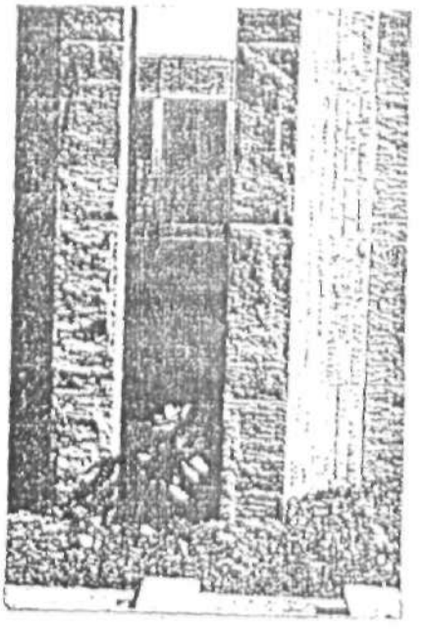
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3







6

The planning of the conference rooms around courtyards prevents delegates from being disturbed by noise and other distractions.

Appraisal: The clear definition of the complex deserves some applause. Separation of the conference areas and the office areas is commendable. The ingress and egress has been well design to facilitate some socio-cultural interaction.

The composition of building however lacks coherence and unique character. Almost no attempt was made at expressing purpose of the building or identity of its users. Landscapping can also be enhanced to bring the building closer to earth.

4.6 The Putra World Trade Centre, Malaysia

Background: The Putra World Trade centre is south-east Asia premier convention centre. Named after Malaysia's first Prime Minister, Tunku Abdul Rahman Putra Al-Haj, this ultra-modern integrated business facility houses the headquarters of the United Malay National Organisation (U.M.N.O.), the largest component party in the ruling coalition government. Its first major convention was the Pata conference in April 1986 and has since then hosted a number of internation conventions.

Facilities: The centre consists of a 41-storey Menara Daluk Onn tower bblock, the Dewan merdeka, a

plenary hall which can seat 3,500 people, the Dewan Tun Razack exhibition centre, two large conference halls known as Dewan Tun Hussein and Dewan Tun Ismail, 13 meeting rooms, meeting areas, shopping arcade, restaurants, bank and guest lounges. Hence the centre has a wide range of sophisticated facilities for conventions, exhibition and other commercial functions. Located next to it is the 600 room Pan-Pacific Hotel.

Appraisal: This elaborate design is a commendable attempt by a developing country at providing premises that will enhance trade and related endeavours which could ultimately have multiplier effect on the economy.

Latest technological breakthroughs have been utilized in the construction and facilitation of this, but regional expression is still found on its facades. Vernacularity used in the graceful arches and colour combination has helped give its identity. This is laudible as the character of users is potrayed within contemporary "spirit of the times".

4.7 The Works of Pierre Goudiaby Atepa

Profile: Senegalese Pierre Gaidiaby Atepa at only 41 years of age is perhaps African most famous architect. He has astounded critics not only by the quality but also by the quality of this works. His designs embrace

the latest technological innovations and artistic values of the west, yet they are distinctively African[3]. His major projects cut across the countries of West Africa - in Senegal, the Gambia, Guinea, Cameroon, Togo and many others. He has been able to distinct himself in all his major project by potraying African vernacularity on the facades of of the buildings. He exploits the sculptural nature of concrete to achieve this - amongst other approaches. He calls on African architects to "both root their works in African culture and to open themselves to international and modernist values". He has achieved this in different ways in his works. In fact, what is unique about his works is that he hardly repeats the same communication theme in his designs. It shows that many aspects of African traditional concepts exist that can be utilized to achieve regional character or identity in architecture. He has this comment on African identity for architecture "African architects must emphasize black African traits in the design, decoration and colour of their buildings. They are in a better position to take account of local climate and indigenous social values, as well as to integrate modern techniques".[3]

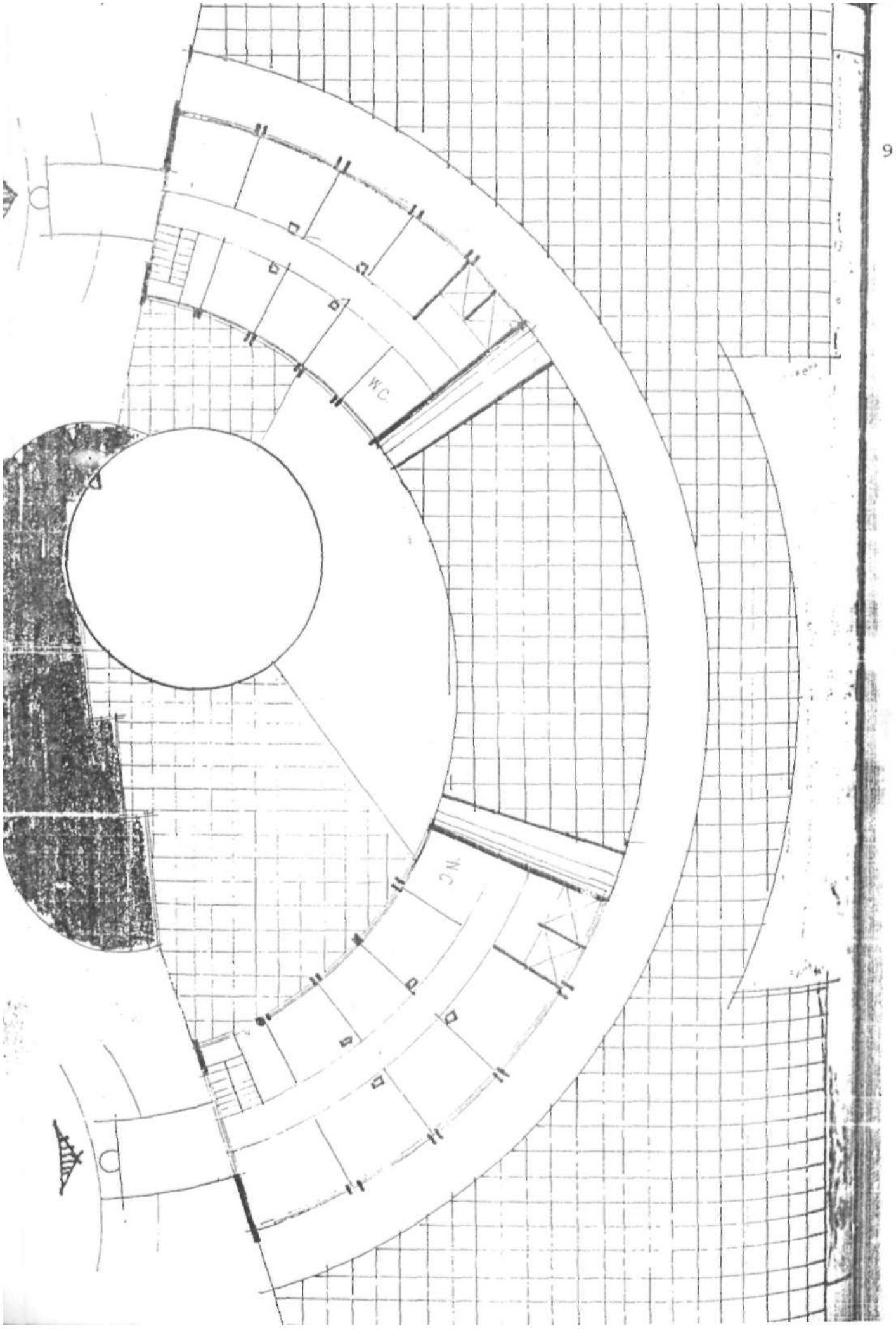
He is a strong advocate of stronger participation of builders in design and I quote him on this belief - "In the African collective consciousness, the one

who conceived has always been the one who builds; African architects and builders must join together once again". This belief is shared by many other architects and could be a remedy to many unfulfilled creative designs. Two of his works are hereby appraised in their search for African identity.

4.7.1 Winning Entry for the ECOWAS Fund Headquarters Design: Located in Lome, Togo, this project consists of two major materials concrete and glass. The complex is made up of two towers of different heights (the left-hand tower is 15 floors and the right-hand tower is 13 floors). The two towers are dramatically bridged on the seventh floor and a sunken circular domed conference hall is set in the sector formed by the arc shaped complex.

The complex is approached by two principal entrance on either side of the towers and a basement garage is approached from the rear. Access from the building proper to the conference hall is via a sunken access way covered by a glazed space frame and open on all sides.

The ground floor has 16 'boxes' to the rear which are exhibition galleries for the 16 member states of ECOWAS. The concept of the design based on a suspension bridge linking the 16 countries together is very unique and structurally daring. The manner


W.C.
W.C.

GENERAL VIEW OF ECOWAS FUND (WINNING ENTRY)

in which the sunken conference hall brings out the effect of the dome, which flushes with the ground level is highly commendable.

Orange curtain walls interlaced with sculptural concrete fins and further complemented with African motifs form the facades in the complex.

Appraisal: The question of security is raised by the open access from the complex to the conference hall. The idea of two separate major entrances at opposite ends of the complex also presents problems in a complex where ethnocentrism must be discouraged.

The concept of two towers bridged expresses unity which is commendable for a complex like this. African symbolism has also been adequately exhibited in this complex both in the expression of technique and in the symbol of use approaches. P.G. Atepa has successfully composed the forms and integrated elements to convince all and sundry that this is indeed an African edifice.

### 4.7.2 Headquaters of the Banque Central Des State De L'Afrique De L'Ouest (B.C.E.A.O.), Dakar.

This bank-headquarters in Dakar, Senegal is another of P.G. Atepa's masterpieces. A high-rise building, concrete is beautifully sculptured right from the base and is perforated with glass at intervals. It typifies

the African mass forms, but still gracefully achieved the sleek and slender outlook of foreign architecture. The rich interplay of concrete and glass is further augmented with African identity by colour combination by an architect who knows how.

With these case studies analysed light is further shone on the possibility of achieving African identity for the Abuja facility. A study of the site is however necessary at this stage/

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2. Rachelman, L., The World Trade Centre - Politics and Policies of Skycrapper Development (1977)

3. Justin Mendy; The Highrise of an African Architect, African Business Magazine (July 1987).

THE SEARCH FOR AFRICAN IDENTITY FOR CORPORATE BUILDINGS...



... COMMODITY EXCHANGE MARKET, ABUJA.

WHILE THE PROGRAMME AND SOCIAL SYMBOLISM OF A BUILDING MAY SUGGEST SITE FOR A FACILITY, THE SITE ITSELF CAN SUGGEST PARTICULAR FORM RESPONSES. A BUILDING SITE SHOULD BE CRITICALLY VIEWED FOR ITS POTENTIAL TO REINFORCE THE ACTIVITIES WITHIN THE BUILDING BEING DESIGNED. SITE ANALYSIS IS A STANDARD ACTIVITY OF AN ARCHITECT.

FRED A. JULES.

CHAPTER FIVE.

# 5:0 THE SITE

## 5:1 ABUJA: The Idea and The City.

The Federal Capital city of Nigeria is found in the least developed middle belt of the country; a site chosen to signify a commitment to equalised physical accessibilit and balanced development. About 8,000 square miles in area, Abuja has its axial focus towards Aso hills.

The urban suitability of Abuja to site the commodity exchange market stems from its recognition as a city of international significance. It's geographical centrality to Nigerian towns as well as to other African countries its major asset the commodity exchange markrt in is Abuja will serve is the international gateway for commerce while local ones can be sited in other major Nigerian cities. (See Fig 5.1)

### 5:1:1. Abuja Master Plan and Development Policies.

Planning: A pattern of linear development outwards from a core in two directions permitting staged growth in the form of residential sectors characterises the urban planning of Abuja. Other planning policies are:

(i) Growth in the form of parallel development corridors formed by a central linear park responding to geo-physical features. (See Fig. 5.2).

(ii) A city designed as efficient and attractive at each stage of growth both in phase one when it







FIGURE 5:1. GEOGRAPHICAL CENTRALITY OF ABUJA TO MAJOR NIGERIA CITIES AND AFRICAN COUNTRIES.
SOURCE: ABUJA MASTER PLAN (1979).

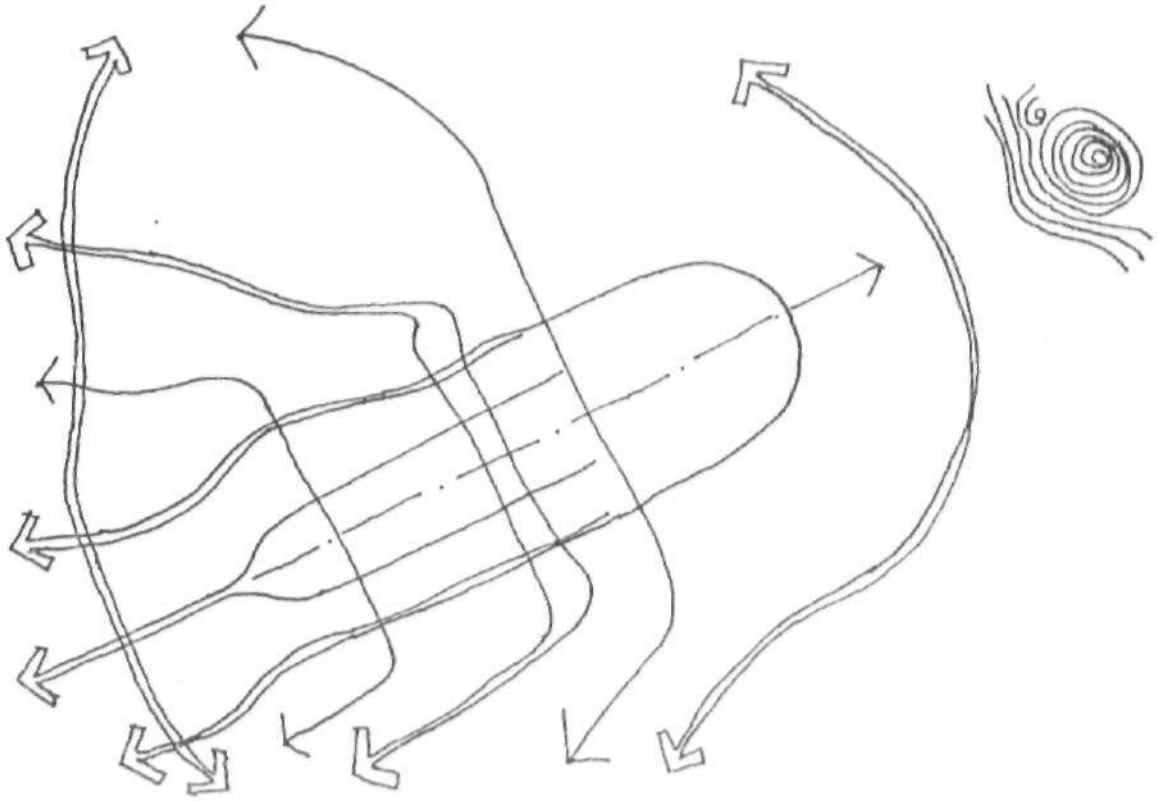


FIGURE 5:2. PARALLEL DEVELOPMENT CORRIDORS ON BOTH SIDES OF CORE DEFINING CITY GROWTH PATTERN. THIS PATTERN RESPONDS TO GEOPHYSICAL FEATURES OF ABUJA.

will accomodate 150,000 residents as well as when it must accommodate 1.6 million around the year 2,000 A.D. up to an ultimate limit of 3 million from where satellite towns can be introduced.

Central Area: This core houses the chief governmental and business activities, 2 zones namely 1/Governmental and ministerial; 2/Business, commercial and parasterial districts are placed end to end along a central axis centering on the great granite inselberg of Aso Hills. The sports centre and the Transportation centre are sited at the extreme ends of the central shopping street, while important public facilities are located where the central axis traverses prominent natural landscapes.

Sectors: Each sector is organised around a centre straddling a transit corridor, and is further sub-divided into districts of 6,000 to 10,000 households. The sector is planned to be self-contained and their centres will contain concentration of formal commercial employment.

5:1:2. The Characteristics.

Physiography: The area is typified by gently undulating terrain interlaced by riverine depressions. The central area consists of uplands and plains with numerous inselbergs, whalebacks and other rock outcrops. Height variation is around 50m.

Geology: Migmatite, Granite Gnesis and Biotite undelying the majority of the site are rocks of medium to high strength which are expected to present a minimum of engineering problems for construction work.

Soils & Vegetation: The soils are typically deep and well drained. They can be classified into ten complexes on the basis of parent material and texture. Vegetation is characterized by park savannah, Riverine depressions are typically skirted by fringes of thickets and high trees. There are occasional patches of forest and heavilly wooded areas.

Climate: The weather charts have been prepared on the basis of climatic data collected from extrapolations of Airport Meteorological station. They supply data relating to the following:

(i) Temperature. : Maximum mean temperature of $35^{o}c$ is experienced around June while minimum mean temperature of $18^{o}c$ is experienced between December and January. It is however generally hot and humid all year round and can be unbearable sometimes.

(ii) Relative Humidity: This is recorded in percentages and reaches a maximum of 88% during the rainy season notably between June and August. Minimum humidity of 23% is recorded during the hot dry months between December and January. These extremes are not within the comfort zone of between 30-70% hence solutions to arresting this in buildings have to be worked out by architects.

(iii) Radiation: This is expressed in terms of the number of hours corresponding to the monthly average for the period considered. It is at a maximum of 8 to 9 hours between December and February and at a minimum of 4.5 hours in August.

(iv) Rainfall: The amount of rainfall is measured in millimetres. For each month, the average level of water collected over a period is recorded on the graph. Mean monthly rainfall is at a maximum of 16mm in September and falls to about 2.0m in January.

(v) Prevailing Winds: The direction of the winds is shown by the monthly average of the number of times the wind has blown during the period under consideration. The harmattan winds blow from

the Aso hills over Abuja creating stagnant air pockets during the dry season. The maritime winds blow in the other direction during the wet season. As against the harmattan winds which are laden with dust and are cold and dry, the maritime winds are moist and desirable.

....See Climatic Charts.
(Table 2 + Fig. 5:3)

5:1:3: Conclusions

A comfortable working environment will depend on maximising the aspects of the environment which reduce heat and the effect of humidity and protect it from rain and dust. For this to happen, planning with the climate has to take place at all levels. Since the extremes of the temperature and relative humidity are outside the comfort zone, the architect has to create necessary microclimate to ensure the comfort of the users. Orientation of openings has to be such that desirable winds are allowed to filter in while the dusty ones are rejected. Excessive radiation into the interiors can also be abated by greenery in the exterior (See Fig 5:4) and by as little openings on the east-west axis as possible. Colour and texture of materials used in building can also have a large effect on the comfort of the users. The nature of this project, being by and large, one

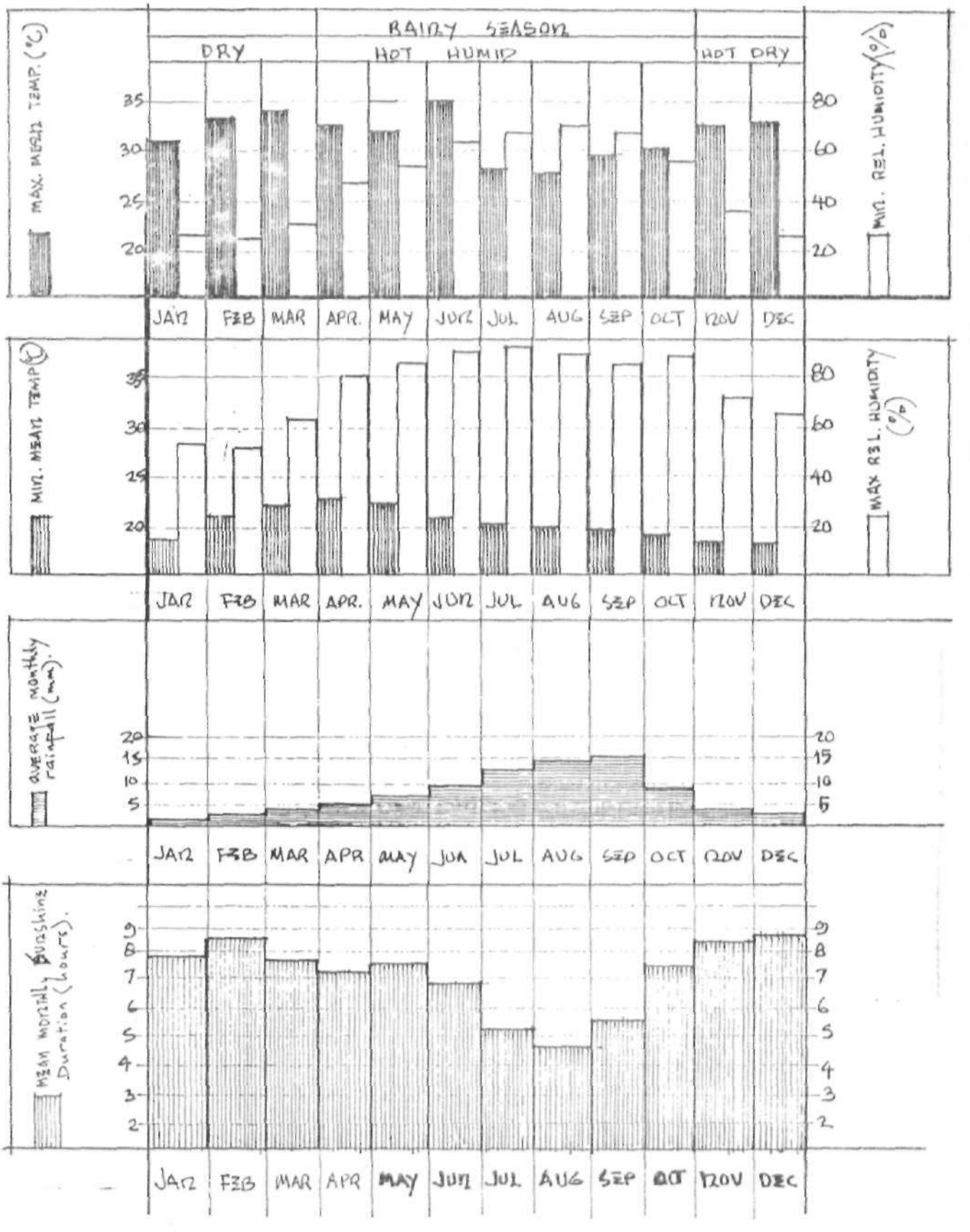



Table 2: ABUJA CLIMATIC CHART.




MAJOR WINDS CHARACTERISTIC OF NIGERIAN CLIMATE.

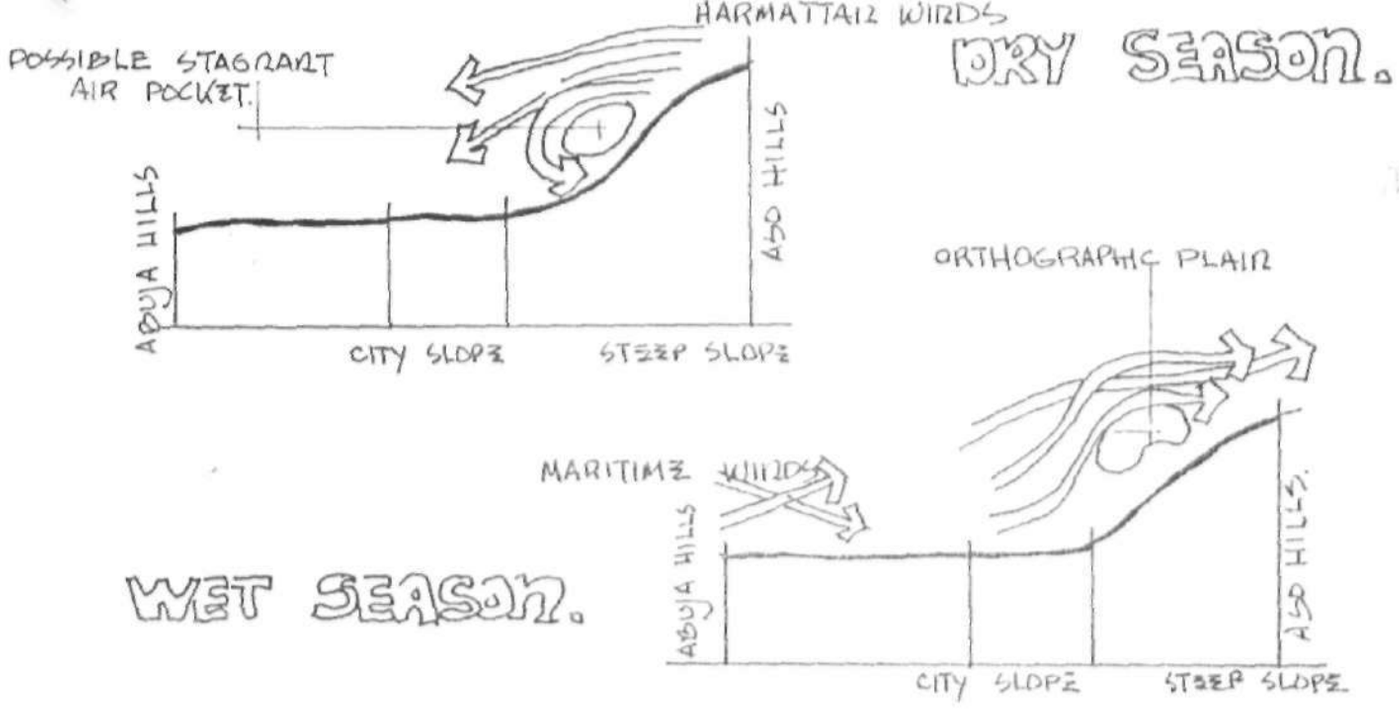


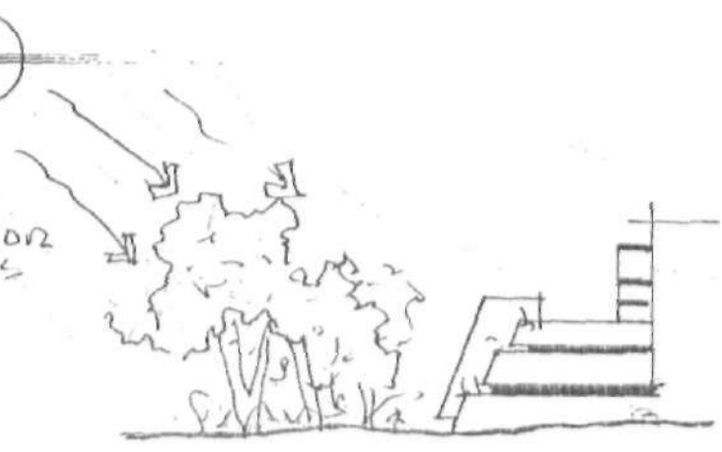

Fig 5:3. SEASONAL WIND PATTERN OVER ABUJA.

# WIND ABATEMENT



PLANTING SCREEN CAN BE USE TO OFFSET THE EFFECTS OF T NORTH-EAST TRADE WINDS BRINGING DUST AND DRYNESS FROM BEYOND.

# SOLAR ABATEMENT



THE IMPACT OF SOLAR RADIATION ON BUILDINGS IN HOT CLIMATES ARE GREAT AND SHOULD BE REDUCED BY SHADING WITH GREENERY.

FIGURE 8:4 – THE IMPACT OF GREENERY IN CREATING NECESAR MICROCLIMATE CANNOT BE OVEREMPHASIZED IN HOT CLIMATES. NOISE CAN ALSO BE ABATED IN THIS MANNER.

in which artificial air conditioning systems can be used extensively could make comfort requirements reached more effectively, but must not be totally depended on.

## 5:2. Choice of Site.

In choosing an ideal site for the commodity exchange market a number of criteria was mapped out to appraise each one. The nature of the project is one of such criteria. The site must be easily accessible to prospective users. Access to neighbouring facilities like hotel accommodation and media stations is also desirable for effective utilization. Physical feature on the site that can enhance design efficiency were also analysed. Natural landforms and adequate space for lanscapping, parking and future expansion will also add to the acceptance of such a site.

The site finally chosen for the commodity exchange market after a series of alternatives is situated along Festival way and Olusegun Obasanjo Way - 2 principal dual carriage ways running along Garki District, an area currently undergoing major development in Abuja Flanked on both sides by 2 prestigious buildings that can enhance its utilization. These buildings are:

(i) The Agura Golden hotel is a 5 storey 4-star hotel which can be used to lodge delegates and participant

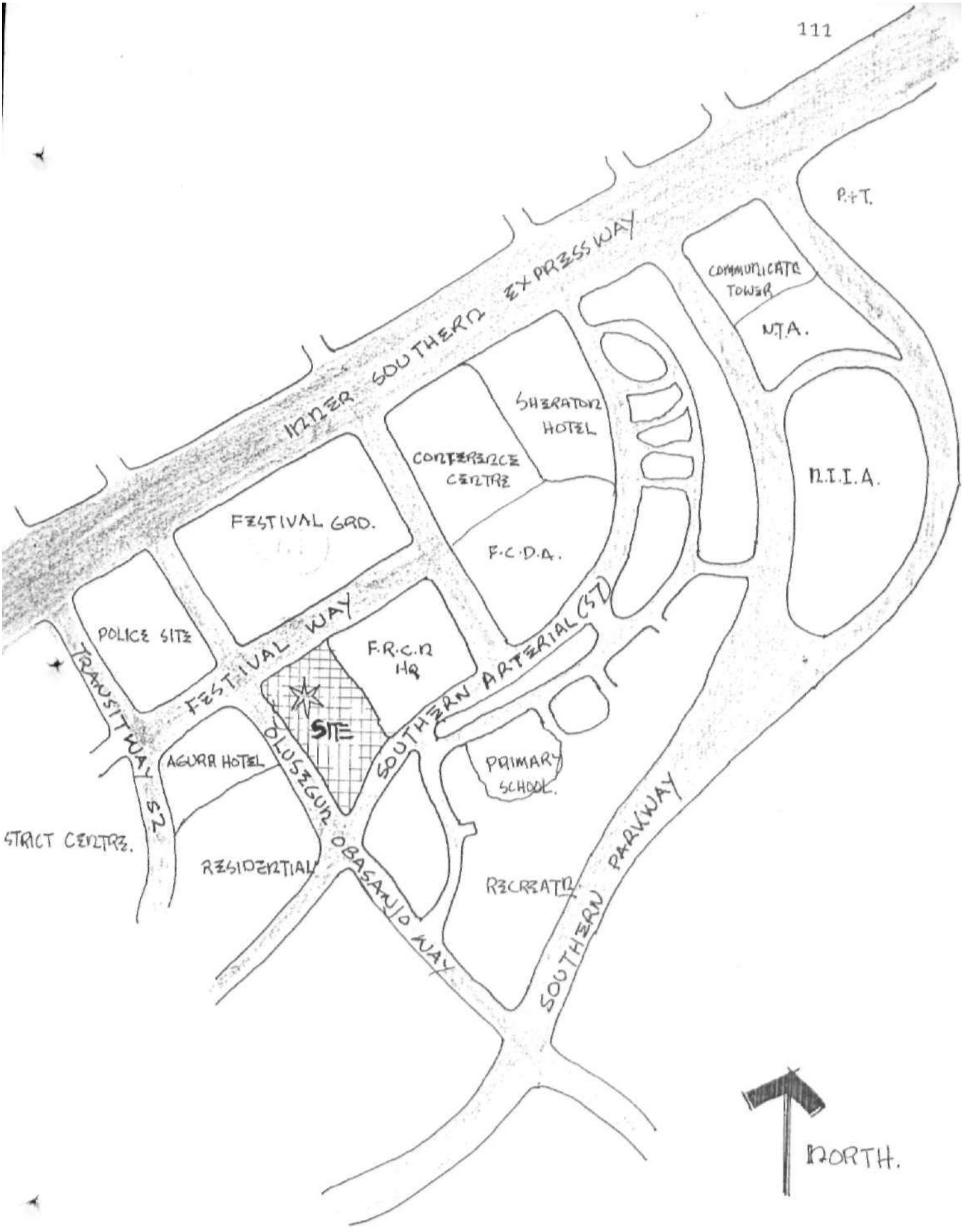



FIG. 5.5: SITE LOCATION MAP - SCALE 1:10,000

at trade fairs and conferences.

(ii) The 12 storey Federal Radio Corportion of Nigeria (F.R.C.N.) headquarters nearing completion. Effecti media coverage has been pointed out as favourable fo the success of the exchange market.

Being in the heart of Abuja and surrounded by other complementary facilities like the Festival Ground, other hotels and media stations, this site of over 4.2 hectares in area is considered very suitable for the siting of the proposed project. The site location and the project requirement for inageability impose a minimum height restriction. For it to be properly represented on the townscape of Abuja it must necessarily tower up to 10-storeys and its design unique.

5:2;1. Determinants' of Form.

The Abuja master plan outlines certain objectives buildings in Abuja must fulfil to meet up to the standards intended for the capital city.

(i) Imageability: Symbolic forms of strong Identity are objectives for imageability for the capital city. Functional and site related criteria include location, views and orientation.

(ii) Efficiency: Accesibility, cost effectiveness and balanced growth are mapped out for greater efficiency in the design of buildings in Abuja.

These criteria at well as other sensous messages perceived by the designer during site studies evoke a strong image as to the kind of form that would be suitable for this project. The use of planes and axes in the form of boulevards (wide, tree lined streets with wide sidewalks and planted median strips) that have been used to define the most important streets in Abuja suggest pyramidial forms that will ultimately complement the naturally rocky landscape.(See Fig 5:6) These pyramidial structures are already being exploited in many designs like the Abuja Sheraton, the Hyalt Regency Hotel and other projects. This itself is some form of identity in the city visible when panoranic views of the townscape is taken. The task of the designer is to ensure that this identity is not jeodarised while still maintaining the uniqueness of the project at hand. The search for African identity takes precedence over all other form determintants, but the designer is confident that a suitable balance can be struck.

5:3:0. Site Analysis.

The most active accessibility zone lies on the north-western axis of the site from where traffic into Abuja is most. The intersection between festival way and Olusegun Obasanjo way forms an axis from where the proposed project is likely to be most percieved and

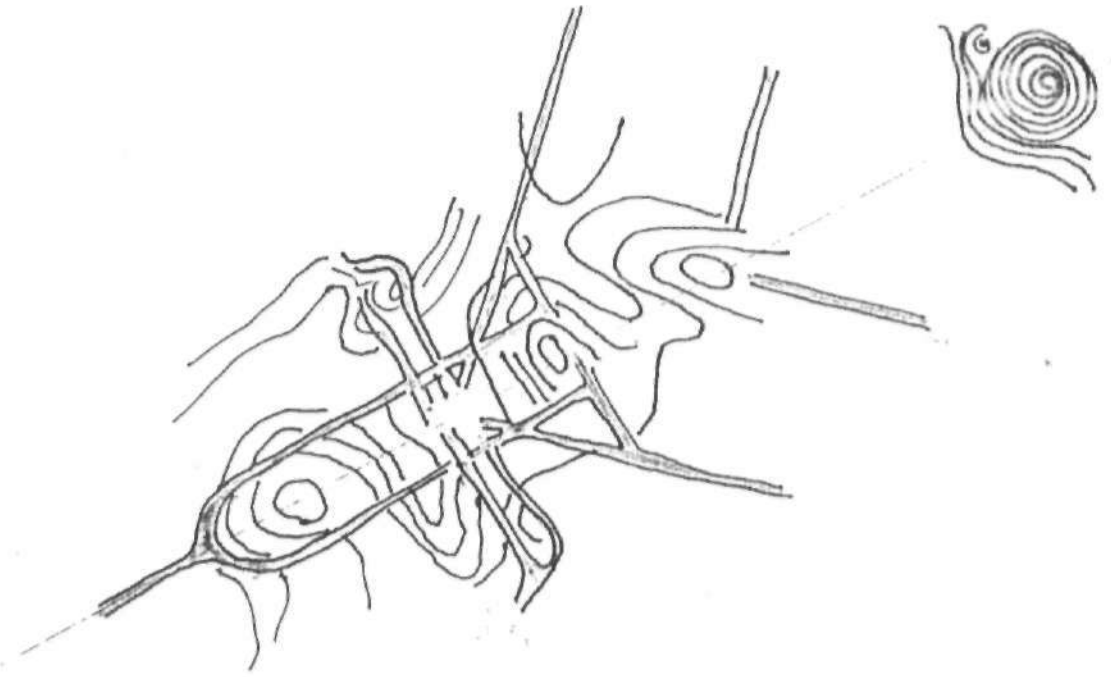
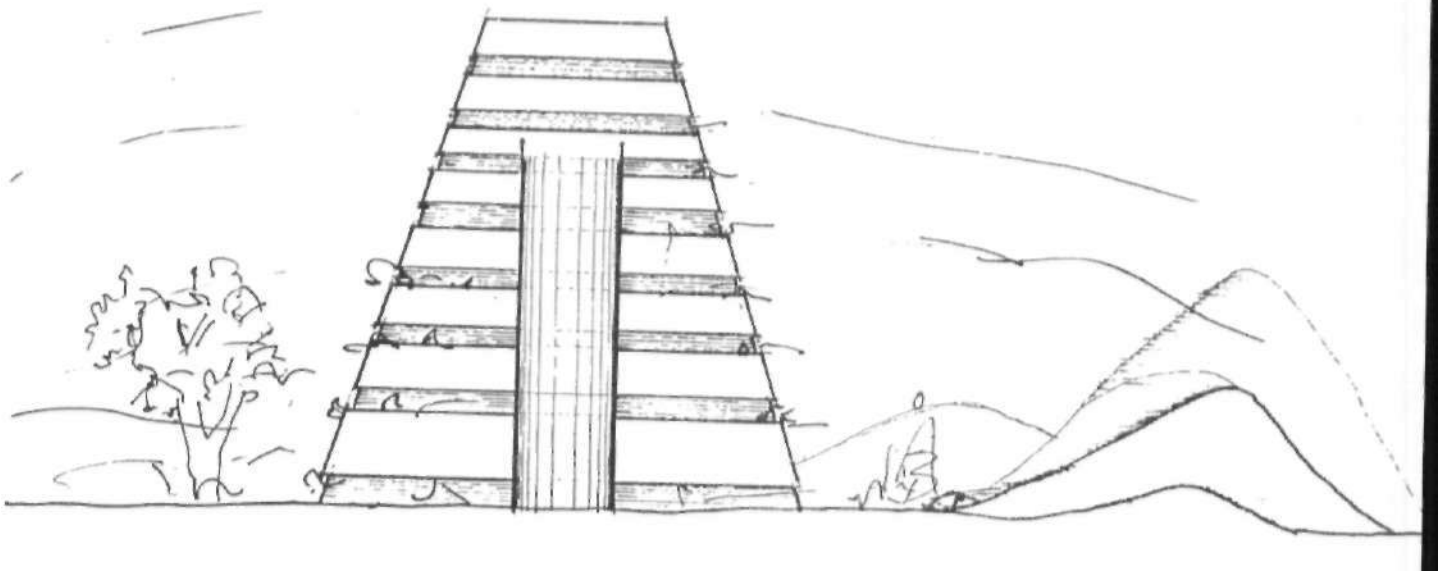


FIGURE 5:6 — THE USE OF PLANES AND AXES IN THE FORM OF BOULEVARDS (WIDE, TREE LINED STREETS WITH SIDEWALKS AND PLANTED MEDIAN STRIPS) WHICH DEFINE THE MOST IMPORTANT STREETS IN ABUJA SUGGEST FORM WHICH ARE COMPLEMENTED BY THE LANDSCAPE.



# FORM RESPONSES TO SITE...

appreciated in totality. Bustops are existing about 50m from this intersection on both roads hence can be tapped for efficient pedestrian access. Vehicular access is however more desirable from Olusegun Obasanjo way since traffic is lighter and still convenient for manoeVering.

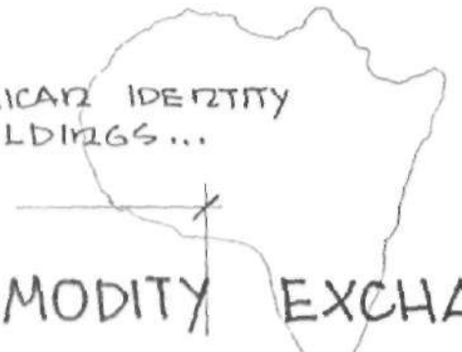
A hierarchy of functions in terms of noise-level, public/less-public facilities must exist to zone out the site effectively. This hierarchy will work out effectively if the more public facilities are developed near access routes and progressively becoming more private down to the more passive areas. This will naturally be down the site from festival way to the southern arterial (...).

Views: Good views exist towards most direction from the site. Rocky landforms on the South-Eastern direction from the site are favourable while views of prestigious buildings in Abuja can be percieved on the North East direction.

Topography: Gradient calculation shows a slope of 0.267 which is relatively flat for a vertical difference of 8m over a horizontal difference of 30m. The contours show a higher land level at the festival way end decreasing progressively down to the southern arterial. Drainage will ultimately follow the site slope.

Vegetation: Vegetation on the site consists of low trees, shrubs, grass patches and a few farmland ridges. These can be adapted for design or destroyed with little problem.

THE SEARCH FOR AFRICAN IDENTITY FOR CORPORATE BUILDINGS...



... COMMODITY EXCHANGE MARKET, ABUJA.

PRIMARILY, WE MUST DEMAND AN IMAGEABLE STRUCTURE THAT OFFERS RICH POSSIBILITIES FOR IDENTIFICATION. THE VALUE OF GREAT WORKS OF ART CONSIST IN THIER ALLOWING FOR DIFFERENT INTERPRETATIONS WITHOUT LOOSING THIER IDENTITY. THE TASK OF THE ARCHITECT IS TO HELP MAN FIND AN EXISTENTIAL FOOT-HOLD BY CONCRETIZING HIS IMAGES AND DREAMS...

NEOBERG SCHULTZ.

CHAPTER SIX.

## SECTION C - SYNTHESIS

# 6.0 THE SEARCH FOR AFRICAN IDENTITY FOR CORPORATE BUILDINGS

## 6.1 Introduction

In the search for a suitable building that will the commodity exchange market, social criteria has been mapped out as essential to its success. The commodity exchange market is meant to be a trade gateway for the whole of Africa, but to be sited in Abuja, Nigeria. By virtue of its wide clientele, the socio-cultural roots of the African society as it affects trade and architecture must be explored to effect African identity in the design.

Having discussed identity on a wide scale in the first chapter and explored the historical context of African peoples and their trade patterns in the second chapter, this chapter seeks to underline what exactly could constitute the African Identity that is being sought. Various attempts at African architecture or Nigerian architecture' have been made (hybridisation, form synthesis, use of local building materials or wall decorations), using tradition as the main vehicle for the propagation. In the words of Kenzo Tange, "tradition should be seen as a means to an end and not an end in itself". This has to be borne in the mind because in the African context, which involves a highly heterogenous society, one is presented with a complex case. In this highly diverse continent it would be right to say there is

nothing like African tradition or architecture.

Generalisation is thus impossible as there is no central theme only similarities. What one has to take account of is widespread features around the continent, unique design expressions as well as trends that are peculiar to commodity trade in Africa. A study of the society will go a long way to achieve this end hence tradition can't be done away with as a society without tradition is one without identity. However, beyond tradition, there is humanity as expressed by the changes in society and technological demands.

Having established these guidelines, the search can be directed at more relevant studies.

### 6.1.1 Indigenous Trade Architecture

Apart from markets, trade architecture in indigenous Africa was limited to granaries warehouses. With other public buildings like the palaces and worship places, they constituted the focus in urban set-ups. Cultural symbolism is used to create aesthetics in these buildings; their purposes are varied, but they represent a spectrum of rites, customs, superstitio religions practices, behavioral patterns, expression of built forms and other aspects of symbolic usage which centre upon a building, village a settlement. Some of these symbols have been lost or mis-interpreted in the process of modernisation, but others are still finding expression today.

The manner in which grains are stacked at major storage spots in Africa evokes a sense of identity. They are arranged in a pyramidial manner with the apex portraying some form of prosterity. This is widespread over Africa and the most common example of this are the groundnut pyramids in West Africa as well as the cotton pyramids in Central Africa. This pyramidial form has its climax at the only architectural wonder of the world in Africa: the Great Pyramid at Giza. A stunning architectural achievement, it was a symbol of prosterity and also had economic relevance. See fig. 6.1

The significance of Ivory as a trade commodity in Africa is also worthy of mention. It was exquisitely sought for by foreign merchants as richly carved accessories can be made from it. The manner in which two horns cross each other has been a mark of unity for some time in Africa. A monumental gateway in the city of Nairobi is designed like this and constitutes a strong African Identity in itself. This important trade commodity in Africa can be represented in design especially at entrances. The shape made by the interlocking of horns follows the pattern of the entrance to most earth buildings in traditional Africa. See fig. 6.2

### 6.1.2. Contemporary Corporate Architecture

Initially, corporate bodies in Africa generally rented utilitarian buildings where emphasis was placed

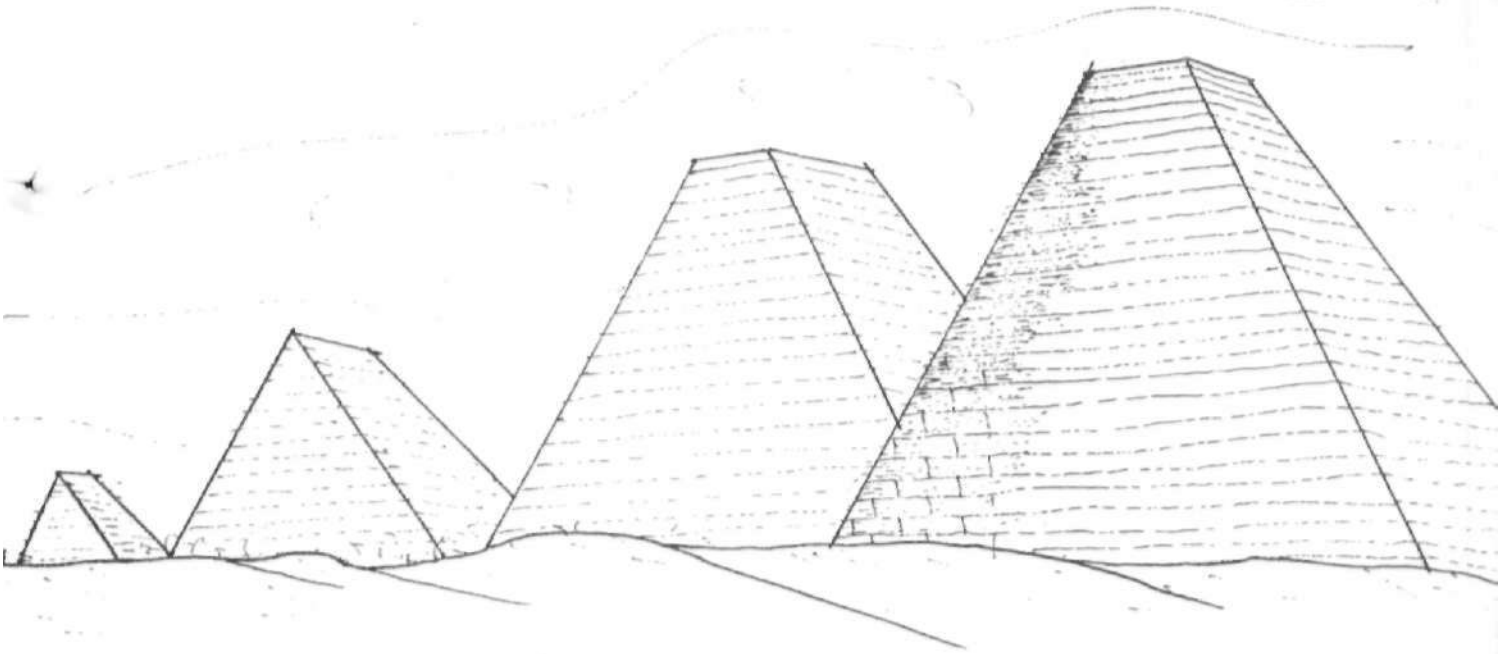


FIGURE 6:1 — THE PYRAMIDS OF EGYPT ~ STUNNING ARCHI-TECTURAL ACHIEVEMENT. THE SHAPE WAS ALSO USED TO ARRANGE BAGS OF COMMODITY GOODS LIKE COTTON AND GROUNDNUTS IN AFRICA — SYMBOL OF PROSTERITY

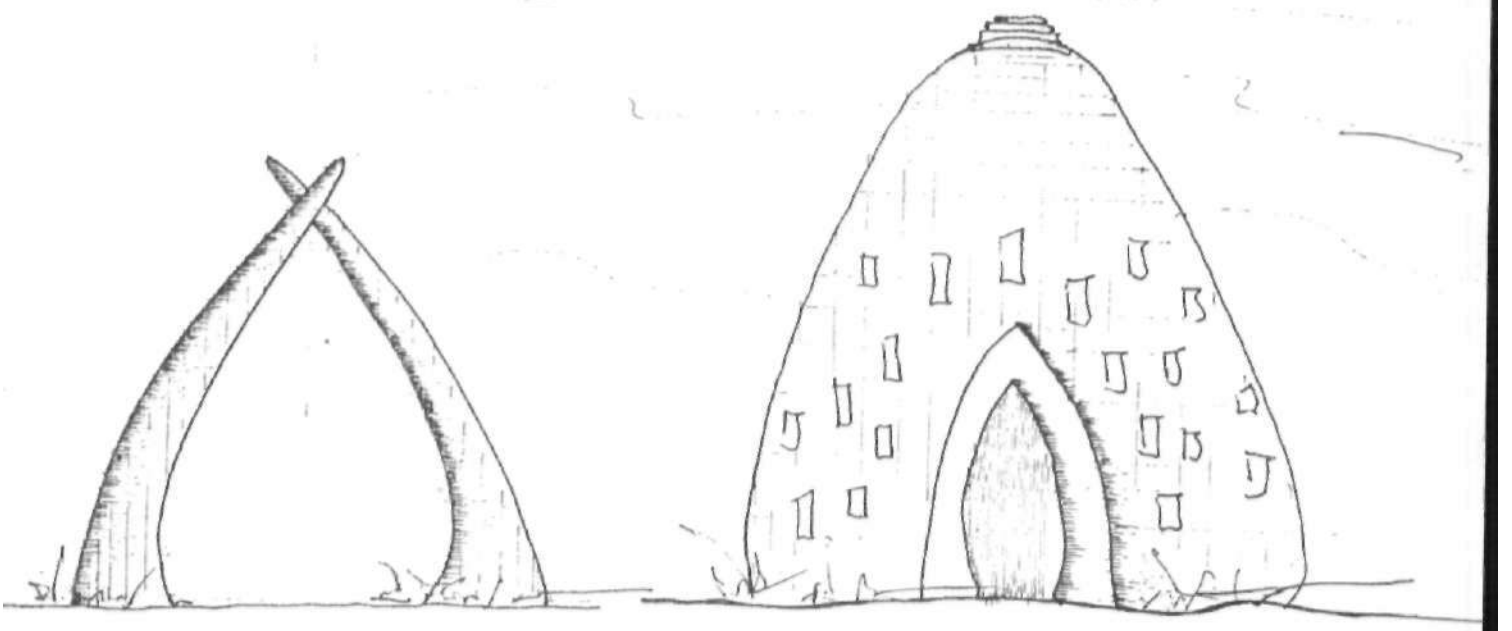


FIGURE 6:2 — IVORY WAS AN EXQUISITELY IMPORTANT TRADE COMMODITY IN AFRICA; THE INTERLOCKING OF HORNS WAS A SIGN OF UNITY AND THE SHAPE IS CONSISTENT WITH THE ENTRANCES OF AFRICAN TRADITIONAL DWELLINGS LIKE THE MASSA 'BOMB' HOUSES IN W. AFRICA.

on function. Colonial building materials were used to facilitate them borrowing some shapes and forms from local architecture. More interaction with foreigneers has however exposed them to a new architecture that is unprecedented, but has found fooling in modern urban centres in African cities. Desire for glass skins or a mixture of glass and concrete is currently being exploited in the design of corporate buildings. Some creative architects have been able use this styles without loosing their African expressions. The works of P.G. Atepa discussed in chapter four as well as some of Fola-Alades designs in Nigeria (notably the West-African Portland Cement company (W.A.P.C.D. building) are examples of such successful attempts. An attempt was made also in the design for the First Bank building - probably the most well known corporate building in Nigeria. The brown tint of the curtain walling and the richly carved pylon at the entrance are testimonies of this. See fig. 6.3.

In order to document adequately on the social criteria for designing buildings in Africa, we have to look beyong trade architecture and explore other aspects of traditional architecture.

## 6.2 Traditional Architecture

The concept of architecture in the traditional African sense was that of owner/builder. The mode of construction has been passed on through generations

and where special skills are required (like in the design of public buildings), master masons and carpenters are employed. Readily available materials set the limitations while socio-cultural values and climate set the design parameters. Individual personality played a large part in the creation of the African shelter. Village organisations and family relationships were expressed in the physical disposition of community while use of spaces within and outside the building were governed by social hierarchies and symbolic values. Iconology played a large part in defining the forms used. Relevant concepts with rich possibilities of adaptation in modern urban frameworks have been broken into four categories to facilitate the study.

6.2.1 City Planning Modes

Settlement patterns in urban layouts of traditional African cities were of many types, but a few are distinct and widespread. The need for security and authority necessitated the construction of walls in some cities while natural landforms helped define city area in others. The city walls are approached from streets radiating from the core of the city. This core usually houses the major public buildings - the palace. The worship places, markets and native authority buildings. These surrounded by the dwellings of citizens in order of status in the society. The

royal institution gave rise to this kind of planning about central communal spaces. Where strong royal institutions never developed (e.g. in the Ibo cities) or where environmental factors gave rise to linear cities, homesteads were still grouped around central meeting spaces. These meeting spaces constitute a hierarchy at different levels of societal congregation. It starts at the city level, through the ward and neigbourhood level, and ends up in household courtyards. See fig. 6.4.

It can be logically inferred that this is a consequence of the need for interaction and avenue for authority. Open spaces are also logical for this kind of interaction because of the climate. This communal open spaces might find a useful format in the design of the commodity exchange market.

### 6.2.2 Spatial Organisation

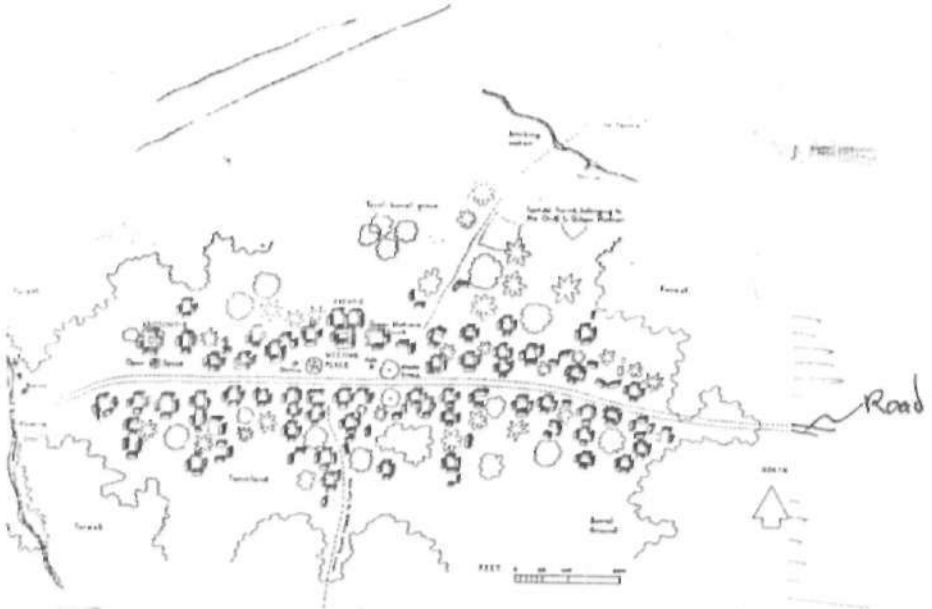
A study of spatial organisation in African homesteads further reveals this need for communal open spaces. Large buildings like palaces have up to six coutyards while smaller buildings have up to two or three depending on the degree of activity and privacy. A hierarchy of functions exist to offset privacy as this is an important consideration in buildings. Entrance hubs are usually found for visitors who are not allowed beyond that part of the homes.




OWO TOWN




OWO VILLAGE




ASHANTI TOWN
NORTH.

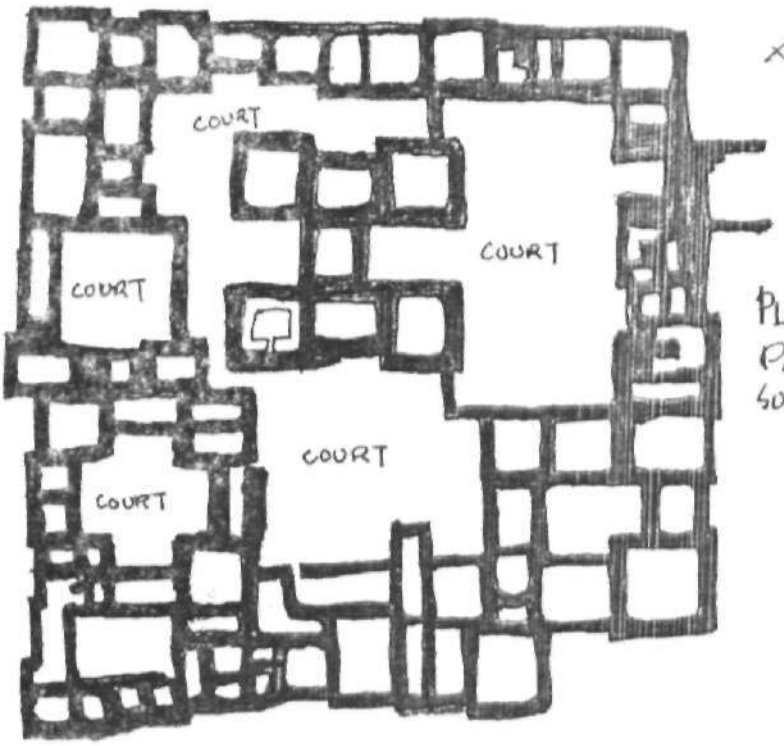
FIG. 6:4. — PHYSICAL DISPOSITION OF SOME AFRICAN TOWNS.
— EMPHASIS ON COMMUNAL OPEN SPACES.
Source — Shelter in Africa ed. Paul Oliver

Sometimes inner and outer courtyards exist to cater for different categories of functions. See fig. 6.5.

6.2.3 Form Synthesis

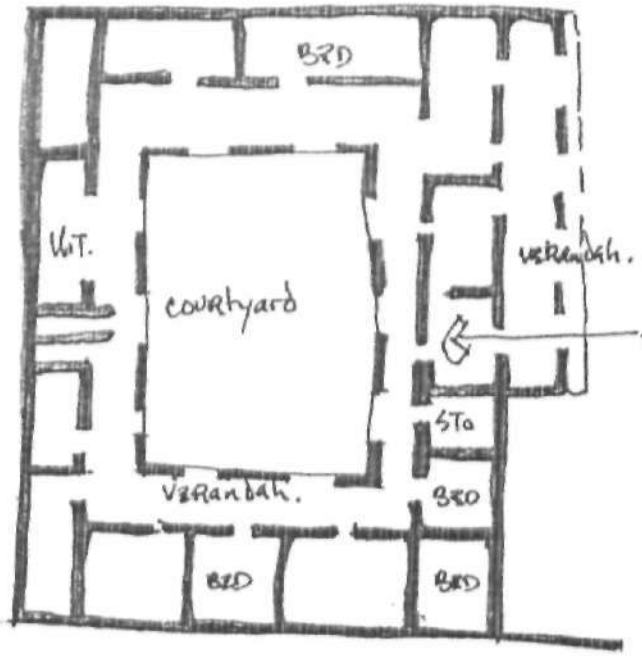
All traditional forms (or plan) reduce to either a square on a circle. The organic nature of these functional circles or squares (or rectangles) give rise to various geometric collisions that can result in interesting forms. The designer is thus open to a wide choice of geometric forms, but the roof shape usually dominates the forms. These roof shapes range from the earth domes in West Africa to the conical thatchedroof widespread around the continent. See fig. 6.6 The tents in Northern Africa and the Masai basket dwellings are other unique house forms in Africa. They typify the influence of lifestyle in shelter disposition.

It is largely correct to say Africans build mass forms in preference to skeletal ones. The external walls of large public buildings were covered with a facing which not only protected the raw earth from rain, but allowed geometric and figurative motifs to be made. The erotic curves and sensous forms reach their zenith in the sculptural earth architecture in Africa. The symbolic nature of jutted spires and pinnacle topped slanted walls evoke a strong sense of identity in African buildings. This spire nature of African buildings has been attributed many times




PLAN OF RECENTLY EXCAVATED PALACE IN AXUM.
SOURCE:— SHELTER IN AFRICA
—ed. Paul Oliver.

THE YORUBA COMPOUND.
(AGBOILE).
SOURCE: TRADITIONAL AFRICAN CITIES
—SUSAN DENYER



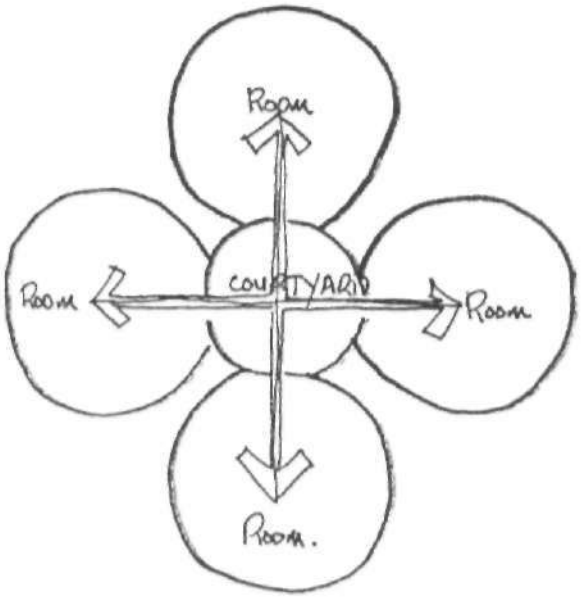




FIGURE 6:5 — SPATIAL ORGANISATION IN AFRICAN COMPOUNDS → FUNCTIONS AROUND A CENTRAL OPEN CORE.

ROOF DOMINATING FORMS.

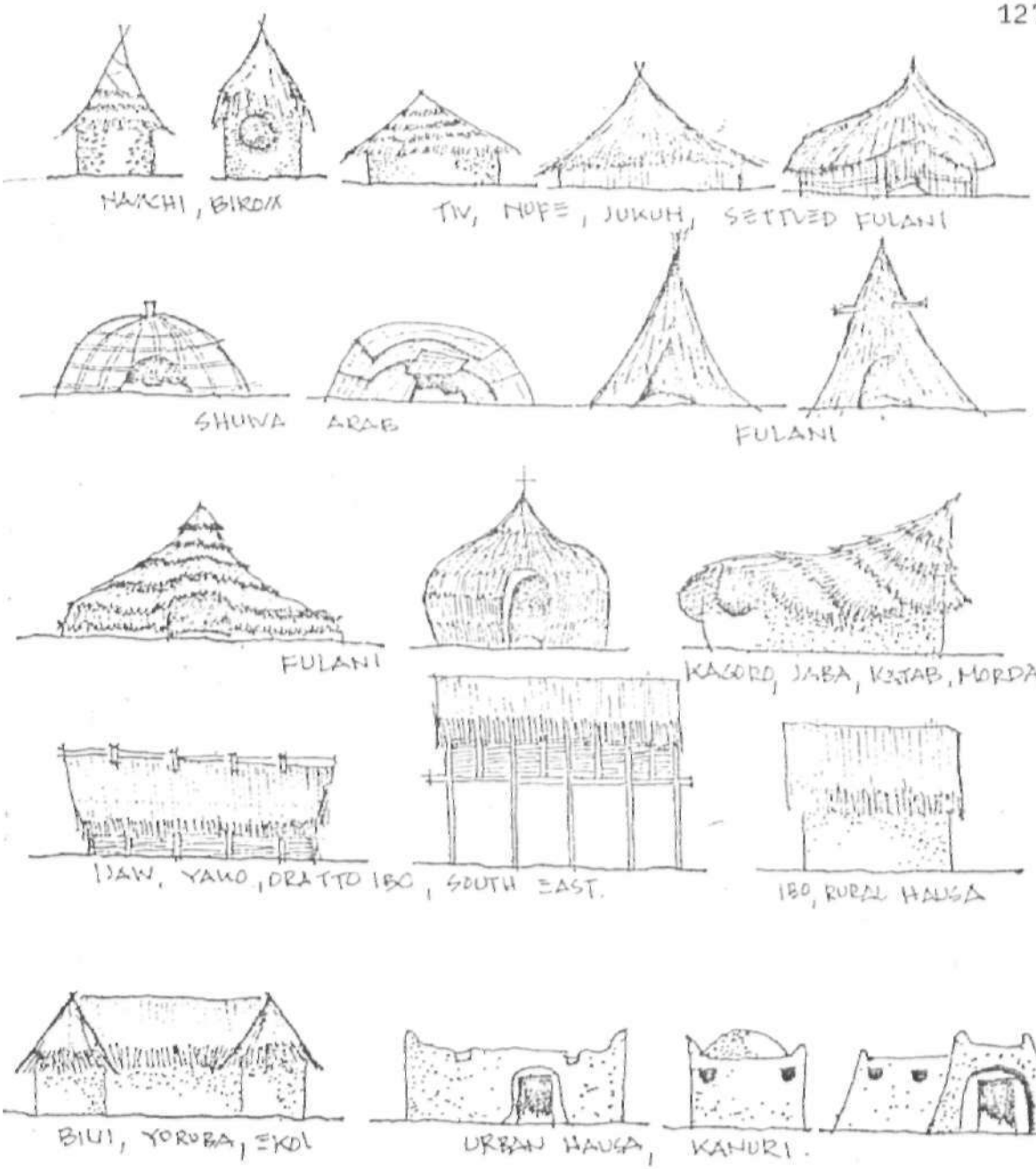
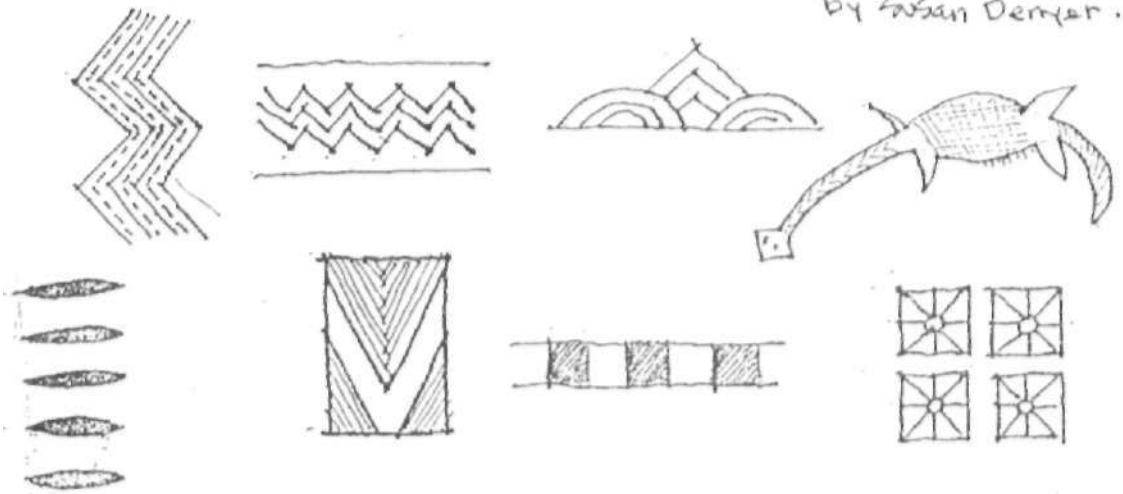



FIG 6:6 : A TAXONOMY OF AFRICAN FORMS.
SOURCE: TRADITIONAL AFRICAN ARCH.
by Susan Denyer.



: DECORATION.

to the lack of proper cutting-out materials to make them regular. However, almost 90% of traditional African Architecture have this characteristic: the tendency to reach up and envelop the sky. This is typified in the most common dwelling form - the African conical roof and even the domes which have their tips spired to effect this. This tendency is in line with the already established pyramidial forms in indigenous trade architecture. It is indeed as if these forms are typically African and evoke a feeling of prosterity in the community. See fig. 6.7.

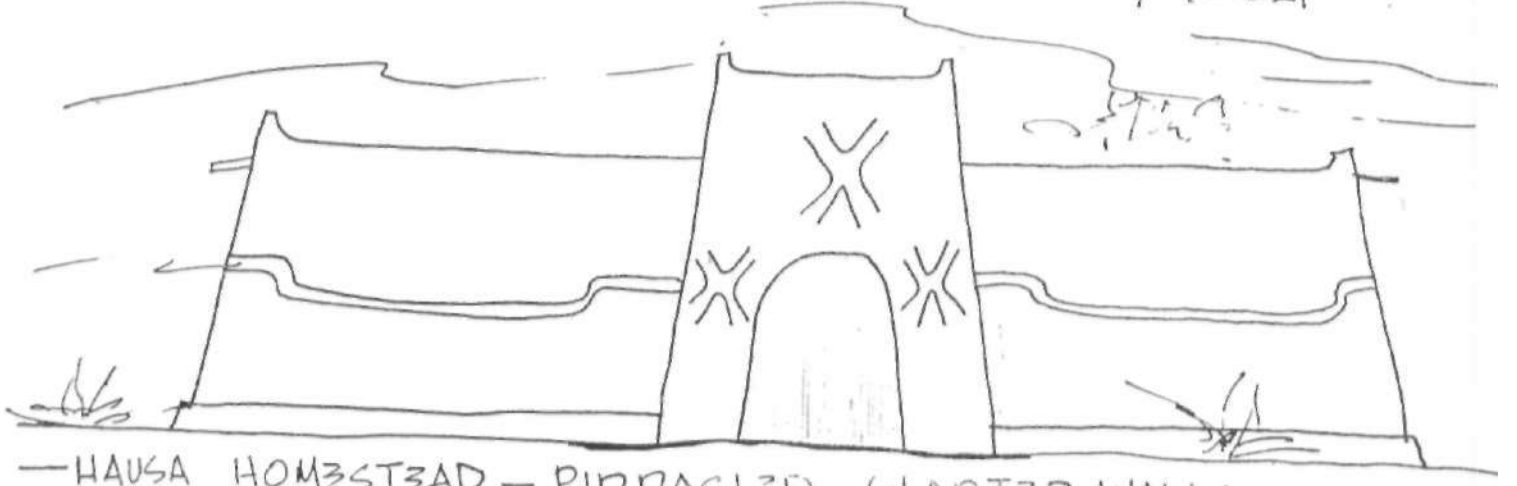
The sculptured oval entrances into these buildings also evoke a sense of identity in African architecture. For this to be represented in the modern architectural context, something distinct like the crossing of horus as war mentioned earlier would be appropriate.

6.2.4 Decoration (Motifs)

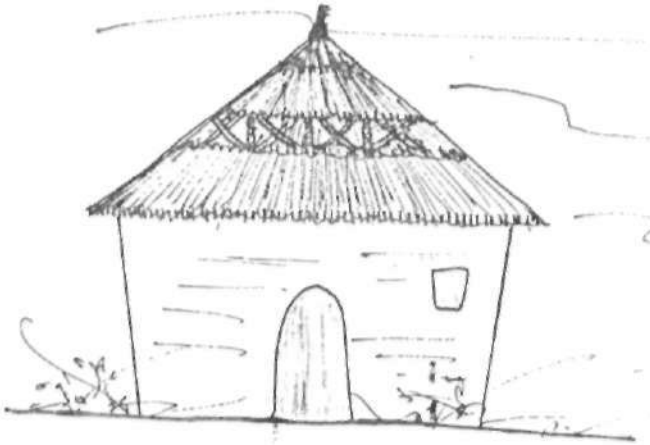
African decoration provides the pedestal to satisfy both utilitarian and aesthetic needs as well as well link the buildings to spiritual Acts and beliefs. The nature of the dominent building material - earth allowed for geometric and figurative motifs in a wide variety of ways. Plastic mural decoration painted or in relief are quite common. Stones, baked brinks or polished ceramic cores are embedded during construction to give decorative compositions.



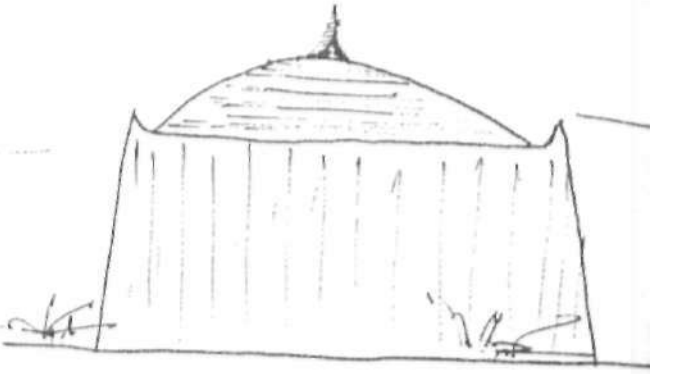
—DJENNE MOSQUE - SERENE AND POWERFUL, COMBINING SPIRITUAL EFFECT OF ISLAM WITH AFRICAN SYMBOLI



—HAUSA HOMESTEAD — PINNACLED SLANTED WALLS WITH MURAL DECORATIONS AT THE ENTRANCE.



TYPICAL AFRICAN CONICAL ROOF.



—PINNACLE TIPPED AFRICAN DOME ROOF.

FIGURE 6:7 — AFRICAN IDENTITY IS EVOKED IN THESE PYRAMIDIAL FORMS — REACHING UP TO THE SKY....

These wide range of motifs cannot be used extensively as they represent different interpretations in the continent. A documentation of this can only lead to another dissertation. One thing is however clear, colour and material utilization can be umployed to enhance African aesthetics. The sculptural and erotic disposition of the motifs can be represented in the form of building components like shading devices and fins. Symbols that are of relevance to trade in Africa can also be employed to effect identity.

## 6.3 Technology

Technology is defined as the practice, description and terminology of any or all of the applied sciences which have practical uses and/or industrial uses. Within the building industry, it refers to advances made in building practice which covers structures and use of anaterials. Technology has to come in as a moderator in a design like this where there are limitations as to the use of local materials.

Due to rapid urbanization major African cities, the construction industry is growing rapidly. Traditional building methods are gradually giving way to modern technology of reinforced concretes steel and glass. The disadvantages of traditional material, and

technology are obvious: low strength, durability, weather resistance and speed of erection. Building costs will however be reduced if improvement on this local material can be made. The development of brisk industries in Africa is commendable. They can be used to substitute sandcrete blocks in non-loadbearing elements of frame construction.

### 6.3.1 Technology Transfer

The present approach to technology transfer has not been exactly encouraging. It has been said that technology cannot be transferred to a passive recipient. It has to be seized and adopted energetically. If one is to learn from the examples of the countries in the far east - Japan, Korea etc. then this statement is very true. African countries want transfer of technology at low costs and little efforts, but the developed would want maximum profit. This transfer will always be restricted to the assembly line if extra cost and manpower is not expended to take it from the roots.

In the light of this inadequacies, modern and traditional materials will have to be weighed as per their pros and cons. The traditional methods of building are based on years of experience with available material, techniques, climate and sociocultural factors. They however can't satisfy

the demands of the present due to their low durability and strength limitations.

On the contrary, modern construction embraces such advantage, as time saving, minimum wastage of material, high strength and good quality of construction. Its disadvantages are high costs, intensive importation and problems of socio-cultural acceptability.

From the above, it is obvious that modern technology cannot be done away with especially for a project like this which will neccesitate structurally daring construction. However recent improvements in local materials like the sundried bricks and lime mortar can be utilized where convenient. Treated timber and Bamboo can also be employed to treat interior partitions, ceilings and other panelling.

## 6.4 Conclusion

An extraordinary range of architectural language each eloquently proclaiming the cultural characteristics of its users exist within Africa. The spirit of place and community is fully expressed in these buildings, whose subtle variations are adapted to specific social, economic and geographical environments. These have tended to disappear in the face of frenetic

imitation of architectural stereotypes and technologi from the west. These traditions however constitute a heritage which we must now rediscover: not just out of nostalgia, but in order to recreate a living synthesis between the wisdom of the past and the knowledge of the future.

Essentially, the synthesis is going to be selective, encompassing only issues relevant to the project as it is presented today. Features on facades which point to a particular part of the continent (like domer and vaults) will be done away with. Where they however constitute identity to trade in Africa, they will be utilized. Certain other traits can also be used where they are structurally functional and not for aesthetics.

The use of local materials in their native form also has to be done away with. Technology within our reach has shown that mud can be transformed into brick and cellular blocks. A such, kiln fired (burnt) bricks are improvements on the local material and can be harnessed into the building industry to complement reinforced concrete.

After the elimination of such factors, one is left with a set of ideals which should guide architectural design of this project.

### 6.4.1 Characteristics of the Selective Synthesis

After a thorough study of African traditional architecture and subjecting them to selective synthesis, on is left with certain concepts that will characterize the proposal.

i) Organic Design - choice of materials and design with the site.

ii) Containment - strict adherence to the hierarchy of privacy zoning of functions.

iii) Compactness - cluster designs with communal open spaces.

iv) Design for social Interaction - casual circulation patterns.

v) Design for climatic comfort -

vi) Flexibility for expansion - dynamic approach to design.

vii) Pyramidial forms - jutting spires and slauted pinnacles with sculptural outlook.

viii) Entrance Celebration - Well celebrated access with African decoration and representational motifs.

ix) Decoration and material utilization - Reminescent of traditional African architecture.

### 6.4.2 Philosophy of the Concepts

In the light of these concepts, it is necessary to make some declarations as to the designers line of thought.

i) The proposal will encompass communal open spaces as much as possible to aid natural ventilation, and lighting as well as provide forum for social interaction in the typical African manner. Public facilities as well as services will be concentrated in a core to minimise cost and effect circulation.

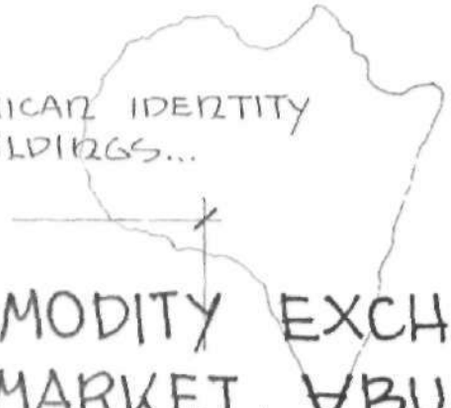
ii) A symbolic approach to architecture is necessary in this project to secure humanity, human meaning and value. Forms and decoration inherent in traditional African architecture will be utilized as far as they are relevant.

iii) The proposal arrived at is not exhaustive. It only relates to the particular project at hand hence cannot be viewed as a prototype. It is also not a style, though the process of evolution of the concepts involve in its parts different styles which have come to be very popular. It should be understood as a response to a social problem, a reaction to a need for us to identify ourselves with architecture we can relate to.

iv) It is neither traditional nor vernacular architecture. The heterogenous nature of the African society forbids such an approach. Tradition is used as a catalyst and technology as a moderator for the project.

v) It considers the diversification of the society and its need to interact. While it is advantageous to have cultural diversity, the complex must be viewed in unity and harmony. It must hence work as a system - functional to a high degree.

THE SEARCH FOR AFRICAN IDENTITY FOR CORPORATE BUILDINGS...



... COMMODITY EXCHANGE MARKET, ABUJA.

WHAT IS REQUIRED IN GOOD DESIGN IS A WELL STRUCTURED CRITICISM OF THE DESIGN AS IT DEVELOPS SO THAT THE PRIMARY OBJECTIVES ARE NOT SUBORDINATED BY UNINTENTIONAL OVEREMPHASIS ON SUPERFICIAL ISSUES. AN ELEGANT BUILDING TENDS TO INTEGRATE STRUCTURE, SERVICES, FUNCTIONAL AND FORM ISSUES, SO THAT THEY ARE SENSED IN TOTALITY - ALWAYS RESPONDING TO THE NEEDS OF THE USERS OF THE BUILDING.

F. A. JULES.

CHAPTER SEVEN.

## 7:0 Design Considerations And Programme.

Having established relevant African traditional concepts with Rich possibilities of adaptation for the Commodity Exchange Market, it is necessary to highlight aspects of the design proper.

The Exchange Market will consist essentially of exchange call over rooms, supporting facilities (bureau de change, business centre and the like), a main conference hall, Meeting Room, exhibition space, relaxation, eating and waiting lounhes and an administrative wing to take care of its operations. Features peculier to this type of design are thus discussed under subheadings.

### 7:1 Office Layouts.

A background knowledge of the elements of an office building are necessary to understand the type of office layouts that are available. These elements are categorised into four each having different life spans.

(i) The Shell: This is made up of the structure, the core and the skin which are intended to last as long as the building is useful - perhaps up to fifty years.

(ii) The Scenery: Made up of partitions furniture and furnishings related to the life of a tenancy or a particular stage of an organisation's development, lasting up to ten years in most cases.

(iii) The Set: This refers to the constant rearrangement of office scenery to meet changing short-term needs with the time scale measured in weeks.

(iv) The Services: Has to do with basic installations such as lifts and other mechanical services which normally last up to twenty five years. Services on a small scale such as light fittings and electrical points will change with the scenery and must be capable of accomodating the shortest term requirements of the set.

While considering the clients' brief and how the requirements can be accomodated within the constraints of the site and relevant legislation, the brief should be seen as a guide which will develop the design process. The first step is to determine the type of business organisation which can be described by the degree to which work places are distinguished by area, the level of interaction required and arrangement of furniture and such other

scenery elements.

Broadly speaking, there are two criteria for discussing the types of office layouts. Firstly, there are office layouts based on the location of the service core(s) which usually contain staircases, lifts, toilets and the like. Secondly, there are those based on depth of space measured from the external shell to the primary circulation corridor accross uninterrupted office space.

Box type offices have greatest opportunities for arranging surroundings, easy to effect ventilation and lighting and are easier to protect from noise and distortion of individuals field of vision. They are however inflexible and can lead to wasted space. Communication and supervision can also be difficult. Open plan office are however such that equipment and working materials are within easy reach. People who have to be in contact with each other often are placed near each other and social intercourse is improved. Furthermore, since people can see each other, fruitless visits are cut down. This is a flexible arrangement with no walls to hem people in. However, artificial light and ventilation would have to be done with. Concentration can also be jeopardised as noise and other disturbances will prevail. The ease of

of locating people as well as status-quo might also be a problem.

(...See Figures 7:1, 7:2.

(... References 1 & 2 are sources of information).

## 7:2. Structural Systems

Choice of structural system is affected by height and dimensions of space. This choice comes under two main groups:

(i) load bearing walls of masonry

(ii) skeletal structures which may also provide a platform support for load bearing walls.

These have been shortlisted due to the nature of the spaces to be provided especially in the offices. The skeletal type is favoured in high-rise structures. They consist of solid rigid elements in predominantly vertical extension, secured against lateral stresses and firmly anchored to the ground. They collect loads from horizontal planes in high altitudes above the ground transferring them to the foundations.

In order to provide suitable conditions for a flexible floor plan and good possibilities for later reorganisation of individual rooms in each floor, the design of these vertical structure systems (V.S.S.)

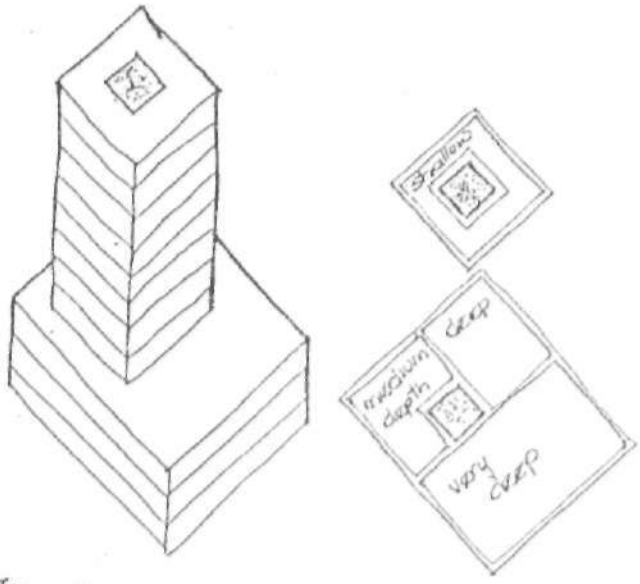
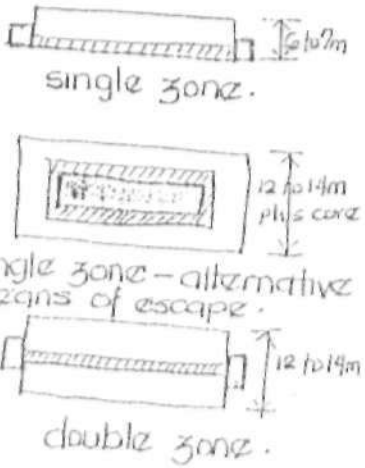
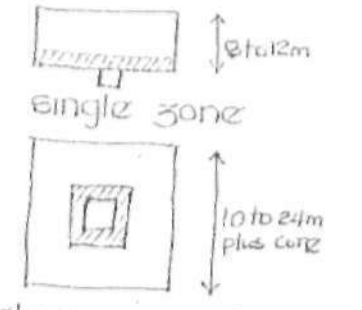
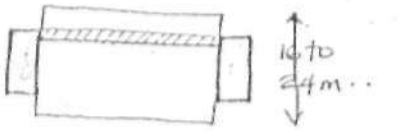


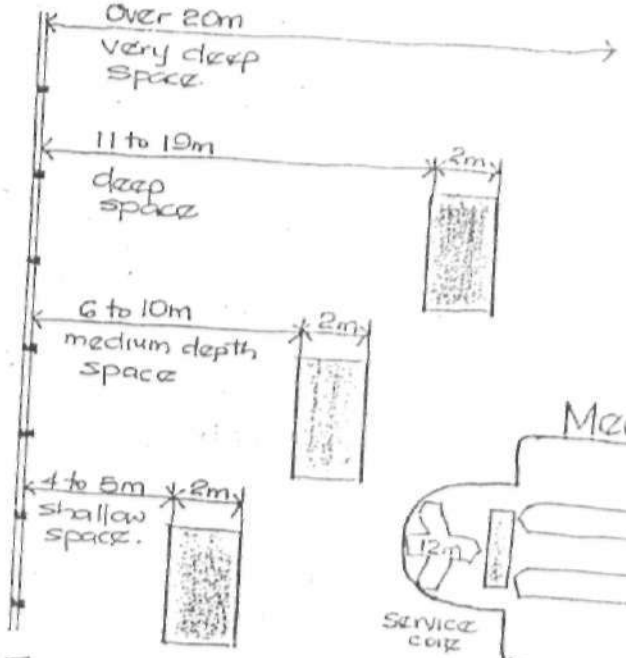

Illustration of how different types of office space with diff. kinds of use can be provided in one office bld. by simple device of core placed asymmetrically in the podium.




Examples of shallow spaces

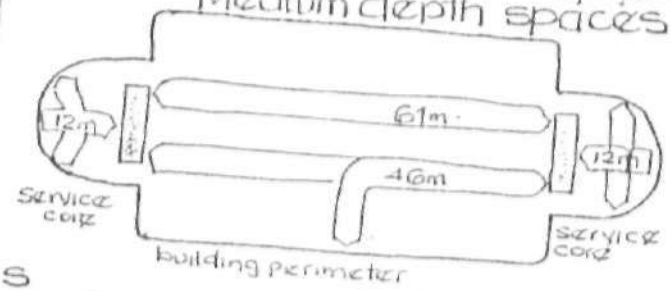



Four basic depths circulation is assumed to be 2.0m deep.

Medium depth spaces




Escape routes and distances

Examples of deep space.

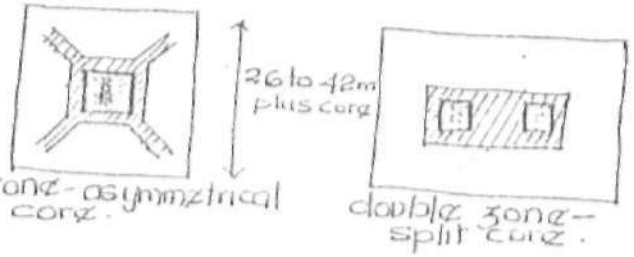
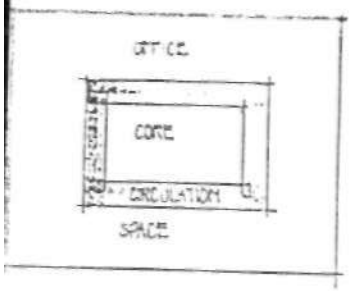



Fig - 7:1

# TYPES OF OFFICE LAYOUTS BASED ON CORE LOCATION - MODIFICATIONS -

## - GENERAL -



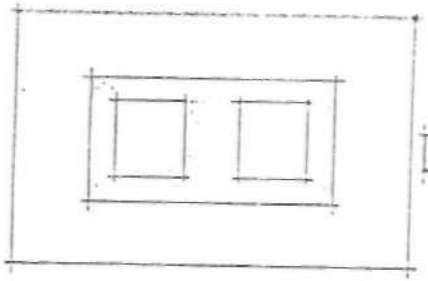

## CENTRAL CORE LOCATION

ADVANTAGES:

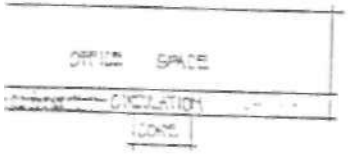
1. IN A TOWER, THE CORE HELPS TO SUBDIVIDE SHELL INTO SEPARATE TENANCIES
2. ALL SIDES OPEN TO DIRECT DAYLIGHT.
3. DECENTRALISATION OF SERVICES FOR CONVENIENCE (illegible)
4. DISTANCE FROM SIDE OF SHELL TO CORE IS UNIFORM
5. CORE HELPS IN LATERAL STABILITY AGAINST WIND LOADS
6. SUITABLE FOR LARGE, HIGH RISE OFFICES ON SMALL SITES

DISADVANTAGES:

1. REDUCTION IN FLOOR AREA RATIO
2. (illegible) FIRE
3. (illegible)



SPLIT CORE: CENTRAL LOCATI



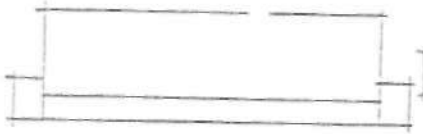

## EXTERNAL CORE LOCATION SINGLE ZONE

ADVANTAGES:

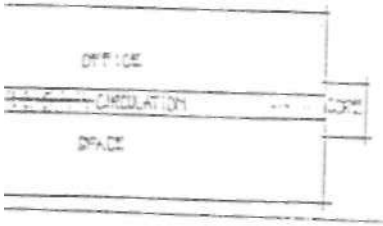
1. ALLOWS CROSS VENTILATION
2. ALL OFFICES OPEN TO CENTRAL CORRIDOR
3. ALLOWS SEGREGATED DESIGN
4. (illegible) IN DESIGNED AS OPEN PLAN

DISADVANTAGES:

1. LONG DISTANCES FROM ONE END TO ANOTHER
2. ONLY TWO SIDES OPEN TO DAYLIGHT.
3. IN HIGHRISE BUILDINGS INADEQUATE TO WITHSTAND HIGH WIND LOADS - REQUIRES ADDITIONAL STABILITY



DOUBLE CORE, SINGLE ZONE EXTERNAL LOCATION.




## EXTERNAL CORE LOCATION. DOUBLE ZONE

ADVANTAGES:

THIS IS A MODIFICATION OF THE SINGLE ZONE LAYOUT

1. IT IS MORE ECONOMICAL (ADVANTAGE TO WIND LOADS)

DISADVANTAGES:

1. INHIBITS CROSS VENTILATION
2. CORRIDOR NEEDS EXTRA LIGHTING

## MODIFICATIONS (GENERAL)

- CENTRAL CORE -

1. THE ASYMETRICAL LOCATION OF CORE WITHIN BUILDING CREATES A MIXTURE OF OFFICE SPACES THUS MAKING THE SYSTEM MORE FLEXIBLE
THE CORE COULD EITHER BE SQUARE, ELONGATED OR SPLIT IN TWO FOR GREATER EFFICIENCY

- SINGLE ZONE EXTERNAL CORE -

1. TO AVOID OVERLOADED USE OF CORE, THERE COULD BE TWO CORES PLACED AT EITHER END OF BUILDING THESE ALSO HELP IN LATERAL STABILITY FORMING SHEAR WALLS

- DOUBLE ZONE EXTERNAL CORE -

1. A VARIETY OF OFFICE CENTRES CAN BE ACHIEVED BY ASYMETRICAL PLACEMENT OF CIRCULATION CORRIDOR

GENERALLY ALL THE LAYOUTS CAN BE ACHIEVED BY CHANGING

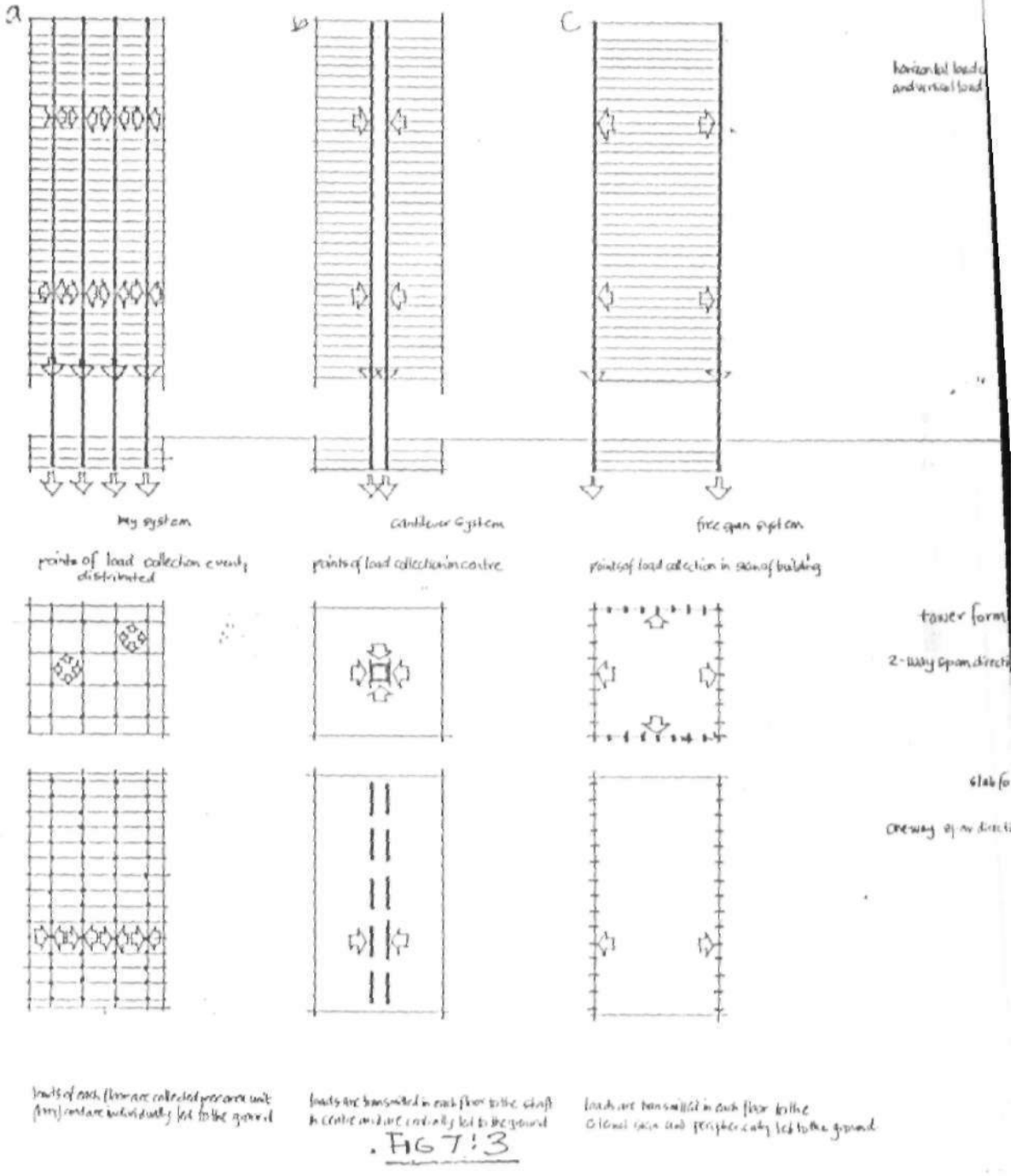
fig. 7:2

aims at the greatest possible reduction of load transmitting vertical elements in section and number. All space defining elements that are necessary for the function of the highrise building are potential structural sections to stiffen against lateral stresses as well as collect and redirect loads e.g. staircases, elevator shafts, installation ducts and the exterior skins. The figures attached illustrate how they can be distinguished by the different systems of storey-wise load collection. i.e. the bay system, the freespan system and the cantilever systems - see Figs 7:3 and 7:4.

## 7:3 Curtain Walling.

The behavior of curtain walls in warding off the effect of the weather is highly complex. They may look simple, but they are not. They are assemblies of structure, metal and glass working, with much interrelationship and interdependence of elements. Furthermore there is much to know about finishes and other subtle things like sealants. Problems associated with curtain walling are leakage and glass breakage as well as staining of glass, lack of colour match etc.

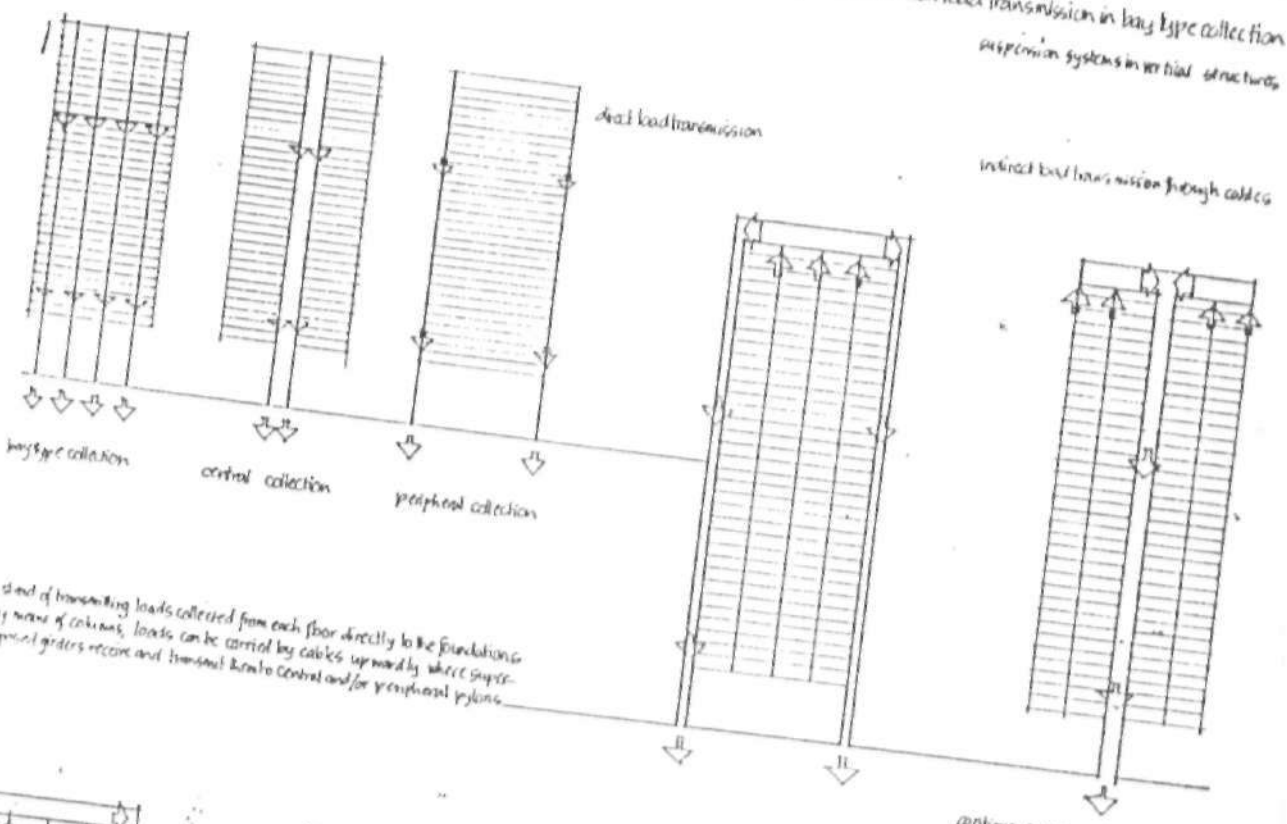
principal systems of load transmission in vertical str




. FIG 7:3

Systems of indirect vertical load transmission in bay type collection

suspension systems in vertical structures



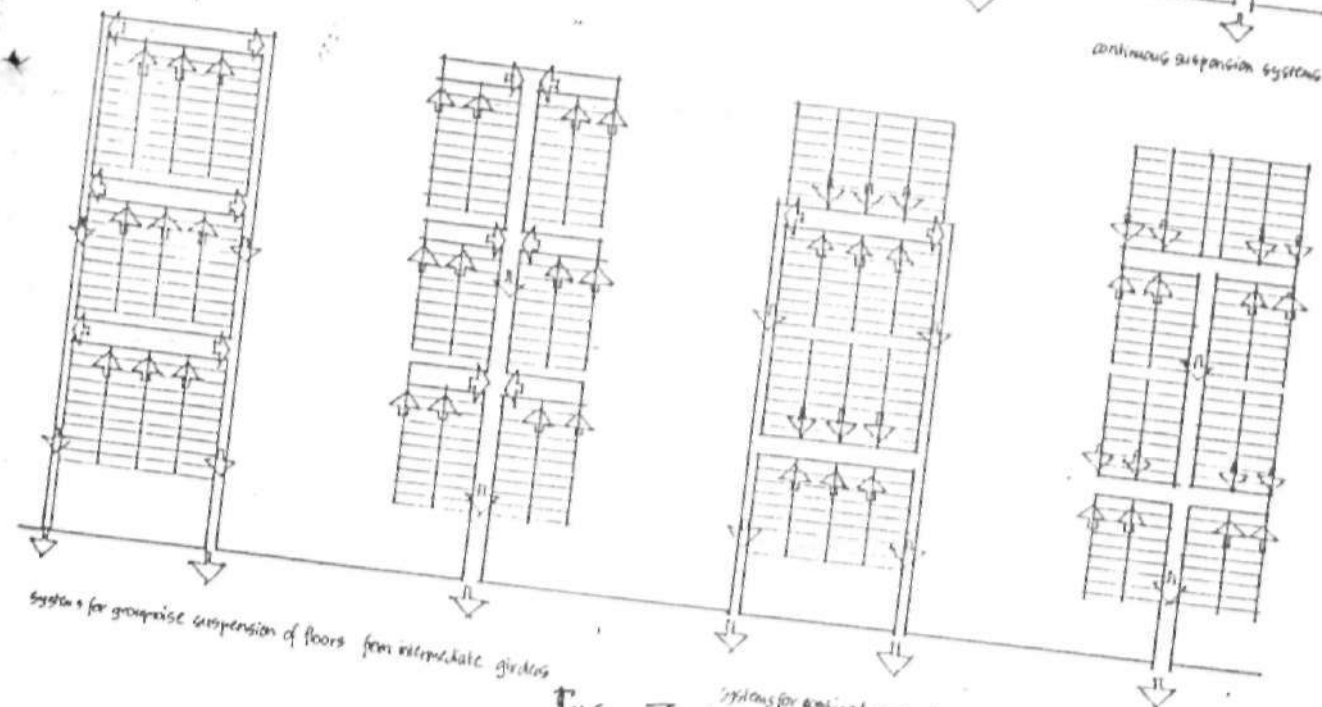




FIG 7:4

### 7:3:1 Fabrication, Design & Installation

Care should be taken in designing curtain walls Manufacturers are careful to manufacture in accordance with wind, thermal and construction specifications.

Architects should also have first-hand knowledge about sealants tolerance requirements and glass thicknesses. Also during construction and installation, sub-contractors must make sure everything is done to specification so as to limit future maintainance costs.

### 7:3:2 Window Cleaning

The methods by which windows and facades are maintained and cleaned must be considered at an early stage of design and the necessary equipment incorporated into the structure. Regular washing with warm or cold water and detergent is normally adequate. Access to the facades is also necessary to facilitate the cleaning. Access can be internal or external. External could mean the provision of balconies, sills and ledges (300-500mm wide), cat-walks (max. slope $20^{o}$) fixed or travelling ladders.

## 7:4 Conference Hall Design

The hall will be an essentially raked one with a raised stage designed as an auditorium. Due to its capacity, it could be used for other functions e.g. music, slideshows and the like but it is to be designed mainly for speech. Design of the stage should be flexible for different arrangements. The seating arrangement should include a writing area for notes and microphones. Rise of seating tiers should take cognisance of sight lines.

As delegates would be making use of electro-acousitc appliances, strong reflectors are not required. Provision has to be made for interpretation in multilingual attendance.

### 7:4:1 Simultaneous Interpretation Systemic (S.IS.)

The usual method is to have translation in booths in the conference rooms using the S.I.S to translate the papers being delivered into various languages. This system enables speech to be relayed to and from delegates via the interpretation booths. These systems are grouped into three main types:

(i) Cable or Hardwired System: These are permanent installations of the required number of language selector cables with built in terminals located

within convenient reach of each conference delegate, Cabling is run through the base of seats in ducts extending under the floor from row to row accross the aisles.

(ii) Induction Locp System: This system uses transmission via magnetic field generated by a looped wire around the auditorium. The field allows for up to six frequency bands which can be picked up by a small portable monitor provided for each participant.

(iii) Infra-red Systems: Signals are transmitted from the intrared, radiation, radiating from a number of transmitters in the room in contrast to the induction loop system, the infrared system is of a high transmission quality and has a capacity of up to seven bands. The recievers are portable, battery powered and connected by plug-in leads to headphones. - See Fig. 7:5.

7:4:2 Audiovisual Equipments

These are used for recordings, announcements, public addresses e.t.c. They are usually damaged by mishandling, dust and moisture hence must be security installed in control rooms. The include microphones,

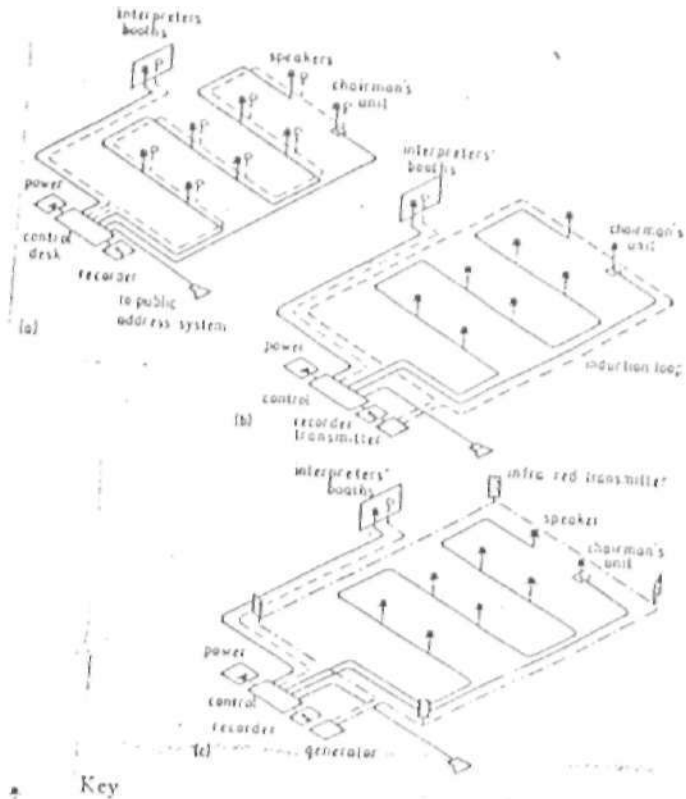



FIG 7.5 SIMULTANEOUS INTERPRETATION SYSTEMS.

a. .. - .... Cable or wired system
b. induction loop system.
c. infra-red system

tapes reproducers, loud speakers and head phones. Others include Television and video cassette decks as well as slide and film projectors. Projection is usually from a projection room at the opposite end of the projection screen.

7:5:0. Acoustic Considerations.

Many acoustical problems in buildings can be avoided by considering the broad requirements early in the design process as rectification and adjustments made later are rarely satisfactory or economical.

7:5:1. Room Shape & Quality.

For very large auditoria. depending on the use to which it will be put, room shape can be significant speech where shorter reverberation time is required, in reflecting sound. For clarity of shapes such as horse-shoe or fan are satisfactory.

7:5:2. Internal Noise Sources

Because effective noise insulation is often impractical and usually costly, noise generating areas should be sited away from noise-sensitive areas. In modern non-industrial buildings, the mechanical plant room is likely to be the noisiest area hence buffer zones formed by corridors, storage areas or landscapped open spaces are useful as control measures.

### 7:5:3 External Noise Sources

The most disturbing kind of external noise affecting buildings is transport noise from road vehicles, aircraft or railways.

An essential characteristic of such sources is that they are not generally under the control of those affected by their noise. It is hence assential to zone noise-sensitive areas away from such sources.

### 7:5:4 Impact Borne Noise

Noise is transmitted through the material on impact. This is affected by the density of the material in question. The denser the material, the lower the transmission. For building purposes, concrete is the most suitable material against impact-borne noise.

### 7:5:5 Air-borne Noise

The sound is transmitted through the air. This is generally affected by openings. Any form of opening in a partition will seriously impair sound insulation. Consideration will hence have to be given to such openings to reduce noise.

7:5:6 Structural Sound Insulation.

(i) Floors: An acoustic problem associated with floors is the direct structural excitation of a hard surfaced floor by footsteps. Thick carpets are an acceptable solution. Where not feasible, a floating floor must be used if footstep noise is to be avoided in the room beneath.

Airborne sound insulation of a floor can be improved by suspending an impermeable ceiling below it, but the improvement is often limited by structural limitations on its weight and height.

(ii) Walls: The materials used for the wall and its thickness are primary factors in sound insulation. Sound absorbing materials such as wood slats and thick curtains can be used in conference halls or committee rooms.

7:6 Services

7:6:1 Airconditioning.

It is desired in a facility like this for the entire building to be airconditioned with a concern for economy. The Vapour compression system of airconditioning is the most suitable for office block purposes. Out of the two methods in this system the

central airconditioning method is more adequate and economical as long term benefits will compensate for the initial high cost of purchase, installation and duct work. Distribution can be via suspended ceilings or false floors - See Fig. 7.6.

7:6:2 Water Supply and Drainage.

A comprehensive and effective water supply network exists in Abuja running along streets together with the electrical supply. Supply to the building would be tapped from this source and pumped into cisterns at the top of the towerblock to achieve desired pressure.

Foul water will be treated in local septic tanks while surface water will be drained into street drains following the site slope. Fall pipes embedded in buttresses would be used where possible to carry water from roof tops to surface drains.

7:6:3 Fire Service Equipment.

Modern Buildings require not only means of escape, access for fire brigade and structural protection, but also first aid equipment. In very high buildings, expert advice on the appropriate provisions and the maintainance desirable for particular cases of special installations should

be sought from local fire stations.

A number of common equipments for fighting fires include buckets with water or sand and soda-acid or foam fire extinguishers. These are placed at strategic points and are movable. Fixed apparatus include rubber hose reels usually at entrances and at staircase landings and sprinklers. Fire alarms set automatically by smoke detectors or by smashing glass are also desirable.

Materials used should also be considered in high fire risk arcas. Firecheck doors are desirable in escape routes. Limited use of exposed steel in structural elements is also necessary.

### 7:6:4 Maintainance.

Choice of materials should reflect the need for easy maintainance of design components. Durability and permenence are desirable. Design should take cognisance of the fact that apart from major maintainance work, official activity must go on when general maintainance is being carried out. Localisation of services will ease maintainance work.

## 7:7 Site Considerations.

### 7:7:1 Accessibility, Security & Parking.

The proposed building will serve both the Exchange Market and the public as some spaces will be let out. At the same time, the general public will have access to the conference hall, shopping and restaurant areas as well as the exhibition hall. These requirements divide the patrons into three classes:

(i) Commodity Exchange Staff.

(ii) Public with rented spaces or Public with business/exchange purposes.

(iii) General Public.

Accessibility to the site from the surrounding roads will be both vehicular and pedestrian. Their routes should be clearly laid down in site planning. Care should be taken to differentiate the various classes of people and to provide adequate design solution. Security is of utmost importance due to the financial nature of the facility. This further emphasises the point of patron distinction. Provision of security zones and 'out of Bounds' zones will become necessary. Design should also facilitate ease of observation to all areas by security personnel.

Packing should be adequate and localised for security, convenience and aesthetic purposes. Dropping off by an entrance canopy (porte cochere) is desirable.

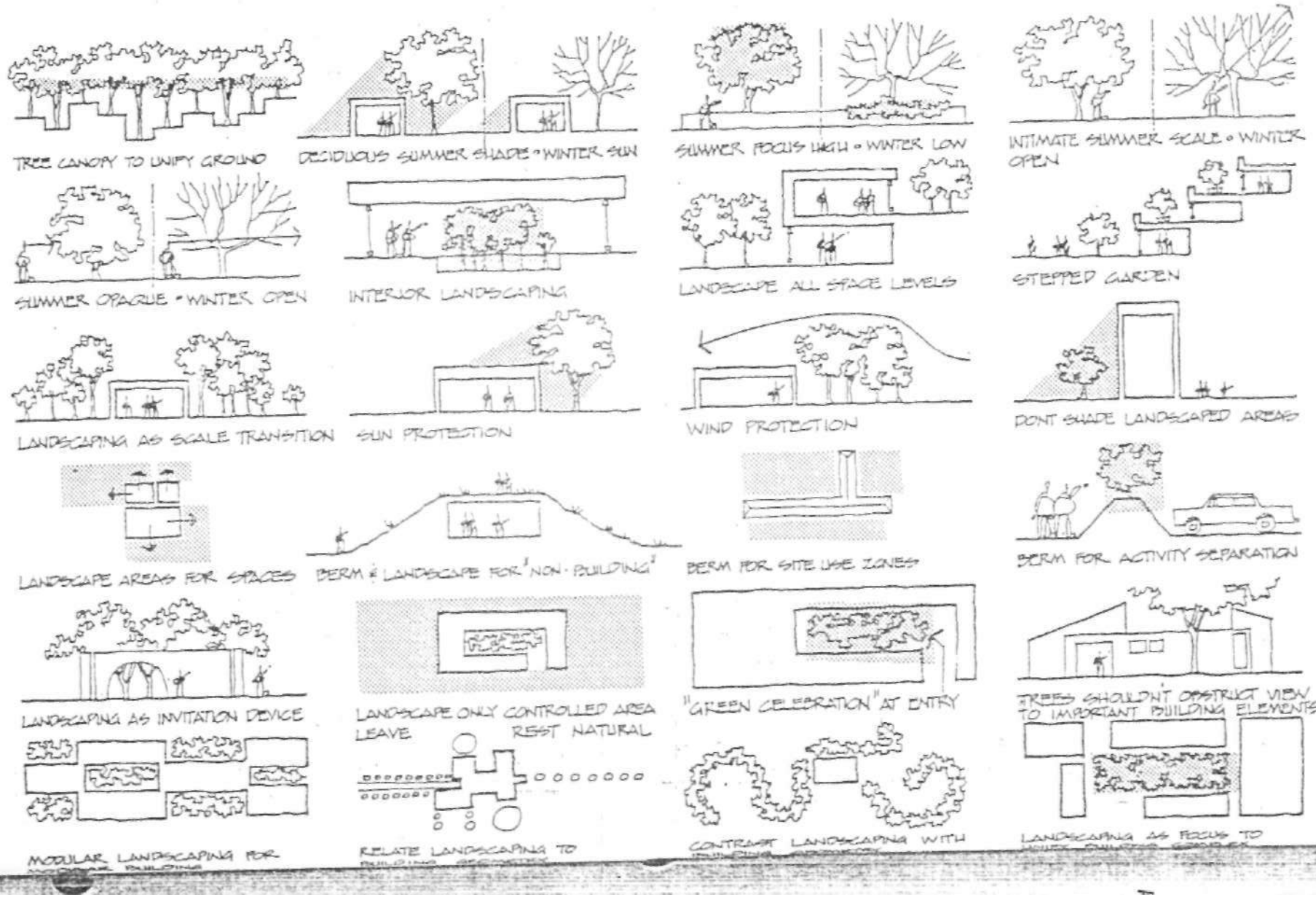
7:7:2 Landscapping

Adequate landscapping must be provided to enhance the image of the building as well as screen against harsh weather effects. Shrubs and grass lawns are a consideration. Walkways must be integrated into these green areas to facilitate movement. Internal order must be permeated by external order to effect the 'spirit of place'. Consideration must be given to what Le Corbusier calls 'toit jardin' or roof garden. The flat Roofs must be used and not left bare. Planting in the interior is very desirable. Fountains or sculpture pieces are possible vehicles of vernacular architecture inherent in Africa. Fig. 7:7 shows how landscapping can be used in buildings.

7:8. Circulation and Interaction

The movement of different categories of patrons must be clearly worked out to ease functions in this facility. The lobby/reception is the main waiting area which contains information booths, restroom and

# Landscaping with Plants



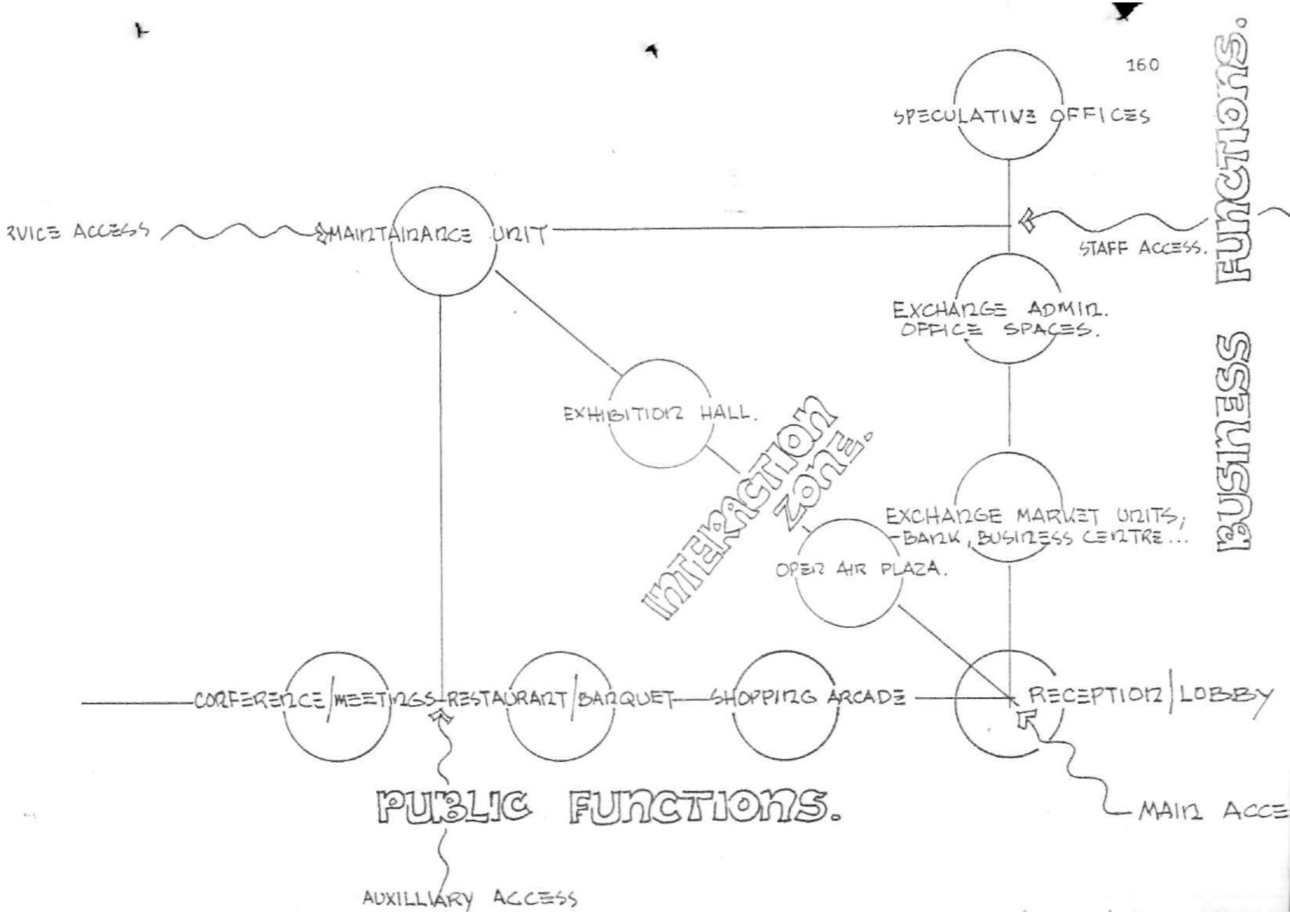
forms an assembly point for all categories of patrons. Ideally, it should extend directly from the main entrance and should be immediately conspicious on entry. From here, movement should be decisive: to different units of the design in a logical manner. The public and less public facilities are zoned together to facilitate this. - See Fig 7:8.

Corridors and staircases in public areas require a lot of space and must be located where they are clearly visible to users. Entry into the conference hall and restaurant must be through foyers and their area must be a direct consequence of their accomodation. Conveniences must be located nearby. A Banquet hall that can be partitioned into committee rooms can be located near the Kitchen.

7:8:1 Functional Parameters.

From the above studies, a number of conclusive parameters have been mapped out to help in forming a composite functional diagram for the Commodity Exchange Market, Abuja. Flow and articulation of space is necessary with a multifunctional brief like this one. The parameters include:

(i) Separation of General traffic from Commodity Exchange administrative traffic and conference traffic.


SPECULATIVE OFFICES
BUSINESS FUNCTIONS.
SERVICE ACCESS
MAINTAINANCE UNIT
STAFF ACCESS.
EXCHANGE ADMIN. OFFICE SPACES.
EXHIBITION HALL.
INTERACTION ZONE.
EXCHANGE MARKET UNITS; BANK, BUSINESS CENTRE...
OPEN AIR PLAZA.
CONFERENCE/MEETINGS
RESTAURANT/BANQUET
SHOPPING ARCADE
RECEPTION/LOBBY
PUBLIC FUNCTIONS.
AUXILLIARY ACCESS
MAIN ACCE

(ii) Separation of vehicular and pedestrian traffic.

(iii) Separation of service (backhouse) and guest (front house) traffic.

(iv) Use of circulation spaces and other public spaces for interaction zones.

Figure 7:9 shows the composite functional diagram for the Exchange Market. Linkage of functions where possible would be via open spaces to effect the courtyard concept.

## 7:0. Schedule of Accomodation

Anthropometrics, proxemics, Required furnishings and dimensional disciples have been employed to help arrive at functional space allocation. The main aim of space allocation is to achieve the basic requirements of human comfort in such spaces. All other criteria serve as modifying factors for special situations. In determining the shell form of the office block as well as space distribution, a number of important dimensional disciplines must be respected, which can be coordinated and related by the use of grids.

(i) Structural Grid: The Grid that regulates the placement of the main structural columns of the shell. This could cause some alterations to the schedule of accomodation hence the spaces quoted

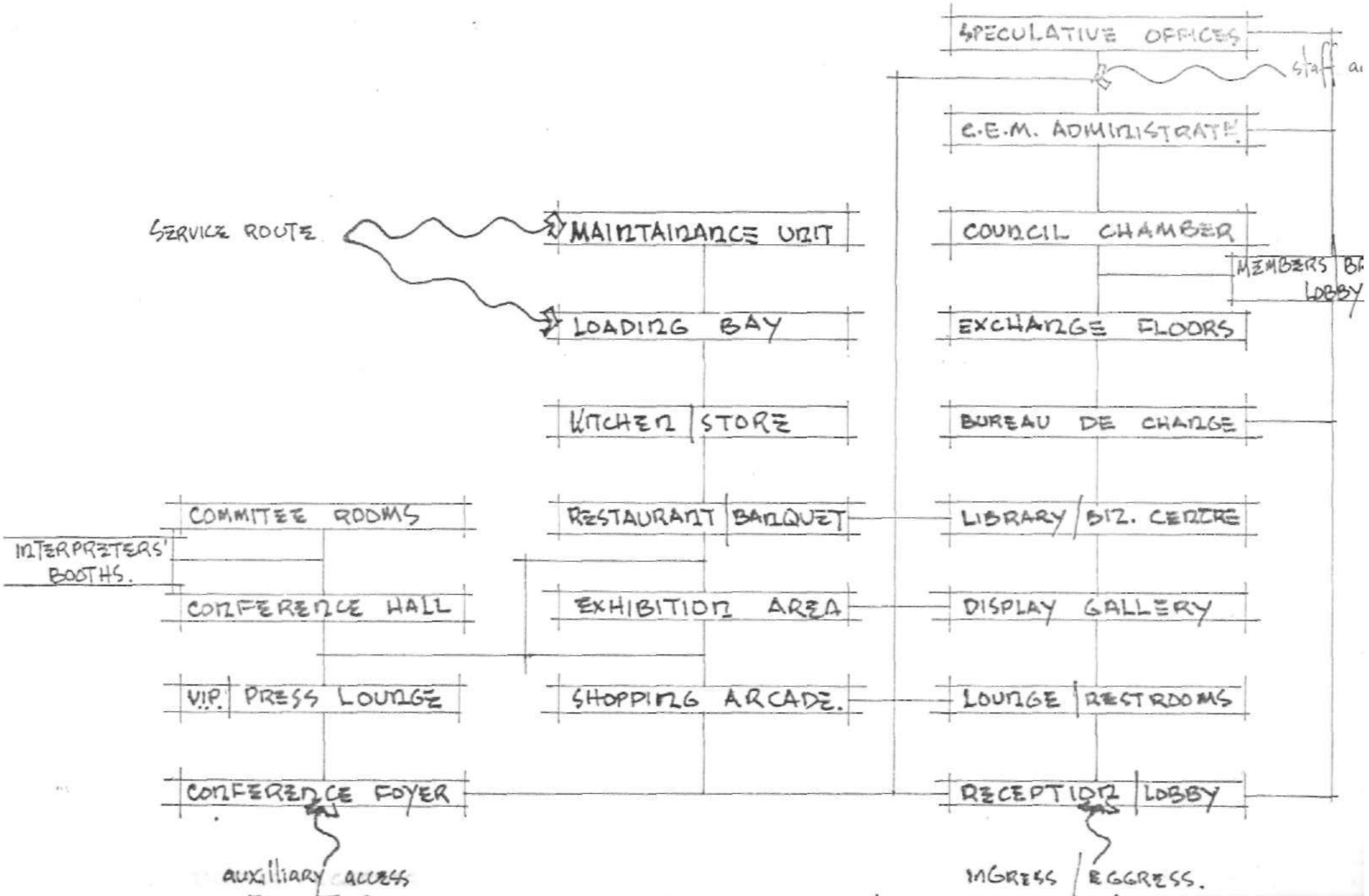



FIG. 7:9 — COMPOSITE FUNCTIONAL DIAGRAM

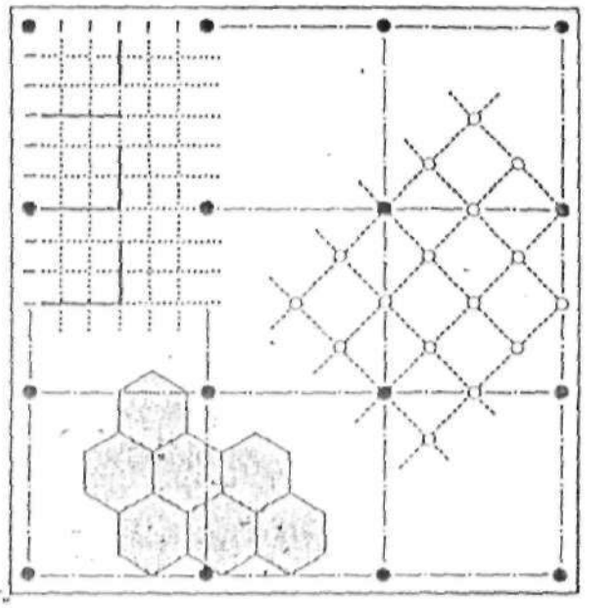
should be seen as optimum guides.

(ii) Constructional Grid: This grid regulates the placement of window mullions and partitions. It also governs almost all the other grids to a very large extent.

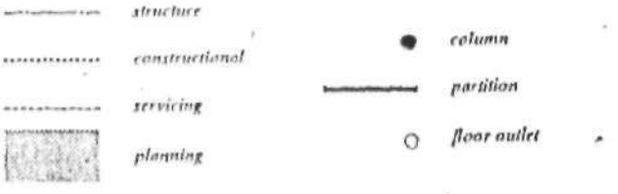
(iii) Servicing Grid: This grid governs the distribution of services throughout the structure. The services usually considered are the aircondition outlets, electricity sockets, points for telephones and lighting fixtures.

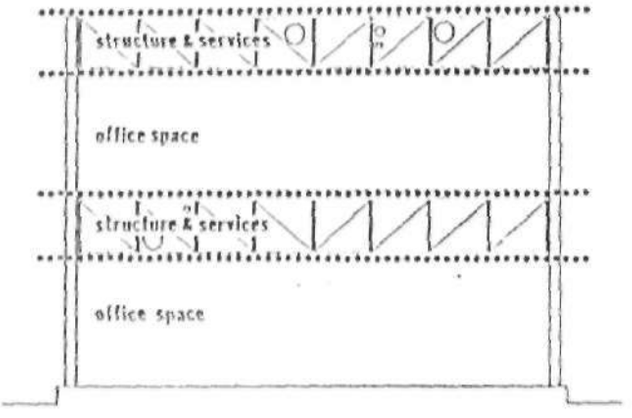
(iv) Planning Grid: This has to do with partitioning systems when dealing with deep office space. - See Fig 7:10.

In arriving at final space dimensions, a structural grid of 6m x 6m is chosen. A survey of standards and spaces derived from case studies has also helped in space allocation for various units. (... See Appendices).



*Four kinds of grid: structural, constructional, servicing and planning*




*Grids cannot be considered in plan alone—the section must be considered*

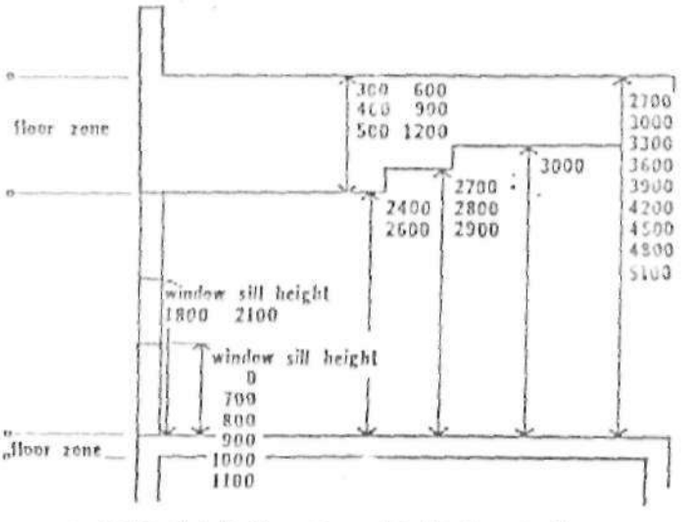



FIG 7.10

*Ceiling-height dimensions related to floor-to-floor heights and floor thicknesses. Window sill height to be*

7:9:1 Space Allocation.

(i) ADMINISTRATION FOR EXCHANGE MARKET

- Top Executive Offices (Director-General, Chairman of Board, Assistant General Managers) - $45m^2$
- Secretaries/Waiting Rooms - $36m^2$
- Departmental Offices (General) - $100m^2$
- Archives (General Storage) and Accounts - $54m^2$
- Staff Offices (P.R, Archivist...) - $30m^2$
- Utility Rooms - $12m^2$
- Lettable Spaces (average) - $24m^2$

(ii) EXCHANGE MARKET UNITS

- Exchange Floors (average) - $200m^2$
- Brokers/Members Lobby - $72m^2$
- Executive Lounge (+Kichenette) - $72m^2$
- Council Chamber - $144m^2$
- Bureau de Change - $144m^2$
- Telex/Computer Services - $72m^2$
- Business Centre + Office - $96m^2$
- Library + Librarian - $96m^2$
- Information/Telephone Booths - $18m^2$
- Prices booth/lobby - $36m^2$

(iii) SUPPORTING FACILITIES

- Restaurant (main 350p.) - $420m^2$
- Kitchen - $120m^2$
- Kitchen Store + Offices) - $108m^2$
- Shopping spaces (lettable) - $36m^2$
- Exhibition Hall (480P) - $576m^2$
- Changing Gallery/Display - $216m^2$
- Reception/Lobby - $216m^2$
- Maintainance Unit/Plant rm. - $470m^2$
- Restrooms - $1.2m^2$ each
- Security Posts - $18m^2$ each
- Parking spaces - $15m^2$ each
- Elevator (for 12p. each) well(G.P.) - $4m^2$ each
- Staircases (width = 2m) - $24m^2$ each
- Open plazas for relaxation - $500m^2$

(iv) CONFERENCE UNIT.

- Conference Foyer - $72m^2$
- V.I.P. Lounge - $60m^2$
- Press Lounge - $60m^2$
- Interpreters booths - $6m^2$ each
- Control Rm. - $15m^2$
- Conference Hall + stage (500P) - $729m^2$
- Committee Rooms (3 layed into 1 for Banquets) - $42m^2$ (each
- Conference registration/administration- $36m^2$

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THE SEARCH FOR AFRICAN IDENTITY FOR CORPORATE BUILDINGS....



... COMMODITY EXCHANGE MARKET, ABUJA.

JUST AS EVERY FORM CONTAINS ITS FUNCTIONS AND EXISTS BY VIRTUE OF IT, SO EVERY FUNCTION FINDS OR IS ENGAGED IN FINDING ITS FORM.

LOUIS SULLIVAN.

## 8:0 Design Concepts and Report

Having allocated spaces to the various units of the design it is now necessary to formulate concepts that will guide the planning and the form of the building.

### 8:1 Site Planning

The axis into the site from the Festival way/ Olusegun Obasanjo Way junction has been analysed to be the strongest point from which the complex can be visually appreicated. This axis would lead to the main entrance canopy from where the compcsite units will be zoned in order of hierarchy (The more public facilities nearer the entrance lounge). The main access is to be tapped from the less busy O. Obasanjo Way from where two sets of parking spaces are accessible: The main visitors car park and the business/executives/staff parking. Drop off point at the main entrance canopy is necessary in bad weather before parking. An auxillary/staff entrance is further down O. Obasanjo Way which is nearer the Administrative wing. Pedestrians come in via two bustops on both major roads about 50m from the junction. From here paved walkways lead accross well landscapped lawns to the main entrance and other access points. Service access is from Festival

Way down to the maintainance unit which should necessarily be near the Kitchen and Exhibition areas for loading and offloading.

A well landscapped plaza is to be incorporated into the design in the form of an interaction courtyard for the two sets of patrons. The planning and massing of functional units on site should necessarily be balanced and posses axial symmetry about the earlier mentioned axis. This is to effect 'unity in diversity' in the design.

8:2 Circulation: This consists of both the vertical and the horizontal.

8:2:1 Horizontal Space Articulation: Spaces should relate to each other on the horizontal plane in a logical and clear-cut manner, this will consist of wide concourses and corridors with functions branching off in a sequential manner (according to laid down hierarchies). These need to be well lit and public facilities (like telephones booths and information notices) can be introduced where necessary.

8:2:2 Vertical Space Integration: Space relationship on different floors need to be presented with smooth communication patterns to effect function. Staircases

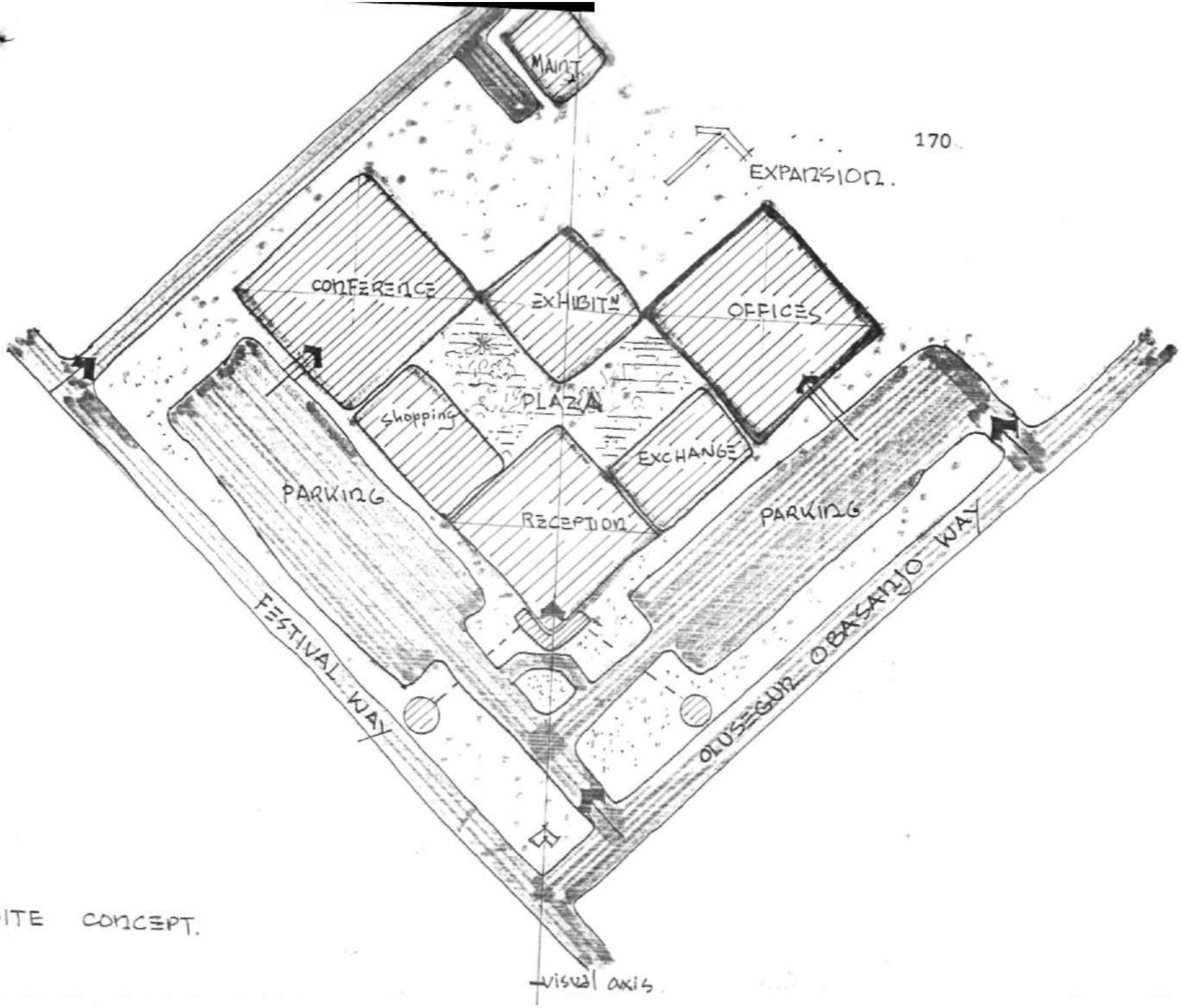



FIG. 8:1 – SITE CONCEPT.

and lifts are placed where they are very visible and at reasonably equal distances from each other. This will facilitate easy dispersal of users at peak hours and emergency situations. Staircase widths and liftcage sizes should necessarily be able to cater for the maximium number of people at peak hours. More public functions are placed at lower levels while more private ones are at higher levels. This will ensure that fewer people make use of vertical circulation provisions (The less people need to escape in emergency situations the easier).

## 8:3. Design Form

Based on the earlier selective synthesis undergone, African symbolism has been potrayed by the pyramid. The Administrative office block which will tower up highest amongst the units will have a pyramidial form. Abuja townscape will complement this and the other units will necessarily have to complement this form. This form is very dynamic and potrays a feeling of prosterity, but has its own problems especially with the location of the service core and the circulation/functional space ratio.

A compromise has to be arrived at in the use of this form. Its pure form has to be jeopardised to accomodate some of these problems. This will however be in a complementary manner, slanted pinnacled topped buttresses of the other units will add to the composition. These buttresses will serve other purposes-like sunshading and housing of fall pipes.

The concept of one pyramid growing into another has also been explored. This was to rekindle the idea of pharoahs in Ancient Egypt building bigger pyramids than their predeccesors for prosterity to assess. This would follow a sequence of activities where feasible to be truely meaningful.

Ivory tusk shaped pylons would be used to support the main entrance canopy to enhance Aesthetics at this focal point in a typical African trade outlook. Sculptural concrete will be exploited in the form of arches to be truely symbolic.

## 8:4 Materials & Finishes.

Brick facing will be used for the exposed pyramidial forms in a manner reminescent of commodity bagging arranagment in Western Africa. This local produce will also be used in other parts of the design, but care has

been taken not to allow it dominate the facades as it can result in over massing. Textured concrete and curtain walling will be used to break the monotony. Reinforced concrete will form the structural components with locally produced 'fired' bricks as infills where possible. Well graded precast terrazzo panels will be used for flooring and can be carpeted where demanded. Acoustic panels will be used for the conference hall-and suspended ceilings in other parts. Well polished wood will be used for permenent furniture and light screens. Flower beds in the interior will also be lined with brick slips.

## 8:5 Services

To facilitate easy handling of services in the office tower, two vertical ducts have been provided in the core. These are designed to carry all the vertical services which is made up of electricity, airconditioning, fresh water and waste water. These will be serviced on the services floor on the 9th floor of the tower. The water tank and the air airconditioning plant will be housed on the roof deck, from where the horizontal service distribution is via the 600mm space between each floor slab and the suspended ceiling.

Fire fighting equipment like hose reels on all landings and lift lobbies as well as ionization smoke detectors well spaced out will be provided. Staircases will be at two ends to facilitate escapes in emergency cases. Fire hydrants from water service pipes are also provided.

Closed drains are provided all round the building to take care of surface water drainage. A local septic tank and soakaway pit is provided leading waste from inspection chambers.

In the maintainance building of the whole complex, a transformer and generating plant are provided. A 150mm supply pipe from the main water tank takes water in 80mm service pipes to other storage tanks with water heads above the tap outlets.

8:6 Construction

In these times of escalating costs of construction, the remedy is to speed up construction as much as possible. With the prestige of the facility in mind, prefabrication can be used extensively to achieve good results. The floors in the tower block can be hoisted into place on precast columns, In-situ concrete can be used in the service cores.

## 8.7 Conclusion

In an attempt to provide a suitable building to house the Commodity Exchange Market, Abuja; African Identity has been chosen to provide physical and psychological achievement. In the course of the research, tradition was used as a catalyst and technology as a moderator to achieve this. Form was also emphasized as against functional aspects - for reasons that this kind of facility is non-existent in indegenous Africa. The pyramidial shapes were adopted to evoke the strong sense of identity for the facility as well as provide a sense of prosterity as can be psychologically rewarding for African economies. Other relevant themes like the Domes ('calabashes') and arches were de-emphasized and sculptural motifs were not used extensively so as to be in line with the spirit of the times.

It must be however clear that in thesearch for African Identity for corporate buildings, different communication modes can be used to achieve this. It can hardly be said that these modes are exhaustive especially in a widely diverse continent like ours. The pyramidial communication mode was chosen for its direct relevance to the facility and for its widespread use accross the continent.

The accomodation of the exchange market is to ensure that all complementary facilities are functionally planned. This will see to the eventual success of commodity trading or dealing in the market. Imageability, Flexibility and Efficiency (the Key words in the planning of Abuja) have been used to guide design decisions throught the compilation of this thesis.

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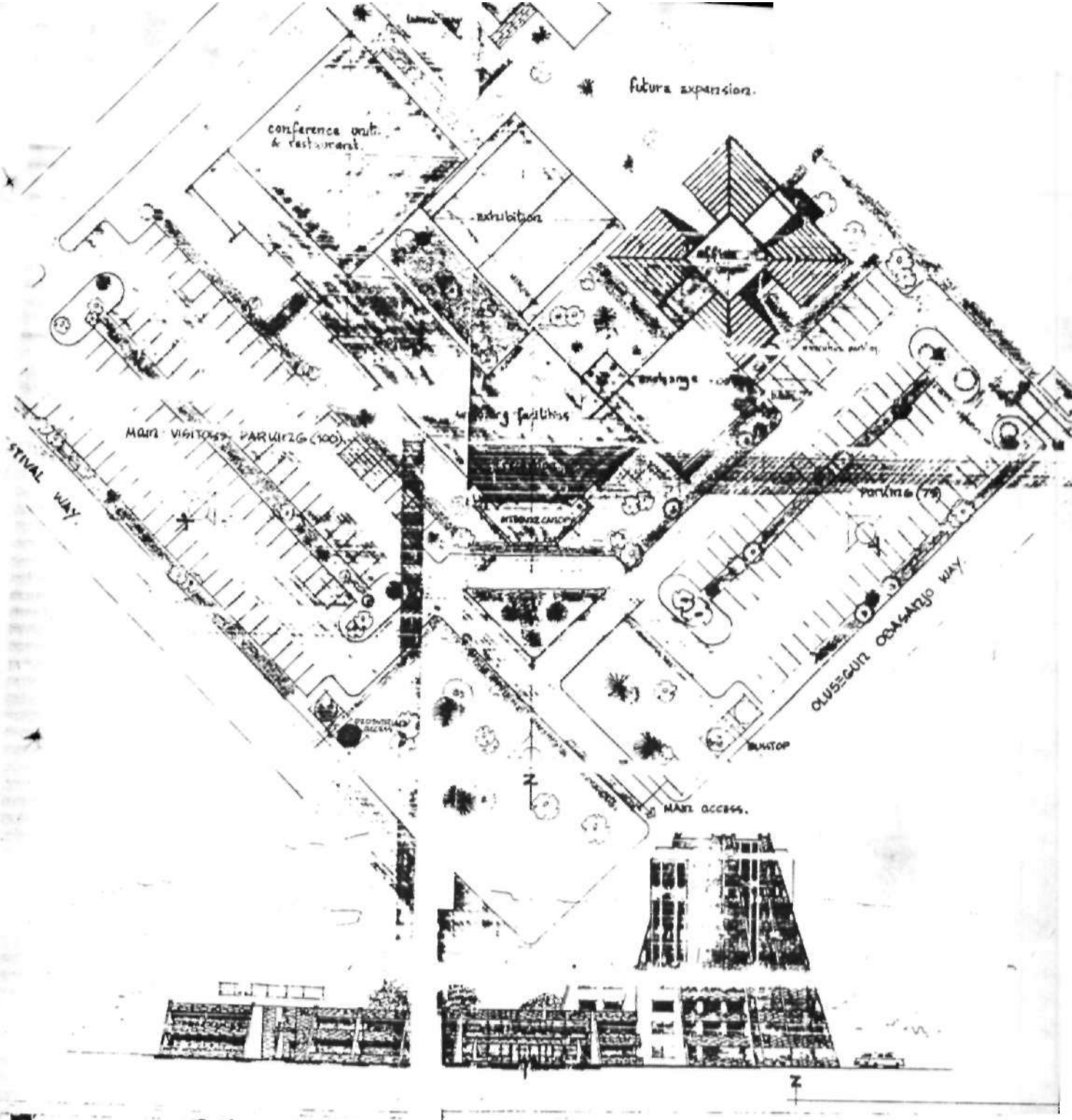

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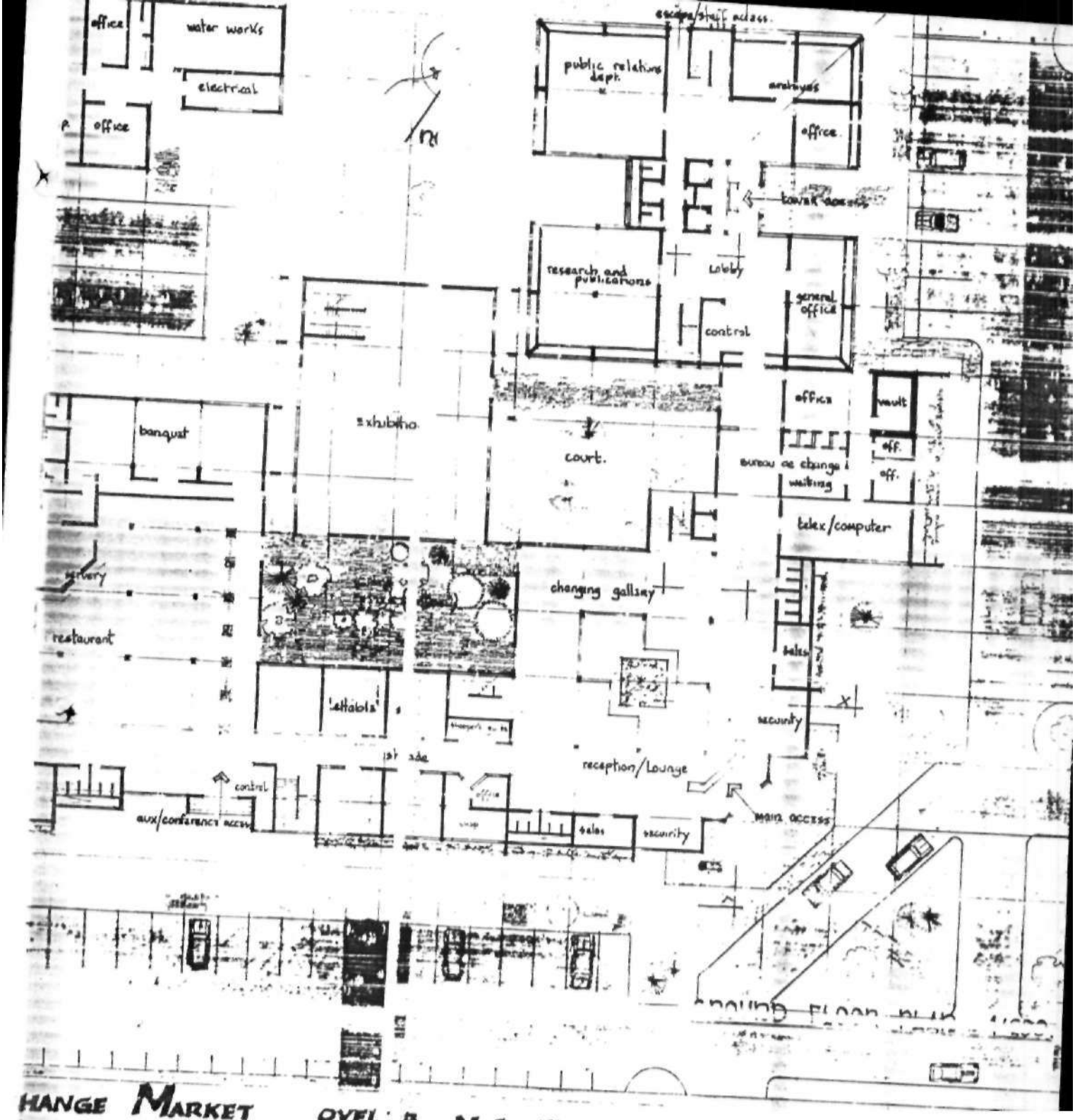

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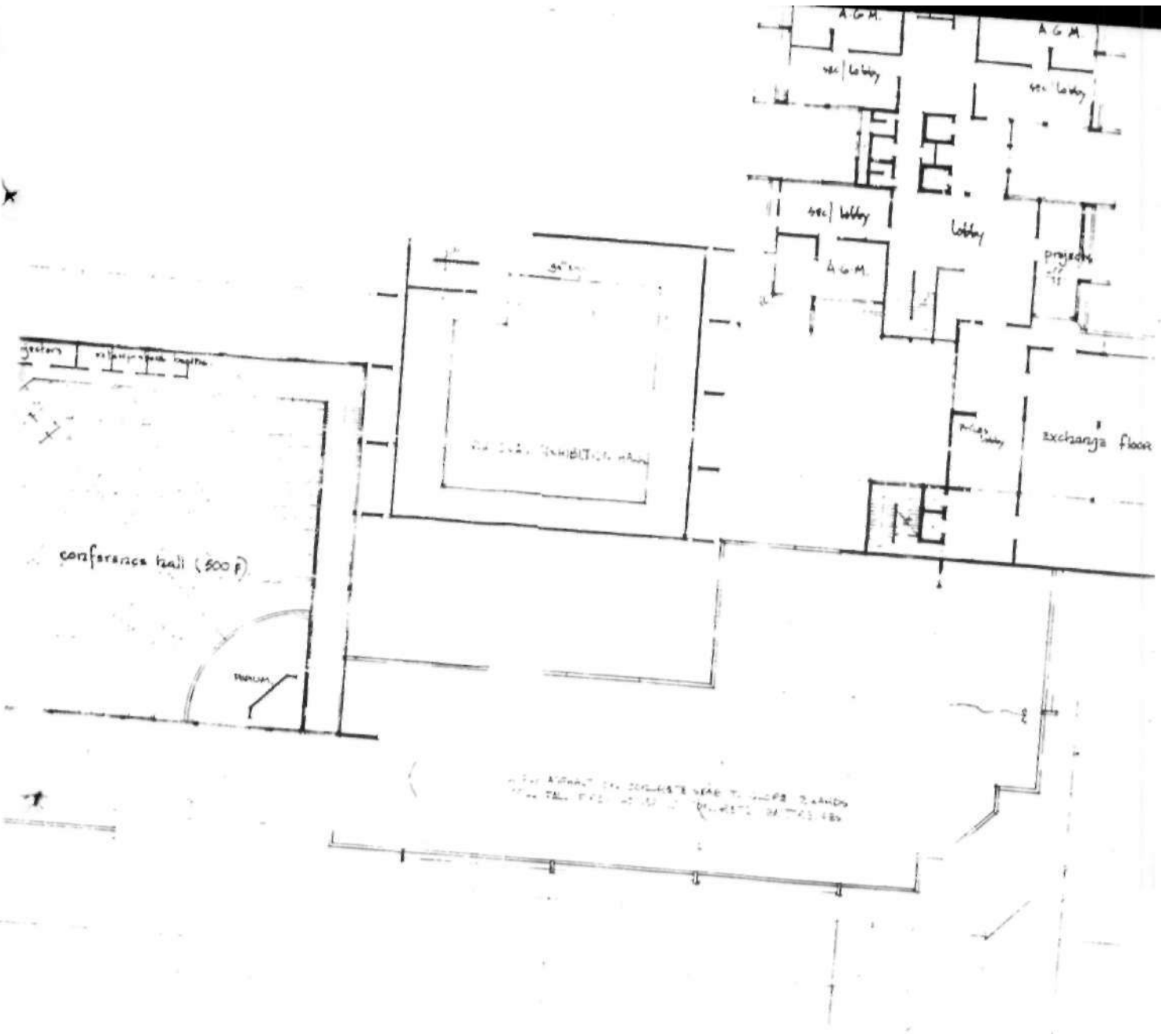
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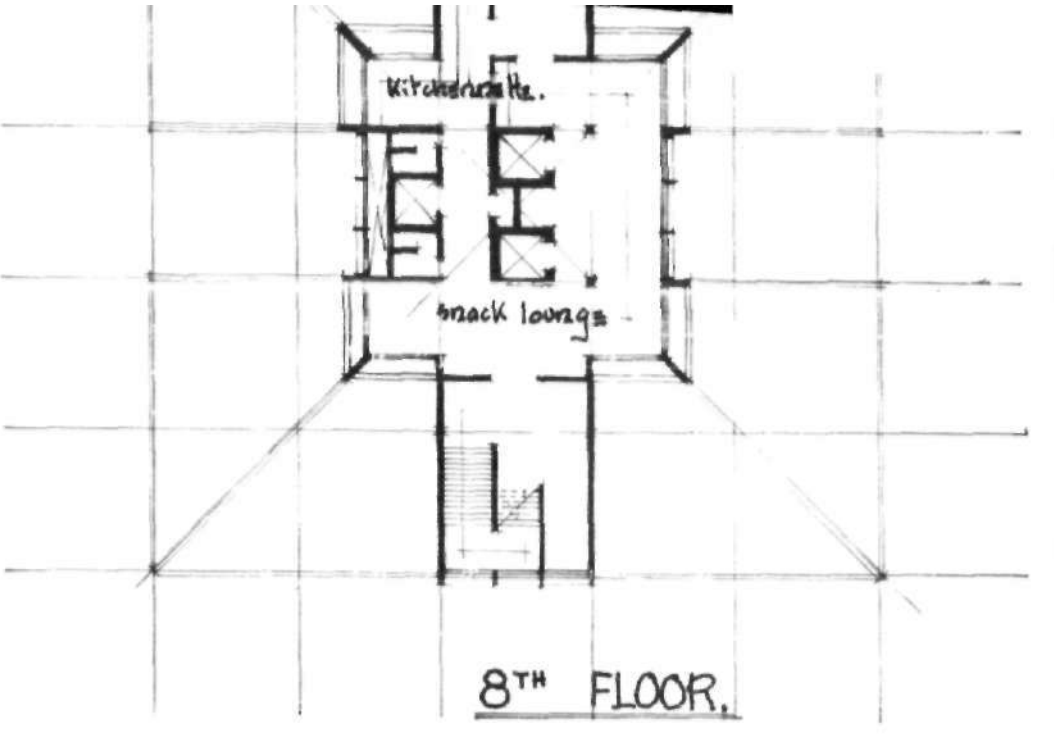

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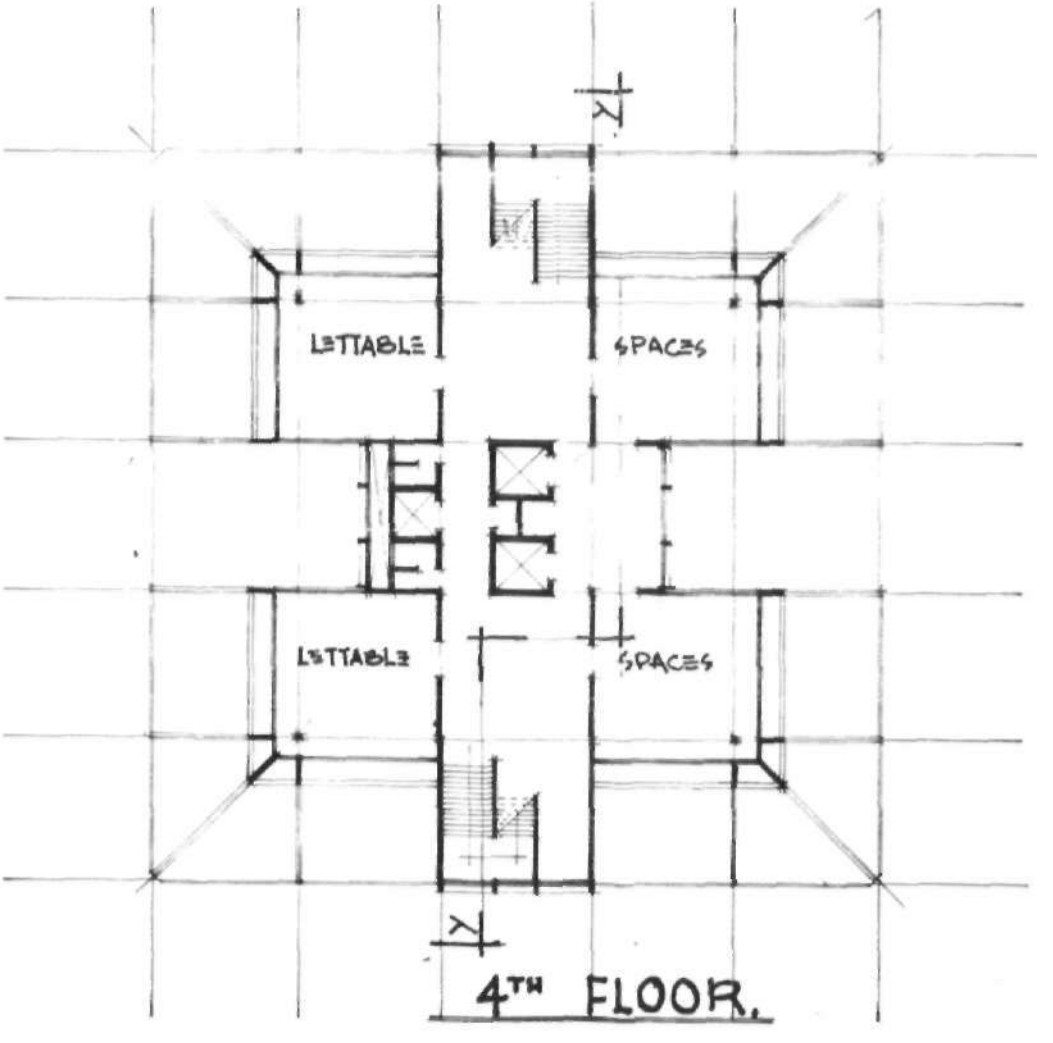

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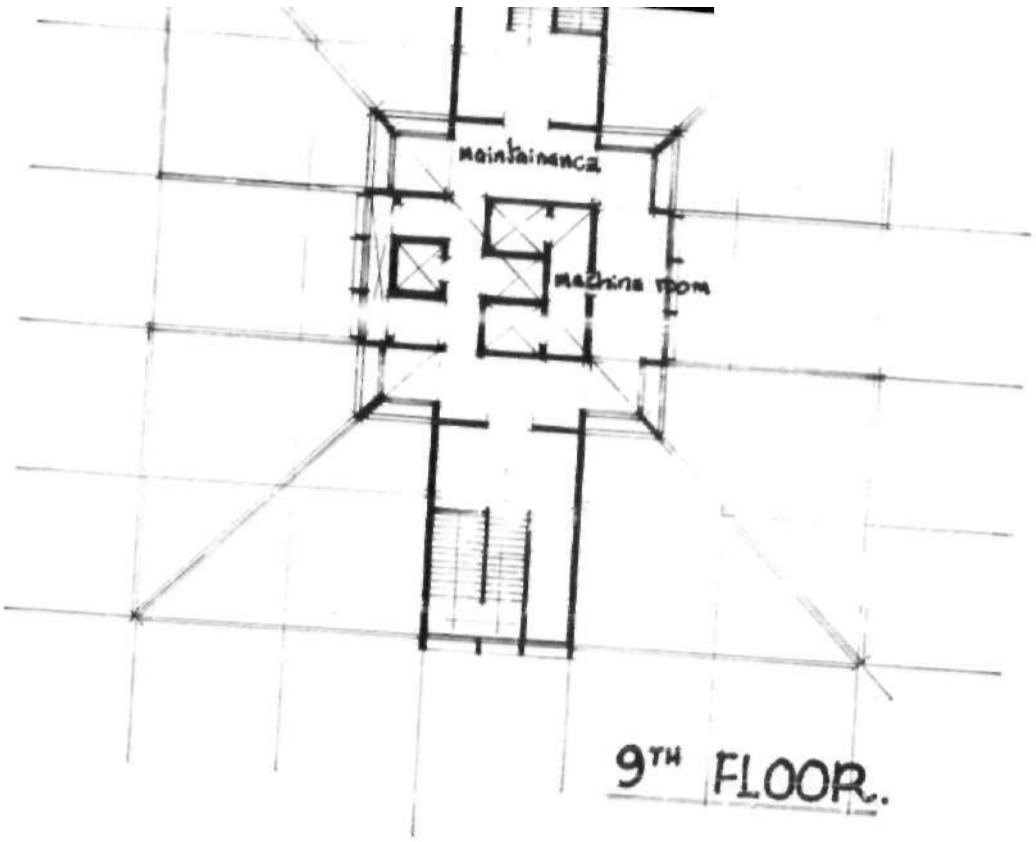

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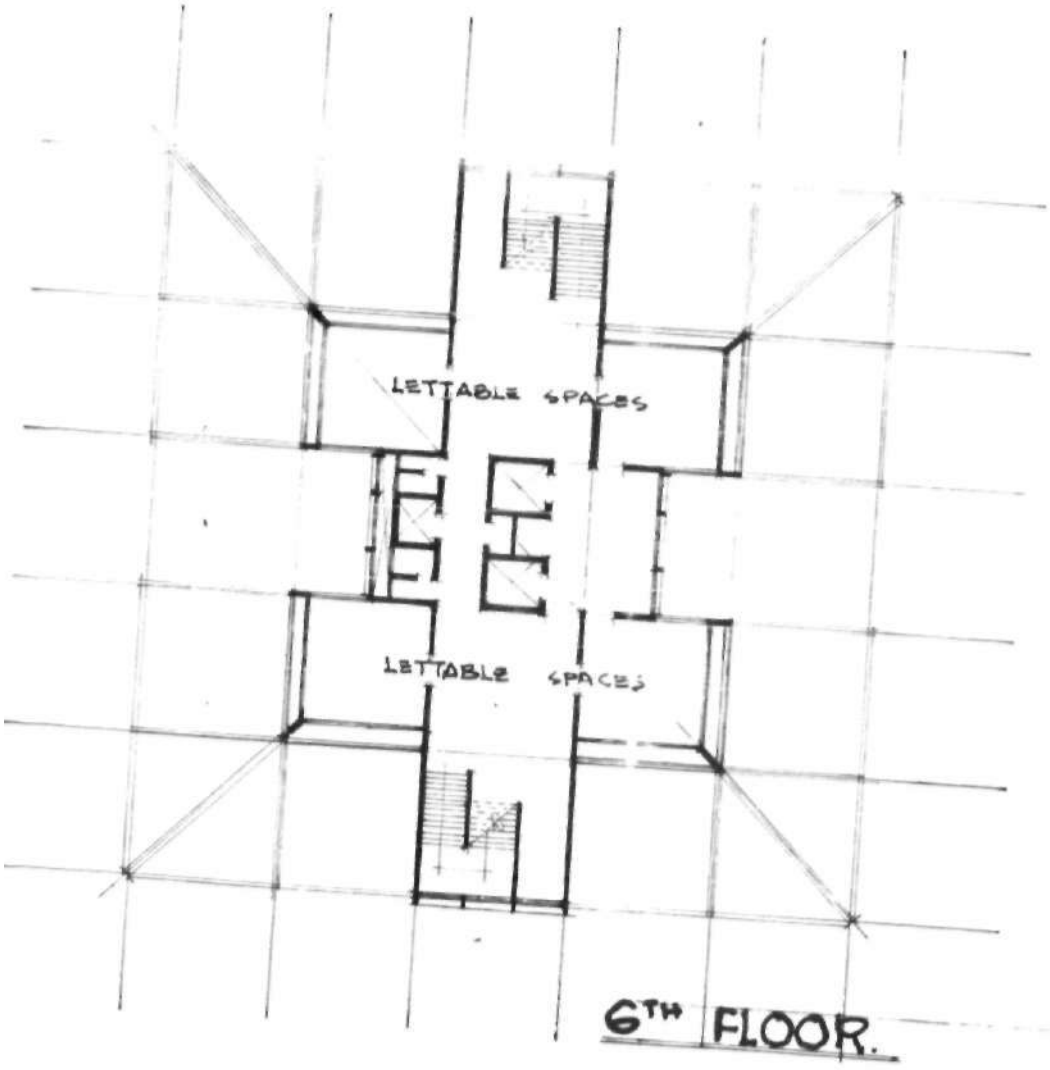

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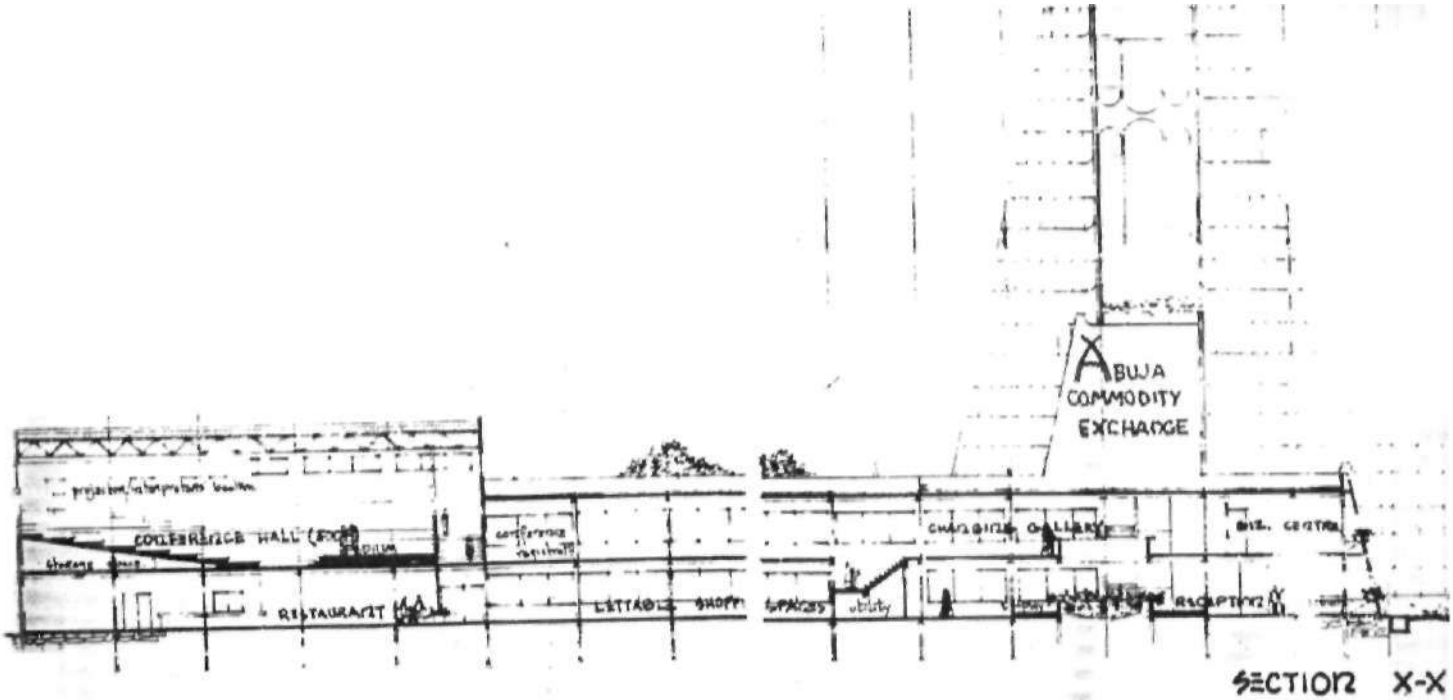

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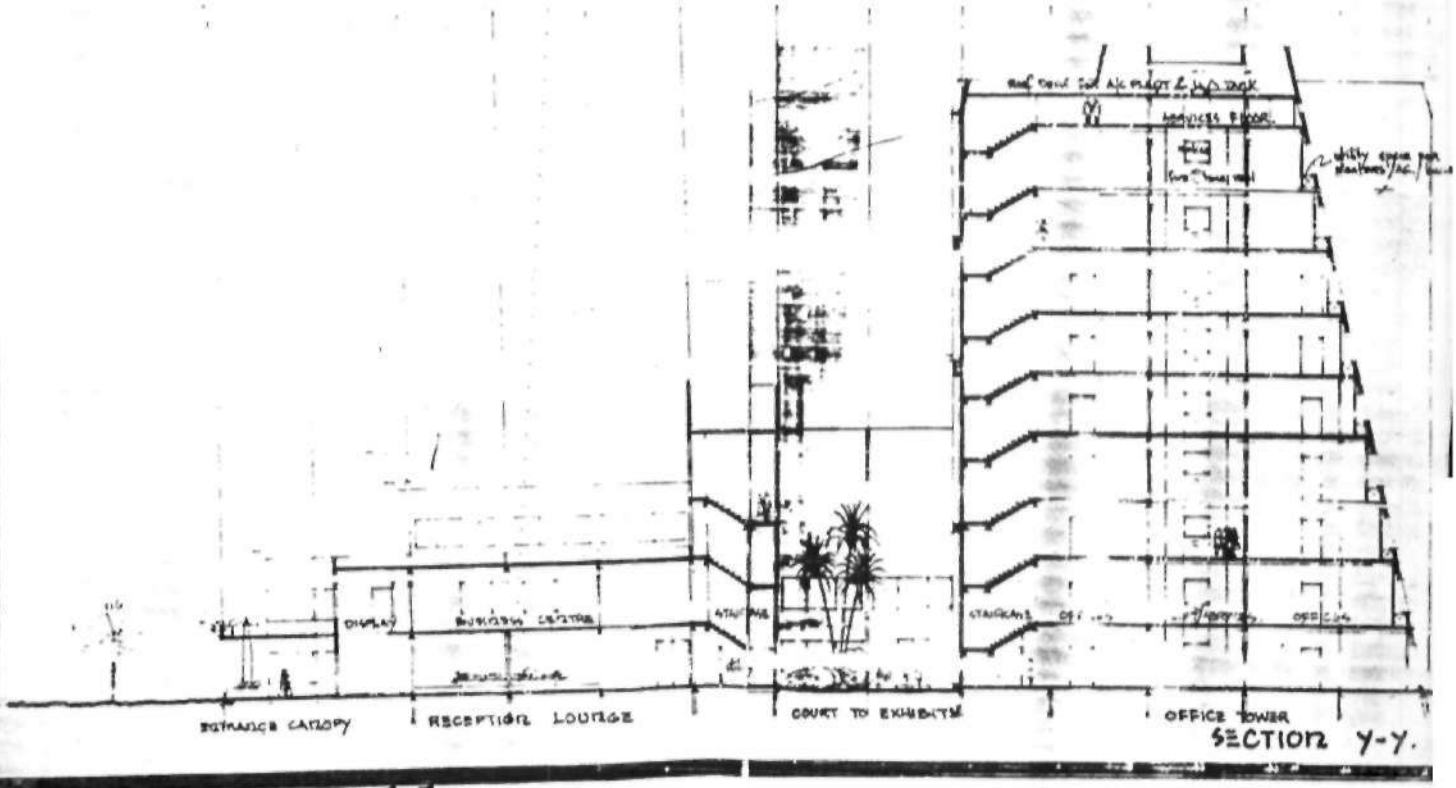

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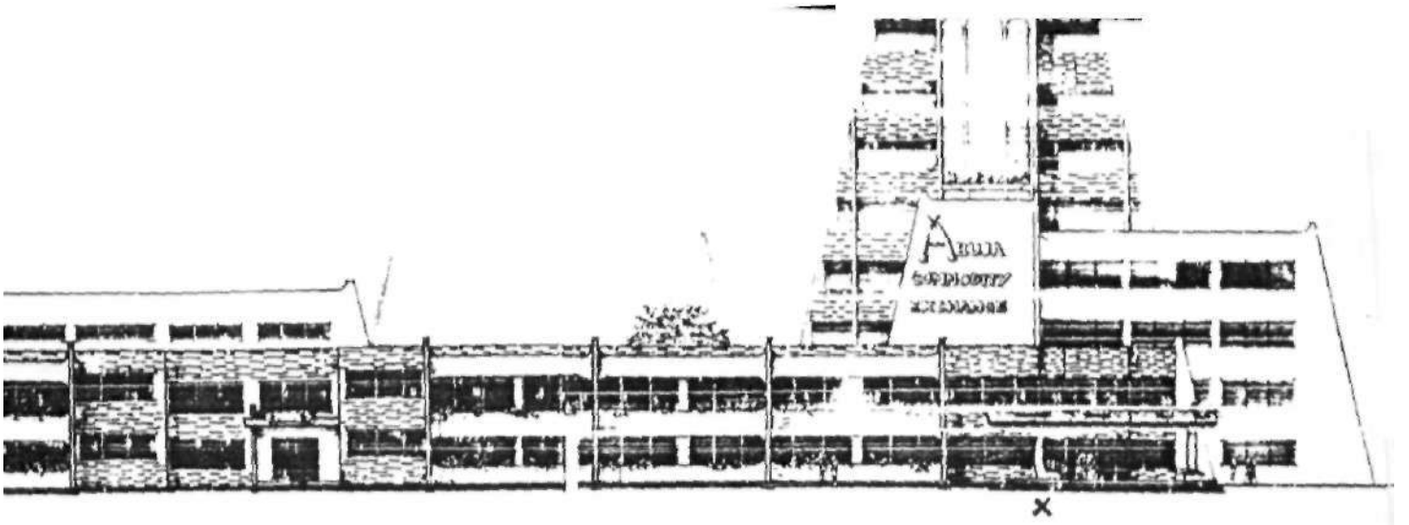



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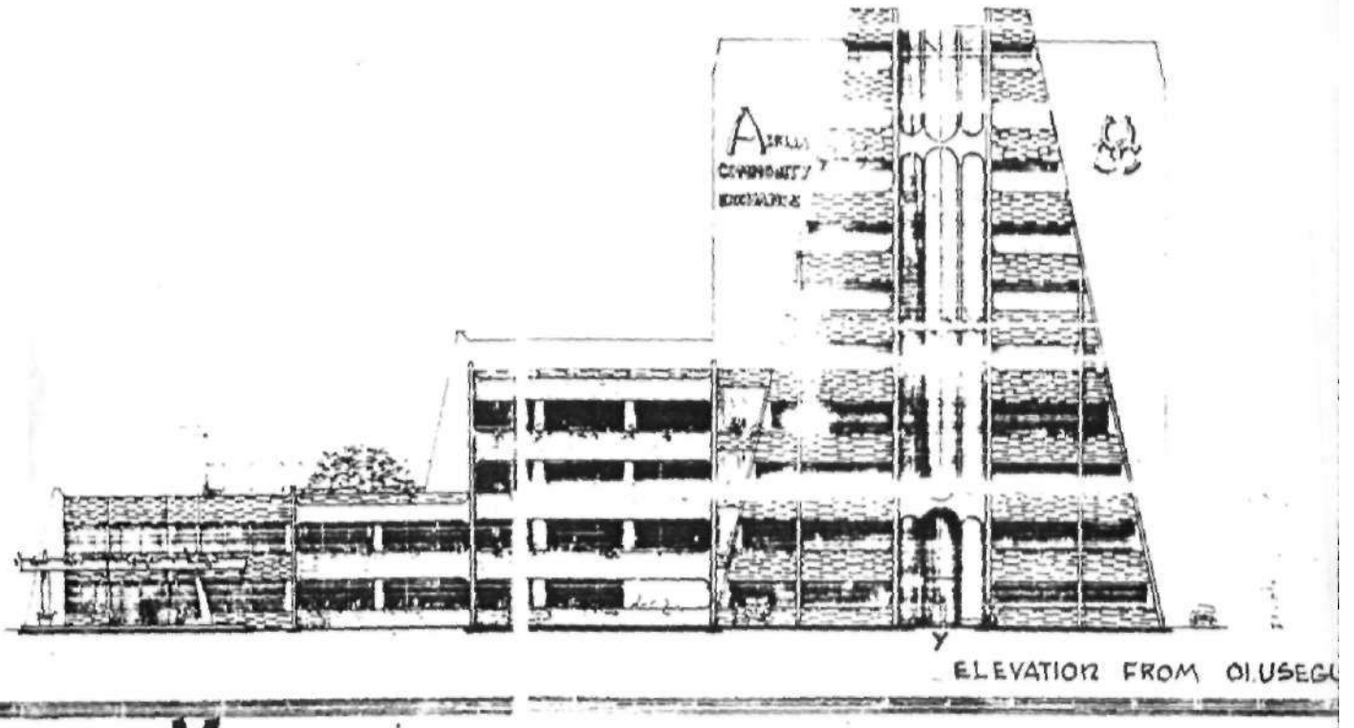

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