

**INTERNATIONAL HOTEL
WARRI**

M. TECH THESIS

BY

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92/2930

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M. TECH (ARCHITECTURE THESIS)

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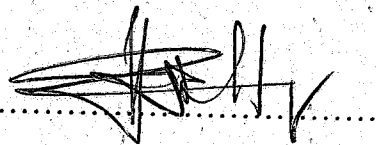
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DECLARATION

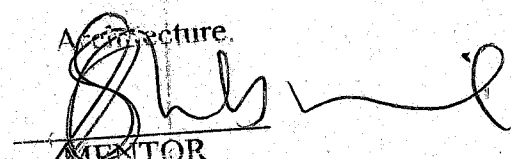
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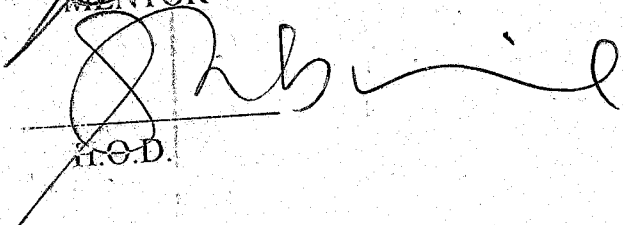
A handwritten signature in black ink, appearing to read 'RhaHOR Onajite Michael', written over a dotted line.

CERTIFICATION

This is to certify that the thesis INTERNATIONAL HOTEL WARRI submitted to the school of environmental technology, Federal University of Technology Minna for the award of degree of master of technology in architecture (M. Tech Arch.) is a record of original research carried out by RHAHOR O. MICHAEL of the department of Architecture.



MENTOR



H.O.D.

22/5/00
DATE

225/00
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DATE

SEAN S.E.T.

EXTERNAL EXAMINER

DATE

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DEDICATION

I dedicate this project to my Father in the Lord, Bishop Joseph Ebohinmen who through spiritual guidance made me what I am.

ACKNOWLEDGEMENT

The effort taken to reach this level of my educational carrier is not a single personal effort. It really has been collective encouragement inspired by some of my friends, family members, teachers and Christian brethren in and outside my educational environment.

I will use this opportunity to appreciate the effort of my friends in Aso studio who are God sent to the success of my career – EFE OTADAFERIA, ADAMU L. MOHAMMED, TOYIN OMOTOSHO PAUL AKALUZIA TIMA MMAKE AND ORO IDOLO ATA. I will also mention other members and friends who have always created a good and challenging making environment which have been a source of encouragement to me. To Fatima Yussuf, Ramatu Abubakar, Emmanuel Offie, Sarafa Lawal, Diran Adeoye, Adeyemi Adegorite, Mustafa Tajudeen, Zakari Abdulihi, Hasana Abu, Aliyu Adamu, Usmam, IdrisDasuki and Kasim Shuaibu I really appreciate their support. Also to my friends outside Aso Studio Hauwa Briamah, Binta Mohammed, Chinelo, Linda, Fumi and Joseph. I appreciate the love, care and sincere friendship during my stay in school.

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ABSTRACT

The purpose of this project is to look into the need for hotel accommodation in Warri in respect to commercial and industrial activity in the city as well as social economic development. Although Hotel is a public accommodation and service industry with multiple facilities for comfort and leisure which are available in various Hotels located in the city. However they lack basic facilities to meet standard criteria for international and national purpose and event that create large need for accommodation.

The proposed international hotel is to be designed and developed as a conventional hotel with recreational facilities of all kinds for the taste and desire of visitors. It will be located at the out skirt of the city close to the airport and major roads leading to the city and industrial area. One major aim of this project is to solve the circulation problem faced by visitors who are coming into the city. It will also outline the principle for effective circulation in hotel design. To achieve this special attention have been placed in the location of the site in relation to the industrial area, commercial area and airport in the city, internal pattern in and around Hotel building with respect to movement of guest, good and services in the light of this all principle of effective internal circulation in the design proposal have been duly considered to create beautiful and effective circulation.

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CHAPTER ONE

1.0 INTRODUCTION

In developing areas where in the past three decades urbanization and urban living have proceeding at a phenomenal pace, development has assumed a greater significant means of enhancing the optimum use of leisure to tamper the effect of harsh living condition due to over crowding of cities. This can be enhance by the development of international Hotel which is fundamental to the future prosperity and social cultural well being of a city.

Hotel, as a social measure in a society paves way for tourism and economic investment by providing physical development which enhance business and recreational activities.

However, the demand for such conventional Hotel facilities comes mainly from densely inhabited areas with relatively high per capital income and areas with economic and industrial activities that attract foreign and executive business class. These demand are mostly associated in large cities such as Lagos, Porthacourt, Kaduna, Kano, Warri in which the demand is increasing at a faster rate than the number of inhabitant.

The proposed Warri International Hotel will be of national and international significant in recognition to the physical development of the Niger delta region, as well as to make positive development to the city. Since the economic development of a hotel revolve among other things around the socio political setting, demographic structuring, commercial and tourist activities within the city. The hotel will provide standard facilities that will attract visitors for the purpose of such development.

In the course of this research the project has being separated into two main aspect. The literature, which contain all written works with illustration for the purpose of insight to what the research has analyzed for the purpose of this research design for the project. The written work have been subdivided to eight chapters which have specific topic treated in each chapter while the design proposal illustrates all planning and consideration details of the international hotel Warri.

1.1.1 AIMS AND OBJECTIVES

The main aims of this project is to create a built up environment that will eminently suite its functional, practical and financial feasibility, capable of meeting the demand for medium and long term investment and maximization of standard facilities provided. Also capable of adopting plans to effect changes which is expected to play a leading role in the process of economic construction, and political growth in a fast developing commercial city. Important also is the creation of recreational facilities for leisure to tamper the effect of the living condition of an over crowding city.

1.1.2 DESIGN OBJECTIVES

- To boost and create standard hotel development in cities as well as boost the standard of existing hotel situation and provide recreational centre in Warri.
- To improve the quality of physical environment and to promote communication by creating a better and attractive environment for interaction.
- Emphasis is also on the relationship of public recreation opportunities to other type of space land use design
- To create job opportunities as well as generating revenue.

RESEARCH METHODOLOGY

The method used for the purpose of data collection was Descriptive Survey.

It involves the study of characteristics of sample of the whole population and derivation of result based on this random sampling it also focuses on the study of existing documented research data in the form of literature review, journal and interview of experience expert in such field. The procedure used includes.

- *Literature Survey*: Research into documented fact, in relevant literature both local and international, profession and academic material, scientific data collection, which include climatology geomorphological consideration and energy resource.
- *Interviews*: Direct personal interview with professional personnel in the hotel and building industries on the subject of the project. This oral information will be based on individual perception on the subject.
- *Case study*: This procedure involves the use of relevant existing project as a sample of study. They can be carried out by oral interview during visit to existing building or reviewing literature of completed project. The advantage of this procedure is to observe feature in an existing project not to repeat errors.
- *Site Visitation*: Visitation to site involve the collection of site inventories and community social cultural behavior and other relevant facts to aid harmonious physical interaction this is based on oral interview and actual visit to site.

1.3.0 SCOPE AND LIMITATION OF STUDY

1.3.1 SCOPE OF STUDY

Since Hotels are buildings that provide accommodation and hospitality for the traveling public for commercial or tourist purposes, the project site will be developed for the provision of an ideal environment for interactive utilization of facilities of the visitors.

The activities that would be provide for in the design includes:

- Suites
- Restaurant
- Business centres
- Conference halls
- Banquet hall
- Administrative offices
- Casino
- Suana
- Pool house
- Active and passive recreation
- Botanical garden

1.3.2 LIMITATION OF STUDY

There are no statistics or available analysis of hotels in warri in particular or in Nigeria in general to provide the researcher with an idea of the magnitude and effect of the Hotel industry on the economy. There is also no available data on hotel development in recent years in Nigeria. Data collection in the cause of this project failed to include some sketches and photographs of some studies due to security reasons embarked by such establishment.

Lastly, the non-availability of recent study of climatic condition in Warri grossly affected the collection of data but notwithstanding every data provided are accurate for the purpose of this project to the best ability.

1.4 IMPORTANCE OF STUDY

Hotel is a building that provide the traveling public with accommodation, meals, conventional arenas and other recreational services. In Warri the inflow of people for commercial and recreational purposes have result to overpopulation, couple with the flow traffic system have made movement very difficult.

Also with the incumbent development in the Nigeria Delta area, the proposed international Hotel is needed in warri to pioneer the physical, economic and social development of highly ranked commercial entry, which at present lacks such facility.

In order to provide such standard services effective circulation system in and around Hotel design will be carefully analysed as this have been mostly neglected by hotel developers in the country. In the cause of this project the researcher have laid more emphases on circulation system in hotel building as this can limit the opportunities to the success of the proposals. In the study external circulation is based on analysis with respect to site location, planning and space utilization. While internal circulation is based on all internal movement pattern and means within hotel building.

Study is also based on the importance of hotel to the community in development of its political, socio-economic and tourist facilities and potential. This can be achieved by the provision of facilities that will tamper the harsh living condition of such communities.

DEFINITION OF TERMS

- INN:** This are small old Hotel usually in the furbish especially one in which is also a pub
- FRONT OFFICE:** This is an area which the guests deal with reservation and appointment and enquires.
- MOTEL:** These are Hotels along high ways which provide space car park. They are also called motor hotel
- BALL ROOM:** This is a very large room that is used mainly for dancing or for formal gathering.
- CONFERENCE ROOMS:** Are large rooms that usually accommodate large meetings or conferences.
- BAR:** This is a place where you can only buy and drink beverages, alcohol, tea or any other refreshment.
- BANQUET HALL:** This is large hall usually for grand formal dinner usually consisting of many different courses and often followed by speeches.
- HOUSE KEEPING:** This is a department that manages the suites, and guest rooms. They include laundry maintenance, record keeping, security and other guest services staff.
- GALLERY:** A place rather like shops which work of art are displayed and sold, often a collection of art by the same artist.
- SUITES:** these are set of a well-furnished guest rooms with inbuilt toilet, which can serve as bedrooms and guest entertainment room.
- GOURMENT DINING:** This is a place where meals and drinks of extremely high quality are served
- ANTIQUÉ SHOP:** Shops where antiques are sold. Antiques are valuable object of old because of their beauty and Varity.

BARBECUE: A place where grill is provided on which meat, fish and other food are cooked over hot charcoal usually out doors.

CHAPTER TWO : LITERATURE REVIEW

2.0 DEFINITION OF HOTEL

Hotels are usually defined as commercial building that provides lodging, meals and other public accommodation services such as convention halls meeting rooms and banqueting halls. A more workable definition would limit use of the word "Hotel" to a public accommodation institution operated for a profit. This exclude guest houses and hostel operated by religious philanthropic educational and service organization.

The term hotel comes from the French and was originally used to denote only extremely large and pretentious inns. In current usage, the term inn denote a smaller less formal type of hotel operation but implies no reduction in the service offered to the guest. Although many club provides the same services, a hotel differs from them in one important aspect. Theoretically it must accept to capacity and serve all persons desiring accommodation so long as the customer maintain accepted standard of behaviour.

The modern hotel is an indispensable part of age mobility, which was quicken by the international travel which began shortly after world war II and was made possible by the development of international hotels.

2.1 HISTORICAL BACKGROUND

A history of the hotel industry indicate that it started about twelve thousand years ago. However for practical purposes inn keeping was not possible until some standard medium of exchange came into existence. With the invention of money sometime in the pre-

Christian era came the first real impetus to trade and travel. As the radius of travel widened the need by travelers for lodging increased.

The inns of those early days were nothing more than a small portion of a private dwelling, self service institution rarely clean and more often than not run by disreputable landlords. These conditions prevailed until the industrial revolution that there were signs of progress in the business of inn keeping. Innkeepers increased services, maintained standards of cleanliness and to some extent catered for the guest.

In the early times inns were located in seaports and shortly after the American revolution, American inns became the largest in the world and well on their own offering the finest service available.

Beside the pioneering spirit of the American innkeepers several other factors directly influenced the rapid rise of the hotel industry. The success of the American hotel industry was built on the idea for universal enjoyment which encouraged permanent living in hotels. Also most importantly was the fact that traveling has been encouraged for commercial or tourist purposes. While in Europe hotels operated on the premise that only the aristocracy was entitled to luxury and comfort.

It was in 1794 that the first city hotel building was erected specifically for hotel purposes. Until this time personal dwellings had been converted into inns. It quickly became the social center and this hotel set the stage for the first golden age of hotel industry. In 1829 the first modern first class hotel (the Tremont House) was built. It was absolutely new in the field of hotel keeping and was the largest and costliest building that has ever been constructed in America.

By the turn of the century the number of commercial travelers had increased considerably and the means of transportation have improved new era for the hotel industry began at

this time with the birth of the modern commercial hotel which was a response to the demand for travel accommodation by ever larger number of travelers.

These innovation included a private bath within each room, fire door, circulating, ice water in every room, full-length mirror, light switch for each guest were also provided. Truly here were hotels that provide comfort service and cleanliness for the average man at a price he could afford and consequently this became the model for hotel construction for about forty years.

The 1920's ushered in another golden age of hotel construction and many of today's most famous hotel were built then. Slightly less spectacular but exerting strong influence on hoteldom has been the development of chain operation, design to meet the problem of rising cost and to improve and expand services. The birth of chain operation in the late 1960s offers opportunities for group capitalization which means increase in business reduced duplication, inefficiency and waste. This caused another boom in the hotel industry with a wider scope to many under develop part of the world with economic and commercial potential in the 70s.

2.2 HOTEL DEVELOPMENT IN NIGERIA

The development of hotel in Nigeria has been closely tied to governmental and business activities in Nigeria. The government, in other to enhance the growth of the industry and to diversify the market strategy, established the Nigerian Tourist Association which was to aid the public accommodation industry and recreational facilities in the country. However this failed because of lack of fund and no definite policies and objective. As a result it affected the growth and development of hotels industry in Nigeria.

Another board was formed with clearcut guidelines to the development of tourist activities. The Nigerian tourist board, was responsible for the operational possibilities for the development for both tourism and hotel development. The functions of the board are to encourage Nigerians to take their holiday in the country and to improve and provide tourist facilities and amenities including development of hotels and other auxiliary facilities. In addition to these specific function the board has the responsibility for providing advisory and information services as well as classification of hotel and rendering financial assistance to person or organization carrying on any activity related to tourist and hotel development.

Hotel development in Nigeria have been very slow and one of the major set back to its development is the lack of place of priority to the economy. Since it is regarded as a service industry, it is still accorded in tertiary sector in the order of priority in the manufacturing and other social services. What has often been over looked by the government is the fact that the hotel industry has a multiplier effect in stimulating every sector of the economy. The hotel industry could upgrade the social services, improve and expand the infrastructure and recycle the national wealth and could stimulate the fledging agricultural and manufacturing sector. Nevertheless the Federal Military Government, under the planning period of 1975 – 1980 allocated the sum of N80 million for hotel and guest chalet development.

Another source of development of hotel important to the industry is the private sector, which are of lately making a great impact on the industry. But due to instable political and economic policies the impact have not been really felt. The effort of the private sector are been stimulated by the Federal and State Government by making hotel and tourist development a national issue to generate and improve business, communication, preserve culture and improve the quality of life.

2.3 SIZE AND SCOPE OF THE HOTEL INDUSTRY

Hotels are found in all countries of the world and the industry rank relatively high among the largest world wide industries. No reliable statistics on world figures are available but it has been known that hotel development have been closely knitted with the tourist industry. The development of hotels in Nigeria have been closely knitted to commercial activities which is around major cities like Kano, Lagos, Abuja, Porthacourt and Kaduna.

One might easily get the impression that the larger hotel located in metropolitan areas are representative of the industry. Although these famous hotel play an important part in international business and political life. They are not typical of the hotel industry in the country today. Only a small percentage of the hotels in Nigeria have more than two hundred rooms. Hotel operation in Nigeria have been a tremendous industry in size and scope but its backbone have been the small owner with fifty to hundred room hotel.

However the industry is presently in a period of transition and the future will see many changes which will alter these statistics considerably. With the increase of political and commercial activities the tradition of small hotels faces possible extinction since individual ownership is giving way to corporate ownership management. New city hotel must be in the 500 – 1000 room category to be economically feasible and the greatest expansion is in the conventional, resort, and airport hotels.

2.4 CLASSIFICATION OF HOTEL

Hotels are generally grouped into three main categories, conventional resort and residential hotels.

2.4.1 RESIDENTIAL HOTELS

Residential hotels are most common in America as it is almost unknown in other parts of the world. These hotels are basically apartment buildings offering many hotel facilities including maid service, dining room, meal service in rooms and possibly a cocktail lounge. Residential hotels range from the luxurious, offering full suites for families to the moderate, offering single rooms. There is a trend today for luxurious residential hotels to become cooperative hotels in which the resident actually owns the hotel.

2.4.2 RESORT HOTEL

The Romans were probably the first to build hotels entirely for recreational purposes. The majority of resort hotels are seasonal businesses and are opened for either the summer or winter season and a small number operate year-round.

Usually located on the seashore, in the mountains or at a spa. Resort hotels are usually free from the clamour of the large city unlike other types of hotels. Both summer and winter resorts offer the usual hotel services but are faced with the additional responsibility of guest entertainment.

2.4.3 CONVENTIONAL HOTEL

Conventional hotels direct their appeal primarily to the individual traveling for business, political and leisure. Although most conventional hotels have some permanent guests. Early conventional hotels were almost always built in or very close to commercial centres so that patrons would not have to wrestle their bags to a convenient location.

The conventional hotel guest can expect a room with its own private bath telephone radio and probably television at extra cost. Rooms are also provided for sale meeting and convention. Conventional hotels are now becoming increasingly important as informal civic centre and more political meeting points. In the large metropolitan conventional hotels, usually one find a complete night club room featuring entertainment. Recent innovations in conventional hotel are the classification into three main type.

- i) Airport Hotel:- Usually built close to airport in large cities with important interchanging point.
- ii) Motel:- Usually built along major motor ways for traveling commercial agent. Sometimes known as motor hotel.
- iii) Commercial Hotel:- Commercial hotels are mostly built in city centre to cater for city dwellers usually unique to such cities.

2.5 OPERATION AND ORGANIZATION OF HOTEL

Traditionally the hotel industry has been one of individual ownership in Nigeria. However the size and operational of hotel have become so vast that an individual businessman have not been able to finance the operation and keep ownership and management united. In recent years the trend of corporate ownership is very common due to implication involve in management and financial commitment.

Fortunately corporate ownership has created a new class of hotel with a maze of scientific, financial and operational section whose intricacies and complexities can be understood and performed only after extensive educational training.

Every hotel has five major departments, which will increase in size in larger hotel with specialized facilities becoming department. The basic areas are the *ROOM DEPARTMENT*, *FOOD and BEVERAGE DEPARTMENT*, *ENGINEERING DEPARTMENT*, *FRONT DESK DEPARTMENT* and *AUDITING DEPARTMENT*.

- The front office handle all reservation, room assignment, messages, mail and general information. The doorman, bellboy, phone operator, clerks and elevator operator are the personnel that make up the department. It is usually under the direction of the assistant manager or front office manager.
- Room department is under the direction of the executive housekeeper and include maid, housemen, linen room attendant, porters seamstress.
- The chief engineer and his crew operate and maintain all mechanical and electrical equipment in the plant. This department carries a heavy responsibility, as almost every other department is dependent upon it.
- The food and beverage department handles the purchase, storage, preparation and service of all food and beverage. The food and beverage manager direct the work of this department and usually report directly to the manager. The key position under his supervision are the purchasing steward who buys receivers and store the food and beverage. The executive chef plans the menus and coordinates all food preparation and is also responsible for sanitation operation, the service of food and beverage to guest. The food and beverage controller maintains a checking system for those items prepares statement for the management and analyses all phases of the food and beverage operations.
- The auditor is in charge of all accounting and financial transaction. Beside the usual daily record of cash receipts disbursement and payroll, he develops and analytically report which are vital to the management.

2.6 CRITERIA FOR EFFECTIVE HOTEL DEVELOPMENT

The phenomenal growth of hotel development during the past few years can be explained by number of factors which enhance the criteria for hotel development. As the provision of adequate facilities which must as well satisfy market and investment need and also to create an attractive environment will harmonize the environment, meeting social and economic objectives. To develop a hotel limitations and peculiar characteristic would require original solution to explain the factors that enhance hotel development which can be explained by the following factors.

- Greater affluence and more leisure for an increasing number of people, particularly in developed countries.
- Emancipation of the young and their relative high wages when they have no family responsibilities enable them to travel.
- Transport facilities are very much better and cheaper and there is a high rate of car ownership.
- An enormous growth in international business necessitates travel by executives, scientist and technicians.
- Traveling has become a status symbol showing holiday pictures, taken at just a slight more remote place than one's friends.
- Package tours allows people unused to making their travel arrangement travel with an easy mind and are very good value because of bulk booking of transport and good accommodation.
- Conferences and business meeting are proliferating and catering for them has grown into a big industry.
- The popularity of new sport (football, gulf, tennis etc) and sporting event induces millions of people annually to participate in these events, either as spectator or performers.
- Better education has interested a larger section of the public in social and cultural tourism.

- Relief from adverse climatic condition in home country may be found abroad.
- Exhibitions and trade fairs have become enormously popular, ensuring the participation of many million of visitors.
- Ideological pressure groups hold more and more annual rallies.

There is virtually no aspect of the economy whether manufacturing or service industry that does not benefit in some way from hotel. However it is necessary to identify a number of underlying principle which can be applied in almost every single case and would also reflect the main objective in developing hotels.

Requirement of each guest vary and at times are exact opposite of each other but in whatever, guest seek in a hotel tranquility and rest with facilities for entertainment, leisure and recreation should be provided. They also want to contract with nature of the locality, customs and their pre industrial societies yet standard comfort of modernity be provided. In order to fulfill this criteria essential features such as quietness, change of pace and opportunities for relaxation should be provided.

It is absolutely necessary in the development of hotel to create an attractive tourist image that should be as original as possible to give the hotel a personality. This could be achieved by making the best use of the particular resources and peculiarities of the site also by adapting the development plan and scale and design of building to reflect the character of the surrounding and climatic using local material where possible.

2.7 BASIC FACILITIES FOR HOTEL BUILDING

This section will be discussing the facilities that will be provided to create comfort and smooth interplay of all the activities in a hotel so as to achieve proper planning concept. Such facilities often do not substantially increase the total cost of the hotel, yet because of

their publicity value efficient flow and comfortability within the system should be achieved by carefully considering the functions of these facilities.

2.7.1 GUEST REGISTRATION AREA.

A hotel registration desk must be located so that it is immediately visible as one enters the hotel lobby. The size of this area will be determined by the size of the hotel. They are responsible for reservation for intended guest and other advance arrangement. Other service provided by the front registration desk are mail and key slot systems in large enough hotels separate area are provided with access to the registration area.

2.7.2 CASHIER AREA

The average hotel usually has the cashiers counter located adjacent to the registration desk. However in larger hotels cashier may be placed in the front desk area but somewhat remote from the actual registration area, so as to have smooth operation and ease congestion around the registration area.

Conveniences are usually found in cashier areas for guest who bring valuable with them for safekeeping. Therefore small closed rooms are provided at these areas that are out of sight of the public.

2.7.3 ADMINISTRATIVE AREA

The administration of a hotel operation depends entirely upon its size. In large hotel the administrative area goes more complex unlike small hotel that have an office for the manager and secretary in the room facing the public lobby.

Large hotels will have manager and assistant manager and as a rule there will be a receptionist. Beside these, offices will be provided for other specialized administrative heads for smooth functions to suite their administrative work. In the planning of the administrative area, it must be borne in mind that many staff working in this section will be dealing with guest more frequently seeking to arrange for luncheon convention and banquet. So accessibility to the public must be of utmost importance.

2.7.4 RESTAURANT FACILITIES

Every hotel whether it has 50 rooms or 1000 rooms must consider feeding its guest. In large hotel pleasant coffee shop for quick service and simple meals are provided where as restaurant are provided for more leisurely dining which will offer more varied menu than meals in the coffee shop. Cocktail lounge is usually found close to dining, to pause and meet friends before going to the restaurant.

Where convention facilities are offered within hotel building it is ideal to place them near the bar or portable bar arrangement are fixed to such facilities. This boost beverage buying if facilities are placed in the normal path of traffic.

The requirement for the design of hotel restaurant bars, cocktail lounge and coffee shop may not be different from the standard requirement. In the planning of large hotels that

encompasses all the dining facilities it may not be possible to operate out of one central kitchen, but it will be preferable if several kitchens were provided but having link to the main kitchen for efficient distribution of unprepared and prepared food.

2.7.5 GUEST ROOMS

Guest rooms in hotel may be considered peripheral to the prime product that a hotel has to offer. The first consideration is that of the size and the length and breath are the determinant factor. This is guided by the amount of furniture that goes into the rooms by the degree of luxury. The most common rooms in the hotel field today are the twin bedded room, then the suites.

Suites are more common in large hotels these days because of its dual purposes. Many travelers use their rooms during the day to conduce business or to host visiting friends, which may double as sitting and bedroom. Every hotel should have arrangement for suites of a permanent nature as opposed to a combination of a studio room with typical guest room. Where hotel offers conventional facilities it will require an inordinate number of suite for entertaining guest, which are more frequent with conventional hotels.

2.7.6 BANQUETING FACILITIES

Most hotels include meeting conventional and banquet facilities in their operation, which may be more diversified in larger hotels for luncheon dinners, banquet halls, meetings and convention. In very large hotels this facilities are usually classified into meeting and banqueting facilities and the extent is usually determined by the operator of the hotel. The normal meeting room requirement are rather simple, movable or adjustable

separating wall makes it possible for great flexibility in size of rooms to accommodate more than one meeting if need be. It is common to serve meals in banquet hall or during luncheon. Realizing that food may be brought to banquet hall or convention hall the juxtaposition to serving kitchen is highly important in arranging the plan of these facilities.

2.7.7 LAUNDRY

A laundry is a usual adjunct of most good-sized hotels. This is because a hotel laundry, which does its own uniform and flat work, requires a good-sized space for washer, dryer, drum ironer and various pressing machines. Large hotel mostly maintain his or her own cleaning department for dry cleaning and pressing, which are usually part of laundry area directly under the supervision of laundry manager. Laundry area is usually close to the kitchen and service area located for only staff accessibility.

2.7.8 LOBBY

The lobby area acts as the main circulation area for guest arriving at the hotel. Usually lobby maintains spatial unity with the reception, information desk and it serves as focal point for the dispersion of human traffic to all other part of the hotel. The size of the lobby would be determined by the number of services to be provided on the ground floor level into consideration the projected number of guest expected to use the hotel at peak hours and other times.

CHAPTER THREE AREA OF RESEARCH

3.0 INTERNAL AND EXTERNAL CIRCULATION IN HOTEL

In planning it is absolutely necessary for an efficient segregated circulation system bearing in mind that building should be considered as a planned spaces with environmental conditions that must be understood to efficiently serve the people. Architectural spaces create different emotional responses. So a planner should articulate the circulation pattern in and around a hotel building in sequences to comfortable create excitement to the guest. Since there is an underlying harmony in the natural environment and circulation that is very appending to human perspective, movement of people and object in and around Hotel building should avoid disturbance and annoyance to enable all service facilities be of efficient use.

Layout and planning of hotel complex must facilitate movement of people and as far as possible identify and understand different special volumes to relate circulation pattern so as to established functional sequence.

Perception is not a matter of sight alone. All the senses must be involved "sight, taste, smell, touch and hearing must be control by circulation pattern. The more fluid in circulation pattern the more efficient and attractive a hotel complex is. Obviously the alignment of speed, plan and nature of emotion that is considered will predict the emotional and intellectual response that a guest must expect in a hotel. So it is important that the qualities of the path or line by which an object or person must be controlled with care. Since it is important to note that motion that induce must be accommodated as satisfactorily resolved in design and planning. An architect should understand how different spatial volumes related to the individual in both static and dynamic ways.

3.1 EFFECTIVE EXTERNAL CIRCULATION IN HOTEL

The design of external space within a complex is unique in character and with sense of place within the complex as building should provide a sense of scale that are clearly in relation to the external activity that add life to outdoor activities such as facilities and good landscape which must be comfortably accessed. To provide quality and attractive external circulation, convenient and comfortably quality paving material with texture and good quality paving material around good work and art are normally used to encourage the users. To achieve this, well planned and convenient circulation system which enhance its efficiency of the transit system and direction of all external movement within the complex site. As the quality of a built up or any planned area, use of material, landscaping and other amenities which should be inviting and must be determined by the following planning factors:

- Site planning
- Access and traffic flow
- Pedestrian movement planning.

3.1.1 EFFECT OF SITE PLANNING ON CIRCULATION

Site planning is an art of arranging structures on land, shaping the space between them and linking each element together to have an effective operational system. These plans are usually cluster of houses, a single building or a complex of building built in a single operation.

Site planning in hotel design is more than a practical art of technical operations aimed at effective circulation to make the complex leisureable for every guest and to suite the aesthetic of the site, but of road building, walkways and even garden that are shaped by

certain decision to enhance effectiveness which if neglected or unplanned affect the smooth flow of circulation. Every site natural or man made is to some degrees unique and connected web of things and activities which can imposed limitation and often possibilities. Depending on the arrangement any plan however radical must maintain some continuity in preexisting locale so a complex knitted should engage in site sequences that should have a passion for order. Making hotel development fit human purposes is the task of the site planning to have an effective circulation system which enhance their every day life. Although the complete harmonious and mature site for hotel development can have unexpected effect that passes along the whole chain of living things. Two things must then be understood in environmental planning of hotel.

Firstly, the nature of the site and how its users will act in it and value it. Secondly the place must not only fit the structure of our bodies, it must also fit the nature of the way in which our mind work. This concerned with the degree to which users can reach other person, service information, and other spaces. This is the fundamental advantage of any organized site, a quality accustom to much dealing with circulation for an environment.

Many of the recurrent consideration of an environment have to do with preferred linkage between various activities in a hotel complex as well as social interaction and provision for vehicle and pedestrian transit system. Site planning can also encourage communication through ideal focal points, visual contact and good landscape.

The control of the site is always the issue in hotel design, which is far from reality in our society which cause essential disrespect by those who use it.

3.1.2 SPACE MODULATION IN SITE PLANNING

Site planning is an established planning fact that is seek in an area that the quality of harmony oneness or unity is the mark of any well conceived work of art. Poor control and connections hinders circulation which may be cost effect, however in other to achieve a harmonious sequence of a hotel building, external circulation from one space function to another will have a unified sequentially space modulation. This will aid effectiveness by altering speed in circulation through change in sensation when a complex is developed into a volume or series of volume by degree and type of activities to articulate the plan. The experience of space modulation in transition is affected by the change of sensation due to texture, light quality, temperature, visual pattern and expanding or contracting vistas.

In hotel complex sequence should be subtle with varying spaces that provide a complete change in use and mood in such a way that transition is almost imperceptible. In other cases, circulation is planned with intent that transition into hotel is compressed to release into a lofty dazzling, free space which is usually startling and dramatic to create powerful emotion. So in considering space modulation, spatial manipulation which plays upon human emotions, reflexes and responses should be anticipated to create maximum leisure. For example a bright sunlight court is the more pleasant if we have just left the leafy coolness of a garden or the splash and spray of a fountain are more appreciated when we approach it from a not dry sunbaked court. The wide free space is wider and freer to us when we have just come from a confined space.

In planning circulation system, series of conditions that will heighten the effective interaction with the site will be pleasurable as we move through a space or couple of spaces. Thus orientation of building and transit system are important when space modulations are consider which will determine the flow of traffic and give meaning to the other facilities in order to create unity and continuity.

3.1.3 SEQUENCE IN HOTEL SITE PLANNING

Sequence in term of planning may be defined as a succession of perceptions of spaces having continuity. In the planning of hotel complex sequence should be casual, free and they should be progressive. Such a progression may be one of functionality of activities ascent as in experience from the sunlit edges of garden to its deep, or a progression of intensity convenience or comprehension.

Sequence should be casual or disciplined, it maybe rambling to achieve a purpose but be contrive with high degree of order. For example sequences of nature are revealed with no more order than in the haphazard impression of wandering landscape this is because sequence with high degree of order is an extremely effective design device in circulation which may induce motion, give direction, create cadence, instill a mood, reveal or explain an object or a series of object. A planned sequence is a conscious organization of element in space which has a beginning usually at the entrance to the site and on end usually at the recreational facilities for leisure (garden recreational facilities). Site planning also should consider as important the diffusion of concentrated circulation in function of space creating less traffic and effective movement even at peak periods. If such sequences in planning are appreciated the subject to precise design control will determine not only the nature of climates but also the their timing, intensity and the transition by which the evolve.

A sequence planned in hotel, may be simple compound or complicated in that it should or maybe sustained, incepted or modulated but should reveal interpret and feature the spaces used. Each sequence like a distinctive refrain should have its own character and evoke an emotional attractive response that can be fairly well predetermined. Circulation within the site should induce the observation and expectation mood in line with the function of the plan. If a sequence is marked with a rhythmic recurrence of one or more spati

qualities a cadence soon becomes evident depending on its nature intensity and rate of reoccurrence. Such cadence have a slight to vary considerable emotional impact upon the moving observers. It should be noted that in planning any space through which people and goods are to move especially in profit making organization both spatial modulation and space sequence is essential.

3.2 ACCESS AND TRAFFIC FLOW IN HOTEL

Access is the prerequisite to using any space. Without the ability to entire or move within it freely and comfortably to interact, receive and transmit social information and good the space is of no value however vast or rich in resources. So in the design of complex it is important to consider the layout of road, walk way and parking first then refine this layout by a study of other component of circulation.

3.2.1 ACCESS PLANNING

When a hotel is proposed it is necessary to measure the actual traffic volume already utilizing the road involved in the street where it will be sited. This include origin and destination of vehicles, average daily traffic volumes, peak hour traffic volume and turning pavement around the access point. However, the desired traffic data for the proposed street location are obtained, evaluated to determine the present circulation system and that of all adjacent street. If the data provided by the traffic study cannot handle the additional traffic, a diverting lane should be provided to reduce traffic congestion at access point. Access into complex should be at 90° to the adjacent street to allow easy turning of vehicle into the site.

3.2.2 TRAFFIC PLANNING

In locating a project on any site the line of approach will not only influence or dictate the position of the structural element but will also determine the relationship of the used areas as well as develop other circulation system. It will be important consider the following factor that will enhance the effectiveness of traffic pattern in hotel planning.

- i) ACCESS: Design from the drive may throat to the building should be attractive and conspicuous. This is order to prepare the quest on arrival from the entrance throat to the parking court. The drive which may vary, swelling at drive entry at curves and at the fore court to allow easy maneuvering of cars.
- ii) TAKING ADVANTAGE OF SITE: The alignment of the driveway present an excellent opportunity to plan for visual unfolding or realization of the complex. It topographic views and better landscape should be so aligned as to reveal the modeling ground form. The alignment will be such as to reserve as much land as possible to retain landscape features while defining cohesive use of the area. To avoid unnecessary disruption the drive should flow with at wild angle across the contours.
- iii) BE ECONOMICAL AND CONSISTENT: The drive way should be short in hotel complex for economic construction and maintenance. The design should keep the quality of the approach drive consonant with that if the site, the proposed use and the type of structure provided. The drive way is to be considered a complete and unified work of design with the existing structure on site.
- iv) SEGREGATE SERVICE TRAFFIC: Service vehicle range in size from small motorized carts to large delivery and refuse tracks which requires convenient access to the complex collection and delivery station and other auxiliary services. It is ideal in hotel complex for practical purpose that

service vehicle circulation and parking areas are of separate route from guest access to enhance its effective and free from disturbance in case of peak hours. The service should be design to accommodate large vehicle which have wider turning radii and maneuvering space. If direct road access cannot be provided walkway and other paved transit areas may be provided with the purpose to aid circulation in mind.

3.2.3 PLANNING PARKING SPACES

Parking provide an essential link between vehicular circulation way, approach drive and the final destination they are designed for the safe and efficient storage of cars. In hotel, where space and site condition permits, they are usually located beyond the building entrance in such a way as to minimize walking distance back to hotel building. So all factor located to the design of parking facilities should be review to create easy circulation flow. Factor relating to good parking plan include:

- i) SITTING POSSIBILITIES: The sitting of parking areas in hotel is best achieved by study of alternative shape and flow line in the relation to the building structure and topographic features. In hotel complex the approach, pass and park is ideal. This is where a driver will approach the building to his left discharge its passengers and continue to the parking space and return on foot by a pleasant conventional route to the entrance.
- ii) SCREEN PARKING AREAS: in the design of parking areas in hotel direct view from the entrance court into parking areas are not usually desirable. A well placed parking compound is convenient by incidental to and secluded from the building.
- iii) ACCOMMODATE THE VEHICLES: Since the parking court is planned for the efficient storage of automobiles, it must be design with full understanding of the maneuvering requirement of the car. This is dictated

by the gradient, turning radii, aisle and stall, width and paving texture which may well vary to differentiate spaces provided in hotel, also should be at the ratio of one to three in relation to car and number of guest rooms provided.

3.3 PEDESTRIAN PLANNING

The primary objective of improved pedestrian circulation are comfort aesthetics, conveniences continuity and safety. Fulfilling one of these objectives generally increase the opportunities for meeting or improving the others. Nevertheless ease of external circulation with safety from vehicular conflict and better protection of lawns and plant are the primary purpose and benefit of developing pedestrian circulation in hotel complex. The pedestrian design should show the location of the transit direction. In hotel complex most pedestrians trips are relatively short because pedestrian seek effective services. Pedestrian trips are closely related to type of land use associated with the trip origin or destination, the number of trips attended or generated by the activities.

3.3.1 TYPE AND PURPOSE OF PEDESTRIAN TRIP.

If the type and purpose of pedestrian trips are understood better pedestrian facilities can be proposed and developed. Pedestrian trips are categorized into three major types – terminal trips, functional trips and recreational trips.

- Terminal trips are made to and from points associated with transportation mode, for example parking lots to entrance porch.
- Functional trips are made to carry out specific function such as services within the complex or traveling from one building to another for functional reasons.

- Recreational trips are made for purpose related to leisure created within the complex in which walking is the primary purpose.

In the pedestrian circulation network there are two basic purpose of circulation called node. The origin and destination node, also known as the primary node. These are walking trip that have definite beginning and end such as walking from the parking lot to the entrance porch. Secondly there are the secondary nodes which trump growth from the primary nodes to other destination of less functional purpose. For example walking around for leisure.

3.3.2 PEDESTRIAN CONTROL

Planning pedestrian ways within hotel complex must be noted that slow movement is required with engenders interest in details. Leisure movement welcome deflection and distraction and little interest in motion object are considered, instead things seen or experienced with our senses delight in stable object by such subtle transition. So pedestrian way are controlled by reduction of distances and grades alignment by screening and space modulation. Various studies should be carried out to determine whether there are problem related to pedestrian circulation such analysis should show areas particular with large intended pedestrian in other to increase width to accommodate such traffic. Design should also demonstrate effective space separation and well planned pedestrian link to have continuity.

In the control of pedestrian system natural factors should properly considered in order to specify an effective circulation system that would be conducive for guest movement. Such factors include climatic conditions, topography, soil water table and vegetation.

3.4 EFFECTIVE INTERNAL CIRCULATION IN HOTEL

Every type of hotel building must function very smoothly to achieve the end result that the guest is seeking. Hotels are designed and built so that client and staff of the hotel will get a satisfactory circulation system. Comfortability in the sense that from the moment they step through the entrance doorway transit route are well treated and mounting to achieve maximum efficiency. Every thing for the effective circulation that creates comforts should be carefully considered. Whether it be the ease of funding to registration desk, cashier, bars, dining, elevators

And rooms and other facilities provided. The circulation in hotel building becomes very important part of creating such comfort in physical environment. Considering the transit pattern of a hotel the basic planning and mode of operation must be clearly understood. The interior circulation pattern likewise should be well articulated and rather interesting and special consideration are given to corridors also the guest room wing because of staff equipment and guest luggage's. The primary function of hotel has not change from the earliest recorded time to the present day hotel; they work on the same principle.

3.4.1 INTERNAL COORDINATION IN HOTEL BUILDING

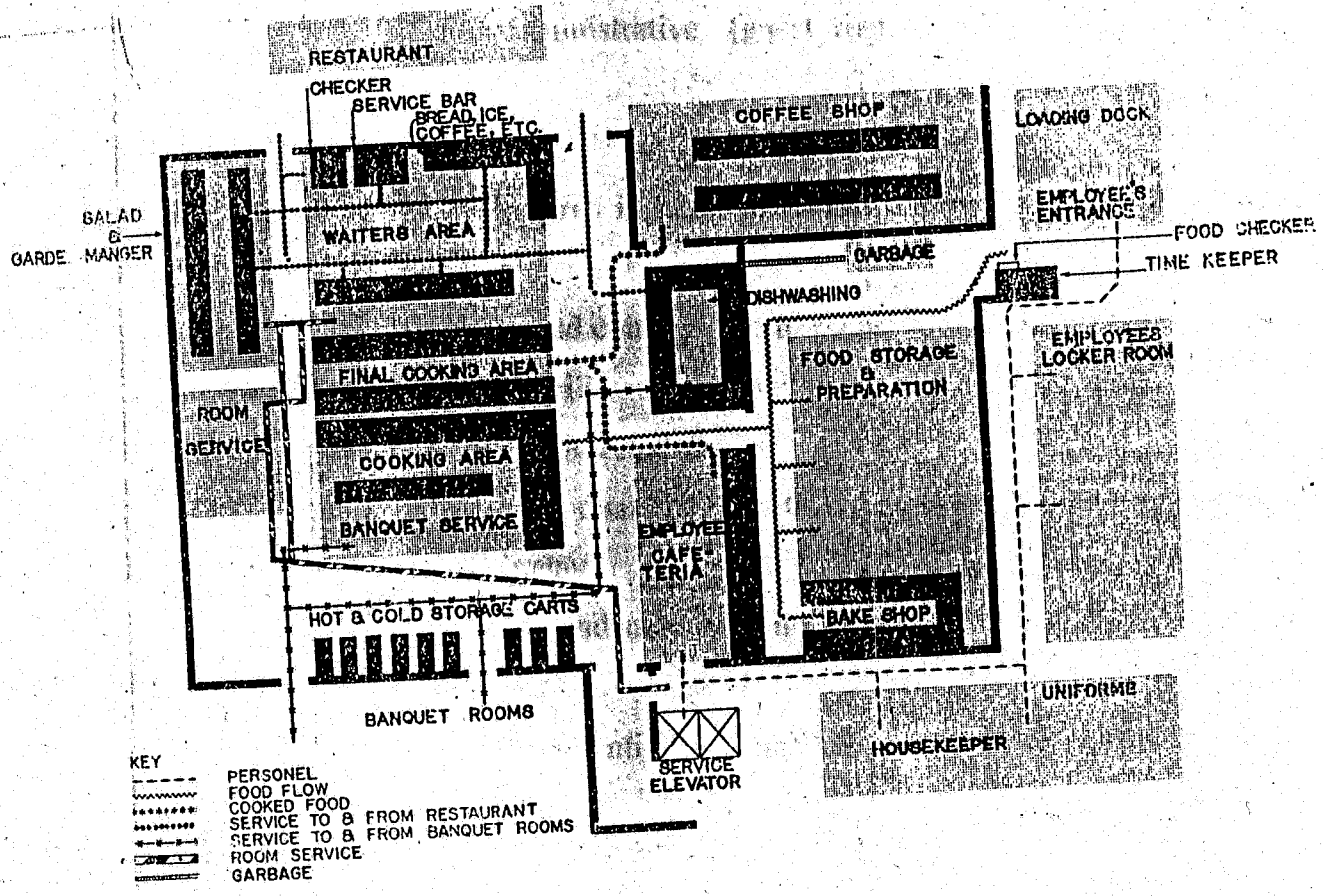
The coordination of hotel building is based on the duality of the function of a hotel which aid proper understanding in the circulation system in hotel building. This principal work on the concept of early hostels offered, where guest arrive at the front door where he is greeted and arrangement are made for his lodging and food. The innkeepers to prepare food, which was cooked in the kitchen and laundry for house cleaning, used the rear yard. In the present day hotel, the public area includes the front area where guest are service in

all capacity. While the private area is here all functions and guest service amenities are taken care of.

This duality of hotel must be thoroughly understood in order to effectively coordinate the internal circulation provided in the building. It should also be noted that in the planning of the circulation system, there must never be a mingling of the private and public services. Likewise care should also be taken during planning that at no time should guest be aware of everything taking place at the back of house, at the same time smooth operation in the public area which is completely dependent on what is happening in the private area. The circulation and planning system of the public and private areas in the hotel must be separated and yet so interrelated that they both function smoothly and efficiently.

3.4.2 PRIVATE AREA PLANNING

This area, though rarely seen by guest it is the most crucial part of hotel coordinating unit. It must be laid out with the paramount objectives control and efficiency in circulation. A typical private area in a hotel indicate the service main entrance which is usually located out of view from the main entrance to the hotel but has direct access to the street which is capable of handling truck traffic. Also all in staff personnel will access the hotel this point. The circulation flow in this area should be planned that maximum efficiency is obtained e.g. immediately after checking in employee should be separated from goods in two different traffic flows. This is done that they should have no contact with each other and the guest with the exception of waiter and good receptionist. This ensures efficient circulation and security system hotel. The built in security system which is the deep secret of a successful hotel is based on good circulation planning. Service area are provided serve as coordination unit in each floor leading to the central service area.



3.4.3 PUBLIC AREA PLANNING

This is the area of a hotel that concerns itself with the guest or payment visitors. This area comprises of every area that the guest will see, lobbies dining spaces, meeting halls, rest rooms passengers elevator, corridors rooms and other public amenities provided by the hotel. These spaces must be handled and planned with the thought of convenience and continued circulatory approbation of the guest in mind. In support to the above guest oriented facilities, many other function must be considered in the public areas to ensure efficient system which include administrative, (guest registration and record) guest assistance, maid service etc.

Prior to the provision of the public area in hotel the following important consideration will include:

- Ease of locating the entry and convenience to access the main entrance.
- Ease of locating every facility in the building. Appropriate visibility and legible signing is an important requirement.
- Convenience between guest quarters and other typical hotel facilities that the guest may use during their stay.
- Adequate guest room size and other configuration that will make circulation paramount in planning.
- Functionality should be sequentially planned according to traffic importance and modulation.

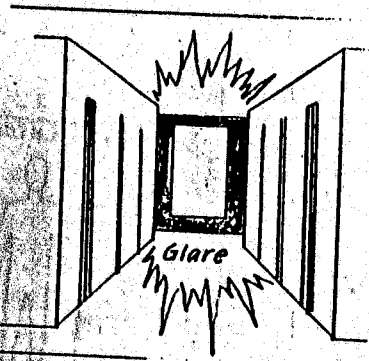
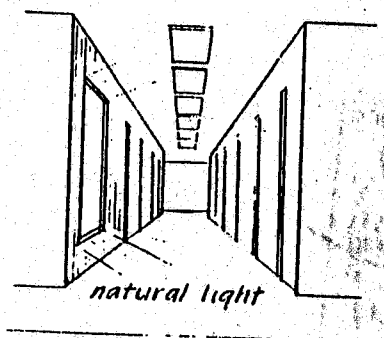
3.5 LOBBIES AND CORRIDOR PLANNING IN HOTEL

Corridor and lobby in hotels are transit way which guest or personnel can access a functional space.

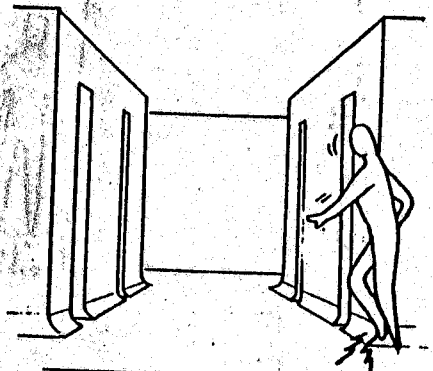
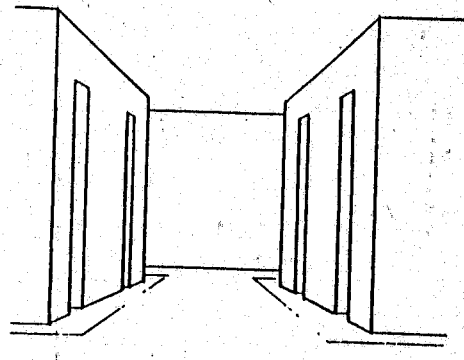
In considering the lobbies in hotels regardless of its size, it should create a first and lasting impression on the guest. The size of lobbies in hotels are usually determined by the number of guest rooms, size of meeting rooms as well as the type of hotel. In order to adequately create space for effective circulation of the guest as they arrive at the hotel. Lobbies of conventional hotels as proposed are usually large because there are constant gatherings of conventioners, meetings, luncheons and dinners. As such lobbies should be large enough to create space for free flow of traffic and be able to accommodate large numbers of guests at the same time.

Since lobbies are necessary auxiliaries on hotels that do not yield direct profit the size has to directly be tied to feet per guest room with consideration to other facilities that encourage large gatherings. Space allocation should be flexible in order to bring in proper perspective by correlating lobbies with the size of hotel which are usually between nine to twelve square feet per guest room.

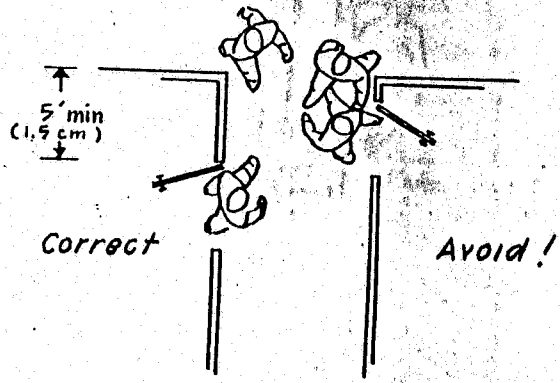
Corridors in hotels as earlier said are transitional spaces between public spaces, which are hallways through which rooms and other functional spaces are accessed, some of the major problems faced in the planning of hotel corridors are the question of length and width in relation to the lobbies, rooms and service areas. For maximum length of corridor have no standard size but for efficiency in circulation and good planning precise feet in length. Although in some cases, because of the size of some hotels or its configuration, corridors may be longer. However, it would be well advised to introduce an interruption of some sort by means of change in dimension or change in direction. Also as to keep intended uses from feeling the approach of his room as an endless approach. Where long corridors return at any angle it should be arranged in such a manner as to give the user rest or second breath so to say before continuing to his destination.



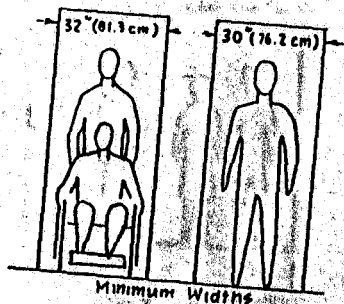
AVOID NATURAL LIGHT ENTERING ONLY AT ENDS OF HALLWAYS



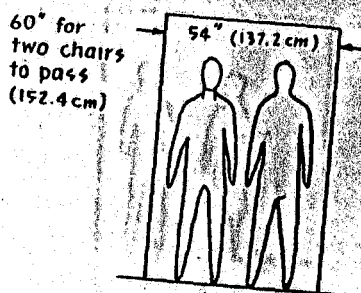
AVOID COVE DESIGN



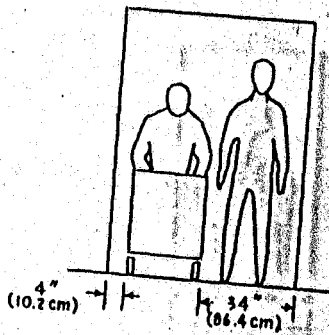
DOORS SHOULD BE 5' FROM CORNERS



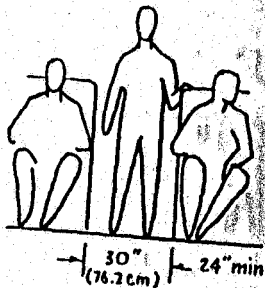
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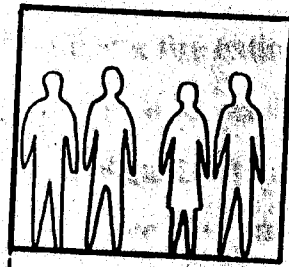


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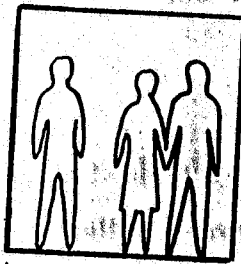
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MINIMUM



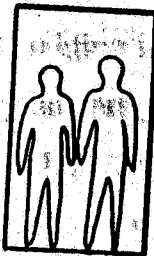
10.0'

1.



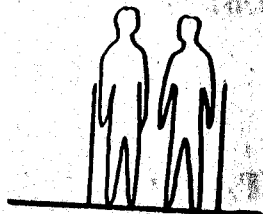
7.5'

2.



5.0'

3.



4.5'

4.

Corridors are usually defined by walls on both sides and so should be made enough so that people do not have to make carefully in order to keep from bumping into wall or other people or equipment that is attach to the wall. Most standard for corridors planning width do not account for these factors e.g. corridors standard are often applied without consideration of the fact that a fire extinguisher will later be hung on the wall. In planning consideration should be given to person on wheel chair or on crutches, which will require extra width. A person should not have to step aside or around against a wall to let another person to pass. To reduce the narrowness of corridors or obstruction within the corridors quest room doors are recessed into each room. This also create a sense of privacy and individually and provide free flow within the area mark for Free movement.

In the laying out of corridor may doors should not be placed directly adjacent to corners where hall way joints with another hall or merely turns around a corners. Door should be at least five feet from the corner or more.

It may not look very important but lighting in corridors greatly enhances circulation in Hotel corridors. This help to make numbers of doors visible and also gives the guest a sense of comfort and always create ambiance of hospitality. During the day Natural light should come from the end of the corridors and must be treated so as to prevent glare to; blind people who are facing the bright sunlight. Lighting from sun light should not tend to contrast with the less light as lighting also plays important part in circulation in making corridors seem more interesting and less starched out.

3.6 STAIRCASE AND ELEVATOR PLANNING.

The primary purpose of stairs and elevation to provide change of elevation within a building.

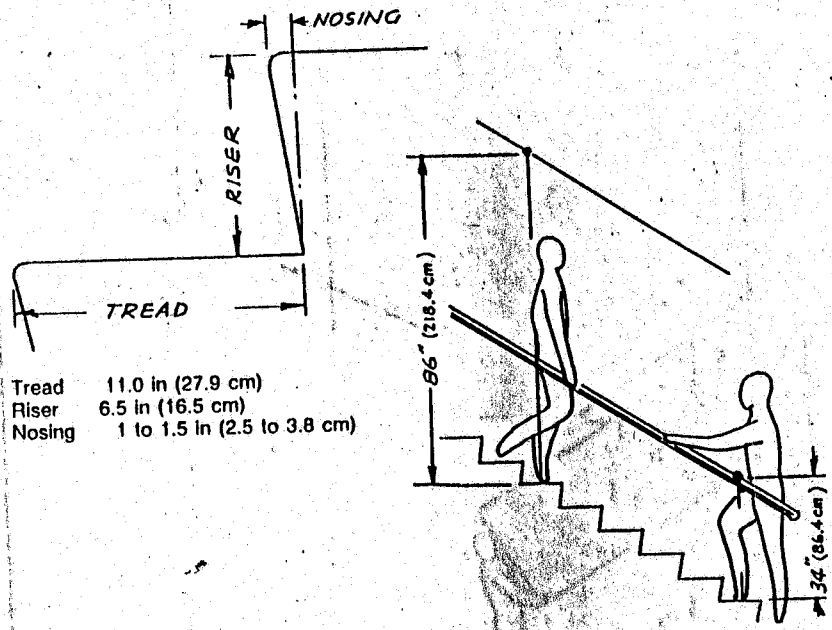
So there should be strategically located at position that is immediately visible and accessible

Either from entrance of hotel room and service areas

3.6.1 STAIRCASE PLANNING.

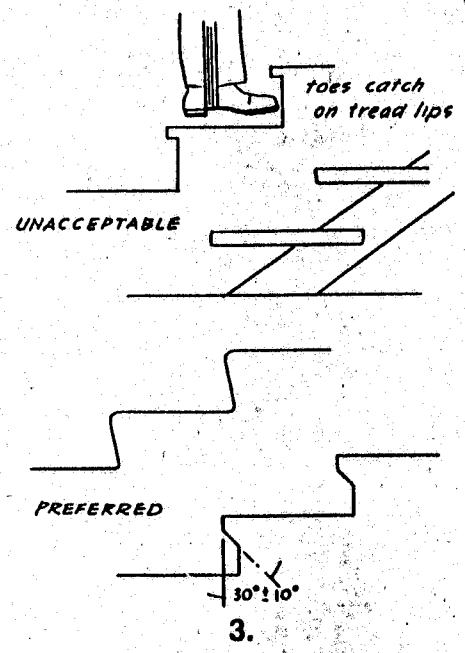
In the planning of staircases in hotel location and width are considered important according to purposes or use in the hotel, which can be classified into three types.

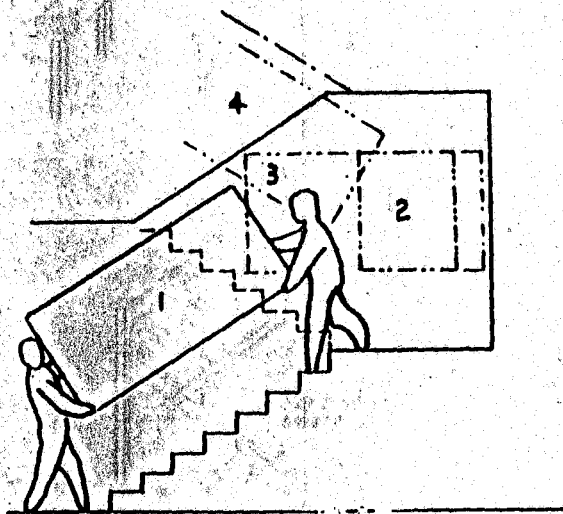
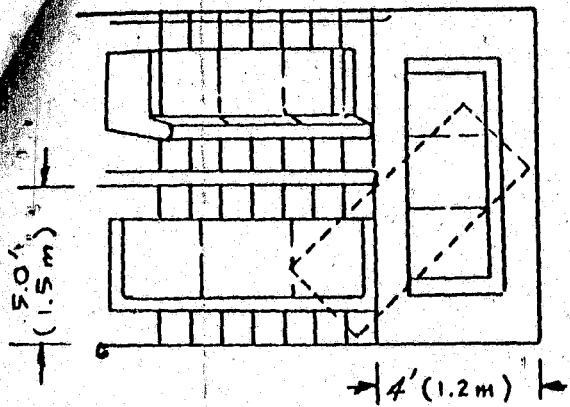
- i) Public stair case: - These are the mostly frequently used stairs by guest and adequate attention should be given to it in other to have an effective circulation system. Public stair case should also be located centrally to guest room floors so as to reduce walking distance of guest spacing for public stairs, dimension should be provided to accommodate movement of three people at least standing side by side with their luggage in conventional hotel to prevent rowdiness.
- ii) Service stair cases:- Are mostly used by staff and therefore should be placed within the private areas where staff facilities are located . In no circumstance should service stairs be used by guest therefore it should be located that guest cannot have access to it, to prevent intermingling of circulation. It should also be noted that window located at service stair case landing are vulnerable when furnishing and other service equipment are being manipulated within the landing therefore such should be eliminated in service window.
Service stair case should be directed to open to service space for the coordination of all service.
- iii) Escape stair route:- Are stairs basically design for emergency purposes and therefore they rarely used. These are the most rarely used stairs and therefore they are sometime planned in conjunction with public stairs,



PREFERRED DESIGN

HANDLING
 ELEMENTS



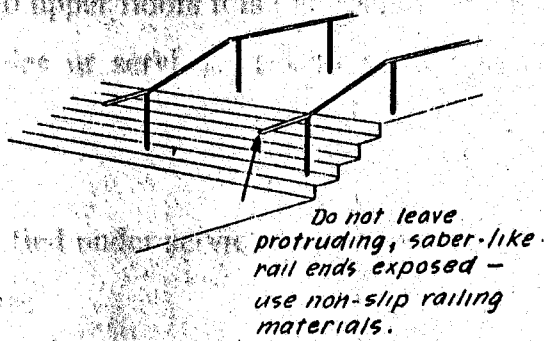
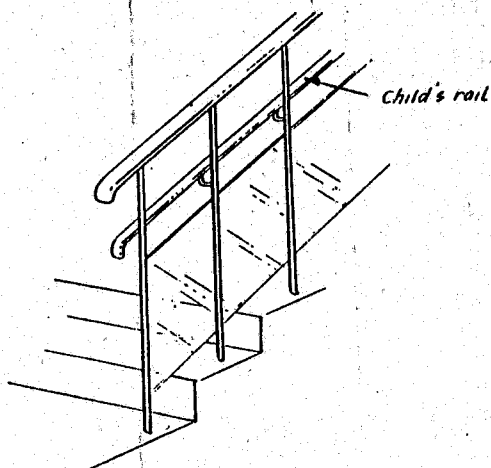
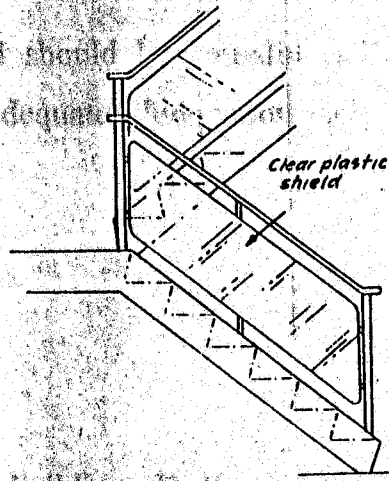
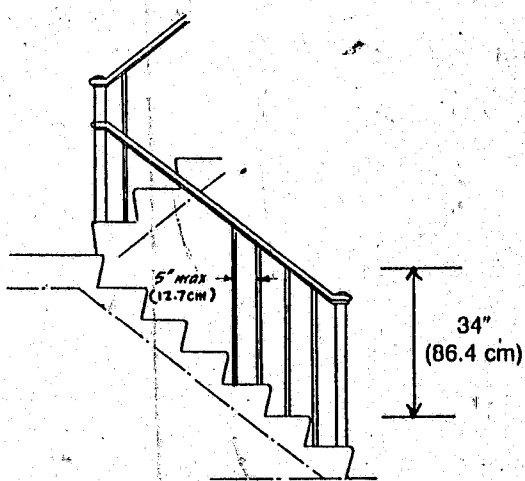
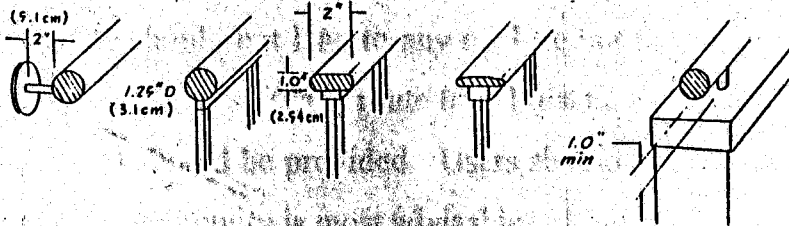


FURNITURE HANDLING REQUIREMENTS

Service of furniture and equipment

REQUIREMENTS

knuckle clearance



RAILING DESIGN RECOMMENDATIONS

which should not be so. In hotel staircases should be located at strategic location to facilitate the quick and easy movement of guest and staff in such of emergency. It is therefore ideal to locate such staircases at secluded areas away from normal circulation route leading outside the building. Escape route should not lead to any enclosure but outside the main building. Also for effectiveness escape route travel distance should be minimized and adequate exit should be provided. Users should not require changing many directions, as continuity is most advisable.

In conclusion all stairways provided should be non-slip stair head with appropriate handrails balcony and stair guard. Adequate illumination including emergency lighting should be provided.

3.6.2 ELEVATORS

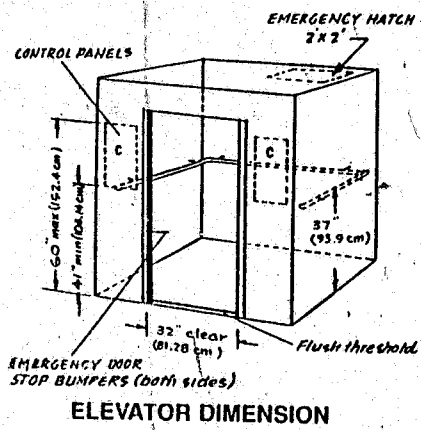
Except for one and two storey hotel building elevator are necessary means of vertical circulation to take guest and staff to upper floors it is important to properly consider them in circulation planning from lobbies or service areas to guest room's floor to create proper ambience in lobbies.

Like stair cases elevators are classified under service and guest elevators and they should be separated in use, location and size.

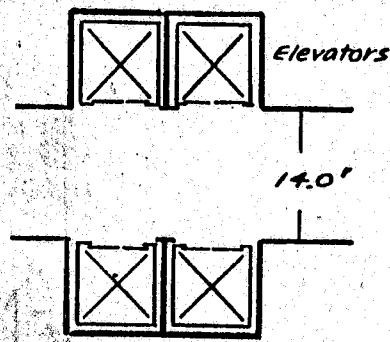
In locating guest elevator, circulation system will be duly considered to reduce walking distance by any guest to the minimum. Therefore for efficiency it is advisable that elevator should be centrally located. The number, size and speed of elevator are determined by the size and type of hotel and the number of people that are expected to use the elevators at peak hours. Larger conventional hotels require fast, larger, and more

elevators and should be centrally located and accessible from the main lobbies. Elevators that could accommodate twelve people at a time are convenient for conventional hotel with above four hundred rooms.

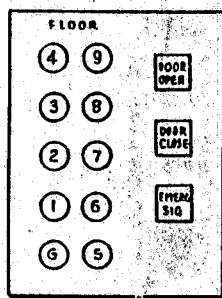
Service elevator is usually located at the back house areas and are mostly used by hotel staff. Consideration should be given to the purposes of their uses. Usually close to the kitchen, laundry and house keeping unit for effective services and transportation of equipment and other material for the comfort of the guest. Service elevators are usually larger than guest elevator for the purpose of easy maneuvering of cart use for service.



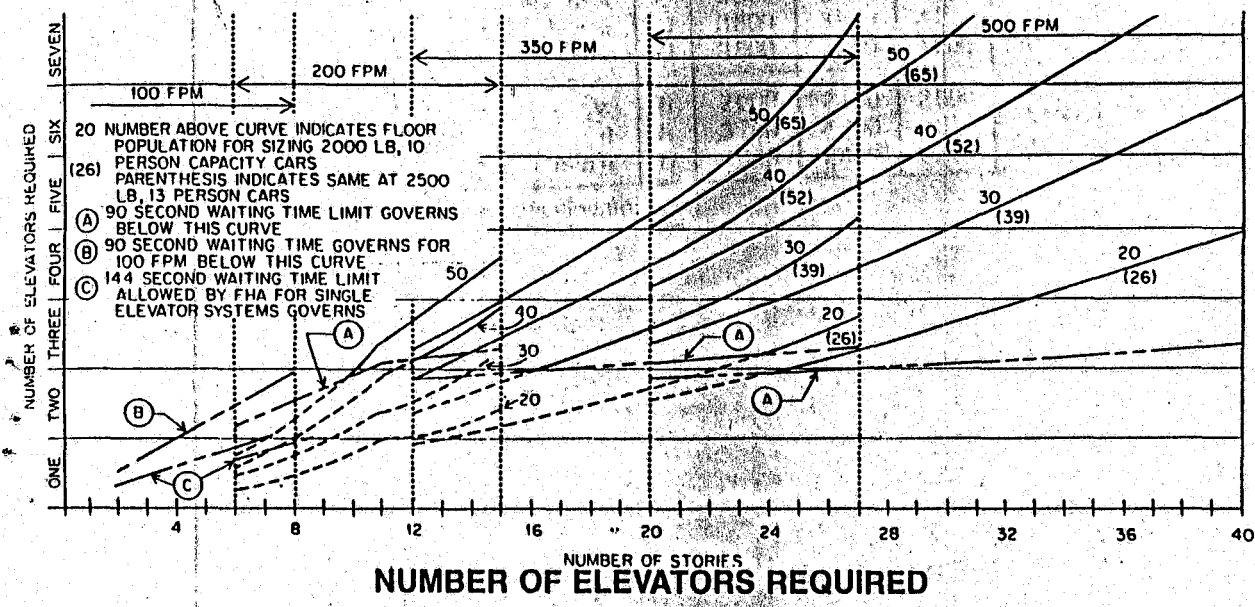
ELEVATOR DIMENSION



5.



ELEVATOR CONTROL LAYOUT



NUMBER OF STORIES
NUMBER OF ELEVATORS REQUIRED

¹J. De Chiara and J. H. Callender, *Time-Saver Standards for Building Types*, McGraw-Hill Book Company, New York, 1973, p. 83.

²J. De Chiara and J. H. Callender, *Time-Saver Standards for Building Types*, McGraw-Hill Book Company, New York, 1980, p. 77.

max number of P			6	13	20	26	26	40	40
load in kg			500	1000	1500	2000	2000	3000	3000
well	w	A	1800	2100	2500	2500	2800	3000	3500
	d	B	1500	2100	2300	2800	2400	3300	2700
car	internal w	C	1100	1400	1700	1700	2000	2000	2500
	internal d	D	1200	1800	2000	2500	2100	3000	2400
	internal h		2000	2000	2300	2300	2300	2300	2300
landing doors	clear w	M	1100	1400	1700	1700	2000	2000	2500
	clear h	N	2000	2000	2300	2300	2300	2300	2300
pit	V = 0.25 m/s	P	1400	1500	1500	1500	1500	1500	1500
	V = 0.5 m/s	P	1400	1500	1700	1700	1700	1700	1700
	V = 0.75 m/s	P	1500	1500	1800	1800	1800	1800	1800
	V = 1.0 m/s	P	1500	1500	1800	1800	1800	1800	1800
free h top terminal	V = 0.25 m/s	Q	3800	3800	4000	4100	4100	4200	4200
	V = 0.5 m/s	Q	3800	3800	4100	4300	4300	4400	4400
	V = 0.75 m/s	Q	3800	3800	4200	4500	4500	4500	4500
	V = 1.0 m/s	Q	3800	3800	4200	4500	4500	4500	4500
machine rm	w	R	2000	2100	2500	2500	2800	3000	3500
	d	S	3700	4300	4500	5100	4700	5600	5000
	min h	H	2400	2400	2700	2900	2900	2900	2900

4 General purpose goods elevators

number of P			4	6	8
load in kg			300	450	600
well	w	A	1800	1800	2000
	d	B	1300	1600	1900
car	internal w	C	1100	1100	1100
	internal d	D	800	1100	1400
	internal h		2200	2200	2200
landing doors	clear w	M	700	700	800
	clear h	N	2000	2000	2000
pit d	V = 0.5 m/s	P	1400	1400	1400
	V = 0.75 m/s	P	--	1500	1500
	V = 1.0 m/s	P	--	1500	1500
free h top terminal	V = 0.5 m/s	Q	3900	3900	4000
	V = 0.75 m/s	Q	--	3900	4000
	V = 1.0 m/s	Q	--	4000	4000
machine rm	w	R	1800	2300	2000
	d	S	3700	4000	4400
	min h	H	2300	2300	2600

2 Light traffic P & perambulator elevators

number of P			8	10	12	16
load in kg			600	750	900	1200
well	w	A	1800	2000	2100	2600
	d	B	1900	1900	2100	2200
car	internal w	C	1100	1300	1600	2000
	internal d	D	1400	1400	1400	1400
	internal h		2200	2200	2200	2200
landing doors	clear w	M	800	800	800	1100
	clear h	N	2000	2000	2000	2000
pit d	V = 0.75 m/s	P	1500	1600	1600	1700
	V = 1.0 m/s	P	1700	1700	1800	1800
	V = 1.5 m/s	P	1700	1700	1800	1900
free h top terminal	V = 0.75 m/s	Q	4000	4000	4000	4100
	V = 1.0 m/s	Q	4000	4000	4200	4200
	V = 1.5 m/s	Q	4200	4200	4200	4300
machine rm	w	R	3100	3100	3300	3500
	d	S	4800	5000	5100	5300
	min h	H	2600	2600	2700	2700

3 General purpose P elevators

CHAPTER FOUR CASE STUDY

4 O. CASE STUDY

Case studies are method of investigation for research purpose in order to discover problems associated with planning, design and consultation of existing structures with similar function to a proposed design project.

This chapter will be analyzing the technical problem associated with planning and design of hotel basically for the purpose of finding solution where available and also avoiding such technical problem in order to produce a proposed design that will technically sound. Case Studies were taken from existing Hotel from different part of the country and abroad as guide. Selection of these hotels for case study where based on the following:

- i. Modern international hotel where chosen for comparison purpose in other to find solution of problem associated with planning construction and technical fault, which provide luxury, services in the Hotel industry.
- ii. Hotel complex situated in an overcrowded populated city in order to create maximum benefit to the city in terms of accessibility accommodation outdoor activities and circulation within the complex in emergency situation.
- iii. Hotel in specific climatic region for consideration in design and construction especially as regard to the comfort of users.
- iv. Hotel that have clearly revealed the necessity of a well-defined and articulate service circulation.

- v. Hotel where design place importance on both luxury and aesthetics in unison.

4.1. CASE STUDY ONE - ABUJA SHERATON HOTEL

The Abuja Sheraton Hotel is located in Wuse zone four of the federal capital territory, close to the city shopping center. It is a typical conventional hotel managed by Sheraton Hotel cooperation worldwide.

4.1.1 PLANNING CONCEPT

It covers a considerably large landmass because of the availability of landed properties. It was planned to accommodate different facilities and make provision for six hundred and sixty six guest rooms. The Hotel complex has three towers and each of the towers has different number of floors. Restaurant and bars are located at different parts of complex for easy accessibility. Swimming pool and other recreational activities are provided to enhance the leisure activities of the Hotel. Because of its location which is close to Abuja shopping complex business facilities to enhance the comfortability of the guest.

4.1.2 ARCHITECTURE

The structures are made of rigorous architecture of prefabricated concrete taking advantage of the orientation and climatic condition of the area.

Special care has been taken by the developer to ensure high standard of quality material and finishes that befits an international hotel. Unity in design, integration of culture and arts, as well as balance dry and wet season facilities are well coordinated and provided. The introduction of the courtyard system is one of the integration of sub – Saharan cultural architecture that helps in providing cross ventilation and given it a natural enclosure. To this effect the design of the hotel took cognizance of the weather and culture of the people to meet with the international style, which is very commendable.

4.1.3 MERITS

- i Provision of standard facilities that will adequately satisfy client need.
- ii Well planned layout that account for good circulation within the complex.
- iii Centrally located within the city thereby easily accessible to its users.
- iv Integration of International African Architecture with modern planning technique and construction is commendable.
- v Use of light material for partition reduce weight on foundation.
- vi Well planned Aesthetic of the structure make the building look attractive.
- vii Good Landscaping.

DEMERITS

- i. The guest lift is not well located
- ii. No privacy for rooms along the corridors.
- iii. Parking spaces is not properly located
- iv. Very small swimming pool compared to the size of the Hotel.

Eko Hotel is situated beside the Historical Kuromo beach in Victoria Island Lagos. It is in the middle of the business district and residential area in Victoria Island, a three minutes drive away from the Atlantic Ocean. Though about forty-five kilometers from the international Airport in Ikeja Lagos, there is a connecting route, which quickens movement of, Guest to and fro the hotel.

4.2.1 PLANNING CONCEPT

Eko Hotel is a conventional hotel, which has a lot in common with tourist Hotels. Built beside the sea, which provide attractive and beautiful scenery to its guests. The Hotel complex is a well-planned layout with attractive landscape, which is used to control external circulation system. The facilities, which include 427 rooms and suite in four categories, four banquet halls and six meeting rooms of various sizes. Because of its closeness to the sea tourist ability the Hotel is design to serve dual purpose. Out door facilities are carefully planned for resort purposes with the provision of art gallery for exhibition and sale of artifact.

4.2.2 ARCHITECTURE

The structure is made up of massive reinforced concrete located close to the sea is designed to serve dual purpose. The rooms are designed in such manner that visitors and guest could have an out view of the ocean. The design and Architecture has being influenced mostly by the French design culture.

4.2.3 MERITS

- i Located close to the beach therefore gives it a good scene guest.
- ii Though a conventional hotel which is located in the mist of the central Business district and residential area and also close to the sea it serve as a dual purpose hotel.
- iii Has a well planned site with attractive landscape which enhance the aesthetics of the building.
- iv The introduction of slope in the landscaping and provision of adequate drainage facilities help solve the problem of water erosion within the sea.
- v Good construction material and finishes and well planned lobbies and corridors within the guest bedrooms.
- vi Market shop restaurant and clubs around the Hotel so there is no shortage of things to do or see.

DEMERITS

- i. The traffic route around the hotel is not well planned therefore creating unpleasant traffic hold up around hotel complex.
- ii. 45 km away from the airport make it inconvenient to visitors on short time business trip to Lagos who wish to lodge in such hotel.

4.3 CASE STUDY THREE

NICON HILTON ABUJA

Nicon Hilton Hotel complex is situated at Wuse 11 Abuja, close to business district and residential area. Nicon Hilton hotel is a conventional which covers a considerable large area of landmass of guinea savanna.

4.3.1 PLANNING CONCEPT

It covers a considerable large area with well-planned landscape and a botanical park for guest waling within the complex. The main Hotel building is planned basically to have three living of about 1020-guest suite. Conventional halls and meeting are separated from the main building to check overcrowd ness during peak hours. Recreational facilities are adequately provided for in a secluded area that provides sporting and relax environment for it guest.

ARCHITECTURE

The aesthetics of the structure on site are very impressive. Structures are made of prefabricated component of prestressed reinforced concrete. The most conspicuous thing about the Architecture is the dominant Architectural form adapted reduces the effect of sea and mind effect on the building. The constructions are made of concrete component, which are dismountable. Also unique is the finishing material for internal decoration, which are mostly made of marble. Services provided for waste disposal, air-conditioning refuge disposal are centrally planned using the most modern planning technique.

MERIT

The Hotel has very good and well planned external circulation system with adequate parking spaces.

- ii Good accessibility and adequate facilities are provided for guest.
- iii Good planning of lobby area that is self-descriptive
- iv Material for finishes are very durable and attractive giving the hotel outlook of the hotel permanently maintained.
- v Provision of fanatic landscaping and botanical garden that encourage strolling and attracts tourists.

DEMERITS

Natural ventilation not adequate in some room and restaurant.

Insufficient natural lighting in corridors.

CASE STUDY FOUR

WESTIN HOTEL PROVIDENCE RHODE ISLAND

The Hotel is a purely conventional Hotel in the city, which is now social gathering point in the city. But from its distinctive yet classic exterior to its gracious lobby and elegant suites the hotel meets all criteria for a conventional hotel. Since the hotel is located at the upper end of the Market Square and travelers, the rooms had to meet the demand of both.

The Hotel provides its guest with residential comfort, entertainment centric and complete business amenities. With its natural light and plants the recreational are provided with associated facilities such as swimming pool, saunas, whirlpool, and a well equip Gym.

4.4.1 MERIT

- i The decision to include a fine dinning restaurant stops a trend toward eliminating high end ethnics in mid size hotels.
- ii The intricate design of the carpet, the lighting and the floor and wall finished which juxtaposed with more pedestrian space give traveling in the corridor more pleasant.
- iii The open space flow of the lobby maximize operator's ability to handle overflow during peak demand.

DEMERIT

- i No adequate parking spaces for vehicles
- ii Located in the mist of business centre thereby providing insufficient meeting space to service the town.
- iii The design does not give room for external aesthetic of building which makes maintenance more difficult.

4.5 CASE STUDY FIVE : KWARA HOTEL ILORIN

Located in the heart of Kwara State capital, The Hotel complex is built on ideas for conferences seminars training workshops.

4.5.1 ARCHITECTURE

Set in the beautiful expanse of savanna environment. These masses of reinforce concrete structure offers guest opportunities for active and passive recreation in addition to good feeding facilities.

The rooms are designed in such a way that visitors and guest can have an outside view of the city and recreational activities through the window. Notable facilities provided in the hotel include:

- Suites for One Hundred and seventy Nine Guest.
- Standard Football Field
- Olympic size Swimming Pool
- Discotheque

- Business centre
- Barbecue

4.5.2 MERITS

- i The hotel complex is located in such a way that make accessibility an easy thing from any part of the town, including the neighboring towns.
- ii. Provision of a well-articulated business centre and courier service makes it a delight for business travelers to stay.
- iii Its unique setting in a meticulously maintained environment make it a tourist attraction itself.
- iii. Provision of various facilities for sporting activating relaxation and night club make guest entertainment opportunity high.

DEMERIT

- i The siting of its entertainment centre right in front of the reception is a misplacement.
- ii The parking lot is not well planned thereby making traffic congestion a permanent occurrence during important functions.
- iii Entrance lobby is too small, reception area is always jam-packed during any function at the centre making it difficult to distinguish between guest and fun seekers.

CHAPTER FIVE DATA COLLECTION

5.1 CLIMATE CONDITIONS

The climate condition in Warri is typical of the Niger Delta region of Nigeria with a mean annual rainfall of above 200 inch. The rainy season begins in the middle of February and last till November. Otherwise it can be said the rain in warri comes mostly throughout the year with the exception of the few weeks of hamattern, which is very common with other part of the Niger Delta region of Nigeria. In warri the heaviest rainfall is experienced in September but a slight break occurs for about two weeks in August giving rise to a this maximal regime in which the rainiest months are July and September.

Excepting the region of the mangrove swamp where trees grow only close to the bank of the creek. The whole Warri is covered with dense vegetation. Extensive forest tracks in which oil palm and rubber tree are the predominant species occurs in the North of the mangrove swamp.

5.2 TEMPERATURE

Temperature conditions in Warri are similar to that all over the Niger Delta region the days are usually hot and sunny with high humidity due to high cloud formation. The hottest months are February and March when the mean annual temperature is about 80 F (33 C). Heavy rain clouds, which may remain unbroken for weeks, have the effect of lowering the day temperature for June, July, August and September.

The influence of the North-East trade wind (harmattan) is not severe in Warri and last for only some few weeks in December and January but is responsible for a lower temperature that last during this period. The harmattan period is said to be the coolest month in Warri.

5.3 HUMIDITY

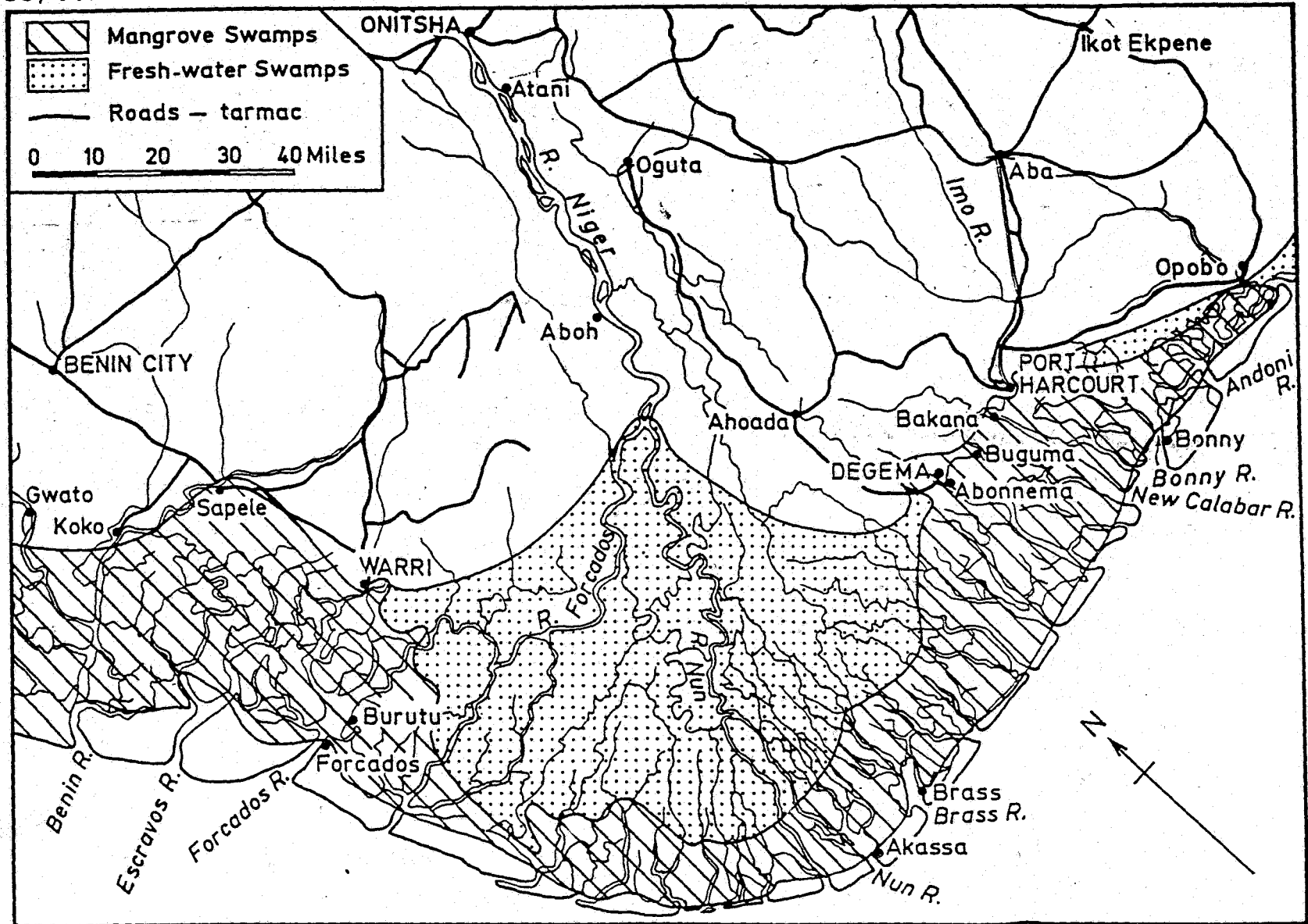
The relative humidity remains high all through the year with the exception of the short harmattan period, which is usually dry. Humidity averages over Eighty percent in Warri, which is higher during the peak of the rainy season. Month with highest relative humidity are April, May, June, July, and September.

5.4 GEOLOGY AND TOPOGRAPHY

Warri is a part of the Delta structural basin in which three major sedimentary cycles have occurred since the early cretaceous. The sub surface stratigraphic units of Warri is associated with the cycles of Benin, Agbada and Akata formation. The Benin formation is about 1800 meter in depth and consists of loose and unconsolidated sand. There is little hydrocarbon associated with it the underlying Agbada formation which consists of sandstone and shale is however rich in hydrocarbon. It is about 304 meters deep and is underlain by the Akata formation.

The entire Warri region is built up by the sedimentation of the Niger Delta and it consists of various stages of development. Three major hypsographic units are identifiable within it. The first, the fresh water swamp is the most active area in Warri and is located close to the River Niger where annual flooding and deposition occurs up to forty-five kilometer

56/THE COASTLANDS OF GUINEA



Physical Regions of the Niger Delta.

from the river course. The second unit is the mangrove swamp described as the intermediate delta stage. It is much lower land; great proportion of it is brackish. The Third hypsographic unit is the upland and swamp area, which is also called the coastal plain. It lies between the flood plain and the Benin lowland. The swamps are more restricted by broad drainage channels created when this area was an active delta.

The three types of soil that is common to the Niger delta region are mostly found in Warri. They consist of alluvial soil on marine deposits along with coast, alluvial and hydromorphic soil on marine lacustrine deposit and the feral soil on loose sandy sediment in the dry land area. The feral soils are usually yellowish in colour unlike the other types, which are usually white.

5.5 SOCIO CULTURAL LIFE

Warri is one of the most important commercial cities in Delta State, and it comprises of 3 major ethnic groups, Urhobo, Ijaw and Itsekiri. Although because of its commercial significance which have attract many other people from far and near making ethnic significance of little effect to the city.

However, the ethnic groups speaks corresponding languages and have so many things in common; their system of traditional administration are very identical mere mode of dress and art and craft work are also similar.

There is freedom of worship and religious tolerance in the city where they are adherent to traditional and Christian religion. In Warri the social life is high and people especially youth enjoy making and listening to music, which is predominant in all the ceremonies. Being so lively, dancing cannot be rule out because many religious, cultural and social moods are expressed thus. Celebration in Warri attracts indigenes and non-indigenes at

specific times in the year usually between March and December. The celebration offers occasion for reunion of family members, friend corporate bodies, business partners, as well as well wisher from far and near.

The thriving industrial and commercial activities in the past growing city which have attracted people from other part of the country and the world. The nightlife of the city has taken a new turn to be very active socially. Restaurants, Guest inns, Bars and casinos have established throughout the city by private individuals.

Most of the tourist attractions in and around Warri are derived from its socio economic character tics. The tourist attraction derived from the physical characteristic are few and are being overshadow by commercial activities making it insignificant to the people and less attention are paid to them.

5.6 ECONOMY AND COMMERCE

Warri is the operating city of all multi-national and national oil companies in the western block of the country and that has been the source of it economic and commercial strength over the years. Petroleum, which occurs in all area of Delta State, is the major energy source in Nigeria and has been the bedrock of the economy.

Although other mineral such as Ignite and silica sand occurs in different lithological formation and along the beds of river and stream in the delta region of the state. They are largely untapped. However, in recent years there have been a tremendous efforts tap into this by the establishment of Delta Glass Company. Also the state Government is making effort to create a conducive investment climate to promote the economy, which can give financial, backing to Hotel business.

Also of notable importance in the economy and commercial activities in Warri is the agro industrial sector which include processing of raw material for production, farming fishing, collecting and processing of palm, rubber and fruits. Cassava is a major crop grown for both food and cash crop and for the purpose of industrial starch. Rubber typing and processing is important to the economic activities as it provides job for many peasant farmers and also an important cash crop used for the production of rubber. About fifty five percent of land under cultivation in 1989 was cropped with rubber tree plantation.

On the basis of its location, relatively close to the sea make it important for international trade. Trading and transportation have been blooming by reason of it rising population and other economic booster. Warri also being among the major commercial cities in the Niger Delta area is enjoying the development programme of the Federal Government, which has boost economic activity in the area of small and medium industries.

5.7 DEMOGRAPHIC DATA

To understand the population size, structure, and density in Warri, the growth trend of Delta State population of which Warri is the major commercial city would be examined. In 1963 census, Delta State had a population of 883,651 and by 1963 the population of the state had increased to 1,456,541. There was a further rise of the population of Delta State in 1991 to 2,570,181 persons made up of 1,273,200 males and 1,296,974 females with a projected increase at 2.4% per annum.

Recent population distribution of Delta has shown that warri is among the most densely populated region in the state with a population ratio of over 300 per square kilometer.

This population growth has been mainly due to migration from rural areas and neighbouring state for commercial or economic reasons.

It was projected that warri metropolis comprising of three local governments have a population of over 600,000 people with an implicit annual growth rate of 6.1%.

5.8 TRANSPORTATION AND TRAFFIC FLOW

Transportation in and out of warri has been by three major means - Air, Sea and Road. Road and water transport have been the common means of transport in warri.

Traffic flow in Warri Township has been very poor due to poor planning and neglect by the government and people of the state. This has also become worse by the increase in commercial activities and presence of many multinational companies without consideration of enhancing the traffic flow system.

However, plans are on the way for road expansion and construction of more roads in Warri to ease traffic flow in and around the city.

Warri is bound by one major river (Warri River) and several inland creeks branching from the river forming the waterways. This has made it a possible way to reach communities in the coastal area around Warri for trading and commercial activities.

An Airstrip in Warri is the only means of air transport, although a new Airport have just been constructed to boost this means of transport system, which is becoming very common due to increase in commercial activity and the importance of the city to national economy.

5.9 EXISTING LAND USE AND FUTURE TREND

Warri is a highly commercial city due to the presence of oil exploration and refining companies which has attracted a lot of job seek and business men and women. In recent years, there has been an increase in the establishment of new commercial companies, banks, oil servicing companies, and engineering and maritime companies in the city. This has resulted to high rate of migration from both rural and other urban cities. Land use system of the city is base on the activities, which is common to the inhabitant which mostly commercial and industrial activities. Warri like other Nigerian old cities was not well planned causing improper land use, poor zoning of the city, poor road network and unguided existing of building structure.

However, with the new move of development and attention from the federal government and the international community toward the development of the Niger Delta, which Warri is a major city, there has been a proposed physical development plan. This will necessitate better road network system, provision of social amenities and provide recreational facilities to enhance social and commercial activities that will befit a commercial city with large population

CHAPTER SIX SITE ANALYSIS

Site analysis is an integral part of pre-design analysis, which involves all physical, ecological climate, geological and infrastructural analysis of the site. A pre-knowledge of the site factor will create possible constraint for good planning and design to suite the site that may have a sense of place in function, stability and aesthetics. The site climate and physical structure is determined by respective variable, which should provide design guidelines for the layout, orientation and treatment of spaces shade, shape and height of building as well as house form.

6.1 LOCATION OF SIZE

The site for the proposed Hotel is located at the outskirts of Warri metropolis close to the vehicular entrance into the city through Porthacourt. The site belongs to the federal government and was marked for recreational purpose for the city. Located close to the Petroleum Training Institute and the new airport being constructed to serve the city. The site can be accessed through the dual carriage expressway, which runs round the city linking the entire major industrial and commercial centre in the city beginning from the Delta Steel Company to the Nigerian Port Authority. The location of the proposed hotel become more ideal as more industries within the city are now relocating to the outskirts to ease their operational activities in the city which is now over crowded. Also the construction of the airport and its closeness to the Benin-Warri and Porthacourt-Warri road makes it easy for visitors coming to Warri for business and other purpose to locate. This location will also be ideal as it will be free from traffic congestion within the city.

6.2 CRITERIA FOR SITE SELECTION

The criteria for the selection of site for a particular type of development is determined by the function, accessibility, design consideration and relationship to the society within which is located. It could be individual or large project e.g. An international hotel should be in relation to the economy and socio cultural development to the city. Aesthetic is also a major considerable factor on site selection whether to accentuate the design space with the terrain and topography or remove incongent feature to create a pleasing environment. In the selection of the site for hotel development, the following criteria were adopted.

- i) A quiet open land area with busy traffic system to provide high accessibility to the city for intent and intra sector travel.
- ii) A site structure focusing on the business sector of the city where leisure can be achieve to tamper harsh living condition of visitor and resident of the city.
- iii) A secluded site out side the city where land is cheap and plentiful to aid effective circulation and expansion and provide better comfort for it staff and visitors.
- iv) A self-advertising site is necessary since identity and sense of place is characterized by this kind of project.
- v) A good network of public utilities respecting existing pattern.
- vi) A liner transportation system consisting of parallel transit corridors forming an intersecting central commercial spine.

6.3 SITE CHARACTERISTICS

On the analysis of the site, inventories are taken in other to involve physical and climatic factor to provide guidelines for layout for the design and construction. The soil type prevalent on site is characterized as sand soil, which has a good workability for construction purposes. The type of soil determines the type of foundation to be employed, the drainage system at ground and surface level. The land from has a relatively flat terrain with marsh soil toward the southeast of the site, which will determine the direction of drainage flow. This will also determine the type of foundation construction methods to be employed on site whether to cut and fill or step the foundation.

The vegetative topography of the site is observed to be mainly cultivated by illegal tenant for a living. While a large area is made up of thick secondary growth, there are some sparing canopies of trees crops of rubber and palm trees at the northern part of the site.

The micro climatic factors plays a significant part in the passive and active system of design these factors include the air temperature relative humidity, air velocity and soil temperature which affect the planning consideration, construction method, building size, height and most importantly the thermal comfort of the inhabitant of the structure.

As analyzed the using of the sun in the site is from the southeast of the site and set at the northwest with a strong overhead sunshine at about 12 noons to 2pm. The air temperature of the site is relatively low and low relative humidity as compared to other part of the city due to the presence of trees in the site. It is important to consideration the orientation of building in the site in other to have visual satisfaction though the site is in a secluded part of the city the vegetation around the site is pleasant to perceive.

Noise level within the site is relatively low due to its secluded position notwithstanding its closeness to the airport will increase the noise level but effective barrier during construction and effective landscaping is eminent to muffle the sound.

Lastly, there are basically no building structures within the site, which is a virgin land, which is large enough to satisfy the function, stability and aesthetic of the design.

6.4 ACCESSIBILITY AND CIRCULATION

The location of the site makes it easy to be accessed from different parts of the city which is linked to the dual carriage road which goes round the city. Also the location of the site which is close to the entrance of the city makes it easy to access by guests coming into the city. Though the roads are busy the dual carriage will prevent any occurrence of unnecessary hold up within the entrance of the hotel complex.

Circulation within the site will be dictated by the functional requirements appropriately taking by considering traffic of visitors and staff through vehicular and pedestrian systems within the complex. Proper landscape would also be applied to aid the circulation system by providing clear traffic guides.

6.5 UTILITIES

The secluded position of the site will need social utilities like water supply, electricity, good drainage and sewage disposal system, which is at present absent in the site.

However because of its closeness to the petroleum training institute electricity and water supply is expected to be trapped from the institute. The site has a natural drainage toward the southeast which lead to creeks but a well defined drainage system will be provided for proper drainage system.

6.6 ENVIRONMENTAL PROBLEM

Like most areas in Warri the southeast area of the site is marshy and there is possibility of it been water log during the rainy season due to poor drainage. So there is a necessity that parts of the site have to be sand filled prior to construction and proper drainage will be provided to prevent water log or flood.

7.0 DESIGN CONSIDERATION AND BRIEF

The task of a successful building design is the primary concern of every architect, which can best be achieved by full understanding of the client brief. In the course of this research, the brief was recapitulated in a concise manner from books journals, magazines and most especially from the case studies carried out in relation to the planning and facilities provided in a conventional hotel.

The design as a project is one of many parts which consideration is properly articulated to give a conducive whole from the conceptional evolution to the functional analysis through to the final design proposal.

Since architecture is more of space planning various design consideration in relation to each unit stated will envisage and utilize the functional and environmental impact to develop the brief.

The geographical condition and climatic factor affecting site location of this, which has been discussed in the previous chapter, have been duly considered for providing spectacular view and conducive location. The site for the building for hotel complex in this design project is considered obviously for its geographical uniqueness and its easily accessible location. The location is zone into an external northwest noise riddle area, which is on the very front of the site, which the main ingress and egress approach to the site is located. Also an internal recess of a quiet selected area which is to be developed for recreation and relaxation area, with a more quite reclusive area to the south east which contain the pool and garden for barbeque.

The external noise riddle zone is to be landscaped with natural vegetation to act as:

- Stabilizer for site micro climatic condition.
- Acting as circulation guide.
- Dampening to the bearable ambient noisy level the regular traffic noise from the road.
- Aesthetics of the general approach to the site while the other zone of this complex will be landscape to attract visitor around the different areas of the complex special landscape element will be used to justify the landscape with beautiful nature.

However, the proposed international hotel Warri should be design to meet international standard of a conventional hotel, but for the purpose of this thesis detail planning for only the main hotel building, club house and recreational facilities will be undertaken.

A *MAIN HOTEL BUILDING*

This is an elegant structure that is located in the middle of the site and can be access though a motorway that leads directly to the carport as well as by pedestrian walking. The building is a series of multi storey structure of cone shape which accommodate the hotel administrative office, bar and restaurant, banquet hall, swimming pool, letttable shops and business centre. The main hotel building also accommodate conference hall, casino and five categories of executive suites which are design to have lovely views of the countryside and unimpeded view of every green forest and plantation around the site.

B *POOL/CLUB HOUSE*

This is a hexagonal building located behind the main hotel building close to the pool, it can be accessed from the main lobby of the hotel building and accommodate poor bar, ball room, discotheque and indoor games room.

The clubhouse accommodates all facilities that will mostly generate a lot of noise and vibration that may be unpleasant to the guest sleeping area.

C RECREATIONAL FACILITIES

Recreational facilities are usually provided to accommodate and provide leisure for the visiting guest. In this design is located at the eastern wing of the site. It accommodate all facilities that provide leisure – pool indoor games, botanical garden, lawn tennis court and badminton court. Other recreational facilities provided are the landscape form that will enhance a relax and attractive mood.

7.1 DESIGN CONCEPT

The design concept is based on the philosophical principle underlying in the design and circulation of existing hotel complex. Modern hotel complex have been designed to follow a particular pattern according to the designers interpretation of studies, which have always assume that hotel planning is to a great extent influenced and defined by the assumption that there would be always a need to satisfy an immediate short term accommodation which usually have us own general and particular requirements. This requirement will exert considerable influence on the structure of the building, the form, size of facilities and ultimately related spaces. The guiding philosophy for the derivation of the concept is efficiency in circulation which defined sequential space to promote flexibility in accommodation with visual contact to nature.

The design concept employed in this project is base on the canonic conceptual approach married with the analogical concept approach. Canonic in the sense that all functions provided within the entire design where analyzed individually in relation space required and are inter married with other facilities according to the priority of functional order.

While analogical in the sense of its approach view which is trapezium in shape as the roof covering of square or rectangular houses of the Ijaw, Urhobo and Itsekiri traditional mud houses, which are usually made of thatch. This is to create a sense of respect to the indigene and the social cultural life of its location to meet its local need with the most modern techniques.

PLANNING CONSIDERATION

The planning would be focus on the best way to blend the different component of a conventional hotel with special emphasis on obtaining social development and flexibility within the facilities. The planning of the hotel complex would be put together as a homogeneous whole as all major spaces and function required will be juxtaposition in their proper places. In other to satisfy all planning regulation of hotel design, the planning concept have been zone into site operation and building operation which are in relation to each other so as to develop a very functional complex.

The guest room will be limited to 450 rooms, which will be provided, in five different categories from the single executive suite to the luxurious presidential suite, which will cater for the very affluent guest. The module for the floor set up would be based on the fact that a maid can take 10 -14 rooms per day per floor. A normal double loaded hotel tower is at least 18 meters wide would be provided (minimum are 5 meter clear living space from outside window to bathroom wall, 3 meter for bathroom and closet and 2 meter for hall). For the most efficient design every room would have a fully equipped bathroom so that it may be rented as a separate room.

Flexibility in planning is of most importance since hotel obtain its client by publicity is should have natural amenities that would be fully developed to effect in successful planning. It also took cognizance that hotels are amortized usually within thirty to thirty five years but they normally have longer life span. It should be noted that during this period many changes would have occur which may exert strong influence on the viability of the hotel and alteration maybe done to bring it in line with the new condition.

The choice of a module structure will be adapted for the purpose of alteration since social standard are rising and guest may not be satisfied with present amenities in years to come a degree of inbuilt flexibility in hotel design is required.

Changing requirement would be accommodating by flexibility in spatial arrangement, multi purpose rooms, movable division and others expedient spaces which will facilitate attention.

In the planning of hotel it is absolutely necessary for an efficient segregated circulation system, bearing in mind that routes taken by resident guest and staff follow distinct pattern. In the light of this layout and planning of hotel must facilitate movement of people and as far as possible provide for the separation of guest, staff and maintenance personnel. Relative position of room and auxiliary service will be properly located after determining the sequence of movement bearing in mind the four generation of circulation, guest, staff, deliveries and services from the serving point of view, it is always advisable to locate the kitchen and restaurant on one floor. This is possible by allocating two floors for the public area one use for meeting and business and the other exclusively for feeding. In such cases deliveries as well as daily stocking up will have to be effected by elevators.

Vertical service and duct would have to converge at the service floor where the public wing is situated below the bedroom. An imaginative structural work will be provided in this floor-taking load through the public wing at very few points only.

The choice of planning and structural module would be the most taking problem in this design because apart from corridors, duct, staircases, elevator and column, concentration is also required in location where the structure penetrates the public wings. In order to satisfy this structural need module should be on grid capable of accommodating beamless floors below bedroom and when double or treble in size in public areas. The structural grid should be determine by the width of two adjacent rooms, which will allow duct and other services to pass unchecked through the floor in mid-span.

A sound proofed lightweight double partition between the rooms contained within the grid allows service branches toward the perimeter.

7.3 DESIGN APPROACH

The basic approach to the design project is to create a built environment of immense appeal to the visitor using the most modern technique and available material to suite it into a costal environment in a tropical region. It is also to ensure that the design itself does convey an appropriate order of priorities.

The site, which is an expanse of the tropical land with adequate space to occupy the complex, is suitably located in respect to commercial and tourist need to the city of Warri.

In the designing of complex priority functions were duly considered which were arranged in sequential order of functionalities. Having two entrances for guest and service routes they are both linked to the Aladja – Effurun dual carriage road running around the entire Warri city. Guest vehicular movement inside the complex are restricted along one side leading to the carport and parking area, which will accommodate 300 cars at peak period.

Pedestrian provided for visitors are design to overwhelm the visitors by the series of paved walkway which hedges well landscape making perception exciting to all guest. Eternally, the main building should be a piece in itself with fair elements and motifs that will respect the status of its name an international hotel. The design was conceived to give an impressive dignity that will remain in the memory of visitors.

The cone shape design of the 11 storey building is an analogy of the common thatch roofing system found mostly in traditional houses in Warri. While the interior can be approached from the entrance porch large enough to accommodate large number of people. The following design approaches are considered.

- i) The lobby design would be influenced by the functional requirements which should be very large to accommodate conventioners at peak, allow for the use of material and finish with a high degree of performance requiring low maintenance and repair work. The size of the lobby would be determined by the number of services to be provided on the ground floor level.
- ii) Front desk:- Guest registration, cashier, information services are provided over desk or counter which may be arranged in a separate area visible from the lobby. In either case it is important that the counter staff have direct access to the offices providing back up information and services. The reception desk must be immediately conspicuous to guests entering the hotel and in a position to provide supervising of the lobby area, the cashier desk must be clearly visible from the elevator and staircases.

iii) Restaurant and bars:- Entry to the restaurant and bar areas should be through the reception lounge and foyer. This should be a little more than a widening of the hall corridor and larger area. Providing space for seat and table. The restaurant would be located on the more remote side and bars would be position easy to locate areas.

Cocktail lounge and coffee bars are provided as independent facilities linking to restaurant, which will rely heavily on its interior fitting to attract customers. Provision for more than one restaurant would be to give guest a choice in menu and price, however a special restaurant would be provided at topmost level for executive visitors. With increase demand for freedom guest may want to eat outside the main hotel building barbeque are provided with clubhouse restaurant.

iv) Bedroom:- For economic purpose the shape of the suites area is based on two parallel rooms of bedroom with inner bathroom served by a central corridor. The advantages of all bedroom having internal bedroom that can be service from the corridor include:-

- Width of bedroom is kept to a minimum along outer wall, thus reduces the corridor length.
- The lobby can be used as dressing area between room and bathroom and the bathroom could be used as noise buffer.
- Allow a short duct connecting internal bathroom with external face of the corridor.

v) Service area:- Service area which include house keeping room, kitchen, and other areas exclusively for the staff are located in area that are secluded from guest interference. Also circulation pattern within the service are interlink and carefully design to avoid traffic congestion.

7.4 CONSTRUCTION AND MATERIAL

7.4.1 CONSTRUCTION:

The construction method adopted for the design is the skeletal system of construction, where the frame structural system of columns and beams carry the entire load to the foundation. Because of the height of the building all construction should be duly reinforced according to specification of the engineer yet the thickness of concrete work should be minimal to reduce the effect of load on the foundation.

This method of construction is probably not only the cheapest but also the most satisfactory for all building which structure can be changed. However the columns and beam structure may be chosen in isolated cased as being quicken to erect, easier to convert and accommodating rooms of different size with relative ease. In this case special care must be taken with the positioning of duct and bathrooms.

In the main hotel building pile foundation system is use because of the height of the building and soil type to be able to carry the load of the structure. The infilling between the beam and column structural frame are done with concrete block for the purpose of durability, acoustic and fire resistance.

The clubhouse construction adopts the use of masonry made of concrete block while foundation is a combination of strip and raft foundation.

MATERIALS

Materials as far as architecture is concerned are the physical element whose use and manipulation crystallize into the physical realization of the idea of the design. The

material for the proposed international hotel is to reflect the international status of the complex as well as meet all local climatic condition for aesthetic and economic requirement. This dual from of architectural requirement for the building material for this project is the basic properties to satisfy the three most important qualities in good architecture – commodity firmness can be classified into structural and finished material.

A STRUCTURAL MATERIAL

Reinforce concrete floor slabs; beams, column and foundation footing are used for all structural work in the building. While concrete blocks are used for all masonry work.

Roof structure are made of steel lattice in the club house and other structure within the complex but for the main hotel building which is constructed with reinforced concrete slab.

B FINISHING MATERIAL

I) WALL:- All material and external wall shall be rendered smooth by the application of 3 coats of cement plaster mix to the ratio of $\frac{1}{3}$:1:3 of lime, cement and sand respectively the entire external cement plaster mix will be over laid with light coloured mosaic tiles to enhance it beauty. While internal cemented plaster in room and lobbies will be over laid with light coloured text coat paint. The bars and other relaxation function spaces will have certain accent to induce excitement and participation. The walls of the sanitary areas, service areas and kitchen will have decorated glaze wall tiles up to 1800mm height. Walls of the noisy area – club house, meeting room, conference hall and banquet halls will be over laid with polished wood panel for acoustic purposes.

II) FLOORS:- The main lobby afea will have white marble floor which can withstand wear and tear and is aesthetically appealing and can be

easily maintained. All the corridors and rooms within the hotel will be laid with paladin floor finishes however room will be over laid with rug carpet. All sanitary and kitchen area will be covered with glaze ceramic tile with rubble surface to prevent slipping. All banquet halls conference hall will be finished with terrazzo, which will be overlaid with rug for acoustic reasons.

III) WINDOW AND DOORS:- All window are to be made of polycarbonate plastic sheet gazing which can withstand the impact of about 16 times that of the double strength glass window. The glazing sheet would be frame in alloyed bronze aluminum frames. While the doors shall be made of carved and smoothed hardwood or glazed sheet made of polycarbonate plastic glazing in public places. All room and suite will be made of carved or smoothed hard wood door and doorframes.

IV) ROOF:- Roof finishes in the club house will be made of long span aluminum roofing sheet while all concrete slab and roof gutter are to be over laid with bitumen felt to prevent leakages.

Ceiling:- Ceiling in each floor of the main hotel building are provided to cover all cooling duct from the central air conditioning are made of suspended ceiling pads.

V) PEDESTRIAN WALKWAYS:- Pedestrian walkways are to be finished with concrete tiles. The paving shall be of a base with underneath of thorough compacted literate soil. All concrete tiles will be fasten together with concrete mix of 1:3:6 of cement sand and aggregate respectively. Also all kerbs used in living the load and walk way are made of reinforced concrete.

7.5 SPACE REQUIREMENT

GROUND FLOOR PLAN	NO	AREA
ENTRANCE PORCH MAIN LOBBY LETTABLE SHOPS CONFERENCE HALL ADJUSTABLE MEETING HALL BANQUET HALL BALL ROOM COURT YARD DISPENSRY BELL BOY STAIR CASES KITCHEN MALE LOCKER ROOM FEMALE LOCKER ROOM PUBLIC TOILET AREA FRONT DESK STAFF OFFICE AREA STORE PHONE AREA LEFT (ELEVATOR) SERVICE ENTRANCE DELIVERY AREA CAR PORT SECURITY OFFICE		
FIRST FLOOR PLAN		
COFFEE BAR RESTAURANT MAIN KITCHEN STAFF KITCHEN STAFF DINING BAKERY BAR CASINO PASTERY SHOP LETTABLE OFFICES PRINTING ROOM STAFF OFFICE LOBBY PUBLIC TOILET AREA LIFT AREA STAIR CASES		

SECOND FLOOR PLAN	NO	AREA
<p>SERVICE KITCHEN CENTRAL SERVICE AREA FITNESS ROOM LINEN STORE TOILET AREA PUBLIC LOUNGE LOBBY SINGLE ROOMS</p> <p><u>TYPICAL SINGLE ROOM</u></p> <ul style="list-style-type: none"> - BED ROOM - TOILET - WARDROBE - BALCONY <p>STAFF OFFICE AREA</p> <p>LIFT AREA STAIR CASES</p>		
<p>THIRD AND FOURTH FLOOR PLAN</p>		
<p>SERVICE AREA LINEN ROOM STAFF LOUNGE STAFF OFFICE PUBLIC LOUNGE SINGLE ROOMS LIFT AREA STAIR CASES</p>		

FIFTH TO EIGHT FLOOR PLAN	NO	AREA
<p>STAFF AREA SERVICE AREA LINEN ROOM STAFF LOUNGE TOILET AREA LOBBY</p> <p>DOUBLE EXECUTIVE SUITE <u>TYPICAL DOUBLE SUITE</u></p> <ul style="list-style-type: none"> - LIVING ROOM - BAR - BED ROOM - DRESSING ROOM - TOILET - BALCONIE <p>EXECUTIVE BUSINESS SUITE <u>TYPICAL BUSINESS SUITE</u></p> <ul style="list-style-type: none"> - LIVING ROOM - BAR - WARDROBE - TOILET - BALCONIES <p>SINGLE ROOMS</p>		

NINTH FLOOR PLAN	NO	AREA
<p>SERVICE AREA STAFF LOUNGE SERVICE STORE LOBBY LIFT AREA STAIR CASES DOUBLE SUITES TOILET AREA</p> <p>DIPLOMATIC SUITE <u>TYPICAL DIPLOMATIC SUITE</u></p> <ul style="list-style-type: none"> - LIVING ROOM - DINING ROOM - BAR/KITCHENETTE - BED ROOM - TOILET - DRESSING ROOM 		
<p>TENTH FLOOR PLAN</p> <p>PRESIDENTIAL SUITE <u>TYPICAL RESIDENTIAL SUITE</u></p> <ul style="list-style-type: none"> - BEDROOM - KITCHENETTE - STORE - DINNING - BAR - DRESSING ROOM - TOILET - LIVING <p>LOBBY GOURMENT DINING STAFF AREA TOILET AREA KITCHEN STAIR CASE LIFT AREA</p>		
<p>BASEMENT FLOOR</p> <p>LAUNDRY TECHNICAL SERVICE AREA SEWAGE DISPOSAL AREA</p>	NO	AREA

CHAPTER EIGHT DESIGN SERVICES

Design services are referred to domestic system, which will affect the comfortability of human being in a building. This includes water and electrical supply, heating and cooling system, drainage and sewage disposal system and other precaution taken for the safety and health of the building occupants.

The design service section will be maintain and properly manage by the engineering department in a hotel set up for efficiency.

8.1 ELECTRICITY AND LIGHTING

National Electric Power Authority (NEPA) will supply electricity, which have substation at P.T.I. road Effurun about two kilometers from the site. However in the case of power failure, two stand by diesel generating set as specified by service engineer will be provided because of the importance of electricity and lighting for services within the complex. A step down A/C power transformer shall be installed and all power transmission and wiring system shall be conduit. The hotel complex will receive the three-phase electricity supply from the nearest electricity grid at the rating of 240 volt. The sizes of the cable will depend in the service entrance equipment, the ampage supplied by the power supply authority.

Lighting in hotel building is mostly artificial lighting in other facilities provided by the hotel beside rooms and guest facilities. However, despite the heavy dependence on artificial lighting all hall and other facility in the design have adequate access to natural lighting through window which are large enough the admit light to some certain extent.

All room, suite and lounge in the design have adequate supply of natural lighting from slide door leading to balconies. Also artificial lighting is provided through electricity supply. Though corridors have access to day lighting it would be preferable to be lighted artificially because of the length of the corridor which adequate lighting cannot travel more than six meter. Also artificial lighting is means of relieving length of corridors and making them more interesting.

8.2 HEATING COOLING AND VENTILATION

In the proposed hotel central air condition is required to cool, clean and circulate air through out the complex with air regulator in each rooms. Although windows and doors are provided in all facilities adequate for ventilation naturally, air condition is need for regulation of air temperature to suite human comfortability, and mechanical ventilation by means of air conditional is the only source of regulating temperature and humidity provided. The central air conditioning system shall be designed for the entire complex with services pipes channeled through the suspended ceiling and were possible though wall to every space facilities provided. The mechanical equipment would be on the ground level with pumping machine to propelling the cool clean and filtered air to every room.

8.3 WATER SUPPLY

The main water supply will be from the water work, which is the source of supply to the whole township. However, provision will be made for a water supply system that will be on borehole pump system, which will be directed to storage tank and treated for consumption.

All water supply will be directed into an under ground storage tank which they will be distributed for use through overhead tank that will be station on top of the building from which water in the under ground storage tank will be pump into.

Water supplied into the building can be classified into hot water supply and cold water supply. Hot water is heated at boiler provided and store in the basement central cylinder from which it is pump to the top of the building for efficient distribution through pipe. The storage cylinder at the basement and on top of the building should have the capacity to contain and retain hot water sufficient for both anticipated peak demand and demand during recharge period. This system allows central hot water supply system to all room toilet, kitchen and public toilet.

Cold water is drawn from the main supplies i.e. Water board supply or bore hole, which is treated and stored, in storage tanks. The water is also pump to the top of the building where they are then distributed to various room kitchen laundry and service room provided for each floors.

Pipe drawn of points will also be located at appropriate positions on site for usage in case of fire, which will be automatically control.

Lastly all cold water and hot water pipe should be insulated to prevent condensation and unnecessary flow of heat and heat lost respectively. All hot water pipe and cold water pipe should not be less than 150mm close to prevent heat interchange.

8.4 DRAINAGE AND SEWAGE DISPOSAL

DRAINAGE:-

The site is slope toward the south east toward a river body which is about seven hundred meter from the site. The site itself is self-drained but channel of covered gutters provided much are directed toward the direction of the slope to the river. All rain water and water collected from rooftop and other external water supply systems are connected to the covered gutter, which are channel toward the river body close to the site.

SEWAGE DISPOSAL:-

This are collected discharges from w. c., bath, laundry, kitchen and other area of used water from the building. They are drained through duct system, which are then channeled through the service floor to the central sewage treatment plant. Here all liquid disposal are treated and are recycled for use in watering flowers and other field work within the site while the solid waste are dehydrated and are disposed as dry solid waste.

8.5 REFUSE DISPOSAL

A central refuse pit is provided at the basement, which can be access through chute system. The chute is located close to the kitchen and the central service core in each floor directly into the refuse pit. Motorable access will be provided at the refuse pit to allow refuse disposal truck for onward load and disposal of all solid refuse.

8.6 ACOUSTICS

Acoustics design in a building requires the control of sound and vibration within the confined space, which that sounds, is desired.

Because of the nature of hotels activities and unique requirement of special air conditioning and other noise producing equipment, attention must be given to the problem of noise control and vibration. Two major methods are used in the solving of acoustic problem in this design.

- a) Design measures:- In the design of this hotel the following point are considered a rationale in planning for providing proper acoustic control. They include:-
- i. Traffic noise:- Although traffic extend in some areas the site planning and building design planning of facilities have isolated guest sleeping and areas which less noise are require from traffic as much as possible.
 - ii. General operating noise:- Primary noise producing equipments are isolated not only from guest sleeping areas but also from certain conference hall. This is because it is easier to minimize noise problem at the source than create barriers between them.
 - iii. Guest produced noise:- By means of proper arrangement of hall ways, elevator and stairs the basic guest sleeping areas are separated from them by providing toiled and small foyer to reduce noise caused by guest going or coming from entertainment.
 - iv. Entertainment noise:- The result of noise is prevented from entertainment mostly from club house or discothèque from permeating the entire facility by separating the building that contains those facilities.

- b) Acoustic prevention measures:- In hotel acoustic treatment are important for the prevention of acoustic problem in guest rooms, meeting rooms conference halls ball rooms and discothèque. In guest rooms, walls floors and ceiling are treated with sound absorbing curtain and rug to prevent sound while ceiling a provided with suspended ceiling pad that are sound absorbers.

While meeting rooms conference hall banquet hall and discotheque are also treated to prevent sound generated from traveling beyond it enclosure. Therefore all walls floors and ceiling are treated with materials that are sound absorbers. Walls are treated with padded wood finishes, while floor and ceiling are treated with rug and padded suspended ceiling respectively to prevent sound traveling beyond it enclosure as well as preventing revibration to give proper blending of sound.

8.7 FIRE SAFETY

Provision for fire safety have been considered from the design stage because majority of the occupant are transient and are unfamiliar with the facility and in many instances are preoccupied with other concerns to exercise normal safety conscious behaviour. Like acoustic measures, fire safeties in hotel are also classified into design measures and protection measures.

Design Measures:- One of the major fire safety in hotel design in the approach of design consideration is to separate high fire risk areas like kitchens machine and electrical room and control room from other areas in addition to this design measure for rooms and corridor should be adhere to e.g. Distance from the door

way to any part of a single room and unit in hotel should not exceed 9m and 7.5 meters respectively. Also distance travel in hotel corridor should not exceed 25m to exist stair where dead end are met of 50m when exit in both direction.

Provision of fire escape route should be included in the design, which are separated from the main building and should have adequate air movement.

Additional consideration in fire safety is the fire protective measure include:

- Material for wall and doors should be able to withstand fire for about 2:30m
- Door should be interrupted by self endorsing smoke stop doors at 30meters apart.
- Fire alarm systems are installed automatically to detect fire in the incipient stage in each room and facility provided in the hotel and signals are provided in the case of occurrence.
- Hydrant provision will be made within the main area of circulation of the hotel complex and overhead integrated water sprinkler system are provided for fire safety in the hotel.
- Portable appliances such as fire extinguishers will be provided in all rooms, kitchen and areas of high fire risk.
- o Finally specific design consideration in the hotel escape route are provided.
- Non slip walk ways and stair heads.
- Appropriate handrails and stair case guards.
- Avoidance of floor to ceiling glass windows or door though which individuals might run through.

8.8 SECURITY

Security in hotel can be greatly enhanced by prudent circulation control in the design. In this design security can be zone into public security zone and private security zone.

1. Public security zone are security measure to ensure protection of guest in the hotel as well as property within the public areas of the hotel i.e. areas where guest in hotel are allowed, these measure include.
 - Few outlets are provided in the hotel to allow apart from the major outlet provided.
 - Security operatives should secure escape route provided.
 - Surveillance equipment should be mounted at strategic location in the lobbies, corridors and facilities such as restaurant and meeting areas.
 - Security personnel should be place at each floor to monitor the movement of people to protect assassins, theft and other dubious act within the hotel complex.

2. Private security zone are security measure taken to check safety within the private area of a hotel i.e. the area, which are only accessible to the staff and personnel of the hotel. This is usually checked by the control of movement within the private area as well as electrical surveillance equipment. Security personnel to prevent theft and indiscriminate movement would man employee entrance. Also there is the control and supervision of garbage out other hotel which are check to prevent stealing. The site of the hotel complex is also being secured by wall fence with gate as the main access to the complex to control inflow of people from every side of the site. Also within the site areas that are mark out for personnel are fence with wire quaze and flower plant to prevent guest from going into

these areas. In the light of this safety will be of paramount importance to the hotel complex.

8.9 COMMUNITY SERVICE

The proposed hotel covers a wide range of opportunities to the societies in which it is located. The specific character of hotel for accommodation and dining are provided but inclusive are other facilities that will enhance the development of the community socially politically and economically. Warri as a developing city in Nigeria needs a complex capable of effective changes, which is expected to play a leading role for development of the communities. So it has been foreseen that a hotel with a high standard is not only a prominent structure but will also be capable to develop the desire socio-cultural life of the communities.

In line with these facilities such as auditorium exhibition halls, business centre, casino, banqueting hall and recreational facilities are provided in the hotel to tamper the harsh living condition of the communities with respect to providing room for lectures, meeting and room for social interaction. It also will serve as a civic centre for merry making as well as it will attract tourist for leisure or business purpose. The international hotel will in every way enhance economic activity in the communities.

8.10 MAINTENANCE

Maintenance in hotel is of paramount importance so as to keep to its expected standard. In other to minimize the maintenance cost in building durable material will be used for construction of structures and finishes. Finishes in the hotel will be made of material that

need little maintenance e.g. marble flooring for lobbies and hall ways and glass work in all façade. Mosaic tiles will be used for all external concrete work finishes, which will reduce the cost of painting.

All maintenance work will be carried out by the technical service department which will be under the daily maintenance of the hotel will be carried out by the house keeping department.

8.11 SOLAR CONTROL

Solar control is the control of sun effect in the building. In the proposed hotel complex solar control is considered by three major means.

- i) Site planning:- This involve the orientation of the building in the north south direction to reduce the effect of direct sunlight in the room and in the length of the building. All rooms are in the north south direction therefore they are devoid of direct rays of sun, which can be a nuisance in a humid climate. Also all recreational facilities are in the same direction to reduce the effect of glare on intended users.
- ii) Land sapping:- In the proposed hotel a belt of trees are planted toward the east of the building forming shading device at the lower and of the building. Plants are used to tamper the effect of solar energy as it creates natural barriers to the building. Also terrestrial heating can be reduce by planting of flowers and grass covering which will not only be used for aesthetic purpose in landscaping but also for solar energy reduction.
- iii) Design measures:- In the design of the structure consideration is given to the effect of solar energy to room occupant. Balconies are provided at each room which will serve as buffer zone to reduce the effect of solar energy.

Also the use of light colour finishes of the external surface of the building will reflect solar heat that maybe emitted by the sun.

AESTHETICS AND GENERAL APPRAISAL

Architecture from any faces of evaluation is principally a subjective practice, which has no hard and fast rule of design processes but have different possible approach to arrive at appealing and satisfactory design proposal. In this design proposals functionalities and aesthetic are inseparable as the functional objective of any project is the basic aim while aesthetic is the inspired objective. To make this particular project a success, the researcher endeavoured to employ the use of canonic approach in breaking down the function and to further analyze the space within each individual function, which is then married with an analogical concept. Aesthetically the approach of the project rested on symbolism i.e. creating a structure that will be imposing with simple shape that will erect a symbolic image to those visiting Warri.

The researcher in other to facilitate this symbolic structure first gave an impression of the landscape with soft green lawn, with the form of beautiful flower and ornamental trees line along the well tarred road leading to the entrance porch and car park. The main structure is the 11 storey hotel building with design emphasis base on dignity, harmony serenity and respect to the community in which it is located. In totality the entire complex site will be developed to provide standard hotel facilities that encourages recreational activities to develop the socio cultural life of the communities.

The hotel chalet, rooms and suite suggest a world where the visitor can find privacy not always accessible in the flows and pressures in their daily lives. The well landscape interiors with plants and other artifact within the lobby and the courtyard, bar, couple with the water body brings nature close to the visitors. All this alone is a powerful measure to the entire hotel setting, which is strongly conducive to relaxation. Also fascinating is the giant swimming pool just behind the main building close to the club house, the pampering sporting arena which tennis, pool, squash and other sporting facilities creating an appealing aesthetic value on the entire site.

However the magnificent structure that from an integral part of the site would be constructed with choiced material available to enhance it aesthetics and quality and to minimize its maintenance cost. The choices of material selected for the construction and finished are suitable for the coastal weather, which will guide against untimely leterioration in the building.

CONCLUSION

The International Hotel Warri as a research design project is challenging, as it is interestingly realistic. A successful implementation of this project can integrate into a whole diverse leisure opportunity that is presently lacking in the city of Warri.

However, this project is a response to the idea of the Niger delta people yearning for physical, social and economic development of the region, which has favoured the economic growth of the nation over the years.

There is no doubt about the viability of the project because Warri has the economic and human resources that will make the project a success. It will ensure an accomplished conventional hotel that will be a major point of attraction, relaxation, tourist enclave as well as a centre for social activities in Warri.

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