

RESORT HOTEL FOR LEKKI PENINSULA,

LAGOS

By

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CERTIFICATION

This thesis report entitled Resort Hotel For Lekki Peninsula by Madukife, Akosa Henry meets the regulations governing the award of the degree of Master of Science in Architecture (M.Sc.Architecture) of Ahmadu Bello University, Zaria Nigeria and is approved for its contribution to knowledge and literary presentation.

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DEDICATION

This thesis is dedicated to:

- My late father; I wish you were here.
- My mother Mrs Esther Madukife for her
continous support and patience all these
years.
- Almighty God, the only source of inspiration
and strength.

- Henry Madukife -

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The Successful completion of this thesis report could not have been possible without the help of many people. It is in this term that; I would like to thank members of the Madukife Family, Particularly my sisters Vicky, Carol, Grace and my brother Emmanuel for their immeasurable moral and material support. And also my dear brother-in-law, I thank you for all you did for me.

I wish to express my profound gratitude to my Supervisor Mr. O.O. Ogunsote for his valuable assistance during the course of this study.

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A B S T R A C T

The Lagos State Government in its effort to discourage the northward growth of the state has proposed development schemes in the North-East, South-West and South-East directions. Along the South-East direction lies the Lekki Peninsula,,

The report of the special technical committee on the Lekki Peninsula scheme, approved by the Lagos State Government provided among other things for the development of hotels, recreational and resort facilities along the shoreline.

The development of the hotel scheme on the proposed site constitutes the subject matter of this thesis research project. It involves an indepth study of the existing problems affecting hotel design. The outcomes of the research established the basis for the provision of an architectural space in the form of a resort hotel which should be conducive for both indigenes and foreigners expected to use the recreational facilities proposed along the Lekki Peninsula Shoreline.

The scope has been limited to the design of a 200 bedroom hotel due to the proximity of other hotels around the site.

INTRODUCTION

(PROBLEM DEFINITION AND SCOPE)

Lagos State is the smallest State in the Federation and yet it is the most thickly populated by density. From figures obtained from the economic planning division of Lagos State, it was seen that Lagos State has only 358, 861 hectares of land, out of which 75,755 hectares consists of Lagoons and waterways. Infact Lagos State is less than 1% of Nigeria but it accomodates 5% of the nations population.

As at 1979 the estimates population of Lagos State was 4 million out of a national estimate of 80 million 88% of this figure are crowded in metropolitan Lagos which itself is only 37% of the total land area of the State.

Rate of population growth in Lagos State is the highest in the country. It is 9%, whereas the national average is just over 2%. In other words the average population density for Nigeria is about 85 persons per square kilometre. In Lagos State the density is 1,300 persons per square kilometre. In the built up urban areas of metropolitan Lagos, the average density is 2,000 persons per square kilometre. The situation is bad enough but inspite of the multifarious environmental problems created by this high density, more

and more Nigerians continue to go to Lagos in search of prosperity.

Lagos State population increase at the rate of 300,000 every year. Government planners reckon that if the Federal Capital moves to Abuja and if Lagos State rate of population diminishes gradually to 4.5% per annum from the present 9.9%, the population of Lagos State in the year 2,000 will be 14 million.

This is a frightening prospect for the available land area for these 14 million people will be substantially the same as what now accomodates 4 million people. It is in view of this fact that the State government has among other measures approved the final plan for the development of new Cities and Layouts, among which we have the Lagoon City, the Lagos South-West development plan, the Lagos North-West development plan and the Lekki penninsula development schemes.

The Lekki -pennisula development scheme is in stages. The first stage starts with the Maroko phase I and II layouts. The maroko phase II starts after the present Maroko and Ilado and it will eventually stretch eastwards along the peninsula to Lekki. The scheme contains all modern facilities with areas zoned for residential, Commercial, Industrial, mixed

development, utilities, educational, health care, open spaces, sports and recreation facilities.

Successive governments have failed to fully exploit the ever-growing potentials of Lagos for tourism as an alternative to oil as a foreign exchange earner. Facilities for lodging and recreation of businessmen and visiting sight-seers are as deficient as the general housing stock.

Yet, W.B Tabler argues, "every urban development proposals by a central business district calls for a hotel, and every new sub-urban office building development also calls for a hotel. The visiting businessman must be housed"¹

The net imbalance of the supply-demand equation of the hotel business has generated a wave of mushroom substandard 'hotels' by small - time businessmen. A survey conducted at random over 30 samples in different parts of Lagos indicated that changes in these substandard accommodations range from between N20-N30 in the lowest cadres to between N40 to N70 per night in the upper echelons. More than 50% of the accommodations pass for no accommodation at all. The services are filthy and inadequate while guests are expected to pass the night in squalid compartments with harlots.

In a number of cases only bar services is available consideration for the automobile is hardly part of the planning.

However, the more desirable alternatives are few and expensive. Among these are Eko Hotel, Bristol Hotel, Federal Palace Hotel and Ikoyi Hotel whose charges make them more readily available to the upper social stratum to the middle - income class.

One common feature is that most of these hotels are concentrated in what may be regarded as down-town of the metropolis where competition is keen and land values are high. It is therefore obvious that the operating cost will be high with a synchronously high consumer overhead charge.

But the new opportunities in the hotel industry are not so much in the over crowded city centres as in the peripheral secondary growth areas. Since a hotels function transcends feeding and accomodation to include recreation and resorting, these areas are more naturally endowed to meet the challenges of a profitable hotel business, while satisfying the consumer's needs.

The Lekki - peninsula is one of such areas that directly responds to this challenge, with its fine climate, nice beaches and flourishing palm trees. Certainly, the tourist who escaped from the humdrum of home life would want to see more than concrete or

live in the noisy environment characteristic of the Central Business District. What he needs is a kind of quiet home away from home, and perhaps something more, for every naira he spends in a hotel. Generally the main problem of this thesis involves undertaking a research on hotels and also analysing those factors which are necessary for its development with a view to choosing a site with adequate potential and developing it into a resort hotel with necessary facilities for tourist comfort.

In undertaking this research, the work was divided into 4 sections. The first section deals with the general principles of hotel design. This section deals with all the necessary information required by any architect wishing to design a hotel irrespective of the type of hotel in mind. The section is further divided into chapters to enable each particular section of the hotel to be further treated in detail.

The second section deals with case studies this section attempts an indepth study of some existing hotels which might have certain similar characteristics with the proposed Lekki Resort Hotel. This study is necessary in order that one may know the success and flaws of these hotels, so that when designing the Lekki resort hotel one would try and avoid the shortcomings which some of these hotels may exhibit and try to incorporate some of the success features.

The third section is that which deals with the analyses. This section analyses the previous sections and draws a conclusion. It also goes on to set a basis, based on the research findings for the Lekki Resort Hotel. This section is therefore a prelude to the design.

The fourth section is the design concepts while the final section is a conclusion of the thesis write up. This is followed by a detailed bibliography of the various resource materials.

It is hoped that this research/thesis project, despite all the limitations, will enable prospective developers meet the challenges inspite of the practical cost limitation on hotel ventures.

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Footnote

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1. Tabler W.B. in "New forces at work on the In-City Hotel Architectural Records, July 1968.

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SECTION 1 GENERAL PRINCIPLES OF HOTEL DESIGN

CHAPTER ONE

1. HOTEL CLASSIFICATION

1.1 Hotel Definition

A hotel is defined as a public establishment offering travellers against payment, two basic services accomodation and catering. Hence the primary function of a hotel is to provide the traveller with a place to rest his head and food for his meals.

1.2 Hotel Development

The Hotel Industry is unique, Designing a hotel is unlike designing any other comparable major project, for its viability as a building is governed by extremely dynamic circumstances.

The development of a hotel depends on the demand for different types of accomodation required. This demand may arise from tourism, recreation, business or from other activities. Hotel development also depends on the availability of suitable infrastructure, services and on the economic viability of the development.

Hotels in the past were basically a resting placee for travellers, thus the facilities provided then were basically bedrooms and dining areas for meals. But these days hotels cater more and more for transient guests.

Hence we have introduction of facilities for specialised cuisine; shopping, convention/conferences, private parties, nite clubs/casino for the entertainment of the lodgers as well as the local community. Infact recent research has shown that most hotels nowadays are based on meetings and conferences. It is thus evident that new hotels must be all things to all people, a convention and commercial facility, a resort for out of towners and a recreation for the local communities.

New hotels that meet special needs seem to be the most in demand, they are the right type in the right places and they something special. Here the right place is often a uniuques location such as proximity to water, spectacular scenery or specialised sporting facilities, and something special in the design which takes the advantages of the surroundings but not destroying them through over intrusion.

Instead such hotels show a recorgnition of the special character inside and out and encourage guests to realise that they are truely in a unique place.

1.3 Types of Guests

The guest in this case is the tœurist and it would be better to clearly define tourism, of all definitions of tourism, probably the best is the migration of people, families and groups to places outside their residential areas for limited periods and by personal choice. There are basically two categories namely foreign and

inland tourism.

Two principal factors govern hotel design and hotel type. (A). Type of guest to be catered for (B) the type and location of the Site.

(i). Long Term Guests:- demanding a need for more residential facilities, both in public rooms and bedrooms.

(ii) Holidays. Visitors such as groups on holiday either families or one age group where recreational rooms, facilities for children and old people are important to occupy leisure time.

(iii) Conferences. Delegates provided by bulk for short periods e.g. weekends or one week conference. These may require suites of rooms for seminars or the use of one large room for a period.

(iv) Short-stay business represents a large proportion of guests in most urban hotels, needing the use of single rooms mainly during the week. This includes in-transit guest at airports, ferry terminals or motels.

(v) Day visitors requiring the use of public rooms by local non-resident guest. In some areas the use by visitors may be quite extensive requiring different type of restaurant, ballroom or discotheque.

(vi) The nationality of guest is an important aspect. If foreign guests frequent the hotel, it is important to cater for some of their requirements, such as room temperatures, menu, etc.

(vii) Disabled guests. Allowance should always be made for the disabled to be free to use any facilities in the hotel. Hotels may be designed with one type of guests as a priority, but most hotels cater for several types simultaneously.

1.4 Types of Hotels

The variation in hotel types is extensive ranging from the simple motel to the complexity of luxury city hotels or an extensive tourist complex.

Each hotel has its individual character, but nevertheless all hotels conform to certain design patterns, because of the basic similarity of some of their functions. These hotels may be classified into six basic types:-

1. Service Hotels or Apartment Hotels
2. City or Town Hotels
3. Sub-Urban Hotels
4. Motels
5. Special Hotel
6. Resort Hotel

All these hotels are characterised by the location and the services offered to the public.

1. Service Hotel or Apartment Hotels.

These hotels are usually based on "Unit" construction method and are used mainly for a reasonable "long term" stay with a small number of units let for a short period at a high price.

Minimal space is devoted to public areas but individual apartments may be larger than those seen in a conventional hotel. The capital cost per room is often significantly lower than that of a "Conventional" hotel. These hotels may be easily converted to private apartment dwellings and conversion to part offices or ground floor shops may also be possible.

2. City or Town Hotels

As the name implies, these hotels exist in the heart of cities or in big towns. These hotels include many different types of accommodation varying from single, double room to special luxury suites. Room prices will be considerably high. The public areas like restaurants, recreation facilities are open to anybody in the city.

3. Sub-Urban Hotels

These are located in the country-side or in sub-urban areas. The hotel standards and the type of services are more or less similar to ,that of a city hotel but landscaping is considered as an essential feature in this type of hotels externally and in many cases within the building enclosure too.

4. Motels

These are designed to serve the needs of motorists and as a necessity must provide facilities for a high ratio of car parking spaces and easy access from the

highway. Provision of petrol pumps or service station is recommended. These hotels offer minimum service and formality.

5. Special Hotels

These include all forms of privately furnished accommodation for groups of people. The student's hostels, church organisation hotels, holiday centres, and also the hotels which cater for specific needs such as "sport activities" fall under this group.

The accommodation is usually in multiple units and may provide for self catering with individual kitchens as an alternative to communal facilities.

6. Resort Hotels

This type mainly cater for holiday makers and the essential feature of this type of hotels is its location in place where contact with nature - (Beach, sea, lake, marina, ski slopes, good views etc) is possible.

1.5 Size of Hotels

The optimum size for the planned hotel depends on the results of the market analysis, on the available site and on company policy and consideration of management. Although there are many exceptions, the following size qualifications are common.

No of Rooms 66666	Details
10 - 20	Family operated. Most guest houses, Inn, boarding houses and independent, budget motel are in this size group.
50 - 70	Large enough to support a separate manager and to be of interest to the large chain companies
100 - 150	Allows better site utilisation. A separate restaurant and Coffee shop are usually feasible. Increase in the number of rooms is possible with relatively small increase in staff.
150 - 200	Typical size of motor hotels and the resort hotels, constructed for the packaged tour markets. Sufficiently large to warrant generous provision of dining areas, lounges, bars and recreational facilities such as a heated swimming pool. Several resort hotels may be grouped on the same site, or one hotel combined with apartment units to provide for greater numbers.
200 - 300	Size range for many luxury hotels in spas and resorts. Hotels of this sizes can maintain a personal atmosphere yet provide a wide range of exclusive facilities e.g. private beach, golf course speciality restaurant, remedial treatments.

No of Rooms	Details
400 - +	City Centre Hotels offering multiple facilities including convention, function and banquet rooms, speciality restaurants in addition to or coffee shop areas, and additional services.
700 - +	Main convention and exhibition centres, large multiple complexes which include stores, restaurants and other facilities.

CHAPTER TWO
PLANNING SUCCESSFUL HOTELS

2.1 Market / Economic Consideration

2.1.1 Identifying the Market

- Before a hotel project can be discussed in detail, a feasibility study is essential to identify as accurately as possible any marketing opportunity and the means of exploiting that opportunity, to reduce certain elements of risk in developing a hotel project.

2.1.2 Market Areas:

The physical size of the market area must be determined to assess the overall scope of the study. If a town located five or ten kilometres away were considered to be in the market area, data relating to that town must be included.

A hotel may also anticipate a different market area for its various sales packages namely:

- (a) Catering (restaurants and bars; banqueting)
- (b) Accommodation.

(a). Market Area for Catering:

The catchment area is determined from probable demand by people living within reasonable access to the proposed hotel. Factors affecting the geographical extent of this area are time - distance, and the particular attractiveness of the hotel or its location.

(b) Market area for Accomodation:

This is determined by considering the existence and distribution of probable sources of demand such as industries, commerce and tourism and of other activities and factors affecting the area. This assessment is also relevant to catering. For example the proximity of Industrial activity might provide a demand for luncheons.

2.1.3 Existing Facilities

Depending on the scope of the market feasibility study, proposed and existing facilities must be listed and evaluated. This is to assess what existing hotels offer as a market package - size and type of facilities location, service and price. And to what extent are they already satisfying the needs of the market.

2.2 Location

Hotel location is very important since the hotel must be built where demand for the accomodation already exists or can be created. In order to discover this the operator should:-

- (i) By means of planning invsetigation find the potential of the site, traffic patterns, proposals for changes in the area.

- (ii) Assess value of the site developed as a hotel.

2.3 Cost Implications

2.3.1 Hotel Investment

Most hotel investment involves three major parties:

1. The Site owner
2. The developer, generally financed by a bank, insurance company or similar institution;
3. The operator of the finished product (the management).

The hotel operator these days is usually a multiple firm, which also assume the role of the developer financier and site owner. common examples are the Nigerian Hotels Management Board and Arewa Hotels.

2.3.2 Sources of Finance

The choice of alternative sources of financing the development will depend on the rate of interest on the capital and the period of maturity of the loan. Short-term loans are useful only for bridging purposes for short duration of time, while long-term loans may be available for fairly long periods. Among the various sources of finance are:-

- (i) Shares in the development - This method of finance is an aspect of speculative development in which the burden of finance is shared by the shareholders, and profit is divided in the ratio of the investments.

Sometimes, as in the Eko hotel, functions and appointments may be shared on the basis of the shares. The Eko hotel is a joint venture by the Lagos State Government and Occidental Petroleum of America. However, Holiday Inn International of Memphis, U.S, also a shareholder in the venture, handles the management aspect of the hotel, while the Lagos State Government the majority shareholder, appoints the chairman.

- (ii) Loans from insurance companies and Merchant Banks such loans are granted on the security of the development, with fairly high interest rates. Though they are available for a reasonable period, they are hardly used for more than bridging purposes possible sources include:
 - NICON
 - British and American International Insurance Company Limited;
 - Re-insurance corporation
 - Royal Exchange Assurance Limited
- (iii) Loans from Government funds - They usually have fairly low interest rates, but are limited in amount, and in term of qualification.
- (iv) Local authority Mortgages - Through a good source of finance, they are available only for 3 - 5 years.

- (v) The issue of stock on the stock exchange.
This may be issued by local authorities
or public boards at fixed - interest rates.
- (vi) Rates:-
Government could raise money from rates
for financing the project. What is more
there are no interest charges to worry
about and no repayments of any kind to be
made.
- (vii) Bank Over - Draft
When necessary, overdrafts could be
drawn from commercial banks for short-term
bridging purposes only.

2.3.3 Estimation of Total Expenditure

The total expenditure on the development will be made up of capital cost of the project plus other operational costs. A breakdown of the estimated capital cost are as follows:-

1. Cost of acquisition of land. This include:
 - (a) The purchase price
 - (b) The cost of obtaining possession
 - (c) Stamp duties on the conveyance of deed or lease
 - (d) Professional fees paid for advice from architect, engineer or surveyor, prior to purchased
2. Legal preparation of the site: e.g.
 - (a) to close right of way
 - (b) to discharge restrictive covenants
 - (c) to buy out easements or perhaps acquire them over other land.

- (d) Land tax
- (e) to adjust boundaries with adjoining owners
- 3. Physical preparation of the site - such as:-
 - (a) demolition of existing structures
 - (b) clearance and other physical improvement on the site
- 4. Cost of construction of roads (access/service roads) sewers services and planting.
- 5. The building cost, Operational costs will include:-
 - (a) cost of machinery, fitting and furnishing etc.
 - (b) cost to cover repayment of interest on loans etc.
 - (c) cost of opening the hotel, and of advertising etc.
 - (d) cost of management, maintenance, and other running costs.

2.344 Estimation of Tariffs

Room rental per night is charged on the basis of the calculated unit cost of accommodation and some profit. In this respect, the total project cost is worked out in terms of the cost per square metre of all spaces (excluding circulation) and furniture costs, plus the cost of plant, equipment and external works. The ratio of the project cost so calculated to the number of bedroom units will give the approximate unit cost of accommodation. Tariffs are charged nightly at the a rate of 1:1000 of the unit cost of accommodation.

2.4 Administration and Staffing

2.4.1 Administration

The administration of a hotel operation depends

entirely upon its size. A small hotel will most likely have an office for a manager with his secretary probably working in the same room with him. This is the simplest operation and is found only in small hotels. A large, medium - sized hotel will have a manager and an assistant manager and as a rule, there will be a reception office where one or two typists will be acting as a buffer between the public and the manager. A large hotel with convention facilities will also have a convention manager and his assistants. The larger the size of the hotel, the more complex the administrative area grows.

2.4.2 Staffing

This depends on the degree of luxury of the hotel. Staffing requirements depend on:-

- (i) extent of personal service
- (ii) rates of occupancy
- (iii) the basic design of the hotel in facilitating operations and house keeping
- (iv) the extent to which laundry, maintenance and other functions are contracted out.

Typical staff/room ratios for different hotel type are shown below.

TABLE: 1

Typical Ratio	Staff	Room
Modern luxury resort hotels	2.0	1
Convention hotels (superior grade)	1.0	1
Large City Centre hotels	0.8	1
Resort hotels (medium grade)	0.6	1
Medium service hotels	0.25	1
and motels	0.10	1
Apartment and Condominium	0.10 to	1
Units (depending on services offered)	0.05	1

2.5 Circulation/Transportation and Spatial Planning

2.5.1 Circulation/Transportation

Hotels must be sited in areas with good transportation network.

- In determining flow patterns it is always important to take into account the location of the hotel, the nature of the business, the main modes of transport for guest arrivals and departures (including the superimposed effects of group travel and non-residential trade) and the internal circulation of guests and staff.

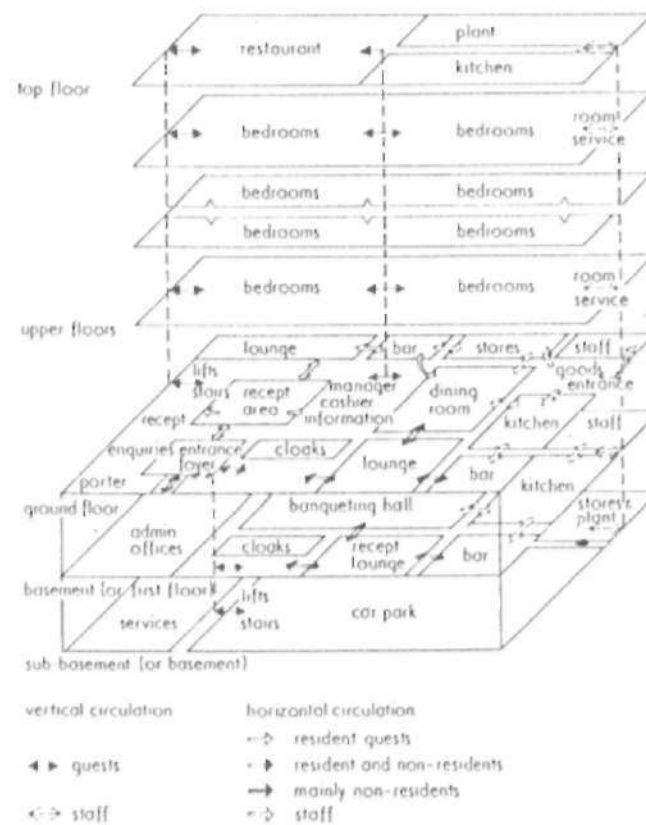
Routes taken by resident guest non-resident diners, and staff follow distinct patterns and these establish clear relationships between the various parts of the hotel. Layout and planning of the hotel must facilitate movements of people and as far as possible, provide for the separation of guest, staff and maintenance personnel . This is important not only to avoid disturbance and annoyance of guest but also to enable service facilities to be designed for efficient use and facilitate control, supervision and security.

Secondary circulation is often desirable to separate resident and non-resident guests e.g. providing direct access to restaurants and banqueting hall.

2.5.2 Spatial Planning

Areas which are associated in use of function must be identified and linked or grouped together.

Fig: 1 - Typical Circulation Pattern



Typical circulation pattern diagram showing desirable relationships. This is not intended to imply a particular layout

SOURCE:- Patricia Butt and David Alder (1979)
New Metric Hand book. PP. 323

The facilities and services required in each of the areas must also be indicated. One method of showing this relationship is to use a flow diagram in which all the areas and facilities are arranged in sequence, of use. The flow diagram establishes the route of circulation. In some cases it may be necessary to group areas close together to facilitate frequent intermovement of large number of people e.g. between a reception foyer and banquet hall.

2.6. Car Parking/Access *

2.6.1 Car Parking

Planning requirements vary according to the size and type of hotel and its situation. Required provision must be sought from planning authority.

Typical provision is:-

One car space for every two bedrooms in the residential area, one car space for every $10m^2$ in the public rooms or one car space for every ten persons using the public rooms. But apart from any regulations, the hotel itself may determine the number of parking spaces.

2.6.2 Access

An important consideration of planning control is the potential risk of traffic congestion and obstruction. Pedestrian and vehicular access to the hotel needs to be determined and agreed at an early stage. Commercially, the position of the hotel entrance is usually a critical figure which then determine the location of the main frontage.

Secondary access is required for goods and service vehicles with adequate provision for turning, unloading and loading. A separate staff entrance is usually provided with direct access to changing and service rooms.

2.7 Landscaping And Amenity Spaces

The space needed for amenity also depends on the type of hotel and its location. Individual hotels with relatively large areas of ground may be use the recreation attractions (golf, tennis, private beach, riding) as a marketing feature whilst, in other situations, indoor facilities (Sauna baths, indoor pools or gymnasias) may be provided.

Apart from functional needs, space is needed for landscaping to improve the appearance of the buildings. Landscaping can compensate for a poor outlook. Features used for landscaping include hard pavings,

man-made sculptures to gardens, lawns and parklands. Planted containers may be used as limiting boundaries along paths and public areas; or brought into the hotel to serve as planted screens and dividers.

Internal landscaping of the public areas within an hotel may serve a number of uses:

- i. To create a refreshing, relaxing garden atmosphere.
- ii. To counter the lack of external view from all or some of the seating and living areas.
- iii. To reduce the effect of noise and bustle.
- iv. To demark areas and provide visual barriers.
- v. To intriduce changes in texture, colour and shape
- vi. To provide humidity balance (water sprays, transpiration) Evergreen plants are normally used for plant landscaping.

1. Personal interview with Eko Holiday Inn Management
 2. Chime, A.C. Anambra State Hotel, Enugu, an unpublished M.E.D. (Arch) Thesis, Lagos 1980 P. 24

CHAPTER THREEPUBLIC AREAS3.1. Hotel Entrance

The impression created by the main entrance is very important since it tends to typify the type of hotel. The main entrance must be clearly defined and provide a good view of the interior, and direct access to the hotel reception.

Provision must be made for guests arriving on foot or by motor car, for the ambulant disabled, and for coaches.

3.1.1 Porte - Cochere

This is something more than just a canopy. It provides shelter at the entrance from wind and rain. A Porte-Cochere should be wide enough to allow two cars to pass and possibly high enough to accommodate buses. Special lighting may be needed to accentuate the entrance.

Porte-Cochere could be part of or independent of the main hotel structure.

3.1.2 Entrance Doors

Doors should have sufficient clear width to allow for porter plus bags (minimum 900mm clear opening) or trolley. With revolving doors, side hung escape doors will also be required.

Slidding doors should be automatically operated with emergency swing doors.

3.1.3 Disabled Guests

All entrances must be accessible to ambulant disabled people and at least one must be available for the chairbound.

3.2 Lobby or Reception Hall

This includes the general circulation and waiting areas leading to the reception, Cashier, information and other desks which together provide the services of the front office of the hotel. It also serves as an assembly point for guests and others attending functions or using the restaurants. The lobby has a promotion function and should be visibly attractive from outside. Lobby size depends on the size of the hotel. It may be combined with a lounge to reduce the ratio of non-revenue-producing space. Most hotel shops are located in front of the reception lobby.

3.3 Baggage Handling

Method of handling will be established by client. Guest/baggage routes should be carefully analysed and appropriate handling systems designed at each stage. Baggage control is normally by a porter.

3.3.1 Porters' Station

From here, there should be visual control over lifts and stairs. There should be easy access to baggage room.

3.4 Front Desk

The reception area accomodates a number of activities covering:-

- Guest reception and registration
- Advance reservations office
- Cashier and accounting. Money Changing
- Information, Keys Mails, Messages and brochures
- Telephone operation, Sound and message relays
- Front office Management

Guest registration, Cashier and information services are provided over desks or counters which may be arranged in series along one long counter. (Usually described as the front desk) or in seperate areas.

The reception or registration desk must be immediately conspicuous to guest entering the hotel and in a position to provide supervision of the lobby area. The casgier's desk must be clearly visible from the elevators and staircases.

3.5 Toilets

In the interest of hygiene, sanitation and public decency, legal requirements generally apply to these areas.

The entrance used by men and women should be separate and indicated by name and /or symbol. It should not be possible to see (directly or by reflection) into a water closet or urinal compartment from any public area, even if the doors are open.

The number of water closets, urinals and wash basins, will usually be determined by local regulations or codes.

Typical minimum standards based on the total number of user are:

Table ii

Number of Fixures	For Male Public	For Female Public
Water closets (minimum)	1 per 100 (2)	1 per 50 (2)
Urinals	1 per 1 - 15	
Wash basins	1 per 1 - 5 2 per 16 - 35 3 per 36 - 65 4 per 65 - 200 5 per 100 above	1 per 1 - 5 2 per 16 - 35 3 per 36 - 65 4 per 65 - 200 5 per 100 above

SOURCE: Hotels, Motels and Condominiums, by Fred Lawson.

3.6 Function Rooms

Function rooms are rooms let out by hotel for various types of functions. They are not only sources of direct revenue but also tend to increase revenue from other hotel facilities such as guestrooms and bars. The rooms are usually designed to be multi-functional to ensure frequent use and justify the high cost of providing the space. Demountable partitions are usually used to increase their flexibility.

3.7 Restaurants

Provision of restaurants and other dining facilities is governed by detailed analysis of market considerations and economic feasibility. This establishes a basis for the:-

- (i) The type of restaurant facility
- (ii) Pattern of demand, hours of use, peak demands
- (iii) Menu choice, method of service, staffing requirements.
- (iv) Size, seating capacity, seat occupancy over meal period,
- (v) Flexibility in use, space separation, changes in service and arrangement.

Restaurant layout should take account of the features of the room, external vistas, the circulation patterns of customers and staff and method of food service.

In Resort areas, windows may be an important feature of the restaurants attractions by opening onto swimming pools gardens or vistas of the land or seascape.

3.8 Lounge Area/Bar Lounge

3.8.1 Lounge Area

Lounge area could be limited to the irregular areas joining the reception to other public rooms, or more profitably, it may be associated with a bar. Isolated lounges earn no revenue. Resort hotels have lounges for entertaining guest and these lounges are intended to foster a feeling of community. Lounges should be informal and relaxing. Furniture is normally easy chairs and low coffee tables.

3.8.2 Bar Lounge or Bar

The design of the bar will be largely influenced by the number of areas it has to serve. e.g. lounge restaurant, Coffee shop, Banqueting rooms, room service; and the degree to which waiter service is to be used.

CHAPTER FOUR

BEDROOMS AND BATHROOMS

4.1 Planning Considerations

The bedroom areas are formed from relatively small cell-like units divided by separating walls and interspaced with ducts which convey soil, waste and other services.

To minimise noise, the bedrooms usually form the upper structure rising above the base of public rooms shops and reception areas.

On plan the bedroom block forms an elongated rectangle which may have straight or curved wall, be joined at each end to form a rectangle or circle or be linked at one end to give an L,T or Y shape.

Initially the arrangement of the bedroom block will depend on size and shape of site and nature of surroundings but, in preparing subsequent details, structural framework and vertical services (e.g. soil, waste, mains and lifts) must be related to layout of public areas underneath - which have a quite different structural requirement. The structural module for the bedroom block is determined by sizes of rooms concerned. Similarly, positions of vertical ducts also depend on room sizes and their arrangement.

The length of each wing of the bedroom block is usually limited by the maximum distance the occupants must travel to reach a staircase in event of fire. The distance is normally 30m. For practical and identification purposes, lifts and staircases are normally placed together.

4.2

Bedrooms

4.2.1 Dimensions

The exact dimensions of each room should not be settled until the room has been planned in detail: quite small variations may make all the difference to the proper placing of bed and other furniture.

4.2.2 Basic Units

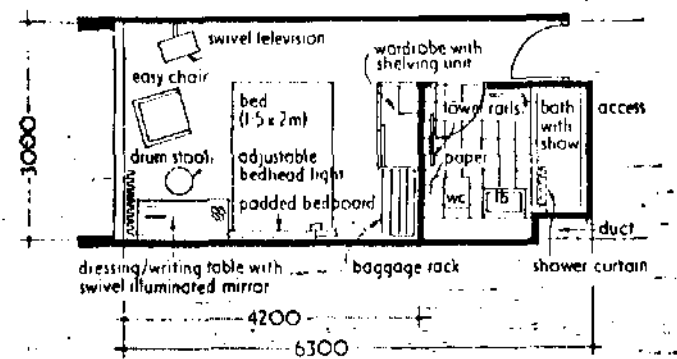
The shape and to some extent bedroom size will be governed by positioning of bedroom. There are broadly three relationships, as follows:

1. Bedrooms with Bathrooms on external wall

The important advantage in this arrangement is that of easy natural ventilation.

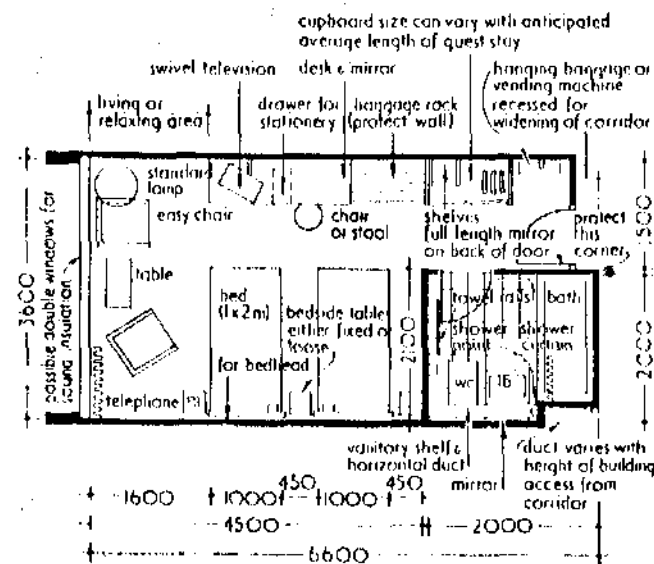
Its greatest failing is that the service duct can be inspected only from the bathroom or bedroom and workmen pass through the room to reach it. see Fig: 1

Fig: ii TYPICAL BEDROOM LAYOUTS



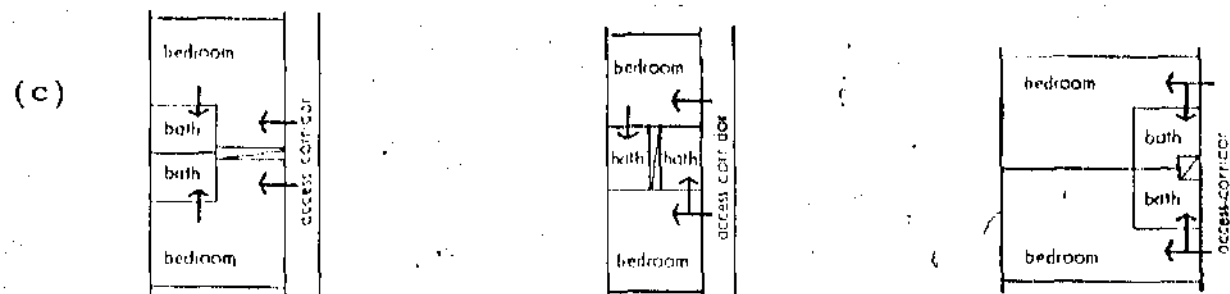
(a)

Layout for single bedroom. Note double bed for use as double room if required



(b)

Typical twin-bedded room with clothes storage and dressing table along party wall. Sizes vary with luxury standard and site conditions



Plan arrangement with bathrooms on external walls

Bathrooms between bedrooms: one external and one internal

Plan arrangement with all internal bathrooms

2. Bathrooms Between Two Adjacent Bedrooms

The disadvantage of this arrangement is the undue elongation of the corridor. This is costly in capital expenditure and slows down servicing. Another disadvantage is access to the duct which is through the bedrooms
see fig:...

3. Internal Bathrooms

These necessitate a lobby, but normally this can be used for furnishings such as dressing area. However, the common duct can be if well planned serviced from the corridor; and widths of bedroom along the outer walls kept to a minimum, thus shortening the length of the corridor. See Fig:.... This is the commonest type of arrangements and typical examples are shown in Fig:....

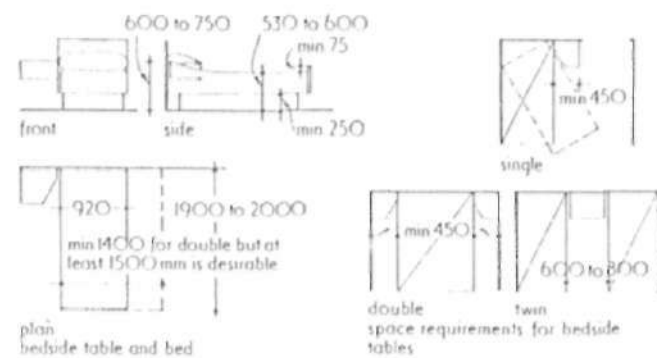
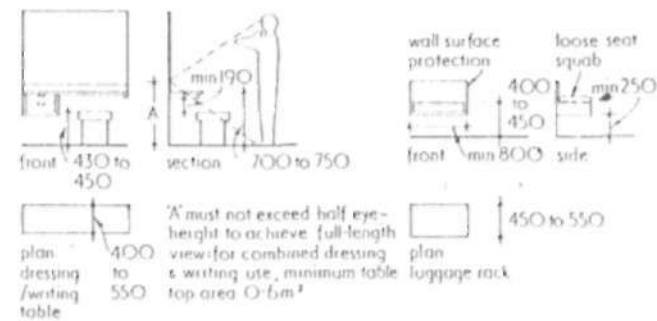
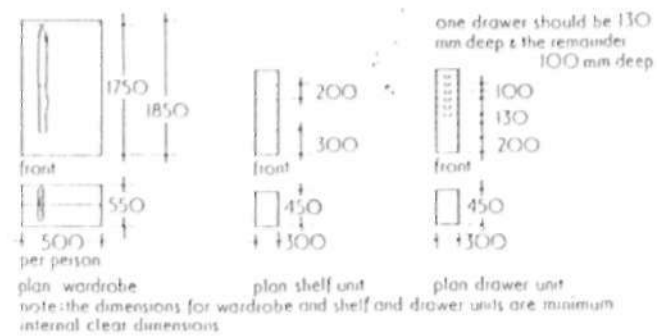
4.3 Bedroom Furniture And Fittings

The furniture could be:-

- (i) Freestanding or built in.
- (ii) Primarily manufactured for the domestic market or of specially commissioned design.

The requirements for different hotels will vary according to whether the guest stays for a short or long period, and to the standard of accommodation which is broadly related to the prices charged.

Fig: III Space Requirements for Bedroom Furniture



SOURCE:- Patricia Butt and David Alder (1979)
New Metric Handbok, pp. 328

4.3.1 Built - in And Fitted Furniture

Selection depends on the following factors:-

In a hotel bedroom it is important to make the best use of space - which is expensive, Fitted furniture helps. Furniture of this type is regarded as fixtures and hence capital investment.

Units can be designed to facilitate cleaning - by hanging them on the wall clear of the floor and extending them to the ceiling.

Added fitted furniture to partition walls can improve sound insulation between rooms.

4.3.2 Freestanding Furniture

Advantages of free-standing furniture, particularly if of standard design and manufacture, are its:

- Cheapness
- Flexibility
- Easy maintenance
- Availability in a wide range.

Typical hotel furniture and equipment are shown in Fig:....

CHAPTER FIVE

SERVICE AREAS

The service areas usually contain and make provision for the kitchen, laundry, Linen room, staff changing rooms, staff canteens, rest rooms, maintenance workshop, food storage, cellars, Service rooms, service yard, loading bay, house keeper, house engineer, kitchen staff and time keeper etc.

5.1 Food Service and Kitchens

The kitchen is preferably located at ground floor level next to the hotel restaurant, breakfast room and lounge, with service lifts and stairs extending kitchens services to the guest rooms at upper floors via servery units located on each floor. The kitchen should be designed to facilitate all its purchasing, storing, preparing and serving function without a hitch.

The size of the kitchen will vary with the number of guests. Approximately 1.00m^2 of area is required per guest 60% of this serving the restaurant only.

Adequate food/Liquor storage facilities are needed the storage rooms or cellars preferably handling different items. It is best to locate bulk storage rooms in cool areas, free of heating pipes and undue vibrations.

About 75% of the kitchen area is needed for storage

5.2 Goods Delivery/Storage

5.2.1 Good Delivery:- Delivery of goods and services to the hotel must be through a separate route from that used by guests. Space must be allowed for vehicles turning and unloading.

Provisions must be made for:-

- Protection from weather (covered bays and canopies)
- Screening from view (of guest areas, public rooms)
- Security (of goods being delivered and removed)
- Separation (from refuse areas and other storage)

Food hygiene and sanitation requirements will apply to the handling and storage of food, including temporary storage. On delivery, food must be checked against invoices and taken direct to stores. Facilities for weighing and recording must be provided.

5.2.2 Goods Storage

The size and type of storage will depend mainly on policy. Stores fall into four main groups, determined by the nature and condition of food commodities:-

- (i) Refrigerated, with deep-freeze (-20°C or 5°F) for long term storage of frozen items.
- (ii) Chilled (2 to 3°C or 35 to 38°F) for fresh food and made-up dishes.

(iii) Cooled for vegetable storage.

(iv) Dry for general stores

Storage Capacities depend on the frequency of deliveries, reliability of supplies and on the size, location and nature of the hotel. An approximate total figure for preliminary estimates is 0.2m² per meal/day.

5.3 Laundry/Linen Storage

5.3.1 Laundry:-

Laundry provision in a hotel may be in the form of:

- (i) Contract arrangements with an outside commercial laundry.
- (ii) Self-operated laundry within the premises.

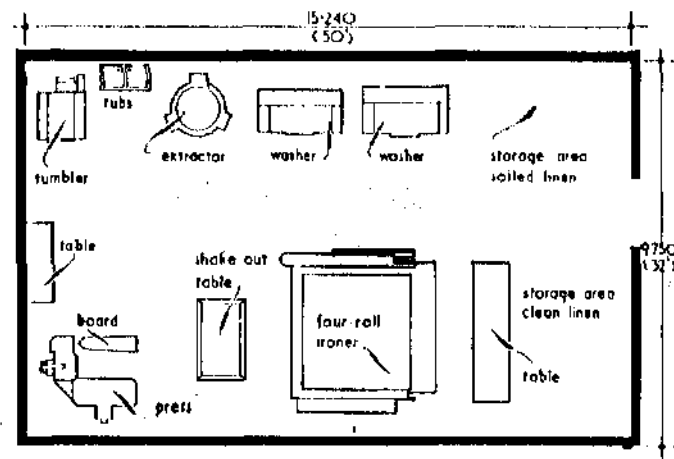
The policy of operation will depend on the comparative facilities available and relative costs, taking into account the cost of building spaces, engineering services and plant; operating costs; problems of location, noise, fire and possible restrictions due to the nature of the site.

Advantages of a self-operated laundry arise from better control, including fast return of linen to use, and lower charges.

5.3.2 Linen Storage

Space for linen sorting, storage, repair work, stock taking and issue of bed linen, table linen,

Fig: iv - Typical Laundry Layout



Laundry layout for a 200 room hotel.

SOURCE:- Fred Lawson (1976) Hotels, Motels and Condominiums

PP. 220

transport must be provided in a room close to the laundry within this room part of the area should be set aside for administration of house keeping services and fitted with desk, chairs, record files and telephones. The space taken by linen storage and associated office and repair work is about 0.4m^2 per room.

5.4 Stores And Workshops

Storage will be required for furniture under repair, facilitating changes in use of layout of rooms and in reserve for future replacements. The amount of space set for furniture storage is about $0.2 - 0.3\text{m}^2$ per room.

Provision for maintenance vary widely but the trend is towards greater use of contract services for all aspects of hotel and property maintenance generally. Exceptions apply to emergency works, to the larger hotels in which high standards need to be maintained, and to situation where available external services are inadequate.

5.5 Refuse Collection And Disposal

5.5.1 Refuse Collection

The removal of waste and trash from individual areas of the building, temporary storage and eventual disposal each present difficulties.

Alternative arrangements for collection within the building include:-

- (i) Chutes:- for tall hotels chutes represent a simple and convenient means of disposal for mixed trash and rubbish. In a hotel, trash chutes must be located within the service areas.
- (ii) Waste Pulping system:- Pulping may be used for waste disposal of food debris from kitchens and dishwash areas and for refuse conveyance. The use of water carriage minimises dirt and dust residues and fire hazard.
- (iii) Individual refuse bins and sacks:- Bins may be used in guestrooms for collection during room service to facilitate removal to chutes or other central collection points.

5.5.2 Refuse Disposal

Disposal of refuse and trash from the building depends on local authority services and regulations.

Incineration:- has the merit of providing continuous disposal with minimum of storage and transportation.

Collection:- by municipal vehicles or contract services enables^{the} refuse to be removed from the premises. In planning the layout, consideration must be given to access and storage requirements which may be mandatory.

5.6 Staff Facilities

Many of the requirements for staff facilities are mandatory and standards for sanitation, working environments, safety and welfare are usually specific.

Typical provision are shown in table:....

5.6.1 Changing Facilities

A seperate locker must be provided for each employee for outdoor clothing and uniforms or whites. Seperate changing rooms, with washing and toilet facilities adjoining must be available for each sex. Typical space provisions (subject to legal minima): as shown below:

TABLE iii

Facilities	Area per Employee
Toilet and washing room	0.4m ²
Locker and Changing room	0.7m ²

5.6.2 Restroom And Staff Dining Room

These are often combined in a small hotel. A seperate restroom may be provided for front office and clerical staff.

Approximate areas for staff dining are 0.9m² per person based on the maximum number likely to take meals at the same time. Restroom areas are about 0.6m² per person at maximum use.

CHAPTER SIXENGINEERING SERVICES AND EQUIPMENT6.1 Engineering Services Layout And Enclosure

Almost every activity within a hotel is dependent on engineering services which are becoming more and more elaborated with increasing demands for higher standards. The determination of engineering requirements^{and} the need to incorporate engineering services and plant may affect other aspects of hotel planning, Such as the structural design, constructional grids and dimensions of components.

Before determination of the engineering services layout it is necessary to:

- (i) Identify the services required in each zone, including future developments.
- (ii) Determine main circulation routes and grid patterns to facilitate connection and meet other needs.
- (iii) Locate main and subsidiary plant and associated equipment to ensure operational efficiency and economy.

Enclosure of building services may be provided by.

METHOD	APPLICATIONS
Vertical	
Service Cores	Multiple enclosure of stairs, elevators, chutes, ventilating ductwork, pipes, cabbles, and busbar systems etc. within a fire protected shaft
Service ducts	Vertical Shafts housing water pipes, soil stacks, air ducts and electrical risers. Service ducts provide pipe spaces between adjacent bathrooms and may extend down through lower floor as wet columns. Provision must be made to prevent fire penetration through the floor voids
Chasis	Cables in conduit, pipes and other Services recessed into wall surfaces.
Cavity Walls	Within one storey, hollow partition walls may be designed to accomodate wiring and other services. This may be used in the front office, in meeting rooms and other areas requiring portable equipment.
Horizontal	
Ceiling Voids	Depth of space is usually determined by air ducting requirements. This may be restricted to corridors or entrance lobbies of guest rooms where a lower ceiling level is less apparent.

Engineering Services Floor	In large hotels, where the guestroom block is superimposed over public areas of the hotel. The intermediary floor allows for installation of plant within the voids of the bridging structure.
Integrated within floor or ceiling Construction Floor ducts and Conduits	Using voids formed during construction in precast members or cast in situ with special forms. Cables and other services run in boxes set in floor screed, or slab. Access must be provided through surface boxes at all junction and terminal
Engineering basement and roof	For plant and horizontal distribution of mains. To facilitate access and maintenance, equipment and services are usually enclosed pipes (insulated), air ducting, suspended on hangers and brackets, cables (insulated and projected) in cable trays. All services must be colour coded for easy identification

6.2 Water Supply

Large quantities of water are required in hotels for personal use, food preparation, cleaning and general domestic purposes, and possibly also for fire fighting, cooling and softening plant, boiler laundries, swimming pools and recreational use, irrigation of grounds where appropriate. Average consumption of water within the premises (external use of water for irrigation and other purposes not included) is as shown in table: IV.

Average quantities	Per head per day (Litres)
Hotel guest	135
Resident Employees	90
Non resident employees	4.5
Restaurants	7.5 (per meal)

Public supplies via mains, are common methods of water supply but in isolated areas or where the mains supply is inadequate, private supplies may be obtained from:-

- (i) Underground aquifers through wells and bore holes
- (ii) Catchment surface draining to storage tanks and cisterns;

- (iii) Distillation of seawater by evaporation, freezing or osmotic filtration techniques, This method is expensive and may be limited to emergency provision.

Sufficient water equal to 100% of the daily requirement, must be stored to ensure continuing of supply and a suitable constant pressure. In a tall hotel building it becomes necessary to boost the internal supply pressure by pneumatic or mechanical pumping.

The design of water supply and distribution systems in hotels is complex in view of the large numbers of connection required and the multiplicity of pipes which are usually housed within the same duct enclosures.

- (i) Cold water supply for drinking (may be chilled)
- (ii) Cold and hot water distribution to bathroom fittings.
- (iii) Supplies to water closet flushing valves.
- (iv) Hot water circulation for space heating
- (v) Chilled circulation for local cooling and air conditioning.
- (vi) Cold and hot water distribution to kitchen, dishwashing and Laundry areas etc.

6.3 Drainage And Sewage Disposal

By grouping pairs of bathroom adjacent to vertical ducts, short branch pipes can be used and a single stack system of drainage installed with the connections repeated from floor to floor.

Seperate soil and waste pipes are required in other areas of the hotel e.g. waste pipes serving kitchen equipment may require to discharge grease, and silt intercepts to allow retention and removal of debris which might block the drain becomes necessary.

Drainage provisions include both storm water and foul water disposal, which will usually need to be kept seperate to facilitate drainage design and treatment of sewage.

Storm and surface water drainage design criteria are based on the plan areas covered by buildings, roads, and other surfaces, their various degrees of impermeability, the surface and drainage gradients available and the peak intensity of rainfall. Consideration must also be given to the possibility of flooding (rivers, melting snow, spring tides, gales and hurricanes) and other associated hazards. Storm water drainage may be used beneficially as a source of water for recreational lakes and ornamental gardens. The storage balance may also provide water for subsequent use in cooling systems, fire fighting or irrigation, especially in areas of irregular rainfall.

Land drainage may be required to lower water table levels around buildings or on land to be used for recreation. Basement drainage will usually require pumping to sewer or discharge level.

The quantities of foul water produced in hotels are virtually the same as the water consumption. Drainage systems should be as far as possible external to the buildings and be accessible for rodding over the complete network. In almost every situation where sewage system is not available, it becomes necessary to provide effective means of sewage treatment prior to disposal of the effluent. In a hotel development of about 200 rooms one may use either a covered septic tank (1-2 days retention) followed by secondary aeration over an open filler or through land irrigation arrangement (septic tank - biological filteration method), or one may use a mechanically aerated tank followed by settlement and recycling of sludge prior to discharging the effluent (activated sludge method).

6.4 Gas Installation/Boilers and Fuels

Gas may be in form of natural gas (methane) supplied from mains, or liquefied gas (propane, butane) from local storage in pressurised containers. Gas provides a fuel for combustion in boilers, heat exchangers, storage or instantaneous water heating systems, cooking equipment and incinerators. When installing gas, attention should be given to metering, control, safety, protection, air supply, damper and flue arrangements.

The space and location of boilers and hot water storage whether at basement or roof level will require specialist advise. Attention should be given to the noise and heat from boiler rooms relation to fuel storage accessibility for maintenance, degree of control of heat levels and economy in service, ventilation and flue runs.

The type and quantity of fuel required for heating generatores, pumps and other mechanical equipment should be considered in relation to reliability of supply and economy of bulk purchase. The fire hazard, dust colour and appearance of both storage and unloading must be considered when locating fuel storage units.

Other Plants

Provision will be required for water treatment plant, pumping equipment, isolating values, bypass mains dampers, air filters, pre-heaters, switchgear and control panel boards and other equipments associated with heating and air conditioning services. In addition to the equipment itself, space must be given to access, dismantling and replacement needs.

6.5 Ventilation And Air Conditioning

The space and location for ventilation and airconditioning plant requires specialist advice. Attention should be given to noise, degree of individual control, alternatives in case of failure and economy in services runs.

Air Conditioning equipment may range from individual self contained units to centralised systems.

Unitary equipments provides the advantages of lower initial cost, simplicity of installation and individual operation and is appropriate for small hotels.

Packaged Units tend to be noisy (compressor and fan noise) Large and difficult to integrate with the architecture of the building. Central Station Systems generally are more flexible, less noisy and provide better conditions with lower installed load and energy requirements because of the diversity in use. Central maintenance and regulation is also facilitated and such systems are more cost-efficient in medium to large hotels.

It is possible to combine central systems in public areas with unitary equipment in guest rooms. To facilitate adjustment of conditions, balancing and controls, central air conditioning systems are usually zoned to different parts of the hotel (floor zones, area zones, exposure zones).

Unitary equipment for guestrooms may be through the wall package units". Complete with circulating fans air filters, direct expansion refridgirator coil compressor and air cooled condenser.

Unitary equipment for public spaces may be self contained package units with a remote cooling tower or multiple air handling units served by one or more air

cooled condensing units (split - package systems). Separation of the compressor - condensing equipment enables this to be located in a suitable position (e.g. roof mounted) and noise isolated from the public space.

Central system for guestrooms may be by fan coil units, recirculating air from room to which fresh air is added over a cooling coil. Fan coil units may be sited under the window or on the adjacent partition wall. (Mounted vertically) or in the lowered ceiling space above the bathroom or entrance. Vestibule (mounted horizontally). Primary air from ventilation is supplied from central plant through ducts. Removal of air from the guestroom is usually through the exhaust system in the bathroom, and supply grilles must be located and directed to avoid short cycling of the air flow. Exhaust register should be located near to the W/C and provide for a minimum of 3 air changes/hour .

Central System For Public Space

To provide independent control, isolation and flexibility to cope with widely varying conditions, each public space requires a separate air supply from an individual unit or from one or more zones of a multi zone system.

Supply air from individual conditioning units is usually through a system of ducts direct to ceiling diffusers or wall registers in the room or area concerned. Ceiling diffusers are usually more suitable than grilles in public rooms. Duct work is usually housed in ceiling voids, vertical service cores and rooftop installations.

6.6 Electrical Engineering Services

Electric mains supply to premises are generally 3 -phase AC with a cycle frequency of 50 or 60 Hz, supply voltage varies from one country to the next.

Mains supply to new hotels are often conditional on the provision of a mains transformer which may be located externally in a fenced off part of the site. The supply cable from the transformer terminates in a separate switchgear room, located as close as possible with the main switchboard controlling secondary distribution to various parts of the building and apparatus.

In the event of mains failure, an automatic transfer switch enables emergency supplies from battery and generator to be brought into use. The location of emergency generator plant is important in view of noise, fuel space, ventilation and maintenance requirements.

Electrical distribution network may be by:-

- (i) Radial distribution: feeders run separately from the main switchboard to the main areas of consumption (kitchens, laundries, lobbies, convention rooms, restaurants, guestrooms etc).
- (ii) Ring main distribution:- provides for a feeder cable to pass round the premises or site serving subsidiary distribution panel boards in in different areas and buildings.
- (iii) Rising Main distribution:- is more suited to tall hotels. The submains extend vertically through one or more service cores and are connected at each floor level to a distribution panel board serving that floor. On each floor the subsidiary circuits may be arranged on a ring or radially.

All wiring systems must be protected against excessive current by overload devices (fuses, circuit breakers) and correct standards of wiring used.

6.7 Telephone And Other Electronic Devices

Three different types of subscribers are usually involved;

- (i) Guest Lines
- (ii) Administration Lines
- (iii) Service Lines

In addition local phone facilities should be provided for emergency and maintenance use located at:-

- (i) Elevators
- (ii) Elevator motor house
- (iii) Engineering Plant rooms
- (iv) Kitchen, Servery, restaurant, bar pantries, Stores.
- (v) Radio and Television rooms
- (vi) At every 3rd/4th landing of emergency fire stair ways.

Public payphones may also be located in main lobby ballroom or function room foyer, recreational areas used by the public, employee restroom and/or cafeteria. Public telephones should be individually screened by booth enclosures or acoustic hoods grouped together and located in a relatively quiet position to one side of the main circulation areas. Typical space allowance per telephone booth is 850mm x 850mm and 2100mm height.

The room housing the switching equipment should be separate from the operator's room but be adjacent or near as possible.

The equipment consists of multi switches and relays which are mounted in standard frames and assembled on bays. The bays are grouped into switch racks usually extending in open rows across the centre of the room to facilitate access from each side. Minimum ceiling height from the room is 2820mm. The racks are usually 2300mm high and space must be allowed for cables and supports. The areas should be as dustproof as possible.

CHAPTER SEVEN

INTERNAL ENVIRONMENT AND FIRE PRECAUTIONS

7.1 Lighting

Lighting is an important element in architectural and interior design. It can be used externally to display the character and features of the buildings, to reveal views of the interior and draw interest. Functionally external lighting is a necessary requirement for safety security and control.

Internal lighting may serve to emphasize features of the decor, to reveal or conceal surfaces, apparently lighten or diminish spaces, create patterns and texture and provide colour and contrast. Illumination is used to draw attention to signs, directions and hazards.

Light Sources are primarily:-

- (a) Incandescent - due to high temperature radiation (filament type) and
- (b) Flourescent - from ultraviolet radiation of emergised mercury vapour acting on surface coatings (flourescent type).

Incandescent lamps tend to produce a warm light and are generally preferable for lounges, restaurants and bedrooms. Flourescent lighting is more efficient, has a longer life and produces less shadow and contrast. It is used in work areas, reception desks, corridors

(recessed Ceiling lights) and in other situation as concealed background illumination. Infared heating lamps are used in Serveries, food display, cooking, and sometimes in bathrooms to provide both light and warmth. standards of illumination.

7.2. Noise

Methods of reducing the possible irritations of noise fall into three categories: planning, insulation and absorption.

By zoning, seperation and screening it is possible to plan layouts which minimise the effects of one area or another. This applies particularly to the seperation of guestrooms from public areas and screening of work areas. Difficulties may arise in those rooms which have multiple uses and may be in one instance noise producing and in the next noise sensitive.

External noise such as that from traffic may be reduced by planning typical provisions include:-

- (i) Sensitive rooms (e.g. guestrooms) arranged at right angles to highways;
- (ii) Screening by other areas, by walls and banks of trees.
- (iii) Creating noise "Shadows" using balconies, recessed or angled windows, projections from the building or stepped back elevations.

Reduction of noise transmission through the building is achieved by u improving noise insulation. Transfer of vibration and noise may also be reduced by the use of resilient mountings and connections, and by the absorption of noise within the duct-work.

7.3 Fire Precautions

In planning a hotel, it is necessary to define protected routes[†] or routes for persons escaping from fire which is seperated from the remainder of the building by fire resisting doors, and by walls, partitions and floors which are of fire resisting construction.

Travel Distances:- In rooms with only one exits, no point should be more than 9m from the exit. In rooms of high fire risk such as kitchens and boiler rooms, the distance should not exceed 6m. Where a room has more than one exit leading to an escape route, but which leads to safety in one direction only, the distance from any point in the room to the nearest exit should not exceed 9m or 6m in rooms fof high fire risk.

In large rooms there should be no less than two exits leading by seperate routes to a place of safety. In a large room, distrance from an exit should not exceed 18m. This can be increased to 30.4 if there are at least three exits. Alternative exits should be provided so that means of escape in two seperate directions from any one point in the room, the angle between the lines drawn

A r e a	L u x
Entance Lobby	200
Reception Area	400
Public rooms (supplement ove table)	100
Cashier desk	400
Lounges	200
Guest rooms	100
Bed heads	200
Bathrooms	100
Kitchens (General)	200
Food preparation and Cooking	400
Stores	200
Laundry	200
Cellars, Wine stores	200
Offices	400
Accounting machines, Computers	600

TABLE V.

from any point in the room to alternative exits is not less than 45°.

For rooms occupied by more than 5 people, the exit width should not be less than 760mm. For rooms occupied by more than 100 people the exit width should not be less than 1000mm. Main corridors should not be less than 1200mm wide. Where corridors exceed 18m in length, fire resisting self closing doors should be provided at intervals of not more than 18m.

Provision for active protection include:-

1. Access facility for fire fighting vehicles and appliances;
2. Installation of fixed equipment for manual operation;
3. Installation of automatic detection, alarm and control systems;
4. provision of portable appliances;

Access requirements will depend on the site and height of the buildings and internal equipments provided (risers, hydrant points, automatic sprinklers, fire access elevators, means of escape in case of fire for occupants).

Fixed equipment for manual operation includes wet and dry risers for distribution of water to hydrants and hoses throughout the building. Hose reels should be located in the main areas of circulation (e.g. in or near staircase cores), within 20m of every part of the building.

The equipment should be mounted in wall recesses to avoid creating obstruction.

Automatic systems comprise a sensory device to detect temperature rise, carbon monoxide, smoke or fumes or flames, a controller which serves to amplify and relay the impulse and responding equipment. The equipment activated by such systems include water sprinklers and curtains, electromagnetic release catches for smoke doors, exhaust and relief ventilation ducts and alarms.

Portable appliances are necessary in certain areas of risk such as kitchens, boiler houses, workshops, projection rooms, to control local out breaks of fire. The appliance may employ water, foam, dry powder, carbon dioxide or vapourising liquids as the extinguishing agent or may contain an asbestos blanket for smothering small fires. It is essential to use the correct type of control: for instance, water cannot be used for electrical equipments or flameable liquids.

SECTION 2

CHAPTER EIGHT

CASE STUDIES

8.1 Eko Holiday Inn

Designed by Architects O.Olumuyiwa and Associates, in collaboration with Warner Burns Toan Lunde of New York, this 500 - rooms hotel is located on a 29 - acre plot of land near Kuramo Waters, Victoria Island, Lagos. Eko Holiday Inn is a full - fledged resort and convention hotel, providing not only lodging for its guest, but accomodating also the activities of transients in its many public spaces, including:-

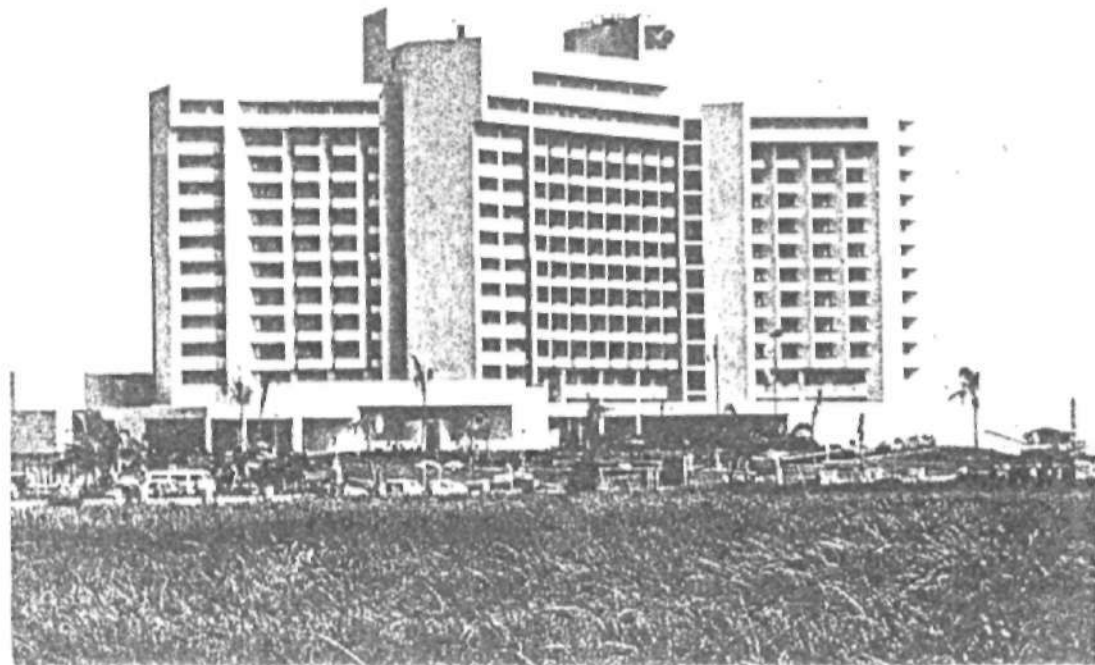
- (i) a Casino Night Club, seating 260 patrons
- (ii) a Banquet Hall/Functions room with maximum restaurants and bars, as well as
- (iii) gift shops.

Of the 500 guest rooms, 41 double into 5 suites (1 presidential, 3 de-luxe and 1 manager's) and 6 meeting rooms; 9 are (abana - type guest rooms, while 33 are single rooms. The remaining 417 rooms are double rooms.

8.1.1 Design Determinant

The principal design determinant for this hotel was view from the guest rooms and from the main lobby level. A form was sought which would maximize the available views of the Kuramo waters nearby, the atlantic

Plate i - EKO HOLIDAY INN, LAGOS



FRONT VIEW

Ocean across the landscape, and the magnificent towering office structures and multiple activities inland.

8.1.2 Massing:

Templed by the two small extensions of the lift towers, the 12 storey undulating guest room block is partly set on a split level, single storey base building in which all public functions administrative and service facilities are housed. At the northern end of the structure is the "back of the house" wing of the lower lobby level, oriented perpendicular to the principal axis of the bedroom tower and together with this, hugs the terraced swimming pool, approachable from the garden lobby, informal dinning area, pool cocktail bar and bazaar shops.

The guest tower block undulates fairly parallel to the Kuramo water courseline a north easterly direction. The undulation is achieved by setting the subsidiary wings of the main structure, at the ends, at about 45° to the principal axis of the block.

These arrangements, though with optimum view advantage, do not make the best use of natural ventilation by the dominant south - west winds. However, the apparent breaking of continuity of the block by the tower wings sets a rythm which precludes monotony in the elevation, resulting in a dynamic and visually successful design.

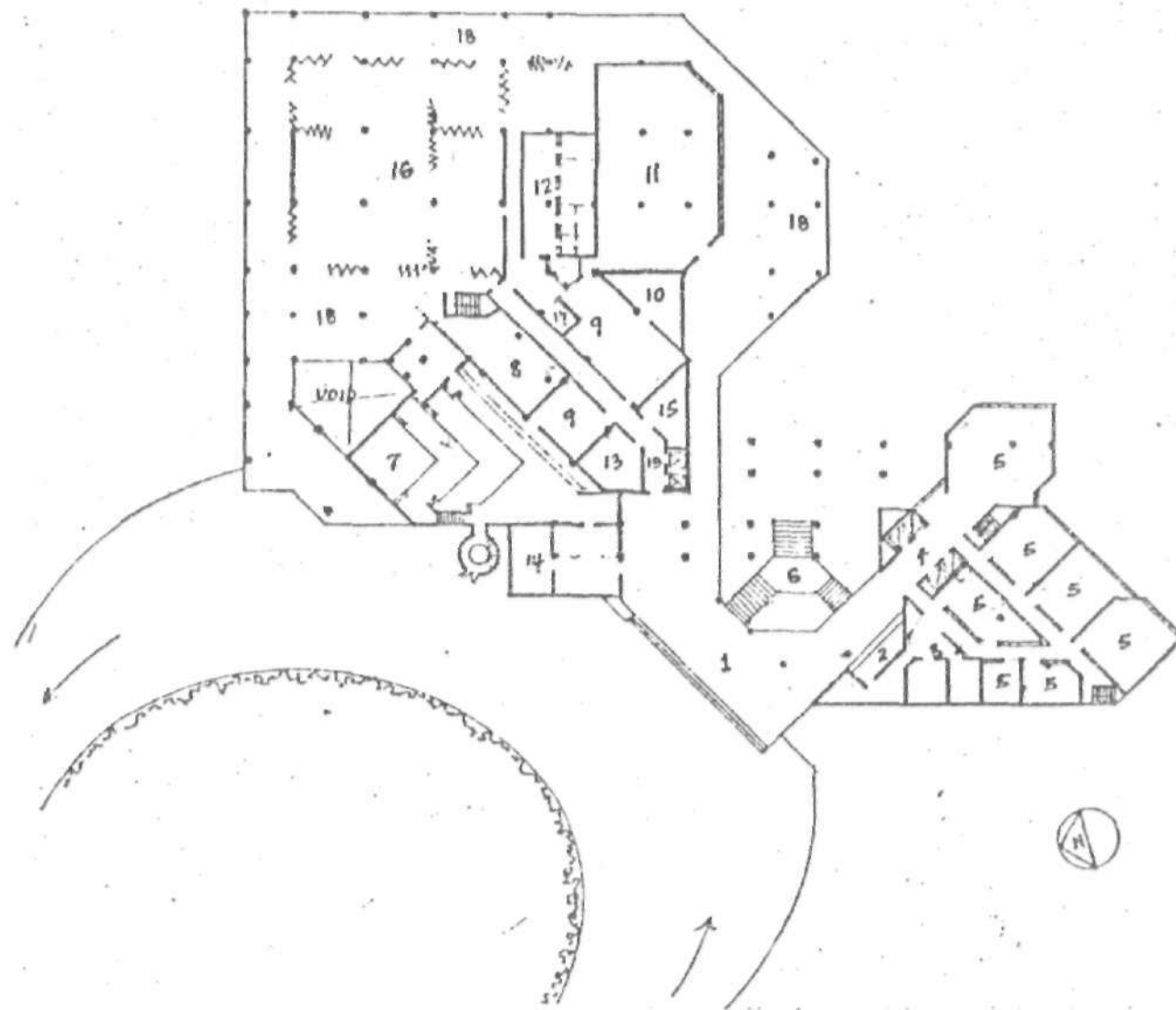
8.1.3 External Environment Quality Optimization

Sited on a relatively flat landscape, in the neighbourhood of Kuramo waters, the bar-beach, the Atlantic Ocean, the Sprawling landscape of magnificent buildings and beautiful gardens, the hotel is approached by an earth ramp which forms part of a round-about. The guest is thus made to arrive the entrance lobby at a fairly high level above normal grade, only to be surprised by an immediate view of the surrounding features, which hitherto were not available to him at the lower grade-level. Besides, the earth ramp also acts as a curtain, shutting off views of the delivery yard as the guest approaches the hotel.

8.1.4 Interior Space Design

A certain amount of informality and openness was desired in the design of the interiors. This is especially noticeable in the restaurants and other public dining spaces, where generous use was made of glass enclosures, margining the interiors and exterior spaces. Dining activities are actually made to break the bounds of the interior by the use of balcony extensions to the main-lobby - floor restaurant and the summit Restaurant on the twelveth floor. Partly covered, split-level terrace arrangements, on the lower lobby floor, accomodate the exterior flow of dining activities in the neighbourhood of the swimming pool.

Fig: v - Eko Holiday Inn, Main Lobby Floor Plan



LEGEND

- | | |
|--|-------------------|
| 1.- Arrival Bay/Entrance Lobby | 19.- Service Lift |
| 2 - Reception Desk | |
| 3 - Front Office/Reservation/Tel. Exchange | |
| 4.- Guest Lifts | |
| 5.- Shops/Lease Space | |
| 6.- Wooden Staircase | |
| 7.- Peacock Night Club | |
| 8.- Casino | |
| 9.- Kitchen for Cake/Snacks | |
| 10- Kitchen for Cake/Snacks | |
| 11- Restaurant | |
| 12- Store | |
| 13- House Keeping | |
| 14- Casino/Night Club Management | |
| 15- Room Service Preparation | |
| 16- Banquet/Ball room (Capacity 1000) | |
| 17- Chef | |
| 18- Useable Balcony Space | |

Fig: vi

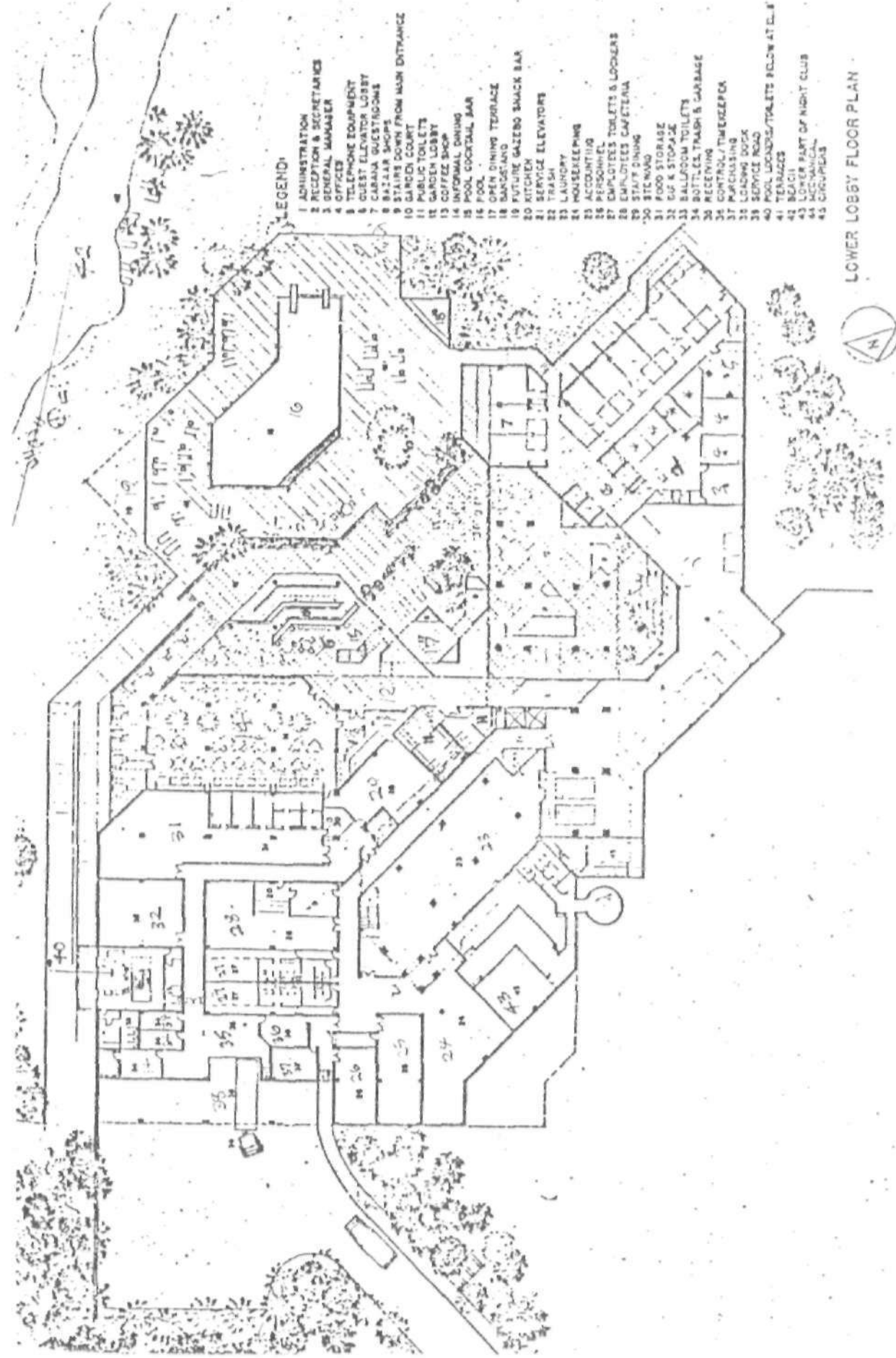
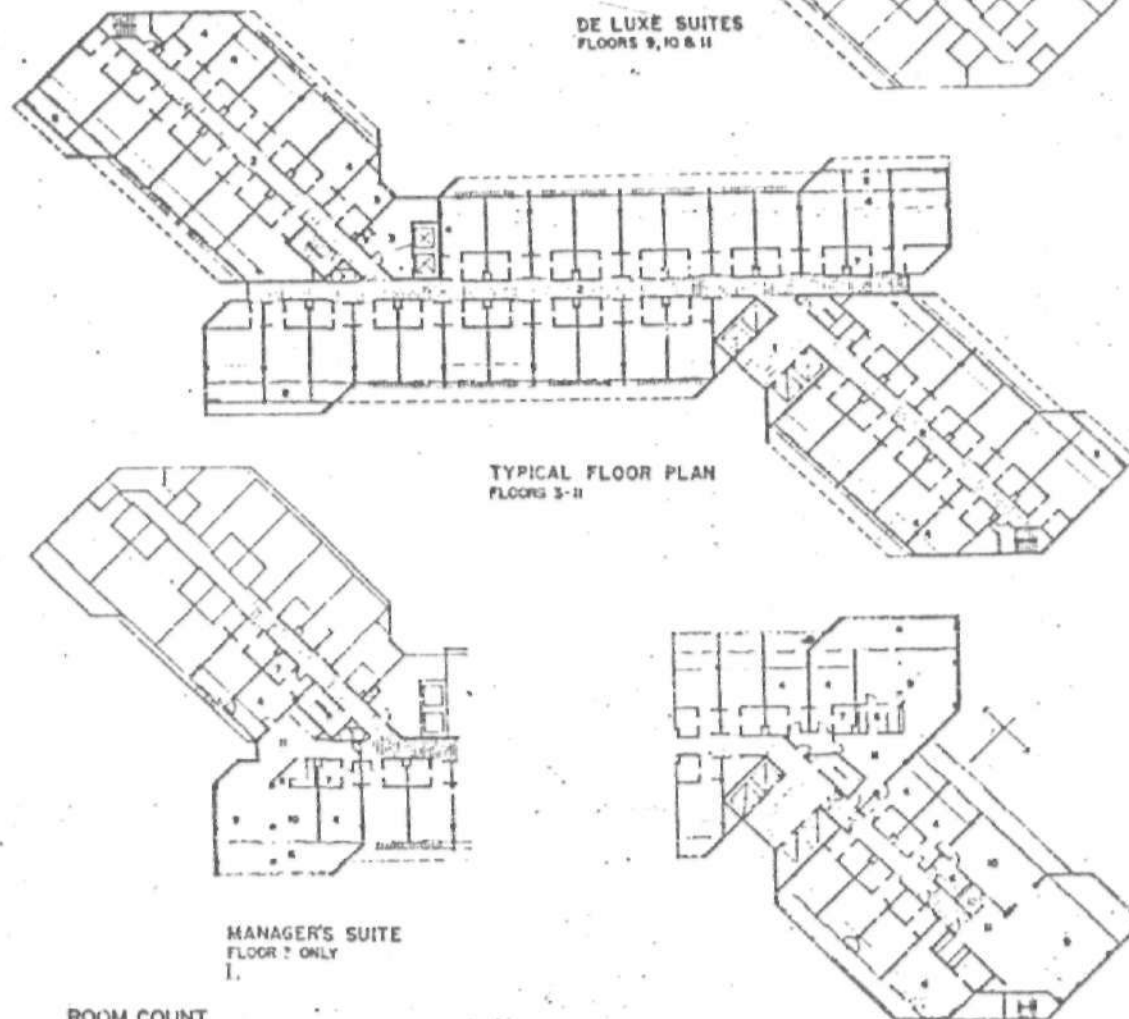


Fig: vii

TYPICAL FLOOR PLANS



ROOM COUNT

FLOOR	ROOM TYPE	RM. COUNT	TOTAL
12	PRESIDENTIAL SUITE (12)	5	45
	DE LUXE SUITE (12)	5	
	DOUBLE	30	
11	DE LUXE SUITE (11)	5	45
	DOUBLE	30	
	SINGLE	1	
10	DE LUXE SUITE (10)	5	45
	DOUBLE	30	
	SINGLE	1	
9	DE LUXE SUITE (9)	5	45
	DOUBLE	30	
	SINGLE	1	
8	DOUBLE	44	45
	SINGLE	1	
	SINGLE	1	
7	DOUBLE	44	45
	SINGLE	1	
	SINGLE	1	
6	DOUBLE	44	45
	SINGLE	1	
	SINGLE	1	
5	DOUBLE	44	45
	SINGLE	1	
	SINGLE	1	
4	DOUBLE	44	45
	SINGLE	1	
	SINGLE	1	
3	MANAGER'S SUITE	4	45
	DOUBLE	40	
	SINGLE	1	
2	DOUBLE	44	45
	SINGLE	1	
	SINGLE	1	
1	MEETING ROOMS (1)	11	41
0	NOV. CARP.	9	9
TOTAL	DOUBLES	447	800
	SINGLES	53	

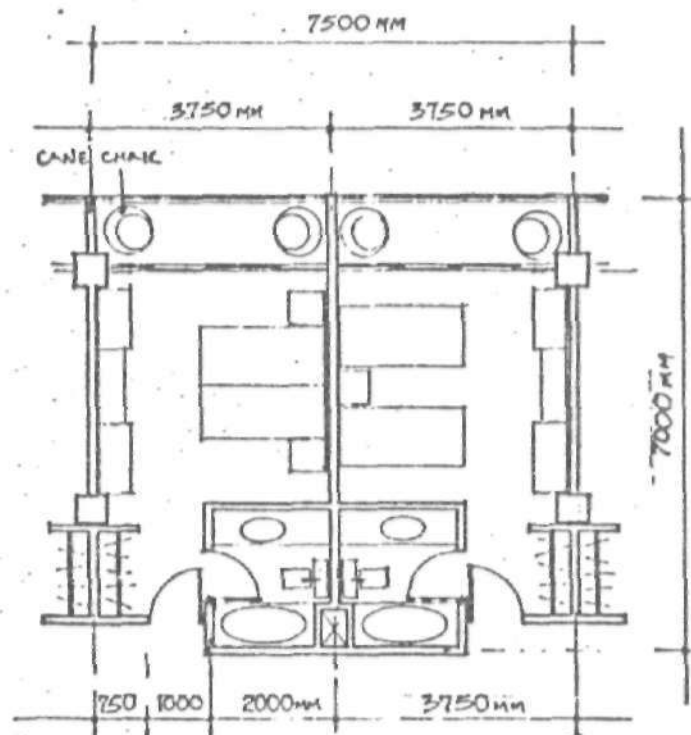
LEGEND:

- 1 GUEST ELEVATOR LOBBIES
- 2 GUEST CORRIDORS
- 3 SERVICE ELEVATORS & LINEN
- 4 STANDARD GUESTROOM
- 5 SINGLE GUESTROOM
- 6 BAR/PANTRY
- 7 BATHROOM
- 8 BALCONY
- 9 LIVING ROOM
- 10 DINING ROOM
- 11 FOYER
- 12 POWDER ROOM

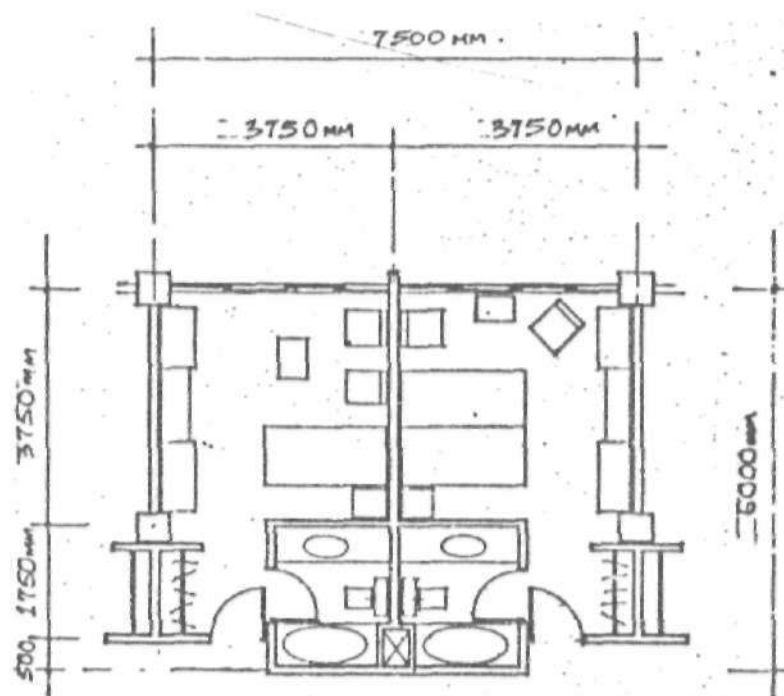


Fig: viii EKO HOLIDAY INN - LAGOS

LAYOUT OF BEDROOM TYPES



TYPICAL GUEST ROOM



TYPICAL SINGLE ROOM

Flexibility is the overriding theme in the design of the banquet hall/functions rooms. Here, efficient use of collapsible partitions is made, so that other activities may be housed along with the main one or the building space may be completely opened out to give room for expansion to the adjoining balconies.

In the bedroom block, the module of column arrangement is correctly chosen to fit the design of the multiple rooms i.e. the suites, so that rooms efficiently double up without columns in the wrong places. The placement of bathroom units along the interior walls next to the corridors, makes easy plumbing and repair works to service pipes to be carried out from the corridor access without disturbing the guest in the bedroom.

The use of fire-resistant materials and construction apart, regulations for fire-escape are met by the stairways, located at the ends of the off-set corridors to the guest - room block, such that the distance between any pair is not more than the statutory requirement of 30 metres.

However, although credit may be given for clear delineation of guest and staff circulation spaces which are not conflicted; and for the proper location of the service entrance (and yard) away from the guests view, the heavy dependence on artificial lighting and ventilation of the service areas, including the kitchens,

employee cafeteria, laundry, stores and toilets, etc, does not conform with the realities of our tropical environment. Nor is the lack of changing rooms for the swimming pool a proper feature of hotel design.

8.2 Durbar Hotel Kaduna

Durbar hotel was born out of the urgent need to house participants who trooped in from various parts of the world for the grandiose Festival of Art and culture held in 1977. The programme deadline set for the hotel's completion was six months, and this to a great extent, influenced the choice of materials and of construction. To this end, a prefab construction system was adopted with precast reinforced concrete pannels used as loadbearing walls.

8.2.1 Design Determinant

The choice of the dominant form (the form of the guest room block, that is) does not reflect any site constraints in terms of orientation, size or shape. This is a good case of a design whose concept was influenced by a strong desire for aesthetics rather than functionality.

8.2.2 Massing

The massing of this hotel structure represents a complete break from the traditional approach to hotel design. An approach which has long been justified by a clear understanding of the strong relationship between

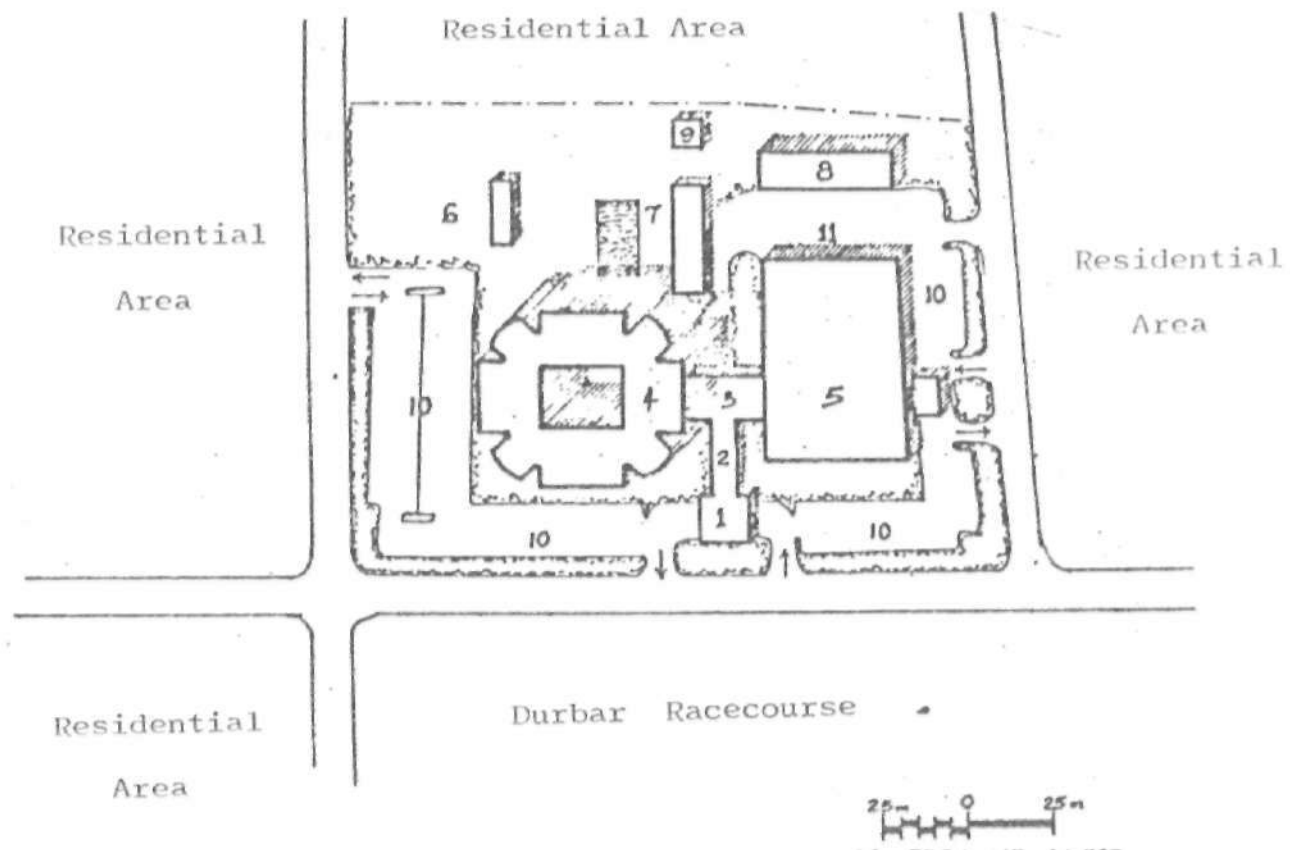
the guest-room block and the main service unit. Linked only by the reception area, which is housed with an adjunct of office and shops in a rectangular single storey structure, the service area and its concomitant public areas are completely detached from the 4-storey guestroom block.

The guestroom block itself, with 302 rooms, 10 executive suites and 1 presidential suite, is an approximate donut shape with some bulges and recesses on the external facade. This has a rhythmic effect, creating fine shadow patterns on the walls. Around the building area and hemming the site on three sides is the guest parking lot. Approachable from any one of these sides, the guest parking lot has provision for a total of 350 cars. The arriving guest is conducted through the main entrance area to the reception desk by a low-lying *Porte-cochere*, stretching for a distance of about 20 metres. It is doubtful that a tired guest would consider it very welcoming to have to be conducted through such a distance to actually arrive.

8.2.3 External Environment Quality Optimization

The site is bordered for the greater part of it by streets and residential areas, leaving only the Durbar Racecourse on the eastern side as the only interesting view. Apart from the hotel's swimming pool to the West. Not much was done to exploit this singular view by way of orientation or the use of materials.

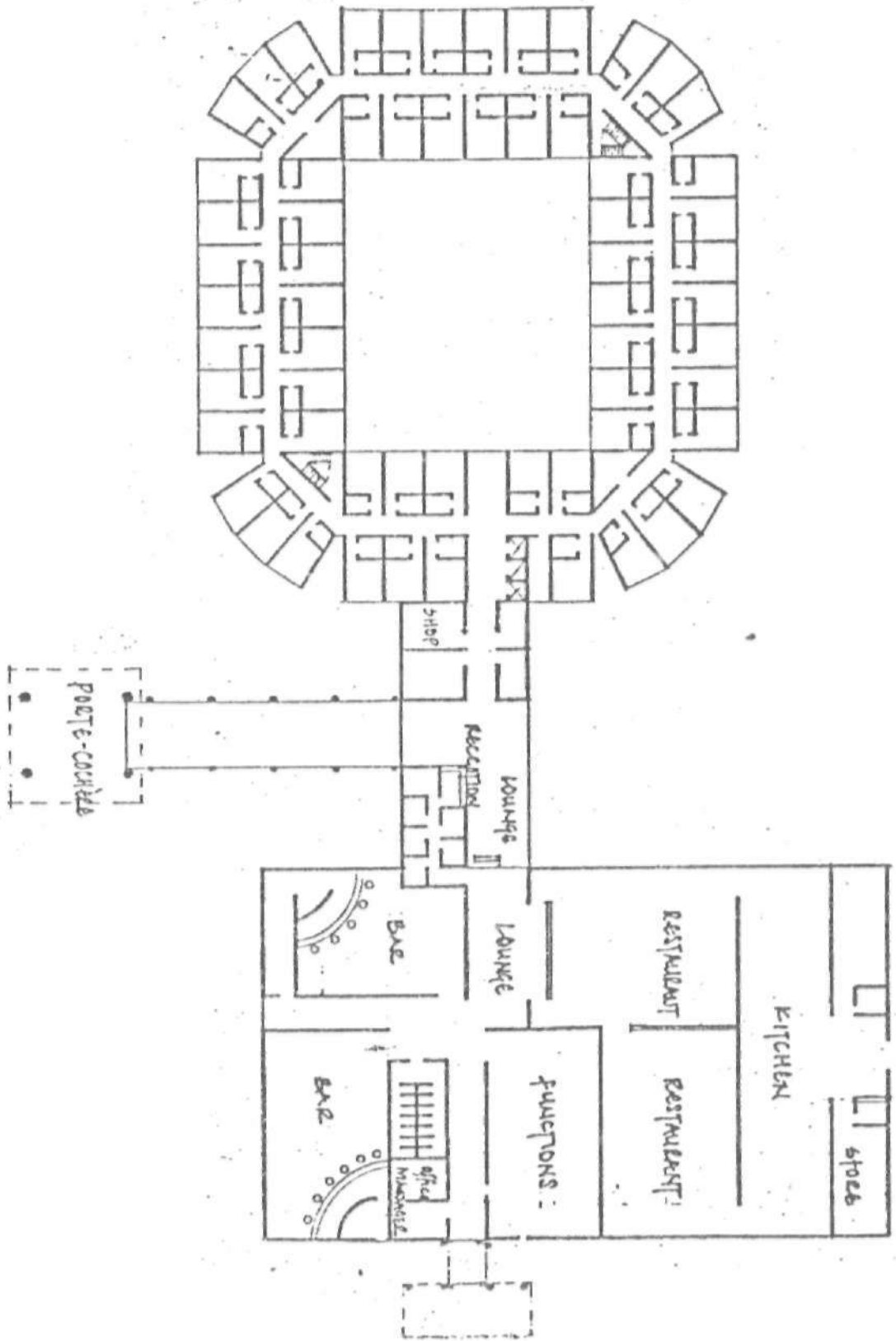
Fig: ix - DURBAR HOTEL, KADUNA



SITE PLAN

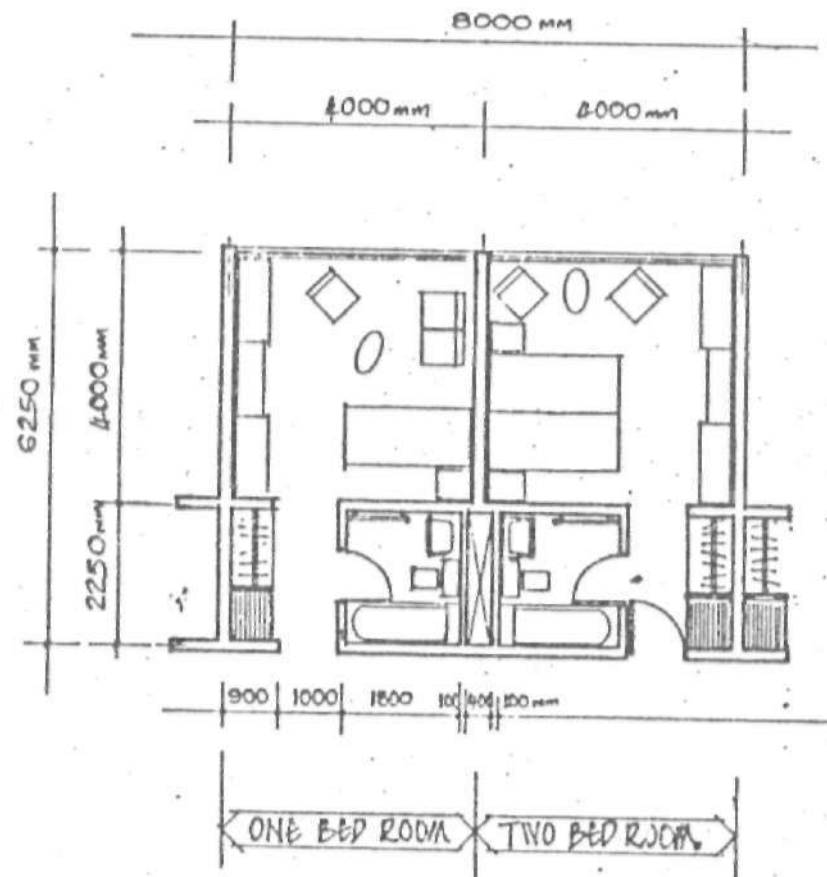
- 1- Porte Cochere
- 2- Covered Walkway
- 3- Entrance Lobby/Reception/Shops/Front Office
- 4- Hotel Guest room Block
- 5- Public Areas; Bar, Restaurant, Functions
- 6- Garden Bar
- 7- Swimming Pool
- 8- Office Block/Staff Canteen
- 9- Generator House
- 10- Parking Space
- 11- Delivery Bay

Fig: X - DUBAR HOTEL, KADUNA



Ground Floor Plan

Fig: xi - DURBAR HOTEL, KADUNA



LAYOUT OF BEDROOM TYPES

Only a handful of rooms in the upper part of the guest room block overlook this area, while the public areas detached though they are, are walled in with solid opaque materials instead of a light cladding of glass, which otherwise would have permitted visual extension to the fine exterior view.

A solution with three entry points from the adjoining streets for motorised traffic does not make for effective control. It does, however, rule out the possible bottle-neck of traffic that sometimes goes with a single entry point.

8.2.4 Interior Space design

Housed along with the kitchen services in a detached single level building, the only public areas include a restaurant (partitioned into two floor areas), a lounge, a functions room and two bars, all these apart from the reception area and a few shops in the connecting wing. Not much of the openness associated with the public areas of Eko Holiday Inn has been permitted here. Next to each other though they are the two bars available are located as discrete and separate units, much like the relationship between two different bedrooms. The hotel lounge on the other hand, is next to non-existent, merely filling up what looks like an over-generous corridor space that links the reception and the main public areas.

The detachment of the kitchen services from the guest-room block, though permitting the ground floor location of bedrooms in the block, makes it impossible for guests to receive services in their rooms since the service employees would have to walk through a maze of public spaces to get to their destinations.

The 4m x 4m bedrooms themselves, classified into one-bed or two-bed types, are comfortably furnished. Each bedroom has its own bathroom and wardrobe unit, the units effectively acting as sound baffles between the bedroom and the access corridor outside. However, the service ducts are unserviceable from the corridor. They are wholly internalised, sandwiched between adjoining bathrooms, and extending the whole width of these. This system of ducting is undersirable since it becomes necessary to service the waste pipes from inside the bathroom spaces, thus encroaching on the guest's privacy.

8.3 Pontinental Hotel, Italy

Pontinental g hotel at Platamona, Porto Torres, Italy was designed by Renato Baldi and Lionello De Luigi. The hotel is situated in a large pine forest, above a strip of land between sea and a lake, on the coast between Porto Torres and Sorso on the Asinara Gulf. The zone is still uninhabited and deserted. A plan has been studied by the designers for making it a bathing centre which would serve both the nearby city of Sassari and tourists.

This hotel is the first building to be constructed. It is an autonomous organism with its own sporting facilities, such as beach, swimming pool, tennis and mini-golf.

Bedrooms for guest are distributed on three floors in a rectangular area of tripple section. These three floors are stepped on their short sides so as to interrupt the continuity of the parallelepiped block. The ground floor, raised above the surrounding land, stands out planimetrically from the plan of the upper floors, being elongated with its entrance and living room at the back of an embankment. On this floor are passes from the living room to the rest room, the bar and the breakfast room by way of short*glazed galleries which run at the sides of two internal gardens. The whole of the remaining area is occupied by the kitchen; various services administrative offices and staff rooms.

Internal finishings has been carried out by the designer Joe C. Colombo who has resolved it for the most part by the use of dismountable unit elements which were constructed on the main land, then transported to the sport by sea and then assembled.

Backing and facing is of wooden longitudinal members screwed together, without groove. Beds and benches in the bedrooms are totally dismountable. Tables and chairs are of the dismountable mass production type.

Considerable use is made of railway rails as handrails for staircases and supports for shelves and bedside tables in the bedrooms. Metalic parts are of stainless steel for resistance against the salt content of sea winds. As the spot is very sunny and the construction is very open, windows are shielded with internal sunshields of red fabric and ceilings have been painted a dark anthracite colour. The walls of the very large halls are of light grey, in order to render the most internal zones more luminous.

The overall site area is 108,000 sq.ft. area covered by the building 21,500 sq.ft. number of beds - 270 and number of restaurant places is 200. The foundation is of reinforced concrete plinths.

8.4 Martinique Hilton

Martinique Hilton is located at Martinique, French West Indies. It is owned by Societe - Hoteliere et Touristique Martiniquaise. It was designed by Charles Rameau under consultation of Warner Burns Toan Lunde.

Recreational facilities provided include: Two lawn tennis courts, A golf course, A swimming pool and Sunbath pods..

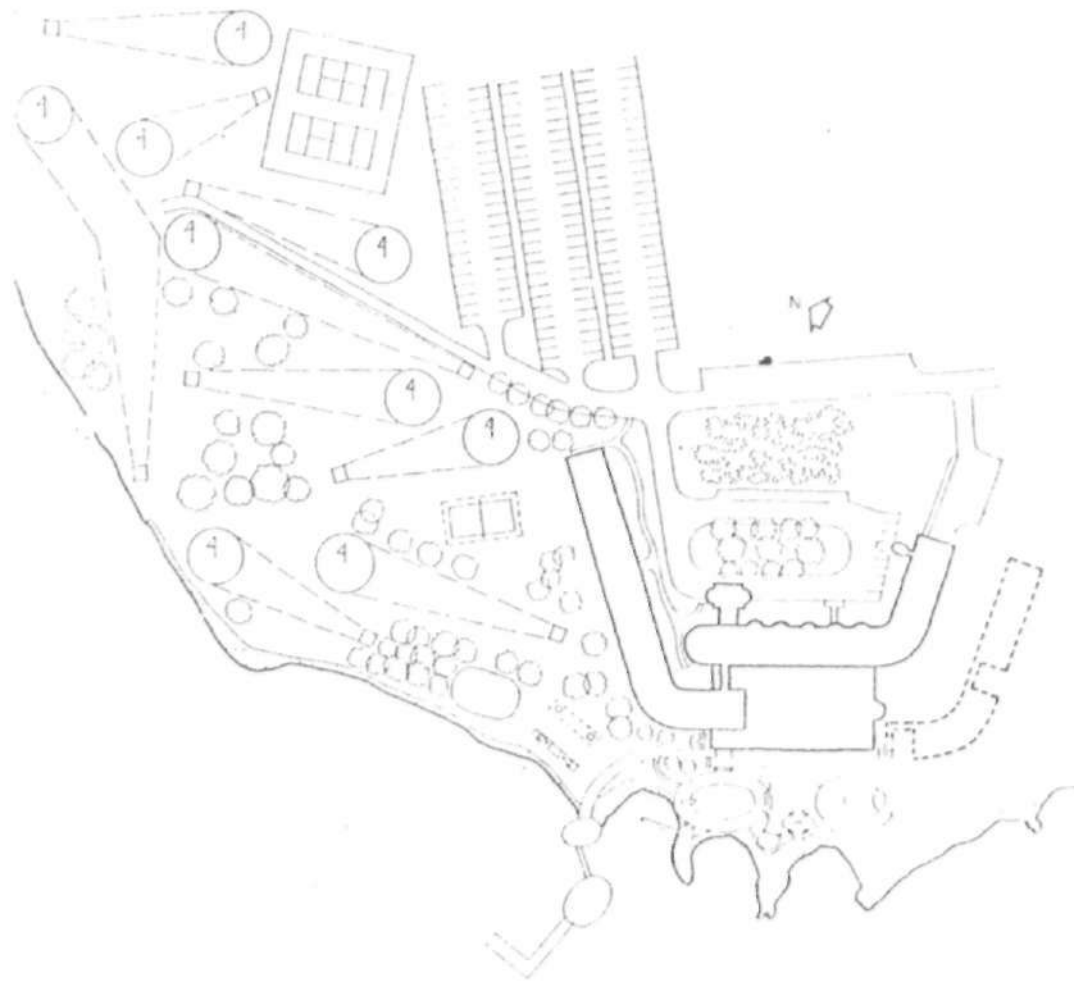
Most hotel developers about to construc a large international facility on a cliff site such as this Hilton for Martinique would first blast the rocks to create a sandy beach.

Fig: xiii -

MARTINIQUE HILTON

Martinique, French West Indies

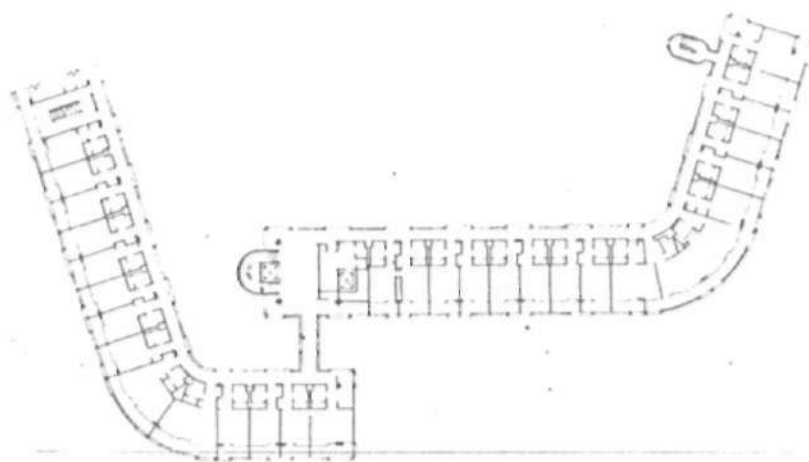
Charles Rameau, Warner Burns Toan Lunde



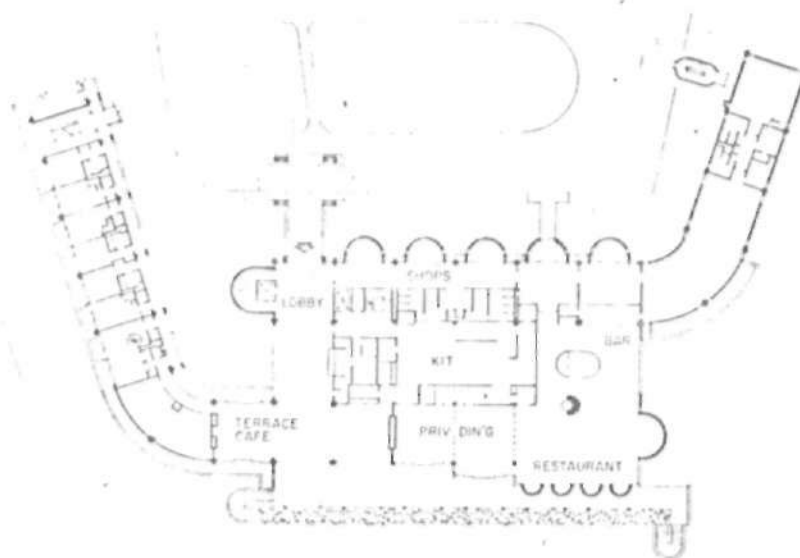
SITE PLAN

SOURCE: - Interiors Vol. 132 (Oct. 1972) PP. 106-109

Fig: xiv



Typical Floor Plan



Ground Floor Plan

But this hotel, which is quite modest in its architectural expression, maintains the continuity of the land forms. Adjacent to the entrance as the ground floor indicates are a series of shops enclosed within half circles. This is quite a good planning. The dining terrace overlooks the swimming pool and the ocean.

All rooms are reached by a single loaded corridor and have seaside terraces. As the air view and site plan indicate the ocean side of the hotel is a beautifully planned series of spaces which include a swimming pool jutting out over the rocks, terraces, a gazebo and steps leading down to the water.

At the water level are a series of bridges and oval platforms which the architects call pods. The pods are for swimming, snorkeling, and sunbathing.

The two wings of the building surround a group of royal pl palms, the centre of the courtyard of the original estate. A small golf course has been planned within the estates botanical garden. Wherever possible plant materials, rocks and water remain as the developers found them.

The main fault of this design is the lack of natural lighting and ventiation in the kitchen.

8.5 Bagauda Lake Hotel, Kano

Location:- It is situated about 65Km West of Kano, on the road to Zaria. About 45 minutes drive on a straight road from Kano.

The hotel enjoys a beautiful ground extending to 130 acres of land facing the man-made lake. It also has good road connection with Kano Urban, area and the neighbouring states.

History

The Dam was primarily constructed for irrigation of about 1,500 acres of land, the provision of water supply of about 25 million gallons a day and for fishing. This later led to the realisation by the Kano State Government of a secondary benefit of design and construction of a holiday resort. This was undertaken by the Ministry of Works and Surveys, Kano State. The construction of the Dam was completed in 1970, and the holiday resort commissioned in 1971.

Facilities

The facilities provided by Bagauda Lake Hotel are; accomodation, restaurant, swimming pool, banquet hall and nite club. Amongst these also include such public function facilities like the open air theatre, conference hall, bank and shop. There is also a boating facility Golf, Lawn and table tennis and provision for horse riding. Other support facilities includes medical unit and a police post.

Accomodation

There are 50 double chalets, 50 quadruple double room round huts and 8 chalets each with accomodation for

four persons and four luxury suites. A classification of the four types chalets based on individual character and number of beds is shown below.

V.I.P Suites

Four of these are provided, each with two bedrooms, sitting room, kitchen, private bathroom and toilet facilities. Other facilities include television, radio, telephone. All of these are fully air-conditioned.

Round Huts

There are fifty traditional round huts, each provided with two bedrooms with twin in each room, sitting room, private bathrooms, toilet, telephone and fan, it costs N30.00

Restaurant

This accomodate up to 100 guest and provides good and enjoyable services in a relaxed atmosphere. The restaurant does not enjoy a view to the lake.

Swimming Pool

This a large olympic size swimming pool open to the public and guests. There is also the provision of adequate number of changing rooms and lockers including terraces for sun bathing, life guard and a snack bar

Banquet Hall

There is a large banquet hall adjacent to the swimming pool area. The banquet hall is used for parties and ceremonies by individuals and organisations who hire it from the management.

Nite Club

This is a discotheque with a bar service. There is a dance floor with no bandstand. The capacity is estimated at 250 persons.

Open-air-Theatre

A theatre designed to accomodate 500 persons with a minimum of 0.8m^2 /person. The theatre werves as an open air cinema and can be used for lectures. The stage and screen is another feature of the open air theatre.

Conference Hall

This is an ultra modern conference hall with a seating capacity of about 250 persons called T-chad hall. It is noted that international seminars have been held there. Like the Chad Peace Disputes Meeting, which was said to have brought the name T-chad Hall. This complex encourages business for the resort, since the chalets accomodate the delegates.

Bank and Shop

There is a branch of the First Bank of Nigeria at the resort providing foreign exchange services. There is also a local crafts shop selling souvenir gifts. Also provided are a beauty saloon and a barber's shop.

Boating Facility

The reservior is intended for water based sports like boting facility as indicated on the site plan.

Table/Lawn Tennis and Golf

Tennis courts and a golf course are also provided. The Golf course is located towards the*police post on fairly rugged ground. The tennis courts are located close to the swimming pool and are flood lit.

Achievements

- (i) Advantage of views to water gives it what is needed in a holiday resort.
- (ii) Effective differentiation of pedestrian and vehicular traffic.

Short-Comings

Arrangement of facilities too dispersed, lacks a good spacial organization.

This creates problems of inadequate supervision and cost in terms of many roads to be constructed and the services needed.

In conclusion, most of the case studies, it could be seen that most of the hotels forms depended largely on the size and shape of site and nature of the surrounding as well as view.

SECTION 3

CHAPTER NINE

THE STUDY AREA

9.1. Location And Size

The study area referred to as Lekki peninsula is that region east of Victoria Island, starting immediately east of the stretch of a water which links five creeks and the Kuramo waters. It extends to the town of Lekki in the Epe division of Lagos State.

Lekki peninsula is bounded on the North by the Lagos Lagoon; on the East by the Eastern boundary of the Eti-Osa Area Authority; on the ^{South} by the Bight of Benin, and on the West by the stretch of water referred to above. It covers a total area of about 11,425 hectares stretching eastwards from its western boundary for a distance of about 22 kilometres.

9.2. The Character of The Existing Population

Statistical Figures:

Not much is known about the character of the existing population. Estimate of the existing population figure puts it at about 120,000 persons. Extracts from table 1B of the statistical surveys of Lagos State (November/December 1976) gave percentage estimate by age group and sex as shown in table below

TABLE VI

AGE GROUP (YEARS)	PROJECTED NPOPULATION		(2,000 AD)
	Male	Female	Total
0 - 5	551, 420	47,700	99,120
6 - 11	48, 000	45,780	39,780
12 - 18	48, 240	48,960	97,200
19- 25	42, 450	43,440	85,980
26 - 60	104, 760	94, 320	199,080
Over- 60	11, 760	13,000	24,840
TOTAL	306,720	293,280	600,000

Source: Table 1 P.7 land use plan for Lekki Peninsula

TABLE VII

(STATISTICAL ESTIMATES BY AGE GROUP AND SEX)

AGE GROUP (YEARS)	PERCENTAGE OF TOTAL POPULATION		
	Male	Female	Total
0.- 5	8.57	7.95	16.52
6 - 11	8.00	7.63	15.63
12 - 18	8.04	8.16	16.20
19 - 25	7.09	7.24	14.33
26 - 60	17.46	15.72	33.18
OVER -60	1.96	2.18	4.14
T O T A L	51.12	48.88	100.00

Source: Table 1^B Statistical Surveys of Lagos State
(November/December, 1976)

9.3 New Planning Proposals

9.3.1 The Design Population

The development of Lekki Peninsula may be viewed as a pre-emptive move to discharge the northward growth of Lagos State and encourage the settlement here, of potential Lagos State residents, whose number is expected to rise to a sizeable proportion by the turn of the century. The area is thus viewed as stretch with a design population of about 600,000 by the year 2000AD. This estimate has been based on an average gross density of 150 persons/hectare. Table () shows the breakdown of the projected population by age group and sex.

9.4 Economic Condition

In the Urban areas, most male workers engage in varied occupation, from office job to tertiary employment, which takes them away from home daily, especailly to neighbouring victoria Island Ikoyi, and Obalende. Commuters use the local boat service between Maroko and Ikoyi (at 20 kobo per drop) or the mass transit buses that take passengers to many of the neighbouring areas. Because of the present lack of good roads intra- regional commuters make great use of landrovers, although some great use services are also available.

The women are mostly engaged in petty trading in shops attached to their residences, or verandals, or of their children.

In the villages, the main occupation is farming by both men and women, mostly at subsistence level. However, there have been organised cooperative ventures by some farmers to promote agricultural interest. A good case is the Agbeloba Cooperative farming venture outside Ilesan village.

Fishing is done especially in swamps. Sea fishing in spite of its high protein potential, is not very popular for lack of the proper technology.

Other occupations the villagers engage in include hunting, by men, and handcrafting by women, mostly in the straw trade.

The reports on Lekki peninsula showed that the average urban dweller, apathetic or vague though he might be in respect of what form development should take, other than the provision of basic amenities like roads, electricity, water and schools, the villagers are rather apt to see their low turn-over and the rural urban migration of their men as the result of total neglect and lack of incentive by the authorities.

The provision, of good rural/urban linkages and industries they rightly contend, will set the impetus for a more dynamic economic situation, in view of their inherent industriousness.

9.5 Cultural Heritage

The people are predominantly moslems. The other religions include christianity, Ifa worship and Egungun. Egungun and Ifa worships account for the many cultural festivals that take place yearly; drawing observers from far and wide, in around Lagos State. So here is a good score for tourism and the provision of tourism facilities.

9.6 Proposed Land Use Plan

9.6.1 Transportation Routes

The proposed - use plan for Lekki peninsula is conceptually hinged on three main transportation routes:

- (a) An Inter-Regional Expressway
- (b) Maroko - Eti Osa Road, which later convert to a metroline for mass transit, and
- (c) A Coastal route

On the whole, the traffic network consist of 6 roads in an hierarachy such that each road can perform specific functions, providing access into and within the study area, respectively. The three other roads apart from the above mentioned ones include:-

- (d) Distributor roads
- (e) Collector roads
- (f) Access roads.

(a) The Inter-Regional Expressway

This road type runs horizontally in the extreme northern region of the peninsula. It has a reservation of 90m right of way, stretching by a distance of about 16km to provide access for through traffic.

(b) The Maroko - Eti Osa Road Alignment

Running across the middle of the peninsula, this route will later convert to a mass transit route with social roles, featuring exclusive busways and elevated metroline system. It has a right of way of 35m with 6m reservation for the N.E.P.A. high tension lines.

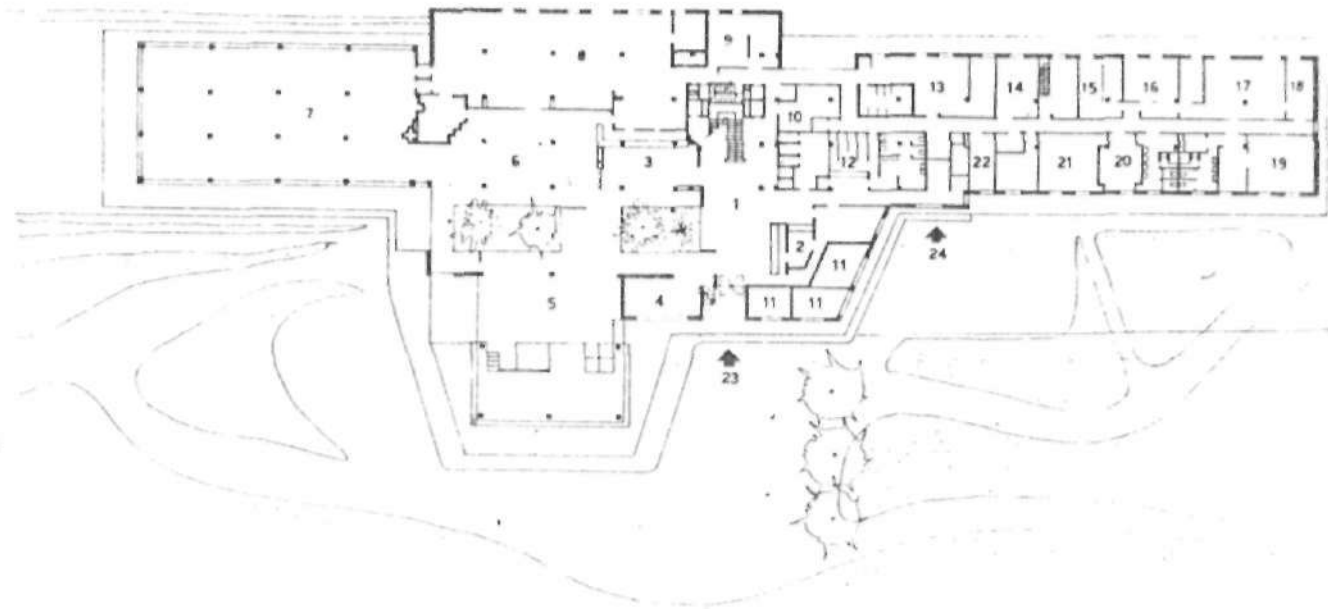
(c) Coastal Route

This route runs horizontally at the southern extreme of the peninsula. It is planned to perform the role of a district distributor providing access for through traffic and periphered traffic distribution into the peninsula and the coastal beaches. With a route - length of 17.5km and a right of way of 33m, it will no doubt significantly influence the development of the Coastal hotel services.

(d) Distributor Roads

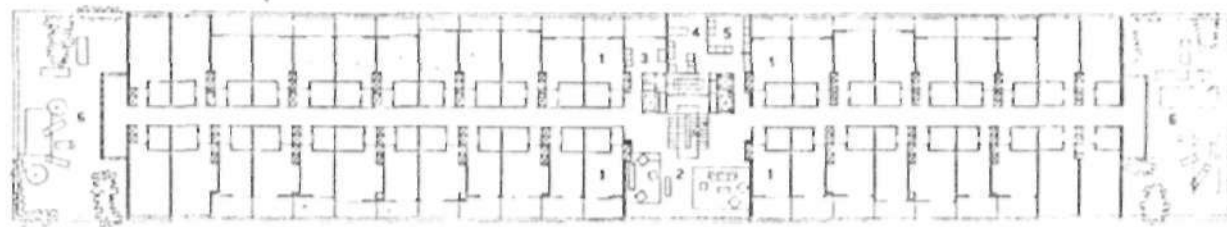
The distributor roads have reservation of 30 -35 metres. They are expected to perform local distribution function

Fig: xii PONTINENTAL HOTEL, ITALY



Ground floor plan

- 1 hall - 2 offices - 3 bar - 4 writing room - 5 living room - 6 breakfast - 7 restaurant - 8 kitchen -
 - 12 cloak-room - 13 pantry - 14 provision storage - 15 linen storage - 16 ironing room - 17 laundry -
 20 dressing room - 21 men dormitory - 22 transformer room - 23 main entrance - 24 service entrance.
 9 staff dining room - 10 barber shop - 11 shop
 - 18 dirty linen - 19 women dormitory



Plan of the first floor

- 1 bedrooms - 2 floor lounge - 3 lift service - 4 service room - 5 room - 6 garden terrace

for horizontal movements for vehicle and passengers.

(e) The Collector and (f) Access Roads

They constitute the intra-sector network, having a right of way varying from 15m to 24m, depending on the activities along the routes. They are designed to perform access and environmental functions.

9.6.2 Zoning

Nine zones may be distinguished on the land use plan, namely:-

(i)	Light industrial use	(4.29%)
(ii)	Commercial use	(1.30%)
(iii)	Residential use	(22.08%)
(iv)	Public or Institutional uses	(3.72%)
(v)	Recreational uses	(9.45%)
(vi)	Roads	(4.27%)
(vii)	Green Belt	(4.05%)
(Viii)	Forestry and Agricultural use	(24.98%)
(ix)	Preservation Area(s)	(4.27%)

(i) The Industrial Area

This is located north of the peninsula, with maximum plot areas of about 5400m². The detailed layout of this area will have flatted factories, built by Government and leased out to industrial enterprises.

(ii) Commercial Use

The Commercial Land-Use, like the Institutional uses, occupies the area between the industrial area and the Southerly located recreasional land use. Four types of Commercial uses are provided for on the land - use plan. These include:

- (a) A shopping centre (0.36 hectares)
 - to serve a population of 10,000 people
- (b) A market (3 hectares)
 - for a population of about 80,000 people.
- (c) A Central Business District (18 hectares)
 - to serve a population of 200,000 people

Other Commercial activities mapped out for the detail layout include:-

- Petrol - filling Station
- Hotels
- Motels etc.

(iii) Residential Use

The residential zone consist of low density, medium density and high density residential uses, as well as a low- cost housing area. These housing layouts are generally interspersed by other uses. The low density and medium density residential areas occupy the more Southerly locations on the peninsula.

(iv) Public or Institutional Use

The Land use plan has made room for public/ Institutional uses at all levels of population of the identified communities. Among these are:-

- Secondary Schools
- Tertiary Institutions
- Sewage disposal
- Police
- Health Centres
- Fire Service
- Postal Services
- Electricity and
- Administration

(v) Recreational Uses

Four hierarchies of recreational uses are provided for on the land-use plan, based on the population of expected patronage. These include:-

- (a) Play grounds - for a population of 10,000
- (b) Play fields - to serve 20,000 people
- (c) Town parks - for the use of about 80,000 people
- (d) District parks - to serve population of 200,000

The Southern portion of the plan has been earmarked for tourism. The detailed layout of this area includes hotels and other lodging facilities for tourists.

The planning regulation of the new scheme provides that 100 metres of the Coastline be free of structures. This means that any physical development by the coast must have an initial set-back equal to the provision set above, and measured accordingly. This is intended to control erosion and possible havoc due to sea waves. A further 400 metres, measured from the 100 metre mark inland, which may not contain structures, is provided to cater for the recreation of all diagnostic centres, health farms and passive recreational facilities.

9.7 Site Location

The Atlantic Ocean Beach running South of Lekki peninsula has been designed for various recreational activities such as Hotels, Caravan Park, Health farm, Amusement Park while the beach at Maiyegun Village is now active as a picnic site on public holidays and weekends.

The actual Beach land lies between the ocean and a low density-residential development area. It is well connected to the Lagos/Eti-Osa road by a network of proposed roads including the proposed coastal road.

9.8 Site Selection Criteria

The site selection has been based on the following criteria:-

Plate ii - ETI - OSA DUAL CARRIAGEWAY



LINKING LEKKI PENINSULA WITH THE REST OF LAGOS



Plate iii -

The Hotel Site

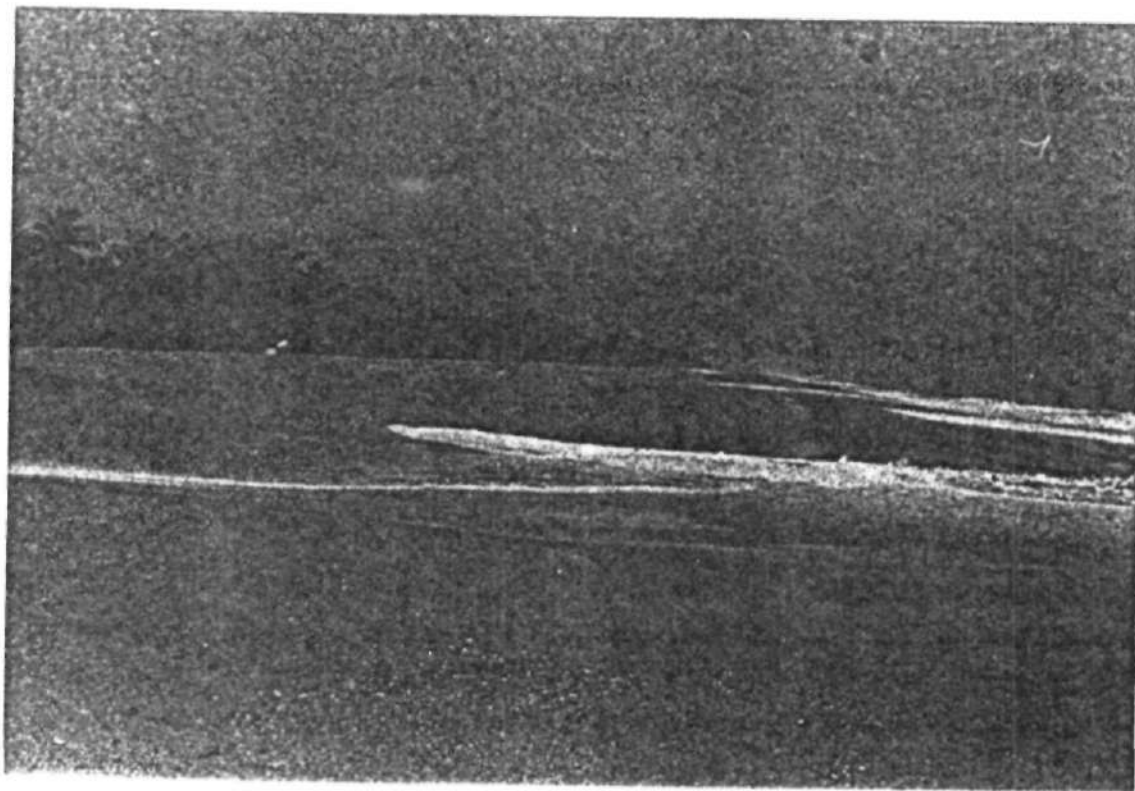


Plate iv. THE BEACH

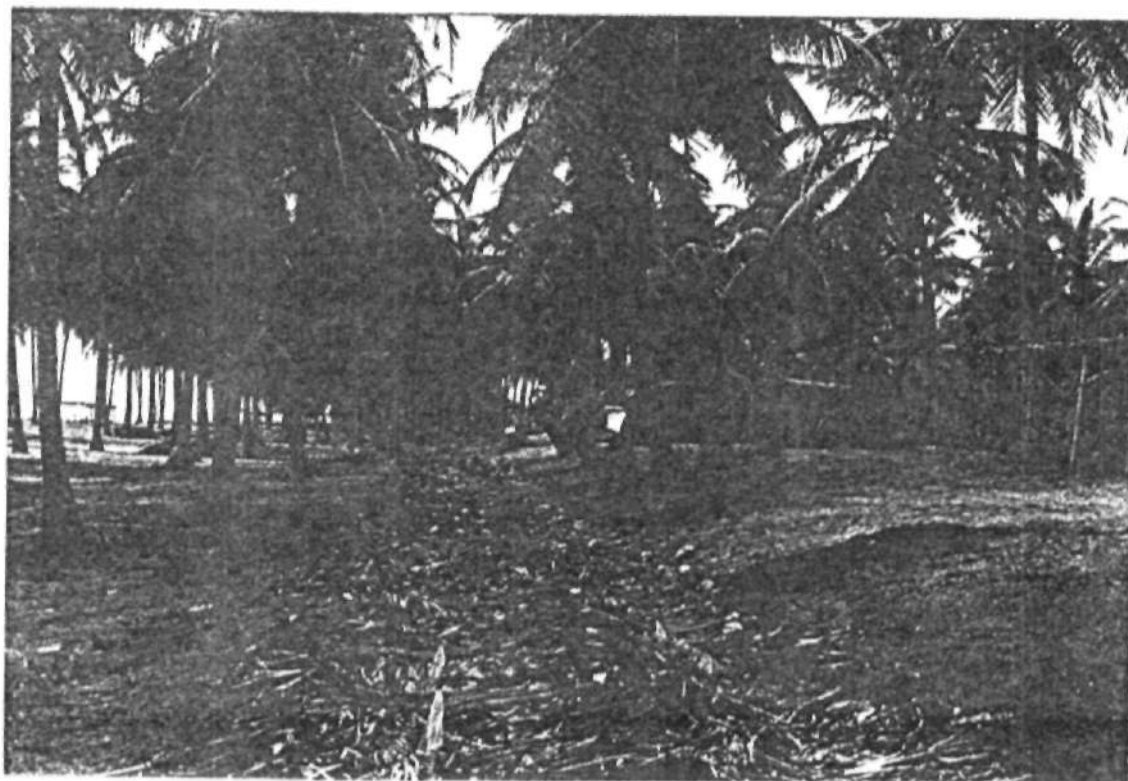


Plate v. THE GREEN BELT OF PALM TREES.

- (i) Government policy statement on coastal areas as designated settings for recreation and tourism purposes.
- (ii) Availability of a masterplan for the development of Lekki peninsula.
- (iii) To employ the natural endowment of the site, in terms of water bodies, beaches, and scenic beauty in providing recreation and amusement facilities for resorters and various classes of hotel guests.
- (iv) To take advantage of the sumboisis likely to ensure as a result of the nearness of complementary services in the vicinity of the site.
- (v) To exploit the proximity of the site to commercial business centres as well as efficient transport system, (as contained in the new planning scheme) which are likely to attract customers from far and wide.
- (vi) The site has been closely examined and the beach area is found to be relatively calm, free from sea erosion or its threat and well planted with coconut palms.

9.9

Physical Conditions

9.9.1 Topography

The entire peninsula comprises of flat rolling terrain, laable to flooding and series of swampy stretches. The study area is relatively flat with

elevations ranging from 0.5 to 3 metres above sea level.

Due to the pressure of soft and compressible soft soil, which can pose serious problems of instability there is a restriction on the height of buildings. The soil sub-grade shall be upgraded to predetermined levels in line with government layouts and adequate provision of drainages of ultimate sections.

For the maintenance of a stable sub-grade, the water table should be restricted to a level not less than 1.25 metres. Below the formations, Soil strata from 750mm below surface tends to be suitable for quick settlement of sand filling.

Generally the site has a gentle slope towards the ocean.

9.9.2 Drainage

The site is bounded by the Atlantic ocean which brings about some micro-climate interplay between the land and water.

Since seasonal changes in the level of water table are usually encountered in flat low-lying areas where little lateral flow occurs, water table range between 0.0.5m from the surface.

These resulting changes in moisture content of soil amongst others, depends mainly on the average depth of the water table.

The possible use of driving piles and erection of piers and deck construction would have to be utilised to offset foundation problems.

9.9.3 Vegetation

The sand falls within the dry sandy grasslands and marshy swamps. Grass - lands in the area serve as grazing food for animals and provides habitat for young fishes and other aquatic life forms. Due to the presence of Atlantic ocean, there is the presence of sandy sea beaches. The marshy swamps prevent shore erosion, and also serve as storm buffering areas and assist in shore stabilization. Due to the adjoining water body the overlying grass and shrubs are rich and green. Maximum advantage of the green trees, shrubs and grasses should be taken in the landscaping relief of the site. The green belt of palm trees are to be preserved to enhance the aesthetic value of the site surrounding and provide a good habitat for the propagation of bird life.

9.9.4 Visual Survey

The site should be developed to provide maximum accessibility, preferably from the coastal road, to promote the hotels entrance facade.

Most natural settings would be preserved to promote the scenic beauty of the beach.

9.10 Climate Conditions

9.10.1 Rainfall

The study area is always affected by the South-West

Fig: xvi AVERAGE MONTHLY RAINFALL - LAGOS

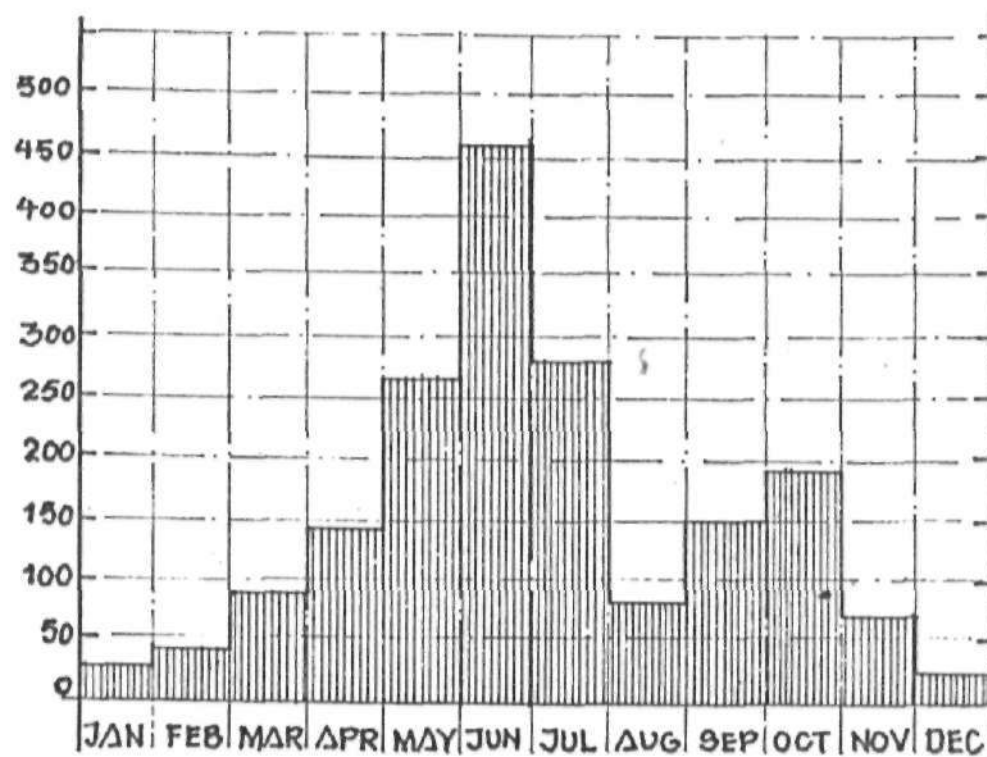
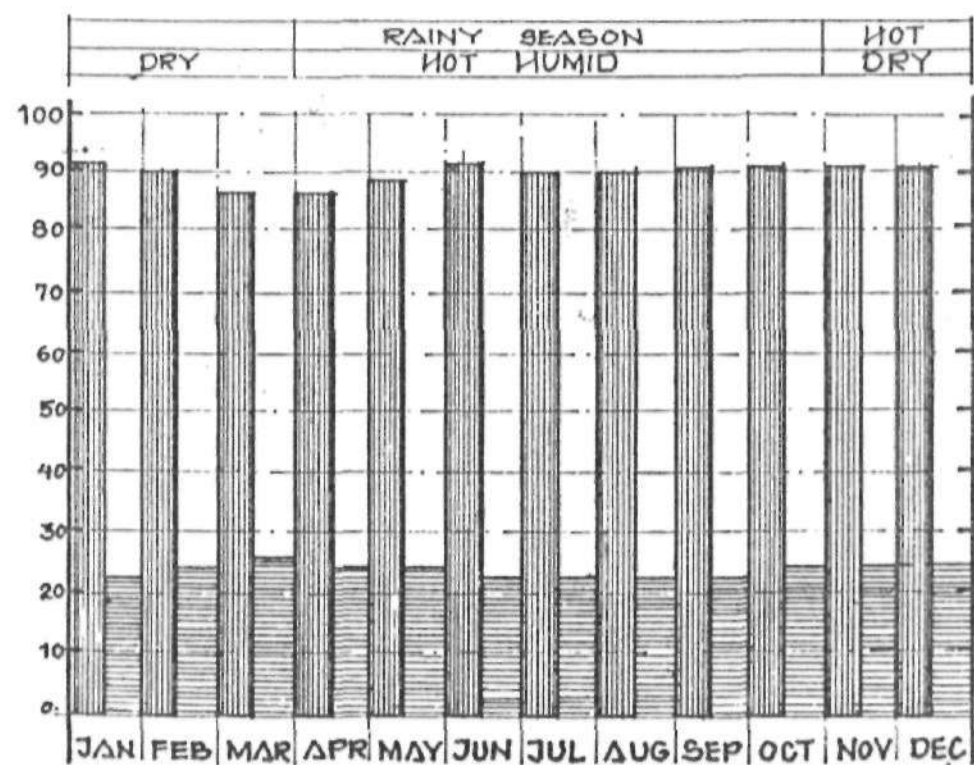
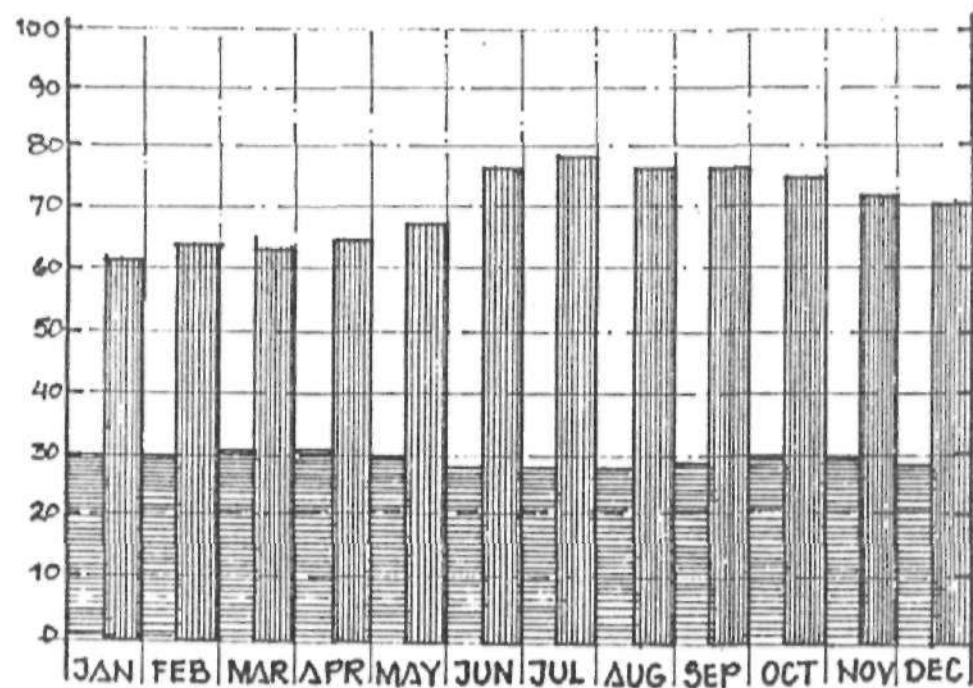


Fig: xv CLIMATIC DATA, LAGOS



RELATIVE HUMIDITY MAX

DAILY MINIMUM TEMPERATURE



DAILY MAXIMUM TEMPERATURE

RELATIVE HUMIDITY MINIMUM

moisture laden winds. This gives rise to frequent rains throughout the year with seasonal variations from May to October when the highest downpour occurs. There is no month without rain and a distinct dry season like that found in the Savannah is absent.

9.10.2 Relative Humidity

The relative humidity of the air at dawn in the study area is between 80 and 100 percent. The air is thus usually saturated with water vapour thereby causing precipitation in the morning during the rainy season. There is an inverse relationship between a rise in temperature and the relative humidity. The Vapour pressure present in the air averages 29 milli bars.

9.10.3 Temperature

Approximate uniformity of temperature is usually experienced throughout the year. The temperature of the study area seldom goes below 16°C and is normally above 27°C. The average daily minimum temperature is about 25°C while the average daily maximum temperature is about 30°C.

There is a seasonal variation of about 5°C between the hottest month (March) and the coolest month (August). Cloudiness and heavy precipitation help to moderate the temperature.

9.10.4 Sunshine Hours

Bright sunshine is experienced for a longer period of time (7.5 hours per day) in June than any other month. July has the lowest period of sunshine (2.3 hours) The average period of sunshine for the month is 4.5 hours.

9.10.5 Conditions For Comfort

Comfortable condition in the study area call for currents of moving air which is being supplied by the prevailing sea breezes. This demands a suitable orientation of the buildings and the presence of well openings to allow air to pass. This orientation may not coincide with the optimum orientation for sun protection and a compromise may be necessary. In this respect cross-ventilation is paramount.

SECTION 4CHAPTER TEN10.0 THE DESIGN10.1 Size And Type of Proposed Hotel

From the research carried out we find that Victoria Island which is some minutes drive from the site of the proposed Lekki Resort hotel is being developed with new first class hotels. Already existing there are two prominent hotels which enjoy almost are 100% occupancy rate namely the Eko hotel (500 bedrooms), and the Federal Palace hotel (365 bedrooms and 74 suites). New hotels proposed include the Noga Hilton which is a 400 bedroom 5 star hotel, Victoria Beach hotel, and the 90 suite extension of the Eko hotel. From above we may deduce that the location is becoming important as a business and tourist centre and that any new hotel coming up in that locality should be of the range of the existing hotels in size (i.e. 400 - 500 bedrooms).

However, the close proximity of these hotels to the Lekki Resort hotel and the intention of the Lagos State Government to use all the lands adjacent to the atlantic coast for recreation and tourism indicate the future existence of other hotels in the locality.

Hence the existence of these hotels will have a competitive factor on the Lekki resort hotel, and this competition may reduce the value of the investment, and the possibility that the market may not be adequate to support their existence.

Thus a 200 bedroom hotel has been proposed initially with facilities for future extension.

The type of hotel envisaged will classify as a resort hotel for holiday makers due to the numerous tourist attractions planned for the area. The hotel will aim at being a resort for visitor or out of towners and a recreation for the local community, as well as serving the needs of businessmen going to Lagos for one business or the other.

10.2 Design Objectives

- (i) Attempt will be made to create a functional hotel with an environment which brings nature in close contact with people.
- (ii) Advantage will be taken of the local micro-climate condition which is the wonderful sea breeze in providing cross-ventilation especially in the bedrooms.
- (iii) Efforts will be geared towards making the hotel a landmark and an inviting building which everyone would like to visit.

(iv) Because of the heavy traffic expected along the coastal road, it is pertinent to set the hotel block reasonably back from the road thus creating a buffer zone between the road and the building.

(v) The longer sides of the building will face principally the North-South directions in order to reduce the direct sun - heating experienced from the East - West sides and to reduce the amount of sunshading

(vi) The bedrooms and function rooms (especially the restaurant) will have panoramic views of the ocean.

(vii) The hotel is conceived as having two main activities; public activities and service activities. The public will be prevented from crossing any service route. The service activities include such components as the kitchen, storage, workshops, staff changing rooms, staff restaurant, Laundry and plant rooms.

The public activities are divided into active and passive zones, the passive zones constitute the guest-rooms which include suites, while the active zone include such areas as the foyer, bar/lounge restaurant, reception lobby, banquet facilities, recreation area etc.

10.3 Design Report

The design was based on the sequential method of design. The stages were as follows:-

1. The brief development stage: This was the stage at which the type, size and kind of facilities to be provided was determined.
2. Functional analysis: At this stage the spaces were analysed with respect to their functions.
3. Site Zoning: At this stage the different functions were grouped on site with respect to their relationships taking into consideration the ingress points and also the location of the service entrance.
4. Functional Diagrams: A detailed functional diagram of the hotel was then drawn with respect to the site zoning.
5. Boxing the functions:
 - (a) Boxing and space summations - At this stage the functions were boxed and the areas of the functions in the boxes were summed up to get the total area of the design.
 - (b) Basic Variants - The summed up boxes were then manipulated to get different variants of the hotel form.

This variants were then critically studied taking into account the ventilation and lighting of the various spaces.

6. (a) Working model or conceptual model:- The essence of the conceptual model was to ballance the forms and determine the height of the building.
- (b) Harmonising the form:- Since single banked corridors were proposed to enhance cross-ventilation, the questroom block then appeared to be elongated and too rectilinear. The edges of the blocks were then rounded up (curvelinear form) to make it appear more massive
7. Grid development and massing of plan: It was at this stage the type of design grid to be used was determined. The 4/2 directional grid (90^0) was chosen. The plan was then massed on the chosen variant and integrated with the site.
8. Space Manipulation: At this stage the plan was manipulated to achieve proper planning, taking into consideration the lighting, ventilation and circulation patterns. The spacing of columns was also determined at this stage. The plan was followed by the initial sections, elevations and final sections. Horizontality was expressed on the elevations due to the flat nature of the site. The three main vertical transportation cores namely the main public lifts and stairs at the centre, and the two escape staircases at both end of the questroom block were used to break the horizontality thereby eliminating monotony on the elevations.

9. Presentation techniques: At this stage the mode of presentation was determined. A final model was made to illustrate the exterior and form of the building.

Interior perspectives were then used to illustrate some of the interior features of the building.

CONCLUSION
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Designing hotels for the tropics is probably the most interesting field of architecture in which one can be involved. It involves the task of providing modern facilities, adequate air conditioning and taking maximum advantage of the climate depending on the terrain, the view, the solar orientation and the size of the property being developed.

From the inception of this project, emphasis has been laid through research work, on the provision of an ideal resort hotel in the right location and taking advantage of the factors listed above.

It is hoped that this Research/Thesis Project will enable prospective hotel developers meet the challenges inspite of the practical cost limitations on hotel ventures.

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LAGOS STATE GOVERNMENT

NEW TOWNS DEVELOPMENT AUTHORITY



INVITATION FOR THE DEVELOPMENT OF TOURIST AND RECREATIONAL RESORT FACILITIES ON BEACHES IN LAGOS STATE

Proposals are invited from interested Developers and Proprietors of tourist facilities who may wish to develop parcels of land along Lagos State Sea Beaches particularly in Lekki Peninsula and Badagry for Hotels, Motels, Holiday Resorts, Recreational centres etc.

Applicant may contact:

The General Manager,
New Towns Development
Authority,
Victoria Island Annex

to view the relevant plans and thereafter submit their proposals to: The Permanent Secretary,

Lands, Housing and Development Matters
Department, Military Governor's Office,
Lagos State Secretariat, Ikeja.

VICTOR O. OGUNDIMU
Permanent Secretary (Lands),
Military Governor's Office, Alausa, Ikeja.