ASSEMBLIES OF GOD CHURCH HEADQUARTERS KADUNA

Re-Inventing Conventional Forms For Pentecostal Worship

By

Gambo, Ziriah Garba

A THESIS SUBMITTED TO THE POST GRADUATE SCHOOL, AHMADU BELLO UNIERSITY, ZARIA IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF MASTER OF SCIENCE IN ARCHITECTURE (M.Sc. Arch.)

DEPARTMENT OF ARCHITECTURE
FAULTYOFENVIRONMENTAL DESIGN
AHMADU BELLO UNIVERSITY, ZARIA
NIGERIA.

NOVEMBER, 1999

EPIGRAPH

....."You are the light of the world. A city that is set on a hill cannot be hidden.

"Nor do they light a lamp and put it under a basket, but on a lamp stand, and it gives light to all the who are in the house.

"Let your light so shine before men, that they may see your good works and glorify your father in heaven.

....."and upon this rock I will build my church, and the gates of hell shall not prevail against it".

.....out of the abundance of the heart speaks the mouth.

.....I will not give God that which wrought nothing.

DECLARATION

I, **GAMBO, Ziriah Garba** of the Department of Architecture Faculty of Environmental Design, Ahmed Bello Univeristy, hereby declare that this Thesis work has been a personal academic undertaking executed under the supervision of my mentor Arch, Badiru Y. Y. Of the Department of Architecture, Ahmadu Bello University. It has not been accepted in any previous application for a higher degree and all quotations and information utilized and their sources have been duly acknowledge by way of references.

28/3/2022

DATE

STUDENT'S SIGNATURE

CERTIFICATION

This thesis entiled ASSEMBLIES OF GOD CHURCH HEADQUARTERS KADUNA (Re-Inventing Conventional Forms For Pentecostal Worship) by Gambo, Ziriah Garba meets the regulations governing the award of the degree of Master of Science In Architecture (M.Sc. Arch.) Of Ahmadu Bello University, and is approved for its contribution to knowledge and litrary presentation.

Chairman. Supervisory Committee — Date: 30/3/00

Member, Supervisory Committee — Date: 24/10/07.

Member, Supervisory Committee — Date: 30/3/2000

HEAD, DEPT. OF ARCHITECTURE
Faculty of Enviromental Design
A. B. U. Zaria - Nigeria.

Head of Department — Date: 1.11.01

Dean Post Graduate School — Date: 4/6/05

ACKNOWLEDGEMENT

In the course of the research, different personalities have stood by me with their helping minds and hands, to think of listing down all names would almost mean writing an entire chapter, but then I cannot resist the temptation of naming a few.

Primarily I would like to thank the Assemblies of God Church former and new District Superintendents (Kaduna district) for their immense co-operation. My appreciation goes to my project supervisor Arch. Badiru Y. Y., Arch Henry Umeh, Arch Yeboah and Arch. Barnabas Quirix who help me during the topic proposal. Special thanks goes to Arch Clarity, Arch. Jonathan and Babatunde and Mr. Peter who help selflessly to see that the manuscript was typed and delivered.

My gratitude to all my colleagues (Mr. Sunday Garba, Comfort Audu, Remi Gloria and others not mentioned). Also the Fellowship of Christian Student, my sub-group members (the Gospel team) for their relentless prayers and encouragement.

I would also like to specially thank members of the Gambo and the Parah families, for their love, financial and moral support. Special thanks goes to my husband, Shadrack Parah Umaya for so many things too numerous to enumerate.

Most important is my gratitude to my El-Shaddai, who has made this possible. It is the Lord's doing it is marvelous to my sight.

Once again, thank you all.

ZIRIAH GAMBO GARBA
NOVEMBER, 1999
SAMARU - ZARIA.

DEDICATION

This thesis is dedicated to:

God, for his infinite love and mercy. My husband, Mr. Shedrack P. Umaya and My Daughter, Miss Joy - Deborah) Shedrack for being so loving and patience.

ABSTRACT

Forms in ecclesiastic architecture apart from the coverage and identity function it performs, is said to give the church a symbolic (image) which differentiate it from any other building around it during the early Christian architectural movements (A.D. 313 to 18th C). Today the symbolic image in Pentecostal churches is observed to be appearing deceptive to viewers and its users both learned and unlearned despite the architectural technological advancement. Any public building that cannot explain its function to viewers is said to have some architectural symbolic problems which can not be overlooked.

The intent of this thesis, is to have a detailed study of conventional forms used for penticostal worship and how to incorporate it into the proposed design of the Assemblies of God Church headquarter Kaduna. Thus the thesis seeks to address the problem of deceptive appearance of forms in terms of symbolic character in church architecture which can be evidently seen in the majority of the Pentecostal churches been built nowadays.

Also the thesis again has the view of forwarding a design proposal that will seek to provide an administrative facility for the Assemblies of God Churches function which could also be a source of revenue.

The thesis is structured into seven chapters, the first is the introductory aspect, the second deals with literature review, the thesis problem definition and its application on Assemblies of God functions. The third is the problem case study. The fourth is the design consideration. The fifth is the functional requirements. The sixth deals with the functional flow diagrams and site information while the seventh chapter deals with the design report, thesis conclusions and recommendation.

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CHAPTER ONE

1.0 INTRODUCTION

Every epoch is usually characterized by an architecture which to some extent, portrays the manner of Life of that age. This is an imprint of their civilization lives through time, reminding the later generation of the former.

As civilization changes with time, so also architecture changes and church architecture is not left behind. Changes in church "Ecclesiastic Architecture" is due to deviation or movement form Orthoxlism to Penticostalism which was ushered into the Christian faith by the Holy Spirit after the ascension of the Lord Jesus Christ on the Pentecost day. Christianity was no longer to go to church pray and worship alone but also involved evangelism, conversion, discipleship - training and getting the convert ready towards the second coming of the Lord Jesus Christ. All these is done by the direction of the Holy Spirit.

Architecturally, the Pentecostal movement affected not only the Christian faith mentioned above but also the planning aspect of the church, which in the other hand affected the form of the church today. While Orthodox Church was characterized by a fixed form of worship and planning, the Pentecost on the other hand is characterized by freedom of worship and freedom of planning. The freedom of design by contemporary architect is said to contribute to the changing of forms of churches which also is said to depend on the internal arrangements of functions.

Today, the external appearance of some Pentecostal churches is a bit deceptive to viewers both learned and unlearned. Church forms have lost that symbolic character which gave the church a generalized image during the pre-contemporary age, where once you approach a church at any part or place in a region despite the numerous cultures you would know is a church, the building (church building) is said to speak it function to viewers, unlike churches

today that takes shapes of factories, Hotels, Theatres, Residential houses, gymnasium or any form so far as it satisfies the users requirements and designers intentions understood by users.

This deceptive appearance in church architecture especially the Pentecostal churches is becoming a problem in architecture which can not be overlooked since the church is a public building that houses both learned and unlearned people, and any building public building whose function can not be easily read or make meaning to viewers at a clangs architecturally is said to have a problem or lack some architectural touch which must be corrected.

Due to the observation made, the writer was moved to make a detail study of conventional forms used for Pentecostal worship, in ecclesiastic architecture, studying the types of forms used by pre-contemporary church architecture which gave the church a generalized image and also document the forms commonly used in the contemporary churches establishing the fact, contemporary architecture have influenced the symbolic image of forms in ecclesiastic architecture. Also the problems associated with the sudden-deceptive appearance of forms in Pentecostal churches is analyzed and solution is applied to the proposed design of the Assemblies of God church headquarter Kaduna (especially the church Auditorium among other facilities provided).

The Assemblies of God Church is one among the penticostal church movement where the problem noticed above is pronounced. The church believed in the power and administration of the Holy Spirit. The movement is said to have started from America and came to Nigeria in 1937 through the Eastern part of the country (Nigeria). Today the movement have numerous churches all over the country whose administrative activities is coordinated in three levels namely: National, District and sectional level.

The National level administration activities is coordinated at the national secretariat Enugu while the District is made up of one or two district on the other hand, two secular states is divided into three districts depending on the number of churches. The district administrative activities is

coordinated at the district headquarters respectively while the sectional level is made of three to five churches with its administrative function at the sectional headquarter which is answerable to the district and the district to the headquarter.

Kaduna is one of the district with the headquarter in Kaduna. The district consist of Kaduna metropolis (both Kaduna north and south L.G.A.) Igabi, Chukun, Kachia Local Government areas. The district has many section with many churches without a district headquarter facility to cater for his members 'welfare both spiritual and physically, also to carry on its administrative functions. These has led to the purchased of land at Gwamin Gora along Kaduna-Abuja express road to build the church headquarter and desired a proposed design that will house their need and still maintained an architecture that will speak its meaning to viewers. Also the facility is designed in such a way that other Christian community will benefit from it (as revenue source).

The facilities required include the administrative block, a conference or church Auditorium, Accommodation facility, recreational and school facilities.

However, this thesis is divided into two:
First as a detailed study of conventional forms used for pentecostal worship and a design proposal for the Assemblies of God Headquarters Kaduna. The study will lead us to how best ecclesiastic architectural forms is designed and constructed on church auditorium, given the church a symbolic image which viewers can read as a church at a clangs without any deceptive appearance. Within the context of this thesis, an in-depth study on ecclesiastical architecture is made, putting much interest on forms designed from the movements in architecture, the early and modern church, also the review of past thesis.

Case studies of existing situation here at home (immediate surrounding where study is made) and foreign (through Books, Journals and Magazines). Also all design criteria are conducted. Another part of this thesis involved the design brief formation and the study of climate factors as it affect design.

1.1 Statement of Problem

Roofing forms in Pentecostal churches is suddenly observed to have a deceptive appearance to viewers. This observation is made in terms of the architectural symbolic character performed by architectural forms which had an image during every pre-contemporary era in architectural movements but today observed to be tremendously disappearing and making it hard to viewers understanding of its function without the use of sign, signboards or cross sign.

1.2 Aims and Objectives

I] To make a detail study of conventional forms in ecclesiastic architecture.

II] To document architectural forms commonly used in contemporary church architecture establishing the fact, modernisation has influenced the symbolic character of forms in church architecture.

III] The main objective of this thesis is to highlight the overall advantage of sysmbolism played by forms in church architecture.

IV] To provide facilities whose form successfully incorporate 'spontaneous symbolism'.

V] to provide a forum for the church to carry out its administrative activities in a centralized place instead of wandering about from one church to another during conventions.

VI] The facilities provided will create a job opportunity.

VII] It will also be a source of revenue generation for the ministry.

VIII] It will help the ministry to coordinate its congregation during conventions.

IX] The facilities provided will carter for both congregational or personal needs of worshippers.

1.3.0 **Motivation**

The desired to have a building form (roofing system) whose function is self explanatory to its viewers and users. (Architectural building are said to make meaning) motivated the writer to study extensively on this subject matter. Since church building is considered among public buildings. Public in the sence that it houses all categories of people both small and big who are worshipers of God through Jesus Christ and education is not a barrier. The expectation of any public building is to educate users and viewers its function without boardering to read any signboard (remember church activities involves both leaned and unlearneth people).

1.4.0 **Architectural Significance**

A successful design shall be a pioneering effort at developing an understanding of church life from the architectural stand point; architectural forms which does not only gives the church identity but also symbolized to the viewers its function. Since architecture is said to present and articulate meaning. It therefore, shows that for Christian it would appear to be a matter of gospel which should be understood not only in style but also in expression.

1.5 **Scope and Limitation**

Much as it is the desire of the author of this thesis to design a total and well Assemblies of God church headquarter Kaduna. It will not be possible to deal with the functional area in detail that comprises a headquarter due to time and cost limitation. As such facilities that would be provided are church Auditorium, Accommodation, Administrative block, school (classes) and recreational facilities. Only the church Auditorium will be treated in detail.

1.6.0 **Research Methodology**

The methodology shall consist of:-

(A) Literature Review: This is the primary method, since the nature of the thesis objectives emphasize a thorough perusal of documented information as obtained in books and also the Bible.

(B) Case Studies: To illustrate problem manifestation and good attempts at problem solving. These are documented as critical appraisal in chapter three.

Supplementary research by way of undocumented observation of existing situation will also be done.

CHAPTER TWO

LITERATURE REVIEW

2.1 INTRODUCTION

Form was described as a physical spatial property which gives an object its identify. Stephen A. S. (1990). This when broken down, can be considered in terms of shape, size, area, volume, colour and texture. It is the form that visually distinguishes one object from another. Thus an apple is easily distinguishable from a pineapple. But there is a similarity in shape and size such as that between an apple and an orange, colour and texture help to define their differences.

In architecture, buildings are designed for different functions or purposes. The way the building looks is normally an indication of the activities that take place within the building. The functions taking place within the building determined the spatial arrangement of the rooms which makes it possible for the said function to be carried out within the building. This spatial arrangement is the plan of the building. The building assumes a form of its own due to the spatial arrangement within.

The shape of the form could be square □, circular ○, V-shape, hexagonal or triangular. A form of a building is determined by factors such as climate, available materials, technology, cost, religion and other factors such as contemporary style or prevailing style.

2.1.1 **Climate:** In Nigeria, human and geographical factors has influenced the development of curvilinear, conical and mud roof structures in the Northern part of the country, while the rectilinear structures and thatch roof of the south. In areas where laterite is unavailable such as in the riverine areas of Niger-delta, there are structures using timber oils and alternative building material method of construction and planning.

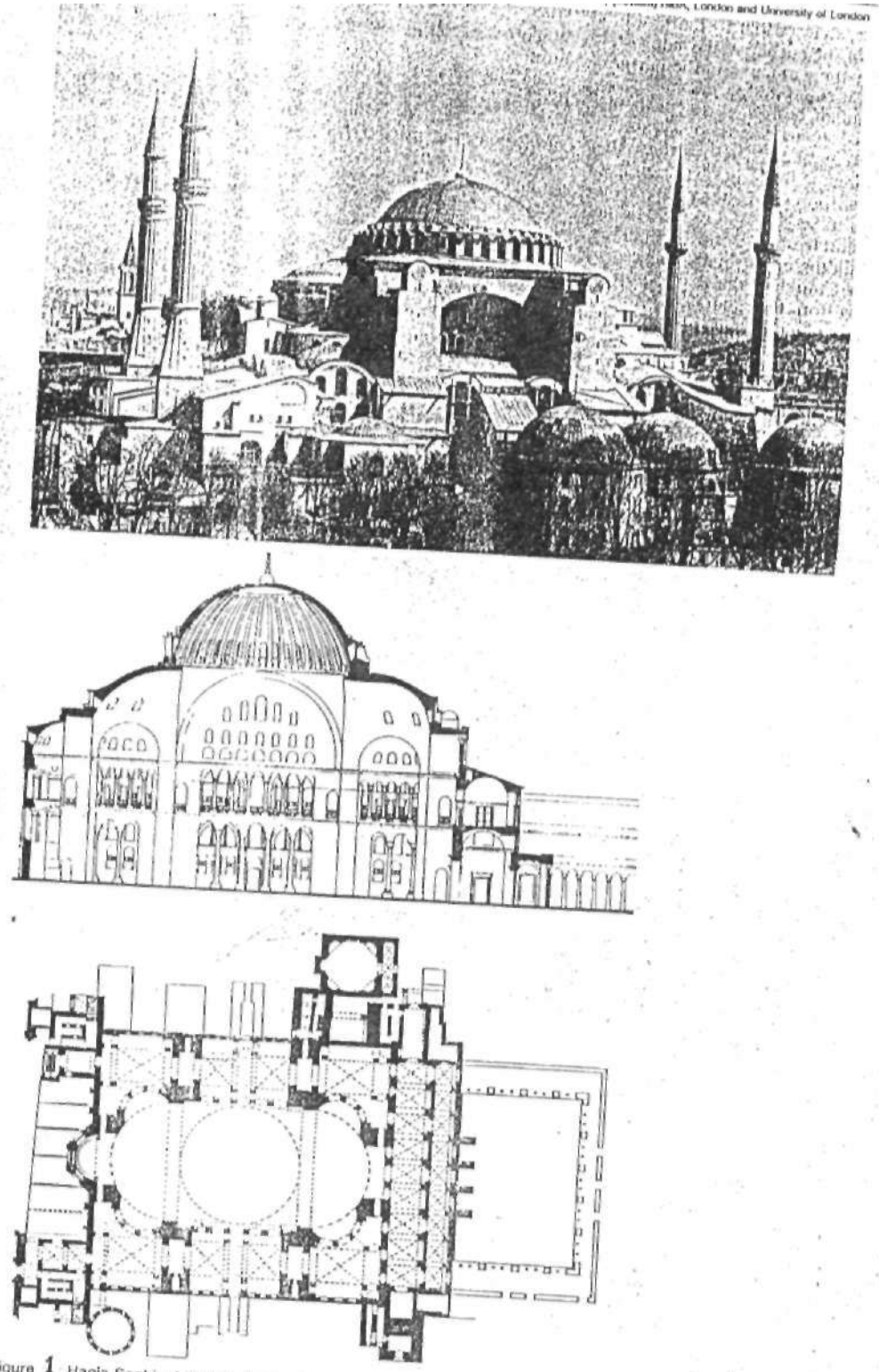
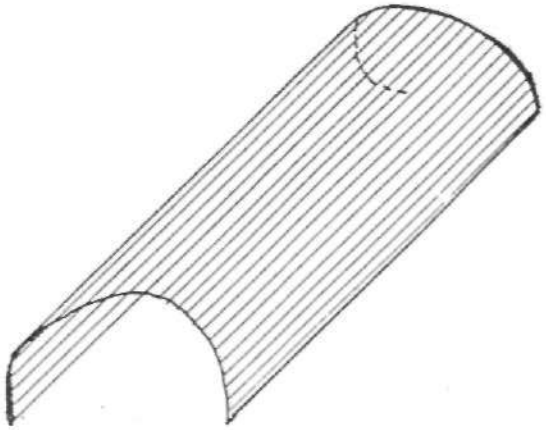
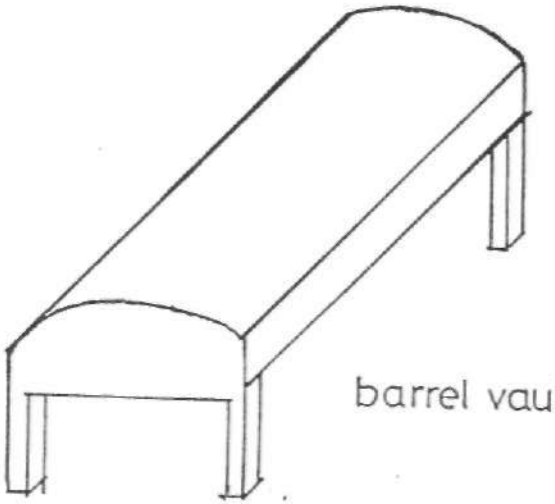


Figure 1. Hagia Sophia, Istanbul, designed by Anthemius of Tralles and Isidorus of Miletus, 532–537. (Top) Exterior, (centre) cross section, (bottom) plan.

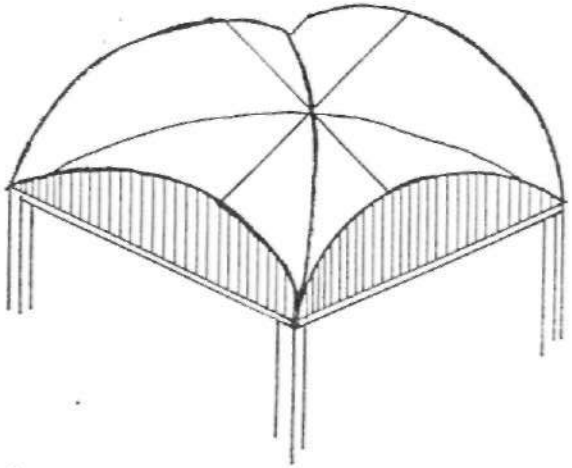
BASIC ROOF DESIGNS



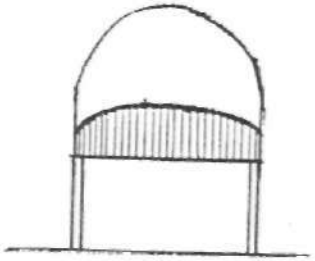
cylindrical vault



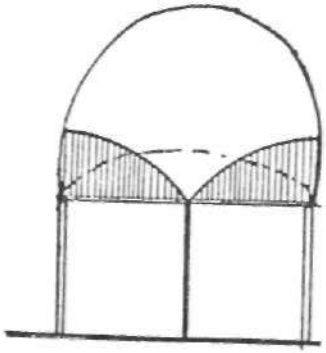
barrel vault



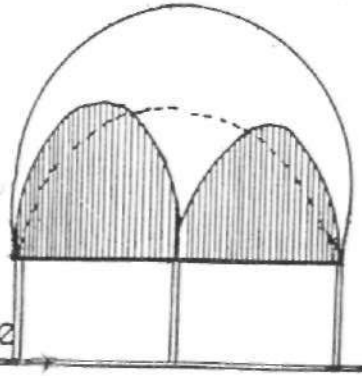
intersecting barrels



simple dome



compound dc



melon shape dome

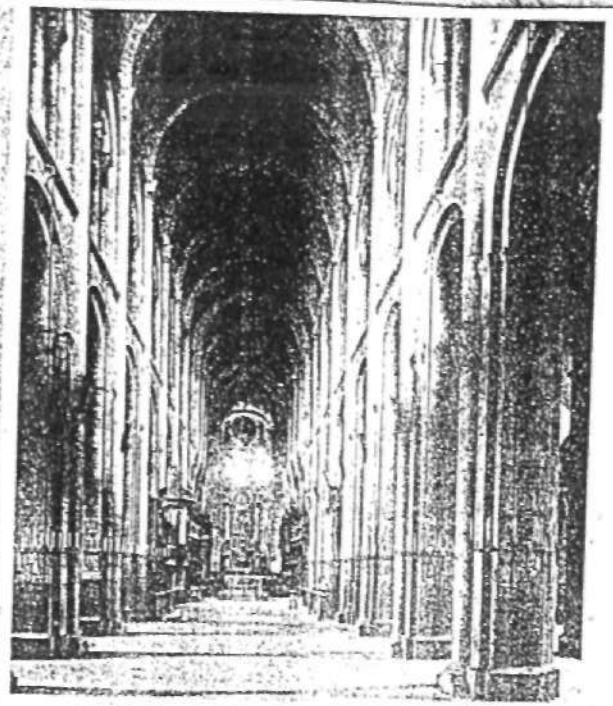
Romanesque Church Architeture - (9th - 11th)

World Encyclopedia (Vol. 16) defined the word Romanesque as "Like the Romans", Romanesque architecture began in the Late 8th Century and achieved its greatest impact during the 10th and 11thC. Their impact was felt in Italy, France, Germany, Spain and England. The requirement and discipline of the Church moulded this new style of the building. Where ever the Roman Catholic church was, the building was Romanesgue said by William G. (1980).

The Romanesque period had churches with many variations (Regional) depending on changing social and religious needs of the people. It was clear from the churches of this period that the prevalent idea is evident in the movement of the Alter to the East wall, the priest performed the liturgical act of the worship assisted by servers and witnessed by the people, on their behalf. The nave was made to accommodate the shrine while the cross sign was introduced during this era.

The most interesting feature about their roof design was achieved by combining both Romans Arches and the Byzantine dome which gave the architecture of that era an interesting roofing system. The roof was said to be a heavy curved-arches, towers rose from the roof over the point where the transept crossed the nave and four large pillars called pierce were supporting the tower - see figure (ii).





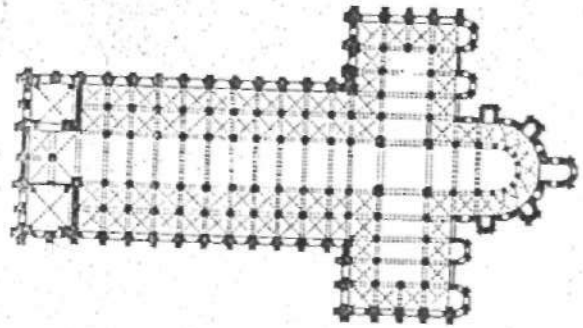


Figure 2 Saint-Sernin, Toulouse, Fr., 1077 or 1082–1118. (Top left) Chevet, east end; (top right) nave; (bottom) plan.

(Top left) Giraudon—Art Resource/E.B. Inc., (top right) H. Roger-Viollet, (bottom) after Conant in H.W. Janson, *History of Art*

2.3.4 Gothic Architecture (12^{th} – 15^{th} Century)

Gothic was an aspiring Architecture, and did not depend for its effect as did the Romanesque upon the massive and ponderous distribution of its part. The Gothic builders used the pointed arch, the cross vault and the flying buttress, as had the Romanesque builders, but developed these as artistic ends, not merely as constructional means. The walls and piers which support the Romanesque vault were replaced in Gothic by an enveloping translucent screen of coloured glass and slender clustered shaft which carry the eve upward to the system of Ribs arching across the nave and aisles.

The distinguishing features of gothic architecture was the almost universal use of the pointed arch in placed of the semi circular arch associated with the Romanesque.

Also, stained glass was an art which associated almost – exclusively with the church and largely with the period. While the monumental brasses was a peculiar and specify decoration feature on curch floor (see fig. IIIa).

Types Of Pointed Vault Used In Gothic Architecture

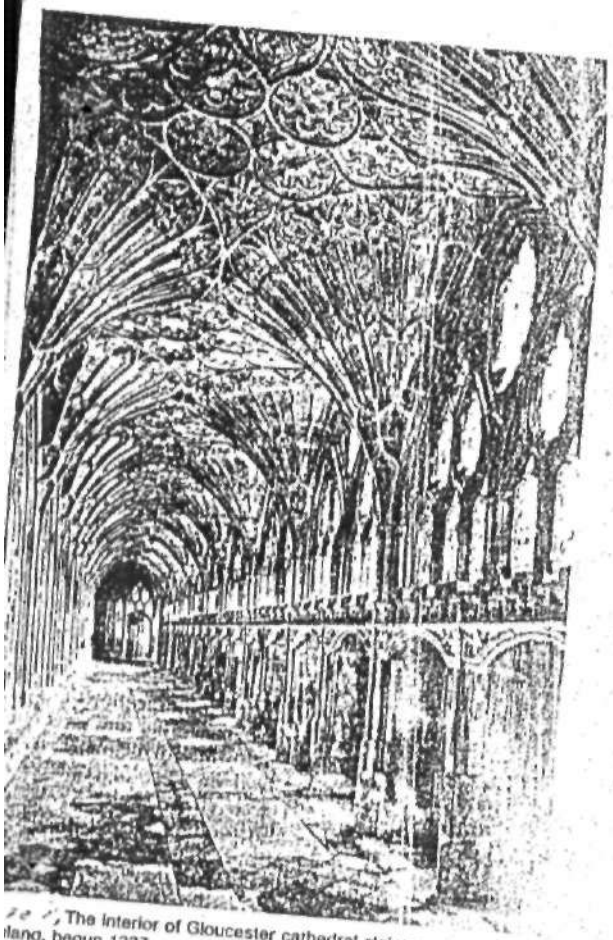
i. Pointed Rib Vault.

ii. Quadripartite Vault with ridge ribs.

iii. Riercero vault.

iv. Lierne vault.

(see figure IIIb).



The interior of Gloucester cathedral cloisters, ...land, begun 1337.
...ersling

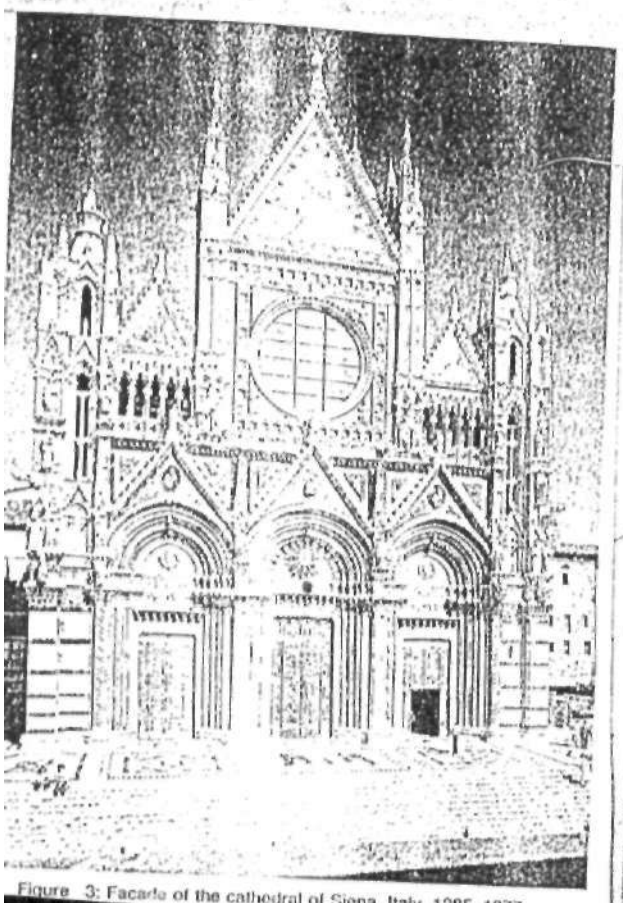
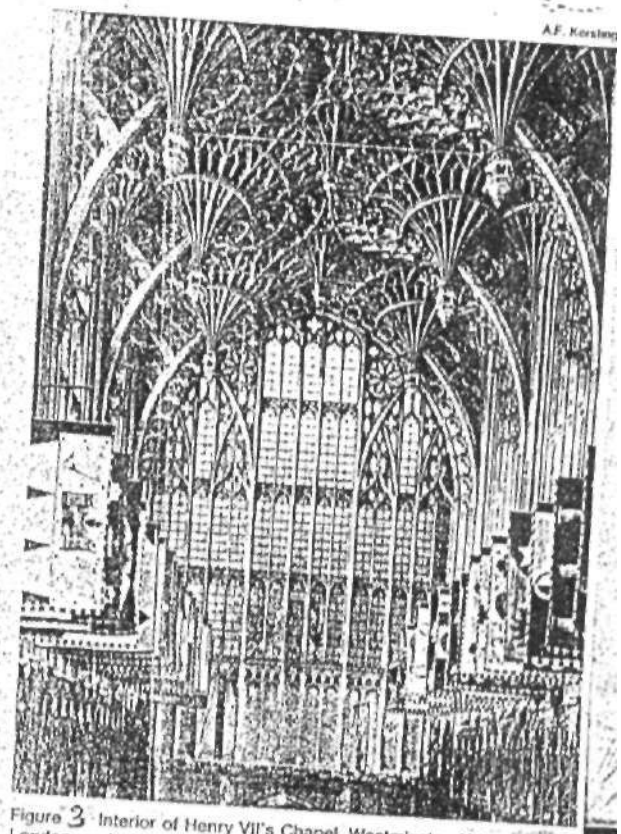


Figure 3: Facade of the cathedral of Siena, Italy, 1285–1377.



A.F. Kersling

Figure 3 Interior of Henry VII's Chapel, Westminster Abbey, London, early 16th century.

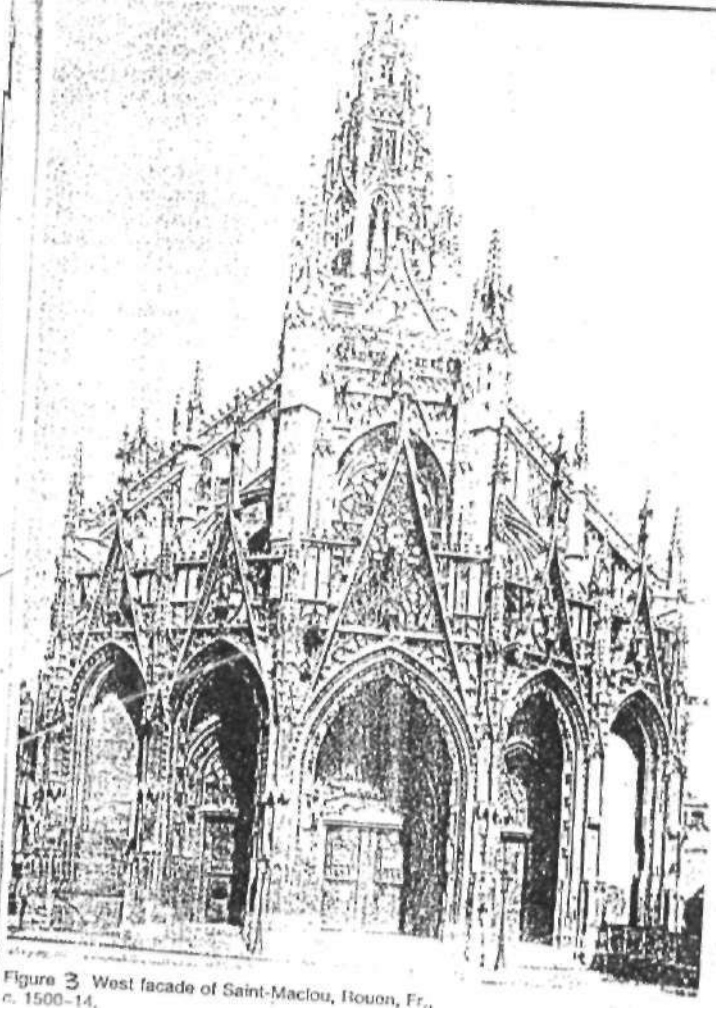
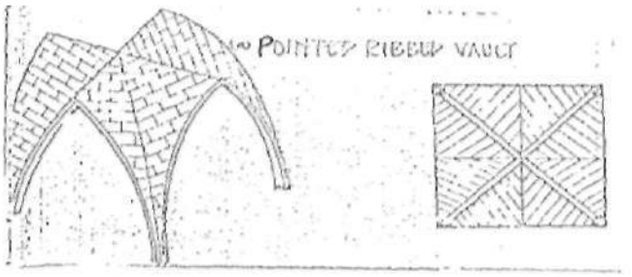
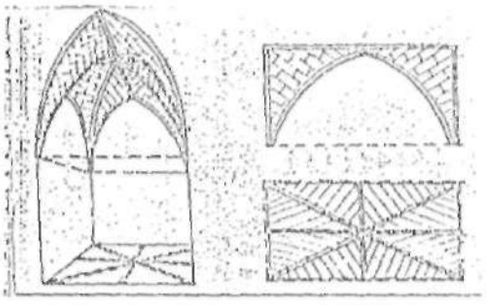
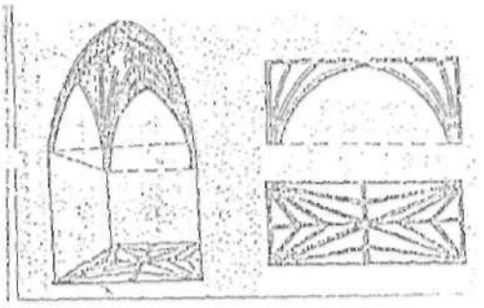


Figure 3 West facade of Saint-Maclou, Rouen, Fr., c. 1500–14.



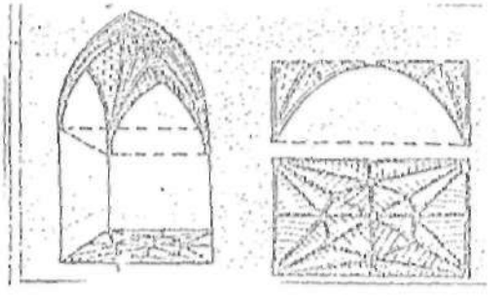


QUADRIPARTITE VAULT WITH RIDGE RIBS



TIERCERON VAULT

IMPORTANT DEVELOPMENT MADE IN VAULT WAS THE INTRODUCTION OF ADDITIONAL PAIRS OF RIBS TO SUBDIVIDE THE MAIN PANELS AND SO REDUCE THE SPAN. THESE RIBS GREATLY FACILITATED THE CONSTRUCTION OF VAULT. THE RIBS ARE KNOWN AS TIERCERON RIBS



LIERNE VAULT

ANOTHER IMPORTANT INNOVATION MADE IN VAULT CONSTRUCTION WAS LARGELY ORNAMENTAL. ADDITIONAL STRUT WHICH LINKED THE TIERCERON TO THE DIAGONALS WAS INTRODUCED. THIS FURTHER PROVIDE FURTHER ABUTMENT, IT ALSO EXERTED FAR LESS THRUST THAN THE STRONGED RIBBED VAULT. IT PRODUCED A RICH STAR LIKE PARTTERN THAT ADD TO THE PRETTINESS OF THE VAULT.

FIGURE 3b

Renaissance Period (16th - 18th Century)

This is another important era in church architecture, of Rome. The Architecture of this period tried to revive the ancient Roman culture which was ignored. During this era, the combination of Roman classical order, Byzantine Vault especially the dome was achieved. The period was divided into two based on architectural achievement which are:

I) Early Renaissance Period: Their most achievement architecturally was the construction of the octagonal dome using the vaulting technique inspired by the Romans. The dome was considered to be the greatest engineering accomplishment of their time. Gotch J. A. (1901). The most influential architect of this period was Fallipo Brunnellechi of Florence: Among his successful works was the cathedral of florence (1296). See Figure (iv).

II) The Late Renaissance Period: This era was characterised with the use of ribbed dome form of roofing and most influential architect was Bramante, who designed the St. Peters' Church. He achieved his design by combining the square, circular and Greek Crossform. The roof was constructed by Meebelangelo (1588 to 1591).

3.4.0 Contemporary Architecture (Church) (19thc - 20thc)

Industrial revolution of 1700s in Great Britain which spread to European countries and North America 1800s is one of the reasons for the birth of Modern architecture. For centuries, architects concentrate on designing religious buildings, castles, palaces and country houses. The Industrial revolution requires such facilities like factories, railways stations, ware houses and office - buildings. These demands therefore, change the reasoning of man. This does not imply of course, that man for the first time started reasoning or thinking, but rather that he invented a new way of using his power of reasoning. The significance of the new approach was clearly understood by contemporaries.

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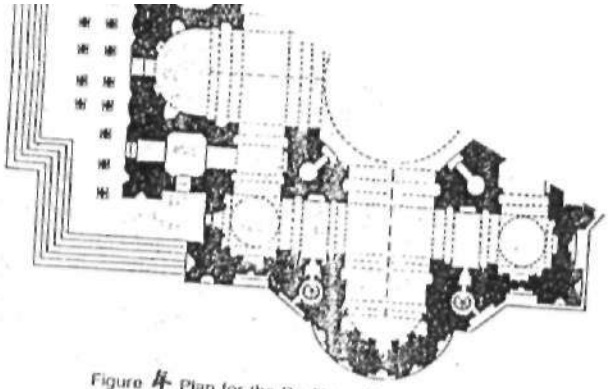


Figure 4 Plan for the Basilica of St. Peter's, Rome, by Michelangelo.

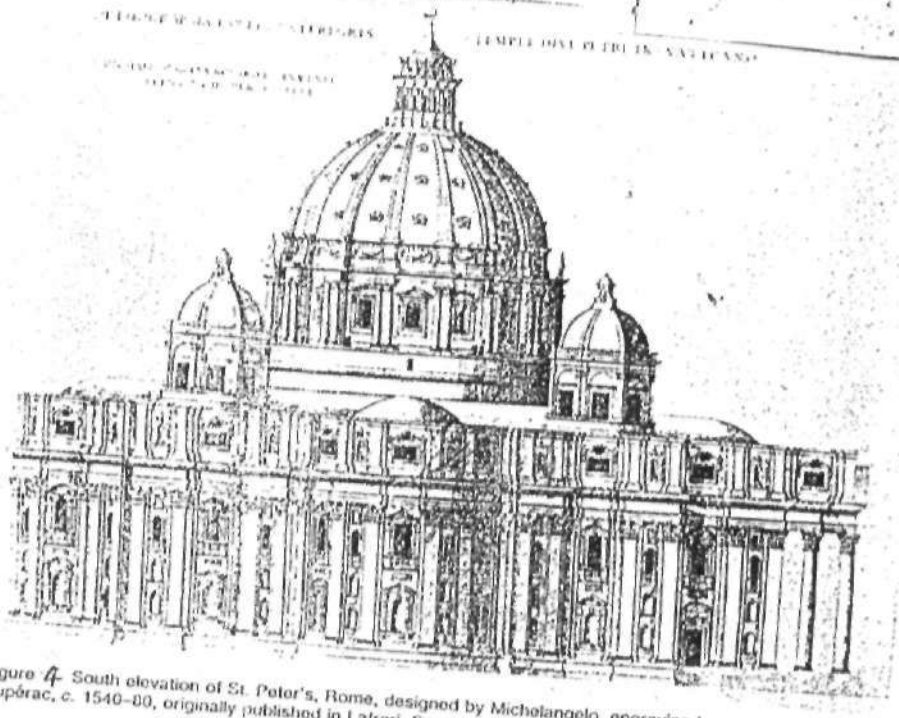


Figure 4 South elevation of St. Peter's, Rome, designed by Michelangelo, engraving by Dupérac, c. 1540–80, originally published in Lafreri, *Speculum*, Volume III, Plate 24.

Also the devastation caused by the World War II, the development of new and exciting techniques of building and a theological recovery within the church of the full Biblical meaning of ecclessia and its liturgy together provided the church with a splendid opportunity for creating a living architecture. An architecture firmly rooted in tradition and yet wholly of its time (Hammond P. (1960).

Modern architecture is not simply a matter of stylistic convention, new materials and structural system, but it is also the product of radical approach to building which breaks through the crust of formal concept to the underlying social realities, human activities, relationships and values which the building exist to serve and articulated.

Thus, the design of a house will start from the consideration of a particular pattern of family life, that of school from the analysis of a curriculum, that of a factory from the patient unraveling of a manufacturing process and so on. Applied to a church this kind of approach will mean thinking not merely about visual relationship between font and alter but also about theological relationship between baptism and Eucharist, about ministry of the word, asking questions about nature of the Christian community itself, its distinctive and characteristic activities and its relation to society at large (Hamond, P. (1962).

2.4.1 Contemporary Reflection World Wide (Ecclesiastic Architecture)

Contemporary church architecture world wide is dominated by international style. It is the architecture of impersonal style and is represented by pure modern trends. Here the architect explores modern ideas of simplicity and functionality. Examples of churches built towards this trend and the architects includes:

The pilgrimage chapel of Notre Dame-du Haut, Ronchamp by the Le-Corbusier, Le-orbusier claimed he wished to create a place of silence, of prayer, peace and joy, his commitment to the project was also medieval he referred to his work as 'sacred task' the church was designed as an abstract. The interior and exterior spaces also form a kind of counter point

with the roof sloping downwards the wall clapping outward and flow away from the roof. The roof is made up of reinforced concrete taking the shape of hands folded firing prayers in the east elevation.

There were so many arguments raised due to such a design, some view the design as a theatre for performance while some view the church as a sacred place where rituals are performed etc. The symbolic character of the church is not easily identified by viewer, the above opinions might be correct since the function of such structure is easily understood.

The community church, Garden Grove, Los Angeles, Calif by Philip Johnson and John Burgee, Garden Grove has a serious reflection of Modernization. It was built and declared open in 1980. The concept was as a result of the clients requirement and glass was totally used in this design.

It admirably succeeded in its one apparent aim, that is to impress, yet that fails to be enough for truly rich architecture. For most people, it references are to industrial structures, that is factories, warehouses, airplane hangers and the like, and from outside it resembles nothing so much as the glossy hotels and offices of international corporations.

Another mysterious design is the cathedral St. Paul Abidjan. The materials used is a combination of cables embedded inside reinforce concrete. The roof shape is parabolic concept.

The cross like sculpture at the entrance is connected to the aim church by the cables. So many viewers interpreted that church or design as follows:

I) The slave master pulling his slave.

II) The shepherd leading his flocks.

III) To him who you choose to serve to him a slave you are.

IV) Without the shedding of blood (on the cross) there is no remission of sin.

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read meaning to the function, nevertheless, the roofing is still deceptive to viewer.

Other churches build with modern trend include: The Frank Lioyd Wright unity church: (unitarian universalist church) Oak park Chicago Ill U.S.A. built between 1904/1907 and was dedicated in the 1908. Located near Wrights own house and is said to be one of the building in the world completed with pure mono-lithic reinforced concrete with its flat roof of pure reinforced concrete. The structure is said to look more of an office or residential house.

Oscar Neimeyer (1943-46) Church of St. Francis of Asisi Pampulha, Belo Horizonte, Brazil. The shape of the church and roof is combined. People referred to it as a controversial church which was built up through a series of mathematical determined parabolic arches.

2.4.2 Contemporary Reflection in Nigeria

The modern style was introduced in Nigeria just before the second world war and it was established during the housing boom prior to independence. Active then were Foreign (mainly English) firms. Boguslawa P. O. (1993). Today, Nigerians are becoming conscious of architectural trends. They are no longer passive observers rather they are now active participant in the design process. Contemprary architects are becoming more and more refined in their perspective on design and aesthetic.

Modern architecture in Nigeria today is dominated by international style too. The architect explored modern ideas of simplicity and functionality like in Deji Oyenuga and Partners. Archon Nigeria and Godwin, hopewood, Kuye etc.

Contemporary Ecclesiastic Arcitecture In Nigeria

Nigeria had never experienced pre-contemporary ecclesiastic architecture, therefore any church ever built in Nigeria is under the influenced of modernization.

The earlier conventional forms exploit in Nigerian churches was the rectangular forms with pitched (gable) roofing system. This was introduced along with Christianity as a religion by the Christian Missionaries. A typical example of the early contemporary church in Nigeria is seen in most orthodox churches. The St. Micheal Anglican Church is a typical example. While the Living Faith Church Kaduna, Assemblies of God church Nassarawa Road, Kaduna and Chapel of Redemption A.B.U. Zaria is a typical examples of international style (todays architecture). Is also been considered as the Pentecostal form of architecture (see attached).

2.5.0 Concept Of Pentecostalism

The word Pentecost, from which Pentecostalism was derived, was initially a Jewish harvest festival normally celebrated seven weeks after the passover.

According to Bible history, Jesus promised his apostles that they would receive power after the Holy Spirit had come upon them and they would be his witnesses in Jerusalem, Judea, Samaria and the uttermost part of the world. It was on the day of pentecost that followed the ascension of Jesus to have that the apostles received the Holy Spirit at the upper room where they were praying.

Bible record shows that as the believers met together that day, suddenly there was a sound like the roaring of a mighty windstorm in the skies above them and it filled the house where they were meeting. Then, what looked like flames or tongues of fire appeared and settled on their heads. Everyone present was filled with the Holy Spirit and they began speaking in languages they didn't know because the Holy Spirit gave they this ability.

The first days of Christian Church started then. There followed the manifestation of spiritual powers through the Holy Spirit. Some of these included the healing of a lame begar at the beautiful gate of the temple after he was asked to look at Peter and John and the prison doors opened for Peter when he was arrested and jailed for preaching.

Some churches that emerged after the world of reformation who believed and took after the early church was of the faith were then nick-named prentecostal after the pentecost behaviours. Their main obligation was then centred around preaching and teaching the word and baptising the believers with the Holy Spirit (read chapter one).

Bible Theology symbolizes the Holy Spirit with a dove descending vertically after the manner. He descended on Jesus Christ when he was being baptized with water in River Jordan.

2.6.0 Review Of Past Thesis, Write-Up And Seminar

These has helped us understood the views of different individuals pointing out their architectural views on how pentecostal churches or forms should be designed.

Adeboye A. B. (1990) Thesis Proposal

The Living Faith Church kaduna viewed the architecture for pentecostal churches as not purely guided by various architectural styles only, but should be considered the servant of the Gospel in material structure. Since pentecostal churches took after the name pentecost, its architecture, the author pointed out should celebrate the Holy Spirit that was given on the day of pentecost which christianity was said to have been born. He concluded further that the design of a pentecostal church should give a thought to contemporary, integrity, liturgical and discipline consideration.

Fashagba J. (1989): viewed the international christian convention Abuja as an architectural expression of pentecostal worship. Since pentecostals on a general note believe that God deserved anything the best man could give might be good enough. Their ideal centre is therefore one that satisfied functional requirements and gives good aesthetic requirements.

Ziriah G. (1999): viewed the Living Faith Church (Garden of Faith Kaduna) Located along Aliyu Makama Road Kaduna as a hotel, social centre or recreational area, her view was regarding the roofing nature and aesthetic achieved externally. Also viewed the Chapel of Redemption A.B.U. Zaria as a gymnasium. This is considering the deceptive appearance of this churches.

2.7.0 Summary and Conclusion

From above study, it is cleared that every era during the pre-contemporary movements was characterized by distinctive character architecturally wise but each developed from the preceded era especially in the areas of roofing system. Also the location of Alter differs, because the altar kept on shifting from west to east and west again.

The most interesting aspect of all civilizations or architecture at the pre-contemporary era's is that it makes meaning or speaks out its function to viewers. Also there was an image, anywhere you go during a particular era despite cultural differences one recognizes religious building out of other buildings around.

Also the construction of Domes, Vault and Arches in all era's were achieved by the aid of engineering structures which gave the church a unique character because only specialist where involved in the construction.

The contemporary architecture in the other hand explode modern ideas of simplicity functionality, the introduction of new building materials, and freedom of design and construction led to the change of shapes of churches especially the roofing system. A church today is designed as a factory e.g. Philip Johnson & Partners community church (1980) at Los Angeles, Calif. A church concept like theatre (Le-corbusier Ronchamp Chapel), like a gymnasia or take any shape, so far it satisfies the users need and concept behind the design is understood.

From records of buildings ever designed for God, from all movements in church architecture, there is the place of beauty. The book of Genesis shows that all that God created was good. While the choice of materials like Linen Work, wood, gold, silver and bronze was no doubt good. Therefore it is expected every church design for worship of God despite Pentecostalism should look good. Good in the sense that it expresses beauty in architecture, it should contain the right functions and speak out its function to viewers both learned and unlearned.

2.8.0 Form As A Symbolic Element In Ecclesiastic Architecture

Symbolism can be defined as a grass-root conceptual idea in design process to create a form with a particular meaning whereby by the mind of the designer is express and it makes meaning to viewers e.g. The use of a gun shape to express the soldiers or police cap to represents the police Headquarters.

Also in terms of hierarchy, some elements in a building can be magnified to express power, dominion or supremacy e.g. when designing a residential building or a palace where the Head of the House or the Emir is place on a storey building while others remain on the ground floor.

For ecclesiastic architectural forms, volume are greatly increased to symbolized the awesomeness and Hallowed presence of God, this is quiet true especially the roofing systems. The roofs of some churches can be as high as 15m, 23, 25m or 30ms high.

2.8.1 Symbolic Concept

This is employed in ecclessiastical architecture to initiate imagination, and worship. It is intended to attract worship to God as it should depict the endeavour of preaching for God. This tend to allow the individual to conceive and derive inspiration from within his imagination. From example of Bethshalom, is in no sense an arbityrary building, but is goverened by the faith of its congregation. Its form speaks of mount sinai where God gave Isreal the torah. At night when the synagogue glows from within it is an eloquent reminder

of sinai where God revealed himself through lighte ning and fire.

2.9.0 DECEPTIVE APPEARANCE OF ECCLESIASTIC FORMS

Church (Ecclessiastic) architecture is under going a kind of depression this is in terms of its external appearance. The appearance of most penticostal churches is becoming deceptive to both viewers and users, making it hard to understand its function this is both to learneth and unlearneth people, unlike the pre-contemporary church architecture, it was said to have a generalized image anywhere during each era which made it easily for one to differentiate between church and any other building around. Certain factors are responsible for the deceptive appearance of the church today. The thesis has taken time to look into these factors analyzed and suggest some possible solution to this problem.

2.9.1 Factors Influencing The Deceptive Appearances

Throughout the ages ecclesiastical architecture has been affected by distinct but related influences which lead to the change in shape and roofing of churches. These factors are:

I. **Pentecostalism**

It reflects the contemporary view point of its constructors towards the nature of the church, their particular understanding of the Kingdom of God and revelation through Jesus Christ. The church today (Pentecostal) believed that God is not after the church as a building but God is after the church as a person. This is in accordance with the scripture (Bible) in (2nd Corinthians 6:15a)[3]. "Know you not that your body is the temple of the Living God? God is not dwelling in the church as a building but God id dwelling in our heart in our body as a temple of God. Therefore whosoever defiled his body is defiling the dwelling place of God. Also in (Matthew Chapter 16:18) Jesus said "I will build my church and the gates of hell shall not prevail. In this context Jesus was not referring to the building as church but the person. This is one of the reasons that made the church (Pentecostal) more concerned about converting, training, discipleship of its converts, rather than building churches in a tremendous manner.

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II. **Modern Movement**

There were ideas that gained universal acceptance and were of primary importance in the growth of the movement. The beauty of modern architecture was to be found in the simplicity and economy of design and above all else decoration was attached. [For 100s ornament was the symbol of corrupt mind]. Another factor in the creation of modern architecture theory was the assumption that if a building was designed on purely functional lines the form would follow its own according. And since the structure evolved logically it would carry with it a new kind of beauty. From these ideas developed such a catch phrase "Form follow function" and a "functional aesthetic" (Bernard 1973).

III. Common with any other type of building, the changing shape of churches and chapels from above point, has been subject to aesthetic, technical and political thinking of the day.

IV. **Introduction Of Rational Materials**

The generally accepted view by architectural historians that introduction of new materials almost miraculously caused a breakthrough on every sector of design front is a myth. Virtually all the materials used, and almost of the technical developments introduced by architect even well into twentieth century, were known and had certainly being tried years before in the previous century while more conventional techniques and materials such as timber, stone, brick and concrete go back to antiquity.

The new materials introduced include reinforced concrete, shell, pre-cast, pre-stress, cables, nuepmatic, lattice girded, cast insitu-contrete, zinc, slate, Asbestors and membrane etc. This material without any doubt is a contributing factor to the changing shape of most of our churches and chapels nowadays.

V. **Planning**

The pre-contemporary era's had a fixed method of planning, although the alter kept on

changing from east to west and back to each during Byzantine, Romanesque and Gothic respectively but one particularly thing about their planning was (1) The churches had a rectangular shape. (2) The position of the priest, the sanctuary and the choir and congregation was fixed (had a fixed form of worship: Unlike the contemporary church, planning is no longer liturgy but free. The position of the altar differs from one church to another. In some churches the choir and congregation are merged together, Deacons are not separated and form of a church can take any shape (rectangular, hexagonal, circular, etc.). There is a general believed with Pentecostal planning and worship which is based on the scriptures (Psalm 128:119) which said "in the presence of God there is liberty" Liberty in the sense that the alter can take nay position be it east, west, north and south or centralized or sideway, so far it meets the needs of its congregation, aiding them into true worship in spirit in the truth.

Also, the Pentecostal churches believed in oneness, oneness in the sense that, there is no big man and small man, there is no rich man nor poor, there is no difference between a deacon and a member during worship. The most accepted view is that in the presence of God we are equal. Equality is being established in the Christian faith in two aspect which are (1) Before redemption we were all sinner through our first fathers (Adam and Eve), for sin came into the world through one man and this is established in the book of (Romans 5:18) and also (Romans 3:23) "For all have sinned and come short of the glory of God". (2) The work of redemption is through one man who is the Lord Jesus, this is also established in the book of (Romans 5:19) and also in the book of Matthew 11:28 said "Come all ye that labour and of heavy laden for I will give you rest. The 'I' in this context was referring to the Lord Jesus Christ and the complete establishment of the second equality I the Christendom and planning is based on the scripture John 3:16 'For God so loved the World that he sent his only begotten son that whosoever believeth on him should not perish but come to everlasting life. Once one believed and accepted the above view in his heart and made a verbal confession also continued in the new way through Jesus (For Jesus said I am the truth, the way and the life no one sees or goeth to the father except through me. John chapter 14 verse 6) also

abide in him, then the church will recognized you and becomes one with other members. The view concluded that in the presence of God we are all one, God does not recognized this is a man, woman, child, old man, pastor Bishop etc. what he recognizes is the faithful, true believers, those that worship him in spirit and in truth. This has been the base of the Pentecostal form of planning and oneness in church.

VI. **Freedom Of Design/Concept**

The pre-contemporary form of design especially the roofing aspect, "The domes, ribbed vault and Arches" was based on serious structural mathematical calculations this implies that only professionals were evolved in the planning, designing and constructions of churches this also guided all churches construction and made them achieved imagery during all era which made it possible for one to easily identify a church during those eras. Today, the contemporary view of construction gave freedom to every architect. Construction is no longer guided by anything. One designs what he feels he can design so far the concepts satisfies his desired and the desire of the clients, also understood by users, not minding its external looks, making churches like factory, Theatres, Hotels, Offices etc.

This also takes us to another aspect that was very peculiar to the pre-contemporary designers and constructors, they were not only concerned about the interior along but also with, the exterior unlike, the contemporaries whereby the interior received more importance during both design and construction. Also about the freedom of design this has warrant every profession (Building, Planners, Quantity Surveying) to jump into designing profession since no one will query or no professional guidance during design and construction stage. Also (even draftsmen design churches nowadays), this is no doubt, is one factor influencing the deceptive appearance of churches.

- **Cost Of Construction**

The cost of building materials today is very high, this is discouraging many churches in terms of building and roofing churches. Instead of increasing the volume of the roof

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by increasing the height which make it more pronounced, today the height is reduced which will lessen the materials to be used reducing the cost.

Also, some churches, since the Bible clearly defined to us that God is not in the building but in the heart, instead of wasting the money building magnificent building, they go into buying an already build-up utility then convert it into a church, like in the case of the New Generation Church which sometimes is economical and remaining money is used for the welfare of their members or sending missionaries in other places that hadn't heard the gospel.

- **Rushing To Build**

  The penticostal churches mostly are in a rush to build churches unlike the pre-contemporary age that takes their time to build, like in the case of Solomon temple that took about Fourty years to be built. There is no doubt about this fact that whatsoever one took his time to do always comes more satisfactory than what one rushed to do it.

- **Acoustic Problem**

  Roof in church architecture is characterized to be voluminous in terms of depth and height. This on the other hand causes an acoustical problem (sound). The echo during worship tend to disturb worshippers designers to reduce the volume of the roof which might reduced this acoustic problems. Specially now that concrete roofing of the pre-contemporary era is been displaced with roofing sheets (Long Aluminum roofing or Alloy zinc).

2.9.2 **Possible Solutions**

1. To the church as person, though God is not concerned about the church as a building but to the church as a person but since there is a need for us to come together for worship: there is a need to put effort to make our meeting place look like what is supposed to be. This is in accordance to the scripture (Matthew 15:18) Which says out of the abundance of the heart speaks the mouth. This is also reflecting to the church

design. Out of the abundance of the inside let the exterior too speaks it. Therefore, any church design as a building that is worthy of proclaiming the gospel then it should be worthy of its architectural expression.

II. The church is a composition of both learneth and unlearneth people. There is no point designing what the users cannot read nor passerby or viewers, the expectation of any design is to communication its function to viewers. Therefore its important for church designers to have that in mind no matter now conceptual designers might go in the design. (Remember concept was defined as dramatic expression by le-cobusier. It is not everybody that can easily understand that drama at a glance. The Bible says we are the light of the world, let our light shine that men may see and glorify our father who is in heaven.

III. The building industry should try and limit the freedom of design just like in the pre-contemporary age, so that professions like planning, building, surveying and even draftsmen will be limited to their profession, since they are now causing confusion in architectural viewpoint.

IV. The system of imagery (symbolism and signolism) should be married from the pre-contemporary point margin with the modern idea of simplicity, honesty in the use of material and Rhythm which will help in reducing the cost of construction of churches especially roofs and making the church to have a generalized image which will enable one differentiate it from any other building with different functions around.

V. The acoustic problem is remedy by the use of sound prove material. These material include the acoustic ceiling.

CHAPTER THREE

3.0 CASE STUDY

3.1.0 The crystall cathedral, Los Angeles, California

INTRODUCTION

The cathedral was declared open in September 1980, the project client was Reverend Robert Schuller and the architect was Philip Johnson.

It was built in the garden grove, Los Angeles, Calfornia, United States of America along a very busy street. The concept was a results of Schuller's requirement of a place where the 'meeting with God should occur I the presence of the sky and surrounding world', an evangelist's tend to set to modern technology in the far west.

The Cathedral was all glass to conform with the clients requirement though it was originally not all glass. The star shape in plan was related to Schuller's role. A central aspect of his evangelism was what he termed 'twinkle power'. The charisma he exuded, the actual twinkle in his eyes, was at the centre of his appeal.

The building measured 120m by 60m and 36m high. The structural skin dominated the interior.

However, the interior gave more pause. The reflective glass allowed only 8% of the heat and height to penetrate the sanctuary. On a bright southern California day this created a pleasantly muted light.

Appraisal:

The single minded approach to design was most evident in the details of the cathedral. The entrances, in three points of the star shape plan, are constricted, awkward slots in the skin of the building. Perhaps the architect meant to accentuate the effect of the lofty interior by designing such a comparatively claustrophobic entrance.

The Alter provide no real focus. It merely filled the fourth point of the star, no apparent logic dictated this placement.

For most people, its references are industrial structures that is factories, warehouses, airplane hangers and the likes, and from the outside it resembles nothing so much as the glossy hotels and offices of international corporations.

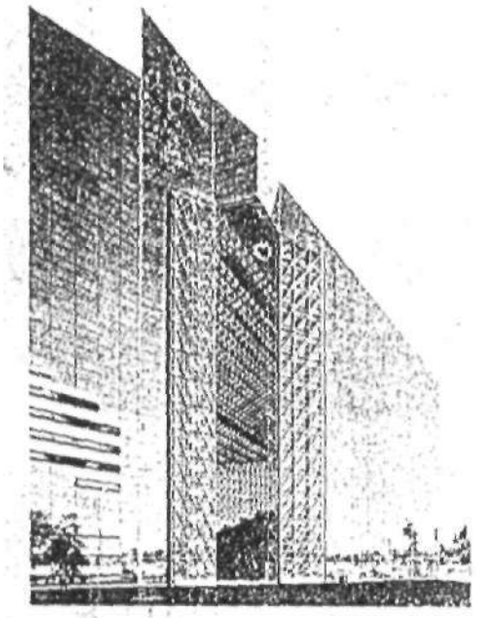
Arch Johnson's effort to ameliorate this industrial and elementary set of emotional connection are trivial, and relevant neither to the nature of the architecture he has generated nor to reflection on the relationship of man and God.

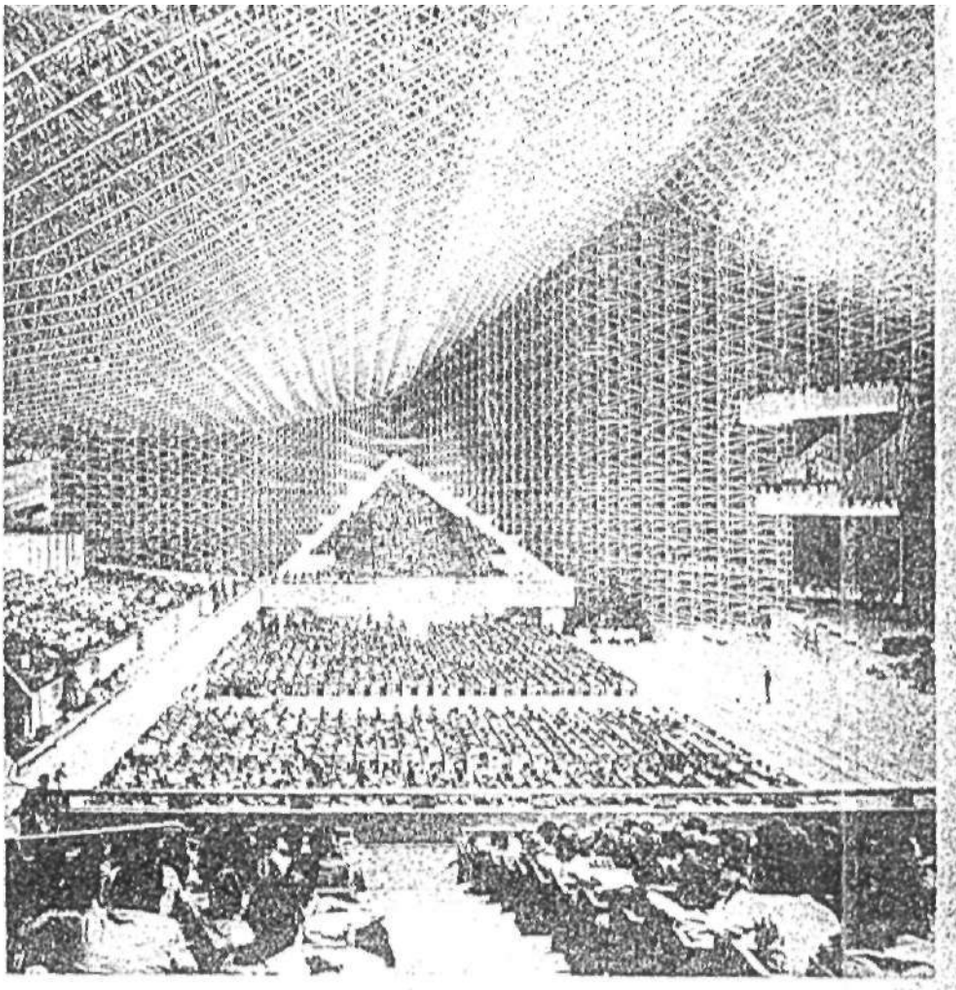
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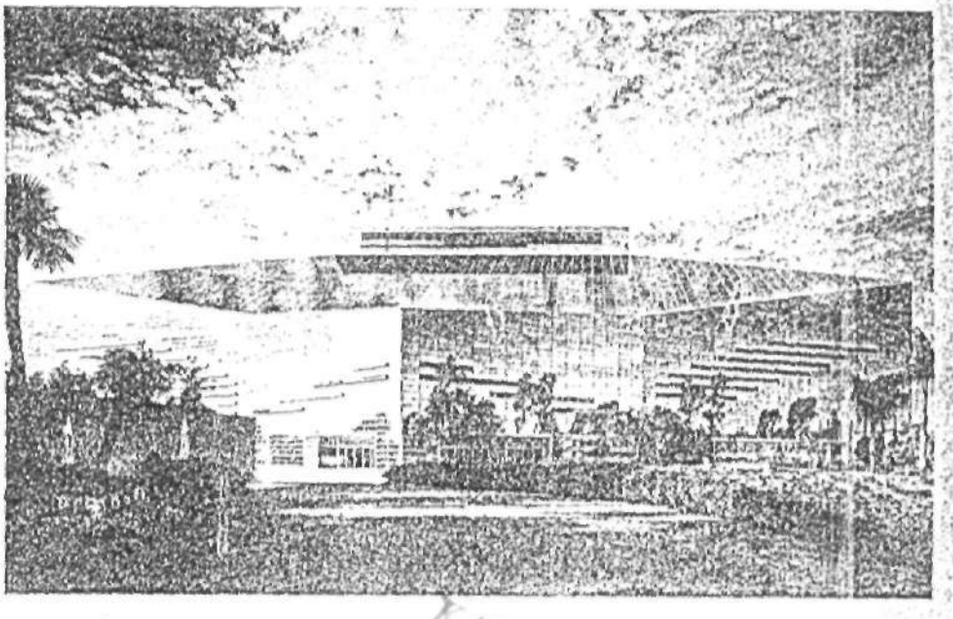
INTRODUCTION

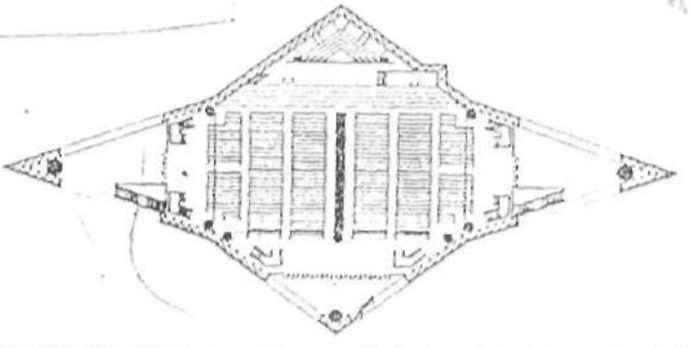
The users of this church are the ministers and the congregation. The church was built in Netherlands and accommodates about five hundred worshippers at a time. The external form takes a rectangular plan though the interiors shows variations, in the design, the architect bore in mind that Christ was put to death in the flesh but was made alive in the Spirit. As in Noah's Ark everything necessary to a church home had to find a place under one roof. Within the large square of this church house is included, a sanctuary of the ark and around it all the necessary things for the church to express man to man relationships.

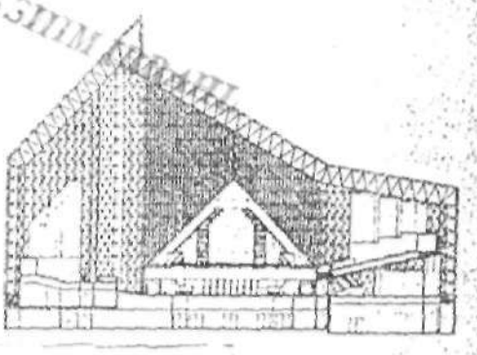
Philip Johnson and John Burgee, Garden Grove Community Church, Garden Grove, Los Angeles, Calif., USA, 1980 (1978–80)
Right: the glazed interior of the 'Crystal Cathedral' in use with the sole preacher to the right
Below: the large doors of the church opened up like an airship hangar
Centre: entrance elevation
Bottom: section and plan











Appraisal:

It is a classical example of a complete church, meeting the totality of the needs of its members. The harmony which is functionally achieved is commendable. It solved the problems of space needs of religious buildings also a typical response of architect to church design at that time, also cares has to be taken to avoid failures.

3.3.0 LE CORBUSIER PILGRIMAGE CHAPEL RONCHAMP

INTRODUCTION

Ronchamp is more of a pilgrimage chapel than a parish church, the site is on top of one of the highest hills in the district. It is not like a church and yet it is quite unlike any other kind of building.

In building the chapel, le-corbuisier claimed he wished to create a place of peace, silence, prayer and spiritual joy: his commitment to the project was medieval: he referred to his 'sacred task' as the 'drama of Christianity that had taken possession of the chapel.

The curved and sloping walls, the concave roof and the floor which floors downwards the alter, are dis-orientating, creating a feeling of dramin like unreality, the feeling is produced not only by the form of the building but the scales, the materials and structure. One wall of the church is twelve feet thick at its base, tapering to a foot at the top. This looks solid but it is made of reinforced concrete frame covered with chicken wire spray with a thin skin of concrete which is whitened. In the same way, the enormous concrete roof look as if it were an inflated rubber as it floats above the walls.

Appraisal:

Ronchamp has provided justification for architect to informed any disciplined, to pursue to private whinpsy without concerned for function, the church has the looks of a theatre externally or shrine house. The concept over this design is said to be 'irrational' and Neo-

Barogue and praised for its spatial organization, its originality and the way, as a design, it enriched rational architecture. Despite appearance and criticism it does not diminish ones respect for Le-corbusier as an architect.

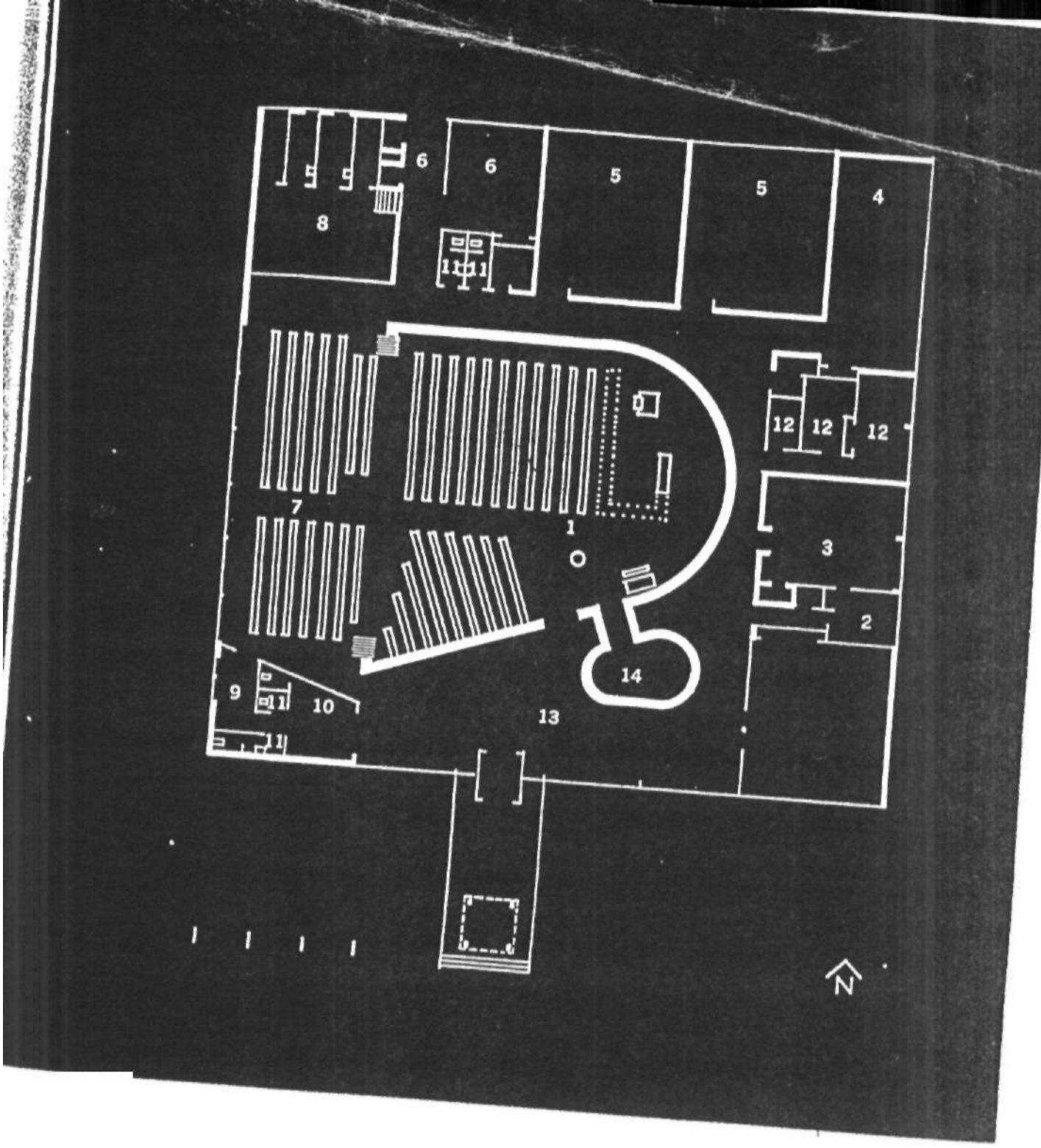


FIG. 6 FLOOR PLAN

THE ARK (DE ARK), HERVORMD,
AMSTERDAM - SLOTEVAART, THE NETHERLANDS
ARCHITECT :- P. ZANSTA

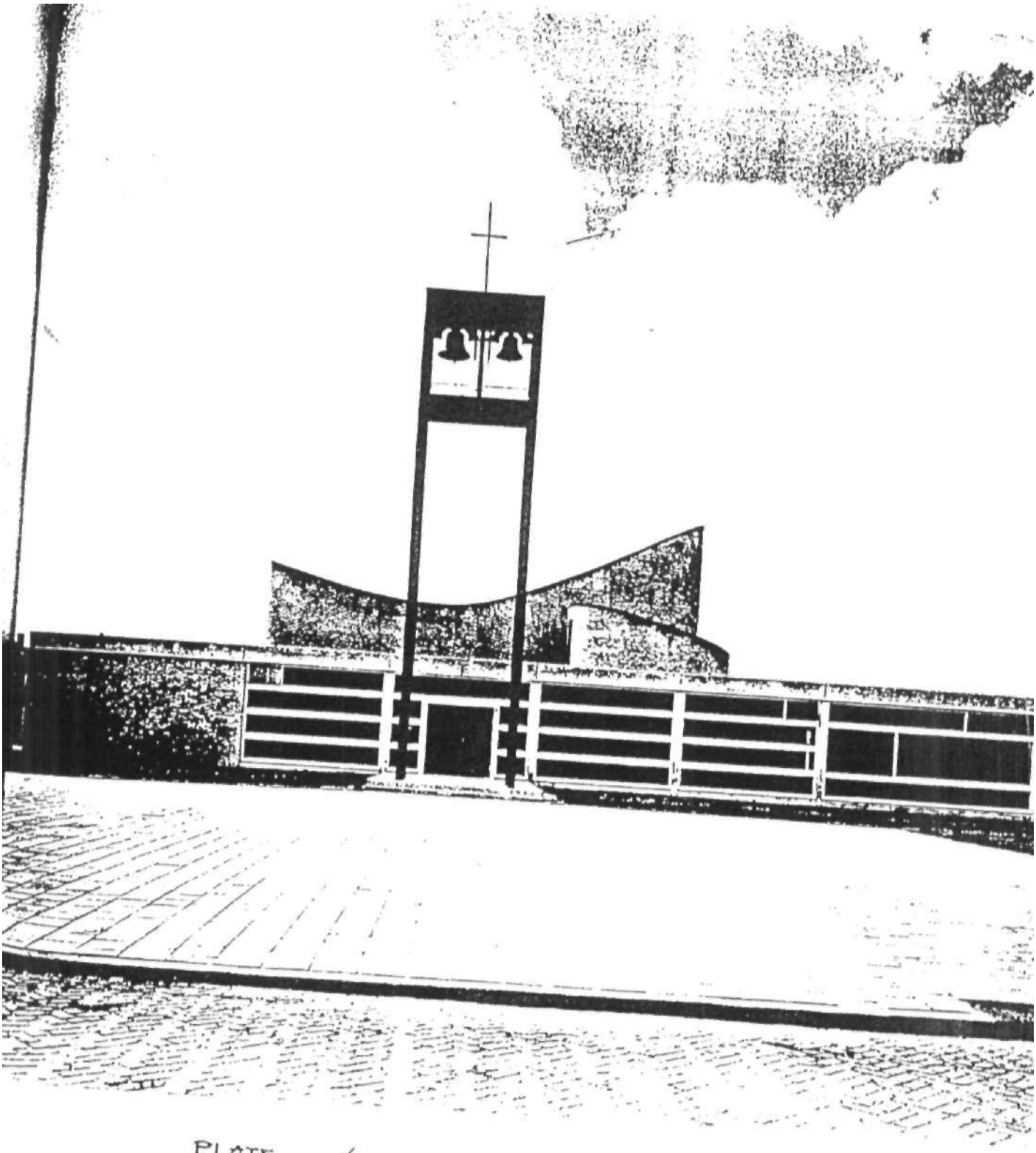
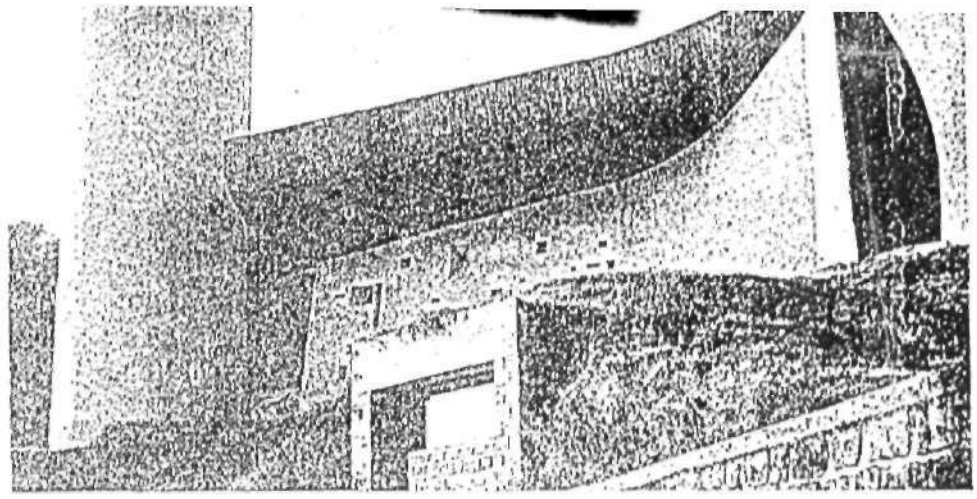


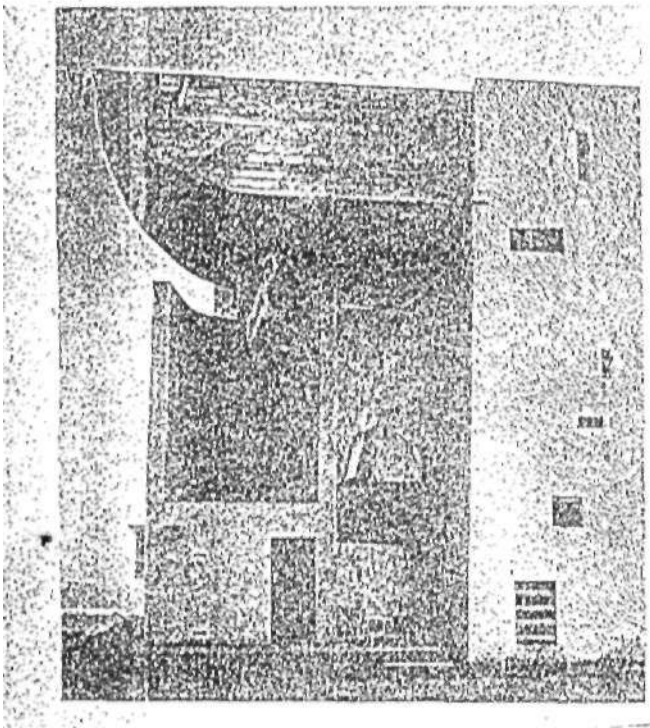
PLATE 6 APPROACH VIEW

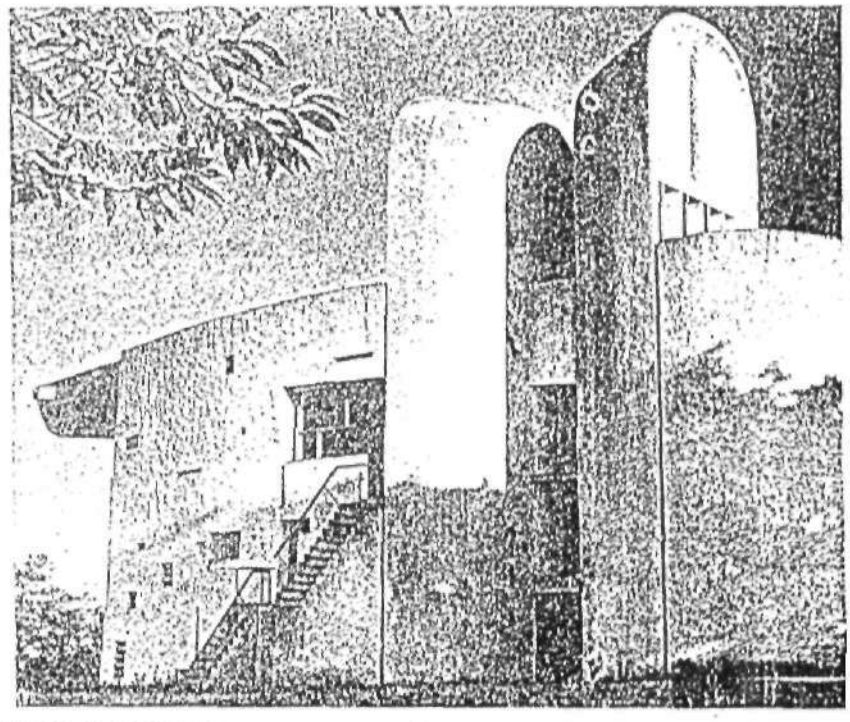
THE ARK

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Le Corbusier. *Pilgrimage Chapel at Notre-Dame-du-Haut*, Ronchamp, Vosges. 1955 (1950–55)
Right: exterior of the Chapel from the south-east
Centre left: part of the northern façade with the open-air pulpit in the centre of the picture
Centre right: the northern façade
Bottom: exonometric







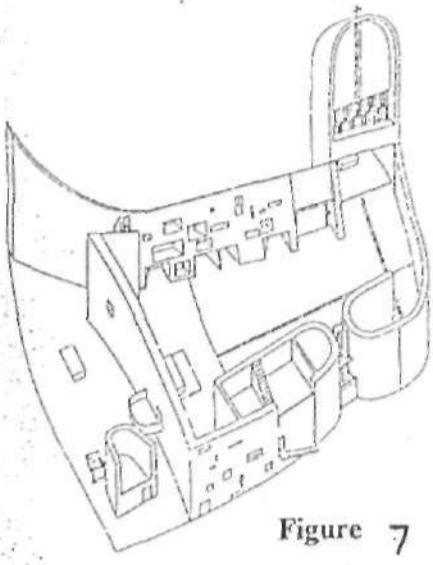


Figure 7 Le Corbusier Pilgrimage Chapel Ronchamp.

3.4.0 THE CHURCH OF THE CROWS HERVOOD, AMSTELVEEN THE NETHERLANDS

INTRODUCTION

The architect was Prof. m. F. Dunityer and the users are the congregation and the ministers. The church tried to achieve an unmistaken visual statement by elevating the altar instead of sloping or stepping the floor of the church. The walls were not the conventional parallels ones. This system improved acoustic condition with the space. The altar was the focus in accordance with the reformed churches doctrine. The church was sited blocks down along pool, the church itself was placed in a large park even though the Netherlands had the highest population density of any nation and might justify many uses for the land besides that of beautifying the community. The sounding board was as those in the large medieval churches where under ceiling up to thirty metres high.

Appraisal

The church succeeds at integrating the various unity which are very different in requirements into a single whole. The church was basically moulded by needs and functional requirements as they came, however, no aesthetic pattern is created, no suggestion of the content of the complex, it looks more of factory. Adequate ventilation is achieved and the acoustic condition is highly improved to aid a good vision of the minister, the altar is raised high enough.

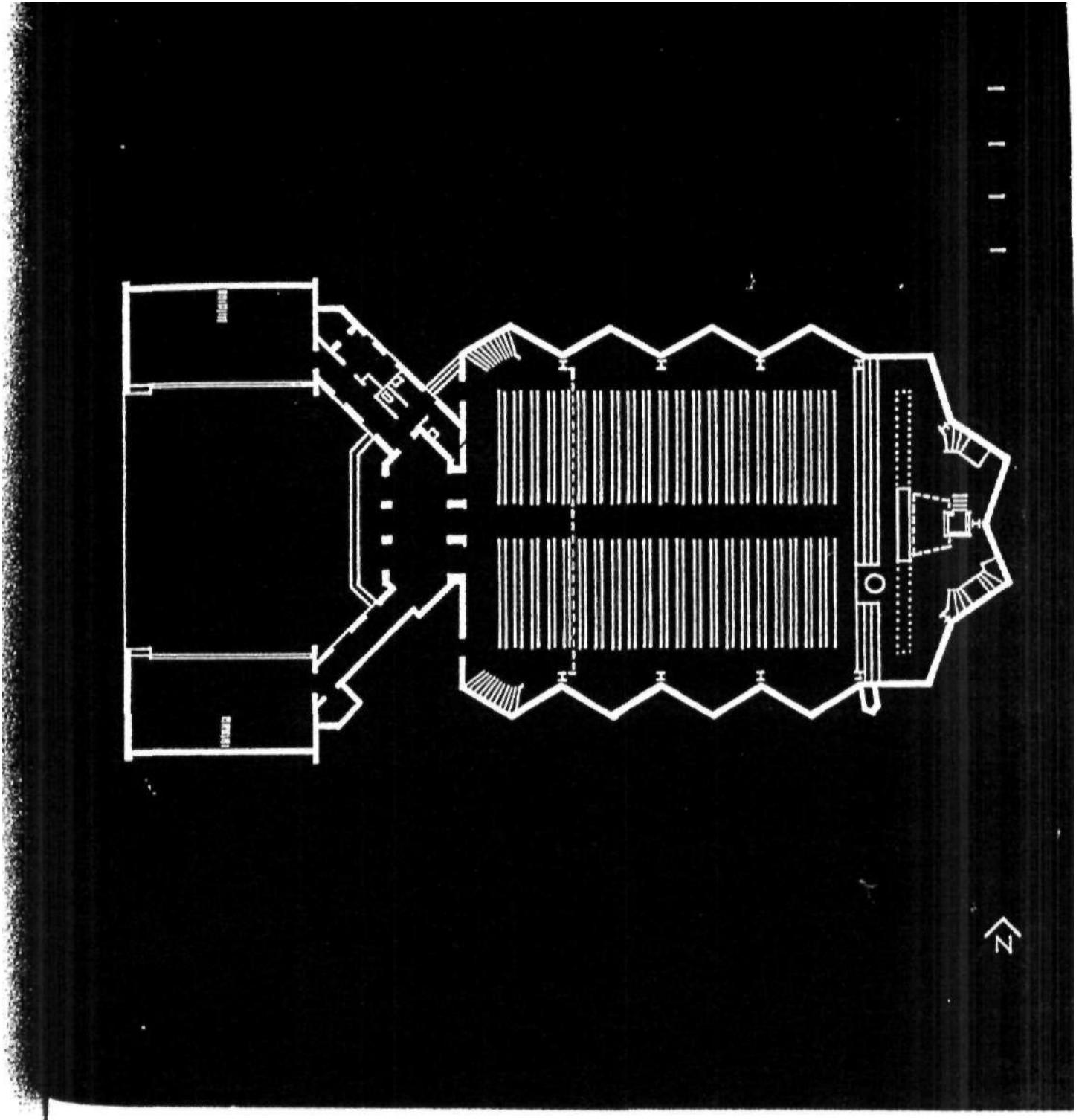


FIG. 8 FLOOR PLAN

THE CHURCH OF THE CROSS, HERVORMD, AMSTELVEEN, THE NETHERLANDS.

ARCHITECT :- PROF. M.F. DUINTJER



PLATE 8 EXTERIOR VIEW .

THE CHURCH OF THE CROSS

KULLIYYAH IBRAHIM BIRD

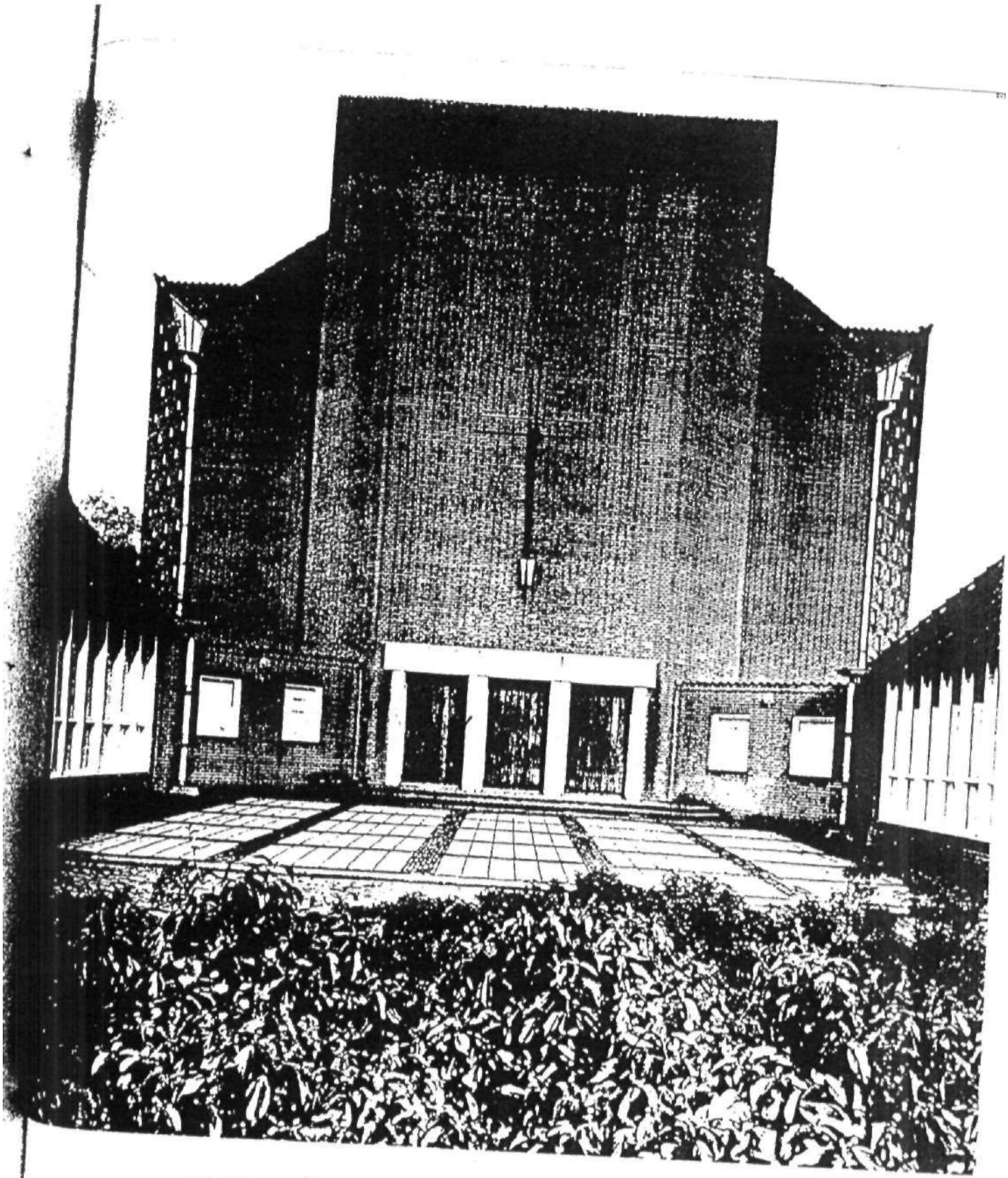


PLATE 8 APPROACH VIEW

THE CHURCH OF THE CROSS

3.5.0 CHURCH OF ST. FRANCIS OF ASSISI, PAMPULHA, BRAZIL

INTRODUCTION

The church is located at Pampulha,, Belo Horizonte Brazil. It was designed and constructed between (1943 - 1946). The architect was Oscar Neimeyer and the concept was derived through serious series of mathematically determined parabolic arches, the main chapel arch itself covering a further platform for the choir. The campanile and entrance porches are free-standing elements. Light penetrates the vaulted building through the vertical louvers at the entrance and above the altar.

Appraisal:

Application of engineering calculations is an achievement at this design. The freedom of design by the contemporaries is considered to have been exploded here. The structure (the walls and roofs) is combined here also ventilation is achieved properly. The church (form) is said to look more of pavilion or theatre for performance (art performance).

3.6.0 THE LUTHERAN CHURCH AT MINNEAPOLIS

INTRODUCTION

The church is located at Minneapolis, U.S.A. The architect was Saarinen, Saarinen and Aassociates (Hills, Gilbert and Hayes), and the church was designed in 1949. The users were the Ministers and the congragation while the concept was a simple rectangular planned. The materials was steel-framed building. It was designed or built for a congregation of about 750 people to a very tight budget. It has influenced church designed throughout the world.

Appraisal:

The design is considered to totally characterised the contemporary concept this is in terms of simplicity, materials used. The cross sign on the approach view is the only elements that

signified the function of the building to viewers while the roof is simple mono-pitched.

3.7.0 PARMA PARK CHURCH

INTRODUCTION

The church is located at Cleveland, Ohio. The concept which spacious Narthex contains the delightfully detailed stairs leading both to the choir organ balcony and down to the multipurpose room on ground level. The sense of spaciousness in both Narthex and Nave is enhanced by the glass wall separating the two.

The East end of the church (geographical North) is approached by a drive from the street. The lower level contains education and multi-purposed rooms. The second level is the sanctuary and multi-purposed room. And lastly the third level which contains the pastors study and above that an equipment level for exhaust fan and air conditioners.

Appraisal:

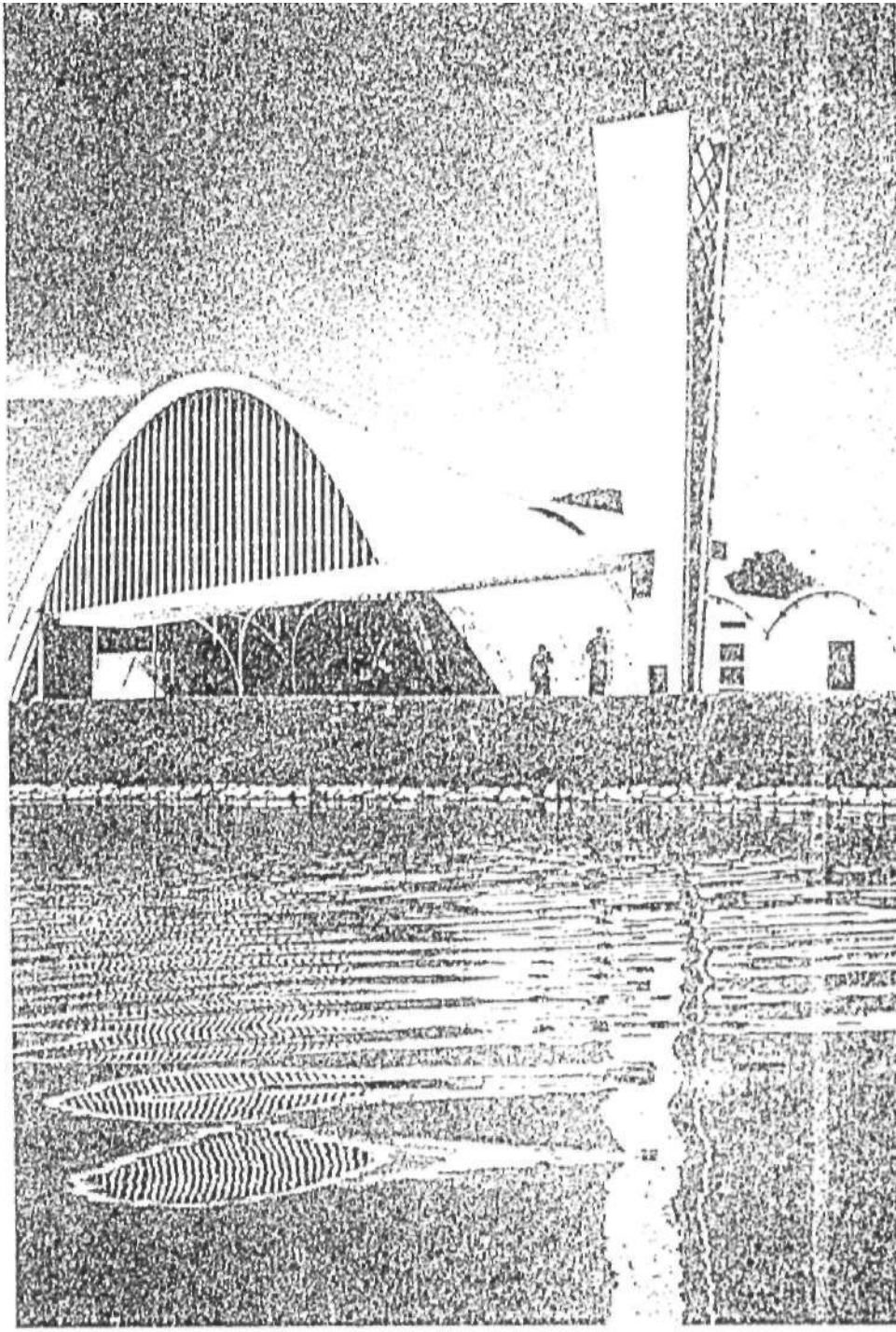
The design allows for closeness between the minister and congregation. The church design is symbolic in character, that is expressing theological architecture especially the planning and roofing systems whose depth is pronounced to viewers. It is poorly landscaped and definite parking for the people.

3.8.0 CATHEDRAL CHURCH, ST. MICHEAL ANGLICAN

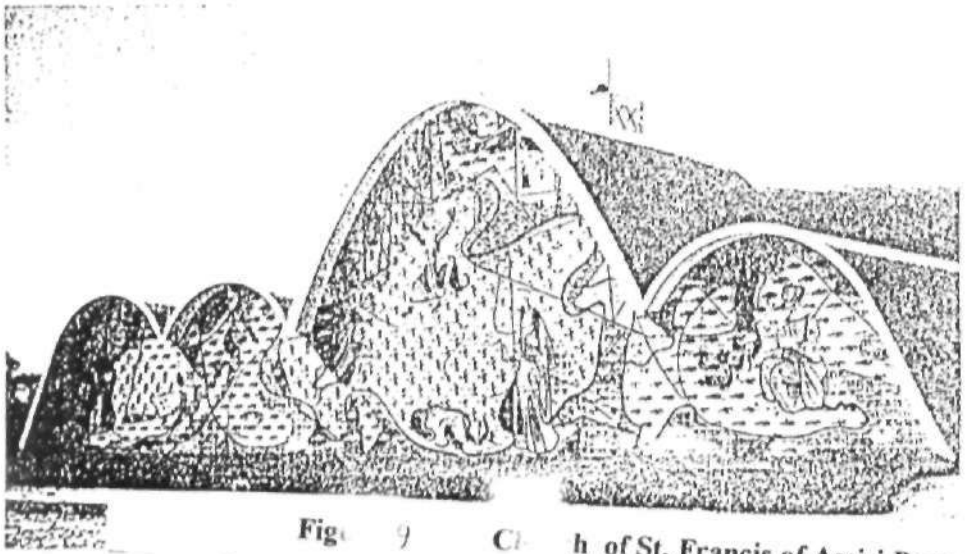
INTRODUCTION

The church is located at Ibrahim Taiwo Road, Kaduna. The ministers and the congregation are the clients while the architect was Arc. Akin Olafimihan.

The Cathedral has a simple rectangular concept. It has been in existence as the common type with garble roofs not until 1987, the facade was redesigned. It has a capacity range of about 1,000 to 1,500 people.



Oscar Niemeyer. *Church of St Francis of Assisi*. Pampulha, Belo Horizonte, Brazil. 1946 (1943–46)
Right: the bell-tower and entrance portico to the church
Below: the rear wall of the church covered by a ceramic tile mural by Portinari
Bottom right: a cut-away axonometric of the church



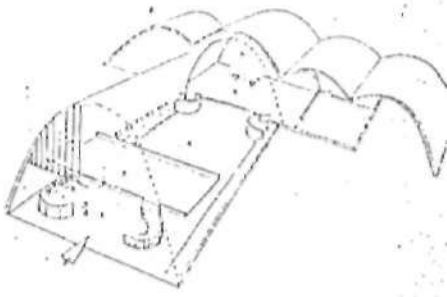
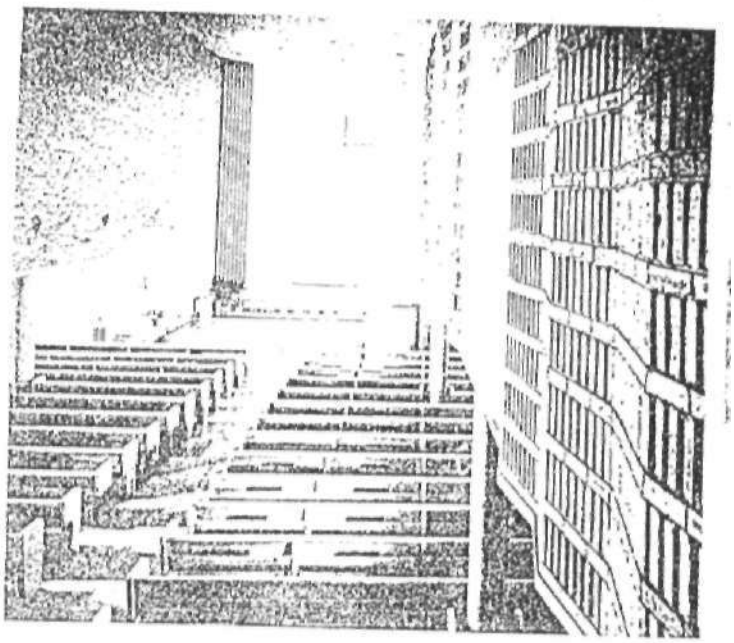


Fig. 9 Church of St. Francis of Assisi Pampulha, Brazil



Saarinen, Saarinen and Associates (Associated Architects: Hills, Gilbertson and Hayes). *Christ Church*, Minneapolis, Minn., USA. 1949
Below: the Lutheran Church of Christ on its narrow corner site
Right: interior of the church, showing the angled, brickwork clerestory wall

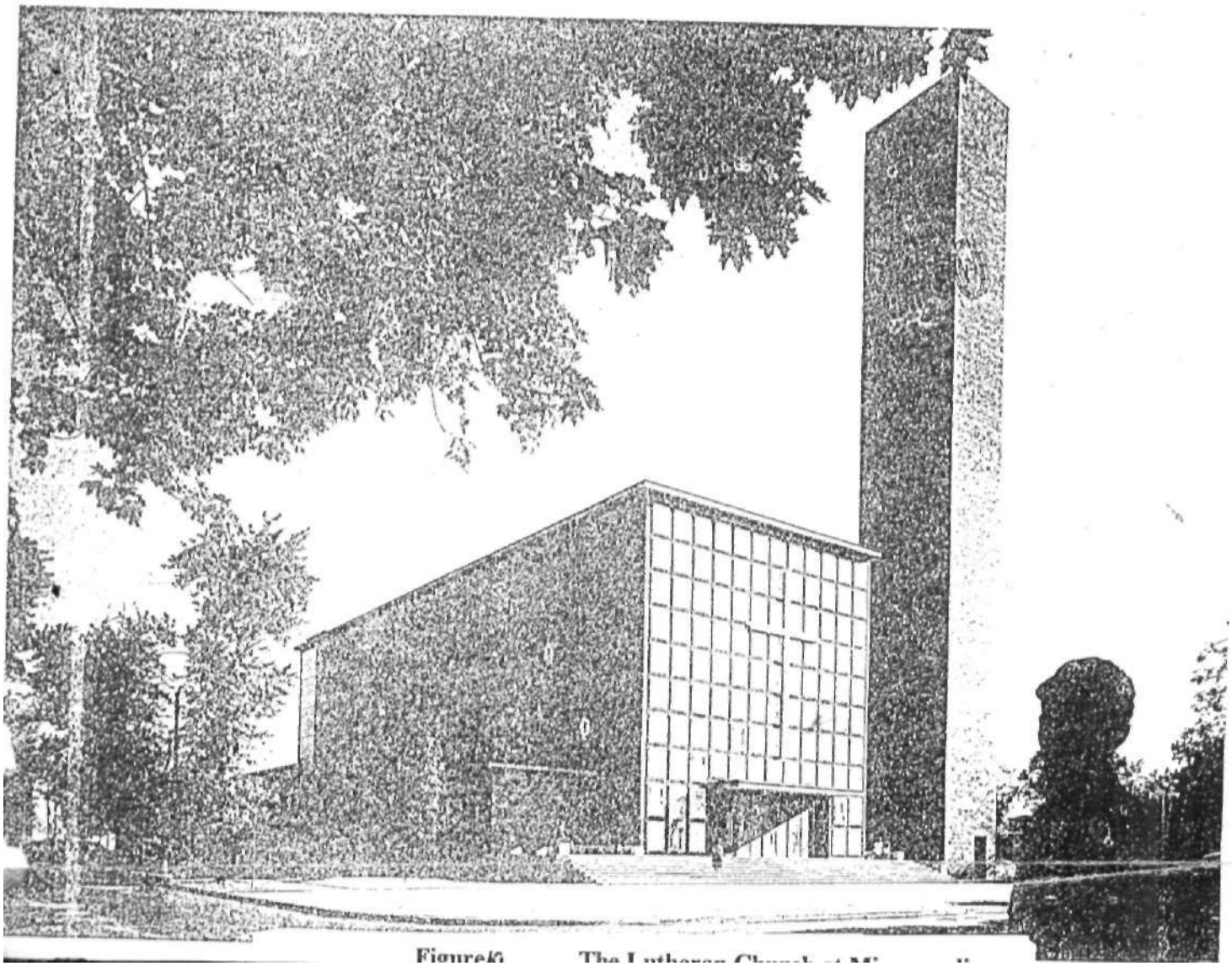


Figure 46 The Lutheran Church of Mi...

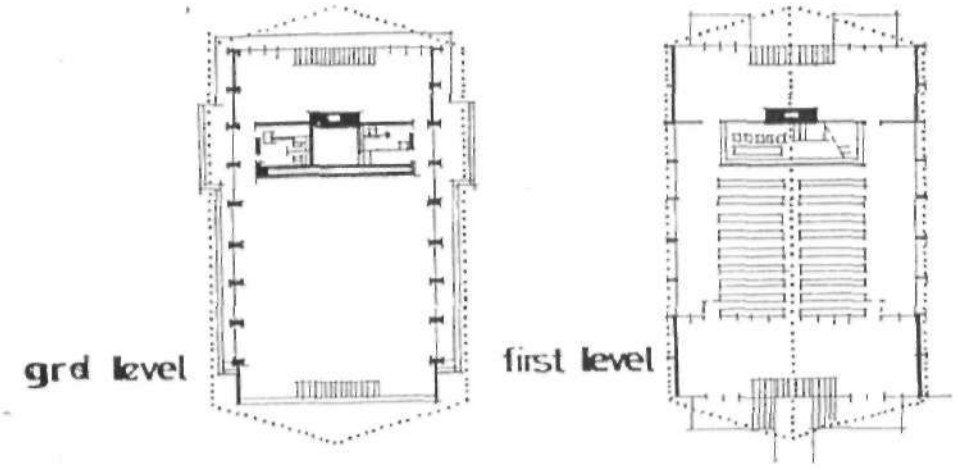
At the far north of the Cathedrals Nave is the altar with Reverends seat at either side of the altar. A little down (southward) are the choir stand, and to the left is the purpose room, as opposite to it is the choir room.

A simple arrangement of pews horizontally within the Nave, shown by plan. At the Noarthex are different doors that leads to segments of the pews.

Appraisal:

Simple buy concised planning with no postorium. God orientation as regard sun path effect on church designs.

Has a symbolic representation since a glance tells one the type of function the building does. Internally, the last pews somewhat feel too much separated from the altar hence poor visual perception.



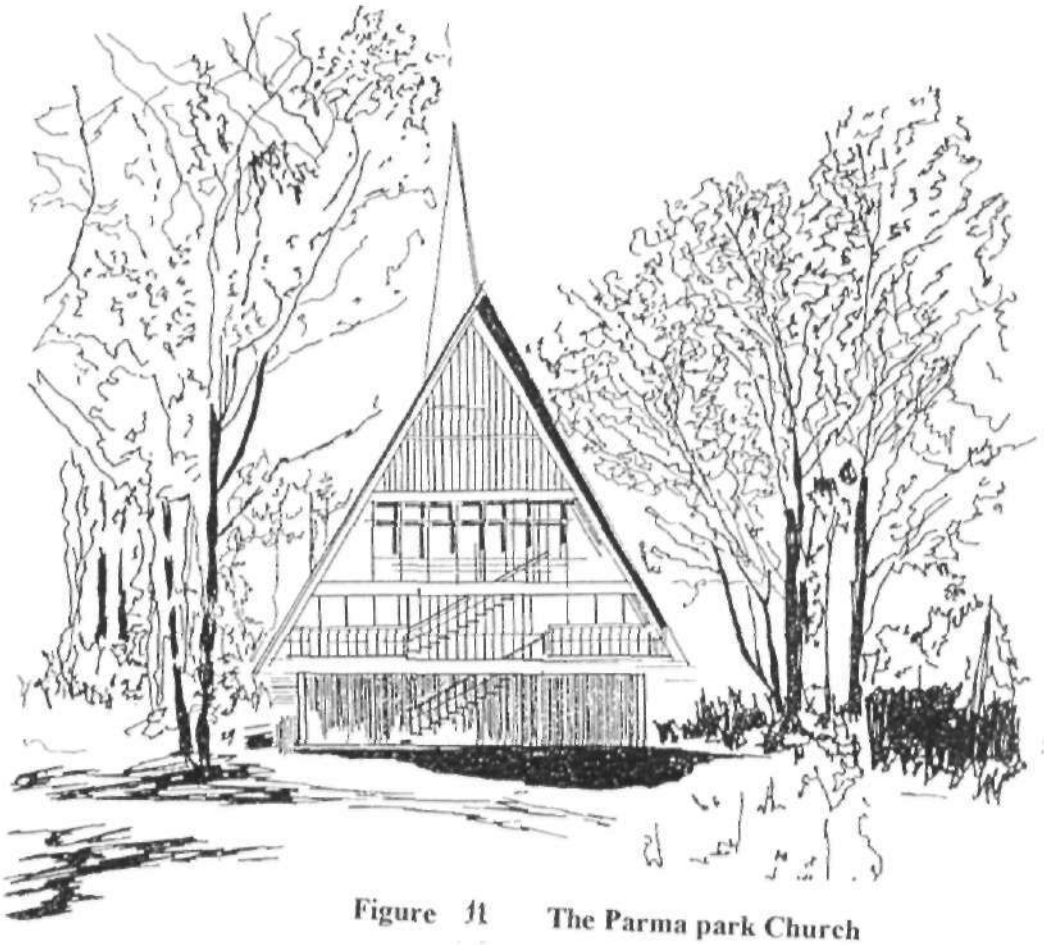


Figure 11 The Parma park Church

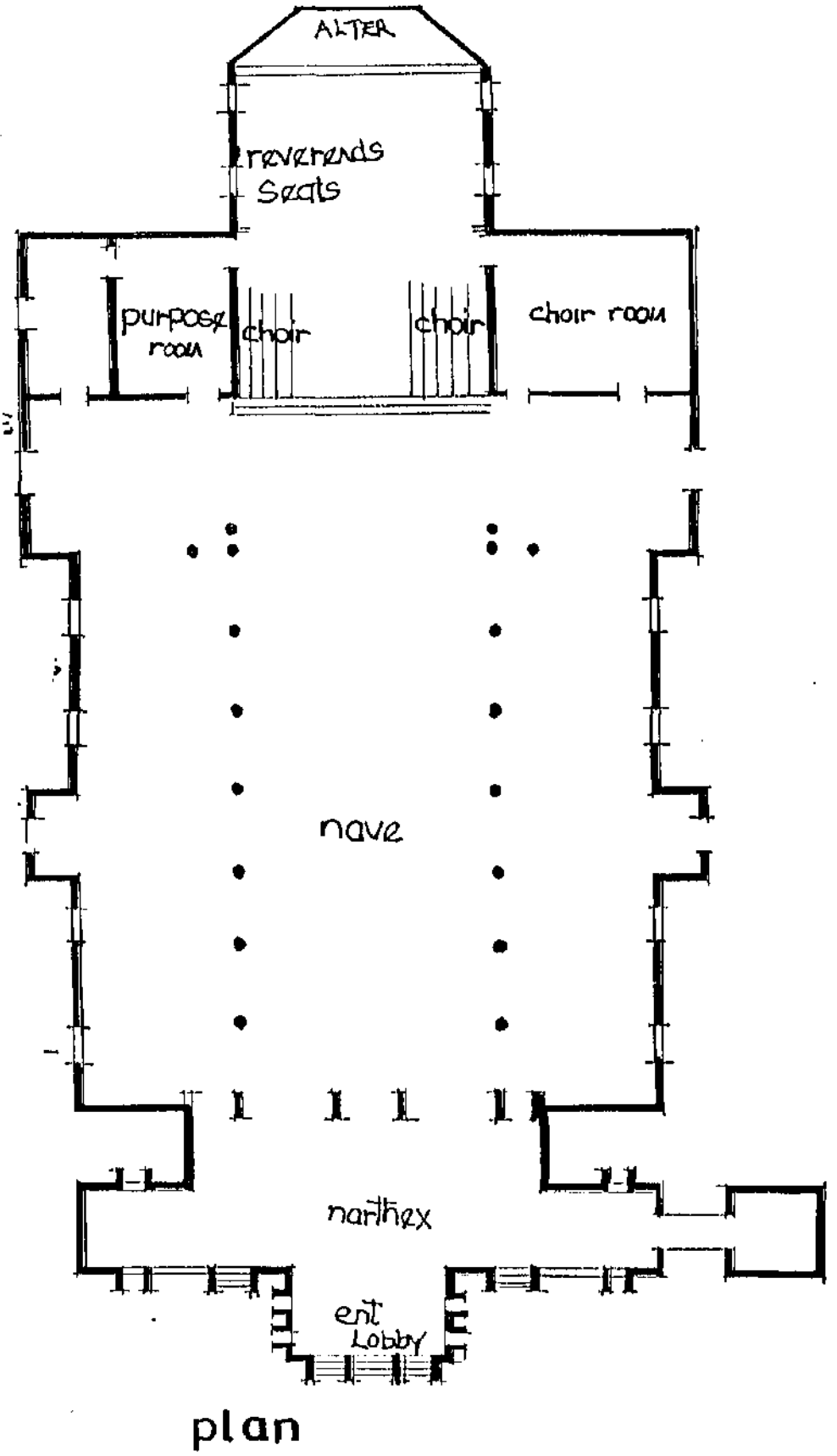


Figure 12 **Cathedral Church, St. Micheal Anglican**

3.9.0 SAINT MONICA CATHOLIC CHURCH KADUNA

INTRODUCTION

The church is located at Kenya Road Malali Kaduna. The capacity of the Church is to contain 2500 worshipers. The architect is Arc. Ozoh John while the client is (O.S.A.) Augustinian Order, Jos. The concept is derived from the Hexagon while the materials used in construction include concrete, glass, facing Bricks, long span aluminium, blocks, granites steel for the superstructure.

Appraisal:

The form was a result of aesthetic requirement while the altar forms a focal point for vision, the roof gave the church a generalized image where at a clangs without being told one knows is a church at the approach view while the back view is a controversial design.

3.10.0 THE LIVING FAITH CHURCH (GARDEN OF FAITH) KADUNA

INTRODUCTION

The location is off Aliyu Makama Road, Barnawa Kaduna. It was proposed as a need to protect the worshipers from the adverse atmospheric effect.

Capacity: The capacity of the church is to contain 5000 worshipers.

Client: The arthitect was Arc. Zacheaus Aminu.

Concept: The concept is Dominion of believers over spiritual .... hence the plan taking the letter 'D' shape.

Materials: The building is of frame construction with concrete beams and columns, long span aluminium roofing with steel strusses.

Appraisal:

The minister forms a focal point on the altar, hence a good vision is achieved. The letter 'D' for dominion can only be appreciated while on an aircraft. There is effective ventilation and daylight into the building.

At a clangs, the building will be more suitable or refer to a Hotel or a social centre and offices of international corporations.

3.11.0 ASSEMBLIES OF GOD CHURCH, RR 1-4 NASSARAWA ROAD KADUNA

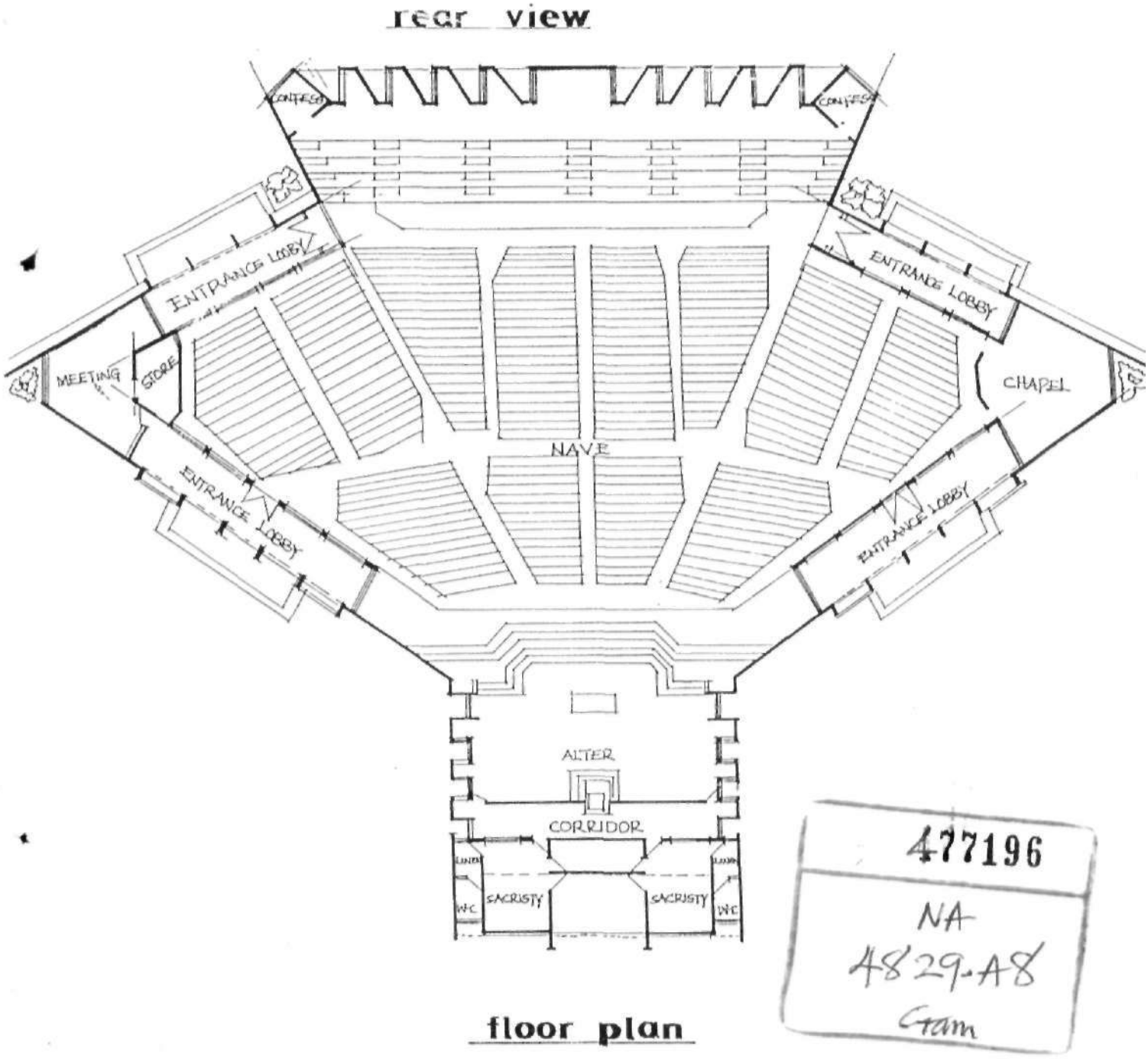
INTRODUCTION

The church is located at No. RR 1-4 Nassarawa Road, Opposite Junction road along Ahmadu Bello Way, Kaduna. The Architect was Arc. Luke Umueche while the users are the congregation and the ministers who are also the client. The church was designed 1954 and approved 1995 while the project or construction began in 1986, the project lasted for eleven years and finally dedicated for use in December, 1997.

Thje concept was due to the Rev. Minister in-charge of the church then requirements (Reverend Baba B. Fada). With limited space, the Reverend said, the needed a total environment (both church, pastornage, school, offices, conference halls and counselling rooms). The church is two-storey building, which the ground floor houses the main auditorium, offices, classes, counselling rooms. The first floor houses an upper auditorium conference room, classes and stores while the second floor houses part of the auditorium and pastors residences. The altar forms a focal point to church by raising it to about 1.5m high.

Appraisal:

The church succeed at intergrating various activitity into one entity. The form of the church is said to be due to function and the roof is pitched with parapet round it however, the external appearance of the church looks more of a hospital but there is an achievement of proper ventilation.



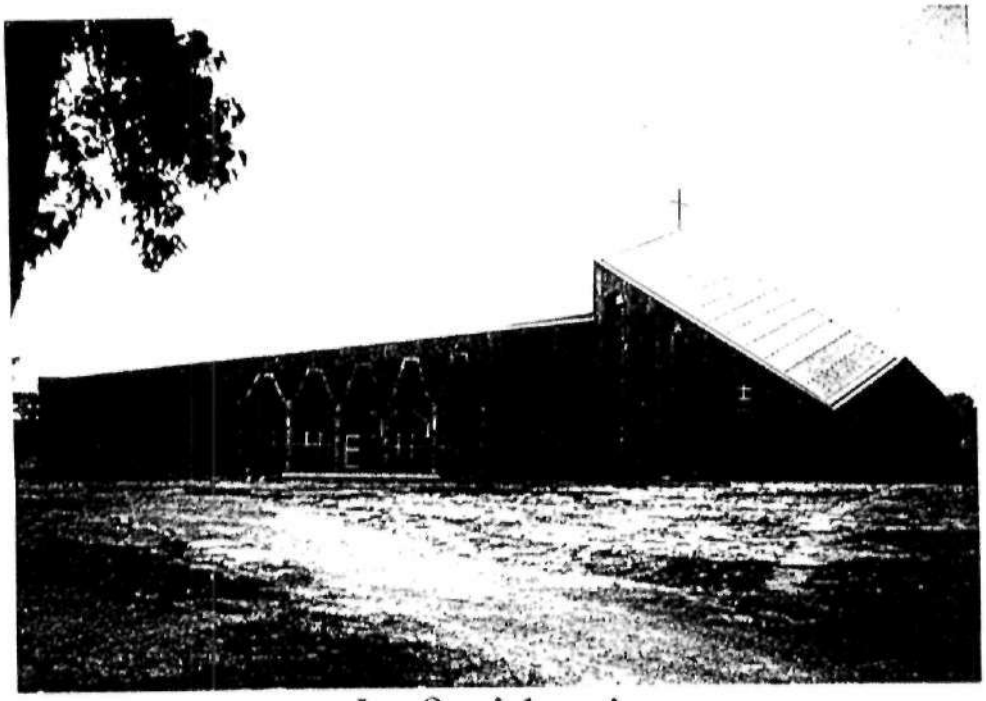
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ZARIA NIGERIA
Ahmadu Bello University

Figure 13 **Saint Monica Catholic Church Kaduna**



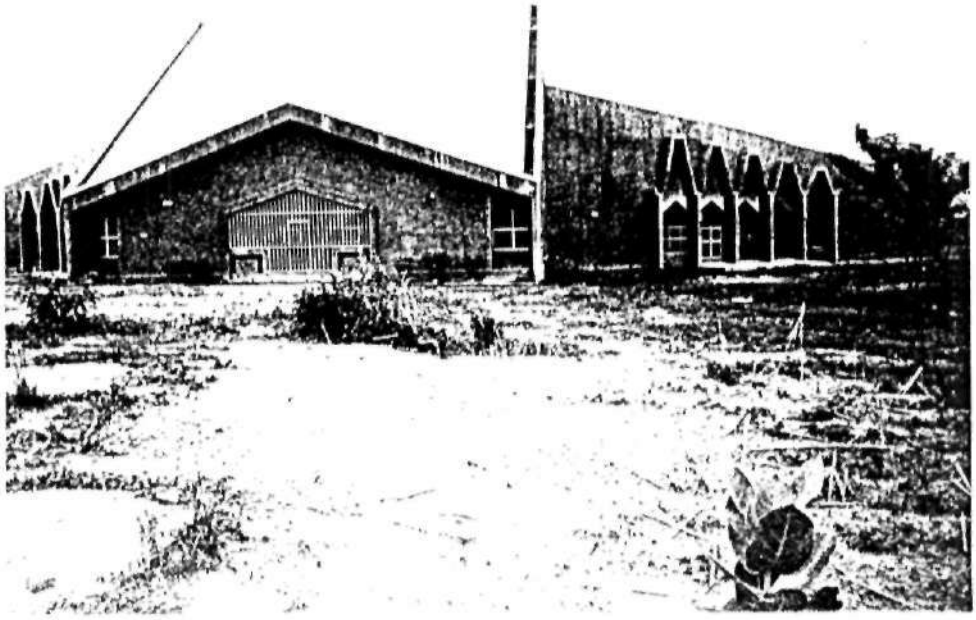
Rear View



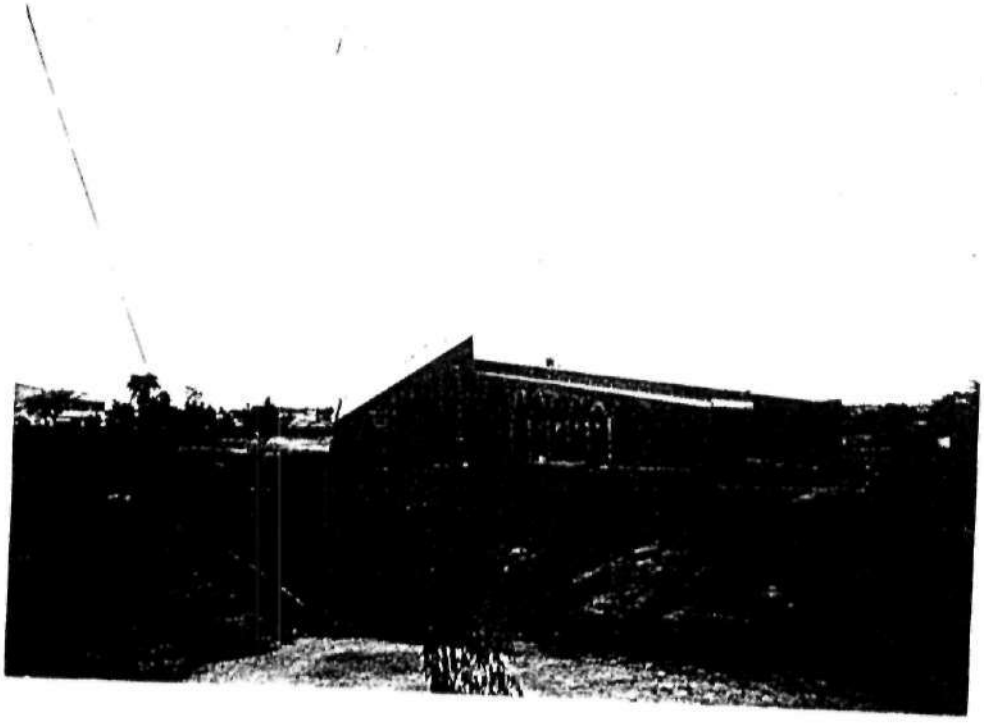
Left side view

Figure 13 Saint Monica Catholic Church Kaduna

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Approach View



Right side view

Figure 13 **Saint Monica Catholic Church Kaduna**

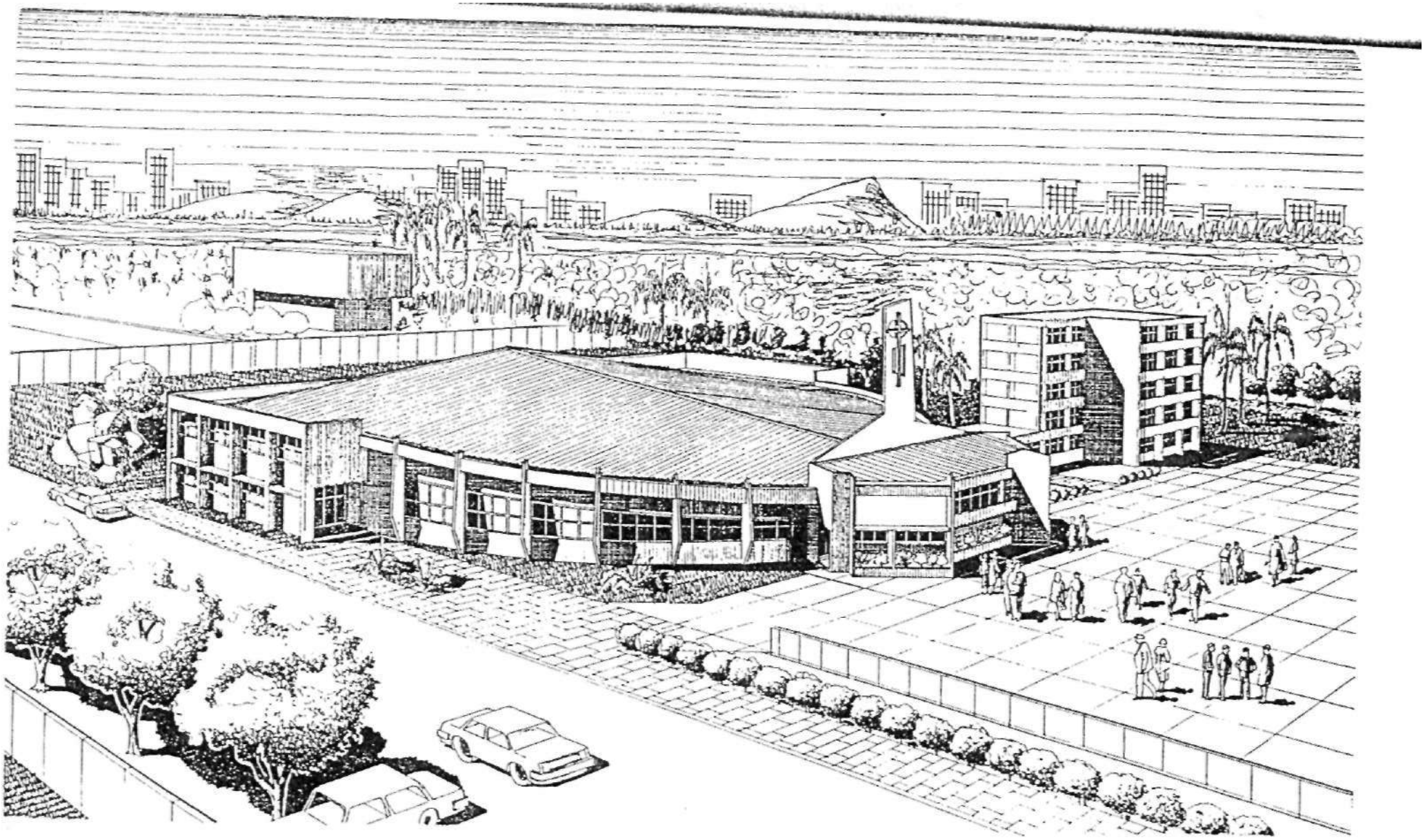
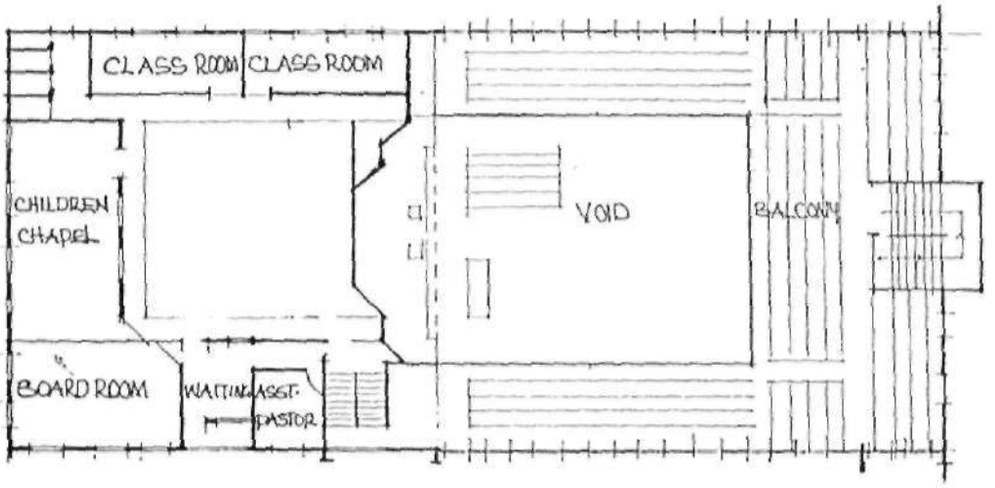
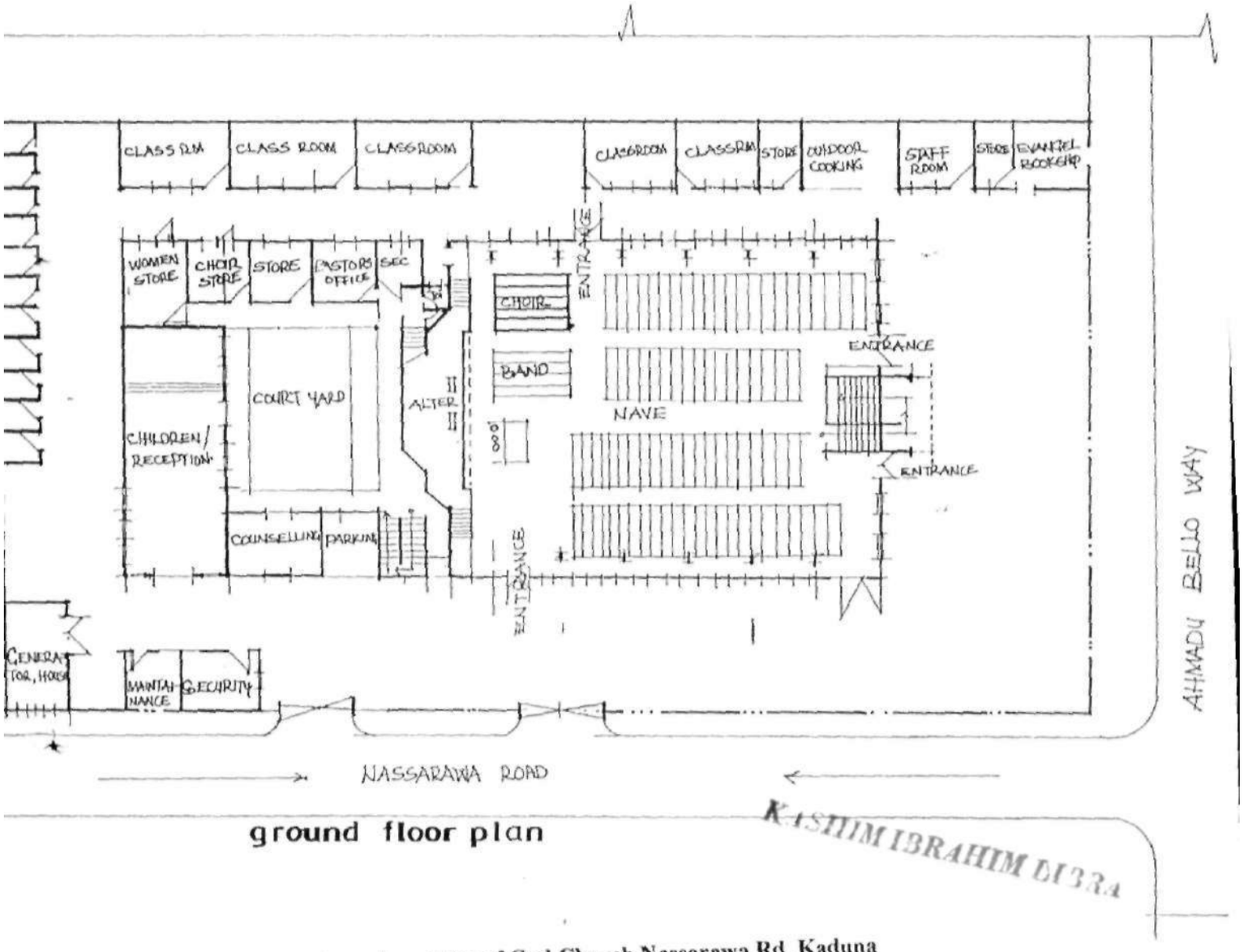


PLATE 14

aerial view (LIVING FAITH 2ND PROPOSAL)

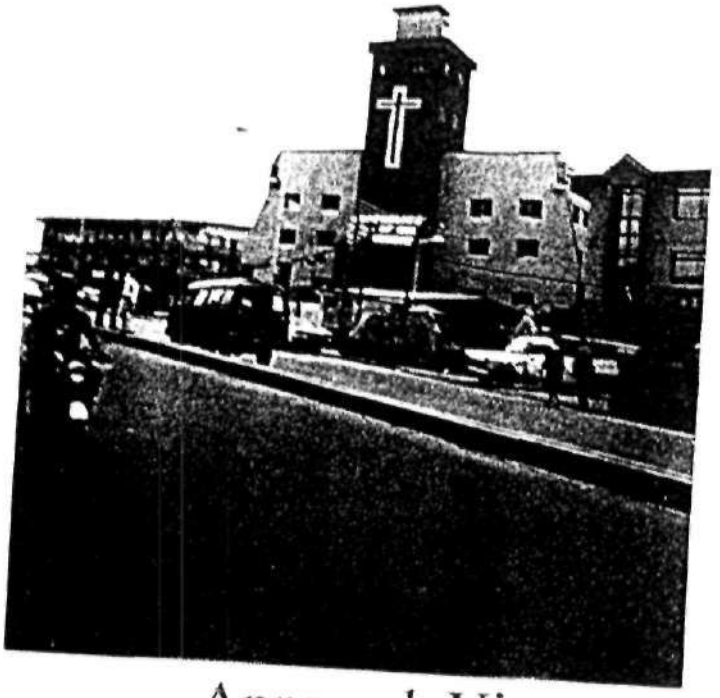


typical first and second floor plan



ground floor plan

Figure 18 **Asemblies of God Church Nassarawa Rd. Kaduna**



Approach View



Left side view

Figure 18 **Asemblies of God Church Nassarawa Rd. Kaduna**

3.12.0 CHAPEL OF REDEMPTION A.B.U.

INTRODUCTION

The church is located within Ahmadu Bello University main campus Samaru Zaria. The designer was Architect Dele Agbelusun while the clients are the ministers and congregation who are also the users.

The building is of frame construction with columns and beams made of reinforced concrete long span aluminium roofing steel with steel trusses and its capacity is to accommodate 3000 worshipers at a time. The concept is said to be .....

Appraisal

The Altar forms a focal point for worshipers sitting at the centre while those sitting at the sides had to turn 45° to see or view the altar. The two pairs of columns place at the centres of two middle longer rows distract viewers viewing altar from the corners. The church is a typical contemporary church whose external view does not speak of its function. The roof is centrally pitched, sides monopitched with centrally massive beams. Aesthetic is very poor especially the entrance view (major entrance is poorly celebrated). So many viewer refers to this church as a gympnasium and Assembly Hall. Cross ventilation is highly achieved especially the auditorium.

3.13.0 THE NEW GENERATION BIBLE CHURCH KANO

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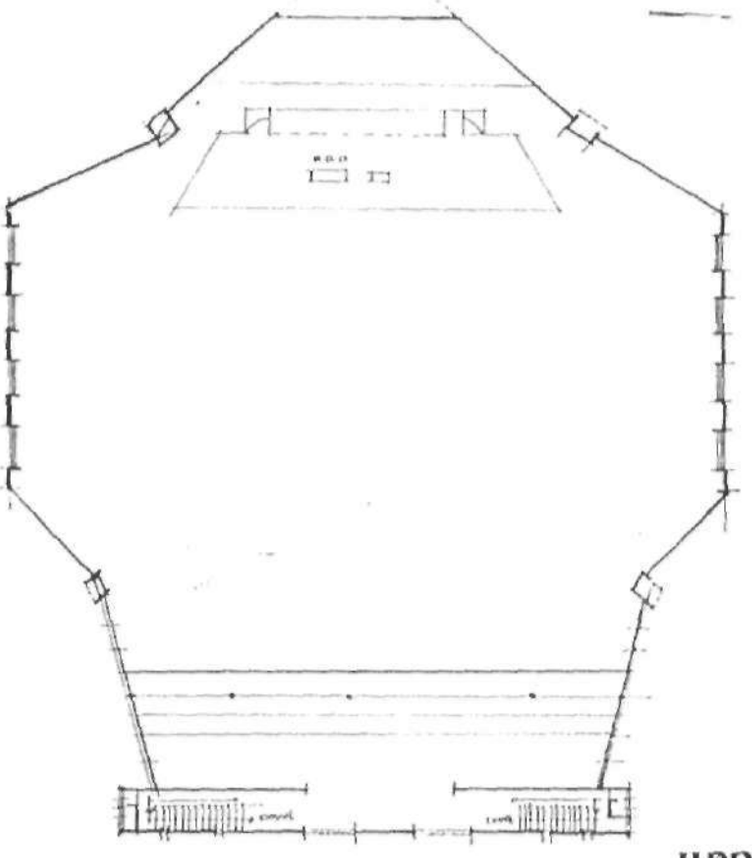
INTRODUCTION

The original design of the building was for residential purpose with two number 3 bedroom flat on each floor. It was a 5-storey building with supposed warehouse on the ground floor. The architect was unknown and the client was only known to be residing in Lagos. The users were the congration and the Ministers, the interior and exterior parts of the ground floor are sanderete plaster and painted, the bilding was of framed construction with exterior and interior concrete columns and beams. The ground floor was used for the usual worship

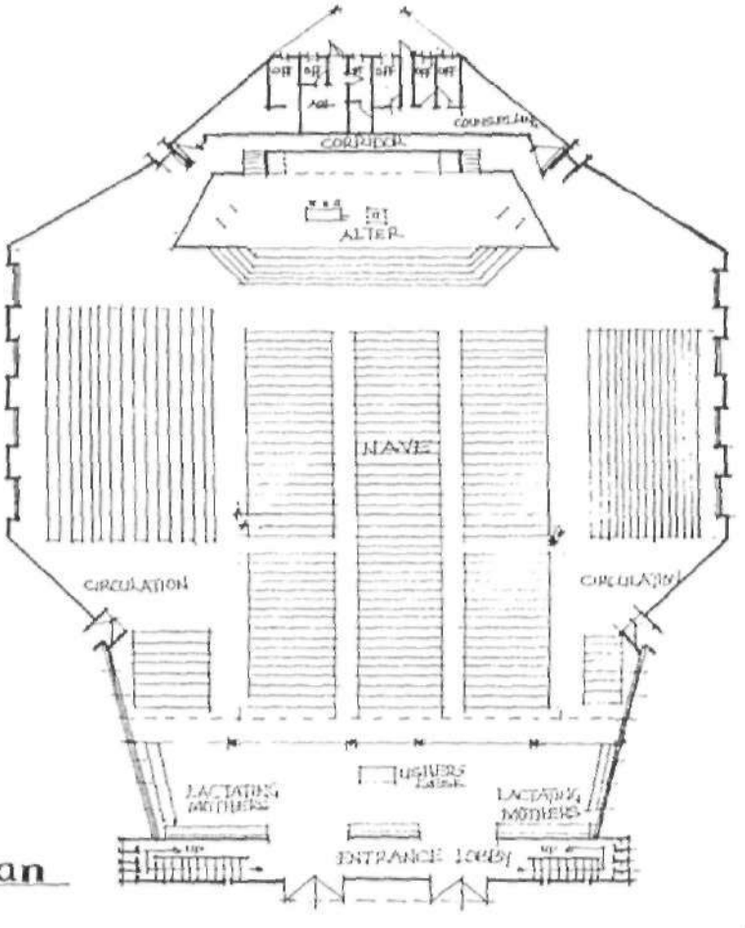
service while the first flolor was for Sunday school and counselling. The church is situated alternate to friendship motel and a mosque in no-mans-land Kano.

Appraisal:

Since the design was not initially intended for a church, it could be described as a make-shift church. The interior columns obstruct the views of the worshipers. The altar divided the sanctuary into equal parts, the minister had to turn a little over 180° to address a congregation of less than one thousand worshipers. There is virtually no cross ventilation and the external parking lots were normally used for open air crusade.

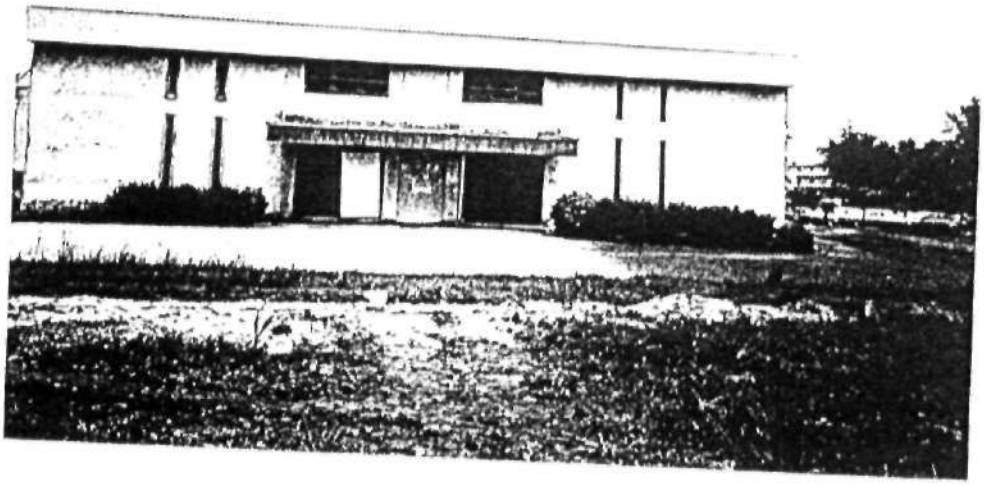


upper floor plan



groung floor plan

Figure 17 Chapel of Redemption A.B.U. Zaria

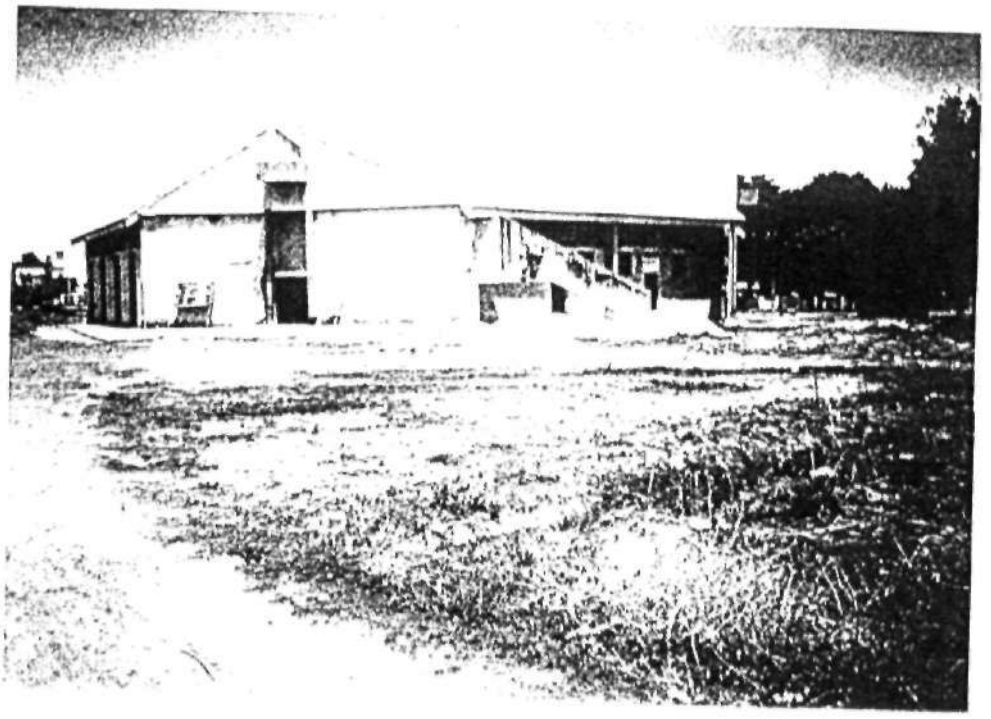


Approach View



Right side view

Figure 17 Chapel of Redemption A.B.U. Zaria



Rear View



Left side view

Figure 17 **Chapel of Redemption A.B.U. Zaria**

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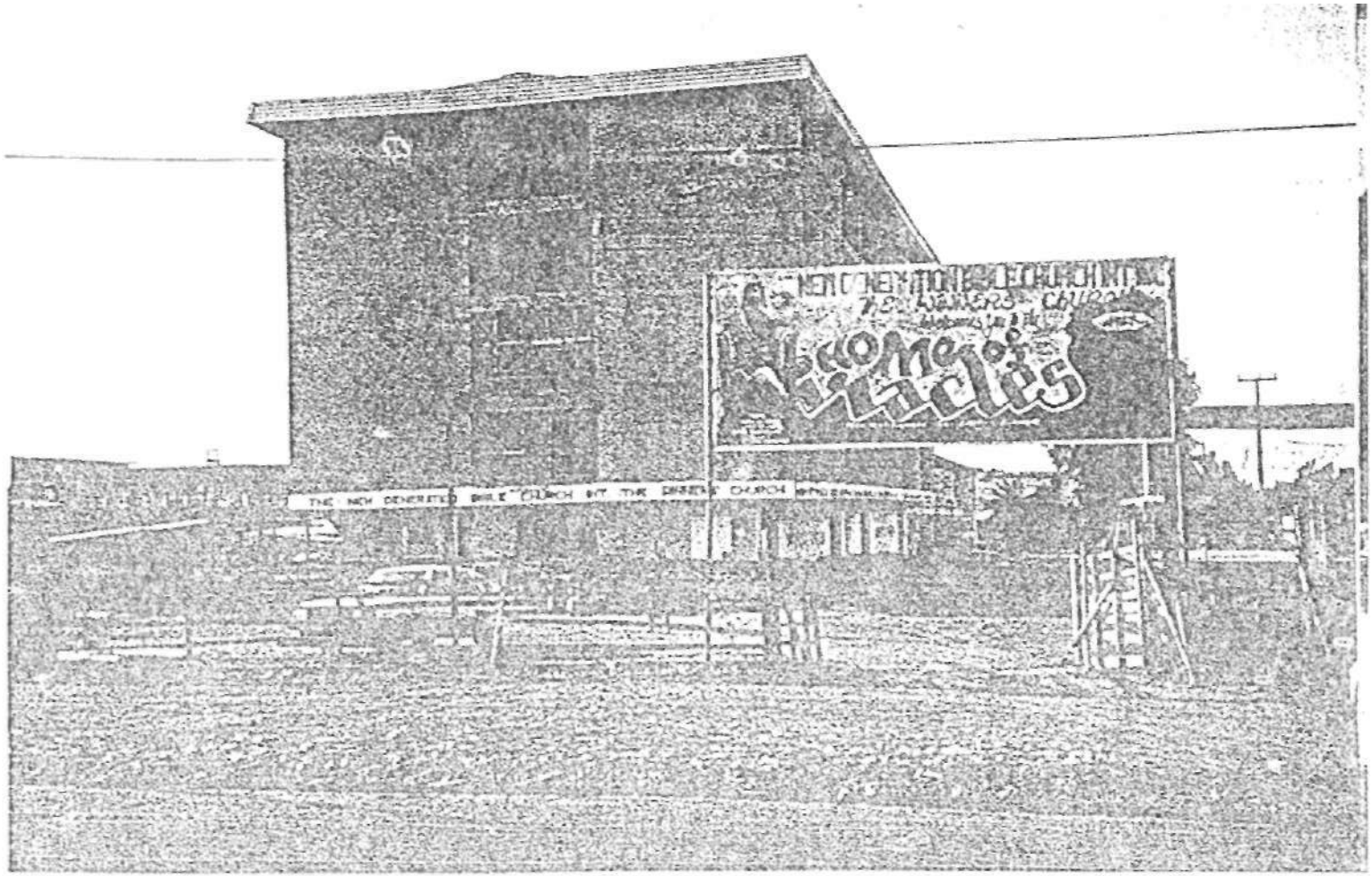


PLATE 17 APPROACH VIEW I

NEW GENERATION BIBLE CHURCH, KANO, NIGERIA

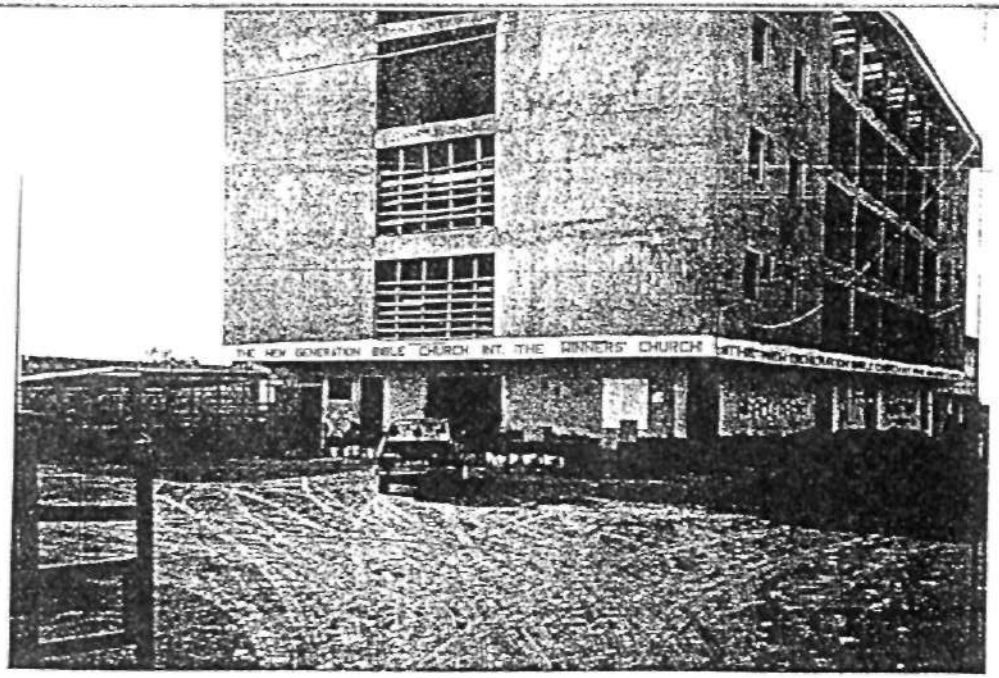


PLATE XXVI: APPROACH VIEW II

NEW GENERATION BIBLE CHURCH, KANO

CHAPTER FOUR

4.0 ARCHITECTURAL DESIGN CONSIDERATIONS

4.1.0 NEIGHBOURHOOD SURVEYS

Before the church property is acquired, the architectural services may include land studies, population studies, zoning studies climatic studies, circulation studies, space studies and site studies., careful thought may be given to the following considerations.

4.1.1 DISTANCE CONSIDERATIONS

Location of the property should be on a street with public transportation in an unchurched area. Walking distance may be kept within one and a half kilo meters or twenty minutes times. Driving distance is kept within fifteen kilometers or twenty minutes time.

4.1.2 BOUNDARY CONSIDERATIONS

In locating the church building in relation to natural and artificial boundaries, avoid it being isolated by rivers, lakes, topography and green belts. Also avoid being confined by rail roads, airports, commerce, industries, trunpikes and thruways.

4.1.3 LOCAL CONSIDERATION

Locate the church near a public school for the sake of children or near a shopping centre to take advantage of parking spaces.

Advertisement of the church could be by its location on a main road. Easy access could be provided with cross road right turns.

4.2.0. SITE SELECTION PRINCIPLES

4.2.1 (See Diagram)

4.2.2 **Drainage Consideration**

Well drained building site with good soil-bearing capacity, top soil and easy access is considered.

4.2.3 **Subsoil Consideration**

The soil is checked by test borings to determined existence of water, rock and sub-surface conditions.

4.2.4 **Accessibility Consideration**

An ideal site is one accessible from the community on a main road and related to community need and activity.

4.2.5 **Utilities Considerations**

Utilities like water, sanitary sewer, gas storm sewer, electricity, phone and roads are considered.

4.3.0 **Property Planning**

If at all possible, property may be purchased well in advance of building. Land always has value and always increase in value. Therefore, it is a wise investment for any church to be generous in the acquisition of land.

4.3.1 **Parking Considerations**

With 3.6 people and 1 car per family, the 5,000 seat church needs 1,500 parking spaces with 3 x 6m ($18m^2$) making $25,200m^2$ area.

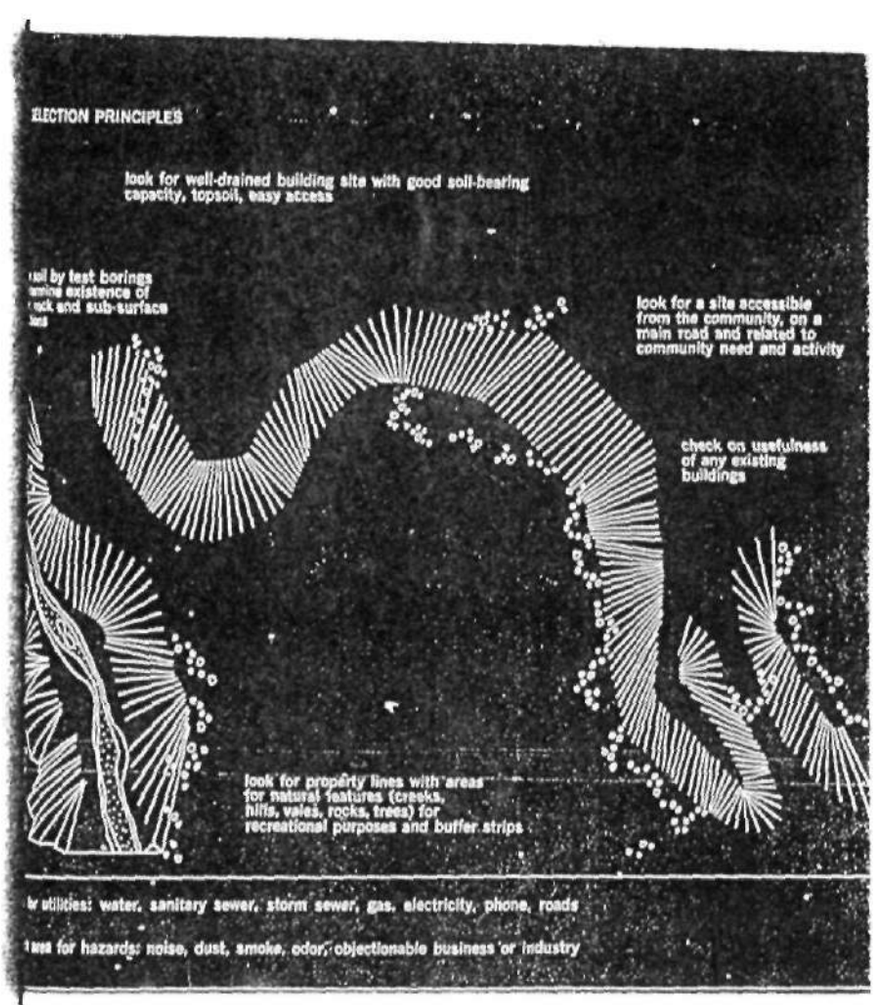


FIG. 18 SITE SELECTION PRINCIPLES

4.3.2 **Landscape Consideration**

Three times as much area in landscaping as in building produces a proper setting for a church.

4.3.3 **Expansion Consideration**

The space provided for expansion doubles the total built up size area, and ½ the landscape and parking area.

4.3.4 **Circulation Considerations**

Adequate drive to the parking areas, parsonage and recreational areas by providing half the parking area for circulation.

4.4.0 **Climatic Principles**

4.4.1 **Site**

For harmattan period, heat and light gain are achieved by choosing a warm southern slope or east slope. The North eastern slope is avoided.

4.4.2 **Wind**

Wind breaks including trees, fence and walls is used to control the wind. The south west winds for cooling a while cold and dusty North east wind is stopped.

4.5.0 **PLAN SIMPLIFICATION PRINCIPLES**

This demands the review of the requirements, which will help in determining the necessity of item allocated or possibility of merging one function to another, creating more functional activities or reducing the wastage of space like corridors walkways and lobbies.

The most difficult thing to do in planning is simplifying yet it looks so effortless when the job is done. This could be done by adopting an open plan or a short plan and combining elements.

4.5.1 Single Core Considerations

Services areas like lavatories, furnace room, storage and kitchen can act like buffer strips to divide space and create rooms with the use of a minimum amount of construction.

4.5.2 Double Core Consideration

Combining rooms increases their flexibility so that they can be used in a variety of ways with minimum construction. For example, they could be large or small rooms, or rooms lighted and ventilated from one or two sides.

4.5.3 Off Set Core Considerations

A variety of room sizes can be achieved through the astute placement of a core element like stairs, lavatories or corridors in a non symmetrical planning arrangement.

4.5.4 Upward Core Considerations

This is the movement of vertical element (stairs, towers, mechanical core) to the outside simplifies the planning within the building.

4.5.5 HOLLOW-CORE CONSIDERATION

This is where an interior court opens all rooms to day-light creating also a private coutdoor area.

4.6.0 Building Insurance Rate Basis

Sometimes, fire safety is confused with fire rating. Fire safety is related to the protection of the occupants of the building and providing them with sufficient and direct exists plus protection from suffocation; whereas fire rating is concerned with the protection of the building.

Savings in insurance rates can be made obtaining the best fire rating for the building. Since such savings are for the life of the building, a true picture of the most economical building, insurance wise, must be balanced against lower initial construction cost.

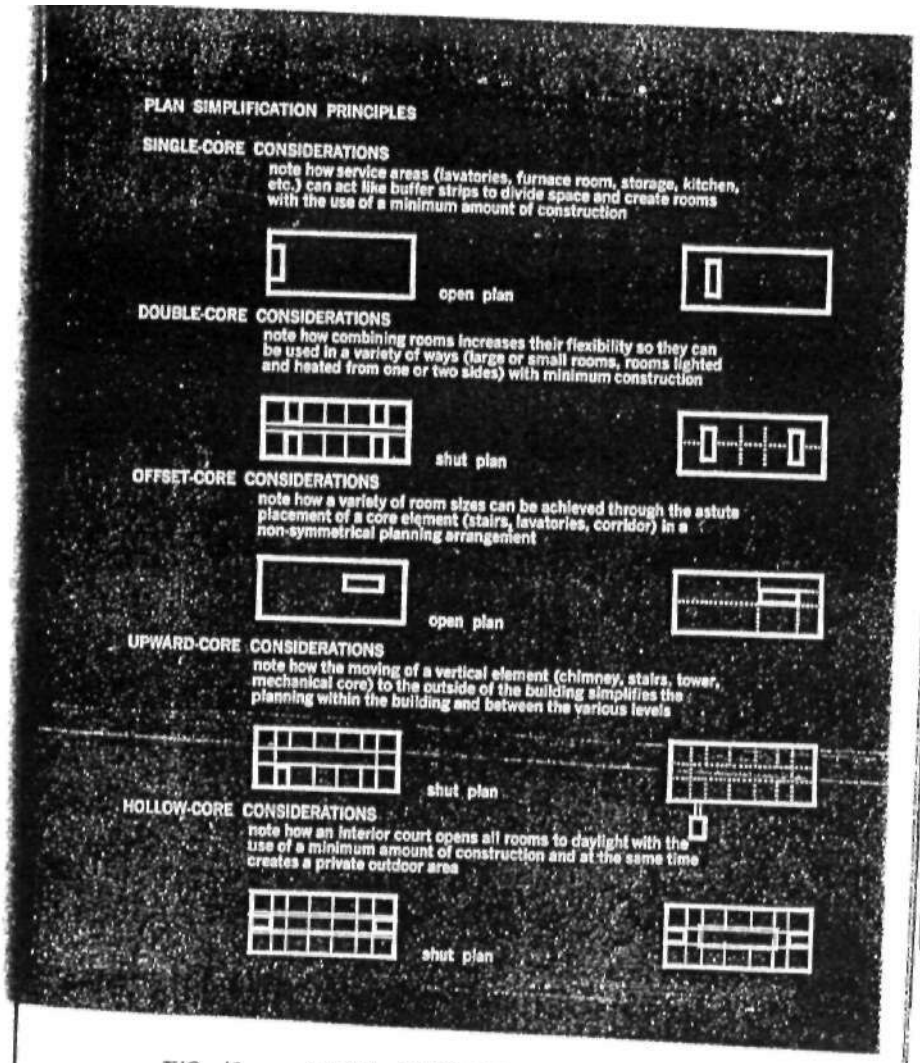


FIG 19 PLAN SIMPLIFICATION PRINCIPLES

4.6.1 **Wood (Frame Construction)**

Both roof and walls are of combustible materials, this has the highest rate of insuraene. With 80% co-insurance the rate is reduced by about 10% and extended coverage is the highest rate.

4.6.2 **Mansonry (Brick Construction)**

When roof is of combustible and walls of incombustible materials, the rate of fire insurance is about half that of wood - with 80% coinsurance, the rate is reduced by about 25% and extended coverage is also at highest rate.

4.6.3 **Metal (Incombustible Construction)**

Where roof and walls are of incombustible materials, the fire insurance rate is about one third of that of wood with 80% coinsurance, the rate is reduced by 25% and the extended coverage is at a lower rate.

4.6.4 **Concrete (Fire Resistive Construction)**

If mansonry or plaster is protected with incombustible materials, the fire insurance rate is about one third of wood. Considering 80% coinsurance, the rate is reduced by about 70% and the extended coverage is at the lowest rate.

4.7.0 **FIRE RESISTANCE**

The resistance of the elements of a structure to collapse, flame penetration and heat transmission during a fire is expressed in periods of from one half to six hours. Periods of resistance depend on the size, nature and occupancy of the building so that the notional period of resistance to fire of the elements of the building are assumed to be sufficient for the safe escape of occupants during fire.

From the insurance rate above shows that concrete does ot burn but the strength of a concrete structure is considerably affected in the event of fire disaster. However, it will provide enough strength to facilitate evacuation of all occupants before a likely structural failure. Chances of fire outbreaks within the church buildings is very rare, but is likely to occur in the event of electrical faults. This has been protected against by the use of the ducting

system. Escape stair cases are provided for the administration block and the hostel (accommodation) block.

4.8.0 THE STRUCTURAL SYSTEM

The basic structural materials for most churches is concrete. Concrete is a composite material consisting of a binding medium or glue (cement and water) in which particles of a relatively inert filler material (sand and gravel - aggregates) are embedded. The properties of hardened concrete are of greatest concern because they determine the ultimate usefulness of the product. Generally, speaking, the material must be strong, durable, watertight, attractive and economical.

All these qualities are possible if certain standards are adhered to: good planning and design, good proportioning of quality ingredients in mix, careful handling and placing correct finishing and proper curing. The quality of the final product is totally dependent on the standards outline above. Concrete can resist an infinite amount of force in compression especially when adequately reinforced with steel rods and other forms of reinforcement in tension.

4.9.0 STABILITY

The requirements that a structure must satisfy may be summed up as follows. Above all it must be immovable with respect to the ground (or its equivalent) and retain its original geometry throughout its service life. Also it must be sufficiently strong, stiff and stable so as to offer adequate resistance to the imposed loads and to keep deformations within safe limits. Reinforced concrete columns are used. Load bearing cross walls are highly rigid, so these requirements are satisfied.

The basic roof trusses used for the church are the angle mild steel trusses, hard wood trusses for the lean to roofs and reinforced concrete roof gutters for rain collection and subsequent disposal through the rain water spouts.

The administration, cafeteria, school, children chapel and Hostel accommodation is roofed with Hardwood trusses. The roof coverings are long span aluminium roofing sheets.

KASHIM IBR...

4.10.0 **ECONOMY**

The economic aspect in the use of concrete blocks walls and simple reinforced concrete columns instead of highly expensive steel portal frames is being considered.

4.11.0 **MAINTENANCE**

The component of a building structure that is most liable to damages due to weather hazards is the roof. All the roofs, therefore, must be considered as a unified structural element composed of a number of components, the failure of any one of which will endanger the adequacy of the whole. Maintenance will be highly limited to regular annual checks on the bitumen layers laid on the roof gutters to detect damages and consequently stop likely spots for leakages. The effect of temperature changes will have an effect on the roof so also are dead loadings, imposed and wind loadings. All must be considered and related to all checks carried out in weather proofing the structure.

The checking of all joints of concrete to aluminium at regular space of time is of great importance.

4.12.1 **Lighting**

Natural lighting has now come to be considered an essential part of the design of bulding. Although it cannot strictly be regarded as a service, it is appropriate that it should be considered here. Good lighting in buildings may be said to depend on contrast, i.e. variation between light and dark without glare.

The lighting of the interior of a church is paramount, consideration for maximum religious effect. To this end, the following principles are laid down as guidelines for lighting:

- To respect the psychological interest of worshippers through creating a mystical atmosphere essential for meditation.
- Create visual interest within space by combining shadow and brilliance for contract.

- Provide lighting for visual task;

- Direct concentration on altar.

All these have been achieved through the use of natural day light is visible radiant energy from the sun and is measured in lumens.

One of the most important factors in determining interior lighting conditions is the use of colour. Coloured glasses through the monitor light entry allows in light that is scattered by a hanging chandellier.

Ceiling heights can also affect lighting; the higher the ceiling the greater the illumination. The church roof being high, achieves this. Whatever the conditions, it is necessary that the standard of illumination should be high enough to allow the eyes to function efficiently, whether at work or leisure.

Lighting in architecture apart from its function of facilitating vision, it also affect the appearance of spaces created by an architect in absence of daylight.

Below is the summary of the effects of lighting on the different functional unit of the church. This will justify the importance of lighting in church architecture than any other buildings.

4.12.1 The Church

1. **Congregation:** The luminance ratio of an object to its surrounding has to be carefully balanced in order to provide the right conditions for comfortable vision. Excessive luminance ratios may result in glare.

   There are a number of types of glare: disability glare, discomfort glare and reflected glare. People in the pews should not sit facing glaring light of any kind. Glare from the sky as well as from excessively bright parcels of diffusing glass and exposed bulbs and fluorescent tubes are distressing.

The elderly in the congregation must have ample light to be able to read fine prints. For a high ceiling church, where a feeling of mystery is sought, concealed down lights may furnish all the illumination. But in most cases, down lights should be supplemented by core lighting or illuminaries which light the walls and ceiling and these can supply up to 60% per cent of the total illumination, but the remainder should be down lighting.

4.12.3 **Sanctuary**

Vision from the preacher helps to promote maximum visual and aural communication between him and the congregation.

While speaking to the congregation or audience, the priest wants his face seen. But he does not wish to be annoyed by glare, nor should his face be distorted by lighting that creates black shadows around his eyes and harsh lines on his face. Generally, it is preferred to have the lighting in the congregation decreased during sermon. This enables the congregation to keep its attention on the speaker. It is said 'seeing is believing'.

4.12.4 **Batismal Services**

Baptismal services should be lighted from several concealed sources so that shadows are avoided. Lights should be shielded from the view of the audience.

Asemblies of God church performs Baptismal services in the Rive, not in the church.

4.13.0 **VENTILATION**

All buildings have been based upon natural ventilation. The provision of artificial ventilation - is an addition that can come after constructions should the need arises. But in case it fails, there is good ventilatiohn. For the worshipers to pay much attention to the preacher, they must be comfortable. And to be comfortable means much. Most important is the need for proper fresh airflow from outside the church hall, and outflow of heated air through windows and other forms of openings.

Environmental control task could be divided into active and passive control. The need for ventilation is for thermal comfort that is tolerable maximum body temperture 37°C is tolerant with ± 20°C, and hygiene which is the removal of smoke, gas and reduction of humidity.

(A) **Passive Ventilation**

Passive controls could be achieved through orientation, openings, materials, construction methods, opening, building spacing and colour of finishes.

The Givonic angle of tilt (45°) is the best angle at which a compromise between sunshading and ventilation (natural means) can be reached.

(B) **Active Ventilation**

Active controls could be achieved through the used of fans in the auditorium, air conditioners in the offices and dehumidifiers. These helps to remove exhaust gases quickly.

4.14.0 CHURCH AUDITORIUM ACCOUSTIC

Acoustic is the science of sound, including the generation, transmission and effect of sound waves and as applied to buildings, means for noise control.

Communications in the church are also influenced by auditorium acoustics. Figure behind, illustrate some basic considerations to be investigated when a church is in the planning stages.

4.14.1 Proportion Consideration

For a plan whose length is greater than three times its width, too many reverberations are noticed. For a plan whose length/depth is less than its width, too many rear wall reflections occur.

4.14.2 **Distribution Consideration**

To keep travel distance of reflected sound within 20m of direct sound, adjust ceiling height because high ceilings reflection is low while low ceilings reduce sound toward rear.

4.14.3 **Dispersion Consideration**

Considering non-parallel surfaces, recesses and projections to break up sound waves, rear balconies break sound waves, so also non-parallel walls and sloped ceilings.

4.14.4 **Reflection Consideration**

It is a law that sound waves are reflected at an angle equal and opposite of incidence. Sound boards and nearly walls reflect while concave reflections concrete echoes.

4.14.5 **Correction Consideration**

Addition of necessary absorbing materials may be required at the areas that produce delayed reflections. (Consider rear walls and high ceiling areas).

4.15.0 **PEW SELECTION PRINCIPLES**

The pew provides excellent visibility. In Auditoriums, one will find the seats staggared to permit visibility.

4.15.1 **Comfort Consideration**

The absence of pew ends gives easy entry, minimum space between pews. Open back, generous seat and back, maximum seat height and knee space.

4.15.2 **Economic Consideration**

There are savings with no pew ends, open backs, simplicity of design and constructions, multiple use of hymn book/bible rack cup and table combination.

4.15.3 **Aesthetic Consideration**

The absence of clutter on the back of pew B and the spaciousness of churches illustrated in this book using pew without the pew ends.

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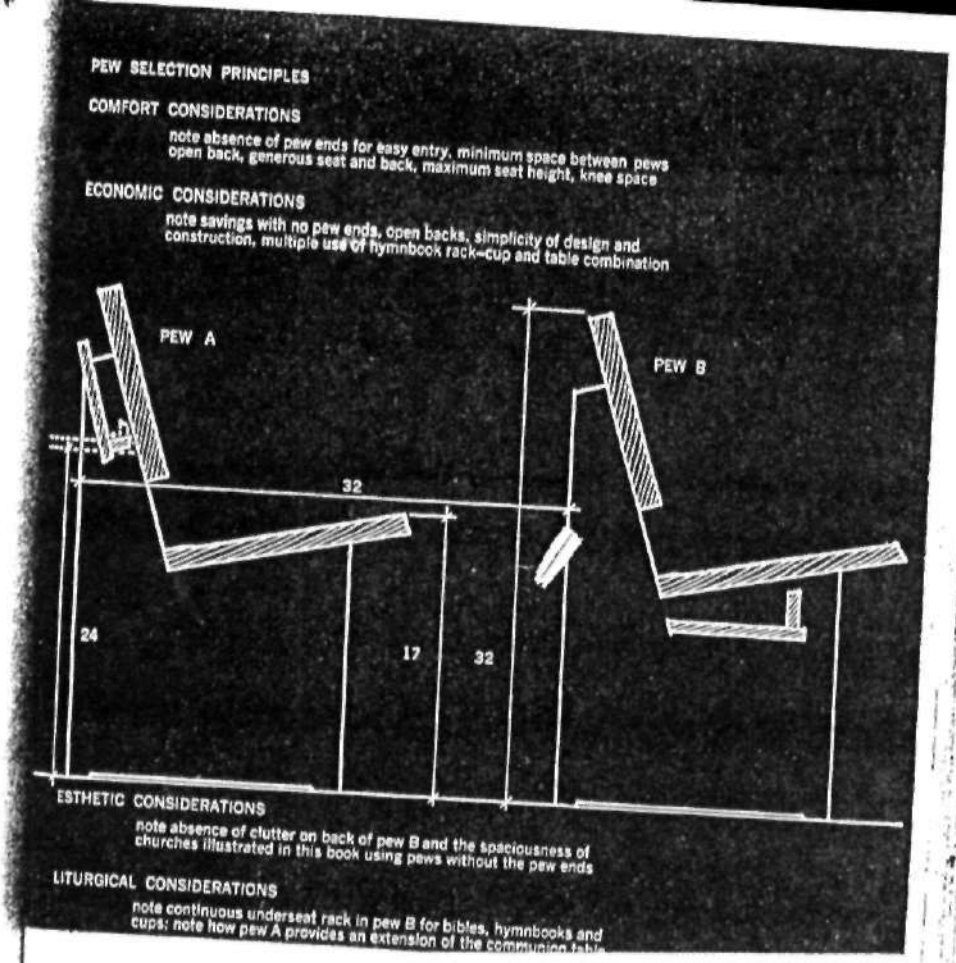


FIG. 20 PEW SELECTION PRINCIPLES

4.15.4 Liturgical Consideration

There is a continuous under seat rack in pew B for bibles, hymn books and cups. Pew A provide an extension of communion table.

4.16.0 SPACE SELECTION PRINCIPLES

4.16.1 Visual Considerations

Space is defined by light and colour on an object, objects recede without background contrast while objects advance with contrast.

4.16.2 Sensory Consideration

Space is appraised by the perception of individual. Space sequence could be provided by using near and far while space contrast by using wide and narrow.

4.16.3 Mental Consideration

Space is conditioned by the mind and experience, infinity could be created by endless space, mirrors, illusion and perceptive. And could be created by height, contrast of high and low, near and far.

4.16.4 Bodily Consideration

Space is related to the human being in action. Volume could be provided by motion analysis and circulation by space pattern analysis.

4.17.0 VOLUME CONSIDERATION

Space is governed by enclosure and transparency. The closed plan shows contained and unit space while open plan shows continuity and implied space.

4.18.0 CONCLUSION AND CHURCH EXPRESSION PRINCIPLES

4.18.1 Integrity Considerations

The architecture must be honest for a Pentecostal church reformed according to the word. so we expect to see:

* honest materials
* orderly structures
* repetitive elements
* reasonableness in building.
* economy through simplicity.

4.18.2 Theological Considerations

The church architecture is for the people of God to aid in the worship of God. Therfore, try to express:

* The unityof the members.
* The sovereignity, authority, dominion, glory and power of God.

It is necessary to avoid:

i. Separation of ministers and layman.

4.18.3 Liturgical Considerations

The architecture must show the worshiping together of a corporate body. This worshiping requires space for:

I. Reading of scripture.
II. Preaching the word.
III. Partaking of communion.
IV. Being the people of God.
V. Giving of gifts.
VI. Singing and Dancing of the congregation.
VII. Assistance by the choir.

4.18.4 Discipline Considerations

The architecture must show concern for man and it should express.

- discernment and taste.

- gentleness and strength.
- refinement and nobleness.
- kindness and humaneness.
- friendliness and acceptance.
- boldness and humbleness.
- fineness and precision.
- persistence and satisfaction.

4.18.5 **Contemporary Consideration**

The church must be our age and it must speak through our technology. So we expect to see more of:

- Imagery product.
- Open planning and lighteness.
- Longspan buildings.
- Stock windows, doors, panels and parts.

CHAPTER FIVE

5.0 FUNCTIONAL REQUIREMENTS

5.1 THE BRIEF

5.1.1 ORGANISATIONAL STRUCTURE

The Assemblies of God churches Kaduna had her district in 1989. Before then, it was among the states that made up the North West District. Other states include Kano, Jigawa, Katsina and Sokoto and under the leadership of Late Rev. Andrew Maganganu the district supretendent, he was equivalent to the secular state governors, because he represents the district at the National level.

Due to the enlargement of the district in terms of members and churches increased, also to enhance the district administration, for more effective and efficient result, the district was said to be divided, this division also coincide with the general council Assemblies of God Nigeria who had a vision to intensify the evangelism aspect of her members and her denomination as a whole. The council then came out with the idea (operation split the district), whereby every district was splitted into several districts and areas, based on the number of churches and members.

The North-West District was divided into five. Two (2) districts and three (3) areas. These district include: Kaduna - district, Saminaka district, Kano-Jigawa and Katsina Area, Sokoto and Kafanchan Areas respectively. Each district members elect their district superintendent and his executive members called the presbyters, while sub group leaders are called the directors and coordinators. (Most of these directors and coordinators can be Reverend, pastors and any Faithful member).

The Kaduna district superintendent as at then (1989) was Reverend Guguwa Madami with his Assistant Reverend Baba B. Fada, while other executive members include the District Secretary, Financial Secretary, Treasurer and other two members made up a complete team.

The district today has 15 sections with each having not less than three (3) churches. The overall number of members is estimated to be 25,000 (approximately within the district - including children. With these number, the district had no central coordinating activities (administrative facilities).

The Headquarters has the following functional requirement divisions.

I. **Administration:** Which take care of the management of finance, personnel, welfare, maintenance and publications.

II. **The Church**: which takes care of preaching, teaching, counseling and mass evangelism.

III. **Disciples Training School:** which takes care of training Christian/pastors and others who want to be schooled in the word of God. (Christian maturity attainment). While the theatre will be used for seminars and receptions (as a source of revenue).

IV. **Accommodation:** To accommodate trainees who are not residing within Kaduna metropolis. Also served as accommodation during conventions, district meetings and Rallies. The accommodation could be as a source of revenue to the headquarters whereby other Christian can lodge there for a day or two days.

V. **Residential Accommodation:** This is for the district superintendent and other headquarters workers that need to be housed within the complex.

5.1.2 **FUNCTIONS**

The functions of the different sections of the proposed headquarters are as follows:

(A) **Administrative Sections:**

I. General Control of the ministry centre.

II. Keeping and auditing accounts.

III. General welfare of workers.

IV. Planning.

V. General Publications.

(B) **The Church Section:**

I. Preaching and Teaching the Gospel.

II. Child Evangelism.

III. Counselling.

IV. General Spiritual Welfare of members.

V. Mass Evangelism and Conventions.

VI. Other Liturgical Activities.

(C) **Disciplineship Training School**

I. Raising, through training, ministers and other army of God. Getting them mature for the work of God at this end time.

5.1.3 **PROGRAMMES CENTRES**

I. Administrative building.

II. Main Church building.

III. Children chapel.

IV. Crusade Ground.

V. School of Ministry.

VI. Shopping mall.

VII. Rest Rooms.

VIII. Recreation/meditation park.

IX. Accommodation.

X. Cafeteria.

XI. Residential Area.

XII. Serviced Area (Garbadge, Water Reservoir, Generator house and Gate house).

5.2 CHURCH BUILDING

5.2.1 General WorshipPrinciples

General corporate nature of worship is observed with expression and emphasis mainly on the word being preached and heard. All take part in the act of full worship and sacrament.

The chancel or sanctuary are is simply where the Central act takes place with the congregation as co-participants in the act. The nearer the congregation to it the better.

There also exist a close link between the worship hall and the rooms for secular purposes so that there may not be a complete divorce.

Main Services: The types of services the church will normally hold include:

A. Convention and Retreats

There are two conventions the district normally holds each year.

I. District Conventions (all members in attendance).

II. Easter Retreats (Normally holds during Easter festival). These conventions takes about three to four days. (Is an opportunity for all members to renew themselves in the faith.)

B. Sub-Group Rallies

These sub-groups include:

I. Mission Rallies (Evangelism, all members are partakers).

II. Sunday school Rally (All members included) (This is a time of serious Bible Teachings).

III. Men's Fellowship Rally (involved only married men).

IV. Women Fellowship Rally (only married women.)

V. Youth Rally (Unmarried young men and young ladies).

VI. Young Single/Missionate (Unmarried young girls from one to 20 years and from 20 - 35 years).

VII. Royal Rangers - (Young unmarried boys from one year to 25 years only).

Other meetings include: Ministers Retreat, Ministers and their wives seminars, and ministers and church committees Rallies. Solemn Assemblies (this is serious time where people converge to pray and fast.

All these range of activities is scattered within the year and will take place in the headquarters.

(C) Normal Sunday praise worship service type with all singing and dancing to choruses, choir ministring in songs and preaching.

(D) Ceremonies applicable to marriages, holy communions. These may be embodied with one of the ordinary services whether ordinarily or with the service styled out to accommodate it.

(E) Other liturgical kind of activities such as, dedication, ordination confirmation and consecration.

5.2.2 **Design Elements**

Sanctuary (Auditorium):- The sanctuary consist of a platform in the front of the congregation with the pulpit lectern and communion ring. This would be required to accommodate, at various times, officers taking lead part in the services, the band/choir during ministration in songs. The capacity for the choir is 70.

Minimum space/one standing choir member (0.5 x 0.5) = $0.25m^2$.

Depending on the width, platform depth should not be less than 4.5m.
Height above floor should not be less than 760mm or more than 1.100mm all with due consideration for sightness.

Congregation seating takes a minimum of $0.56m^2 = 2,800m^2$
Allow 20% circulation space - 20% x 2,800 = $560m^2$.

Total sitting 2,800 + 560 = 3,360m^2.

This could be on two or more floor levels minimum Aisle Width 1.37mm.
- Space between the front edge of the platform and the front face of the congregational seating should not be less than 1.5m.

Requirement is for a reasonable standard of acoustics for speech, choral singing and brass band playing. There should be a reasonable amount of natural lighting and an artificial illumination both on the platform and in the body of the hall. The ventilation, as much as possible should be natural.

Altar must be related to congregation seating in such a way that what is done at it is seen to be a corporate action of the whole assembly.

Lectern/Pulpit should be on the platform but sufficiently apart from the altar to constitute a separate focus and conveniently sited to be accessible. It must be in a postition such that the reader's/preachers face may be seen. It may be fixed or movable.

Entrance Area: Provision Include:

- Wind lobbies outside entrance doors.
- Minimum clear door width of 2m, minimum clear height of 2m. Foldable doors of large openings are preferable so that all worshipers can exit within shortest possible time.
- Secondary exit doors especially for weddings.
- Gathering spaces inside and outside the church as part of the normal exit route where people can naturally gather to talk.
- Access from entrance to the water closet area.
- As a general rule, purely secular activities should be kept more in view of when congregation is leaving then when entering for a service.

Congregation Seating:- The congregation should be continuous with the ministers. No strong dividing line to exit between them. Equally, the congregation must be united with one another and all must have good access to circulation and to sanctuary.

- Minimum dimensions of seats plus kneeling space both front and back should be 920mm..
- Allow minimum seating width of 510mm per person.
- Maximum length of row is 10 persons (5.1m) with access. From both ends, or 6 persons (3.06m) with access from one end.
- Hedge for hymn books, where the exit is, should be about 150mm side.

Vestries And Sacristy/Session Rooms:- These may include the following:

- Pastor's Vestry ($25m^2$)
- Pastor's Reception ($15m^2$)
- Services/Ushers Vestry ($32m^2$) 2 Nos.
- Choir Vestry ($64m^2$)
- Counseling Rooms ($64m^2$)
- Library ($64m^2$)
- Pastor's Closets ($2m^2$)
- Church Cleaners/Gardeners ($16m^2$).
- 3 Number committee room ($24m^2$).

Provide: 1WC for 50 women.
1 WC for 80 men.
1 Urinal for 40 men.

Assuming 2,000 men and 3,000 women.

No of WC for women = $\frac{3,000}{50} = \frac{}{60}$

No of WC for men = $\frac{2,000}{80} = \frac{}{25}$

No of Urinals for men = 2,000

40 = 50

Since there are already 25 WC No Urinal required 50 - 25 = 25

Total number of toilet for men and women = 60 + 25

WC = 85

Urinal = 25

Relationship of Music Elements:

A few basic principles must be observed:

- The player must be with the instrument.
- The choir must be as near as possible to the instruments.
- Organ must be on the main volume of the building raised above floors so that the pipes are above the heads of the listeners.

Circulation: Space must be allowed for invalid's chair where the individual can participate but not blocking the circulation.

5.3.0 Administration Block

These include the following:

- Reception ($40m^2$).
- District Supretendents ($40m^2$).

  Sec. To DS ($20m^2$)

  Assistant Supretendent ($20m^2$).

  District Secretary ($20m^2$)

  General Office ($32m^2$)

  District Treasurer ($35m^2$)

  Account Office ($44m^2$)

Conference Hall ($63m^2$)

Sunday School/Store ($40m^2$)

Mission Office ($20m^2$)

Men's Fellowship/Royal ranger ($20m^2$)

Youth Ministry ($20m^2$)

Women/YS/Missionettees ($20m^2$)

C.E.M ($20m^2$)

Architect Office ($20m^2$)

Studio ($20m^2$)

Publication Room ($35m^2$)

Store ($35m^2$)

Clinic:

Reception ($56m^2$)

Pharmacy ($12m^2$)

Treatment ($9m^2$)

Consultantion ($30m^2$)

toilet/s Circulation/WHB ($24m^2$)

5.4.0 BIBLE SCHOOL

Elements enclosed are:

- Class rooms (10) $2m^2$ Student as standard space for 30 student = 2 x 30 = $60m^2$.
- General Office = $30m^2$
- Staff offices (6 No.)
- Toilet Facilities:
- 1 WC for 25 female students.
- 1 WC for 40 male students.
-
- 140 Female student $\frac{140}{25} = 5.6$

- 100 male student require $\frac{100}{40} = 2.5$
- 12 staff require 3 WC

Lecture Theatre:

0.8m per/persons including circulation 400 people will require.

400 x 0.8 = $320m^2$

5.5.0 **Cafeteria/Kitchen**

Kitchen (2 No.)	=	$24m^2$
Cafeteria (2 No.)	=	$80m^2$
Store (grain store)	=	$16m^2$
Outdoor Cooking	=	$28m^2$
Kitchen Yard	=	$80m^2$

5.6.0 **Children Chapel:**

This consist of:

- Children Hall $0.4m^2$/Child including circulation

∴ 2000 Children require 0.45 x 2,000 = $900m^2$

- Open wash/toilet facilities
- Office,store = $32m^2$

5.7.0 **Crusade Ground**

This consist of:

- Platform ($60m^2$) raised up $2.1m^2$.
- Open air paved ground.
- $0.56m^2$/Person.

  8000 requires $0.56m^2$ x 8000 = $4,480m^2$.

  Allow 10% internal circulation, $448m^2$

∴ Total = $4,928m^2$.

- Toilet facilities are as in the church sanctuary. If 5,000 worshipers require 60 WC for women :. 8,000 will required $\frac{8000}{5000} \times \frac{60}{1} = 96$

If 5,000 worshipers require 25 WC for men :. 8000 will require $\frac{8000}{5000} \times \frac{25}{1} = 40$

They will also require 35 Urinals.

People could share toilets with the church as programmes don't go symultaneously.

5.8.0 **Shopping Mall**

The elements include;

- Shops for provisions, toiletry, snacks, books and magazines.

  These shops may include small stores.

  $10m^2$ for each store with store

  10 stores give a total area of $100m^2$
- toilet facilities could be shared with other buildings or general rest rooms.

5.9.0 **General Rest Room**

They comprise of:

- Water Closet (WC).
- Urinals.
- Wash hand basic (WHB).
- Open Area washing taps.

5.10.0 **Parking Lots**

These comprise of:

- Cars with 0 persons/car

  5,000 pesons require $\frac{5,000}{20} = 250.$

  :. 250 parking is required.

Parking and drive in which walkway require $30m^2$/care 250 care require $(30 \times 250)m^2$

$= \quad 7{,}500m^2$

- Buses
- Cycles with 15 persons/cycle.

5,000 persons require $\frac{5{,}000}{15} = 334$

:. 334 cycle number required.

Using $2m^2$/cycle, 334 cycle will require $334 \times 2m^2 = 668m^2$ space required.

Service Area

This includes:

- Generator House ($60m^2$)
- Water Reservoir for both underground and overhead storage ($500m^2$).

Refuse collection area ($60m^2$).

5.11.0 RECREATION MEDITATION PARK

This require twice the floor area of normal worship area.

5.12.0 MAINTENANCE

This include:

a. The stores:

I. Carpentry Store.

II. Mechanical Store.

III. Electrical Equipment Store.

b. Workshops:

I. Carpentry workshop.

II. Mechanical workshop.

III. Electrical workshop.

5.13.0 **ACCOMMODATION**

This includes:

- Bedrooms (4.2 x 3) = $12.6m^2$

  ∴ 72 No. Of bedrooms will require 72 x $12.6m^2$ = $887.2m^2$.

- Toilet (1.5 x 1.5) = $2.35m^2$

  Total No. Of toilet required (72)

  ∴ 72 x $2.35m^2$ = $169.2m^2$

- $169.2m^2$ is total space required for toilet.

- Laundry ($47m^2$)

  6 No. Laundry required

  Total space required for laundry is 6 x 47 = $\underline{282.m^2}$

- Reception/Common Rooms ($36m^2$) 2 No.

CHAPTER SIX

6.0 FUNCTIONAL RELATIONSHIP DIAGRAMS AND SITE INFORMATIONS

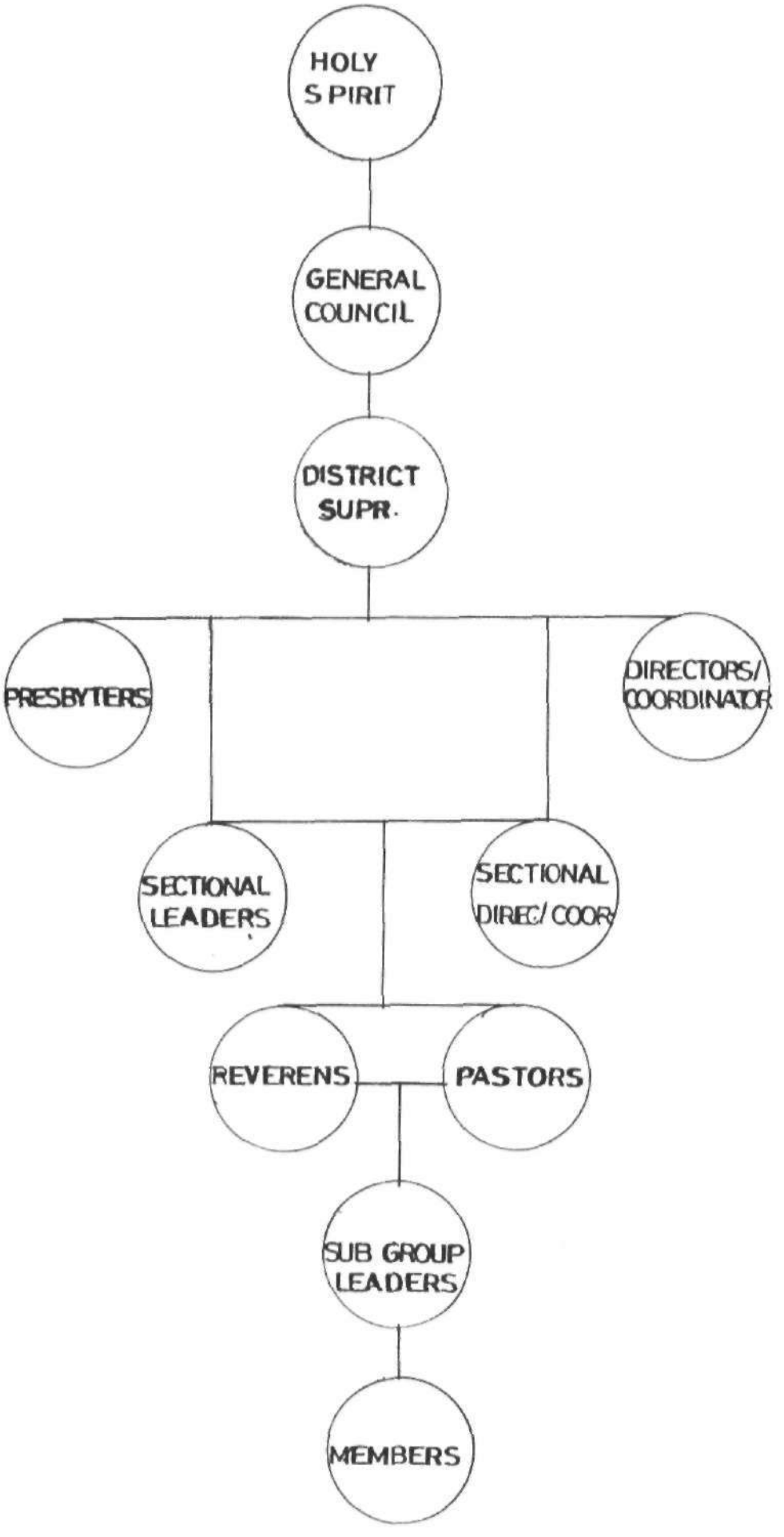
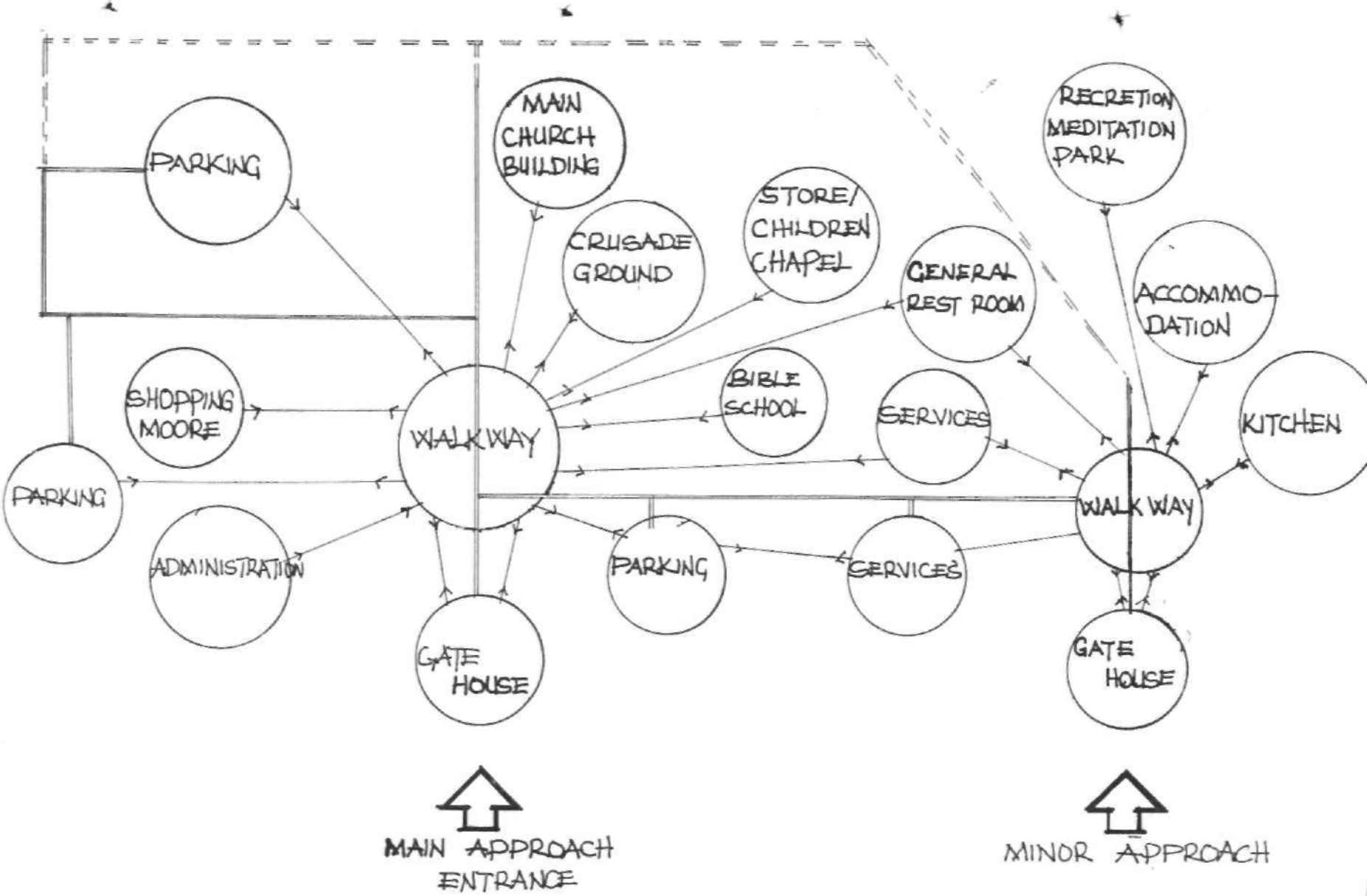


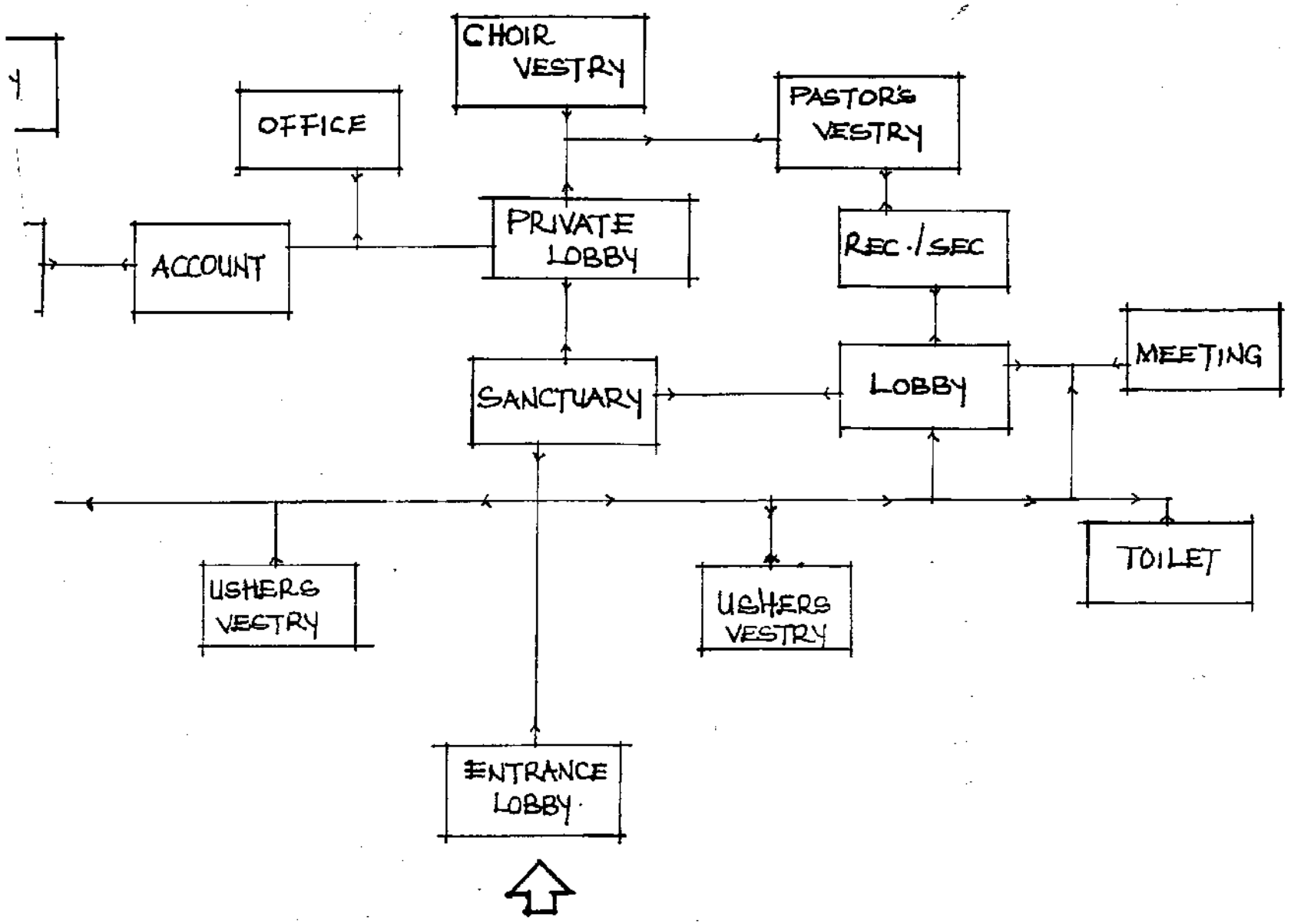
FIG 21 ORGANIZATION STRUCTURE



FIG·22

SITE PLAN RELATIONSHIP

EMPHASIS ON PEDESTRIAN MOVEMENT.



CHURCH BUILDING RELATIONSHIP DIAGRAM

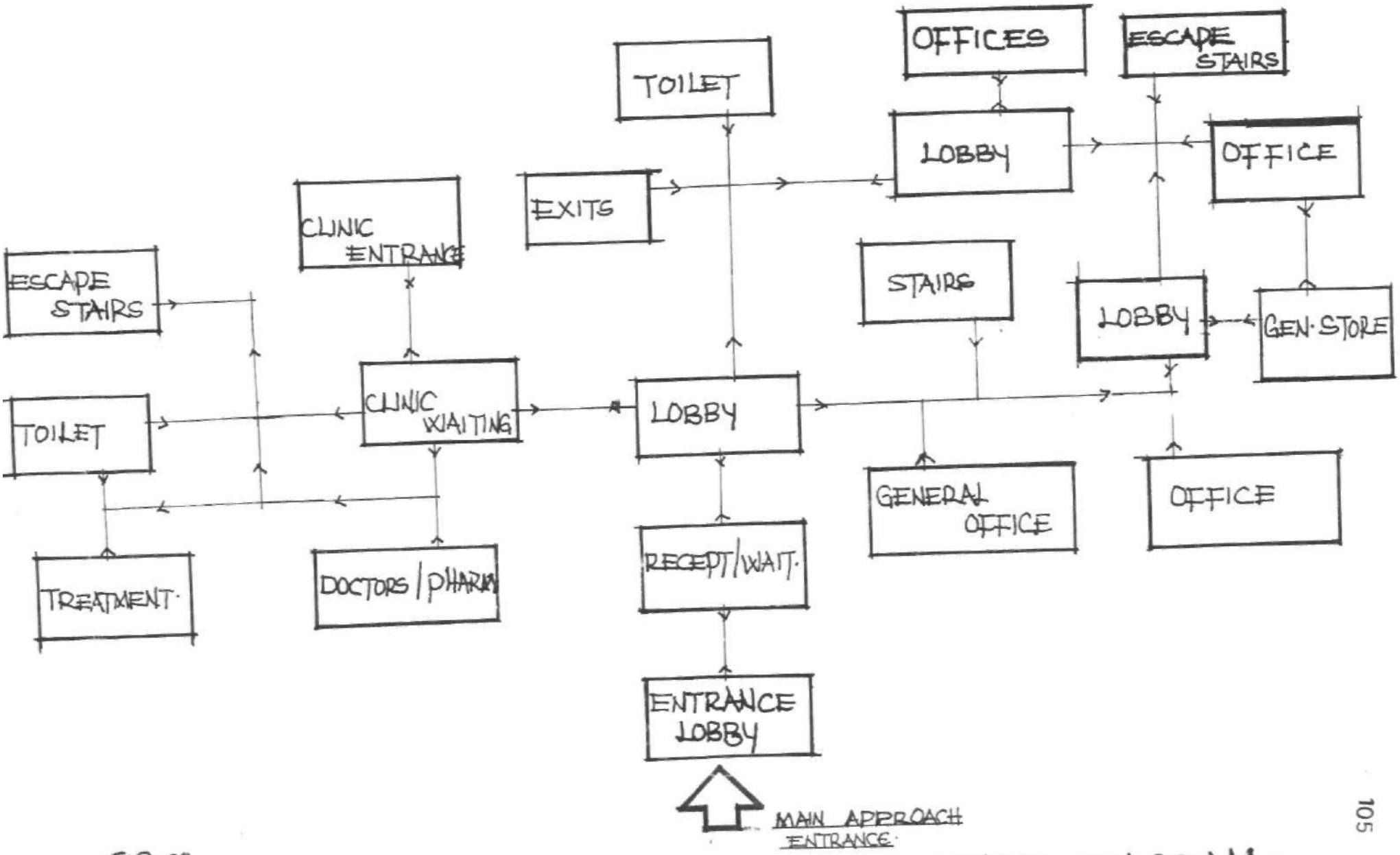


FIG. 24 ADMINISTRATIVE BUILDING RELATIONSHIP DIAGRAM.

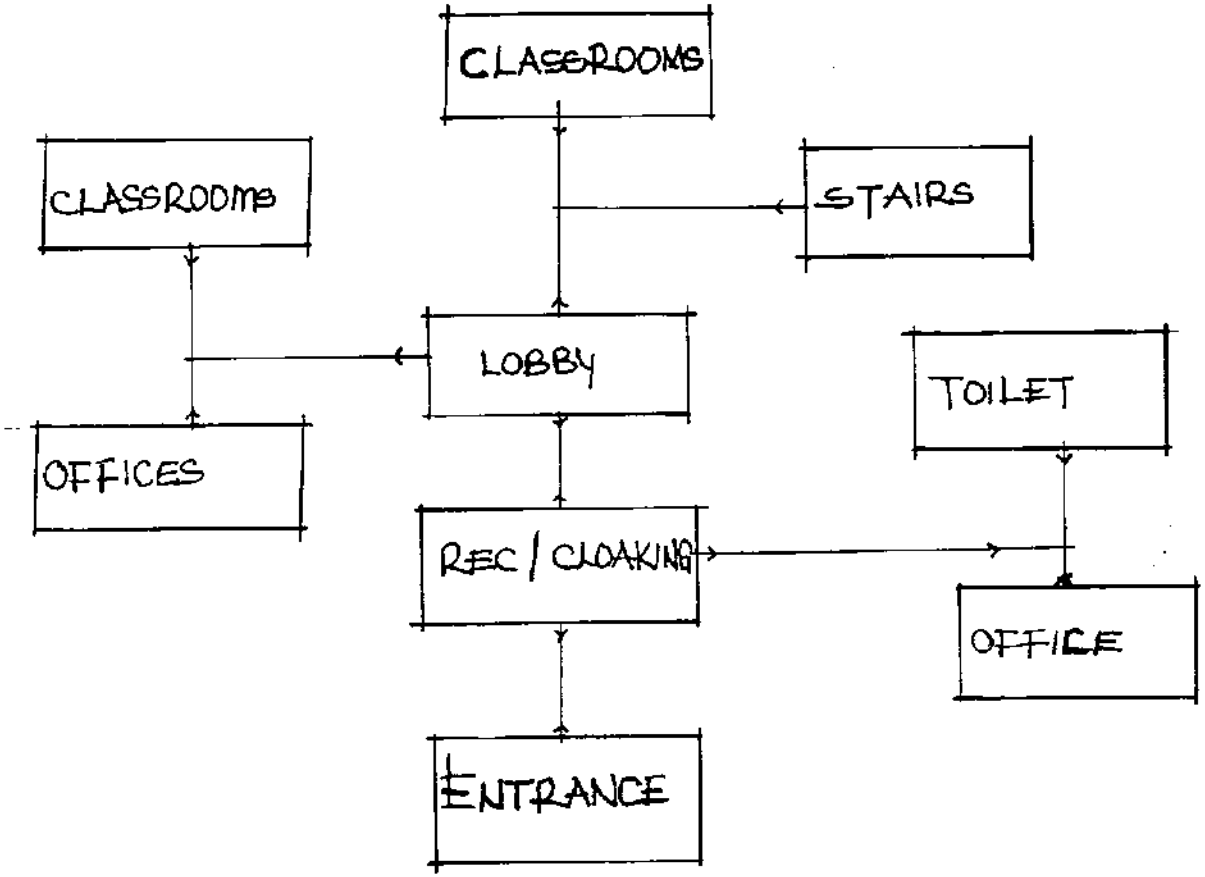


FIG. 25

BIBLE SCHOOL RELATIONSHIP DIAGRAM

6.6.0 SITE INFORMATION

6.6.1 The Macro Site (Location)

The site is located in Kaduna Town. Kaduna occupies the central position in the Northern part of the country which lies roughly between latitude 10° 27" North and Longitude 7° 27". East of the Greenwich Meridian.

Kaduna position was fixed by Lugard in 1912 as the most strategic place for his administrative and Military headquarters for the new protectorate of Northern Nigeria. Four attributes determined his choice of location.

I. It had water from Kaduna River, an important attributary of the Niger.

II. Kaduna was only slightly North centre of gravity of the then thirteen emirates that made up the then protectorate of Northern Nigeria as a whole.

III. Kaduna was served by the newly constructed (1911) railway stretching from Lagos to Kano and was planned to be the junction between his arm, linking the North with the west and the line pushing Northwards from Port-Harcourt in the East.

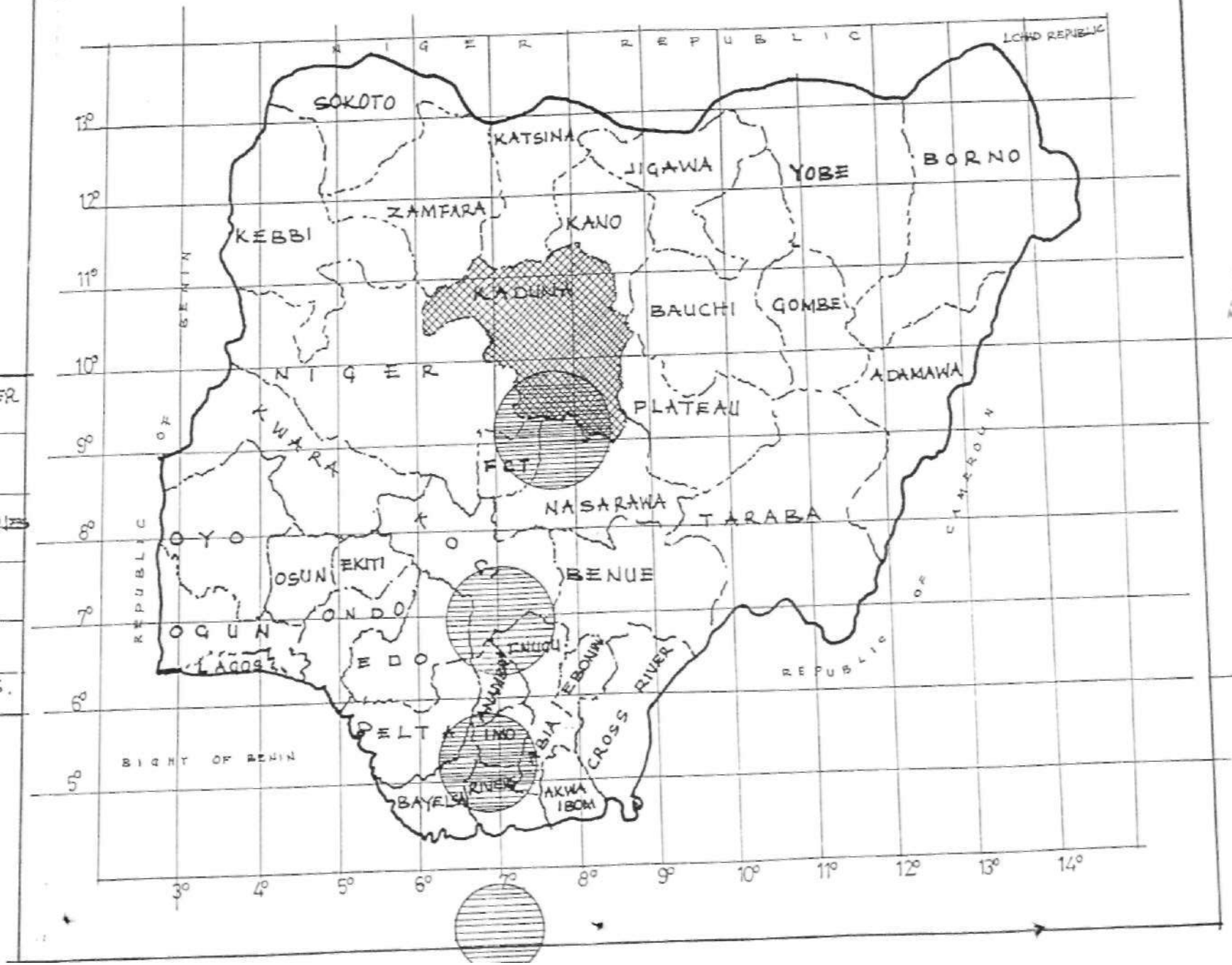
IV. Finally, as field administrative and military centre, Kaduna set in pagan Gwari country in the heart of Zaria province, was isolated from existing towns and would therefore be free from Local political complications (see figure).

6.6.2 Support Infrastructure

A) **Water Supply And Drainage:**

The main supply lines runs around the city network while feeder mains link the districts. The dstribution mains supply the localities, waste water treatment is expected to complement water supply while rain water drainage is along the drainage lines.

MAP OF NIGERIA SHOWING KADUNA



KASHIM IBRAHIM

END

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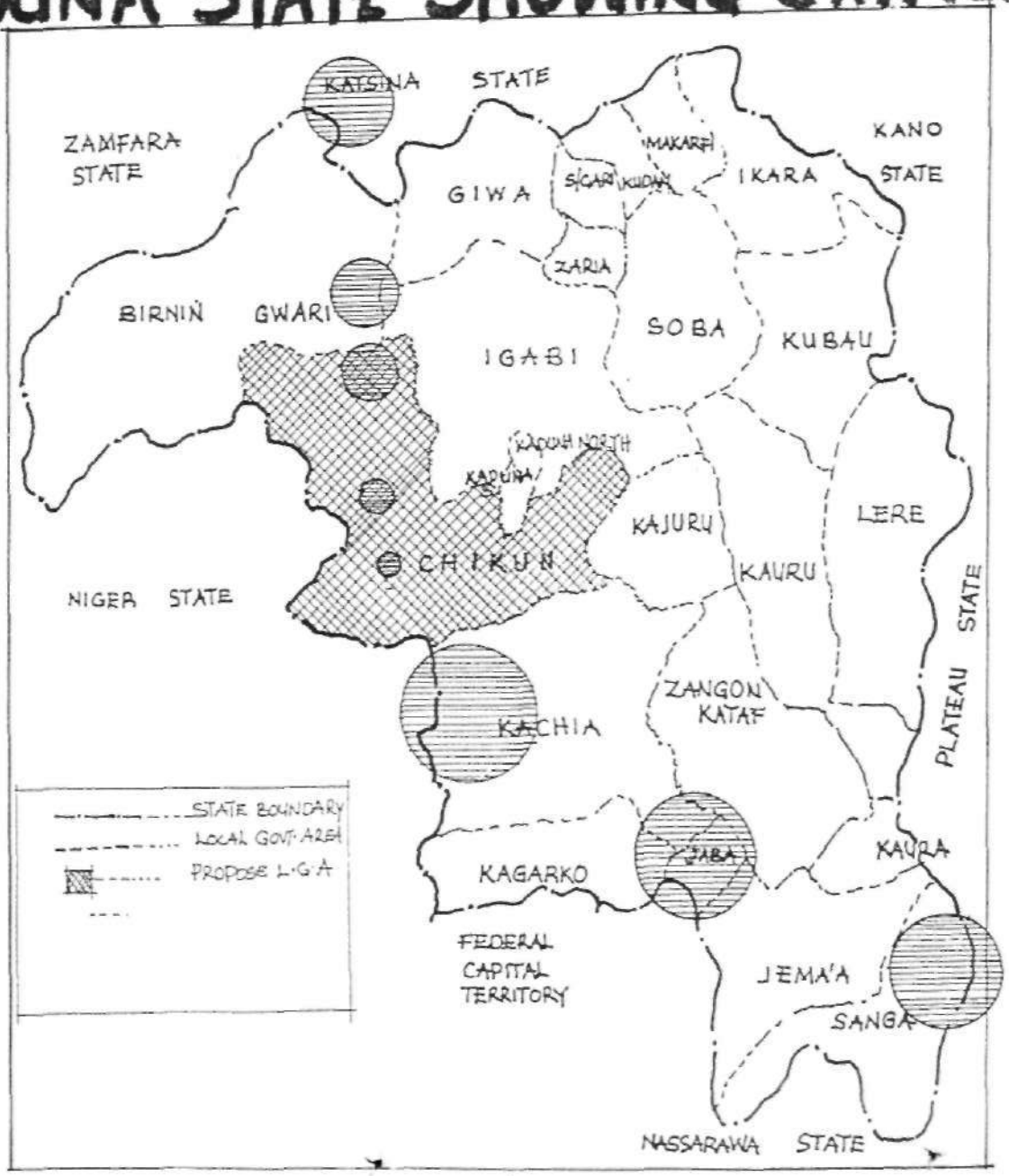
E BOUNDARIES

E WHERE
OSE SITE IS.

lap 1

MAP OF KADUNA STATE SHOWING CHIKUN

77196



map 2

B) **Electrical Energy Supply**

The Energy proposals are based on the hydro electrical plant in Jebba and the National Electric Power Authority (NEPA) 132 KV supply grid network.

Local distribution within the town is by means of overhead cables. This system, although economical is not very reliable, particularly during rainy season due to storm.

6.6.3 **The Geographical Setting**

A) **Topography**

Kaduna's regional topography consists of a rolling park like terrain with little relief situated about thirty metres above six hundred contour line.

The solid granite "inselbergs" rise sporadically and dramatically like great domes as much as three hundred metres above the general level of the plain. This is to the East and South Eastward from Kaduna abruptly ends in the escarpment to the Jos Plateau.

B) **Geology**

The typical rock found in Kaduna as a whole is magnetic mixed streaky rocks, granite in parts with darker and softer bounds. Over most of the area, the surface has decomposed to laterite.

C) **Climate And Vegetation**

There are four climatic - season noticeable in Kaduna which are as follows:

1. Dry season from - November - February.
2. Hot season from March - April.
3. Thunder and Storm season May - June.
4. Wet season from July - October.

During the dry season from November to March the dust Laden Harmattan wind, dry, cold and often strong, blows parching from the north east straight off the sahara regions.

The arrival of the rains in April, the prevailing wind vears to the south west and continues from May to October from that quarter. During the Wet season, Kaduna has 40 - 60 inches (1016 - 1524mm) with its peak from July - September.

The vegetation is of continous cover of well developed trees (mainly "Orchid bush") in natural state/ Trees are between 200 - 10,000mm high, some are however, taller. Also there are grasses which grows to a height of about 900 - 1125mm. The cover laterite of the soil can be up to 4,200mm and normally waterlogged in the wet season. It dries up and cracks in dry season.

D) **Temperature/Humidity**

Higherst temperature are in April and range between 35° and 40.5°C while the lowest are in January between 7.2°C and 12.7°C.

The mean range is greater than that found in temperature climates and the extremes of hot and cold in a single day places a strain on the inhabitants of Kaduna aggravated by considerable changes in humidity which in the dry season may well be below 10% in the afternoon and 30% at dawn.

Whereas in August, relatively cooler month because of the rains, the humidity at mid-day can be over 70% and at dawn 95% (see figures).

E) **Sunshine And Cloud Cover**

A general increase in the total hours of sunshine from the altantic cost to the interior (hinther lands) ranges from a minimum of 1300 in the extreme North of the country. The extreme is exposed to 2400 hours annually. Monthly variation shows that in the dry months, it varies from over 270 hours but as the rain approaches cloudness

increases with decline in sunshine particularly in August.

6.7.0 THE MICRO SITE

6.7.1 Site SelectionCriteria

In the choice of the site for the purpose of this project the following criteria considered are:

a) The choice of the site tallies with existing zoning that is land use.

b) The centralized position of site in relation to Assemblies of God churches and sections within the district.

c) The road pattern should allow full utility of the site.

d) The land availability at that point allows for successful completion of the headquarter facility.

e) The topograpny of the site should allow advantageous planning.

6.7.2 Location

The site is located at Gonin-gora presently in Chukun Local Government along Kaduna Abuja express road. The site is by the right side of the express (to Abuja) and immediately after the last street of the already developed area facing the express road.

6.7.3 Ingress and Engress

The site is bounded by dua carriageway and one arterial road to the North and a footpath south also bounded to the with a vast farm land.

The volume of traffic on the arterial road to the east is less which makes it suitable for the choice of entrance compared to the dual carriage way with high volume of traffic (see site analysis).

6.7.4 Air Borne Noise

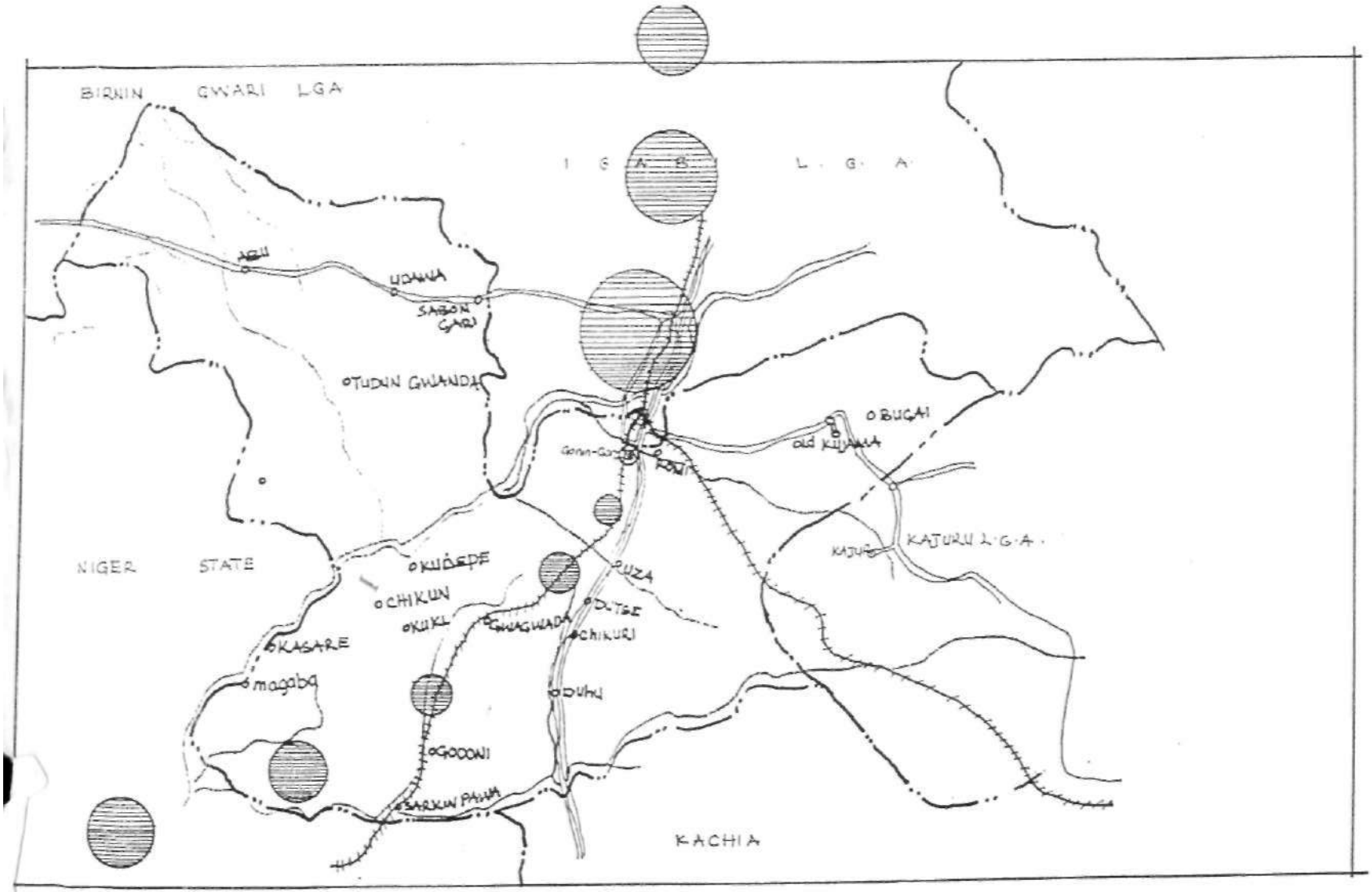
The dual carriage way and the arterial roads serve as a source of air borne noise. Plantings could serve as noise buffer and also reflect the noise. The immediate site area in these zone could be used as a parking area to allow noise to be sufficiently excluded.

6.7.5 Topography

The site is relatively flat, therefore no much site constraint which could affect the design. The slope is enough to allow for drainage of the site.

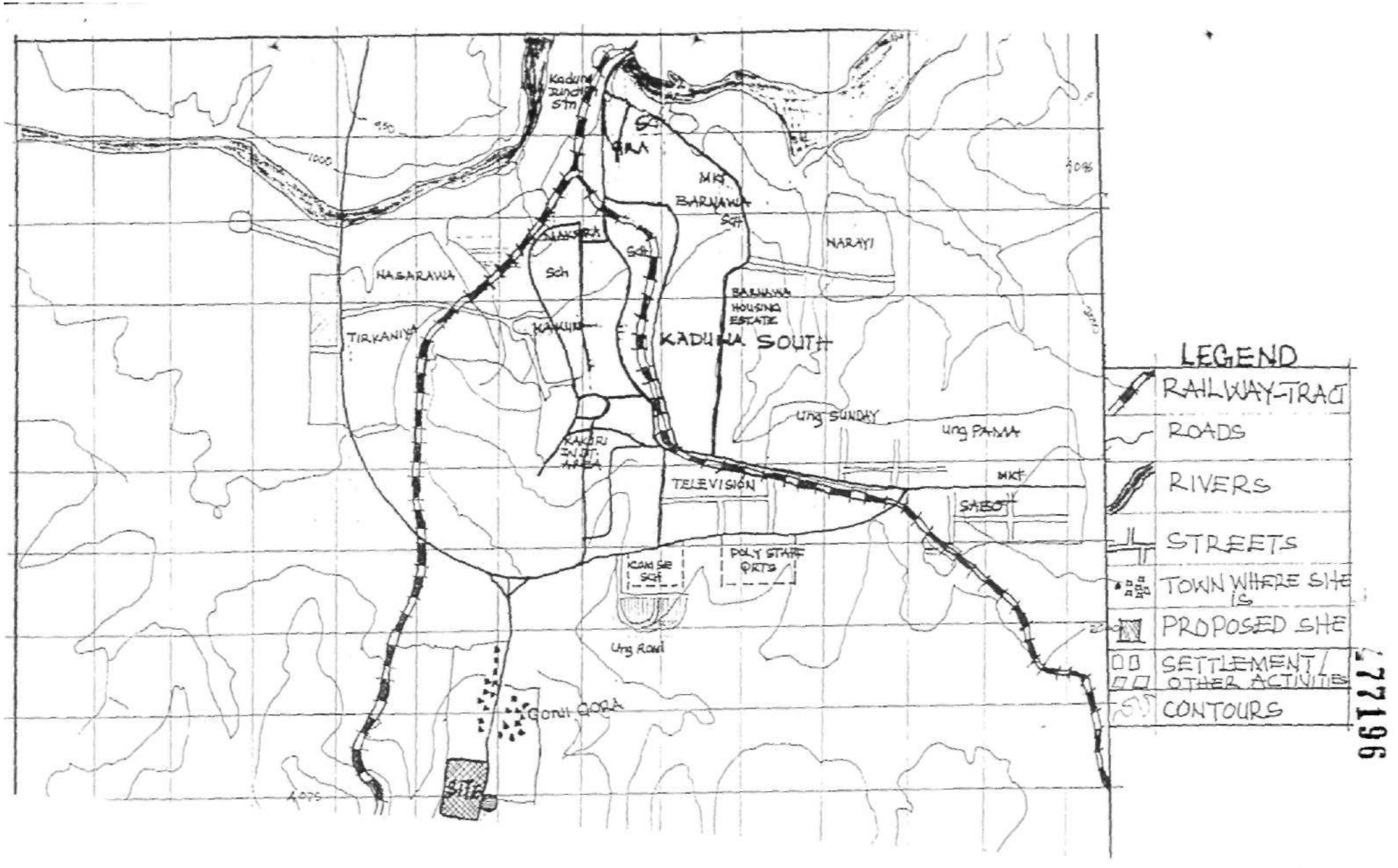
6.7.6 The Potential Built-up Zone

The total site area is 8450m of this set back from the dual carriage Northward is 9m, to the Western boundary is 6m and to the Western boundary is 3m, while the South boundary is 3m leaving a total of 6280m as the potential or likely built up area.

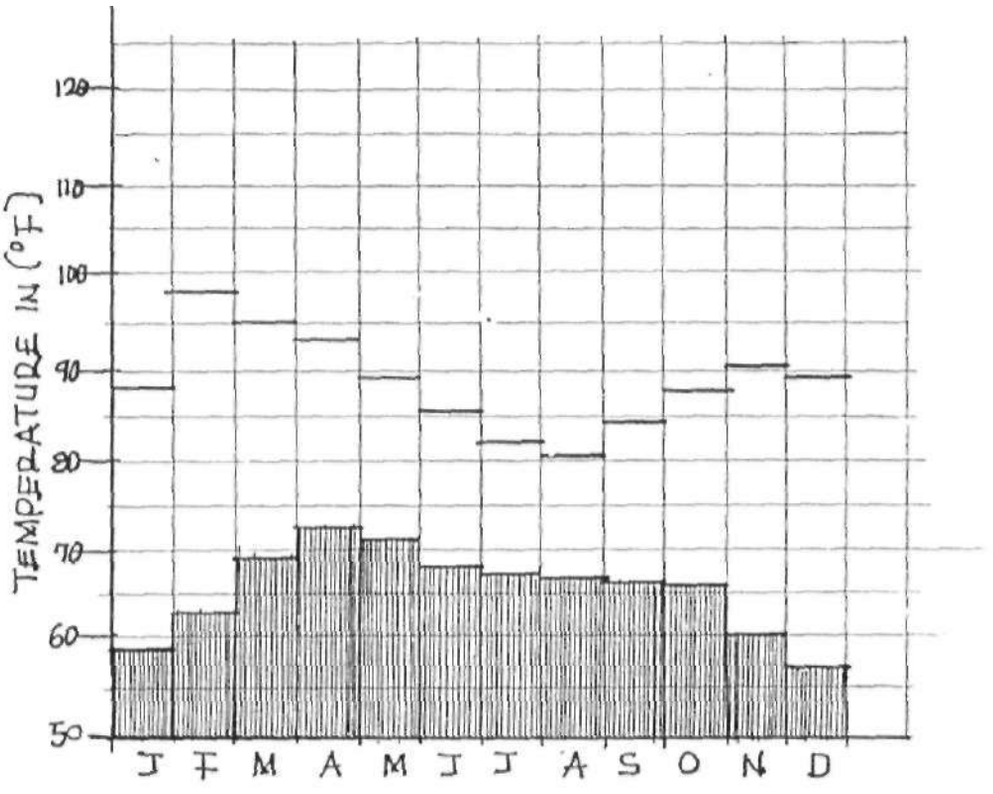


MAP OF CHIKUN LOCAL GOVERMENT SHOWING GONI GORA

map4

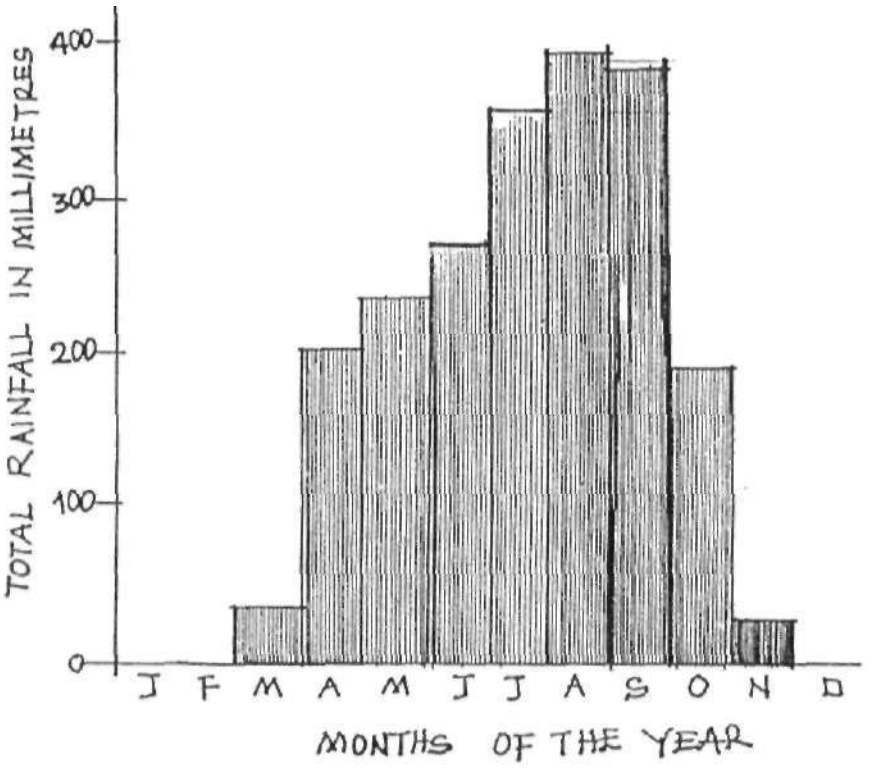

Kaduna Junction Stn
950
1000
MKT
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HABARAWA
BARNAWA HOUSING ESTATE
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KAKURI
KADUNA SOUTH
ung SUNDAY
ung PAWA
KAKURI ENJT. AREA
TELEVISION
MKT
SABON
POLY STAFF QRTS
Ung Rawi
Gonti GORA
SITE
LEGEND
RAILWAY-TRACT
ROADS
RIVERS
STREETS
TOWN WHERE SITE IS
PROPOSED SITE
SETTLEMENT / OTHER ACTIVITIES
CONTOURS

96727



THE TEMPERATURE OF KADUNA IS ACCOMMODATIVE COMPARED · OTHER NORTHERN STATE (FAR NORTH). THOUGH WHEN TEMPER IS VERY HIGH, IT CAUSES DISCOMFORT TO BOTH BUILDINGS AND] SO ALSO LOW TEMPERATURE. THE HIGHEST TEMPERATURE IS R IN THE MONTHS OF MARCH AND APRIL WHICH RANGES BETWEEN TO 40°C WHILE THE MINIMUM IS RECORDED BETWEEN 7°C TO 12°C MONTHS OF DECEMBER AND JANUARY.

FIG·21



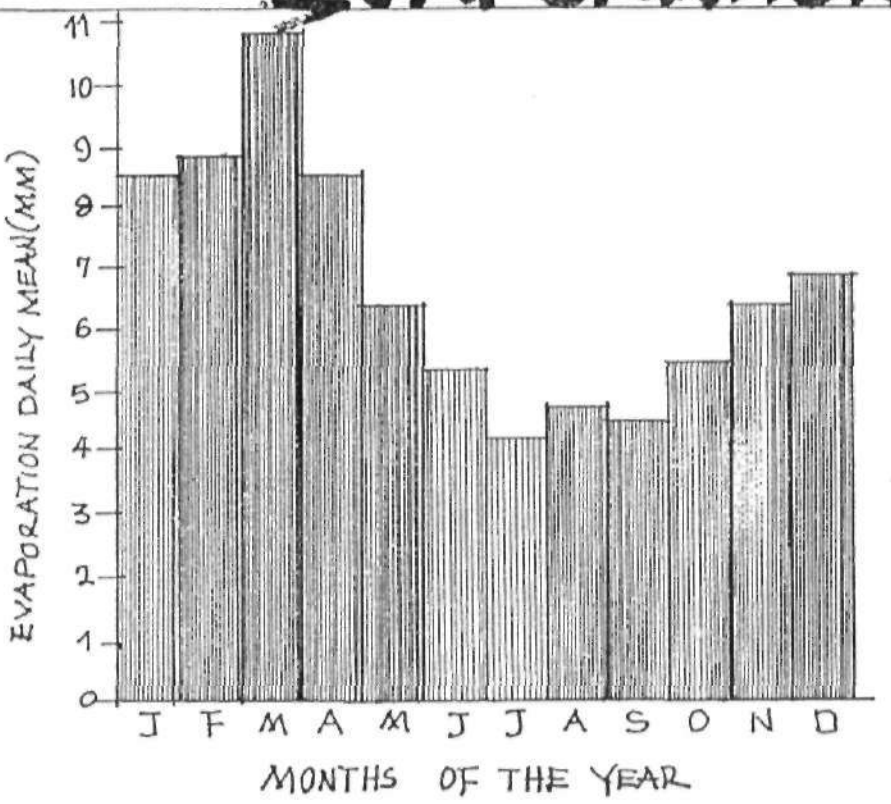
TOTAL RAINFALL (MM)			29·7	216·2	234·0	271·7	335·0	385·6	383·5	193·5	28·0
MONTHS	JAN.	FEB.	MAR.	APR.	MAY.	JUN	JUL	AUG	SEPT	OCT.	NOV.

KADUNA STATE AND GONIN GORA IN PARTICULAR EXPERIENCES THESE ARE THE WET AND DRY SEASONS. THE WET SEASON STAR -APRIL TO OCTOBER AND THE DRY SEASON STARTS FRON TO MARCH. THE HIGHEST RAINFALL IS USUALLY RECORDED I THS OF AUGUST AND SEPTEMBER WHILE THE LOWEST RAINFAL RECORDED IN THE MONTHS OF MARCH AND NOVEMB RAINFALL IS RECORDED IN THE MONTHS OF DECEMBE

FIG 22

KASHIM IBRAHIM

EVAPORATION

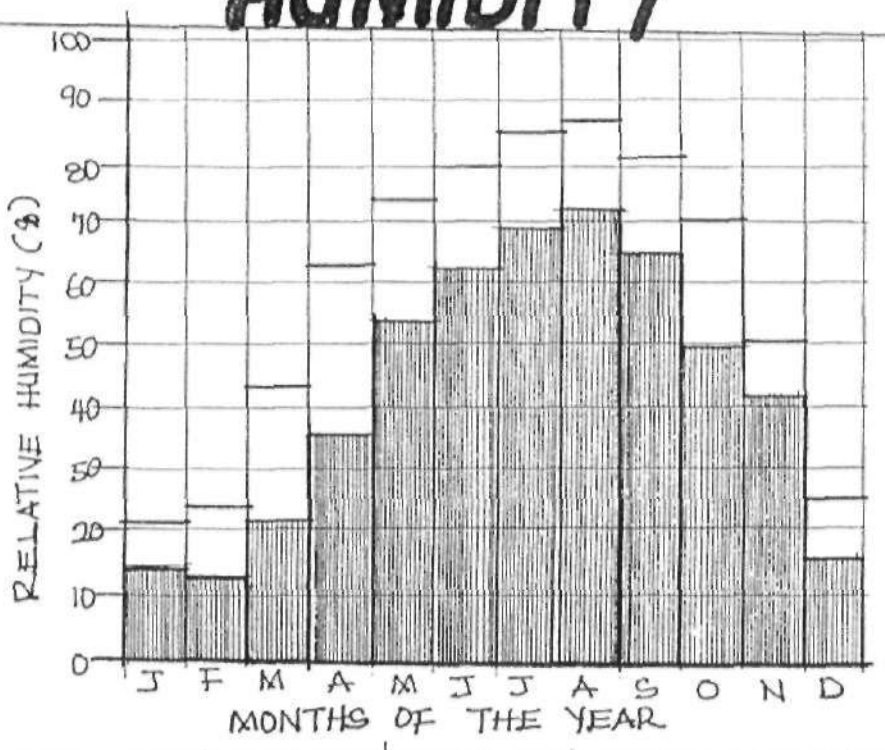


EVAPORATION DAILY MEAN (MM)	8·5	8·9	10·9	8·5	6·3	5·4	4·2	4·7	4·6	5·5	6
MONTHS	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	N

THE HIGHEST EVAPORATION RATE IS EXPERIENCED IN THE MOSTLY IN THE MONTHS OF NOVEMBER TO MARCH. WHILE THE LO SEASON MOSTLY IN THE MONTHS OF JUNE – OCTORBER. EVAPO RELATED TO BOTH TEMPERATURE AND HUMIDITY.

FIG·23

HUMIDITY

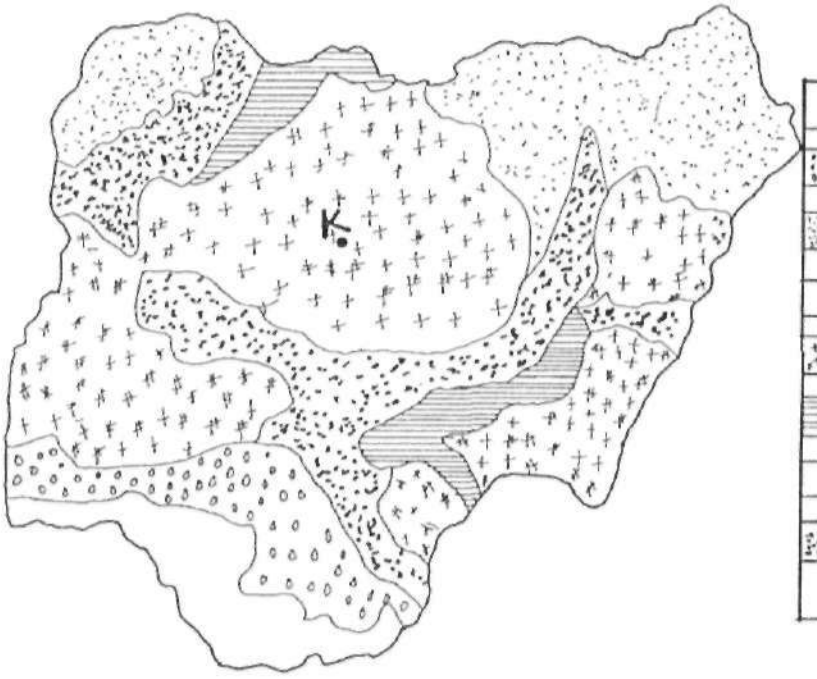


MAXIMUM (%)	21	23	43	63	73	80	85	86	82	70	50	9
MINIMUM (%)	14	13	21	47	58	65	70	72	68	50	43	
AVERAGE R.H (%)	17·5	18	32	55·5	65·5	72·5	77·5	78	75	60	463	9
MONTHS	JAN.	FEB	MAR.	APR	MAY	JUN.	JUL.	AUG	SEP	OCT	NOV	D

VERY HIGH AND VERY LOW RELATIVE HUMIDITY CAUSES DISCOMFOR TO BO BUILDINGS AND HUMANS. THE COMFORT ZONE RANGES BETWEEN 45 AI MAXIMUM RELATIVE HUMIDITY FOR KADUNA IS 86% IN THE MONTHS OF AU JULY. THE MINIMUM IS % IN FEBUARY DURING THE HARMATTAN.

FIG·23

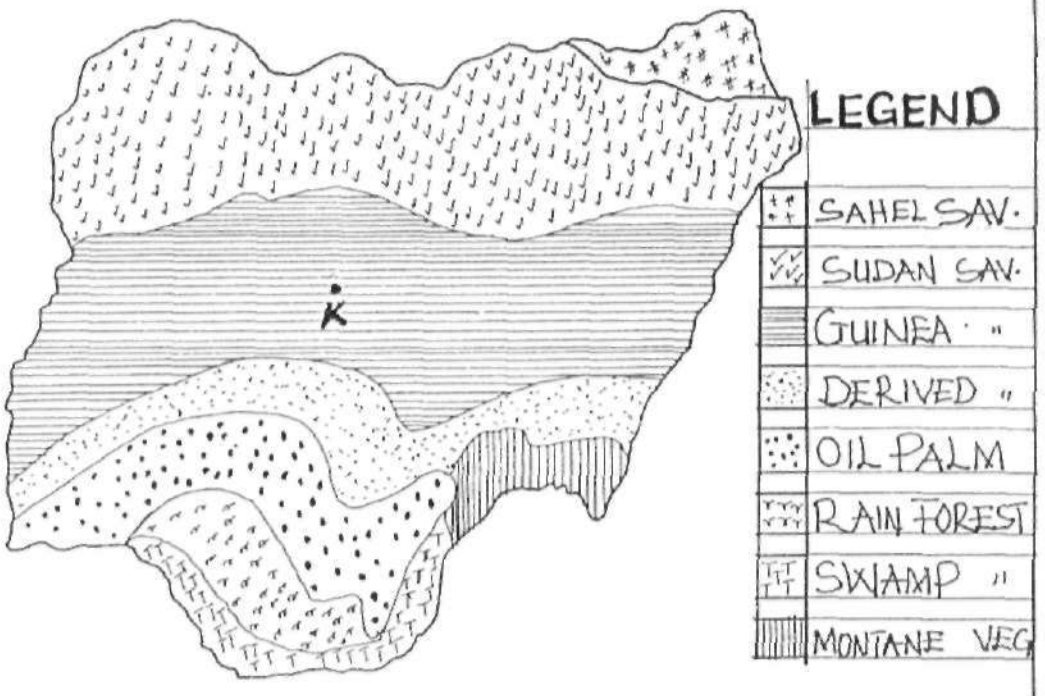
GEOLOGY



THE BASIC GEOLOGICAL STRUCTURE IS MAGNETIC FIXED ROCKS, GRANITE IN PARTS WITH DARKER SOFTER BANDS AND MUCH VARIED. OVER MOST OF THE AREA, THE SURFACE HAS DECOMPOSED TO LATERITE.

THE MAJOR SOIL TYPE IS LATERITES WITH LITTLE HUMUS SUITABLE FOR AGRICULTURAL PRACTICES.

map.5



KADUNA FALLS WITHIN THE NORTHERN GUINEA ZONE WHERE WHEN UNMODIFIED BY MAN CONSIST OF "ORCHARD BUSH' SOME TREES DEVELOPED OVER 15-22m HIGH. AS A RESULT OF MUCH MODIFICATION OVER THE CENTURIES BY CULTIVATION, BURNING AND GRAZING, IT HAS TODAY BECOME IN MOST PLACES, OPEN AND PARK LIKE GRASS LAND. THE LAND NOW IS SUITABLE FOR GRAZING

THE ONLY NATURAL TREE FOUND IN THAT IS A LOCUST BEANS TREE WHILE OTHERS ARE PLANTED BY PROPOSED SITE USERS.

map 6

SITE ANALYSIS

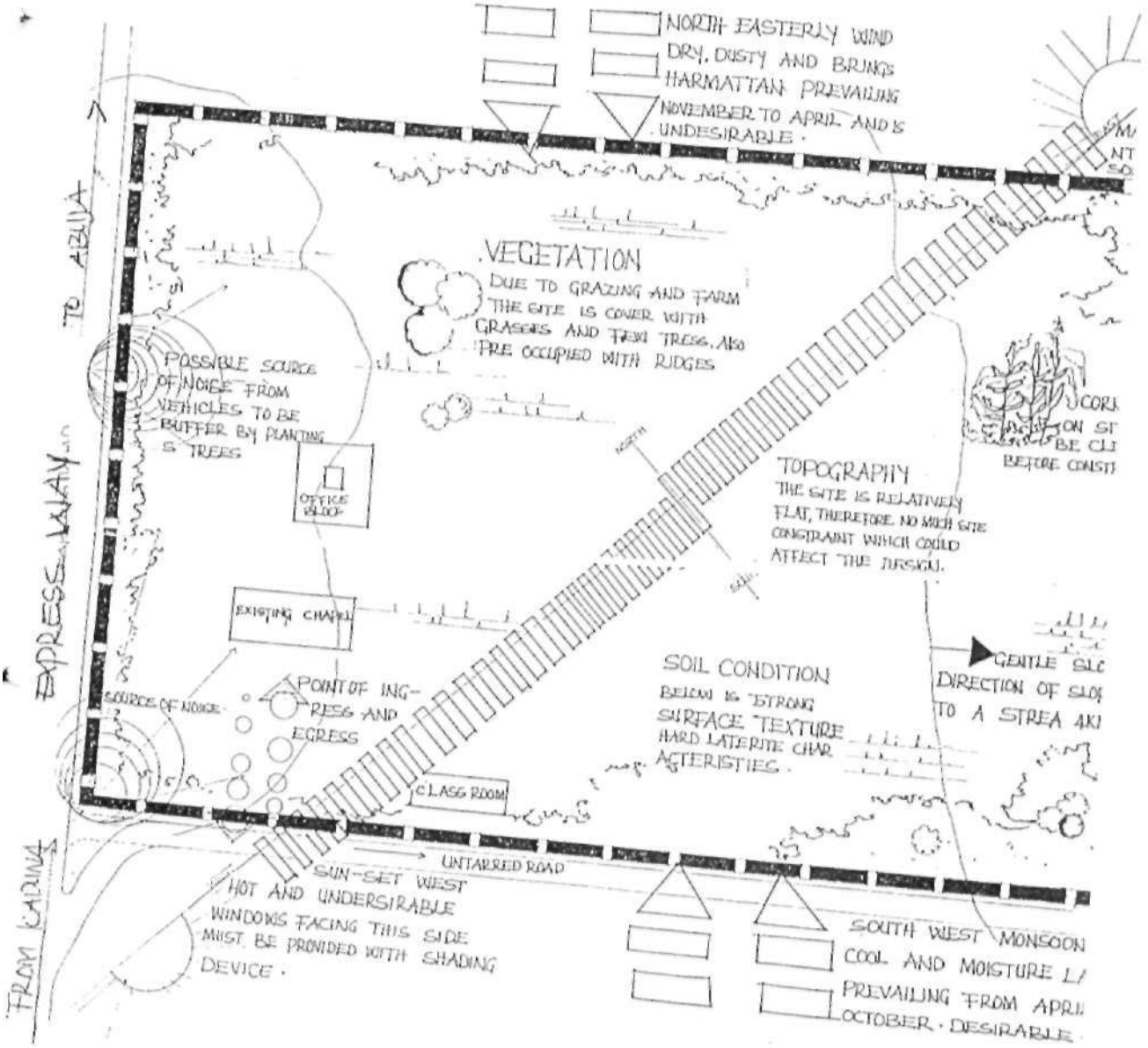


FIG 24

SITE ANALYSIS

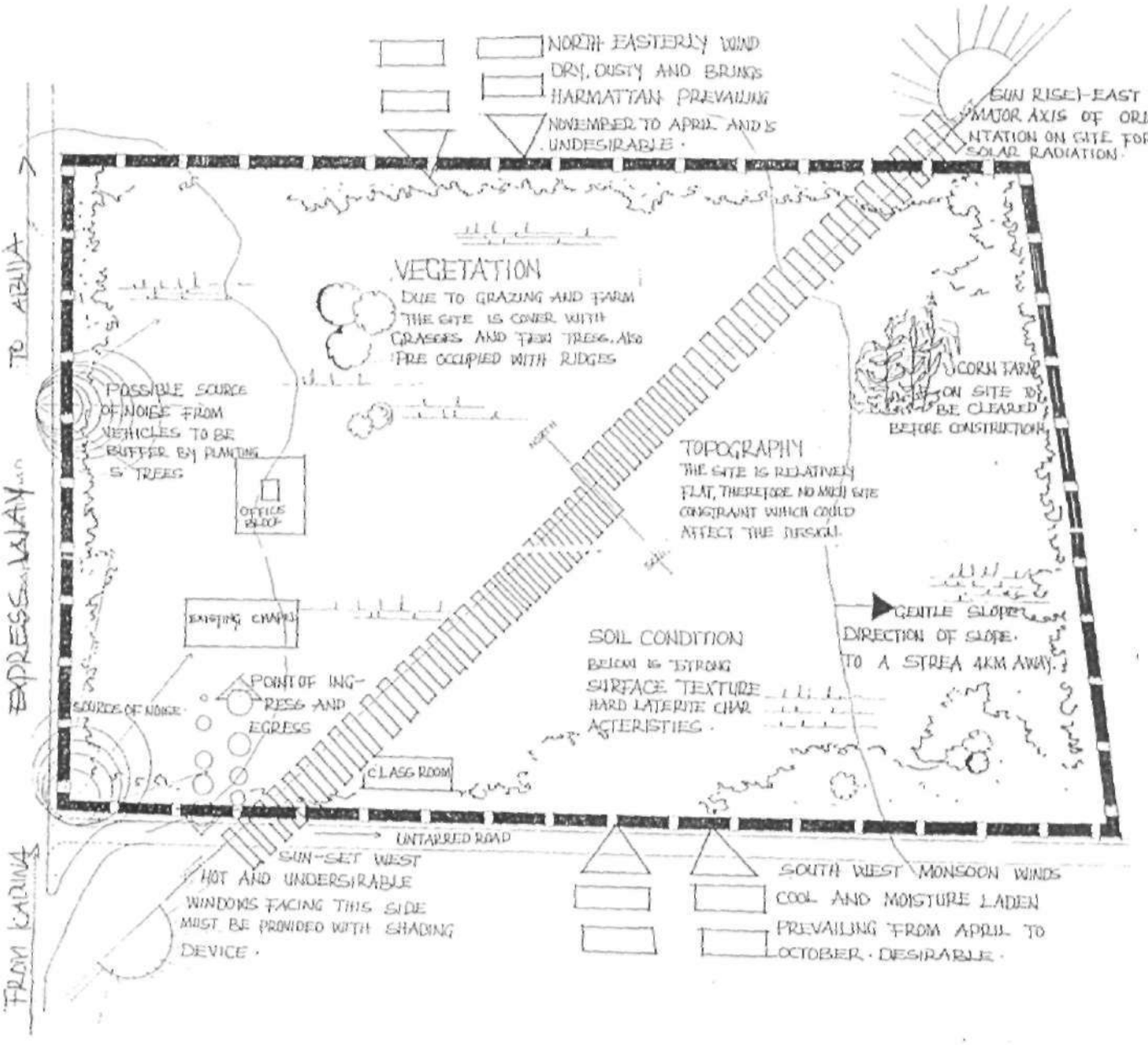


FIG 24

CHAPTER SEVEN

7.0 DESIGN PHILOSOPHY

7.1.0 Abstract

8.1.1 Abstract

"If you are going to build..... you are going to great a thing which speaks. It will speak meanings and values, and will go on speaking and if it speaks of the wrong values it will go on destroying. There is responsibility here"

Robert Maguire

The expectation of any Religious building (as a public building) is to speak its function to viewers and users. This can only be achieved using two factors in architecture, these factors are: symbolism and signolism. Symbolism can be defined as a grass-root concept of form while signolism is referred to an after thought to convey the function of building to viewers.

Imagery was an important factor considered during the construction of the pre-contemporary church especially the roofing system, and the writer of his thesis is still emphasizing about (it shouldignored due to the contemporary approach).

7.1.2 Conceptual Analysis

The conceptual analysis is based on the idea of relating the existing site situation to functions which are based on zoning. It also involved the organisation of the total land area as well as air space of the site for the best uses.

A well integrated concept takes into consideration the following,..... Architecutre, Engineering, Landscape Design and Planning.

Also the development organisational pattern for a design programme begins with observation of the characteristic activity patterns of the users. This will level a hierarchy of activities for which the programme must offer solution. One rung in such a hierarchy is frequency of use.

This organising principle places the Bible school and administrative block at front of the site immediately the site entrance. The crusade ground and Auditorium is located within the site. The crusade ground occupied the central portion followed by the auditorium. The position of the admin and school block is due to daily frequent use.

The best organisational solution in a design proposal is the product of various concepts which together form the concept. These various concepts are fuly explained below as the design report.

7.1.3 **Design Metamorphosis**

The figure below represented the sequence of the evolution of the Design from sketches to site system. The comments besides shows the architect thinking.

7.2.0 **DESIGN REPORT**

7.2.1. **Site Concept**

From analysis of site, the characteristics of the site were known. The shape, surrounding environs, slope, favourable view, noisy areas and so on were established. From these projections of the most favourable point of ingress, orientations, parking spaces and zoning of the public, semi-public and private is made.

Zoning, high hierarchy of used (daily used) security and accessibility (visitors accessibility) especially those coming for admin purposes or for training are limited at frontal part of the complex.

The above factors are the determinants factors to the location of functions such as

administration and school near the Engress and Ingress, the parking lot located close to the express road while church and crusade ground located in the middle of the site only worshippers reaches there; this location enhances security during church programmes and conventions, while the level of noise is less. The accommodation (Hotels) Residential area and meditation park deserves high security lesser noise therefore located at the quiet zone.

7.2.2 Design Concept

Apart from functionality which is the most desirable conceptual factor of every successful design (form follow function) another factor considered during the conception of the proposed headquarter is imagery. Imagery is the pioneering architectural achievement of the designer of the Assemblies of God church headquarters Kaduna. This is basically applied on the church auditorium and the administrative block.

The concept put forth for the achievement of the designers intentions was the concept of LIGHT. This is based on theological discoveries of what the expectation of God (Jesus Christ) was towards his followers. This is taken from the Bible in the book Matthew Chapter 5 verse 14, 15 and 16 - (a) "You are the light of the world; (b) A city that is set on a hill cannot be hidden; (c) Nor do they light a lamp and put it under a basket, but on a lampstand, and it gives light to all who are in the house; (d) Let your light so shine before men that they may see your good works and glorify your father in heaven".

Although this saying was referring to the people or persons life style. It is the expected that everything that concerns the Christian faith should reflect the above saying of the Lord Jesus. A building that is worthy of gospel proclamation should be worthy of its architectural expression, that men may see and glorify our father in heaven.

This was applied on the design of the church auditorium and administrative and achieved imagery.

I. **Plan:**

The location of the church auditorium and admin block is done in such a way that the

viewers both by the Kaduna - Abuja express way, and viewers by the minor road into Gonin-Gora extension can appreciate the beauty and the architectural expression of ecclessiastism image without being told.

The plan of the church auditorium took a fish-like form with the head serving as the Alter, the body as nave, the tail as the entrance and the fins serving as the auxiliary functions (meeting holes) toilets, counselling rooms and staircases to convey worshippers to the gallery.

The form and nature of the plan is achieved based on three factors:

a) The need to create a church building worthy of both gospel proclamation and architectural expression.

b) The entrance taken a fish-tail shape which diverges outward at the two stair-case ends and a series of steps pushing outward under a concrete slap canopy meeting the walk-way (pedestraine) walk, is designed to create an acceptance of the worshippers, inviting and welcoming people into the House of God).

c) The need for a building that would not only satisfy the functional, requirements but also generate a physical imagery which would differentiate it from any other building around it.

The capacity of the church is to contained 5000 worshippers at a time. This is divided to both ground and first floor plan. The ground floor contains 3500 at a sitting while the first floor takes 1500 worshippers.

There are four stair-cases within the auditorium, is meant to vacoute worshippers from the gallery quickly as soon as service is over or in case of any hazard. One of the stair-case is used for the tower of about 30m height which stands for unity of the body of Christ.

KASHIM IBRAHIM LIBRARY

Other facilities within the complex include the administrative block/clinic containing 25 offices and stores with two stair-case, one within the block while second is used as escaped staircase attached to the clinic. The block is approach from the express road and from the minor road on the south elevation.

The school block is made up of six class rooms and offices, each class is to contain 30 students each. The lecture auditorium is meant for lectures seminars and wedding receptions. Its capacity is to contain 400 people at a time.

The accommodation block is link to other functions within the complex by walk way and vehicular road.

II. **Elevation (Physical Image)**

As earlier indicated, the aim of the design proposal was not only to satisfy programme requirements alone but also to evolve a building form well integrated to its purpose yet having character that portrays both contemporary simplicity of design and the pre-contemporary architectural image.

The physical image attempted by various means to express ideas associated with the purpose of a church building. These ideas include that it be endowed with symbolism, grandeur, dignity, respect, power and above all imagery. In the elevational composition, the introverted approach was adopted, which advocates that the building be bold and massive.

The concept of the Holy Trinity (God the Father, God the son and God the Holy Ghost) is exploit on the typical approach elevation (elevations facing the express road and the minor or access road). The two stairs represents the gothic towers, which is acting as God the Son and God the Holy Ghost - while the elements at two sides entrances bearing the cross sign is representing God the father. The circular columns at the approached elevations supporting the concrete gutter slab too is another representation of the trinity.

III. **The Roofing System**

The use of circular dome on a square or rectangular plan during the Byzantine period was said to indicate the stability of the circular form this was explode during that era in church roofs to indicate the stable God they were serving. This dome was further modified during the Renaissance period. With the increase in engineering skill and specialization the octagonal dome was achieved.

The above ideas of roofing are married into the proposed design of the church auditorium of the Assemblies of God headquarters Kaduna. The system exploit here is polygonal pitched (roofing system) with the apex at Central Point of the plan instead of the dome. The roof is about 15m height having a slope of 42° (degrees). It is very massive and gave the church an Imagery appearance when viewed at a glance. It gave the church, a symbolic, supremacy and semiotic character, ascribing the supremacy nature of God.

7.3.0 MATERIALS, FINISHES AND CONSTRUCTION

In selecting materials and finishes, the following points have been considered:

- Durability
- Appearance
- Cost
- Fire resistance
- Code acceptance
- Ease of cleaning
- Acoustical properties.
- Method of installation and
- Availability of materials.

The construction materials used here are of high quality and durable. This is to reduce cost

of maintenance and also indicate the permanence. The materials used here is categorized according to their location in the building and are classified as follows:

I. Roofs
II. Structural System
III. Floors.
IV. Surfaces.

7.3.1 Roofs

The proper specification and installation of a roof, is a conspicuous factor in determining the quality of a structure. In the selection of roofing systems employed, slope, appearance, combustibility, permanence, walkability, maintenance and relative cost are considered.

The roofing materials is mainly two types:

I) Long span aluminum roofing sheets.
II) Concrete decking with protective layers and a parapet wall round.

The long span aluminum is supported with steel and trusses, it is used in covering the whole building within the complex. It was chosen because of its light weight and reflective properties. Sound transmission through the roof is minimized by the use of acoustic.

7.3.2 The Structural System

The columns and beams of the entire complex are reinforced concrete. The columns are invariety of shapes depending on the position or location in the building. The walls are 225mm with 12mm plastering on both sides. The structural grid is 4.0m centre to centre.

The roof structure composed of steel trusses supporting the roofing materials.

7.3.3 **Floors**

Since heavy human traffic is anticipated, the floor finishes of the church, canteen and lecture auditorium is hard-wearing resilient surface in order to prevent excessive wear due to high concentration and movement of traffic. The surface will also have to be of high quality and very well polished. Pigmented terrazzo will be laid over concrete floors in areas like the administrative blocks, accommodation, toilet, corridors and so on. Reducing the transmission of sound under the floor.

7.3.4 **Circulation**

The circulation pattern have been such that the crowd have defined pedestrian access to all parts of the complex and also such have help to disperse the crowd after meetings (service or convention). The church auditorium is dsigned such that there is a clear pedestrian mall from the gate that led to the open air crusade ground and the church auditorium.. A clearly defined egress and ingress for vehicles is obvious from the gate and from the parking lots, there is defined pedestrian walkway that leads to the main entrance.

7.3.5 **Fire Control**

Various strategies have been employed in the building to minimize or eliminate damage to property from fire and also protect life. Provision of two stairways.

7.3.6 **Ventilation**

Ventilation is achieved by providing enough finestration to provide adequate and natural ventilation. Also the use of the Givoni angle auditorium). Also the use of the artificial means (fans) in the church auditorium; A.C. in the offices.

The position of the windows at the leeward side and suction side to release the compress or conterminated air.

CONCLUSION

The study of "Re inventing conventional forms for pentecostal worship" with particular emphasis on the Assemblises of God church Headquarters, Kaduna has been a challenging but equally rewarding experience.

This research has inclined more towards seeing architecture as a means of visual communication and combination of perception, understanding, and emotional response. It has examined church buildings through the years (pre-contemporary and contemporary) that have by the symbolic character (Imagery) they generated, attracted a response from architects and non architect alike. It has examined why one or some churches give us a sense of harmony, completeness, symbolic character while other does not.

In the course of this research, it has been found that Ecclesiastic architecture is a diversified kind of architecture. This conclusion was based on the fact church architecture kept on changing from one era to another right from the early Christian cultures (pre-contemporary to contemporary world). The uniqueness about the pre-contemporary, church architecture was its ability to have an image that differentiate a church building from any other building around it. This image differentiated the church from one era to another and from one region to another by the roofing systems. Certain reasons wee responsible for the achievement of this symbolic character which include:

> *The desire to make the church have that unique character when compared to other buildings around it, the desire to create a sense of supremacy between the building and the worshippers. The builders and designers were mainly professionals while the period of building the church takes longer period produced quality product and quality materials were used.*

Contemporary church on the other hand is gradually appearing deceptive making it hard to viewers understanding its function when sign boards or cross-sign is been removed. Factors like penticostalism, modernization, economy and political factors, introduction of New materials (building materials) is associated with the sudden change in church architecture.

In the design proposal, these factors were brought to play and an attempt to create a harmoniously pleasing complex with aura of dignity, importance and an image was made.

This is not to say functional requirements were thrown to the wind but rather that intergration was south for between function and symbolic character concerns. This was a prime research objective. The architectural solution proposal stimulates aesthetic pleasure and creates symbolic character which creates a visual impact in the vicinity. In the implementation of symbolic character in pentecostal conventional forms in the country, certain problems will be encountered. Among these are budget limitation (cost) contemporary style and most important is the appreciation of the concept by the users of the building.

Regardless of the situation in the country today, our inability to change financial conditions does not mean that we cannot significantly affect the quality built church forms. Our failure to grasp successfully the concept does not mean that we cannot solve some problems to improve the quality of church buildings are necessarily doomed before they are even started. In church building as earlier started since the minister and the users are the client, there most priority should be on ability to built a form which does not only satisfy internal function (preaching the gospel but to convey the function to viewers by its nature.)

A church design for God should be beautiful, beautify in the terms of aesthetic and conveying the right meaning. When God created the world, he sat and look at his work and he saw that everything was good. It was good in the sense that it conveys the right meaning, there was no camouflage making a tree in place of a man or a man instead of Gorilla. This suppose to be an example to all designers of church buildings. "Out of the abundance of the inside let outside show". It might caused you a lot of money and time but remember whatsoever you spend for God is not a waste and the time you spend building for God is the

best of all time 'David said in 1st Kings 22:14 I will not give God that, which wrought nothing". Any church that is worthy of the gospel proclamation must be worthy of its architectural expression. God deserves the best from us.

Though the research has reached no concensus on clear-cut solutions, there has been considerable analysis of the problem and it is hoped, that there shall be further research on 'Re inventing conventional forms for pentcostal worship'.

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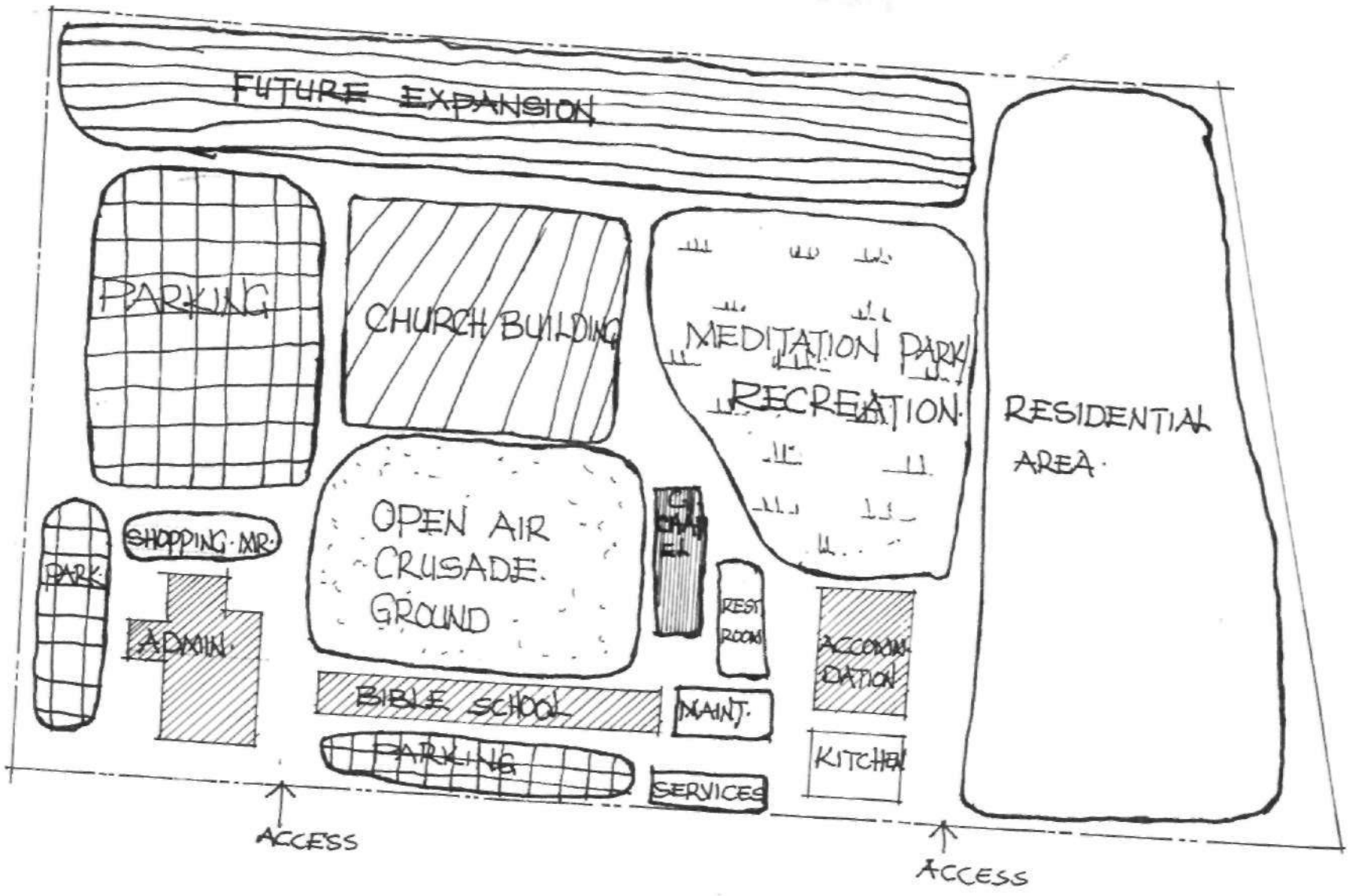
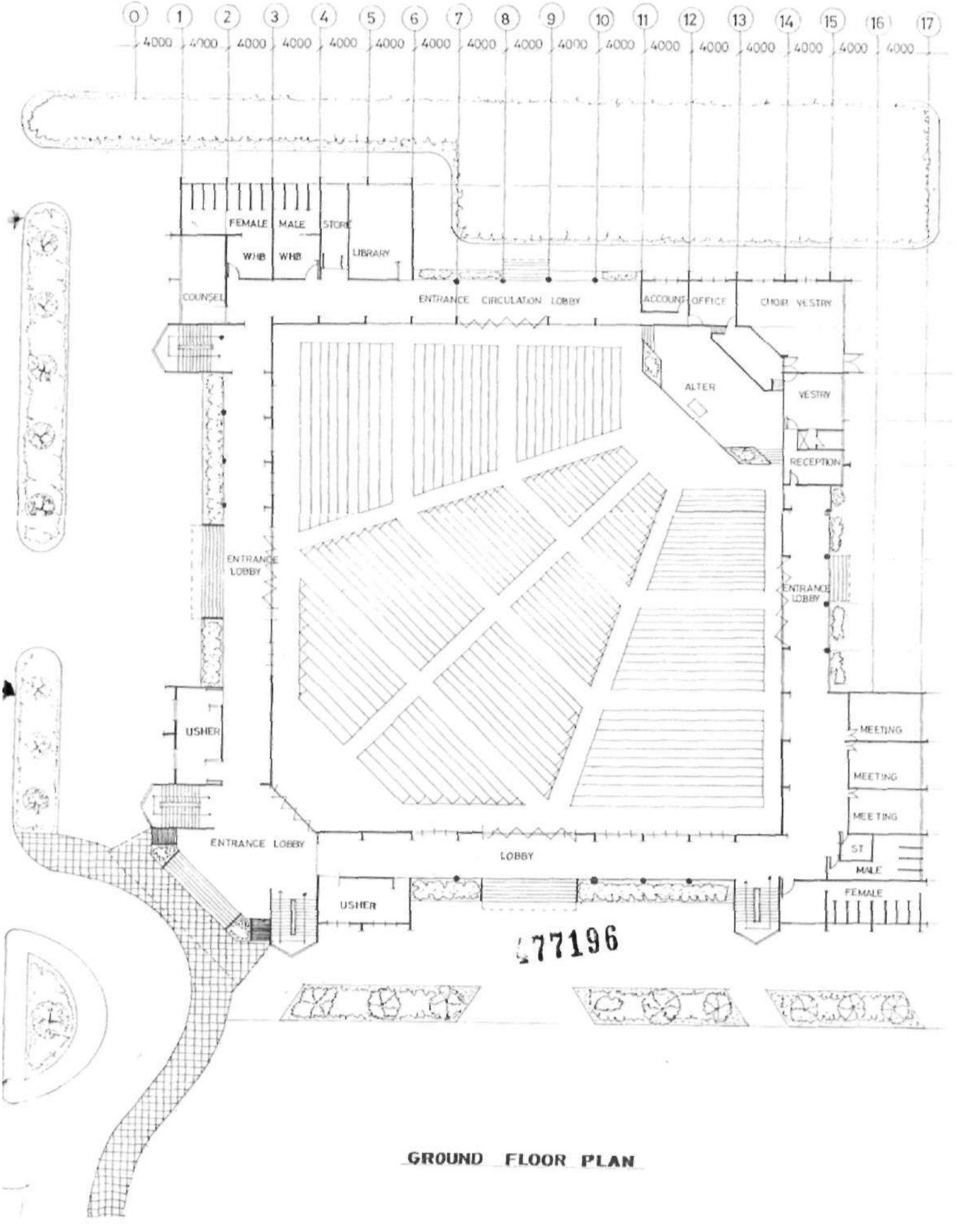


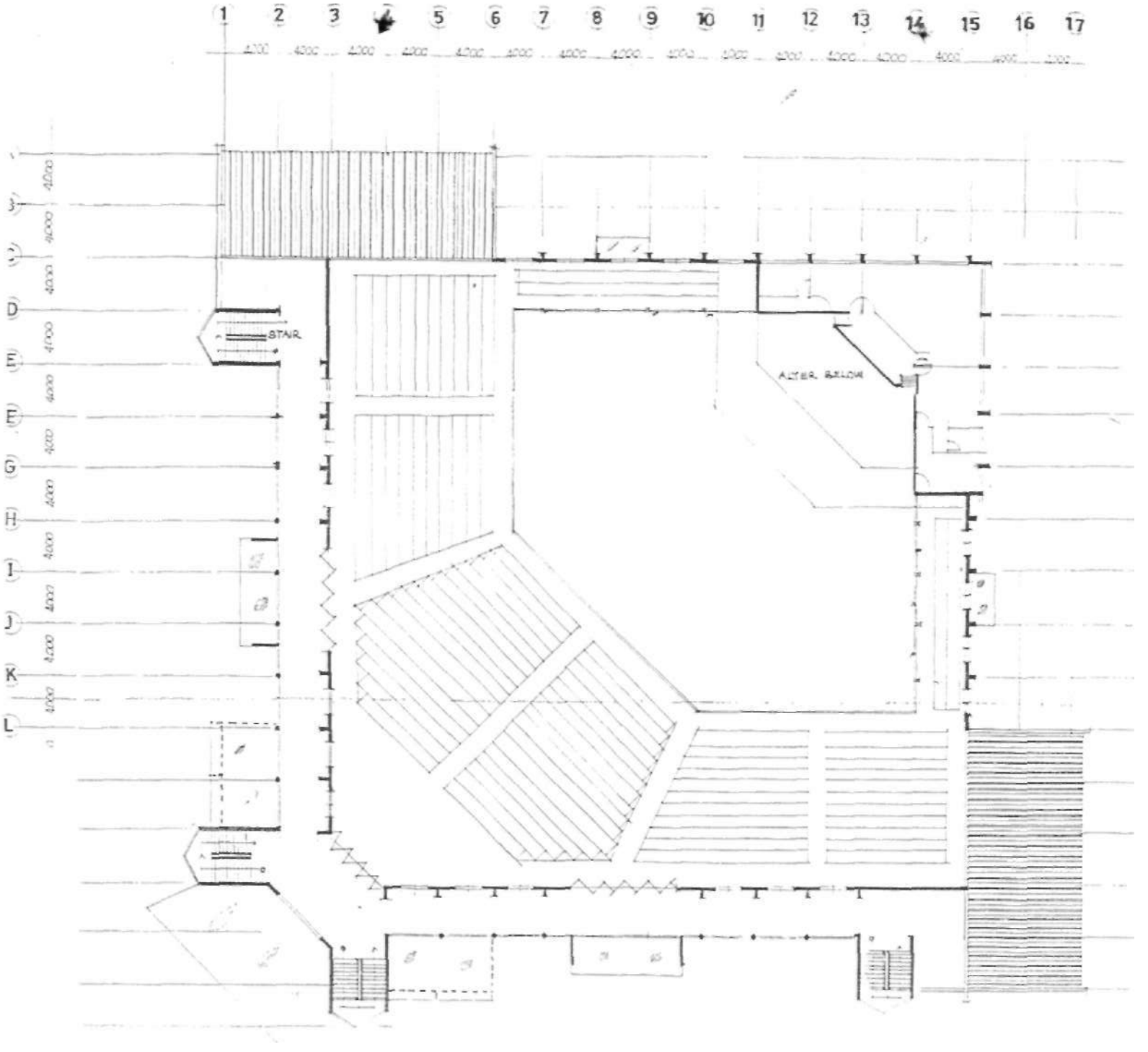
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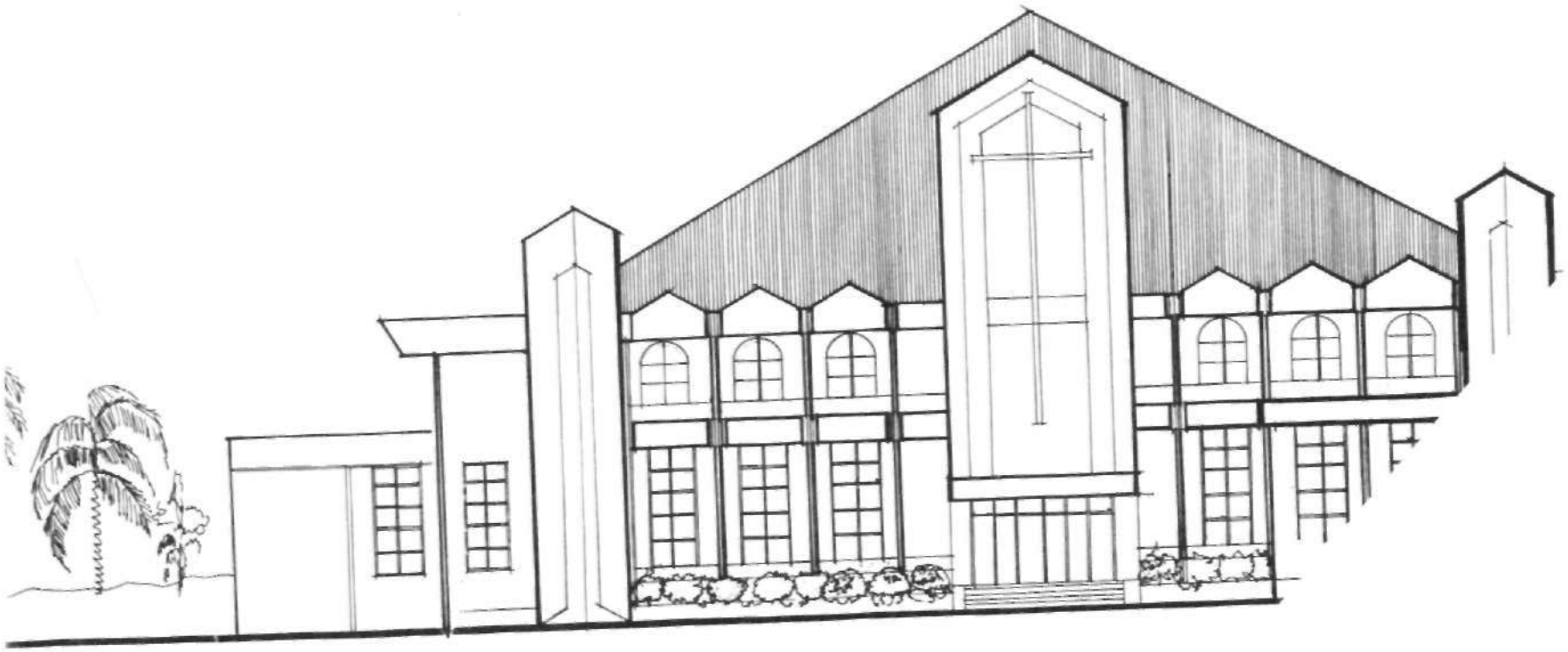
SITE CONCEPT



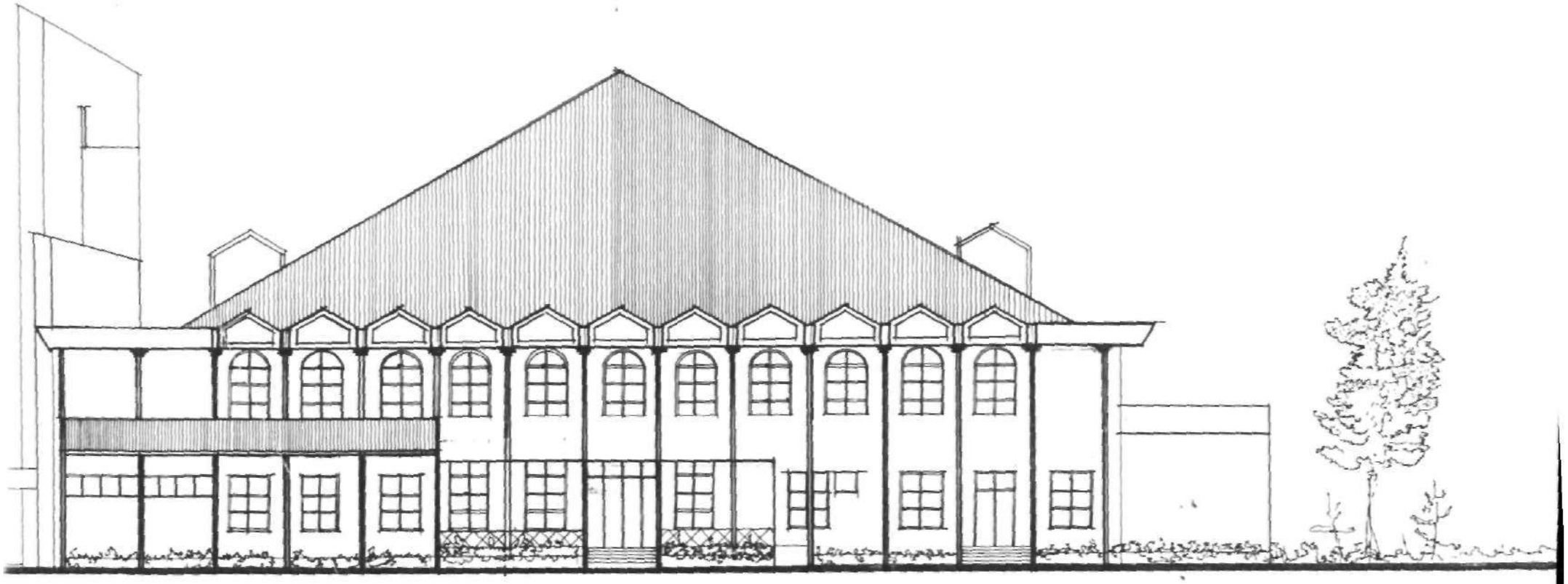
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GROUND FLOOR PLAN


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SOUTH EAST ELEVATION

