REDEVELOPMENT PROPOSAL FOR THE NATIONAL MUSEUM KADUNA

THE APPLICATION OF INDIGENOUS NIGERIAN ARCHITECTURAL ELEMENTS IN CONTEMPORARY MUSEUM ARCHITECTURE

BY

NDANDOK THYENO, CHRISTY
M.Sc/ENV.DES/36885/02-03

SUPERVISOR: ARCH. MUKHTAR

DECEMBER, 2005

DECLARATION

I, NDANDOK THYENO, CHRISTY hereby declare that this thesis has been composed by me and the contents are original. That the compilation and edition of this thesis remains solely the achievement of the author under the supervision and guidance of ARCH. M. H MUKHTAR and that all directly copied materials are duly acknowledged.

_____ _____

Signature of student Date.

CERTIFICATION

This thesis report entitled REDEVELOPMENT PROPOSAL FOR THE NATIONAL MUSEUM KADUNA: The Application of Indigenous Nigerian Architectural Elements, by NDANDOK THYENO CHRISTY, meets the regulation governing the award of MASTER OF SCIENCE IN ARCHITECTURE of Ahmadu Bello University, Zaria and is approved for its contribution to knowledge and literary presentation.

_____ _____

Chairman, Supervisory Committee Date

_____ _____

Member, Supervisory Committee Date

_____ _____

Thesis Supervisor Date

_____ _____

Head, Department of Architecture Date

_____ _____

Dean, Post graduate school Date

DEDICATION

This thesis is dedicated to Almighty God for his guidance and protection through out the years of my studies, to my parents Mr. G Ndandok and Mrs. P L Ndandok and my dear sisters and brothers for their strong belief in my great love and zeal for academic pursuits.

ACKNOWLEDGEMENT

For their contributions towards the inception and subsequent completion of this thesis report, I wish to acknowledge the assistance provided to me by the following:

My major supervisor, Arch M H mukhtar, my minor supervisor Dr W B Qurix, Arch H Omeh, Arch I Haruna and Dr M D Ahmed.

All the persons who facilitated the data gathering and compilation processes especially the members of staff of the National Museum Kaduna and the Department of Architecture, Ahmadu Bello University Zaria.

My classmates and Dearest friends and all lovers of our cultural institutions. Thank you all.

A special appreciation goes to my entire family for being there always. I will forever cherish your support.

My Greatest appreciation goes to Almighty God for his inspiration and for guarding and guiding me through out the years of formal academic thirst.

ABSTRACT

This thesis report is an attempt to encourage the application of traditional architectural elements in contemporary museum architecture and also to uplift the solemn atmosphere which exist around several museums today that make them unpopular and boring.

The redevelopment of the national museum Kaduna using indigenous architectural elements as an attempt at a monumental museum complex which speaks for itself as a museum object in display not just a container of artifacts.

Therefore the researcher had to shed light on every aspect of the museum and the existing problems in the national museum Kaduna.

Other museums such as the Gidan Makama Museum in Kano, which was not designed as a museum, and the National Museum Jos will be considered as case study since they exist in the country and display Nigerian traditional architecture.

The Solomon Guggenheim museum in New York and Bilbao will also be studied as they reflect contemporary museum architecture.

The Architect when designing a museum is faced with the challenge of creating not just a functional museum but one that stands out as an object in display with significance and meaning.

The challenge in this thesis is to create a functional museum complex that adapts successfully to the existing structures and at the same time in harmony with the new structures and expressing a cultural, traditional and artistical appearance and in totality creating spaces for alternative but supportive activities in the museum.

Due to time constraint, the researcher could not study other related facilities such as cultural centers, trade centers e.t.c. the researcher hopes this thesis report has contributed

architecturally by proposing a possible architectural solution to major problems experienced by most museums not only in this country, but globally.

LIST OF FIGURES

Figures **Page**

4.1 Temperature of Kaduna 67

4.2 Rain fall in Kaduna 68

4.3 Relative humidity in Kaduna 69

4.4 Foreign/Nigerian visitors 78

4.5 Student/non students visitors 78

4.6 Gender of visitors 79

4.7 Type of visits 79

LIST OF PLATES

Plates **Page**

3.1 Buttress on wall for support 43

3.2 Inner doorway 43

3.3 Entrance doorway 43

3.4 Decorative patterns on wall 44

3.5 Outer doorway 49

3.6 Windows 49

3.7 Decorative patterns on wall 50

4.1 Entrance 71

4.2 Back view 71

4.3 Front view 71

4.4 Front view 72

4.5 Entrance 72

4.6 Back view 72

4.7 Right side view 72

4.8 left side view 72

4.9 Brass/ Bronze casters 73

4.10 Fashion center 73

4.11 Saloon 73

4.12 Entrance gate 73

4.13 Shops 73

4.14 Entrance gate 75

4.15 West view of site 75

4.16 East view of site 75

4.17 Garden 75

5.1 Entrance to the main building 81

5.2 Main building 83

5.3 Zoo 83

5.4 MOTNA 83

5.5 Craft village 85

5.6 Craft shop 85

5.7 Tin mining exhibition 85

5.8 Rail and train exhibition 85

5.9 Vehicle exhibition 85

5.10 Blight of Benin 87

5.11 Katsina palace 87

5.12 Kano wall 87

5.13 Tiv building 87

5.14 Zaria Mosque 87

5.15 Nok buildings 87

5.16 Entrance to the Gidan Makama museum . . . 89

5.17 Entrance door 90

5.18 Entrance to gallery 2 90

5.19 Court yard 90

5.20 Mini pavilion 90

5.21 Inner fence 91

5.22 Gallery 10 91

5.23 The Solomon Guggenheim museum New York . . . 94

5.24 Isometric section of the museum 96

5.25 Interior views 97

5.26 Exterior view 97

5.27 Roof top view 97

5.28 view looking down 97

5.29 view looking up 97

5.30 The Solomon Guggenheim museum Bilbao . . . 99

5.31 The ground floor plan 101

5.32 The 1st floor plan 101

5.33 The 2nd floor plan 102

5.34 North elevation 104

5.35 West elevation 105

5.36 South elevation 105

5.37 East elevation 106

LIST OF CONTENTS

Contents **Page**

Title i

Declaration ii

Certification iii

Dedication vi

Acknowledgement v

Abstract vi

List of figures vii

List of plates ix

Table of Contents xiii

TABLE OF CONTENT

CHAPTER ONE

1.0 Introduction 1

1.1 Problem Statement 2

1.2 Aim and Objectives 4

1.3 Motivation 5

1.4 Scope 5

1.5 Limitation 5

1.6 Justification 6

1.7 Methodology 6

CHAPTER TWO

LITERATURE REVIEW

2.0 Definition of Museums 7

2.1 History of Museums 9

2.2 Changing Function of Museums 12

2.2.1 Museum as forum 13

2.2.2 Museum as a Historical Record 13

2.2.3 Museum as a Cultural Centre 13

2.3 Purpose of Museums to the nation 14

2.4 Types of Museums 15

2.4.1 Art Museums 16

2.4.2 History Museums 20

2.4.3 Natural History Museums 24

2.4.4 Science Museums 26

2.4.5 Other Museums 28

2.5 Museums in Africa 30

2.5.1 North Africa 31

2.5.2 West Africa 31

2.5.3 East Africa 32

2.5.4 Southern Africa 32

2.6 History of Nigerian Museums. 33

CHAPTER THREE

THE APPLICATION OF INDIGENOUS NIGERIAN ARCHITECTURAL ELEMENTS IN CONTEMPORARY MUSEUM ARCHITECTURE

3.0 Cultural significance 36

3.0.1 Definition of Culture 36

3.0.2 Characteristics of Culture 37

3.0.3 Categories of Culture 38

3.0.4 Culture and Buildings 38

3.0.5 Cultural expressions in Architecture 39

3.1 Indigenous architecture 40

3.1.1 Indigenous Nigerian architectural elements . . . 41

3.1.2 Northern Nigeria 41

3.1.3 South-East Nigeria 44

3.1.4 South-West Nigeria. 46

3.1.5 Central Nigeria 48

3.2 Contemporary Museum Architecture 51

3.2.1 Definition of Contemporary 51

3.2.2 Contemporary Architecture 52

3.2.3 Museum Architecture 53

3.2.4 Building as Art 54

3.3. Trends in Museum Architecture 54

3.3.1 Planning 55

3.3.2 Architectural form 57

3.3.3 Gallery. 57

3.3.4 Technology 58

3.3.5 Landscape 58

3.3.6 Parking 59

3.3.7 Ancillary facilities 59

3.4 Ancillary Facilities 60

3.4.1 What are Ancillary Facilities 60

3.4.2 Historical Development 60

3.4.3 Ancillary Facilities in Museums 61

3.4.4 Examples of Ancillary Facilities 62

3.5 Conclusion 64

CHAPTER FOUR

THE STUDY AREA

4.0 Historical background of Kaduna town 65

4.1 People of Kaduna town 66

4.2 Physical characteristics of Kaduna town 66

4.3 Climatic conditions 67

4.3.1 Climate 67

4.3.2 Temperature 67

4.3.3 Rainfall 68

4.3.4 Evaporation 68

4.3.5 Wind 68

4.3.6 Relative Humidity 69

4.4 National Museum Kaduna : Physical survey . . . 69

4.4.1 Site Location 69

4.4.2 The Museum Layout 70

4.4.3 Site Analysis 74

4.4.4 Site Problems 75

4.4.5 Site Zoning 76

4.5 Social survey 76

4.5.1 Functions 76

4.5.2 Visitors statistics 78

CHAPTER FIVE

CASE STUDY

5.0 Museums in Nigeria 81

5.0.1 The National Museums Jos 81

5.0.2 The Gidan Makama Museum Kano 89

5.1 International Museum 94

5.1.1 The Solomon Guggenheim Museum New York . . . 94

5.1.2 The Solomon Guggenheim Museum Bilbao 99

5.2 Conclusions 107

5.2.1 Facilities 107

5.2.2 Site Planning 108

5.2.3 Level of patronage/ Publicity and activities/ Present use . . 108

5.2.4 Architectural form 108

5.2.5 Accessibility 109

CHAPTER SIX

THE DESIGN

6.0 Design brief 110

6.1 Client and users 110

6.2 The brief development 111

6.3 The design considerations 112

6.3.1 Security 112

6.3.2 Site Planning 113

6.3.3 Lighting 114

6.3.4 Display order. 114

6.3.5 Building form 115

6.3.6 The Environment 116

6.4 The application of indigenous Nigerian architectural elements in the design 116

6.5 Facilities and Schedule of Accommodation 118

CHAPTER SEVEN

SUMMARY AND CONCLUSION

7.1 Summary 122

7.2 Conclusion 123

7.3 Recommendation 123

BIBLOGRAGHY 124

CHAPTER 1

1.0 INTRODUCTION:

A museum could simply be defined as a Public institution dedicated to preserving and interpreting the primary tangible evidence of humans and their environment. Therefore, the major aim of any museum is to acquire, conserve, research, exhibit and communicate its vast collection for the benefit of education and up-liftment of humanity generally.

Cultural heritage is widely recognized as the most important input in defining the national and ethnic cultures in Nigeria. Nigeria inherits great cultures, but also an impressive body of plastic, music and literary arts. All Nigerian governments, notwithstanding their political backgrounds and developmental orientations, proclaimed their intention to preserve cultural heritage and allow for its full recognition. The National Museum and other related institutions have taken over the task to work on research, restoration and preservation of the cultural heritage.

Museums with their activities are always playing a big role in our cultural scene and yet the purpose for which they exist and the meaning of museum still elude the public. Therefore, a museum should respond to and improve the quality of life of the society. Only then can the museum and its collections be maximally utilized and appreciated by the community it serves.

National museums in Nigeria are organizations that document on the cultural heritage, as well as provide an organized service for its restoration and preservation.

The National museum Kaduna was established in 1975. The building which houses the National museum Kaduna was initially the office/secretariat of the defunct `Northern Peoples Congress`. It was made available to the antiquities commission by the then north central state government. The building, although originally not designed for museum purpose `lent itself` to the exhibit of cultural artifacts dating back to more than forty – thousand years. (Eyo. C 1975)

Over the years other buildings have been added to the museum. The original building is a one storey building with an eastern access faced of stone work. The ground floor houses the exhibition galleries, a telephone exchange and senior staff toilet while the upper floor contains the offices, photography unit, store, laboratory and a library that is not open to the public. Detached from the main building is a buiding which contains two exhibition halls, curator`s office and an unstocked library. Other buildings include the administrative building and a craft village. The craft village is of mud for the walls and aluminum for the roof.

1.2 PROBLEM STATEMENT:

The buildings in the museum do not strike one as a museum. This is probably because the structures were not originally designed to be a museum but adapted to serve the purpose. This makes the museum resemble a business or administrative institution rather than a cultural one. In a failed attempt to express the traditional architecture in Nigeria, the museum erected a craft village made up of mud walls and, contradictory, aluminum roofing sheets. This has left the museum without any expression in its buildings.

Because the national museum was not designed as a museum but merely adapted to serve the purpose there are so many design defects that need to be corrected or improved on. Lighting and ventilation are completely artificial especially in the gallery. Some of the artifacts in the gallery are lighted with florescent lamp fittings with no evidence of filtration of the harmful ultra violent radiation which maybe harmful to the artifacts. Whenever there is no electricity power, viewing the exhibitions in the gallery becomes impossible. Although it is not possible to completely ignore the use of mechanical system in modifying a museum's internal environment, appropriate architectural planning can go a long way in reducing the dependency on it.

Most of the buildings on the site are dilapidated due to poor maintenance and neglect. Circulation in the museum follows a random pattern and is not clearly defined and the open spaces are not utilized. There is a stair case for vertical movement but it will take a visitor a frustrating longtime to locate.

These days modern museums tend to incorporate ancillary facilities common in cultural centers like theatres, zoos, libraries, craft villages, audio visual rooms, and other facilities. Ancillary facilities are those facilities that support the museums but are less important than the museum itself, these facilities are not present in the national museum Kaduna. Therefore it is necessary to incorporate them in the museum design in order to increase public awareness and patronage.

1.2 AIM AND OBJECTIVES:

The aim of the redevelopment of the national museum Kaduna will be:

- To maintain cultural continuity from generation to generation and from one social class to the other without ignoring the more recent contemporary museum architecture.
- To inspire pride in national culture by providing a convenient environment for the preservation of cultural property.
- To provide a sound cultural education through displays and research of materials displayed from museum facilities.

The objectives are as follows:

- To explore the concept of modern museums and incorporating such concepts to the national museum thereby upgrading the museum to increase patronage and general interest in our culture.
- To correct and improve the inadequate design of several spaces in the museum by converting a structure designed for a different purpose to serve a new purpose effectively.
- Examining ways by which the museum can be made to successfully express traditional architecture in Nigeria.
- To increase patronage and public interest in the museum by providing additional and ancillary activities to the existing museum.

1.3 MOTIVATION:

A gradual disappearance of public interest in the National museum Kaduna was observed. Visitors hardly ever came back to the museum while others seem not to know of its existence. This was partly due to the fact that this cultural institution (museum) does not express any Nigerian culture neither is it engaging or captivating in appearance. Educational institutions (primary, secondary & tertiary) were the commonest type of visitors while the rest of the general public hardly ever visit, hence the motivation to redevelop the museum by mainly providing ancillary facilities to improve public interest so that there will be no cause for a disappearance of historic relics.

1.4 SCOPE

The scope of the thesis will cover careful analysis of the changing function of museums, museum architecture in recent years and the ancillary facilities that make it so. This thesis will also study the indigenous Nigerian Architectural elements and how they can be integrated into the present national museum Kaduna effectively.

1.5 LIMITATION

Due to time and cost constraints, only a few geographical areas will be studied. Other major limitations could be in the collection of minor, but convenient, materials and information on the study.

1.6 JUSTIFICATION

Museums are expected to play a major role in promoting national unity as well as serve as a tourist attraction. Museums also give pride in national culture by preserving and maintaining cultural continuity and identity.

Therefore, the redevelopment of the national museum Kaduna will help in the restoration of a national monument.

1.7 METHDOLOGY

This research will involve library research to find out what has been documented on the relevant issues.

Extensive field work must be carried out in the form of physical measurements, observations, sketches and photographs.

Series of case studies will be carried out on museums that were designed as museums and those that were adopted as museums.

Oral interviews will be carried out on the workers in the museums and those visiting the museums.

Research will be done on different types of ancillary activities common in museums nation wide.

CHAPTER 2

LITERATURE REVIEW

2.0 DEFINITION OF MUSEUMS

The Funk and Wagnallis encyclopedia defines a museum as a "permanent non-profit making institution housing collection or objects of artistic, historic or scientific interests, conserved and displayed for the edification and enjoyment of the public.

The Chambers dictionary defines a museum simply as a building in which objects of artistic, scientific or historic interest are kept and displayed.

Douglas (1979) defined a museum as a building to house collection of objects for inspection, study and enjoyment.

The center for Nigerian cultural studies Zaria, answered the question 'what is a museum' this way " A museum is a public institution for the purpose of collecting, conserving and exhibiting objects of educational and cultural values (CNCS ABU, 1)

Amaefuna (1984) describes the museum as a living dynamic institution, which plays an important role in the cultural and educational process of individual members of society.

Ambrose and Paine (1993) define museum as the 'treasure houses of human race that store memories of the world's people, the cultures, the dreams and their hopes'.

Waghoje (1979) in a contribution entitled “The Nigerian Museum of antiquities its role in education” recommended that “the museum should reach out and establish derict connection with the nations educational institution and their programmes” He further suggested that, “the preparation and production of information materials on Nigeria’s art treasures of antiquities through publications, colour slides, films strips and photographs”. As for the language to be used he suggested English and local language used by the people in whose locality the museum is situated. This will ease the problem of communication for those who cannot speak English and will stimulate a local pride and interest in such a language.

According to Okita (1979), in his contributions, ‘The museum - its role and public image in Nigeria’ said,” Being a local establishment catering for local needs, to foster a sense of local pride and interest in the area of its culture and education .This local interest and pride in our local areas and their cultures can in a piecemeal fashion be extended to include a national pride and interest in our culture and education as a nation for after all when we talk of ‘cultural revival’ we are talking of reviving the cultures of the various ethnic groups that make up Nigeria, but in the process emphasizing the things that unite us rather than those that divide us”.

He further said, “in order to build a national identity, in order to build this most needed identity, a local museum in an emerging nation like ours should enable both old and young to grasp the inter-relatedness of their old social institutions and to visualize themselves as part of the underlying process of social evolution “.

He concluded by saying “And for this the museum must be a place of learning as well as a place for entertainment and enjoyment”.

Following the development of the museum institution through time the international council of museums (ICOM), a professional non-governmental organization devoted to museum development through out the world has attempted to define the museum. Taking into consideration various interest groups and inputs by member countries based on there individual experiences, ICOM defined the museum as a “non-profit making permanent institution in the service of society and its development, and open to the public, which acquires, conserves, researches, communicates and exhibits, for the purpose of study, education and enjoyment, material evidence of man and his environment”.

Museums have come to be accepted as “the most reliable institution created by man to ‘stave off’ as long as possible the deterioration process and loss of objects treasured for their cultural value” (Encyclopedia Britannica: vol. 19). As banks have a reputation for the security and safety of money, so is the museum known as the best vault for objects and artifacts. Moreover most of the cultural ideas that may be transmitted through other agencies are sometimes embodied in the objects stored in the museum. This has given the museum a unique position as a universal multipurpose institution that enters every field of human endeavour.

2.1 HISTORY OF MUSEUM

The word museum is of Greek derivation. It comes from the Greek word ‘mouseion’. In its original Greek sense it was applied to a sanctuary dedicated to the muses of Greek

mythology. It applies to sanctuaries dedicated to the muses, to philosophical academies or to institutions of advance learning or scientific research, over which the muses quite naturally presided.

The religious idea contained in the original Greek museum was a feature that was also common to many ancient civilizations. For instance in both Egypt and Rome objects made or acquired were either put to religious use or placed under the care of the priest.as if to show gratitude to the gods that help them to fight successive wars, the Romans brought back war booty from Greece and the east, displayed some in triumphal processions and then divided them among the temples.

The roman public had access to such collections in the temples, for it is on record that Julius Caesar condemned hoarding by private individuals and he set an example by dedicating his own collections to the temples. Thus, from the point of view of acting as repositories for the collections and in terms of the accessibility of such collection to the members of the public, the roman temples were museums.

According to Ten-Eyek (Gardner; 1965) "…in the family of social institutions invented by man, the place of the museum is not fixed. It is planted and can develop in many directions or sometimes more simultaneously in several directions". This simply means that the museum developed because of man's desire to collect and keep any thing beautiful, useful, interesting or curious. One can therefore say that the history of museums dates back to the time when man began to shape stones and sticks for use (Panaki; 1995).

The museum idea was barely kept alive in Western Europe during the middle age. To sustain the museum movement, churches, cathedrals, monasteries reproduced religious relics, of the Virgin Mary, Christ, the apostles and the Saints. These were embellished with gold, silver and other jewels. Also manuscripts, metal and rich oriental fabrics were collected. These were enriched by collections of the crusaders who returned from the various medieval crusades. All these were stored in palace collections of princes and nobles, thus, illustrating what the late Francis Taylor called the 'Magpiety' of humanity.

The humanist, with keen interest in the classical past began to throw off the reigns of Christian religion and take halting steps towards scientific collections.

Two new words appeared in the 16th century to express the museum concept. The "gallery"; a long grand hall lighted from the side came to signify and exhibition area for pictures and sculptures. The "cabinet" which the Germans called 'wunderkarmer' was usually a square-shaped room filled with stuffed animals, botanical rarities, small works of art such as medallions or statuettes, artifacts and curios. This kind of exhibition hall served as a museum which was only opened to noblemen, wealthy merchants, influential citizens of state, and distinguished travelers Panaki (1995).thus the museum was very private in character and basically seen during this period as a treasure house maintained to advance the prestige of a family or individual.

In Africa in general, and Nigeria in particular, emergence of public museum, the various religious shrines found among the different communities acted as repositories for religious objects in some case, for other cultural objects as well.

Even with the emergences of public museums, shrines continue to play this role. However, these African temples and shrines cannot be said to be museums in the sense in which the roman ones were, since access to the former was generally limited to the worshipers. To the worshipers, the shrine is the place to encounter his god or goddess whose presence may be symbolized as a piece of sculpture or just an embedded object made from a chosen material that is of some significance to the people in question.

The temple, therefore, is a museum in both the historical and religious sense. The priest who is in charge of the temple has a role that is akin to that of a curator of a museum. Both are custodians, one of the temple the other of a museum. To the ancient greek temple, men of old went for inspiration, seclusion and aloofness from everyday affairs. The atmosphere was one that was expected to instill a sense of awe, wonder and respect, on the part of the creature for its creator.

In the museum, the same atmosphere may be expected, if not for the creator directly, at least, for the inspiration that is self- evident in man made objects on display. The temples personifies the supernatural, binds the worshiper, even if temporary, to a material substrate, and because it is something that is localized, acts as a bridge both in space and time, uniting the creator and linking him with the past, just as the museum.`

2.2 CHANGING FUNCTION OF MUSEUMS

In Nigeria before the emergence of museums, the various religious shines acted as repositories for religious and cultural objects. It can clearly be seen that the museum has come along way and has therefore undergone changes.

2.2.1 Museum as a Forum

The word forum means a place where people have a chance to publicly discuss important subjects. Forums are also large outdoor public place in ancient Rome used for business and discussions.

Museums functions as forums since it shows great concern for the public at the levels at which it has been articulated and in the forms in which it has been expressed. Apart from being complex institutions, a museum reveals a progressive concern for the general public.

Just like a forum the museum has always been trying to attract the public in different ways, like providing different activities, facilities and mobile services either specifically for the schools or adult population. The museums have also assumed on-traditional roles.

2.2.2 Museum as a Historical record

The museum educates its visitors not only on the aesthetic appreciation and emotional enjoyment of the works of the ancient masters, but also in the intellectual understanding of the circumstance and periods from which the art piece came and the message they carry. Hence museums have become custodians of vital historical records.

2.2.3 Museums as cultural centers

Culture is defined by the advance learners dictionary as all the arts, beliefs, social institutions, characteristics of a community, race e.t.c. it could also be defined as the total

sum and the attainments and learned behavioral patterns of any specific period race or people. The essential core of culture consist of traditional ideas and their attached values. It therefore follows that culture is more than just a heritage, but also the expression of mans mode of living, something that individuals in each society must under go as fate.

Cultural centers create an awareness to the cultural heritage which is fast disappearing from our society. The cultural center provides the creative use of leisure time and for a variety of activities.

Museums have often been perceived as cultural institutions performing the task of collection, research and education. It is also known as having purely cultural aims, a cultural and educational center, reflecting the evolution of civilization.

It cannot therefore be denied that the museum functions as a cultural center.

2.3 PURPOSE OF MUSEUMS TO THE NATION

Museums provide great service for society and its development by:

1. Providing edification and enjoyment for the public.
2. Plays an important role in the cultural and educational process of individual members of society.
3. Treasure houses of human race that store memories of the world's people, the cultures, the dreams and their hopes.

4. Enables both old and young to grasp the inter-relatedness of their old social institutions and to visualize themselves as part of the underlying process of social evolution.
5. Provides a place for learning, entertainment and enjoyment
6. Conserving and preserving objects of great historic and cultural values.

2.4 TYPES OF MUSEUMS

There are essentially two types of museums the General (multidisciplinary) museums and specialist museums. The specialist museums can further be classified into the following:

- Art museums**.**
- History museums.
- Natural History museum.
- Science museum.
- Other museums.

The following section describes the different types of museums and highlight major museums of these types in the world.

2.4.1 Art Museums

Art museums reflect artistic accomplishment, both historic and contemporary. Through exhibitions and educational programs, art museums enhance visitors' understanding, appreciation, and enjoyment of art. They contain many kinds of artworks, including paintings, sculpture, prints, drawings, photographs, ceramics and glass, metalwork, and furniture. Art museums represent diverse cultural traditions from all parts of the world. One collection might contain Egyptian statuary, funerary objects, and jewelry; another might contain sculpture, masks, and utilitarian objects from Africa; and another might contain pottery, textiles, beadwork, and basketry from native peoples of the Western Hemisphere.

Some art museums have comprehensive collections that span many styles and periods. Outstanding museums of this type include the Metropolitan Museum of Art in New York City; the Louvre in Paris, France; the State Hermitage Museum in Saint Petersburg, Russia; the National Gallery in London, England; and the Vatican Museum in Rome, Italy. Many art museums, however, specialize in works of certain periods or types. For example, the Tate Gallery in London is known for its collection of international modern art and its collection of British art from 1500 to the present. The Whitney Museum of American Art in New York City houses one of the world's finest collections of 20th-century American art. Some museums are devoted to a single artist, allowing visitors to follow changes in an artist's style throughout his or her career. Examples include the Georgia O'Keeffe Museum in Santa Fe, New Mexico, which houses the world's largest collection of works by American painter Georgia O'Keeffe, and the Musée National

Picasso in Paris, which has a collection of several thousand works of Spanish artist Pablo Picasso.

Inside the Louvre Museum Many of the world's greatest works of art are housed in the Louvre Museum in Paris. Here, in one of the Louvre's many galleries, visitors gather to look at Leonardo da Vinci's Mona Lisa, perhaps the museum's greatest treasure.Denis Tremblay Labtex Inc.

The National Gallery of Canada, in Ottawa, was designed by Canadian-trained architect Moshe Safdie. Built of glass and granite, it houses the nation's foremost collection of Canadian art.

Among the many outstanding art museums in the United States, the Metropolitan Museum of Art, founded in 1870, ranks as one of the largest and most important. Its comprehensive holdings span 5,000 years and number in the millions. Among its renowned collections are those devoted to American decorative arts, costumes, medieval art, Islamic art, arms and armor, and Egyptian art. The Museum of Fine Arts, Boston, in Massachusetts, founded in 1870, also has long enjoyed a reputation for excellence and is especially well known for its Asian art, classical art, American art, and decorative arts. The Philadelphia Museum of Art, in Pennsylvania, is an encyclopedic art museum with excellent collections of European painting and American painting and decorative arts. In the Midwest, the Art Institute of Chicago is one of the world's leading art museums, with wide-ranging collections dating from the 14th century to the present and an acclaimed assemblage of works by impressionist and post-impressionist artists. The Cleveland Museum of Art in Cleveland, Ohio, is also a world-famous museum and boasts a major Asian art collection.

State Hermitage Museum Housed in the vast, ornate buildings of the Winter Palace in Saint Petersburg, Russia, the State Hermitage Museum overlooks the Neva River. The Hermitage contains one of the world's greatest collections of art, including extensive holdings of Italian Renaissance and French Impressionist paintings. The Winter Palace, completed in 1762, was the winter home of Russian emperors before the Russian Revolution of 1917.

Among modern art museums in the United States, the Museum of Modern Art in New York City has an unequaled collection representing every school of art from the late 19th through the 20th century. The museum was the first to collect examples in diverse media such as photography, film, video, and design. The Solomon R. Guggenheim Museum, designed by American architect Frank Lloyd Wright, is as renowned for its architecture as for its masterpieces of modern and contemporary art. Other notable modern art museums include the San Francisco Museum of Modern Art and the Museum of Contemporary Art in Los Angeles.

San Francisco Museum of Modern Art Like many of the buildings designed by Swiss architect Mario Botta, the San Francisco Museum of Modern Art, completed in 1994, features a broad central cylinder with a striking pattern worked into its stone surface. The central cylinder provides a focal point for the exterior as well as an ample source of daylight for the interior.

The National Gallery of Art in Washington, D.C. is one of the nation's largest and most prominent art museums. Opened in 1941, it has a comprehensive collection of European and American painting, sculpture, decorative arts, and graphic arts from the late Middle

Ages to the present. The Smithsonian Institution contains the national collections of the United States. The Smithsonian's art museums include the Arthur M. Sackler Gallery, Freer Gallery of Art, Hirshhorn Museum and Sculpture Garden, National Museum of African Art, Smithsonian American Art Museum (formerly the National Museum of American Art), and National Portrait Gallery, all in Washington, D.C., and Cooper-Hewitt, National Design Museum in New York City.

The largest art museum in Canada is the National Gallery of Canada in Ottawa, Ontario. An internationally recognized institution, the gallery holds the most extensive collection of historical and contemporary Canadian art in existence. It also has strong collections of Inuit art, Western European and 20th-century American art, and Asian art. Its photography and media-arts collections are among the finest in the world. In Montréal, Québec, the Montreal Museum of Fine Arts has a comprehensive collection of arts and crafts, particularly those of Canada. The Art Gallery of Ontario in Toronto houses British, European, American, and Canadian art, as well as a large collection of sculptures by British artist Henry Moore. The Winnipeg Art Gallery in Winnipeg, Manitoba, has the world's largest collection of contemporary Inuit art. The Vancouver Art Gallery in Vancouver, British Columbia, has large collections of European and Canadian painting and sculpture.

2.4.2 History Museums

History museums are dedicated to promoting a greater appreciation and knowledge of history and its importance to understanding the present and anticipating the future. They range from historic sites and small historic house museums to large, encyclopedic institutions such as the Smithsonian's National Museum of American History in Washington, D.C. Many cities and states have historical societies that operate museums or historic sites. History museums usually collect a wide range of objects, including fine art, furniture, clothing, documents, and other materials. Some history museums encompass the art or natural history of a region as well as its cultural history.

The most common type of history museum is the historic house. Historic house museums are residences or properties of historical interest that have been restored and opened to the public. Furnishings are chosen to reflect the period during which the most notable owners of the house were in residence. Historic houses in the United States include the birthplaces and homes of presidents, such as Mount Vernon and Monticello, the Virginia homes of George Washington and Thomas Jefferson, respectively; the residences or workplaces of prominent Americans, such as the Carl Sandburg Home National Historic Site in North Carolina and the Edison National Historic Site in New Jersey; and homes of local historical significance. The National Trust for Historic Preservation works to save historic houses around the country and owns 20 historic properties. The National Park Service of the U.S. Department of the Interior has responsibility for a number of historic sites and house museums.

Henry Ford Museum, Michigan Automobile industrialist Henry Ford was born near Dearborn, Michigan, in 1863. Ford built his first automobile in 1893 and established his own manufacturing company ten years later. The Ford Company headquarters are in Dearborn, as is the Henry Ford Museum, shown here, which tells of the transition of the United States from an agricultural to an industrial society, a change in which Ford played a central part.

Outdoor museums, where history is presented in the context of a community, are another popular type of history museum. They are also called historic villages or living history museums. The world's largest outdoor history museum is Colonial Williamsburg, the capital of Virginia from 1699 to 1780. Costumed staff role-play townspeople and historical figures, and hundreds of restored and reconstructed buildings—such as homes, taverns, and craft shops—allow visitors to experience life in an 18th-century colonial village. Another historic village, Old Sturbridge Village in Sturbridge, Massachusetts, recreates life in a typical New England community of the 1830s. The Henry Ford Museum & Greenfield Village is a large indoor-outdoor complex in Dearborn, Michigan, consisting of a museum of history and technology and some 100 historic structures from the 17th to the 20th century. Other notable outdoor history museums in United States include Plimoth Plantation in Plymouth, Massachusetts, a reconstruction of the Pilgrim colony as it appeared in 1627; Conner Prairie in Fishers, Indiana, which recreates a 19th-century central Indiana rural settlement; and Old Salem in Winston-Salem, North Carolina, a restoration of an 18th-century Moravian community.

Many history museums are devoted to particular themes, periods, or groups of people. The Smithsonian's National Air and Space Museum, one of the nation's most visited museums, has the largest collection in the world of historic aircraft and spacecraft. The American Textile History Museum in Lowell, Massachusetts, chronicles the nation's textile industry from colonial times to the present. The U.S. Army Women's Museum in Fort Lee, Virginia, represents women who have served in the United States Army since the American Revolution (1775-1783). The United States Holocaust Memorial Museum in Washington, D.C., vividly relates the horrors of the Holocaust. The Lower East Side Tenement Museum in New York City uses a historic house setting to tell about American immigrants' experiences.

A diorama at the Mashantucket Pequot Museum and Research Center near Mystic, Connecticut, shows how early Native Americans hunted caribou thousands of years ago. The museum also features films and videos, ethnographic and archaeological collections, archival materials, and interactive programs designed to help preserve and express Pequot culture and history.

Some museums explore the history of particular ethnic or cultural groups. Examples of museums that explore the ethnic American experience include the Charles H. Wright Museum of African American History in Detroit, Michigan; the Japanese American National Museum in Los Angeles, California; and the Mexican Museum in San Francisco, California. Major museums dedicated to the histories and cultures of Native Americans include the Smithsonian's National Museum of the American Indian, the Mashantucket Pequot Museum and Research Center in Mashantucket, Connecticut, and

the Plains Indian Museum of the Buffalo Bill Historical Center in Cody, Wyoming. The passage of laws regarding the repatriation of sacred and funerary objects, human remains, and other culturally significant objects has led many traditional museums to carefully evaluate their collections of Native American objects and to forge new working relationships with native peoples.

General anthropology museums trace the history of human civilization and human cultures, including art, language, religion, technology, and social structure. They often include exhibits on human evolution and archaeological displays of human fossils and ancient human tools or artifacts. The Peabody Museum of Archaeology and Ethnology at Harvard University in Cambridge, Massachusetts, has one of the finest records of human cultural history in the Western Hemisphere, housing an outstanding collection of historic and prehistoric artifacts. The Maxwell Museum of Anthropology at the University of New Mexico in Albuquerque has permanent exhibitions on human evolution and peoples of the Southwest. Archaeology and anthropology exhibitions and collections are found not only in history museums but also in natural history, art, and specialized museums.

Museum of African American History, Detroit The Museum of African American History in Detroit, Michigan, is capped by a glass dome 30 m (100 ft) in diameter. The rotunda under the dome displays flags of many African nations. Surrounding the floor are bronze plates bearing the names of many prominent African Americans.

Notable among Canadian museums of history is the Canadian Museum of Civilization (formerly the National Museum of Man) in Hull, Québec, which features a First Peoples Hall devoted to the cultural, historical, and artistic accomplishments of Canadian

aboriginal peoples. The Glenbow Museum in Calgary, Alberta, combines cultural history, ethnology, military history, mineralogy, and art collections. The Museum of Anthropology in Vancouver, British Columbia, displays aboriginal art from the Pacific Northwest and around the world. The Maritime Museum of the Atlantic, on the waterfront in Halifax, Nova Scotia, includes an exhibition on the 1912 sinking of the Titanic, many of whose victims are buried in the city. The Nova Scotia Museum is a decentralized system of 25 museums, including historic buildings, vessels, living history sites, and specialized museums.

2.4.3 Natural History Museums

Natural history museums are devoted to sharing knowledge about the natural world in all its aspects. Many natural history museums were originally established as centers of scientific research, with collections that accumulated from research expeditions and fieldwork. Today, most major natural history museums combine scientific research with a strong emphasis on public education.

Collections and exhibitions in natural history museums generally focus on nature and culture. Dinosaurs, gems and minerals, native cultures, and ancient cultures are always popular exhibits at natural history museums. Other topics of interest include biodiversity, ecology, plants, human biology and evolution, meteorites, ocean life, birds, insects, reptiles and amphibians, mollusks, and vertebrate evolution.

The world's leading natural history museums are major scientific research institutions with important collections of specimens and artifacts related to the natural world and the place of humans in it. The American Museum of Natural History in New York City

contains some 32 million specimens, ranging from microscopic organisms to the world's largest cut gem, the Brazilian Princess Topaz. It has the largest and most diverse array of vertebrate fossils in the world. The Smithsonian's National Museum of Natural History in Washington, D.C., is the largest research museum in the United States and has an encyclopedic collection of specimens and artifacts. The museum's Janet Annenberg Hooker Hall of Geology, Gems, and Minerals houses one of the world's finest collections of rare and priceless gems, including the Hope Diamond and the Star of Asia sapphire. The hall also features a collection of Moon rocks, Mars rocks, meteorites, and some of the oldest known Earth rocks.

The American Museum of Natural History in New York City features a large collection of dinosaur fossils. Its six fossil halls tell the story of the evolution of vertebrates. The vast collections of the Field Museum in Chicago, Illinois, include Sue, the world's largest and most complete Tyrannosaurus rex fossil. Other highlights are exhibitions about ancient Egypt, the islands of the South Pacific, and Africa. Another well-known natural history museum is the Carnegie Museum of Natural History in Pittsburgh, Pennsylvania, which has an outstanding fossil collection of dinosaurs and other prehistoric life. In Canada, the Canadian Museum of Nature (formerly the National Museum of Natural Sciences) in Ottawa serves as the country's national museum of natural history and is an important center of scientific research. Its collections comprise more than 10 million items spanning four billion years of history. The Royal Ontario Museum in Toronto is a major research institution with comprehensive collections in the earth and life sciences and archaeology.

Environmental education is a major emphasis of many natural history museums and nature centers. The Pratt Museum in Homer, Alaska, educates the public about the natural environment of its region through programs and exhibitions such as Darkened Waters, which explores the impact of the 1989 Exxon Valdez oil spill and the worldwide oil spill problem. The Chula Vista Nature Center near San Diego, California, focuses on the biodiversity of the coastal wetlands area in which it is located. The Louisiana Nature Center in New Orleans is an urban nature preserve that includes hardwood forest and freshwater wetlands habitats.

2.4.4 Science Museums

Science museums and science-technology centers are dedicated to furthering the public understanding of science and scientific achievements. Using interactive exhibition techniques and participatory experiences, they stimulate curiosity and allow people to learn at their own pace while exploring the principles, concepts, and implications of science and technology.

Common exhibits teach visitors about computers, robots, machines, the human body and senses, chemistry, physics, and astronomy. Often science museums include aquariums, planetariums, small zoos, and botanical gardens. Laser-light shows and large-format IMAX movies are popular attractions at many science museums. Some have children's areas that offer activities and experiments geared to particular age groups.

The Rose Center for Earth and Space is one of the most popular attractions of the American Museum of Natural History in New York City. The center's 27-m (87-ft) diameter Hayden Sphere houses a planetarium and theater.

The National Air and Space Museum is the Smithsonian Institution's most popular museum. The museum's Milestones of Flight Gallery, shown here, displays many "firsts" in the history of aviation—the 1903 Flyer in which Wilbur and Orville Wright made the first manned flight at Kitty Hawk, North Carolina; the first jet aircraft to break the sound barrier, the Bell X–1, which was piloted by U.S. Air Force Captain Charles E. "Chuck" Yeager; and Columbia, the Apollo 11 command module that carried the first astronauts to set foot on the moon.

Saturn V Rocket at Johnson Space Center Tourists learn about the Saturn V rocket, developed for the Apollo flights to the Moon, at the Lyndon B. Johnson Space Center, an agency of the National Aeronautics and Space Administration (NASA), in Houston, Texas. The Johnson Space Center, established in 1961, manages the space shuttle program and other manned space flights.

Science museums are active environments with hands-on exhibitions and activities that encourage learning by doing. For example, working models of amusement park rides become an intriguing introduction to physics in an exhibit at the Discovery Center Museum in Rockford, Illinois. At the Pacific Science Center in Seattle, Washington, visitors learn about levers by varying the length of a giant lever as they try to lift a 250-kg

(550-lb) weight off the floor. Microscopes and take-apart models invite people to learn about human and animal vision in an exhibit at the Museum of Ophthalmology in San Francisco, California. The Franklin Institute Science Museum in Philadelphia, Pennsylvania, explores the science behind sports in its Sports Challenge exhibit, which features interactive and virtual reality games.

The static electricity generator is one of the most popular stops at the Franklin Institute Science Museum in Philadelphia, Pennsylvania. Many science museums offer hands-on exhibits that encourage learning through participation.

Among major science museums in the United States, the Exploratorium in San Francisco, California, is known as a pioneer in the development of innovative exhibits. It has more than 650 interactive exhibits in the areas of science, art, and human perception. Other leading museums are the Museum of Science and Industry in Chicago, Illinois, with more than 2,000 exhibits, including a full-scale replica of a coalmine and the world's first streamlined, diesel-electric, articulated train; Boston's Museum of Science, with interactive exhibits on physics, archaeology, electricity, light, and other topics; and the Rose Center for Earth and Space, a science center within the American Museum of Natural History that teaches visitors about the origin of the universe, space, stars, and the evolution of Earth. In Canada, major science museums include the Canada Science and Technology Museum in Ottawa, Ontario, which has exhibits on energy, communications, locomotives, and Canada's involvement in space programs; and the Ontario Science Centre in Toronto, which features exhibits on the mind, computers, and the human body.

2.4.5 Other Museums

Many museums challenge traditional categories. These include sports museums and halls of fame, music museums, and children's museums. Children's museums feature lively exhibits for young people that focus on participatory learning. Children play and learn about musical instruments at the Children's Museum of Manhattan in New York City. Train Museum The Northlandz Great American Railway museum in Flemington, New Jersey, features one of the world's largest model railroads, with 135 trains and more than 13 km (8 mi) of track. Owner Brian Williams Zaccagnino, pictured here, created the railroad and its scenery over a period of 24 years.

The National Baseball Hall of Fame and Museum in Cooperstown, New York, has artifacts from celebrated players throughout the history of the game, an annual exhibition saluting the World Series champions, and an exhibition on fabled ballparks. Collections and programs at the American Museum of Fly Fishing in Manchester, Vermont, preserve the history of the sport.

Beatles at Madame Tussaud's Life-size wax portraits of The Beatles form a popular exhibit at Madame Tussaud's wax museum in London, England. Founded in 1835, Madame Tussaud's is one of London's top tourist attractions.

A leading museum about music is the Rock and Roll Hall of Fame and Museum in Cleveland, Ohio. It explores the past, present, and future of rock music through interactive exhibits and an extensive collection of artifacts. The Experience Music Project in Seattle, Washington, also salutes rock and popular music in interactive and interpretive

exhibits. In Kansas City, Missouri, the American Jazz Museum celebrates jazz and its greatest performers. The Country Music Hall of Fame and Museum in Nashville, Tennessee, documents the important contributions of country music to American culture with interactive exhibits and a large collection of artifacts, recordings, and films.

The Rock and Roll Hall of Fame and Museum opened in Cleveland in September 1995. Designed by Chinese American architect I. M. Pei, the museum contains rock and roll memorabilia, images and signatures of Hall of Fame members, and multimedia exhibits tracing the history of rock music.

Children's museums add a lively dimension to the museum community. Aimed at children and families, they focus on participatory learning. In Massachusetts, the Boston Children's Museum is known for its innovative exhibits, educational materials, and community programs. In Indiana, the Children's Museum of Indianapolis has exhibitions on many topics in science, history, and natural history. The oldest children's museum in the United States is the Brooklyn Children's Museum in New York City. It offers innovative programs to serve the needs of the urban community in which it is located.

2.5 MUSEUMS IN AFRICA

Almost every country and most cities have museums. Museums in Africa focus on protecting, preserving, and promoting the continent's cultural heritage. In recent years African museums have collaborated on development of professional practices that help combat the illicit traffic in cultural property, a major concern of museums on the continent.

2.5.1 North Africa

In North Africa, the Bardo National Museum (founded 1888) outside of Tunis, Tunisia, has artifacts from every period of the country's history, including a well-known Roman mosaic collection. The Egyptian Museum (1858) in Cairo, Egypt, has an unsurpassed collection of Egyptian antiquities. Among the artifacts are pharaohs' mummies discovered on the site of the ancient Egyptian capital of Thebes as well as artifacts from royal tombs, including objects from the tomb of Tutankhamun, discovered in 1922.

2.5.2 West Africa

In West Africa, Nigeria's National Museum in Lagos has masks, ancient terracotta figures, and a top collection of the famous bronze sculptures and ivory carvings produced by the Kingdom of Benin, which flourished from the 15th to the 17th century. The bronzes are regarded as among the finest achievements of African art. (Many Benin masterpieces were seized by the British army in 1897 and are held in museums abroad, despite Nigerian government requests for their return.) The Republic of Niger's National Museum is in Niamey. Ghana's museums include the National Museum in Accra, with its collections of African art and archaeology, the Museum of Science and Technology, also in Accra, and several regional museums and historic sites. The National Museum in Côte d'Ivoire (Ivory Coast) is located in Abidjan, the largest city.

2.5.3 East Africa

The oldest museum in East Africa is the Uganda Museum in Kampala. Established in 1908, it has a distinctive collection of African musical instruments. Kenya's museums emphasize wildlife and prehistoric archaeology. The National Museums of Kenya, headquartered in Nairobi, is the governing agency for a network of regional museums. The National Museum of Tanzania in Dar es Salaam contains important excavated material from the archaeological site at Olduvai Gorge in northern Tanzania, where many remains of early humans have been found. Its collection includes the 1.8-million-year-old skull of Australopithecus boisei (originally named Zinjanthropus boisei), an early human fossil discovered in 1959 by British-Kenyan paleoanthropologist Louis Leakey.

2.5.4 South Africa

In Southern Africa, the National Museum of Namibia, in Windhoek, has collections in cultural and contemporary history, anthropology, archaeology, and natural history. South Africa's national museums include the South African Cultural History Museum and the South African National Gallery, both in Cape Town. Exhibitions at Museum Afrika in Johannesburg explore life under apartheid as well as black Africans' contributions to South Africa. The Mayibuye Centre at the University of the Western Cape in Cape Town documents the history of apartheid, resistance, social life, and culture in South Africa.

Other museums exist outside Africa

2.6 HISTORY OF NIGERIAN MUSEUMS

Before Nigeria was brought under British colonial control, collections of cultural objects existed in different places. In nearly every Nigerian family, the head of the family could boast of a collection of cultural objects relating to the history or religious beliefs of that family. There were of course, family and village shrines that contained objects of religious significance. Masks meant either for the whole body or just for the head that is seen in public museum in Nigeria today, have their religious significance when seen in context.

Kenneth C Murray can rightly be called the "founder" of Nigerian museums, in an address given by Murray himself (then surveyor of antiquities) at the opening of the antiquities commission on September 10, 1954 he recalls how

In the early nineteen thirties, there was a group of officials in the Education department who were interested in starting museums, they included Mr. Duckworth E. H, Mr. Clarke J.D, Mr. Huntcooke, Mr. Milburns and the speaker Mr. Murray. At that time, the teacher was teaching art and he believed that contemporary Nigerian art should develop from and be based on the traditional art of Nigeria, but there was no collection of traditional art which the students could examine. He started to make one.

The collection which Murray eventually assembled went further than a mere response to an initial teaching requirement and indeed, became the nucleus of the national museum, lagos in its early years.

Having acknowledged the contribution of British nationals whether in Nigeria or Great Britain, to the development of museums in Nigeria, it is worth assessing the contribution made by Nigerians themselves. The first point that should be made is that it was the richness and variety of the culture of the people of Nigeria, as was particularly evident in her antiquities, that made the various British nationals take on interest in and fight for the establishment of museum in Nigeria to have such antiquities as were still existing or to recover those looted from the country.

The Sokoto and Argungu museums are examples which illustrate the contribution of traditional rulers to museum development in Nigeria. In the Sokoto museum nearly all the objects were loaned to the museum at its inception by the Sultan of Sokoto, the Waziri of Sokoto and a number of district heads.

Ife and Benin museums offer very good examples of the contributions by traditional rulers to the development of Nigeria museums. The Oni of Ife made actual donations of objects to the museum.

Political leaders in Nigeria have helped the development of Nigerian museums through their support. The late prime minister, Alhaji Tafawa Balewa, was known for his keen interest in museums. Thus, museum activities received government support and attention when he was in charge of ministry of works which in those days held responsibility for museums. Another group of Nigerians who have supported museum development in Nigeria are people from universities, mainly lecturers and those conducting research.

Even though the earliest efforts to start museums began in late 1930 and were more clearly expressed in 1940, it was only in the mid and late fifties that saw the opening of early museums in Nigeria and today there are over 20 museums in Nigeria and a number of ancient sites and monuments.

CHAPTER 3

THE APPLICATION OF INDIGENOUS NIGERIAN ARCHITECTURAL ELEMENTS IN CONTEMPORARY MUSEUM DESIGN.

An experiential narrative says that a museum is inseparable from its physical condition- its locality, environment and architecture. Architecture represents the museum's public image, defines the institution's relationship to its setting, and constructs the framework of the visitors' experience.

3.0 CULTURAL SIGNIFICANCE

A building that aspires to cultural significance is one that takes risks, engages the public, and seriously explores a structure's role as a part of the city and social context rather than merely functioning as a box. To understand the significance of culture in contemporary museum architecture, we must first fully understand what culture is.

3.0.1 Definition of Culture.

The Oxford English dictionary has the following definition for culture. Culture is defined as shared beliefs, customs, practices, social behaviour, language, and the entire way of life of a particular group of people at a particular place, class, or time to which they belong. Culture includes customs, ceremonies, works of art, inventions, technology,

styles of dress, ways of producing and cooking food, religion, and political, economic systems and traditions.

Culture distinguishes one human group from others. It also distinguishes humans from other animals.

Culture is the most important concept in anthropology (the study of all aspects of human life, past and present). Anthropologists commonly use the term culture to refer to a society or group in which many or all people live and think in the same ways. Likewise, any group of people who share a common culture—and in particular, common rules of behaviour and a basic form of social organization—constitutes a society. Thus, the terms culture and society are somewhat interchangeable. However, while many animals live in societies, such as herds of elk or packs of wild dogs, only humans have culture.

The earliest physical evidence of culture is crude stone tools produced in East Africa over two million years ago.

3.0.2 Characteristics of Culture

Culture has several distinguishing characteristics.

1. It is based on symbols
2. Culture is shared.
3. Culture is learned.
4. Culture is adaptive. People use culture to flexibly and quickly adjust to changes in the world around them. Culture helps human societies survive in changing natural environments and it has made humans one of the most successful species on the planet. Through history, major developments in technology, medicine, and nutrition have allowed people to reproduce and survive in ever-increasing

numbers. This fourth characteristic of culture is clearly evident in architecture, Architecture has adapted more to changes in the world with regards to materials, building techniques, styles e.t.c.

3.0.3 Categories of Culture

Anthropologists came up with a simpler categorizations of culture. A common practice is to divide all of culture into three broad categories: material, social, and ideological. A fourth category, the arts, has characteristics of both material and ideological culture.

Material culture includes products of human manufacture, such as technology. The arts include such activities and areas of interest as music, sculpture, architecture, painting, pottery, theater, cooking, writing, and fashion.

3.0.4 Culture and Buildings

The best buildings are often so well constructed that they outlast their original use. They then survive not only as beautiful objects, but also as documents of the history of cultures, achievements in architecture that testify to the nature of the society that produced them. These achievements are never wholly the work of individuals. Architecture is a social art.

Early cultures used substances occurring in their environment and invented the tools, skills, and technologies to exploit a variety of materials, creating a legacy that continues to inform more industrialized methods (Amos Rappoport).

Cultural institutions can therefore best be defined as institutions where cultural activities such as ceremonies, works of art, inventions, technology, ways of producing and cooking food, traditions, works of art, traditions e.t.c are freely practiced or produced.

3.0.5 Cultural Expressions in Architecture

Expressions can be defined as a word or group of words that communicate an idea. The comunication of thoughts or feelings, for example, directly to another person or through a work of art, or a way of communicating an idea. Something done or given as a means of communicating a feeling or thought to somebody else.

From the above defination it is clear that expression is all about communicating something through some kind of means. Cultural expressions is communication of culture through some kind of means.

Architecture is one of the forms or means of cultural expressions. Culture is expressed through architecture. Different architectural styles and forms vary widely from one culture to the other, The culture of various regions can determine the types of buildings built, the materials used and the building technique employed in building. Various cultures have similar architecture but not quite the same as several variants could exist in different regions.

Architecture, as a means of cultural expression, has adjusted more flexibly and quickly to changes in the world around. Building styles, tools, skills, and technologies to exploit a variety of materials, have gone through changes and modifications creating a legacy that continues to inform more industrialized methods.

A museum is a cultural institution as such it should have to express culture and its environment in its architecture. The architecture of cultural institutions should therefore

not only be serious and engaging but also reflect several transcendent but transitive elements.

3.1 INDIGENOUS ARCHITECTURE

The Encarta dictionary defines the word indigenous as belonging to a place, originating in and naturally living, growing, or occuring in a region or country. It also means Natural or inborn.

Indigenous architecture could therefore be defined as an architecture that originated in or belongs to a perticular region or country. Indigenous architecture are ways of building that appear to have developed independently in isolated, local cultural conditions.

The way of life in settlements usually determines the types of dwellings built. Structures may be round, rectangular, or semicircular. Communal structures, for holding meetings and teaching children, are located in a prominent place in the settlement.

Many rural societies in Africa adorn the outsides of houses with painted designs or with relief (raised) patterns worked into a soft clay surface. Frafra women of northern Ghana decorate the walls of houses and other buildings with geometric patterns that communicate information about the social status, that is the wealth and power of a building's owner. Ndebele women in Zimbabwe and the northeastern part of South Africa paint the mud walls of their houses with geometric patterns based on the shapes of windows, steps, and other building features and everyday objects. Traditionally, Africans have used natural clays as paints, but today brightly colored acrylic paints are popular.

3.1.1 Indigenous Nigerian Architectural Elements.

Nigeria's three largest ethnic groups—the Hausa, Yoruba, and Igbo—represent about 70 percent of the population. About 10 percent of the total population consists of several other groups numbering more than 1 million members each, including the Kanuri, Tiv, and Ibibio. More than 300 smaller ethnic groups account for the remaining 20 percent of the population. (However, as in most of Africa, ethnic labels in Nigeria are often imprecise, obscuring differences within groups and similarities among groups.) These ethnic groups have many different languages. Differences in geography, politics, religion, and economics have shaped the numerous artistic traditions. Similar buildings with slight differences.

Traditional architecture ranges from the Northern Nigerian-inspired mud houses of the Hausa to the sprawling Yoruba compounds that accommodate several branches of an extended family. Such dwellings are often decorated. Hausa houses commonly have bas-relief geometric designs, while Yoruba palaces feature elaborately carved doors and veranda posts. Wood carving is especially prominent among the Yoruba and Igbo of Nigeria.

3.1.2 Northern Nigeria

The Hausa, concentrated in the far north and in the neighboring Republic of Niger, are the largest of Nigeria's ethnic nations. Most Hausa are Muslims engaged in agriculture, commerce, and small-scale industry. While most live in smaller towns and villages, others occupy several larger indigenous cities. Many people of non-Hausa origin have

become assimilated into the Hausa nation through intermarriage and acculturation. One such group is the Fulani, traditionally a seminomadic livestock-herding people. Many Fulani have settled in Hausa cities and towns and have become part of the Hausa community

The architecture prevalent in northern nigeria is the hausa architecture which reached its final mature excellence due to the quality of the hausa building men. The architectural elements in hausa buildings are as follows.

- **Tubali walls:** Tubali are conical building blocks made from mud (the poorest surface layers of soil were mixed with water and moulded into lumps about 15cm in diameter) and placed on layers with mud mortar (carefully processed soil of the highest quality) to errect the required wall. The walls were built on foundations. The thickness of the foundation varried considerably,the deciding factor being the size of the wall to be built upon them. The foundations therefore were extensions of the footing of the walls. A wall 1.5 meters thick would have a footing 10 tubali thick and the upper part of the foundation will be 6 tubali thick. The height of the foundation ranged from 45cm to the height of a man's chest. In two storeyed buildings the walls were braced horizontally with wooden grids set within the walls. The walls decrease in thickness towards the top, they were 90cm thick or sometimes twiceas thick espercially outter wall at entrance to creat an impression of strenght. Sometimes the walls were strenghten with buttress from the outside. The wall was crown with a continous parapet above roof level,at the coners of the building the parapet was emphasised with thick set finals.



Plate 3.1 Buttress on wall for support.

source: field surface.

- **Doors and windows:** Doorways were of two types. Outer doorways were closed by wooden or iron doors and inner doorways were doorless and occationaly screened with grass-plaited curtains. Doorways were usually rectangular in shape and had decoratively shape heads (semi circular arch with the diameter extending 30cm beyond the rectangular doorway. Windows were simple openings always set in the upper most part of walls on the lee side of the building which were less efected by the driving rain.Their shape was an elongated upright rectangle sometimes toped with an arch or triangule.

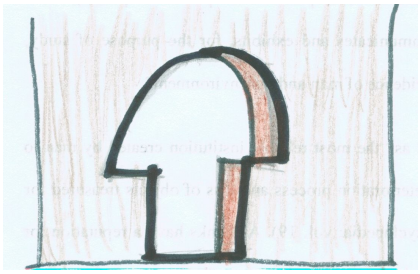

Plate 3.2 Inner doorway.

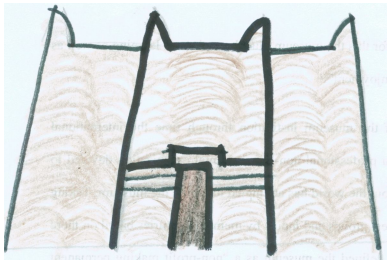

Plate 3.3 Entrance doorway

Source: field survey

- **Floors:** Floors were usually laid by women. A suface of laterite 3cm thick was put on top of a layyer of beaten earth, finally to harden the floors, powdered pods were spread into the floor surface and water was poured over them.

- **Pillars:** These were usually used in the interior and they have a structure similar to that of the walls. They are square in plan and support flat roofs in rooms of large diamensions. They also provide support for a pseudo arch in the more sorphisticated interiors.
- **Roofs:** They are of two types. The flat roofs and the dome roof. They are made from the use of timber, grass matting, mud mortar and water proofing plastering.
- **Plastering:** This was done on walls, doorways, windows and roofs.usually with decorative patterns in geometric forms. These houses are often decorated with bas-relief geometrical designs.

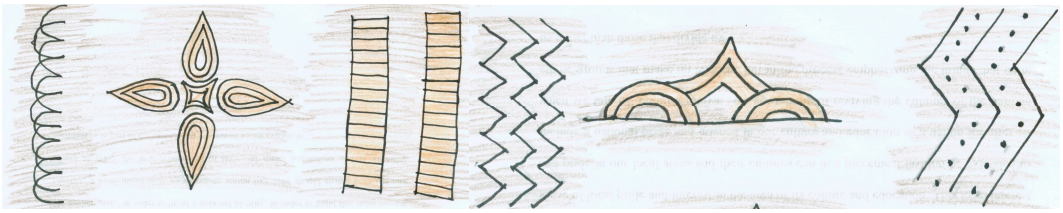

Plate 3.4 Decorative patterns on walls.

Source: field survey

3.1.3 South –East Nigeria

The Igbo of southeastern Nigeria traditionally live in small, independent villages, each with an elected council rather than a chief. Such democratic institutions notwithstanding, Igbo society is highly stratified along lines of wealth, achievement, and social rank. Wood carving is especially prominent among the Igbo of Nigeria. This carving was evident in the post, composite pillars, doors and windows in the structures.

- **Walls:** The quality of the walls depended mostly on the quality of the building earth available. The walls were of two types, one of processed loam and the other of wattle and daub construction. Boundary (fence) was made of loam with weather protective palm fonds.The walls were 30-40cm thick, and each layer 30-50cm high. Walls were organically connected with the roofs but only seldom carried the purlins and rafters directly.Some buildings had practically no mud walls in the sense that three sides of the building were only delineated with a wide, low parapet and post carring the roof. Interiors were merely screened with carved or open work panels.
- **Roofs:** The standard element for the roof was a wooden fork post, which stood either vertically or inclined, supporting the roof. Post were in various sizes and decorative elaborations. The type of roofs used in this part of the country were conical roofs, gable roofs, gambrel shaped roofs and hip roofs. The materials used for these roofs were timber post, grass or palm fonds for the thatch roof, timber or bamboo for the purlins and battons.
- **Floors:** These were raised 50cm above ground level in rooms and veranders. The verander floors had stepped edges reinforced with stones or logs of wood. Good red building eath is used in the rooms and sometimes with palm oil mixed with the soil. The surface is finished up with a cow dung mixture.
- **Ceilings:** This is only built on multi storeyed buildings with the use of joist and thick planks of wood, beams coverde with thick layers of clay to offer protection from fire.

- **Doors and windows:** Doors were more emphasized than doorways. These doors were not just for barring entrances but also works of decorative arts. These doors were made of a single, massive plank produced by chipping whole trucks of wood to the desired thickness. They were rectangular, trapezoidally or an inverted triangle. These doors were heavily carved with decorative pattens.
- **Post and composite pillars:** Post were placed in rows on the longer sides of the building. They carried the purlins which carried the common rafters and a second row of composite pillars supported the elongated eaves. The post supporting the purlins was fixed clear of the walls either outside or, infrequently, inside. These post and pillars are carved in different patterns and shapes. They were carved to accommodate ridge beams and rafters.
- **Finishes:** Finishes in this architecture falls into three main groups. The moulding of clay surfaces; the decoration of both external and internal walls with inserted materials e.g cowries, glass, or enamel; carving and chipping of wooden post and panels; and polychromy. To these must be added the sculptural work, in loam or wood, which sometimes finishes shrines and temples which were separate, independent and detacht from the building and sometimes constituted an intergral part of the architectural composition.

3.1.4 South – West Nigeria

The Yoruba of southwestern Nigeria incorporate seven subgroups—the Egba, Ekiti, Ife, Ijebu, Kabba, Ondo, and Oyo—each identified with a particular paramount chief and city. The oni of Ife is the spiritual head of the Yoruba. There is a strong sense of Yoruba

identity but also a history of distrust and rivalry dividing the various groups. The majority of Yoruba are farmers or traders who live in large cities of precolonial origin.

In Nigeria, the Yoruba built more permanent palaces of sun-dried mud bricks. These palaces consisted of a series of courtyards, with each courtyard flanked by four rectangular units. Mud bricks formed the outer walls of each unit, and an overhanging roof shaded a veranda on the courtyard side. At the entrance to every Yoruba palace was a set of double wooden doors, intricately carved with abstract designs and images of human and animal figures. Yoruba palaces feature elaborately carved doors and veranda posts. Older homes in Lagos have a distinctive two-story design, known as the Brazilian style because it was introduced by slaves repatriated from Latin America in the 19th century.

- **Walls:** Building earth was kneaded into ‘clay balls’ and then carried to the building site by children to the builders. They were thrown into a wall shape and patted down by the masons. The upper part of the walls were built using scaffolding, being trimmed to plumb and set squarewith a wooden shovel. The walls were built from 3 – 6 meters high in layers of about 30cm high and 30 – 60 meters thick. The clay walls were embelished with mouldings sometimes as surface decoration and the interior of the walls was polished with a solution of black red earth and covered with stain from the pods of the locust tree or from the crushed leaves of the oil seed tree.

- **Roof:** The roofs were of saddle backs or hipped roofs and thatched with grass, leaves or palm fronds. Verandahs were coverde with lean to roofs which were an extension of the saddle back roofs above the dwellings.
- **Doors and Windows:** Doorways and Window openings often had mud reliefs. The reliefs nearly always represent decorative abstract designs. The doors and windows are of wood carved with decorative abtract designs.
- **Post and columns:** These prehaps are the most interesting element in the south west architecture. Verandar roofs were suported on post which were usually decoratively carved sometimes in human form. Verander post even in ordinary houses were generaly ornamented using joinery not sculptural methods.

3.1.5 Central Nigeria

Although small by Nigerian standards, these lesser groups have more members than most other African ethnicities. These ethnic groups are located at the central part of Nigeria, they include Tiv, from the Benue Valley near Makurdi; the Nupe, centered in the Bida area; the Nok, at the southern part of Kaduna state; and several other such ethnic groups found in Niger, Pleatuea, Nassarawa, Taraba and Adamawa states.

- **Walls:** The thickness of walls varried from 20 – 70cm. Walls were erected with lumps of wet building earth. The surface of the walls both inside and out side were thickly plastered and sometimes ornamented. The decorations were applied either by moulding the surface with geometric patterns, or by inlaying ceramic in the wet surface of the plaster.

- **Doors and windows:** Doorways were usually rectangular in shape with strong shaped wooden lintel. Some of these openings reached the total height of the wall. Doors were sometimes caped with an arch, they often had no doors instead a srong stiff mat (some were elaborately woven) was hung from a hook above the axis of the opening. The few doors were wooden and generally ornamented in multi – form carved design. Window openings were sometimes covered with wooden shutters, or with a metal screen pierced with a tracery of imaginative geometrical or vegetable pattern. Most windows were not covered. The shape of the windows range from upright triangle ingeniously divided by inner partition arrow head shapes and circular shaped windows.

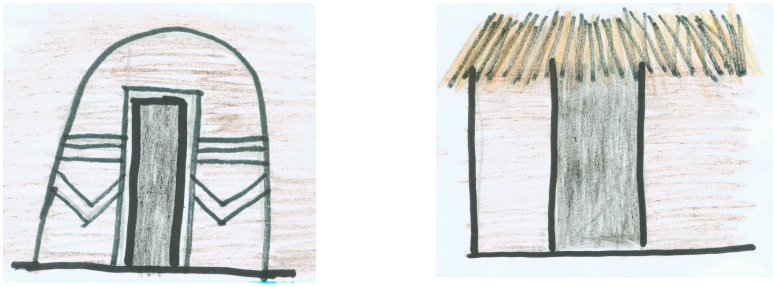

Plate 3.5 Outer doorways

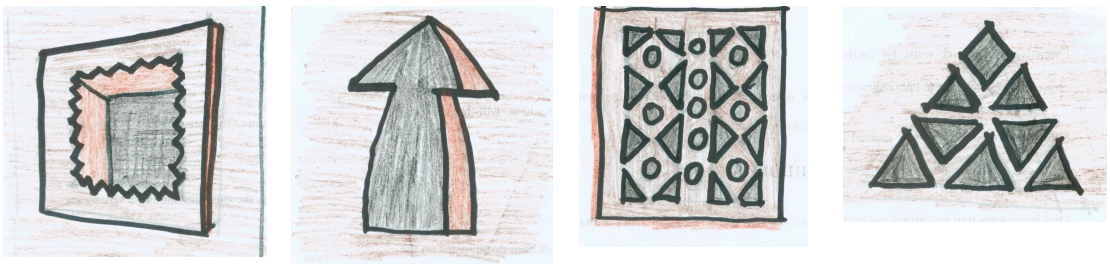

Plate 3.6 Windows

Source: Field survey

- **Floors:** This was exclusively womens work. Building earth was filled to the floor and then beaten down to form a compressed hard surface, then the floor was coated with a kind of liquid or great composition of almost abstract character were made by simultaneous application of incised tiles, skillfully selected fragments of broken pottery and multi-coloured pebbles.

- **Roof:** These are of two types; the steeply pitched conical thatch roof and the gable roof for rectangular plan. The main element of their construction was a strong ridge beam with the apex usually decorated. The roof is made up of wooden rafter, purlins, struts and grass thatch.
- **Decorations:** Decorations on walls, openings and furniture were mainly moulded, inserted or painted. The decorations were not just linear but a three-dimensional, spatial decoration, with its characteristic display of light and shadow.

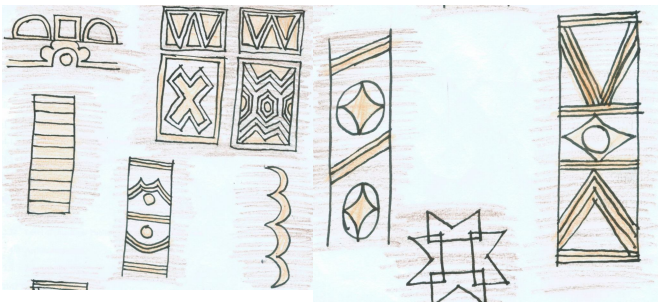

Plate 3.7 Decorative patterns on wall.

Source: field survey

Relating to the vernacular has played a major role in the development of so-called postmodern architecture, characterized by receptivity to such influences as historical and indigenous architecture.

3.2 CONTEMPORARY MUSEUM ARCHITECTURE

No other building typology represents such intricate complexities or a multiplicity of functions as does that of the museum. Cultural repository, dynamic civic space, popular entertainment center, tool for urban revitalization-much is asked of contemporary museum architecture.

The vitality of many of the newer currents in contemporary architecture was confirmed recently by the apparent success of several major projects embodying innovative design principles, complete with symbolic colorations, allusions, and decorations—and likely to evoke strong reactions. Museums, with their malleable programs, have enabled architects to interpret contemporary reality, to create emblems of who we are, and to redefine the meaning of the physical place we inhabit. In recent years, museums and art centers have been essentially the only armature for artistic innovations in public buildings.

3.2.1 Definition of Contemporary

The word ‘contemporary’ originated in the Mid-17th century from medieval Latin word contemporaries , from Latin tempor- , stem of tempus “time” (source of English TEMPO, TEMPORARY, and TENSE).

It could be defined as something in existence now in present time or distinctively modern in style. It could also be defined as making something modern or fashionable.

3.2.2 Contemporary Architecture

Contemporary architecture is the architecture in existence now; distinctively modern in style it is characterized by symbolic colorations, allusions, and decorations—and likely to evoke strong reactions.

. Trends of the years past continue to be improved upon with synthesis of new ideas in composition of forms, spatial requirements in organization of functional space for improved user comfort in various building types Collingwood, R.G (1989). Some schools of thought are of the opinion that Architecture is an art that seeks to bring meaning to the built environment with the intent not to dominate it in order to engage in a spatial dialogue responding to changing needs of users.

Architectural masters are of the opinion that architectural essays of the contemporary age shall constitute a conflict between the activity it intends to house and the audience it intends to capture. Thus the conclusion that, the geometric composition of building types as museums and centers for arts, the architecture of which will have the intent to captivate more than the activity it intends to serve (essay having strength to impinge on the visual interest of users and passer-by's than the event within).

Buildings are not necessary works of art. Many architects, critics, and locals feel that these contemporary museum architecture are a piece of art in themselves, precluding the possibility of an addition: one would not paint something new onto a Raphael; why add

to such buildings? Yet buildings are not art, and the programmatic life of a building requires the capacity to reconfigure, renovate, and-if absolutely necessary expand. The vitality of many of the newer currents in contemporary architecture was confirmed recently by the apparent success of several major projects embodying innovative design principles. Among the most notable was the museum in Bilbao Spain by the architect Frank Gehry.

3.2.3 Museum Architecture

Architecture is intrinsically part of something greater: a cultural ambition, a corporate ideal, a climactic condition, a historical setting, a topology, a geography. By virtue of being within the public realm, museum architecture is laden with social, political, and moral issues. Therefore the ideal museum building cultivates both anticipation and memory while relating to its location and community.

Universally associated with cultural myths and rituals, museum architecture does not only serve as a tangible container of lore; it itself possesses mythical attributes. Both myth and architecture are narrative metaphors for social construction, defining boundaries for human interaction with other humans and nature. Museum architecture revolves around fresh rituals and contemporary myths-those of site, fragmentation, scale, technology, programmatic flexibility, and cross-cultural connection. One of the most striking new design proposals was that of Gunnar Birkerts for a new national archives center for Riga, the capital of the Detroit-based architect's native Latvia. The shape of the reflecting structure on the banks of the Daugava River echoes that of Crystal Mountain, a symbol of freedom in Latvian folklore; Birkerts's design proved prophetic when Latvia gained its

independence from the Soviet Union. Museum architecture cannot simply be a container; it must have content of its own.

3.2.4 Building as Art

The ultimate goal hinges on achieving a compelling design that will in essence be awe to all, a work of art and also clear and elegant in its absolute simplicity probably more than [they want to see] the art. The structure is the art, a backdrop to the collection, an attraction as well as a distinctive piece not competing with the arts.

As a building in and of itself, the architecture of museums need not compete with the art or artifacts on display; in fact, it can enhance the exhibition experience. These two needs-container and architectural presence-are not mutually exclusive; a museum can at once be a significant edifice and be sympathetic to its required functions. It is analogous to a reversible jacket; the inside is equal to the outside and vice versa. Reflector and projector, the successful contemporary museum should demonstrate a strong symbiotic relationship not only with its contents, but with its context-the city. Museum architecture unlike art or a great collection-never stands alone.

3.3 TRENDS IN MUSEUM ARCHITECTURE

the following design trends are currently being applied in most contemporary museums in selected regions around the world as defined by designs of renowned architectural masters. Although these trends also apply to similar institutional building types, caution

is employed in judiciously pointing out peculiar trends which applies to the problem and context in question.

3.3.1 Planning

In recent museum design, the innovative interior is visible on the exterior, eliminating a visual barrier between inside and outside, the building's exterior is transparent, animated by the external circulation system

INTERIOR

- Spatial organization of interior spaces in museums of recent composition suggests a conscious disposition of fluctuating arrangement of transparent and open spaces.
- Interior arrangements of spaces tend towards clusters and circulation spaces linking one function to another as against the rather centralized open spaces of earlier museums.
- Decentralization was more of a far- reaching phenomenon, which in the case of architecture means where the universal styles of modernism and functionalism are challenged by local context or styles no longer is the issue as local traditional values are relegated to the fore ground in design. Though other form givers might not accent to such design theory.
- The spaces in the centre don’t have to be defined by the need for walls to hang pictures on. Given an institution that exhibits contemporary Arts. Getting away from the box from 90 degree angles is the trend in gallery designs.

- Accessibility through gallery spaces in museums introduces an array of ramps, stairs and lifts, intended to create visual delight within interior spaces through a puzzled circulation routes
- Careful detailing of design elements and surface decoration express the individuality of interior spaces within museums, this is an important feature.

EXTERIOR

- Since today's artworks vary from urban-scale objects to the intimate experience of video, museums are designed as unpredictable building to accommodate unpredictable Arts.
- Architectural compositions of museums of the new era depict architecture of freedom. Its elemental principle is founded on "free plan" and "objective form". Objective form is the backbone which allows free plan to function and refers to
- The replacement of history's load bearing walls with and organized framework. Facilities today must be designed to suit multiple uses for programming and economic reasons (design spaces are multipurpose)
- Clear zoning of related functions, especially services, which as much as possible are designed in a specific section of the complex for easier management and disposal.
- The old trend in museums which requires administrative and staff areas to be shielded from public view and often have their own access from outside is now old fashioned. The back to front trend now calls the shots (administrative areas

are now within full glare allowing users to be acquainted with activities of the museum).

- Use of open or classical trends and the contemporary trends of enclosed user minded spaces within interior make-up of museums.

3.3.2 Architectural form

- museums display clear, elegant simplicity and complexity in use of forms. The structure is the art.
- Architecture of recent museums as with the trend of the age is characterized by chaos, collision and convolution of forms and shape.
- Museums are characterized by organized and discordant geometry in compositional traits of its character.

3.3.3 Gallery

- Most museums have been designed in a way that completely shuts out natural light out of the fear that the UV rays causes art works to fade.
- From studies carried out, museums designed in the early part of the 20th century indicated that designing a clean white box as neutral space for exhibition of works no longer holds.
- The gallery spaces in today's museums are designed to look modern, through the use of visual trick to expand the look of its interior space via use of highly polished steel employed as ceiling and floor element which reflect each other and make the gallery seem taller.

- Gallery Spaces in 21st century museums are energized with signage, juxtaposition of materials, colour, and scale in other to create visual interest within the interior for exhibition
- Provision of flexible gallery spaces in today's museums. Flexibility is essential in design of gallery spaces. Design proffers a solution of Column-free galleries spaces in achieving flex spaces. Although flexibility might not be desirable up to a point temporary walls will serve for various changing exhibits.

3.3.4 Technology

- Exposed use of new materials and technologies in creating a perceptual dialogue of exterior make up of elements employed for most Art envelopes designed in the close of the 20th century and after.
- Technology is impacting the type of exhibits that are held in exhibition spaces, as well as advancing the museum's educational mission. State-of-the-art electronics and audiovisual equipment are essential. Activities taking place in the museum are video simulcast through the building.

3.3.5 Outdoor landscape

- Art, from sculpture to performance art, is going outdoors. Sculpture gardens and landscaping are key elements of many new museum complex programs.

- The integration of nature with the architecture a basic element in design of museums. Having the outdoor artwork is an important concept (more outdoor art and landscaping)**.**

3.3.6 Parking

- For museum owners, parking is a huge headache. Not every new museum needs a lot of parking, but homage must be paid to ‘automobilus terriblis’. Adequate parking is still a necessity.

3.3.5 Ancillary Facillities

- Today, museums are busier and more exciting and attractive, making art available to more and more people.
- Museums of the twenty first century tend to be more commercially oriented serving as civic amenities with provision of public use facilities capable of generating revenue for the upkeep of the museum.
- As museums draw more visitors, many are stressing the design of retail space to maximize revenue. Thus a new trend on greater emphasis on retail and restaurants spaces.
- After-hours events can be lucrative business for Art museums "Most museums now need to have a great hall. Most cities consider museums important venues for ceremonial. They are also important places in which to host museum fundraisers.

3.4 ANCILLARY FACILITIES

3.4.1 What are Ancillary Facilities

The word 'ancillary' involves providing a service to those carrying on the main business of an enterprise (Hornby A.S. 1985). The dictionary definition, in relation to the topic at hand, involves those activities in a museum premises not directly concerned with the core functions of a museum. these core functions are the acquisition, conservation and exhibition of museum objects to educate the general public. Ancillary facilities exist only to supplement and support these core functions.

3.4.2 Historical Development

Early museums were literally what the public expected them to be, that is merely comprising of galleries and storage rooms for the displayed objects and also the presence of libraries was not uncommon. With time the visitors soon became bored with the museum's solemn, and typified environment, "connotations of dullness or death and a multiplicity of meaning rooted in history…" (Dillon. R. 1970).

Investigations carried out to explain this unfortunate turn of events identified the too solemn and quiet museum environment as the problem that as a result no longer generated sufficient appeal to members of the public.

The general conference of United Nations educational, scientific and cultural organization (UNESCO) during its ninth session (New Delhi, 1956) suggested that attention should be given to ways and means of enabling museums to attract a wider

public. It pointed out that “even in those countries that are mostly richly endowed with museums, where entrance to those institutions is mostly free, hardly one person visits them for every two hundred (200) who pay for admission to a cinema (UNESCO press, 1974). Consequently, it was decided that the Architect employed to take up the project has to introduce certain secondary functions in order to attract the public. Thus was born the idea of what the researcher calls ancillary facilities. Their goals are twofold: to attract more visitors and to generate income that ensures the museum’s financial stability. In pursuit of these goals, many museums have expanded their physical facilities and programs and refocused their missions to emphasize public access.

3.4.3 Ancillary Facilities in Museum

Ancillary facilities in museums are mainly social and cultural facilities. Recently, museums are trying through various means to become accessible to the general public. One of such means is by offering such facilities as restaurants, pleasant courts, proper seating which contribute a great deal to the creation of a very pleasant atmosphere (UNESCO press, 1984).

Ancillary facilities play a more vital role in a comprehensive museum than in any other sort of museum; by a comprehensive museum is meant a general museum covering several disciplines as opposed to a specialist museum which covers certain defined aspects only. Under their roof could be found anything from contemporary painting to artifacts and machinery e.t.c (Finlay, I. 1977) like the national museum jos.

3.4.4 Example of Ancillary Facilities

Ancillary facilities today in Nigerian museums are cultural and social facilities. They can be classified into the following facilities.

1. Indigenous Industrial facilities
2. Catering services facilities
3. Entertainment facilities
4. Recreational and Leisure facilities

INDIGENOUS INDUSTRIAL FACILITIES

This ancillary facility serves as the manufacturing industry for all the indigenous materials sold and sometimes displayed in the museum. In this section several traditional crafts such as wood carving, mat weaving, pottery, smiths, bronze and brass works, cloth weaving, cloth dyeing, hair weaving, painting, and several other arts and crafts.

CATERING SERVICES FACILITIES

This section aims to promote indigenous menu by operating restaurants that serve only local dishes. The section prohibits the sale of foreign oriented snacks and fast foods like hot dogs, meat pies, pizzas e.t.c within the museum premises.

ENTERTAINMENT FACILITIES

This section of the museum is where all sorts of entertainment take place. Examples of entertainment that could take place in a museum premises are dramas, talk shows,

seminars, lectures and several ceremonies. All these activities can take place in places like halls, auditorium, theaters, amphitheaters and even open outdoor spaces like courtyards, gardens and lawns.

RECREATIONAL AND LEISURE FACILITIES

Recreational and Leisure ancillary facilities in a museum are usually in the form of swimming pools, gardens, lawns, seat outs, maze, soft sports courts, zoos, lounges for journals, magazines, newspapers e.t.c. they are mainly outdoor activities but may sometimes be done indoors.

To achieve the aim of this study, the researcher intends to use the ancillary facilities mentioned above which are; Indigenous industrial section, the catering service section, the entertainment section, and the recreational and leisure section.

These facilities will be within the museum complex and located in a co-ordinate manner around the main gallery. This arrangement will strive to make the galleries the focus around which the other functions revolve.

Although these facilities can become a source of income to the museum, caution should be taken against the possibility of their leading to the dimming of the focus of the museum, or risking the security of the artifacts and other valuable objects in the museum. This can be effectively achieved by not exaggerating the scale of the services provided by these ancillary facilities.

3.5 CONCLUSIONS

The reign of the museum as the signal building type in recent years could be explained by the heightened prestige for any city that erects a sufficiently spectacular cultural attraction. A museum should have an expression as much as it is about its content because museums are civic status symbols, for better or for worst, and they enliven city life.

It must be understood that a museum is a building with history and art, among others, to display in it, therefore even the building should express its function. For a museum building to have a cultural role and significance it must be treated in such a way that the whole city is seen as a museum and the museum itself as a sculpture in it. This means that the building must be related to the city structure, the people, their culture and customs, the history and present of that area. The museum should therefore make references to the traditional architecture of the area but not mimic it.

CHAPTER 4

THE STUDY AREA

4.0 HISTORICAL BACKGROUND OF KADUNA TOWN

Kaduna town made its first international debut with the massive pageantries of the royal visits of 1959 and followed it with another in the self-Government celebrations of 1959. Many remember it therefore as a town of magnificent durbars and breath taking exhibitions; a town riotous with colour and throbbing with excitement.

Kaduna is tailor made for its role as capital town. Like India's Delhi, canada's Ottawa or Canberra in Australia, kaduna is more of an administrative town.

From its humble beginnings, Kaduna grew rapidly. In 1928 a new government house was built and between 1928 and 1930 electricity and piped water were installed. The "hole in the bush" now covers 43 leisurely square miles of rolling parklands and has a population of some 46,000. it was created a capital territory in 1956, independent of any province or other local government unit, "administrative by or under the control of the government in council" whose function are carried out by the administrator of kaduna.

If Lugard were to return today, he would find it a little difficult to believe that this town with its generous and graceful layout, its tree lined avenues, its long straight streets and attractive buildings, its beautiful round-abouts, grew from what was described as a "deserted village" just years ago.

4.1 PEOPLE OF KADUNA TOWN

Before the coming of the British, Kaduna town was sparsely populated. Majority of the indigenous settlers, notably the Gwari and Fulani were located around its environs. For instance Gwari and Fulani settlements stretched along the bank of river Kaduna with settlements such as Kudanda (now referred to as Kakuri), Kukogi (now called Gworo), and Makera very prominent. Though these settlements were small, in terms of population and size, nevertheless, some of them e.g Makera constituted the earliest base from which Kaduna developed (Bello & Oyedele: 63).

4.2 PHYSICAL CHARACTERISTICS OF KADUNA TOWN

Kaduna is the name of a state in Nigeria as well as the capital of that same state. The town is believed to have derived its name from the nearby river kaduna which had an abundance of crocodiles, called “kaduna” (plural from of crocodile in hausa language) (obafemi; 1992:22).

It is located on the southern end of the high plains of northern Nigeria bounded by latitudes 9’03’ and 11’32’ north and longitudes 6’48’ – 8’48’ east on the foot slopes of the scarp of jos plateau. (udo; 1970). The city itself lies within the territory of the emirate of zaria. It is situated on a very attractive and readily accessible area. Which is about 912Km (570 miles), by rail from lagos (Bello & Oyedele; 239) and also close to the federal capital Abuja.

4.3 CLIMATIC CONDITIONS

4.3.1 Climate

Kaduna possesses a tropical continental climate with distinct wet and dry season. This is generally classified as semi arid. The weather is generally cool in the morning, hot in the afternoon, cool again in the evening. Between November and January the harmattan lowers the temperature. The wind is dry from January to april.

4.3.2 Temperature

This is generally high through out the year. The average maximum daily temperature reached is 29.4'C. the average minimum daily temperature reached is 12.5'C. the temperature varies from season to season, but the total average hours receiving sunshine in a day is 8.3 hours. On the overall the average temperature at 09 GMT for 10 o'clock local time is 22.5'C.

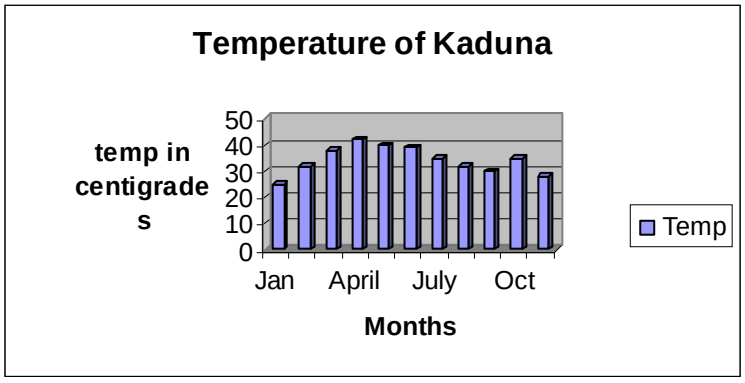

Fig 4.1 Temperature of Kaduna.

Source: field survey.

4.3.3 Rainfall

the rains usually start in April or May during these rainy months the south – westerly winds are dominant winds and are heavy with moisture. They produce zones of intense convectional rainfall; the month of august has the highest amount of rainfall each year.

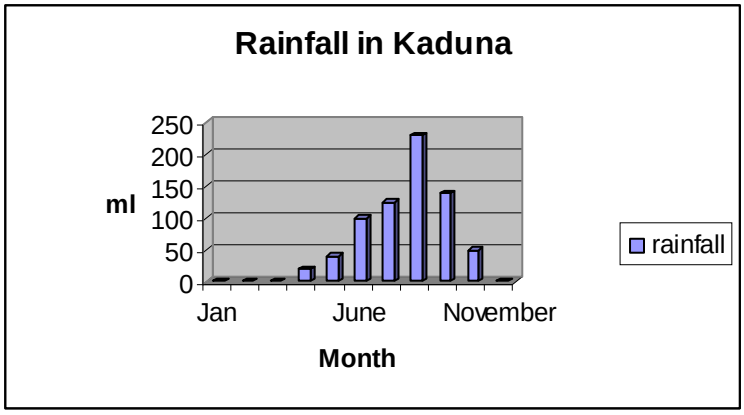

Fig 4.2 Rainfall in Kaduna.

Source: field survey.

4.3.4 Evaporation

The rate of evaporation usually increases during the dry season. During the raining season, the rate of evaporation decreases due to increase in the atmospheric pressure. The daily vapor evaporation is 13.4ml.

4.3.5 Wind

In Kaduna the wind direction follows the two seasons; the wet and dry seasons. The type of air masses prevailing in Kaduna are the dust laden harmattan from north east wind.

(November to February) and the moisture laden south – west trade winds from the Atlantic Ocean. The wind run in Kaduna is 197.8km/s.

4.3.6 Relative Humidity

The relative humidity is always very low. The average humidity is 22%.

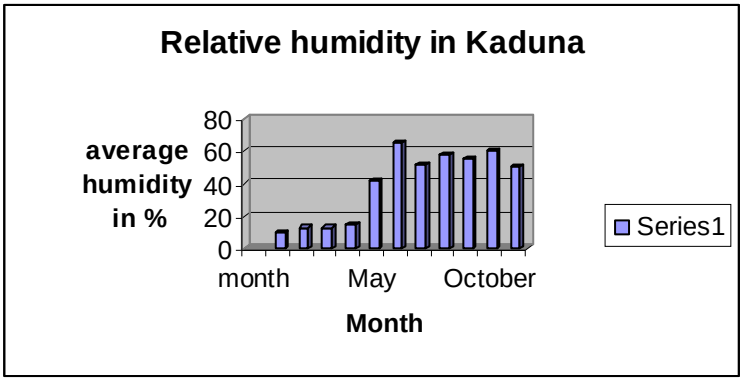

Fig 4.3 Relative Humidity in Kaduna.

Source: field survey.

4.4 NATIONAL MUSEUM KADUNA: PHYSICAL SURVEY

4.4.1 Site Location

The national museum Kaduna is located along Ali Akilu road at the Angwan Sarki area of Kaduna town. It is readily accessible from all parts of the town by vehicles and by foot.

The site can be accessed only through the major road (Ali Akilu road) at the southeastern side of the site. There are two vehicular gates that lead into the site, one is the main

entrance into the museum complex, while the other gate leads to the shopping complex of the museum.

The museum is located at the central part of Kaduna town within the area designated for offices and socio-cultural institutions. This makes the museum easy to locate and access.

The road network within the sector is quite adequate with a major road passing in front of the museum building.

4.4.2 The Museum Layout

The museum complex is composed of the main museum building, curator's office building, administrative office, the craft village, and the business/ shopping complex.

The main museum building: The main museum building, which is also the oldest on the site, is a storey building which houses the three exhibition galleries (Archaeological, ethno-graphic and modern craft) and a store on the ground floor, while the upper floor is made up of offices and a library.

The Archaeological gallery, located on the south end of the building, consists of early, middle and late Stone Age materials. This section of the gallery boasts of exhibition depicting iron smelting in West Africa, sculptures from Nok, Zaria, Yelwa, Igbo-Ukwu, Ife, Benin, and the "Cire Perdue" (i.e lost wax) process of bronze casting, are also exhibited.

The ethnographic gallery is located in the north end of the building. It contains two revolving masquerade costumes, another masquerade displayed on a wall panel and

wooden mask from different ethnic groups in the country. It also includes a Tiv wooden relaxation chair and bed, tobacco pipes, currency, house hold gods carved in wood, woven cloth, weapons of warfare, musical instruments, helmet mask and farming implements.

The third gallery, located in between the other two, is devoted to modern craft, which is still being produced in Nigeria today. These include pottery, decorated calabash, brass, woodcarvings, decorative ornaments e.g glass-beads, snakeskins and contemporary leather works, ranging from slippers, shoes to floor cushions and bags, all in fanciful patterns.

The library on the top floor of the main building contains books on museum related topics and other closely related fields. The library renders assistance to researchers from within the museum and on special occasions outside the museum. Also on the top floor are various offices for the account, head of education and others.



Plate 4.1 Entrance



Plate 4.2 Back view



Plate 4.3 Front view

Source: field survey.

The curator's office block: Close to this building is more recent building which houses the office of the curator, education unit, children's library (yet to be stocked) and

two exhibition halls. The building is an extension of the main museum building. It was open in 1996.



Plate 4.4 Front view



Plate 4.5 Entrance



Plate 4.6 Back view

Source: Field survey

The administrative block: Opposite the main museum building is the administrative block. In it are the offices of the conservators, administrative officers and documentation staff.



Plate 4.7 Right side view



Plate 4.8 left side view

Source: field survey

The craft village: A craft village was constructed in the museum complex so that visitors can actually watch local men and women in different professions engaged in displaying their talent and skill using traditional method of production to produce indigenous arts and crafts. The craft village is composed of a fashion center, hair saloon,

cloth weaving section, pottery section, leatherwork section, blacksmithing section, mat weaving section, calabash carvers, brass and bronze section, craft shop and the craft village canteen with two kitchens.



Plate 4.9 brass/bronze casters



Plate 4.10 Fashion center



Plate 4.11 Saloon

Source: field survey

Business/shopping complex: This is a section of the museum that is rented out to private individuals for various business and shopping ventures. A fence wall separates the complex from the museum itself with only a pedestrian gate connecting them. This complex is a source of income to the museum.



Plate 4.12 Entrance gate



Plate 4.13 Shops

Source: field survey

4.4.3 Site Analysis

The site for the museum is 171meters long and 77meters wide with a wall dividing the main museum complex from the shopping complex.

The site is relatively flat, it slopes very gently towards the east side of the site and water is drained naturally around the east side of the site into existing gutters.

The soil around the site is mostly loamy in nature and the vegetation is sparse with a few trees and a well-kept lawn.

There are several existing features on the site, which comprise of buildings, sculptures and paved walkways.

The north-west side of the site is bounded by a railway track while the south-east side, which is also the front of the museum, is bounded by the main road (Ali Akilu road) beyond which is two emires houses and a school. On the north- east side of the site is a market and the south-west is bounded by the Ministry of Land and Survey.

The area is endowed with essential services such as electricity, telephone and water services.



Plate 4.14 Entrance gate



Plate 4.15 west view of the site



Plate 4.16 East view of site



Plate 4.17 Garden.

Source: field survey

4.4.4 Site Problems

One of the major problems on the site is noise. The north-east side of the site is bounded by a market and there is a bus stop at this same area this makes the north-east side of the site very noisy.

Another major problem is site constraint and consequently inadequate parking space. There are already existing structures on the site, this is a challenge to the architect to provide adequate parking space on the site.

Being close to a noisy and very public area, the security of the museum is at risk. It is therefore up to the Architect to improve on the design so that additional security measures are taken into serious consideration.

4.4.5 Site Zoning

The site is zoned based on the existing conditions around the site. For instance, the northeast side of the site is the noisiest since it is next to a market area while the southwest side is the most quite because this side of the site is next to the ministry of lands and survey.

4.5 SOCIAL SURVEY

4.5.1 Functions

The museum has five major functions namely, conservation, research, collections, and communication. All these functions are for the purpose of education and entertainment. Bellow is a detail description of the museum.

Collection: Museums engage in collection of cultural materials according to its collection policy. National museum Kaduna, therefore purchases, excavates, seizes, exchange or loan cultural objects to build its heritage collection. Having acquired these collections, it carries out comprehensive documentation exercise on the objects. To end the collection process, the museum takes custody of the objects acquired and stores them in special storage rooms for safe keeping and posterity.

Conservation: The museum embarks upon an extensive conservation exercise, to preserve the cultural material under its care. Interventive and preventive conservation are periodically carried out on the objects depending on the objects assessment and need. Whenever it is noticed that environmental factors one way or the other damages objects, they are sent for interventive conservation in the laboratory where treatment is effected to prevent further deterioration. Preventive conservation on the other hand is used on objects that obtain damage by accidents e.g cleaning, packing, supporting e.t.c.

Exhibition: Museums exhibit their material in fulfillment of their statement of purpose, and exhibition principles. Exhibition in museums fall into four classes namely, permanent, temporary, traveling or circulating and experimental exhibition. These play a very vital role in creating awareness on the activities of the museum in Kaduna. The exhibits become an instrument of communication between the museum and the public whereby it helps to educate the public on our cultural similarities, differences, and their significance.

Communication: The whole essence of collecting and exhibiting material culture is to use same to communicate to the public, and in the process educate them. If this is not achieved, a major museum aim is defeated, for a museum that cannot communicate is dead. Various communication media, which are material in nature, are used by the museum to enliven its exhibition. These are audio (recorded sound), diagrams, labels, pictures, diorama, video animation, interactive displays and computer games e.t.c. Another medium used to communicate the material culture in the repository of Kaduna museum are the education officers. These resource persons are responsible for the

transmission of knowledge, ensuring that the artistic and spiritual expressions of the collections are not lost.

4.5.2 Visitors Statistics



Fig 4.4 Foreign and Nigerian visitors

Source: National Museum Kaduna

As shown in the graph above, Very few foreigners come to the museum this could be due to the ratio of foreigners to indigenes of Nigeria or most likely the unpopular status of the museum.

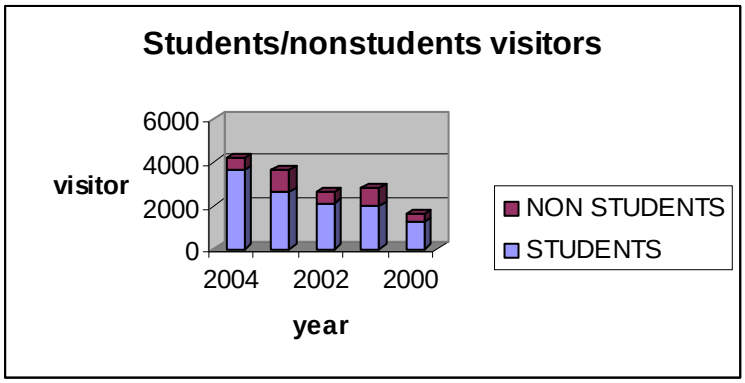

Fig 4.5 Students/non-students visitors

Source: National Museum Kaduna

Students are more frequent visitors in the museum; this is because the museum is an educational institution, were a lot can be learnt of our history and art works.

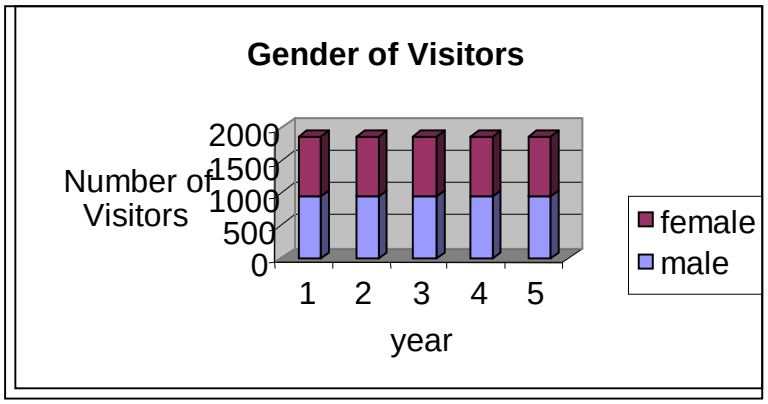

Fig 4.6 Gender of visitors

Source: National Museum Kaduna

The gender of visitors varies for different times in the year. Therefore it is appropriate to assume that the ratio of male to female is relatively equal.

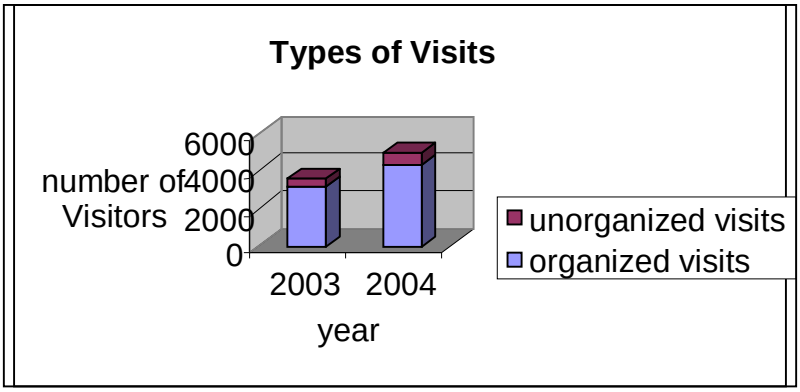

Fig 4.7 Types of visits

Source: National Museum Kaduna

Organized visitors are visitors that make arrangement for their visits to the museum by informing the museum authority about their intentions to visit, while unorganized visitors do not inform the museum authority on their intension to visit, they come at their free will and time.

From the data collected above, the following was realized. Students visit the museum more than any other sector of the population, this means that civil servants, the house wives, the business men and women and other sector of the public that are not students are either not aware of the museum or feel the museum has nothing to offer.

This thesis therefore aims at upgrading the museum by making it more interesting and exciting for all sectors of the public through architectural measures.

CHAPTER 5

CASE STUDY

5.0 MUSEUMS IN NIGERIA

5.0.1 The National Museum Jos



Plate5.1 Entrance to the main building

Source: field Survey

This is the oldest, most diverse in exhibits and wealthiest public museum in Nigeria. Due to the large number and culturally rich items uncovered from the tin mining fields of Jos since the 1920s, the immediate impetus was available for the establishment of a museum there in 1952 by the then federal ministry of antiquities.

The museum is not just a store house, but it is also a research center.

LOCATION

The museum is sited at Jos town and occupies a large expanse of land. It is served by two access roads, one off Ahmadu Bello way to the north and the other links up with the legal avenue to the south. The Tudun wada road is the only major road near and through the museum that connects both the Ahmadu Bello way and the legal avenue. This road, apart from the near absence of traffic, is well off the museum's exhibition galleries to which it might have been a potential danger.

The museum setting is against a completely natural background that is characteristic of the plateau. It has a sloping landscape with rock outcrops here and there. The site is has the advantage of excluding noise from traffic and the inherent danger of exhaust fumes from such vehicles.

VARIOUS SECTIONS OF THE MUSEUM

The museum is made up of mainly three sections which could be labeled as the main museum nucleus, the zoo and the museum of traditional museum architecture MOTNA. The main museum nucleus consist of the institute of archeology and museum studies, the bindery and auditorium, the library, offices, exhibition galleries with their stores and out door exhibitions. All of these are constructed with sandcrete and concrete materials. The block housing the library and some of the offices is a storey building whose structure is reinforced concrete frame and sandcrete blocks.



Plate5.2 Main building



Plate5.3 Zoo



Plate5.4 MONTA

Source: field survey

GALLERIES

The nucleus of the museum is the permanent exhibition gallery. Materials are displayed to reflect a national character.

Ethnographical objects on display show the artistic skills of the people of Nigeria. The items include carved Ibo and Idoma facemasks, Benin and Ife bronze castings, Hausa and Yoruba musical instruments and materials from the Jukun, the Mumuye and others around the country.

There are two main archeological displays in the permanent exhibition gallery, the first of these displays materials of the Paleolithic period, that, is the early stone age. This display traces the technological development of man since the beginning featuring such stone artifacts as the axes of the old wan industry, followed by the Acheulian industry

specializing in hand axes and cleavers. The early stone age is succeeded by the middle stone age and then the later Stone Age that brought into use the finest tools of all, the microliths. The tail end of the stone age saw the discovery of a new technique for working stone by grinding as opposed to chipping used in the earlier stone age.

The second archeological gallery displays materials from the NOK culture of Kaduna State. This gallery is one of the major attractions in the museum. The NOK culture is world renowned for its remarkable corpus of terracotta figurines.

The pottery museum is more or less a covered corridor and is accessible from the main gallery. It is a fence of mud wall encircling an aquarium at the centre. The pots on display are almost entirely from the northern part of the country.

Next to this are three mud huts at the three corners of a triangle that is the children's museum. The triangle is a fence mud wall attached to the huts.

OUTDOOR EXHIBITIONS AND CRAFT VILLAGE.

Of special interest is the transport museum which expands as machines becomes obsolete. There is a rail line called the Bauchi light railway, which is an out door exhibition, along which are early locomotive engines and rail coaches in display. The engines and coaches are donations from foreign countries, mainly the former colonizers.

The pottery and craft workshop is located on the left side of the science museum. Here artisans including blacksmith, wood carvers, mat makes, potters, brass and bronze

workers. This section of the museum serves as a traditional manufacturing industry for most of the items sold in the museum shop.



Plate 5.5 Craft village



Plate 5.6 Craft shop



Plate 5.7 tin mining exhibition



Plate 5.8 Rail and train exhibition





Plate5.9 vehicle exhibition

Source: field survey

MUSEUM OF TRADITIONAL NIGERIAN ARCHITECTURE (MOTNA)

MOTNA is the open air (out door exhibition) museum of traditional Nigerian Architecture. It contains the most important examples of Nigerian architecture, the full scale exact copies of ancient buildings, for example the mosques of the north and the temples and shrines of the south, Emir's palaces, the Afins, the meeting halls, and the various types of human habitats as well as city gates and fortifications.

MOTNA occupies a very picturesque, central part of Jos City and its area is approximately 63.5 acres.

The site is partitioned according to the topographical groups of buildings represent the geographical regions of the country, each group is sub-divided to the various functions the buildings have to comply with. It is a matter of great importance that the scenery of each site be similar to the natural character of its own region and the correlation of the groups should be analogous, as much as possible, to their actual geographical apposition. Consequently the whole area will present, in miniature an architectural map of the country and the net of communication footpath should be easily intelligible to visitors even with a rudimentary knowledge of Nigerian's geography.



Plate 5.10 Blight of Benin



Plate 5.11 Katsina palace



Plate 5.12 Kano Wall



Plate 5.13 Tiv building



Plate 5.14 Zaria Mosque



Plate 5.15 Nok buildings

Source: field survey

Reasons for MOTNA: The main reason for the creation of MOTNA is for the preservation of the great achievements of Nigerian builders. This also a cardinal issue in maintaining national culture.

It is a source of inspiration for mainly architectural students and other related professions and individuals, by letting them know how extremely rich and glorious their national heritage is.

It would acquaint foreigners with the technological wisdom and formal beauty of the Nigerian architecture.

MERITS

- There is a very good attempt at the preservation of architecture.
- MOTNA is an inspiring medium for appreciation of the old Nigerian buildings by laymen and an excellent source of study for scholars.
- There is a good functional arrangement and internal circulation.
- There are several ancillary facilities in the museum which compliment the museum.

DEMERITS

- The preservation of buildings in areas like Jos with high amount of rain fall becomes difficult and expensive building from the northern part of Nigeria require yearly maintenance.

5.0.2 Gidan Makama Museum Kano



Plate 5.16 Entrance to the Gidan Makama museum

Source: Field Survey

One of the oldest buildings in kano, Gidan Makama dates back to 1750 but the tradition of the site dates back even further. It was erected as the city mansion of the Makama (one of the highest dignitaries of the emirate). The building is typical of the Hausa traditional architecture.

LOCATION

The museum is situated in the south-east corner of the large square in front of the Emir's palace and at the western end, south side, of the Nassarawa road. The museum site connects through Nasarawa gate, the two residence of the Emir: one in the city and the other in the suburb of Nasarawa. It also connects two important centers of civil

administration: the provincial office at the eastern end with the offices of the Native authority and the city hall at the west.

Originally Gidan Makama occupied an area of approximately 15000 square meters measuring circa 150 meters from east to west and circa 100 meters from north to south. This large compound was divided into 3 enclosures, each of them entered by a separate monumental gate house Zaure. All the three gates were set along the road in the northern perimeter wall of the original layout. The 3 gates and 2 western groups of buildings preserved the traditional earthen work structure. Concrete wall, pan- roofed classrooms and offices of the preparatory school now replace the eastern section for boys.



Plate 5.17 Entrance door



Plate 5.18 Entrance to gallery 2

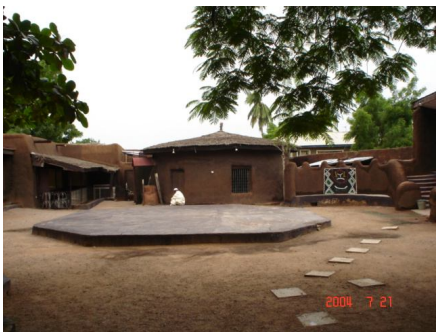

Plate 5.19 Court-yard



Plate 5.20 mini pavilion



Plate 5.21 Inner fence



Plate 5.22 gallery 10

Source: field survey

GALLERIES

The Gidan Makama museum has ten galleries. Unlike other museums, this museum has a different way of presenting the exhibits in different galleries, different items are displayed in different galleries.

Room one: this is the Zaure or entrance room. There are two pillars supporting the roof. The roofing system is called Mai ginshiki. The gallery shows illustrations of building techniques and examples of monuments, military and domestic architecture. Building materials such as tubali and azara are also in display

Room two: the roofing system employed here is the Rufin kafa where semi arches carry the azara beams. On display here are materials relating to the legendary past of Kano city and Hausaland in general

Room three: this gallery displays examples of traditional architecture, displays history of old Kano city and growth of kinship and government from earliest times to about 1800 AD. Daurin Guga is an interesting roofing technique where the Kafa springs from a certain wall height and they all meet at the center of the roof.

Room four: this is a small waiting room devoted to the Jihad of Usman Danfodio, the establishment of the Emirate government and event of the nineteenth century.

Room five: the fifth gallery displays materials illustrating aspects of Kano civil war, the reign of Emir Aliyu, the British invasion and the overthrow of the Sokoto caliphate.

Room six: the diversity of the city's economic life and the technical skills of the citizens are plainly displayed in this gallery.

Room seven: this gallery simply displays materials depicting Kano during the colonial rule.

Room eight: this gallery is totally devoted to Islam. It illustrates Islamic arts and science and the introduction of Islam to Kano.

Room nine: illustrations of arts and crafts of kano, the works of weavers, embroiders and leather works.

Room ten: the tenth gallery is a very interesting one. It is a typical Hausa bridal room complete with metal traditional cooking utensils, straw bed, weaved basket, leather works common to the bridal room.

OTHER FACILITIES

Main courtyard: at the center of the site is a courtyard were all the other rooms in the museum tend to evolve around. The courtyard is used as an amphitheater for entertainment, seminars, lectures on the museum and other activities.

Craft village: the craft village is also a gallery where visitors can see the traditional arts and crafts as well as observe their manufacturing process.

Other facilities are traditional hair dressing salon and two shops.

MERITS

- The building, which was originally constructed of mud, is still preserved in the same medium of construction.
- The building benefits from the building technology, in the sense that there is reduction in thermal heating and low cost of maintenance.

DEMERITS

- There is poor ventilation and lighting in the galleries, therefore exhibitions can not go on without artificial means.
- Ancillary facilities like shops, restaurants e.t.c are completely not in existence.

5.1 INTERNATIONAL MUSEUMS

5.1.1 Solomon Guggenheim Museum New York

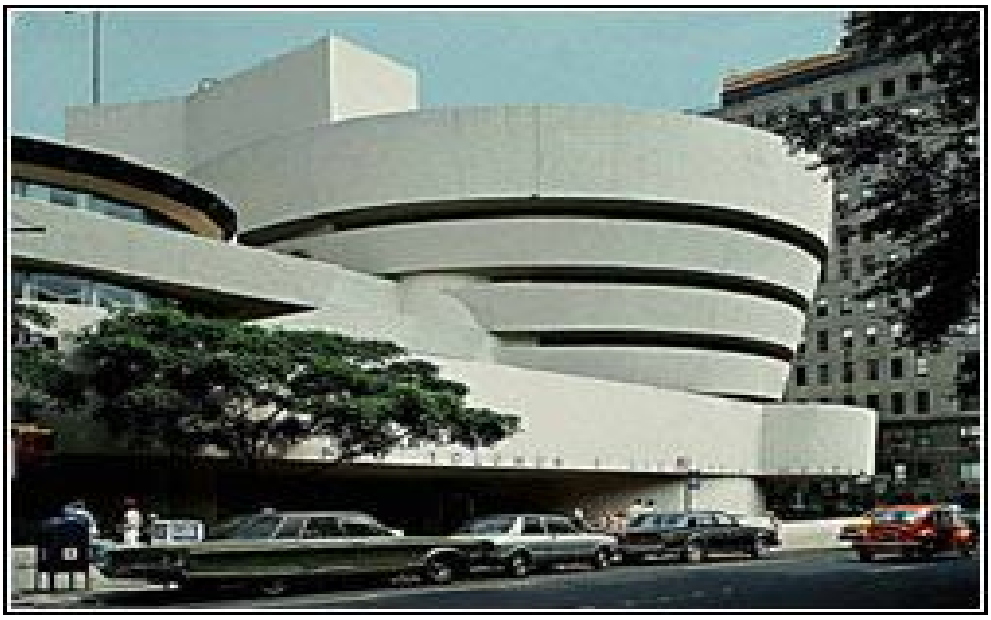

Plate 5.23 The Solomon Guggenheim museum New York

Source: field survey

The building was commissioned in 1943 to the architect Frank Lloyd Wright for Solomon .R. Guggenheim to be built in New York. It is called 'the greatest building in New York' and its interior is considered as 'one of the greatest rooms created in the 20th century'. The museum was designed for the exhibition of drawings and paintings.

LOCATION

The museum is located in New York city and the site is at upper fifth avenue. Originally the museum was to be located at the central park, but Robert Moses the then parks

commissioner disliked and vetoed the plan, hence the alternative of the upper fifth avenue was agreed on.

THE MUSEUM FACILITIES.

The Solomon Guggenheim museum contains the essential components of any modern museum. These include the exhibition gallery, pool, storage, restaurant, shop, auditorium, print section, administration, library and workshop.

ARCHITECTURAL FORM

It is a five storey building with the machine room and auditorium in the basement. The floors are formed by a continuous ramp running round a central gallery on the ground floor and lit by a glass dome above. The walls slant gently outwards forming a giant spiral form. The spiral structure is partitioned into chambers that are fully air-conditioned. The ramp serves as an unbroken line to the dome ninety two feet above which is gradually revealed as one moves forward.

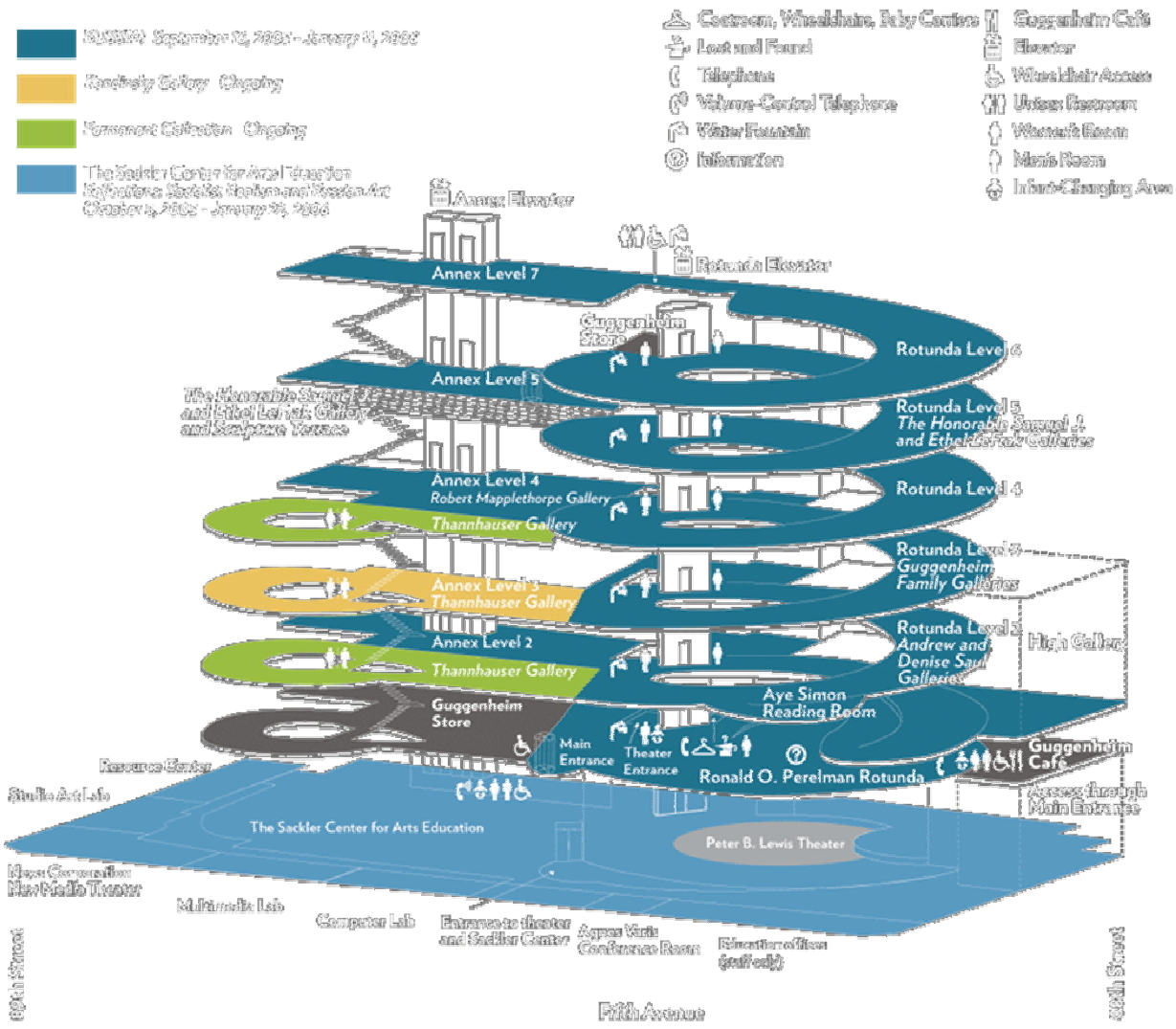

Plate 5.24 Isometric section of the museum

Source: field survey



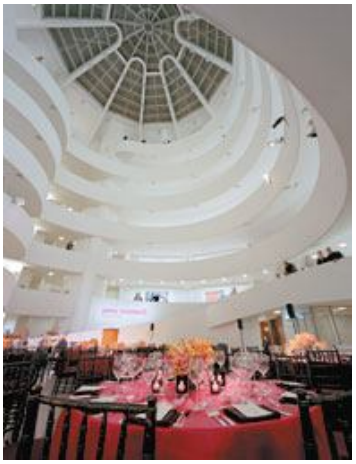

Plate 5.25 Interior views



Plate 5.26 Exterior view



Plate 5.27 Roof top view



Plate 5.28 view looking down



Plate 5.29 view looking up

Source: field survey

MERITS

- The museum has a distinguishing architectural character combination of unusual forms and shapes in the midst of regularly shaped office buildings.
- Viewing of paintings in the galleries is well facilitated by the slight tilt of the curved walls and the ascending and descending sequence of the spiral ramp in an unbroken chain.
- A special glass is used to diffuse day light and eliminate glare.
- Air conditioning protects the museum objects from the impact of environmental factors.
- A variety of ancillary facilities exist in the museum and this makes the museum more interesting.

DEMERITS

- The continuous ramp for the exhibition makes it monotonous and could cause drowsiness in the observer.
- Too much natural light in the museum falls directly on the observer and not on objects observed.

5.1.2 Solomon Guggenheim Museum Bilbao



Plate 5.30 The Solomon Guggenheim museum Bilbao

Source: field survey

LOCATION

Designed by the North American architect Frank O. Gehry, this unique Museum built on a 32,500 square meter site in the center of Bilbao represents an amazing construction feature. On one side it runs down to the waterside of the Nervión River, 16 meters below the level of the rest of the city of Bilbao. One end is pierced through by the huge Puente de La Salve, one of the main access routes into the city.

Museum entrance: The museum can be accessed through the following entrances**:** Main entrance from the Museum square, group entrance in the riverside façade of the building and vehicle access to the Guggenheim Museum Bilbao.

Vehicle access to the Guggenheim Museum Bilbao: The Museum does not have a visitor parking lot. However, access is easy by streetcar. If the visitor wishes to access the Museum by private car, there is plenty of parking space in the vicinity of the Museum.

Disabled: The Museum has elevators for use by disabled persons. On the riverside there is also a direct access ramp to the group entrance.

Coatroom: The Museum has a cloakroom where overcoats and objects not permitted inside the galleries may be left (umbrellas, large bags, briefcases, etc.). For security reasons nothing may be taken into the Museum that cannot be passed through the scanner. For health reasons, no animals, food, plants, etc. may be taken into the Museum either.

Café and Café-restaurant: Café: The café inside the Museum is designed as a place to rest during the tour. The Café-Restaurant has access and opening hours separate from those of the Museum, this Café-Restaurant offers bar snacks, a set menu, and an à la carte menu. It also has a magnificent outdoor café in summer.

THE MUSEUM BUILDING

At the Bilbao Guggenheim, Gehry deliberately sends the visitor (if arriving via the riverside) on a journey around the building, up a set of stairs, and then down into the small lobby, disregarding any suggestion of a grand entranceway. Inventing his own architectural language, Gehry forces the viewer to be engaged with the building's animation, creating a sense of excitement and curiosity.

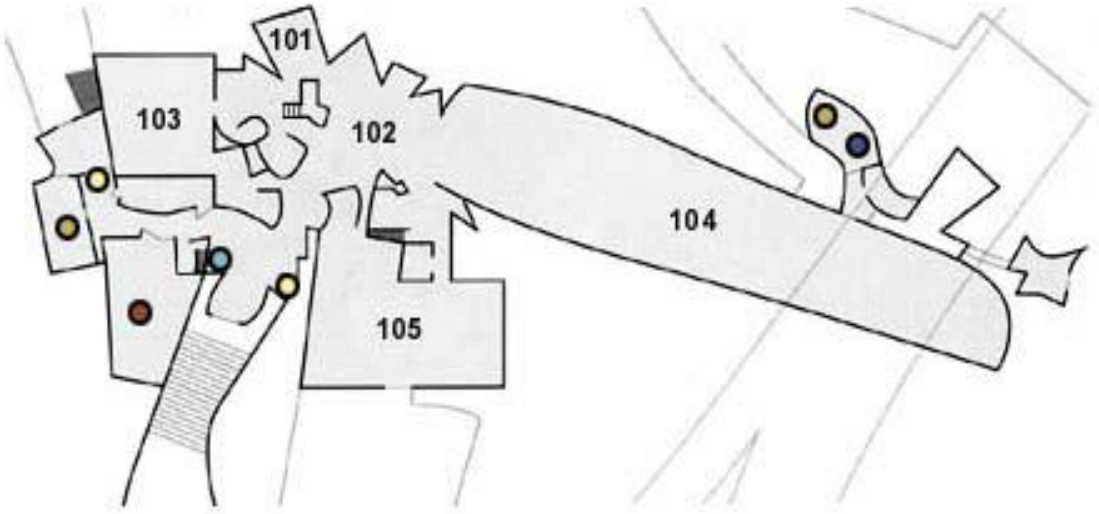

Plate 5.31 The ground floor plan

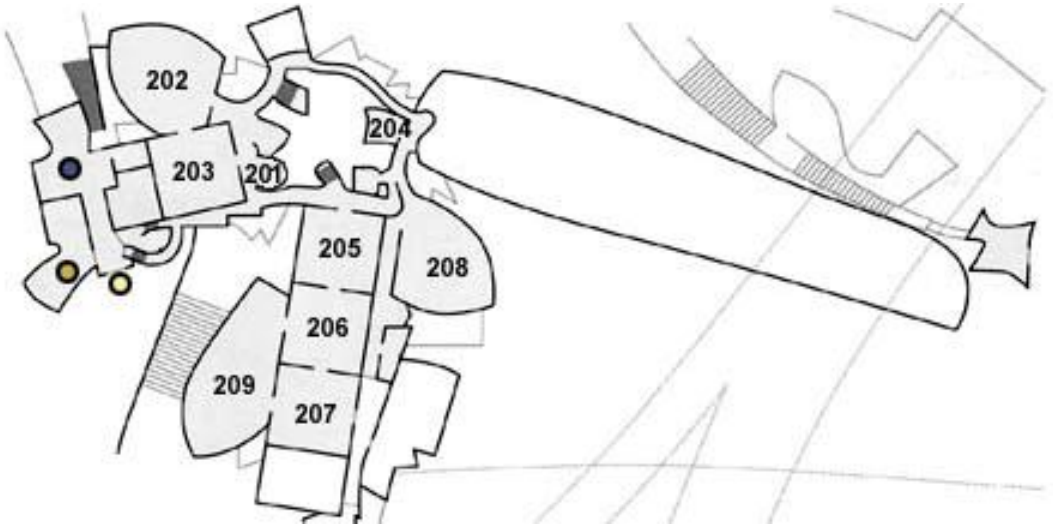

Plate 5.32 The first floor plan

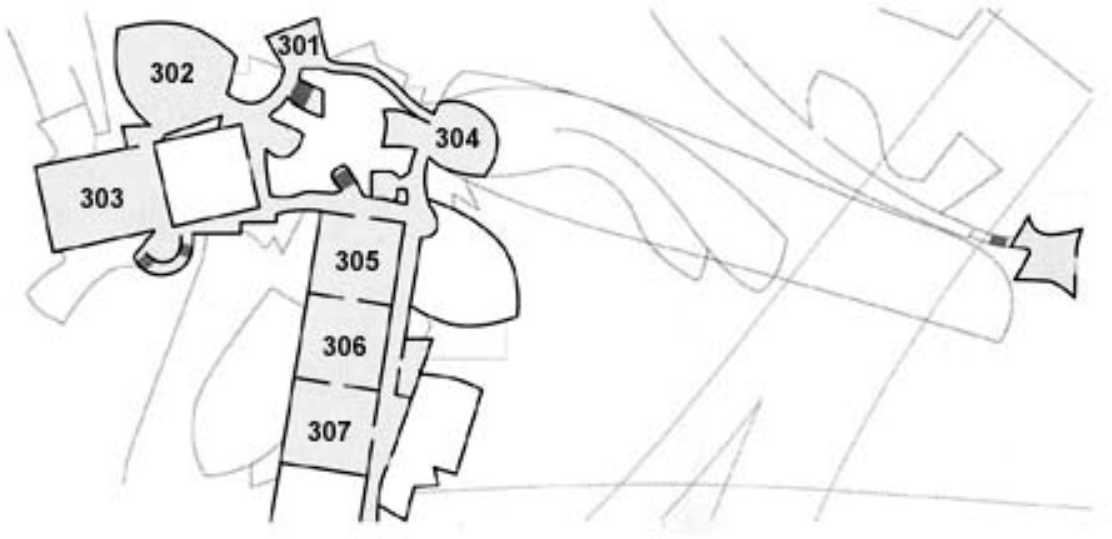

Plate 5.33 Second floor plan

Source: field survey

ARCHITECTURE FORM

The building itself is an extraordinary combination of interconnecting shapes. Orthogonal blocks in limestone contrast with curved and bent forms covered in titanium. Glass curtain walls provide the building with the light and transparency it needs. Owing to their mathematical complexity, the sinuous stone, glass, and titanium curves were designed with the aid of computers. The glass walls were made and installed to protect the works of art from heat and radiation. The half-millimeter thick "fish-scale" titanium panels covering most of the building are guaranteed to last one hundred years. As a whole, the museum is a spectacular, eminently visible structure that has the presence of a huge sculpture set against the backdrop of the city.

People coming from the calle Iparraguirre, one of the main streets bisecting the center of Bilbao diagonally, are led directly to the main entrance; the idea was to bring the city right to the doors of the building. A broad flight of steps takes pedestrians down to the Museum hall although descending flights of stairs are not a frequent feature of institutional buildings. This is an inspired response to the differences in height between the level of the river and the level of the city center. It also enables a building with a surface area of 24,000 square meters and more than 50 meters high to be slotted into the city landscape without it towering over the neighboring buildings.

Visitors passing through the hall to the exhibition areas come immediately to the atrium, the real heart of the Museum and one of the most idiosyncratic features of Gehry's design, which has a sort of metal flower skylight at the top that allows a stream of light to illuminate the warm, inviting space. From the Atrium, the visitor is given the opportunity to access a terrace covered by a canopy supported by a single stone pillar. The canopy serves a function (better appreciated perhaps from the other bank of the river, which offers observers an excellent view of the entire rear façade of the Museum) that is both protective and aesthetic at one and the same time. The broad flight of stairs that goes up to the sculptural tower, conceived as a device to absorb and integrate the Puente de La Salve into the overall architectural scheme of the building, is also a public access way that connects pedestrians with the rest of the city. Exhibition galleries are organized on three levels around the central atrium and are connected by a system of curving walkways suspended from the roof, glass elevators and stair turrets.

GALLERIES

Eleven thousand square meters of exhibition space are distributed in 19 galleries. Ten of these galleries have an almost classical orthogonal look and can be identified from outside by their stone finishes. Nine other, irregularly-shaped galleries present a remarkable contrast, and can be identified from outside by their unusual architecture and the covering of titanium. By playing with volumes and perspectives, these galleries provide huge interior spaces that somehow manage not to overwhelm the visitor. Large-scale artworks are housed in an exceptional 30 meter wide, 130 meter long gallery free of columns and with flooring specially prepared to cope with the comings and going of visitors and museum staff, as well as the sheer weight of the works on display there. Seen from the outside, this gallery slides underneath the Puente de La Salve and runs up against the end of the tower that embraces the bridge and brings it into the building.

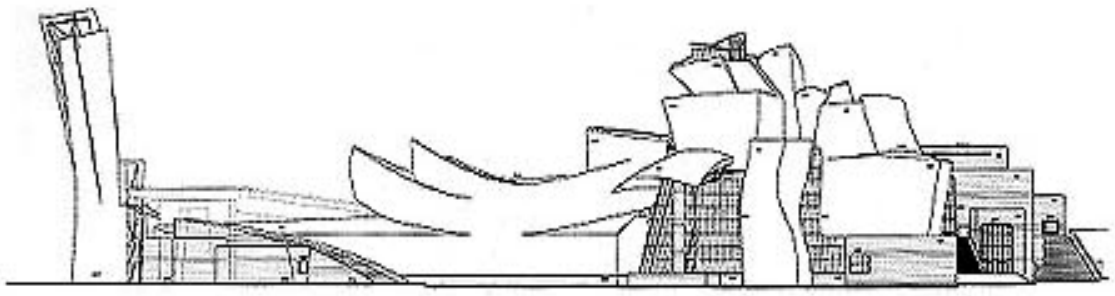

Plate 5.34 North elevation

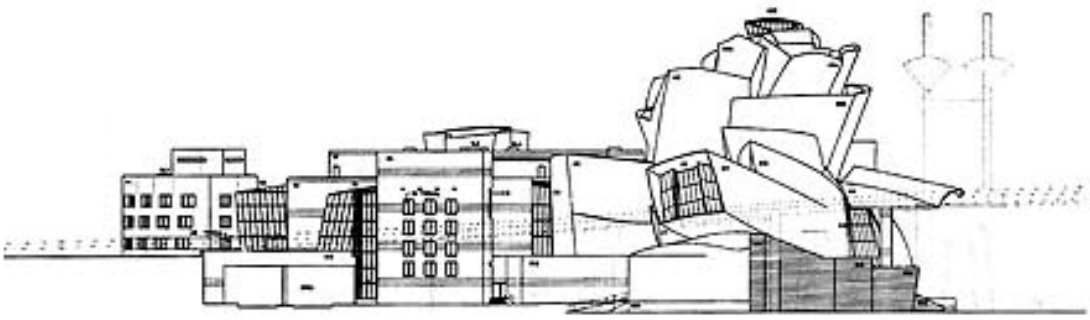

Plate 5.35 West elevation

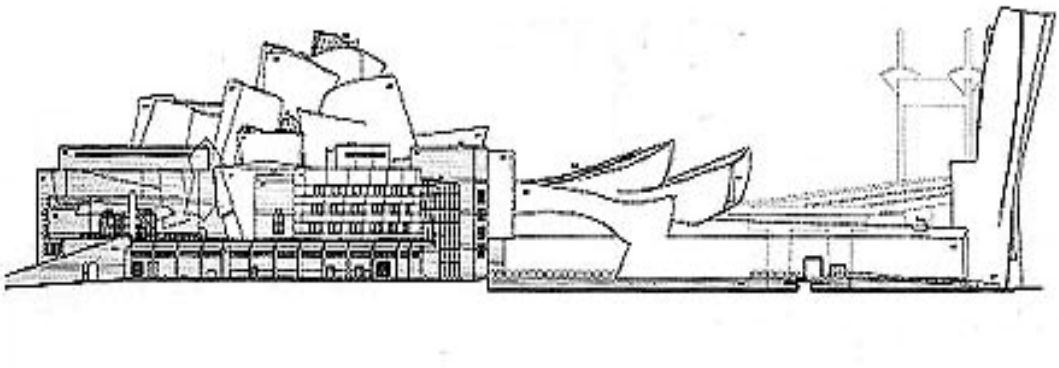

Plate 5.36 south elevation

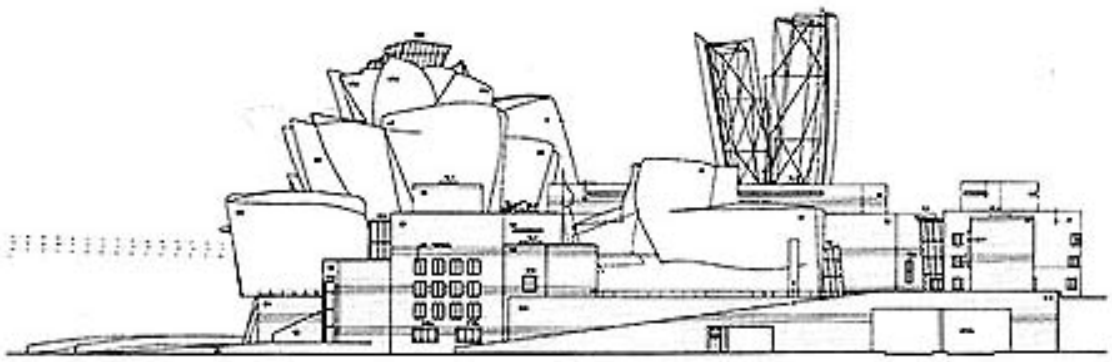

Plate 5.37 East elevation

Source: field survey

There is a harmonius tie between the architectural shapes and the contents of each gallery. Undoubtedly, this simplifies the tour inside the Museum while the atrium, in its very center, and the walkways that link one gallery with another - showing different perspectives of the exhibitional spaces - facilitate the location of galleries and services at any time. As visitors enter the Museum they learn that under the external complex appearance of the architectural shapes, there lies a neat, clear world where it is easy to find one's way around.

MERITS

- The impact of the museum is not just confined to the individual's experience of cultural exchange inside but extends to the institution's urbanistic reach.

- Treating the city itself as a museum, Gehry has designed a sensuous, inhabitable sculpture.
- Unafraid to use a local material in an innovative way (titanium cladding), not intimidated to play with scale in relationship to art, this building is an effort, whether successful or not, to move museum architecture forward.
- The museum building has become an integral part of what the museum has to offer; it is the ultimate object on display.
- The Bilbao Guggenheim has raised public consciousness, renewing a global interest in architecture

DEMERITS

- Appropriate provisions were not made for visitors parking spaces.

5.2 CONCLUSIONS

The following were observed from the case studies above.

5.2.1 Facilities

It was observed that when there is a variety of facilities available in a museum (especially ancillary facilities), the patronage level in the museum increases. An example of this is the National Museum Jos, Solomon Guggenheim Museum New York and Bilbao which have a variety of facilities.

5.2.2 Site planning

The following was realized as important factors in site planning as they relate to the public's use.

- Proper site zoning:- this helps to clearly defined public and restricted areas.
- The use of open spaces:- open spaces allow for such activities as recreation, leisure and entertainment, these activities are mainly done outdoors in Nigeria.
- The link between facilities:- Proper linkage should exist between facilities to enhance circulation and movement.

5.2.3 Level of patronage / Publicity and Activities/ Present use

Publicity and patronage are high when there are several activities to do and several objects to see, hence the necessity of ancillary facilities.

5.2.4 Architectural form

Uniqueness in the architectural form of museums is important because the museum building itself should be a work of art, it should be a monument so that it captivates the attention of the public. an example of this from the case study is the Solomon Guggenhiem Museum in New York and Bilbao.

5.2.5. Accessibility

It goes without saying that the more a place is easily accessible the more it can easily be located and visitation is then possible.

All these observations carried out from the case study under review will be taken into consideration as they affect the research work.

CHAPTER 6

THE DESIGN

6.0 DESIGN BRIEF

The proposed redevelopment of the national museum Kaduna is a challenge to resolve the various problems existing in the museum there by satisfying the users requirement maximally.

The museum is to preserve, restore and exhibit the museum artifacts and works of art that relate to Kaduna and Nigerian history in general well as the museum building itself.

The national museum Kaduna is an already existing museum that has adapted unsuccessfully to a building that was not designed for a museum. The task involved therefore was to redevelop the museum by upgrading it to be of contemporary museum design, to include ancillary facilities and at the same time representing its environment Kaduna town and Nigeria in general.

The museum building complex is to be treated as an object in display in the museum so that it is not just a container of artifacts but also a monument in display. The museum building complex will represent traditional Nigerian building elements.

6.1 CLIENT AND USERS.

The museum will be opened to the public, this means that students, workers, non workers, national or international visitors and tourist patronage is expected.

6.2 THE BRIEF DEVELOPMENT

The museum is to serve as an educational, recreational, and cultural center. The museum will also have an administrative department to ensure the smooth running of the museum complex. The following facilities will be provided for in the museum.

- Administrative unit: Consist only of offices for running of the central administration and the museum.
- Galleries: the Galleries and Exhibition halls are the main focus of the museum.
- Entertainment and Leisure facilities: this includes mainly out door spaces.
- Education: one of the functions of the museum is to educate the public. Educational facilities will exist to take care of this function, these facilities include; theaters, library, internet café, audiovisual unit e.t.c.
- Craft Village: this is an extension of the exhibition halls. It is also a display, educational, recreational / leisure unit all in one. A craft village will be restored in the museum complex so that visitors can actually watch local men and women in different professions engaged in displaying their talent and skill using traditional method of production to produce indigenous arts and crafts and also see traditional Nigerian architecture in display. The craft village is composed of a fashion center, hair saloon, cloth weaving section, pottery section, leatherwork section, blacksmithing section, mat weaving section, calabash carvers, brass and bronze section, craft shop and the craft village canteen with two kitchens.

6.3 THE DESIGN CONSIDERATION

The considerations taken in any contemporary museum design can be classified into the following:

- Security (entry, exit and circulation)
- Site Planning
- Lighting
- Display order
- Building form (the appearance of the building)
- The environment (physical and social)

6.3.1 Security

All museums contain objects of value, it is therefore necessary to maintain a high level of security. It is important to design galleries for maximum visual perception from the warding positions.

Although museum attendants are important to the security if museums, modern practices still considers human supplements such as mechanical and electronic measures. They are usually multi leveled.

- Prevention of removal of objects by placing in a secure cabinet or fixing the object to a solid structure.
- Detection of successful removal of museum objects by alarm or visual.
- Prevention of removal of museum object from museum.

Circulation in a museum complex is very important. It refers to the movement of people, both worker, visitors and artifacts.

Walkways, corridors, passages and lobbies are for horizontal movements provided in the museum. Sections in the museum open to the public are directly accessible from the main entrance.

The checking of entry and exit into a museum by turnstiles or electronic detection helps to maintain security. The fewer these points of entry and exits the better and more effective the control. In this museum there are only two main entrances and exit points.

6.3.2 Site Planning

This aspect deals with the performance requirements of all the buildings on the site, in order to achieve the following.

- Proper orientation with adequate consideration to the winds.
- More popularity for the galleries by placing some ancillary facilities close to them.
- Flexibility and adaptability with regards to the arrangement of exhibitions in the galleries.
- Functional separation of major activities and circulation with regards to noise and degree of privacy.

6.3.3 Lighting

The quality of light required for viewing objects is not easily specified but is dependant on the situation and the contexts of that situation within museum viewing.

Although light is very important in any museum, sadly it is one of the most potent agents of decay in museum artifacts.

Textiles of all types, leather, feathers, books, microscopic preparations, natural history specimens, jewelries, metal and mineral substances and paintings are objects likely to be affected by light.

The extent of damage to these objects depend on the following

- Intensity of the radiation.
- The quality that is spectral composition of the light source.
- The total time of exposure of the materials in the light.
- The intrinsic capacity of the individual materials to absorb and be affected by radiant energy.

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

6.3.4 Display order

The following are principles recommended for exhibition spaces.

- Light sensitive materials should not be kept on permanent exhibitions, unless conditions can be strictly controlled.

- Storage rooms and galleries should be kept unlighted when not opened to the public.
- Ultra-violet absorbing filters should be used where appropriate. This can be affected by using special lighting - tinted glass in the cases.
- Direct sun light should always be excluded by the use of blinds, louvers or curtains.

6.3.5 Building Form

The form of any contemporary museum design should be engaging, interesting and captivating. This is because the form of the building represents the museum's public image and it is an object in display, it also defines the institutions relationship to its environment and its contents. The following affect the form of contemporary museum design.

- The building materials used.
- The image the building is attempting to portray or what the building is trying to express.
- Functional separation and grouping of activities for space economy and users convenience.
- Monumentality to suggest the significance of a major cultural institution in this century.
- The environment where the museum is located.
- Other standard design considerations common to such structures.

6.3.6 The Environment

The environment consists of its physical nature and the social aspect of it. The physical environment determines the way the building will be built as considerations have to be made on the way the climate and other physical conditions affect the building.

The social aspect of the environment is about the people in the environment and their way of life. The concept of any contemporary museum design must always have the people of the area in mind while designing the museum. This consideration is necessary so as not to introduce something alien to the environment that may be imposing or an eye sore.

6.4 THE APPLICATION OF INDIGENOUS NIGERIAN ARCHITECTURAL ELEMENTS IN THE PROPOSED DESIGN.

Several indigenous architectural elements found in Nigeria were adopted in the design of the museum to express culture in a contemporary museum design.

These elements introduced to the museum will enable the museum to have content in expression, engaging, interesting and captivating without looking alien to the immediate environment, Kaduna town, and the country as a whole.

Similar elements existing across the regions of the country (north, southeast, southwest and central Nigeria) were especially adopted while varying differences were sparsely used.

More emphasis was placed on the architecture in the northern part of the country (Hausa Architecture), because the museum is located in the northern part of the country in

Kaduna town, as a consideration in contemporary museum design. By doing this the museum will not be alien to the environment but compliment it.

Similar elements adapted to the museum proposal are as follows:

- Decorative patterns: most geometric patterns where found to repeat themselves or very similar patterns were found across these regions.
- Conical and gable roofs: these types of roofs were found repeatedly mainly in the central, southeast and southwest of Nigeria and also fewer parts of northern Nigeria. Therefore these were adapted in the museum design.
- Sculptured columns: these existed in the southeast and southwest Nigeria only and were used in the interior part of the proposed museum redevelopment.
- Circular and rectangular plans: these exist in varying degrees across the four regions mentioned in the country.
- Stone wall: stone walls are found in the central region of the country and also some part of the southeast.

The other elements adapted to the museum are from the Hausa Architecture and are as follows.

- Windows: typical of the Hausa Architecture, the windows are sparsely distributed on the façade and are often rectangular in shape this was adapted in the museum.
- Emphasized entrances: the entrances to most Northern Nigerian buildings were emphasized with thicker walls and decorative patterns. This concept was also adapted to the museum.

- Pinnacles: these are purely decorative elements in Hausa architecture. They are extensions of the parapet walls.
- Parapet walls: parapet walls were adapted extensively in the proposed museum redevelopment.

All these elements have been used in the redevelopment proposed for the national museum Kaduna.

6.5 FACILITIES AND SCHEDULE OF ACCOMMODATION

Museum gallery	Number required	Dimension m2	Area
Reception/waiting	1	5 x 10	50
Archaeological gallery	1	9 x 15	135
Ethno-graphic gallery	1	12 x 9	108
Modern art and craft gallery	2	12 x 9	135
Theater	1	12 x 24	288
Rehearsals and changing room	1	12 x 6	72
Audio visual room	1	12 x 9	108
Library	1	9 x 15	135
Classroom	2	6 x 12	72

Laboratory	1	9 x 12	108
Conservator	1	3 x 6	18
Chemical store	1	3 x 6	18
Repair room	1	6 x 9	54
Equipment store	1	6 x 9	54
Toilet	3	6 x 6	36
Internet café	1	12 x 12	144
General store	1	6 x 9	54
Administration block			
Reception and waiting	2	4.5 x 11 7.5 x 5.5	
Account office	1	7 x 9	
Curator's office	1	4.5 x 5	
Curator's sec/waiting	1	3 x 3.5	
Conference room	1	5 x 7	
Principal documentation officer	1	5 x 4.5	
Sec/waiting	1	5 x 3.2	
Principal museum			

education officer	1	5 x 4.5	
Toilet	5	1.5 x 2	
		1.5 x 3.5	
Junior staff office	1	5 x 9	
Senior executive officer	1	4.5 x 3.5	
Audit officer	1	4.5 x 3.5	
Senior technical officer	1	4.5 x 3.5	
Assistants	1	4.5 x 5.5	
Sec	1	2.5 x 3.5	
Typist/ clerk	1	2.5 x 3.5	
Records room	1	3.5 x5.5	
Photography studio	1	4.5 x 10.5	
Dark room	1	1.5 x 3.5	
Printing studio	1	4.5 x 10.5	
Storage room	1	5 x 5.5	

Craft village	1	∏ x 3 x 3	28.3
Children workshop	1	∏ x 3 x 3	28.3
Saloon	1	∏ x 2.75 x 2.75	23.8
Cloth weaving	1	12 x 24	288
Pottery	1	8 x 3	24
Leather works	1	10 x 3	30
Blacksmith	1	∏ x 2.75 x 2.75	23.8
Mat weaving	1	4 x 10	40
Carvers	1	12 x 24	288
Brass and bronze	1	∏ x 2.25 x 2.25	15.9
Fashion center	1	10 x18	180
Amphi-theater	1	3 x 5	15
Carpenter/mason	2	3 x 7	21
Toilet	1	∏ x 5.5 x 5.5	95.1
Restaurant	1	∏ x 7 x 7	154
Outdoor eating	1	∏ x 2 x 2	12.6
Kitchen	1	∏ x 1.75 x1.75	9.6
Storage			
Shopping/business complex.			
Shops	14	7.5 x 5	37.5
Toilet	2	5.5 x 5.5	30.25

CHAPTER 7

SUMMARY AND CONCLUSION

7.1 SUMMARY

There is a need to relate and understand more of our history and present and how this knowledge is beneficiary and applied to our present day life.

The introduction of indigenous building elements into the contemporary museum design with the use of more durable and improved quality of building material has lead to a honest and logical conclusion.

In chapter 3 of this thesis the various indigenous Nigeria architectural elements were studied across 4 regions of the country and the finding carefully selected and applied. The trends in modern museum design was also observed and the resultant findings were recorded in this same chapter as they apply to the museum under study.

In chapter 5 of this thesis detailed study was taken on 4 carefully selected museums, two are international museums while the other two are local. The observations gotten were then carefully selected and applied to the study.

A few problems were faced, such as the site constraint and the integration of the old structures with the new to act as one complex, and this has being achieved successfully.

This thesis has proposed an improvement of the appearance of this museum, it is a solution in attracting the public and making them aware that an important and necessary cultural institution exits at this place.

The addition of ancillary facilities, which comprise of recreation and leisure, social, educational activities e.t.c, further makes variety possible in the museum and eliminate monotony hence also excluding boredom.

7.2 CONCLUSION

This thesis has attempted to upgrade the National Museum Kaduna by creating necessary additional facilities and at the same time creating a museum building that has a deliberate expression.

It must be understood that a museum is a building with history and art, among others, to display in it therefore the building should express its function.

This study is therefore an attempt to provide a sound cultural education through displays and research of materials displayed from museum facilities.

7.3 RECOMMENDATION

To discourage the gradual disappearance of public interest in the National Museum Kaduna and even other related museums it is recommended that the attempt made in this thesis to express history in the present, traditional design expressed in contemporary museum design, be applied to all related institutions of this type.

Bibliography:

1. AFOLABI O.G.J (1978) Culture and Modernization in Nigeria. Heinemann Education books (Nig) Ltd.
2. ALMA S.W (1970) Museum in search of a Usable future. MIT press.

3. Architectural records (2005) a publication of the mcgraw hill companies.
4. BIOBAKU M.B (1987) A Systematic Approach to the Evolution of Indigenous Architecture in Nigeria. Institute of Architecture's Journal.
5. BOULLEEE L .L (1968) visionary architects. America by gulf printing company Houston.
6. CURATOR (1985) Design Standards in Museum Exhibition. Vol. 1.
7. DENYER S (1978) African Traditional Architecture. Heinemann press London.
8. DMOCHWSKI Z.R (1985) Introduction to Nigerian Traditional Architecture: Volume one. Ethnographica press London.
9. DMOCHWSKI Z.R (1985) Introduction to Nigerian Traditional Architecture: Volume two. Ethnographica press London.
10. DMOCHWSKI Z.R (1985) Introduction to Nigerian Traditional Architecture: Volume three. Ethnographica press London.
11. DMOCHWSKI Z.R (1985) Introduction to Nigerian Traditional Architecture: Volume four. Ethnographica press London.
12. Encart Reference Library (2005)
13. ERNST and SOHN (1993) Contemporary British Architectural drawings. Creo corporation.
14. FRED L (1968) Conference, Convention and Exhibition Facilities. McGraw Hill book co. U.S.A.
15. GEOGE M.F (1976) Traditional Culture and Impact of Technological Change. African publishing company.
16. HENRI S (1977) The Encyclopaedia of world Architecture. Macmillan press ltd London.
17. JALAOSE B.A (2001) Housing and Indigenous building Technology: An Introduction. Design A publication.
18. JAMES S (1993) Architecture the Contemporary conditions. Phaidon press ltd Hong Kong.
19. LAN F (1977) Priceless Heritage: The Future of Museums. Latimar trend and co. Plymouth, Great Britain

20. LEONARD M (1950) Contemporary Structures in Architecture. Reinhold publishing corporation.
21. MICHEAL B (1965) The New Museum. Fredrick a Praeger INC. NewYork.
22. MOUGHTIN J.C (1985) Hausa Architecture. Ethnographica press London.
23. MUSEUM. (1965) lighting: Vol. xvIII no. 1.
24. MUSEUM. (1964) Control of Deteriorating effects of Light on Museum Objects. Vol. XVIII no. 1
25. MUSEUM NEWS. (1968) Security: vol. 46, No. 5.
26. MUSEUM. (1968) Museum Architecture. Vol XXI No. 3
27. NATIONAL COMMISSION FOR MUSEUMS AND MONUMENTS (1982) Publication 25 years of Jos Museum.
28. NEUFERT ERNST (1980) Architects Data. Canada publishing ltd London.
29. OKITA S.I (1985) The Museum and Nation Building. New African publishing company.
30. OLAOSEBIKAN W.A (1982) cultural and creative art in Nigeria. Evans brothers Nigerian publishers ltd.
31. SA'AA H.T (1982) Between Myth and Reality: The Aesthetics of Traditional Architecture. Unpublished Ph.D Thesis University of Michigan.
32. SANI-KATSINA H (1999) Redevelopment of the National museum Katsina. Unpublished thesis proposal of the Ahmadu bello university Zaria Department of Architecture.
33. The oxford learner's dictionary on historical principles. Oxford university press London.
34. UNESCO (1968) The Conservation of Cultural Property. The UNESCO press, Paris, France
35. UNESCO (1974) The Organization of Museums: Practical Advice. UNESCO press, Paris, France.
36. UNO S.O (1986) Cultural development and Nation Building. Spectrum books ltd Ibadan.
37. VERNON G (1988) Architecture the Source Book. Quarto Publishing Plc.

38. VITTORIO M. L (1997) Thames and Hudson dictionary of 20th century Architecture. C.S Graphics in Singapore.