ACADEMY OF ARTS, ABUJA
B.TECH (ARCHITECTURE) THESIS

BY

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DEDICATION

This work is dedicated to the El-Shaddai God who is more than sufficient for all I desire and is beautiful for every situation I find myself in.

Also, to Daniel the perfect and good gift I had from God and to my Husband MR. B.B. MNGUTYO.

ACKNOWLEDGEMENT

My gratitude goes to my parents Dr. and Mrs. J.I. Allagh for the support throughout the years also for the prayer and their belief in me that I could make it.

Also I would like to express my gratitude to Professor Solanke my mentor; Dr. Nsude "big Daddy", Head of Department Architecture, Architect Anunobi and all my other lecturers for sharing their expertise, patience, knowledge and mentorship n me.

For all my lovely, friends in school who I shall never forget ause they coloured my days in F.U.T. Minna, I cannot name all of them but here are a few Yemisi, Susan, member and Element Odu thinks a lot. Finally for my classmates and fellow studio rats Bunmi, Bola, Kemi, Chergui, Omeiza, Abubakar, Sadiq, Habib, Shaba, Dere, Moses, Yinka, Kayode, Oke, Frank, Paulosa, Rotimi, Rotty, Cosmos, Wonuola you guys were troublesome but I shan't forget you; Also I would like to acknowledge Pastor and Mrs Dogari for their support.

And finally I must mention my room mates past and present, Mero, Funke, Hossana, Grace, Lola, Hana, Becky and all my pals in the lower classes I say thank you and God bless you all. Last but not the least I must not forget J.T. my able president and all the AAS exco for 95/96 session.

Thanks and God's blessings.

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higher order or myth but it is also a very practical science apart from being, an art without which man is confined to a primitive struggle with the elements of weather. Types of architecture are established by the society according to the needs to be met not really by the architect as can be seen in the different styles

In Nigeria today it would be an under statement to say that the artist's traditional patronage has fallen tremendously as the younger generation quest after sophistication and Westernization.

This downward trend has led to artists who copy Western art expressions resulting in very poor work which are not appreciated by the society thus the viscious circle continues.

Another very important reason for this fall in societal appreciation of art in our country is the fact ahat just anybody who can put up a sign is allowed to practise art hence OND holders, HND holders, University graduates and even layman who feel they are gifted practise art making the art market very inconsistent.

1.1.1 THE ARTS

DEFINITIONS:

A work of art is a man made thing, an artifact is distinquished from an object in nature, A piece of wood may have aesthetic qualities, but it is not a work of art since it was not made by man, on the other hand a piece of wood that has been carved to look like another wood is not an object of nature but of art even though the same.

In daily life when works of art are spoken of the intention is to denote a much narrower range of objects namely those of aesthetic importance, such as fine and useful art, however art is anything manmade not only paintings and sculpture but also dance, drama, poetry, graphics, buildings, furniture, automobiles and cities are all works of art every change that human activity has bought upon the face of nature is art be it good or bad, beautiful or ugly, beneficial or destructive.

In the broadest sense art embraces all the creative disciplines such as literature, poetry, drama, music, dance, graphics, and the visual art. For this project art will be broadly divided into three(3) groups namely;

(1) Performing arts consisting of drama,dance and music.

(2) Literary arts consisting of graphics, literature,Poetry, wood cutting, etching, engraving and lithography.

(3) Visual arts consisting of paintings, drawings, textile ceramics, industrial design, sculpture, glass works and jewelry.

1.1.2 MOTIVATION

The art industry in Nigeria has gone through a lot of phases. There was a time when artists were very powerfuul in most commmunities because the arts and craft of those days centered mainly on making fetish gods; charms e.t.c. So the artist was more or less on the same pedestral with the chief priest it awas also during, this era that art works carried away forcefully from Nigeria to the outside world recieved internationl acolade infact they were described as unique and non-reproductable.This trend has still been maintained by artist who exhibit their works outside Nigeria as the international community is always very interested in our art works.

Nevertheless; in spite of this trend I have noticed that in Nigeria our society tends to look down on the works of artist's, no longer are they worshipped like before, in fact their works are even scorned or called too expencive in some quarters, this downward trend in socieral appreciation will permeate int the international community very soon if not curbed from the roots. I have also noticed that art work production and exhibition in and outside Nigeria is not regulated and attribute this trend to

societies non appreciation of our arts works this reasons serve as motivation for me to provide a common ground for artists in Nigeria, where art works of ages past can be documented for our upcoming artists to glory in the past and thereby strive to improve the future, also a merger for all forms of art where interaction of art media of expression to create something new is encouraged, also where tourists can come and see the beauty of Nigerian art.

1.3 THE HISTORY

Art and man go back a very long way. As from his earliest dwellings man began to make changes upon the environment to suit him, at the first instance, aesthetics was not the reason behind modifying his natural surroundings but comfort, then as the comfort level grew so did man's level of appreciation of his surroundings. With the dawn of civilization and new and better media for communication and self expression man also developed his senses and ventured into other areas of art apart from inscribing on walls to actual drawing and painting, music, drama poetry, sculpture –his art was also given utiliterian function and became crafts as in skillful decoration of his utensils.

Modern, contemporary art has widely developed upon great examples set by the masters like Michael Angelo,Bach, Mozart, Shakespare and expanded into almost every facet of daily living.

1.2 THE AIMS AND OBJECTIVES.

This work aims at:-

- Providing a repository of Nigerian artefacts and works of Nigerian contemporary artists.
- Enhancing the appreciation of our indigenous art works by our artists.
- Providing a sound atmosphere for creative imagination for production of higher quality art works.
- Provision of regulatory standards for the practice of art in Nigeria.
- Advertising our indigenous art thereby promoting tourism.
- Broadening the outlook of our would be artist into all aspects of art.

- Providing a forum where Nigerian artists can pick up the reins of the legacy left to them by their ancestors, and ride on to bring Nigeria back into international limelight.

The objectives of this work would be to:-

- Help in evolving or creating a new art philosophy amongst our artists.
- Help in instillling into our young artists pride in our own indigenous art thereby motivating them to develop on it.
- Provide a research centre into other mediums or art expression.
- Providing a tourist attraction where indigenous craft works are produced for sale.
- Provision of a centre where public exhibition would be held of both works of visual and performing arts.

1.3 THE METHODOLOGY

For this exercise the research methodology used involves

- Literature reviews of existing data on the subject matter.
- Research into the art industry by talking to both students and practising artists and by questionaires.

- Study of existing related institutions noting the merits and demerits of such institutions.
- Study of the proposed site so that the disign proposal will take into consideration the condition on site and bring out the beauty of the terrain by fitting in with it.

1.4 THE SCOPE

Having in mind the aims and objectives of this study. this institution will emphasize simplicity and creativity in design operation and services it would run a training programme of 11 months for graduates of all tertiary institutions and also other lay practising artists hence serving as a regulatory body by upgrading all studies to a level where the artist is fit to be expelled onto the society. It would also store artefacts from yester-years and new works from contemporary artist for people of today and for posterity to appreciate how far we have come as a nation in developing our arts industry.

A relaxing atmosphere with many topics for the creative mind to work on is aimed at and since it is at the national level it is envisaged to be one of Nigerian's monuments towards art.

CHAPTER TWO

2.0 THE SITE: PHYSICAL AND SOCIO-CULTURAL BACKGROUND

As earlier stated, the site for this institutuon is Abuja for reason that:

1. It is centrally placed in Nigeria hence it is accessible from all parts of the country.
2. The School will have a national status therefore a national territory will be fiting for it.
3. Abuja's quiet, beautiful and peaceful scenery will create an ideal environment for creative minds.

For more enlightement on the suitability of Abuja, I would like to expantiate on Abuja's socio-cultural and physical background.

In February 1976, the then Federal Military government decided to build a new administative capital to ease the pressure of Lagos.

The Federal Capital territory named Abuja is excised from Niger, Kwara and Plateau States. It is about 8,000 square kilometre about two and half times the size of Lagos state.

The Federal Capital development authority (FCDA), charged with the responsibility of the planning and development of Abuja was established by decree No 6 of 1976 the new federal capital has since then witnessed chequered development.

The master plan for the city prepared by the international planning associates is designed around a city that is cresent shaped; centrally oriented and placed in a prominent position emphasized by an axial focus on the highest point of Aso Hill. Abuja as the new federal capital of nigeria is concieved as a symbol of Nigeria's aspiration for unity and progress.

Most of the major developments have been completed in the accelerated residential district. All major roads have been tarred and most of the houses and street lightening have also been completed.

Development is phased into districts, the main developed districts are Garki, Wuse, Maitama and to some extent Gwagwalada.

In addition health facilities, electricity supply, modern communication facilities, good banking system, effective and efficient transport system, pipe borne water, hotels of international standard; a modern airport and educational system have well demarcated portions attached to them.

2.1 THE SITE GEOGRAPHY

The Geography of Nigeria is characterized by three large plateau areas divided from one another by the troughs of the Niger and benue Rivers. Along the seacoast stretches an alluvial plain averaging about 10^0 miles in width. This alluvial plain bulges out into the Atlantic ocean where the Niger delta with its intricate pattern of water courses penetrates it. The characteristic vegetation of the coastal plain is a dense tropical rain forest. This is replaced by various types of Savanna vegetation as the Plateau uplands rise from the coastal plain. Moving North, the climate becomes drier until at the north boundary of the Country it becomes nearly desert.

Abuja is surrounded by Niger, Plateau, Kaduna and Kogi states. Geographically it lies between latitude* 8^025^1 degree and *9^020^1, North up the equator and longitude *6^045^1 and 7^039^1, East of the greenwich meridian, hence making it the geographical centre of Nigeria.

The territory lies just North of the wide alluvial plains formed by the confluence of the Niger and Benue rivers. The Jamal Platform, a continuation of the Jos Plateau extends well into the middle of the territory . Four major rivers flow through the territory along it's Western edge: Its water shed drains most of the territory into the River Niger to the west and North of the territory lies the largest of the rivers, the river Kaduna, apart from the river Benue. It is the largest tributary to the Niger. The River Jatau lies between the River Kaduna and the Federal capital territory, the Okwa river flows to the east of the territory.

VEGETATATION

Much of the natural vegetation of Nigeria has been altered or even obliterated by cultivation, grazing and fire over a long period of time.

This results in a complex patch work of vegetations of vegetation of different ages and origins particularly in the more densely populated areas. Ecological zones indicate the distribution of natural vegetation types under present climatic conditions. Differentiation or categorization of types is

primarily based on their gross structural features i.e. presence or absence of trees, shrubs and grasses, and the spatial inter-relationships of these. These zones do not indicate homogenous belts of vegetation rather they represent a mixture of types, each zone being characterised by the most extensive type which occurs within it.

The Federal Capital Territory has a mixed vegetation of Savanna grassland and parkland forest with thick under growth. Park Savanna is typically a statified community with a discontinous canopy, shrubs and grass layer. The riverine complex occures on low level channel banks of water courses and along stream valley bottoms often interrupted by patches of rain forest, shrub Savanna vegetation occurs on flatter plains and undulating terrain. It is comprised primarily of shrub vegetation with developed grass layers and a few scattered evergreen trees like Khaja, parkia damiella, neem (dry zone mah ogany) and Albizia.

Type and location of vegetation goes a long way to affect;

1. The site microclimate
2. Solar
3. Radiation

4. Wind

5. Humidity

6. Air, temperature and purity

7. Sound travel and

8. views.

The park Savanna vegetation type produces no constraint as far as hazard and development are concerned vegetation on site will be used to shade pavements and walk ways and also help in redirecting wind currents into openings of buildings.

SOILS

The type of soils affects (1) the type and size of a building's foundation system, (2) the Drainage of ground and surface water and (3) the type of vegetation it will support.

A soil's strenght under loading is dependent on it's resistance to shear, a function of it's internal friction and cohesion. The measure of a soil's strength is it's compressibility or bearing capacity. The foundation and footing system will distribute the buildings loads over an area large enough in such a way that the resultant unit load on the soil is uniform under all portins of the structure and does not exceed the soil's load bearing capacity.

The soil's drainage qualities are also taken into accountto ensure that both surface and ground water is properly channeled away from the building stucture to avoid deterioration of soils load bearing capacity, possible leakage of water into the buildings interior and harmful effects of moisture on the building materials.

With the above background information it was noticed that the soil on the Federal capital territory are generally the deepest and least stony ;of the soils developed on the basement complex. They have been divided into ten complexes on the basis of parent material and texture.

.3 THE SITE CLIMATE CONDITION

The climate of Nigeria is basically monsoonal in character, and like all moonsoonal climates it is expressed as a contrast between a dry season and a wet season. These two regimes of the climated are very dependent on the prevailing air masses blowing over the country at different times of the year. The dry north easterly air mass of savanna origin and the humid maritime air ways blowing from over the Atlantic, these two air masses, blowing from nearly opposite directions meet at a zone

of discontinuity streching east-west across west Africa called the inter-tropical convergence zone (ITCZ) or the inter-tropical dicontinuity (ITD).

The classification Nigerian climate into dry and wet seasons provides a rather simplified picture which depends on a consideration of the rainfall element as the only meteorological element by which to define climate when more meteorological elements namely weather, cloud amount, cloud base and type, visibility, temperature humidity and wind are considered, at least four zones of definite weather patterns, each different from the ITD are observed in Nigeria.

A comfortable living environment will depend on maximising the aspects of environment which reduce heat and the effect of humidity, and protect from rain and dust. Thus planning, in accordance with climatic conditions is very important to attain functional and successful design.

RAINFALL

Annual rainfall in Nigeria is highest in coastal areas and decreases inland to the lowest in the northern boundary of the country.

Rainfal in Abuja records a mean annual of 1334mm taken from a long period or record of observation. The highest mean monthly rainfall is recorded in September with almost 300mm. The rainy season starts in April and lasts for 180-200 days fig.A

The early rains in April are characterised by wind storms and slight dizzles but these cease by the end of May. By late October when the rainy season is ending the dust storms return followed by rain storms and lightening. Consideration of these factors are employed in the rooftypes to be used especially with regards to their shapes as well as the roofing materials. The mean monthly rainfall distribution for this area shows a tendency for concentration in three or four months. Sixty percent of the annual rainfall shows the need for drainage systems that can handle large volumes of water very quickly. In considering this adequate and durable construction methods will be used in the construction of drain pipes and drainage channels.

TEMPERATURE AND HUMIDITY

The mean monthly temperature is highest in March at 37 degrees centigrade and lowest in August at 30 degrees centigrade.

The months of February and march are very hot and humid, thus,these months are very undesirable for human comfort.

These hot and humid conditions are taken into consideration in the architectural design by utilising trees on site to create a microclimate and by making provision for natural cross ventilation.

There is a fall in temperature during the rainy season due to dense cloud cover increased and blossoming vegetational cover and cooling by evaporation. The effect of trees and shading devices for the building are given great consideration. Paints, finishes and rendering techniques employed in the design will be selected based on their reflection of solar radiation as well as their implication to human and thermal comfort, visual perception and psychology, and their ability to blend with the environment.

SOLAR DATA

In Nigeria, there is a general increase in the total hours of sunshine further north from the Atlantic coast. The amount of sunshine ranges from a minimum of 1.300 hours in the Niger

delta to over 3,200 in the extreme north east of the country. Abuja area is exposed to 2,500 sunshine hours (Mabogunje 1977).

During the dry months (November to April), the monthly variation in the amount of sunshine follows the general trend of an increase from over 275 hours in the area. As the rainy season approaches the trend is to increase cloudiness. The decline in sunshine hours becomes more intense as the rainy season progresses and reaches it's lowest values in the month of ugust.

The Solar data that takes int o account both the sun and loud lower is cosidered in the design. When sunshin is higher it is controlled in the building and on site by the provision of roof overhangs especially on the Southeern orientation and the presence of trees that absorb solar radiation and provide cooling by their evaporation process.

When the sunshine hours is low during the rainy season, the courtyard openings as well as adequate fenestation in the design take maximum advantages of available sunshine.

2.4 GEOLOGY AND TOPOGRAPHY

The geology of Nigeria reveals that the rocks of the various units of the geological succession range in age from the pre-cambrian to the Quaternary. The pre-cambrian rocks are referred to as the "Basement-complex."

The Basement complex constitutes the oldest exposed rocks in Nigeria and they have a very long history during which they suffered varying degrees of alteration of heat and pressure, where folded and crumpled, raised into mountain ranges then eroded.

Underlying the Abuja area are undifferentiated Basement complex rocks. These rocks will not present any major geotechnical constraint to the type of structure proposed as the majority of them are of medium to high strength.

Nigeria being a country with a great variety of landforms has its land surface classified into three broad physical units (the major relief features) namely the plains, highlands, the troughs and river valleys. Within each of these could be identified features of lower order.

The area is topographically typified by gently undulating terrain. The variation between two heights is about fifty metres, producing in the immediate surrounding short views of less than one kilometre. These views are further shortened by the characteristic park savannah vegetation.

The gently sloping terrain and the outcrops on and around the site will be harnessed for great scenic value

Site development shall be limited to slope below fifteen percent to avoid the propensity of surface run-off and erosion.

The soil underlying the area is fertile and majorly sand and gravel mixture. The soil is self draining and deep, therefore successful landscape is reasonably assumed on site.

2.5 SOCIO-CULTURAL FACTORS

Abuja, land of very dramatic hills jotting skywards like many finger pointings to the creator in the heavens is 250sq km, it consists ethically of the Gwari (64.9%), Koro (8.3%), Gwandara (7.9%), Gada (6.5%), Hausa (4.9%), Fulani

(4.6%) and other groups totalling 2.9%. these are the original settlers who make up majority of the population in the four area councils of the territory while the new dwellers dominate the city, (i.e. the fifty area council referred to as the municipality). However, the philosophy of the establishment of the new city lies as provided by the late General Murtala Mohammed, and area that is not within the control of any ethnic group in the country, a virgin land, for all Nigerians, a symbol of oneness and unity.

The political status and Administration according to the incumbent president General Ibrahim Babangida would be in such a manner as to avoid the political constitutional and administrative confusion which had been part of the problems of Lagos. However as the administrative capital of Nigeria it would still accommodate such of what is in Lagos and even more because it would serve as a beautiful tourist centre to enhance Nigeria's image abroad.

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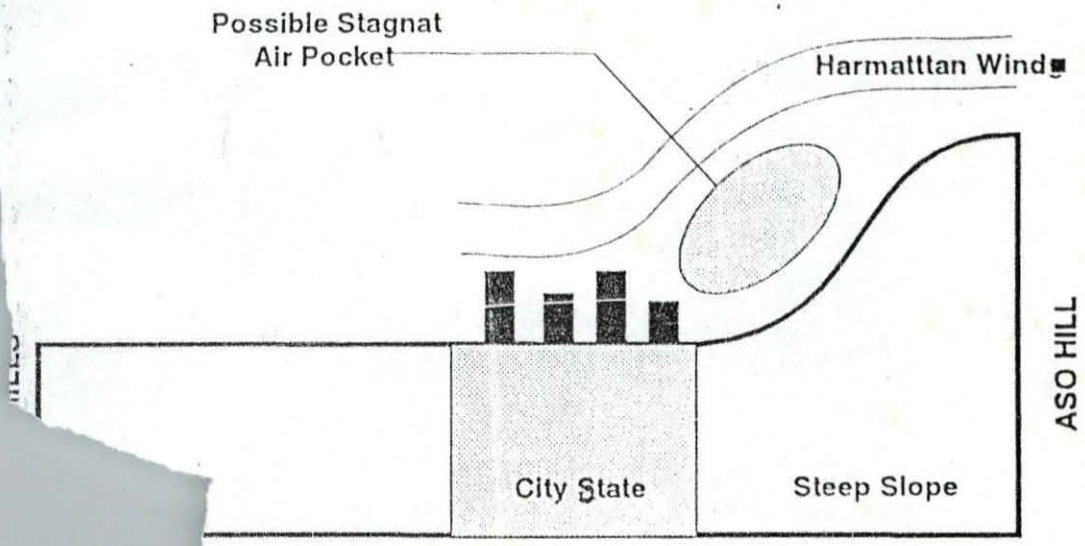
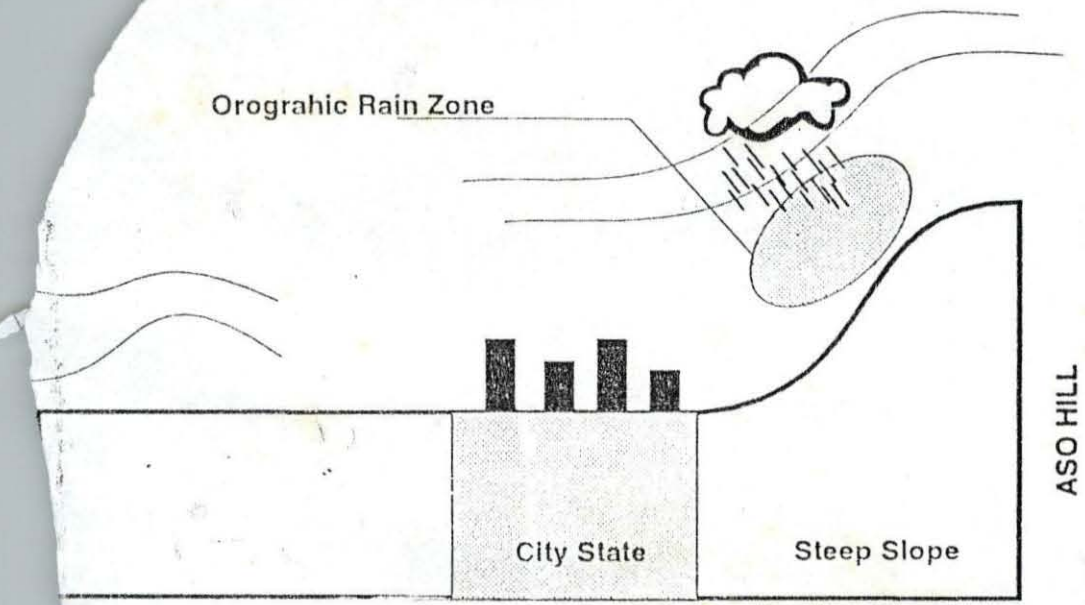
SEASONAL WIND PATTERN



DRY SEASON 6 - 5 MONTHS



WET SEASON 6 - 7 MONTHS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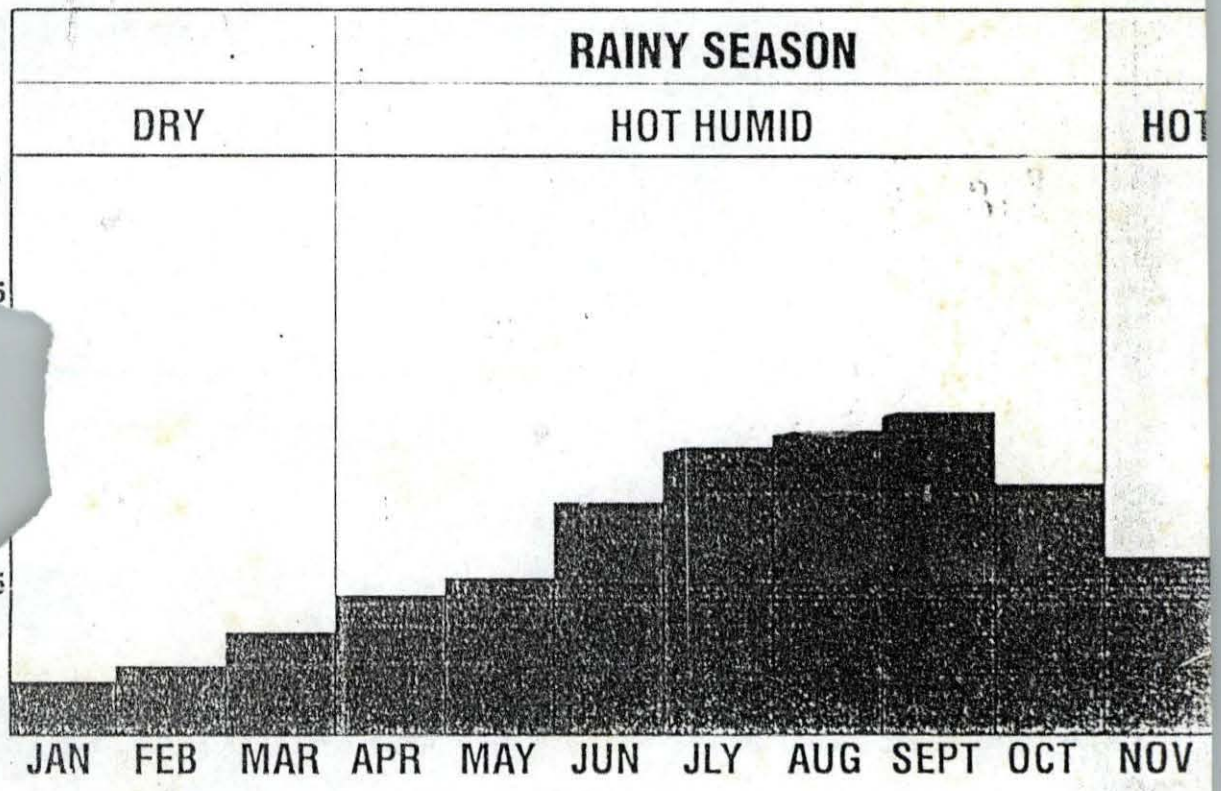
MEAN MONTHLY RAINFALL

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CHAPTER THREE

3.0 CASE STUDIES

3.1 CRITERIA FOR CASE STUDY SELECTION

Bearing in mind the binding and unifying characteristics of an academy of this nature because it aims at integrating artists and tourists from all over Nigeria and indeed the world. An environment that would unify cultures, life styles, various disciplines traditions and desires is aimed at also to be achieved is a modern and simple ground to meet every need.

The criteria used for case study selection in this project is rather simple as the case studies are divided into two broad categories of (1) display and (2) learning centres of the arts also to meet and try to integrate tradition and geographical traits case studies are selected from:

(1) The north of Nigeria

(2) The south of Nigeria

(3) Outside Nigeria i.e. the united states of America

3.1.1 OUTLINE OF CASES STUDIED

Case studies of learning centres or centres of visual art expression are:

(a) In the north: Ahmadu Bello University Zaria Faculty of art

(b) In the south: Yaba College of Technology Department of Art and printing

Case studies of centre of Display or performing art centres are:

(a) The National arts theatre Iganmu Lagos

(b) Overseas: PERFORMING ARTS CENTRE CORNEL UNIVERSITY IOWA

3.2 GENERAL INFORMATION ON CASES STUDIED

OBJECTIVES

While carrying out these case studies the following objectives were borne in mind:

1. To study the user requirements of facilities provided the existing spaces and the relationship between them as well

2. Evaluate the convenience and study comfort level of students
3. To evaluate the functional performance of facilities
4. To improve on the demerits discovered in the case studied

3.2.1 AHMADU BELLO UNIVERSITY ZARIA ARTS DEPARTMENT

This is the first University in the North and the third in Nigeria, it was founded in 1962.

It is located in Zaria about 84km from Kaduna. The capital of Kaduna state. It has received much both nationally and internationally because of it's high standard or level of education also it has met it's noble aim of bridging the gap in education between the northerners and the southerners as it has produced many northern scholars, the art department has produced artists of international repute.

APPRAISAL

The art department which is one of the best and most equipped in Nigeria is a 4 storeyed structure holding the department of sculpture, ceramics, textiles, painting, drawing and industrial design. These form the bulk of the visual arts offered in the department. The performing arts are zoned far away from the building in a more secluded area on the campus called the drama village, this is because of the mix noise generated by the activities in this place. The department is surrounded by the department of architecture, chemical engineering and the computer centre also the ceramic studios and kiln are housed in a building attached to department and also in the surrounding is the sculpture garden which is an excellent facility for the display of students work and also as an area for relaxation.

FACILITIES

Existing facilities include galleries, laboratories offices, studios rehersal halls, stages, auditoria, theatres, kilns data stores and conveniences.

MERITS

1. Good recreation facilities
2. Beautiful approach facade
3. Well arranged gallery
4. Good and high quality equipment

DEMERITS

1. No well defined space
2. Layout is not functional
3. cramped spaces
4. Poor storage of work
5. Badly lit studios
6. Lack of maintenance of facilities

3.2.2 YABA COLLEGE OF TECHNOLOGY ART DEPARTMENT

This school is the first higher institution in Nigeria and it was founded in 1938. It is located in Yaba in Lagos mainland, the school can be recognised through its achievements as one of the pillars of learning in Nigeria. Its art department will compete favourably with even the art department in most Universities.

APPRAISAL

The art and printing school is a monolithic gigantic 4 storeyed building with a central courtyard housing the departments of sculpture and ceramics, graphics, industrial design, textiles, drawing, painting and printing. The department can cater for about 500 students at a time and the teaching staff are adequately spaced at an average of 30-40 students per lecture. The school possesses modern facilities for these departments, and up to date machinery.

FACILITIES

The existing facilities include class-rooms, studios, workshops, offices, conveniences, galleries and auditorium.

MERITS

1 Well landscaped entrance which blends very well with the building.

2 The layout is functional

3 Well lit studios

4 High quality machinery

5 Property defined guide

DEMERITS

1 No student\staff recreation facilities

2 Limited and inadequate facilities

3 Gallery not properly arranged

4 Poor documentation and storage of work

5 Poor sanitary disposal system

6 No space for expansion

7 Lack of maintenance of facilities eg sculpture garden

8 No space for future expansion

THE NATIONAL ART THEATRE IGANMU LAGOS BACKGROUND INFORMATION

The idea of the national arts theatre was concieved in 1973 and it was finally opened in september 1976 to the festival of arts and culture [FESTAC]. The complex occupies 923,000 sqm of mershland at the estimated cost of N35 million in 1976

The national Theatre came to represent the country's cultural prominence in Africa and the Lavish gesture which marked the heyday of the oil boon. It is touted as the largest single theatre in West Africa. The best in Africa and about four times larger than the national theatre in London as well as it's inspiration in Varna, Bulgeria.

APPRAISAL

The national theatre is in architectural masterpiece and a cultural landmark located at Iganmu, in the heart of Lagos. It is easily accessible from every corner of city covering an area of about 23,000 square metres and standing well over 31 metres tall, the multipurpose national theatre was established for the presentation and promotion of art and culture in Nigeria.

The complex is a rallying point for artistes in Nigeria and for international artistes wishing to share their experience with their Nigeria counterparts.

FACILITIES

The national theatre complex offers divers venues, facilities and innovations for all kinds of programmes and activities such as VIP Lounge, Conference/Banquet Hall, Cinema halls, roat garden, Exhibition halls, Proscenium stage, auditoria, basement parking, conveniences, post office, Restaurant, Bar, a health clinic, and offices, the national arts theatre also houses the national gallery of modern art and other government parastatals

MERITS

1 The approach facade is beautiful

2 Well landscaped arrangement

3 Functional arrangement of spaces

4 Good recreation facilities

5 High tech and modern equipment

DEMERITS

1 Poor maintenance culture

2 Surrounding are over crowded

CORNELL CENTRE FOR THEATRE ARTS

Back ground information:-

This a privately owned college located in the state of IOWA in the United states of America. It has one of the best theatre arts departments in the state of IOWA.

APPRAISAL

The department is a complex of 2 storeyed building where the octagonal shape is used extensively on it's approach facade. The river facade has other interesting properties. It is not just a row of Tuscan columns. There are naked cruciform or I section steel columns, emergin from, or superimposed upon, robust square masonry base, At cornell, irony and solace are held in a wonderful balance. The image of an Halianate village is not appropriate in a university town hence the result is a building that is both accommodating and edifying. It seems comfortably sealed to the community that will use it and the interaction of Town and gown in that community echos the mixed ideality and reality of its dialectic.

FACILITIES

Facilities in this centre are a full proscenium theatre, two experimental theatres a dance studio, performance space, other studios, a small cinema hall, rehearsal hall, classrooms, offices, a Foyer and auditoria.

FACILITY	AREA IN M^2	NO REQUIRED
Bursar	3 X 4	1
Secretary	3 X 3	1
Accountant	6 X 3	1
Secretary	3 X 4	1
General Office	3 X 5	1
Data Store	4 X 3	1
P.R.O.	4 X 3	1
Secretary	3 X 3	1
eniences	1 X 3	4
ing	100 X 50	1
nics	25 X 4	1
pture	25 X 5	1
Glass Ware	25 X 5	1
Painting	8 X 8	1
Drawing	8 X 10	1
Industrial Design	8 X 10	1
Textiles	8 X 10	1
Graphics	8 X 5	1
Photography	8 X 5	1
Hod Literary	6 X 5	1
Secretary	4 X 5	1

Hod Visual	5 X 5	1
Secretary	3 X 5	1
Office [Lecturers]	$12m^2$	6
Lecture Halls	$40m^2$	1
Stores	$14m^2$	1
Kilns	$9m^2$	3
Convenience	1 X $3m^2$	4
The Village		
Drama Studio	$90m^2$	1
	$90m^2$	1
·ography/Mime Studio	$11.50m^2$	1
umentals	$28.0m^2$	1
Performing	$12m^2$	1
ecretary	$12m^2$	1
Office	$12m^2$	1
Museum		
Display Areas	$400m^2$	1
Curator	$36m^2$	1
Sec	$20m^2$	1
Assistant Curator	$20m^2$	1
Laboratory	$30m^2$	1
Store	$30m^2$	1

Offices	$20m^2$	3
Convenience	$3m^2$	8
Conference	$50m^2$	1
Library		
Book Display	$220m^2$	1
Librarian	$20m^2$	1
Secretary	$12m^2$	1
Assistant Librarian	$20m^2$	1
Cataloguing	$30m^2$	1
ine Room	$36m^2$	1
	$12m^2$	1
enience	$3m^2$	8
es	$9m^2$	4
Amphitheatre		
Basement Shops		
Basement Offices		
Convenience		
Changing Rooms		
Store	$30m^2$	1
Auditorium	$350m^2$	1
Control Room	$30m^2$	1
Dressing	$15m^2$	4

Store	$1m^2$	2
Conveniences	$3m^2$	4

CHAPTER FOUR

4.0 THE DESIGN

The vision:- introduction

The NATIONAL GALLERY OF MODERN ART

Background history:-

The idea of a national gallery of art was first conceived at the same time with that of the National theatre in 1970 on Nigeria's acceptance to host the last 2nd world black and African festival of arts and culture [FESTAC]

Since 1975 when the National theatre was commissioned, the country's visual arts, unlike the performing, which has found a permanent protective abode in the theatre has been promoted through temporary and short term exhibitions organised by the existing culture disseminating organs of government, resident foreign cultural institutes, corporate bodies and individual Nigerians. Consequently, the impact of official promotion of the country's visual arts through this means has hitherto always been shortlived on the public.

The National gallery of art was eventually established in 1993 by Decree No 86 by the General Ibrahim Babangida Administration.

According to the decree it would serve as:-

- A repository for artistic creations since the birth of Nigeria as a nation
- It is empowered to promote research education and appreciation in art and works of art for an effective dissemination of Nigeria art both nationally and internationally.

It is therefore this second function of the gallery of art that is elaborated upon in the Academy of art.

4.1 ACADEMY OF ART

An overview:-

An academy is a school for special training, it could be in a particular field as in art in this academy.

Art is a very broad topic in some quarters it is seen as any topic that does not involve empirical calculations, observations and deductions hence history, English and the like are called arts. However art as is used in this academy covers another aspect of the broad topic of art - that is the fine arts, arts that involve creativity and aesthetics and which may or may not involve functionality.

This academy would therefore be a school for special training in the field of fine arts.

FUNCTIONS

It is to function under the educational and research auspices of the national gallery of modern art.

It functions for the:-

- Undertaking of research and establishing a documentation centre and / or data bank on Nigerian art and artists.
- protection of Nigerian artist's by practical application and effective operation of Nigeria copy-right law as it effects the art industry.
- Promoting excellence in the theory, practical and application of art through organised art workshop, lectures, seminars, conferences and grant aids to professional artist and art scholars
- Acquisition of foreign contemporary works of art reflecting major artistic trends of the modern would and subtle exposition of some locally to broaden the aesthatic consciousness of the Nigerian public, inspire and expose the Nigerian artists to universally accepted artistic norms and aesthetic values.

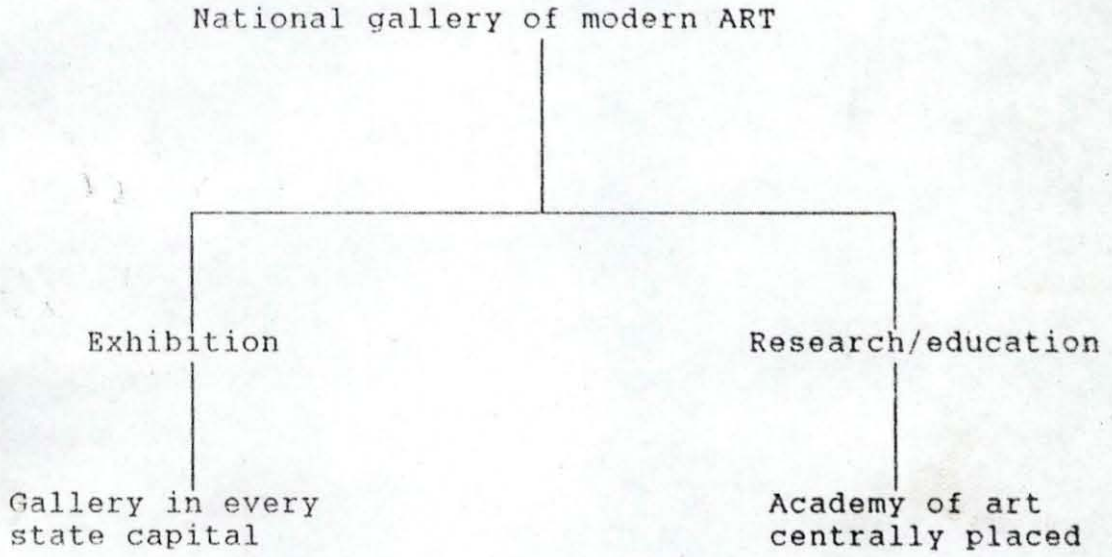
SCOPE AND OBJECTIVES

The academy of art is a specialized and indispensable educational and cultural institution for an effective designation of Nigerian art both nationally and internationally. To the Nigeria professional artist, it is an essential professional abode where the art profession is administered strictly to the greatest benefit of both the artist and the entire public.

- It is to promote the creativegenius in Nigeria art through art expositions, research education, appreciation and copyright.
- As an educational institution and a viable economic venture the academy would by permanently displaying Nigerian artworks side by side with their foreign counterparts provide researches and art students a good platform for an on the spot comparison and study of the developments in contemporary Nigerian and foreign arts of various nations.

Locally, the academy will concentrate it's efforts on making Nigerian art part of every home through it's varied publications in form of monographs and books on Nigerian art and artist, reproductions from original works, postcards, seasonal greeting cards from original paintings for wider

circulations and other periodicals and inturn generating revenue there from, especially now that the importation of such printed matter is restricted.



4.2 DESIGN PHILOSOPHY AND CONCEPT

CONCEPTUAL SYNTHESIS: The dream behind the Vision.

Built environments communicate meanings to help serve social purposes; they provide spatiotemporal framework, or systems of setting for human action and appropriate behavior. Thus architecture by making visible distinctions among places, communicate information about spatial, social, temporal and other means of ordering of society. It communicates preferences, hierarchies, lifestyles and the like. It establishes the sacred human domain (culture) as distinct from profane nature or rather, the profane human domain as distinct from sacred nature Architecture becomes so identified with groups, cultures and lifestyles that it is essential in order to feel at home.

All this reinforces the basic argument that buildings and indeed environments are thought before they are built., this brings in the question of a concept in this design.

In conceptualizing the design for this facility for artist and tourists it was noticed that the design has a potential of attracting people (i.e. gifted people) from all over the world. Thus there is the need to understand these people as artists are often thought to be queer people. In integrating these artist and tourists, people from different backgrounds, cultures, environment, boundaries and languages it was necessary to look for a common ground of expression, and understanding i.e communication.

Artists are known to be very creative and hence they desire a free natural and pleasing environment so that their creativity flows that easily, and so that their creative genius can be given expression.

DESIGN CONCEPT

Institutional building forms are normally guided by elements of functionality because of the use of the building. The design should show a school, a place of intrigue awe and wonder at how nature interacts and completely merges with man made buildings and forms beauty in solid form.

Functionality and circulation are the main factors to be considered in the plan concept because of the number of people anticipated to come to the facility. These are further merged and synthesized to match or to create a form that is never regular, this is achieved by making maximum use of the square and circle.

The square which is the simplest most functional geometric shape, which allows for flexibility in zoning and design creates a balance, saves cost and encourage maximization in the use of space.

The circle, which though simple, but also complex in construction allows for creativity and aesthatics.

Merging these two together, balance, cost, functionality and aesthetics are achieved in the plan of this design.

Another concept effectively integrated in this design is the creation of a micro-climate in the buildings, like bringing the outdoors into the building, the theory behind this is the creation of an environment that enhances, creativity because of the type of people this

drainage and utilities that will facilitate ease on the site, well apportioned masses with attractive views and good orientation, the preservation of the natural endowment of the site and it's enhancement by landscaping.

Zoning on site is basically structured towards achieving a layout that creates a sensible relationship of facilities within the whole site integrating into the whole other ancillary and auxiliary facilities like.

* Circulation, spaces which are made more open;
* Court-yards and open spaces linking these;
* Circulation spaces, distributing the flow of circulation.
* Corridors, sit-ins, balconies and veranders to serve as passive recreation joints, as a forum for creative thinking and gisting as well as distribution of activities.

All these goes a long way to achieve a respectful transaction, not only from space to space but also from function or activity to activity, hence zoning becomes an important means of achieving an overall comfort in functionality and service conditions of the project.

4.2.1 DESIGN PHILOSOPHY

The outlined objectives stated in the design and site concept are achieved by having some guiding principles behind our minds these principles stress.

(1) **Flexibility in use:** This simply is designing the plan in such a way that it can still be useful if it is going to be modified to some other purpose in the near or distant future, therefore the amount of space for single-purpose use is kept to the minimum, this may increase the original cost of a single room but may greatly enhance it's use.

(2) The above principles lead us to the next one which is designing a building that speaks, especially for this topic, bearing in mind that creative minds would be upon this site the design of the building's facade should be creative enough to cause intrigue wonder and even awe in the minds of any one who looks at it, it should also be used maximally at minimum operating cost.

(3) Ease of Maintenance: Ingenuity is required in planning a structure that is both pleasing to the eye, durable and easy to maintain. Also spaces to be used by the public should be easily accessible and located so as to reduce unnecessary traffic hold-ups all this goes a long way in long term satisfaction and in economy of operation.

Design and architectural goals

The art academy should be able to satisfy the basic need for which it was established in its functionality. The goals set to be achieved in this design are:-

(1) To achieve a functional and efficient infrastructure within the complex such that economy and viability of installation and operational efficiency is arrived at.

(2) To integrate the structures and nature together to form such a blend that visitors are both filled with a sense of appreciation of the view and also very comfortable and not intimidated by the structures such that a high level of site utilization and planning is achieved; All in all the surrounding environment would be brought to bear and blend with the site structures.

(3) To place activities in such a way that the working whole is achieved without conflict so that the public can come in and use the facilities without disturbing the study comfort of the students.

(4) To create an environment which is beautiful but also which imposes on the students the desire to study and to create.

(5) To achieve a satisfactory level of easy pedestrian and vehicle access to necessary parts of the academy, proper, location of components by way of effective circulation systems.

4.3 SITE ANALYSIS:

The project site is located on the cultural zone in Wuse District of Abuja municipality, it is surrounded by other cultural centres such at the national library, hyatt regency hotel, the national theatre e.t.c. The site is flat about halfway through, then it sharply but gently slopes towards the left hand side as you approach the site, hence a lot of space is created for creativity and appreciation of nature.

The land is relatively virgin in character and most of the surrounding features are actually demarcated for the purposes already mentioned are not yet built hence this will allow not only for a flexible design of the academy structure and environment but will also give an opportunity for control of weather factors and hazards.

Most part of the land on which the buildings will be could be considered as relatively flat for construction and is centralized but towards the end of the steep but gentle slope we have the amphitheatre and the drama school the seating of the amphitheatre follows the slope of the land and the drama school is zoned away from the other activities because of the noise it generates.

The topography of the site allows for the water from the site to flow towards the amphitheatre and the drama/music school and this special drainage problem is solved by retaining walls, well planted spaces to reduced erosion and well placed gutter to collect water.

Site access is from the north east and so the buildings will be shielded from the direct rays of the early morning sunrise by trees. These also help to give the buildings and site an isolated character.

The average rainfall data indicates that the rain is heaviest in September with January being the driest month. The site enjoys above 1400mm rainfall on the average as recorded by the mean annual rainfall map.

The mean temperature data reveals temperatures that are highest in the month of March and lowest in August. Highest sunshine hours are recorded in December and lowest in August.

The effect of trees on site are used effectively to counteract this solar data also building orientation on site reduces the effect of sunshine.

The effective use of trees on the north and eastern side also efficiently controls the effects of the North-East trade winds (the warm and dry tropical continental air masses) which moves across the site from the north-east to the south-west and dominate between the month of October and March.

Another type of wind that dominates between the month of April and September is the South-west monsoon winds [The warm and moist tropical maritime air masses] which brings rain to the site, they are also controlled by building orientation and trees.

4.4 PLANNING AND DESIGN CONSIDERING BRIEF DEVELOPMENT:

In Nigeria today art centers of research, learning and display of this nature are grossly lacking most art institutions are either of learning or of display, calling to mind the fact that Nigerian art is respected internationally a centre of this sort is

to promote Nigerian Indigenous art, research into Nigerian art expression mediums, broaden the scope for up and doing artists, and regulate the quality of art works displayed in and outside Nigeria.

A project of this magnitude is of great value in the building of our nation both culturally and our tourism industry as it would promote the exhibition of works produced locally and it would serve as a forum for incubating into our would be artist pride in our local art.

The academy of art would be categorized as an educational institution or facility with an aim to regulate art practice in Nigeria for artists that would want to practice the profession in Nigeria. The majority of programmes through this facility would provide professional supervised study, research supervision and production of works.

In addition to study, leisure activities are provided to enhance creativity amongst students such activities as games, gardens and parks.

The philosophy of this design would basically be to inculcate into the students the importance of our rich cultural heritage reflected in their designs without divorcing elements of modern contemporary art. This could be achieved by using modern mediums in expressing our ideas taken from our cultural background.

Also the importance of a creative atmosphere is emphasized by bringing nature and the outside into the buildings.

4.1 THE SPACE SCHEDULE:

Detailed studies were carried out on the proposed type of facilities in the design their relationship to each other, wether same functions can be compressed thereby reducing space e.t.c and the following functional analysis was arrived at.

4.2 THE FUNCTIONAL ANALYSIS:

The School is to be made up of functional spaces and areas divided into Seven divisions

These are categorized into:

1. Administration
2. Academic facilities
3. The Museum

4. Accommodation

5. Leisure facilities

6. Auxiliary facilities

7. Security.

It is important to note that these facilities (some of them) are to be accessible to

(a) the immediate community

(b) Patrons.

This reason makes it necessary to categorize function of this institution into

(1) Academic facilities and

(2) General Facilities.

The Academic facilities are activity areas such as the admin block, the departments e.t.c. The General service facilities have to do with the facilities to be used by the immediate communities such as clinic, the auditorium, the amplitheatre, the museum, library and the recreation facilities.

Also other facilities to be provided for include support facilities such as water system, sewage drainage system, access roads electricity equipment storage, parking e.t.c.

ADMINISTRATION:

This covers a wide range of services rendered by the school, where payment is done for the academic programme, decisions about registration and graduation are taken. In general the whole school is run from here.

Facilities include: Reception, Exhibition, offices for school president and vice, offices for secretary's to both school president and vice, accounting offices, computer offices, general pool offices, conference room e.t.c.

ACADEMIC FACILITIES:

This is the main hob of activities and is the busiest area in this complex hence functions are arranged in a way to ensure maximum convenience/in circulation use and easy accessibility to all the available facilities also work flow and safety are areas that are very well arranged, storage spaces appropriate for various functions are also very important.

Facilities include: Hall of fame, drawing, painting and sculpture studios, textile, ceramic and jewelry and glass work labs, lecturers offices, kiln and claypits, lecture halls, photography lab, stores and toilets, printing section, graphics

studio, screen and T.V production rooms, poetry classes, stores, offices and toilets and library.

Provision is made for large groups of people by allocating large work spaces and for smaller groups provision is made in reducing space by using collapsible walls.

THE VILLAGE:

This facility is a bit isolated from the other facilities because of the noise generated from activities taking place here which would disturb other activities if not well controlled. Facilities include: Auditorium, music room, instrumental room, drama/dance studio, stage design lab and amphitheatre with basement shops, changing rooms and conveniences.

Attached to this facilities is the museum which in itself does not have noisy activities but which attracts people hence it becomes a public zone. Facilities in the museum include:

Offices for staff and the museum curator, display spaces, stores, workshops for repair and preservation, loading bays and conference or seminar halls.

STAFF AND STUDENT ACCOMMODATION:

This very important and broad categories involve hostel accommodation for students, with conveniences, common rooms e.t.c. living accommodation for staff and a guest lodge and chalets for visitors to the school other support facilities consist of clinic, shops, canteen and Gazzebo.

THE LEISURE FACILITIES:

As the saying goes "all work with no play makes Jack a dull boy" these facilities are to aid creativity since all activities have to do with creative minds, they provide forum for complete rest and relaxation, they include: wall landscaped walkways, sculpture gardens, meditation, ornamental pool with fountains, tennis and badminton courts, Gymnasium Swimming pool and foot ball fields.

AUXILIARY FACILITIES:

These include facilities that work hand in hand with the main facilities or activity areas to promote smooth running of the institution and they include generator house, water treatment unit, incinerator and vehicle sheds.

THE SECURITY:

It is important to note that a good security is of paramount importance in an institution of this nature because artetacts are very easily pilfered, facilities to be provided to beef up security in the school include secured main gate, dirty or service entrance, well demarcated visitor parking, staff parking, good and strong site fencing.

3.3.1 GENERAL CONSIDERATIONS AND RECOMMENDATION

Service or Function	Design Recommendation
1. Location	a. Accessible to public transportation.
	b. Not too remote but with element of privacy.
2. Site	a. Beautiful natural terrain.
	b. Activities to blend in with natural environment.
3. Layout	a. Easy circulation and well defined spaces.
	b. Celebrated, inviting entrances.
	c. Extensive open spaces.
	d. There should be a flow from exterior to interior.

4.	Ventilation	a. Proper cross ventilation where possible for duct to be used.
5.	Lightening	a. Effects of glare to be controlled especially in studios and work areas.
		b. additional lightening in craft studios and auditorium.
6.	Acoustics	a. Sound control with acoustical provisions to be made where required.
		b. Proper treatment of walls and floors especially in music room with auditorium.
7.	Utilities	a. Adequate wining for demonstration purposes.
8.	Safety	a. Fire prevention and control equipment.
		b. Proper storage
		c. All flooring to be slip proof.
		d. Simple circulation in order to avoid confusion and collision.
9.	Colour	a. Light and bright interiors.

CHAPTER FIVE

5.0 CONSTRUCTION AND SERVICE:

The overall building form, its orientation and relationship to the ground plane and interior space layout is influenced by such factors as:

(1) It's geographical location

(2) Topography

(3) Climate

(4) Orientation and

(5) Peripheral conditions.

These factors affect:

(1) The choice of a building's structural system,

(2) Its materials and construction

(3) The correct siting of a building can also help to control natural light, heat, view, noise and other environmental elements by providing the building and its occupants with access to desirable elements and absorbig or shielding the building from those elements which may be undesirable.

MATERIALS:

The selection of materials for an institutional facility like an art academy entails a lot of considerations which may be broadly classified into economic, mechanical and aesthetic considerations. Economic considerations in the use of materials are done on the basis of cost maintenance fire resistance, replace ability and durability. Building materials are characterised by distinct properties of strength, stiffness and elasticity, density or hardness, resistance to wear caused by physical or chemical action, fire resistance and thermal conductivity.

Most building materials are manufactured in standard sizes. These "stock" sizes may very slightly between manufacturers and should be verified during the design and planning stage of the building to avoid unnecessary cutting and waste of material during construction.

Methods of fastening and finishing materials should also be given careful consideration keeping, in mind the function of the building(s) on which they are to be used. Some of the basic materials employed in the design of this project are discussed below:

(1) Concrete and Masonry:

Concrete is a mixture of sand, gravel, or other aggregate held together by a hardened paste of cement and water. This mixture when properly proportioned is at first a plastic mass that can be cast or moulded into any predetermined size and shapes. Upon hydration of the cement by the water, concrete becomes stone-like in strength, hardness and durability characteristics of concrete can vary through a wide range depending on the characteristics of the ingredients and the proportions of the mixture. The techniques used for mixing, placing, finishing and curing can also affect the quality of the concrete.

Masonry refers to man-made units which are formed and hardened into modular building units masonry units (tiles, blocks and the bricks) must be laid up in such a way as to enable the entire masonry mass to act as an entity masonry is structurally effective in compression.

The three basic types of concrete blocks are: Load-bearing, non-load bearing and hollow non load-bearing units. Sand and gravel are the aggregates used in concrete blocks which can be manufactured in many shapes to satisfy various construction conditions. This design employs these two materials in the construction of wall and floor units.

WOOD:

Wood has the following characteristics which makes it a viable construction materials:

* strength
* durability
* light weight
* easy workability
* natural beauty
* warmth to sight and touch

There are two major classes of wood

* Soft wood
* Hard wood

Soft woods are the evergreens and are used for general construction. Hardwoods come from desidious or broadleaf trees and are generally used for flooring; stairs, panelling, furniture and interior trimmings.

Also for this design wood is used when possible for the roof construction in the rafters, for doors interior claddings and panels, furniture and interior finishes.

Also for this design wood is used when possible for the roof construction in the rafters, for doors, interior claddings and panels, furniture and interior finishes.

Wood trussed rafters permit the use of non load being interior partitions and flexibility in the design of a building's interior spaces.

GLASS

Glass is a chemically inert, trans parent, hard and brittle material. It is used in building construction in various forms. Foamed or cellular glass is used as rigid, vaporproof thermal insulation . Glass fibers are used in textiles and for material reinforcement. In spun form, glass fibers form glass wool used for acoustical and thermal insulation. Glass block is used to control light transmission glare and solar radiation. Glass is used most commonly to glaze a building's window, door, sash and sky light opening.

The three basic types of glass are:

(1) Sheet glass

(2) Float glass

(3) Plate glass

Variations of the above include:

- Heat absorbing glass
- Tempered glass
- Wire glass
- Insulating glass.

In this project glass is used extensively in all windows and for some doors in both fixed and adjustable capacities.

Paint finishes:

Today, paints and varnishes are mostly used to give an attractive look to buildings, structures and articles and to protect stone, wood, concrete, metal and other materials against the action of corrosive media.

In the general sense paint refers to an opaque or clear film-forming material that acts as a shield or barrier between the building materials and those elements on conditions that may adversely affect or deteriorate it. Depending on its end use, the paint film must resist deterioration due to sunlight, heat, temperature variations, water or moisture vapour, mildew and decay, chemicals and physical abrasion paint may also serve to make surfaces more sanitary improve heating and lightening effects and promote human comfort and safety, in this design.

The psychological effects of colour and surface texture must be considered when using paint this is because certain colour may be stimulating while others are relaxing and hence based on the activity to be carried out in a space the decision is made to use either relaxing or stimulating paints. White and light colours reflect light, brighten spaces and increase visibility and the apparent size of form and space, these colours will be extensively used especially for display in the exhibition spaces and class room and studios.

Consideration in the selection and use of a paint include

(1) Surface preparation

(2) Type of paint

(3) Film thickness

(4) Coverage

(5) Method of application

(6) Drying.

Ceramic Tiles:

Ceramic tiles are relatively small surfacing units made of fired clay and other ceramic materials it provides a permanent, durable, water proof and easily cleanable surface for interior walls, floors and ceilings. The types of ceramic tiles differ according to material composition, manufacturing

process, finish and degree of vitrification (a measure of the tiles density and absorptivity).

In this design ceramic tiles are used for finishings work over sound, dimensionally stable masonry walls, set with organic adhesive.

Glazed tiles will be used on the walls of the toilets, and changing rooms as well as non slippery tiles on the floors.

ROOFING SHEETS

Corrugated sheet material may be used as structural, self supporting roofing, spanning between linear support members, longspan aluminium corrugated sheet will be used for the purpose of this design where applicable and the manufacturer will be consulted for material specification, sizes, finishes, colour, spanning capability and application details. The support system will consist of wood trussed rafters for spans of maximum length 12 metres and steel for spans above that. Beams and purlings and expansion joint requirements and appearance and colour all depend on the materials used, the profile and the depth of the corrugation.

Steel

Steel is used for heavy and light structural framing as well as a wide range of building products such as windows, doors hard ware and fastenings. As a structural material steel combines high strength and stiffness with elasticity. Measured in terms of weight to volume, it is probably the strongest low cost material available.

Normally subject to corrosion steel must be painted, galvanized, or chemically treated for protection against oxidation. For this design steel framed structures are used for large span halls such as the auditorium and the museum and the library.

5.2 CONSTRUCTION:

Site Clearance:

Before one begins to design and construct a building one should carefully consider the implications of its proposed physical context - the building site.

The site has to be cleared, this process involves a number of operations which include taking a reconnaissance, noting existing features on site, removing existing trees that will affect construction, demolishing unwanted structures on site clearing the ground, setting out the site, locating the building line e.t.c.

All these as well as other necessary operations will be carried out on site before construction begins.

FOUNDATION:

The foundation system of a building, its substructure, is a critical link in the transmission of building loads down to the ground. Bearing directly on the soil, the foundation system must not only distribute vertical loads so that settlement of the building is either negligible or uniform under all parts of the building it also has to anchor the superstructure of the building against uplift and racking forces. The most critical factor in determining the foundation system of a building is the type and bearing capacity of the soil to which the building loads are distributed. It must be understood that the choice of foundation system and material affects and is affected by the soil which supports the building as well as the potential form of the super structure.

Additional considerations in the design of a foundation system include:

* Site topography
* Foundation materials: Concrete
  Masonry
  Wood e.t.c

* Requirements for:
  * Thermal insulation
  * Water proofing and/or moisture protection
  * Expansion and contraction.

The foundation footing designs will depend on the engineers specification having considered all the factors to be considered on site.

Expansion joints will be required due to the extent size and form of the building structure.

Retaining walls:

Retaining walls act as cantilevered slabs. They resist the overturning moment caused by lateral ground pressure by transferring the forces onto relative wide footings. The depth of the lower grade above the footing is important to help stabilize the connection between the retaining wall and it's footing retaining walls may be of:

* reinforced concrete
* " masonry
* Stone rubble

Factors to consider:

* Required expansion joints must be keyed to maintain the lateral stability of the retaining wall.
* Weep moles must be adequately sized and spaced to drain any ground water from behind the retaining wall and reduce the walls surcharge.

For this design earth embankment is used; hence the natural angle of repose for the soil is planted with shrubs to act as ground cover to prevent soil erosion and also serve as a beautiful scenery and stone is used to cut steps into the embarkment where required.

STRUCTURAL SYSTEM

Structure in relation to architecture is one of the most compelling issues that architects have to resolve in building design this relationship is complex and multifaceted. In strictly technological terms, structure may be defined as the means of translating external forces into internal load carrying mechanics in order to support and reinforce an architectural concept. Another broader interpretation of structure might be one in which the means of support and methods of construction are seen as internal factor and form determinants to the building design process.

Architects are faced for the first time in history with a bewildering array of structural and construction choices that are at one alluring and potentially misleading, building design professional of an earlier, simpler time had available a limited choice of structure methods and materials that imposed spatial and visual constraints on the architecture of the societies. The rigorous limits on building spans with architectural character imposed by the constraints no longer exist. Present theoretical potentialities of structural design are almost without limit. It is feasible to design roof spans of 1,000 feet and construct a building a half mile high. With these in mind we will study structural systems.

STRUCTURAL SYSTEM

A system is an organization of elements that work together for a common purpose. In spatial terms, a building structure should be able to

(1) Provide condition of safety and support

(2) Accommodate the means of enclosure (weather protection)

(3) Accommodate environmental control systems

(4) Utilize appropriate methods and materials of construction consistent with the architect's design intentions

(5) Establish a neat visual framework.

1.1 Structural Analysis:

In structural analysis of building we are interested in understanding the type and magnitude of the stress action on a building and how the building might deform when acted upon by these factors and how the design and building can use the plan to resolve the forces within the building structural system.

The above paragraph bring us into the general characteristics of structural elements that make up the structural systems.

(1) A column the vertical element that complements competing forces vertically along its shaft. The thicker a column is in relation to its height, the better it will withstand eccentric or lateral loading.

(2) A beam is the horizontal element, it transmits forces laterally along its length to its supports.

(3) A horizontal bearing plane or slab, it supported along two parallel edges can be seen as a wide, flat beam. A slab however is inherently more versatile than a narrow beam it provides a path along which stresses may travel to the slabs, supports e.t.c.

Joining these basic structural elements together (beams, columns on which rest horizontal sleth, and bearing walls) we compose 3 dimensional form and define spaces, this basically is how volumetric elements are employed in this design. This system because of its versatility allows for flexibility of form in the manipulation of linear and planner structural elements.

Large spans, are common in this design also non obstructural sight lines is designed especially in the auditorium wing, lecture hall, and studios. Portal frames are used to attain functional stability in such spaces construction of building

materials which occur to serve as response to normal temperature clearing in the form of expansion joints to prevent distortion, cracks and break in the building materials.

These expansion joints must provide a complete separatin of materials and allow free movement while maintaining at the same time the weather lightness and watertightness of the structure.

WALLS

Wall systems are a building's primary vertical planer elements. They may be bearing planes of having varied or composite construction or they may be composed of their bearing elements (Posts and columns) or non-structural panels filling in between them.

The structural compatibility of the system come a long way to determine how these walls and columns support either floor or roof system above and how they are supported in turn by wall floor or foundation system below, also the type of connection and materials used plays) a vital note. Rigidity is a critical factor in the design and construction of these joints.

Exterior walls constitute the enclose part of the building and serve as a protective shield. Not only must walls prevent weather from affecting the interior but they must also resist deterioration due to temperature, moisture and wind. Depending on its orientation on site, a wall's sheet transmission properties, its reflectivity and absorptivity and, induction value should be important factors in the choice of a wall system control of air, moisture and water vapor flow takes places at the wall.

Interior walls and partition may either be load bearing or non structural, and serve as divides, and defining elements of space, visually and acoustically. Their surfaces must be durable, cleanable wear resistant, and stain resistant, impact resistant and the desired coloured texture should be compatible with the wall system used. Wall elements may also have to accommodate the vertical and horizontal travel of mechanical and electrical lines as well as other outlets.

The size and location of door and window opening in walls are determined by the type of natural light ventilation, views and access required. In addition these openings should comply with the restraints of the wall

system construction so that, structurally vertical loads are properly distributed around the openings and ensure that stresses around the opening are not transferred to the door and windows into the structure.

Wood, steel, stone concrete blocks and brick can be used to make wall.

For this design sandcrete blocks (Masonry walls) are mainly used and in areas where because of the angles used, the strength originally will not be adequate concrete blocks will be used.

DOORS/WINDOWS:

Doors and windows provide for physical, visual and light penetration into and through a buildings interior while enclosing interior space, but still maintaining the continuity of the building's slab.

Doors and windows perform several functions in a building thus: they:-

* Shield an opening from the elements
* Add decoration
* Emphasize the overall design
* Provide light and ventilation
* Expand visibility

* Provide means of access into a building interior from the exterior, and passage between interior spaces.
* Exterior doors must provide weather tight seals when used.
* Maintain the approximate insulate value of the buildings exterior wall.
* Minimize the possibility of condensation forming on the interior surfaces.

At the same time doors must be left located so as to move through easily and accommodate the moving of interior furnishings and equipment.

In considering a door's performance the following factors are considered.

* Ease of operation
* Privacy and security requirements
* The possible need for light ventilation and view interior doors provide for passage, visual privacy and sound control between interior spaces.

Windows provide for light ventilation and view. Basically they have the same requirement as for exterior doors.

There exists a wide array or variety of doors and windows of different sizes, the choice of which affects not only the physical appearance of a building but also the natural lightening ventilation, view potential and spatial quality of a building's interior.

From an exterior point of view doors and windows are important compositional and scale giving elements in a building's facade, the manner on which they break up a building surface affects the massive visual weight, scale and articulation of the building's major span, whether fillings spaces within a skeleton structural frame or picturing a masonry wall.

With all this background information in mind, the size, proportion and location of doors and windows in this design have been very carefully and thoroughly planned for in accordance with the standard size of doors and windows available in the market.

ROOFS AND CEILINGS:

Roofs though quite similar to exterior walls in function have some particular requirement. They provide an impervious jointless and monolithic surface much like a tent to keep water out of the building. They are the most exposed of all building components because of their

horizontal or near horizontal character and the relatively "sort nature of their material some of a roof requirement are:

1. Sheltering and protecting the interior spaces of the building from the natural elements.
2. Control of the flow of water from rain and water vapour. Also a roof must be structured to carry its own weight as well as live load. The roof system should be fire resistant and may have to accommodate mechanical and electrical equipment.

As a primary generator of building load, the roof must be compatible with the wall and or column systems through which these loads are transferred down to the foundation system.

The roof system is potentially the most expensive system of a building because of its several functional tasks spread over a large area. Economy of erection and maintenance, durability and potential heat gain should all be considered in the choice of a roof system and its materials.

One of the critical elements in the visual image of a building is the form of the roof system.

The roof form, and the spacing, span and slope of its structural members also affect the choice of the finished roofing material. The interior ceiling system and the layout and form of the building interior spaces.

In consideration of the above information on roofs, roof form which define the buildings its character which forms a concept that enhance creativity have been used in this design. Also in areas where large volumes exist ceiling level have be played withcarefully to accommodate the human scaler.

FINISHES AND FITTINGS:

Finishes include the finishes of the floors ceiling and interior walls. The evaluation of these finishes is important because of contact between the users and these surfaces because of code consideration. The floors must have strong resistance to indentation, scratch and wear as well as providing resiliency for user comfort other attributes necessary for the floor and to a lesser extent for the walls and ceilings include:

* Cleanability
* Stain resistance
* Slip resistance
* Adhesive acceptance
* Colour
* Lack of static discharge

* Cigarette burn resistance
* Abrasion
* Scratch resistance
* Resiliency
* Determination
* Water absorption
* Brittleness
* Impact resistance

For visual appearance all finish materials should be considered in terms of their colour texture pattern, scale, modular characteristics and their joining and edge conditions.

Bearing in mind the versatility of this design finish materials are considered primarily based on durability, maintenance, visual appearance and cost, visualizing the people who will use the facility.

ENVIRONMENTAL CONTROL SYSTEMS/SERVICES:

Environmental Control System (ECS) as their name implies, have one fundamental objective, i.e. to maintain those environmental condition in which the human occupants of building are most comfortable. In that statement rests the sole institution for the application of environmental control technologies in architecture, that is human occupancy and comfort as long as there is human occupancy, the various environmental control systems must provide the thermal, visual conditory and

sanitary condition necessary for comfort and efficient performance of the occupants.

A major concern in every design is the proper interaction of these four system of fluid distribution heat-ventilating air (HVAC) lightening and acoustics with the architectural design these systems will be discussed on alphabetical order.

(1) ACOUSTIC SYSTEMS:

Acoustics may be defined as the science of sound; its function, transmission and control of its effects. Acoustic design control intransive noise and by choice of materials, dimension, and shape of building crests and environment for speech and/or gnostic to be enjoyed. This characteristic of acoustic design can simply be stated as reinforcement of desirable should and control of undesirable noise the sources of sound/noise in the facility will basically be from human activities as well as from engineering and mechanical services, water supply and drainage this will be taken care of through proper planning especially in the selection and use of construction and finish

materials, nature of surfaces, shape and forms of room and spaces and will from different sources. The main treatment lies however, in the use of material ceilings, sects/tile especially for noise prove area, like the auditoring drama/main school and lecture walls however acoustical lives are used all through the facility.

FLUID DISTRIBUTION:

WATER SYSTEM

The single objective of any water distribution system is to provide a prompt and generous supply of water for the building's occupants. This is accomplished by ensuring sufficient water pressure through the system to operate the various plumbing fixtures. Assuming the quantity and quality of the water supply and source is sufficient. The first issue to be addressed is how does the water get from the source to the occupant? Then once the water has been used, how is the resulting waste product (sewage) collected and removed from the building this highlights of the major systems in water distribution namely:

(1) Supply and distribution, (2) Collection and disposure. Water supply with distribution: There exists a source of superficial stages through which water must pass before it reaches the occupant at any given plumbing fixture these stages are influenced by

- Pressure: In the simplest term, pressure is required to raise and force water through the system from the supply to the fixtures.
- Storage: The architectural implication of the issues of pressure and storage are direct and immediately apparent, water is very heavy and people and their activities require a great deal of water. Consequently, the location of water storage becomes important. Specifically, in terms of size, space and the associated structure required to support the enomours weight accumulated in water storage tanks.
- Treatment: Apart from treatment because of impurities, common to most of our water resources, one treatment procedure is common in all buildings, water supply system, that in heating, since hot

water is essential for any building encompassing human activities, hot water operation storage and distribution are required components of a supply system.

- Control: Water flow control components or devices control the speed, direction and amount of water flowing through the system.

The amount of pressure lost due to friction depends on the size of the supply pipe, the actual distance of the water flow and the number of fixtures (valves, tees, elbows) through which the water passes.

- Sizing: It is important to understand that systems are sized upon the probable amount of water that may be required by the occupants of a building and not the possible maximum amount of water demanded.

SANITARY SYSTEMS:

Fluid waste and organic matter accumulated during the occupancy use of a building is subject to rapid decomposition and must be disposed of as quickly as possible for sanitation and comfort.

Whereas a water supply system operates from pressure, a sanitary discharge system depends upon gravity flow and thus requires larger pipes and more installation spaces than do water supply systems. The layout of a sanitary discharge system should be as straight forward and direct as possible with properly sloped horizontal runs and angular connections.

For this design typical toilet layout is meant to allow for economy in placement of plumbing fixtures and it will be verified so that the pipings will be correctly installed during the proper phase of construction.

Also proper sanitary waste disposal is very vital considering the number of people who will be using the facility.

HVAC/MECHANICAL SYSTEM:

The goal of the particular environmental control system is to provide the occupants with healthy and comfortable thermal and atmospheric conditions achieved by treating and distributing conditioned air through the building and by making full use of natural abundant air.

Mechanical systems include; the temperature of the surrounding air, the mean radiant temperature of surrounding surfaces, the relative humidity of air, air motion, dust, odours etc.

Factors to be considered in achieving thermal comfort in this design include.

(a) Proper planning of the building location and orientation

(b) Spacing between buildings

(c) Choice of building materials and construction assembly which can control heat, air and water vapour flow

(d) Screening the building from solar radiation

(e) Application of landscape features

(f) Regulation and treatment of openings on buildings and application of the stack effect in ventilation.

The air temperature in the building is affected by the mean radiant temperature, relative humidity and air motion. Air temperature requirements are also affected by the age group of the buildings. occupants and the temperature of their activities. The importance of verification in this design cannot be over emphasized

considering the age groups be using the facility, the level of their activity and how all these will affect air temperature. Additional measures also considered in this design are the provision of free spaces, high ceilings, open courts and adequate penetration to ensure good ventilation in the building.

LIGHTENING/ELECTRICAL SYSTEMS:

Electrical energy provide power for light, heat and operation of appliances, services and equipment within a building. The electrical system that controls and distributes the power to the points of utilization must be safe, reliable and efficient in the utilization of its power supply.

The power supply company should be notified of the estimated total electrical load requirement for a building during the planning phase to confirm service availability, and coordinate the location of the service connection, service switch and switch board. A transformer may be used to switch from the supply voltage to the service voltage. An overhead service connection will be used to save cost, ease maintenance and carry high voltage over long runs.

The basic components of a building's electrical system include:

- Service connection - from the power company
- Service switch - for control, protection and metering of the power supply.
- Main switchboard - for control and protection of the main feeder lines
- Panel board - for control and protection of branch circuits
- Service outlets - light appliances, convenience receptacles motors
- Switches and controls - for the control of service outlets
- Wiring and conduit - to distribute electrical power between all the above

Separate wiring circuits will be used for sound and signal equipment viz: alarm systems, telephone, cables systems etc.

For this design, electrical conductors will be run with concrete floor systems for convenient access to floor and ceiling outlets. Light fixtures and wall switches are usually the most visible part of an

electrical system and they will be located for convenience, easy access and in coordination with visible surface patterns. Wall plates for these devices will be of insulating plastics for safety.

Lightening fixtures will be fixed depending on the visual tasks and activities to be performed by the building's occupants. Load requirement for light fixtures and electrically powered equipment as specified by the manufacturer will be strictly adhered to.

A standby generating plant will also be installed on site to serve when there is power failure.

FIRE AND SECURITY:

Almost all materials suffer damage from fire. Even non-combustible materials such as steel may be weakened by high temperatures caused by the fire. `Fire resistant' is therefore a more accurate term than `Fire proof' hence fire resistant construction refers to methods of

- Controlling the spread of fire
- Increasing the length of exposure to fire a material can withstand without damage.
- Reducing a materials flammability.

Materials used to provide fire protection for building construction must be inflammable and able to withstand very high temperature without disintegrating. They should also be low conductory of heat to insulate the protected material from the heat generated by the fire.

Materials for this design are those that are commonly used to provide fire resistant protection and they include concrete (often with light weight aggregate cipysium, concrete, gypsum board and plaster, and mineral fibre wood may be chemically treated to reduce its flammability.

Fire codes exit whose requirements it is to control the spread of fire and allow sufficient time for the occupants of a burning building to exit safely before the structure weaken to the extent that it becomes dangerous. These codes will be strictly followed.

Other fire protection measures taken include provision of structural protection, escape route and fire fighting aids. Passages leading to exit are direct and unobstructed, well lit and accessible to the outside. The exit doors are made quite wide for easy escape and the balconies provide escape routes exit enclosures

(floor, wall, ceiling, stair construction) all satisfy a minimum of one hour fire rating requirements. Also a minimum of two exits is required to provide a margin of safety in case one is blocked these exit should be located as far from each other as possible without creating divided passage ways. Exits should discharge to a safe place of refuge outside of the building at ground level.

CHAPTER SIX

6.0 AESTHETIC WITH GENERAL APPRAISAL OF THE PROJECT

6.1 Aesthetic appraisal of the design

The design conception for this academy emphasizes the peace, serenity and freedom of creativity that exist within its walls.

From the entrance, the word and soft landscape elements that form the read and walkway, and the rolling green spreads, trees, shrubs and flows all work together to achieve visual comfort and peace that relates the mind and makes one to blend in retraction.

The buildings, given an air of privacy by the trees that shield them have elevations that are quite expressive creating an atmosphere of awe and inquisition to find out what activities take place in such unusual forms. The long spanning roofs and the odd for shaped looking concrete roofs open up more flexible interior spaces creating interesting sloping ceilings on the inside and allowing forecasting run off and protection of the building and interne from weather elements, has worked at creating a facility for Nigerian artists that will provide for them a unifying space for expression and

will provide for the nation both a resence generator in tourist attraction and also a machinery for changing out to the world the uniqueness and unreproductability of Nigeria art works.

6.2.1 CONCLUSION

The importance of an achievement its ability to fulfil its set spiels. The underlying air of two proposal is to form a unifying facts for Nigerian artists regardless of their education and also a repository of Nigerian art works.

This design through its concept and philosophy attempted to fulfil he above set spans.

It is hoped that proposals such as this will help to open doors in unifying Nigeria artist and also in enhancing her tourism industry and the quality of art works produced in the country and exported art of the country. The design and construction all emphasize spacious durable, flexible and easy to maintain spaces considering the uses these spaces will be put into.

Simplicity is spreatly employed in this design in circulator functionality zoning and integration.

Open spaces and courts within the buildings and the relationship of major activities reflect a mixture of historic Nigerian practice blended with contemporings functionalize. Thus it appeals to the psychological comfort of users as it reflects more or less what they are used to these spaces are used for passive recreation as well as for circulation and distribution of activities.

Design requirements regrading the site, its location and layout services e.t.c. have been considered to achieve a balanced, pleasant and pleasure filled creation in the design of a functional and beautiful academy.

6.2 GENERAL APPRAISAL:

This design through its concept and philosophy and in attempt to fulfil the outlined goals, aims and objectives.

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