UPGRADING JACARANDA RESORT KADUNA

An Ecological Approach to Redevelopment

By

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DECLARATION

I, the undersigned, hereby declare that the work presented in this dissertation for the award of the degree of Master of Science in Architecture has not been wholly or partially presented for any other degree nor is it being submitted for any other publication.

It is an authentic research work conducted by me in accordance to the regulations of the Post Graduate School, Ahmadu Bello University. Zaria.

This is to further declare that all directly quoted materials and secondary sources are duly acknowledged.

……

Lasisi, Mobolanle K.

Date:……

CERTIFICATION

This dissertation titled Upgrading of Jacaranda Resort (An ecological approach to redevelopment by Lasisi Mobolanle K. meets the regulations governing the award of the degree of Master of Science (M.Sc.) in Architecture of Ahmadu Bello University, Zaria and is approved for its contribution to knowledge.

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DEDICATION

This thesis is dedicated to the Almighty God in whose hands lie all wisdom and knowledge, strength and grace.

To my parents Mr. and Mrs R.A. Lasisi who have been a great source of inspiration encouragement and support.

To my siblings Sheri, Wole, Taiye and Kehinde who gave me back my smiles whenever I lost them.

To Joe, my dearest.

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ABSTRACT

Every human needs to engage in different forms of recreation at various points in his life, in the bid to make productive use of leisure time. The result of this is a rejuvenating experience.

A resort is essentially developed for the sojourn of visitors and tourists, providing multiple facilities for their recreation, accommodation, leisure, and other needs.

Jacaranda resort is a major tourist attraction in Kaduna State, located at the outskirts of the capital. The basis for this research is on the need to upgrade the existing facilities which are inadequate in catering for recreation/leisure needs of the public. The project involves the provision of accommodation facilities, recreational facilities and other basic facilities.

The design is based on the principles of Ecological Architecture, with a focus on the existing facilities, landscape, and topography. These constitute the design concept with the aim of creating a harmonious relationship between the old facilities, the new facilities, and the surrounding site.

Providing for the visitors' / tourists' satisfaction, and comfort, is the goal.

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CHAPTER ONE

INTRODUCTION

1.0 INTRODUCTION

Over the years of man's existence, his ideas, innovations and inventions have been borne out of a desire to cater for or meet his basic needs. Work is an activity that man engages in necessarily but just like is implied by the age old saying "all work and no play makes Jack a dull boy", he also needs to engage in some sort of recreation at various intervals while he lives. It has become more and more an integral part of man's lifestyle to take advantage of leisure time by engaging in recreational activities and also by taking time to relax. The use of leisure time for recreation and relaxation has positive psychological effects on anyone who engages in such. It certainly helps ease off the stress accumulated during moments of pressure that characterizes man's world and work.

The result of this is usually that the effort put into subsequent work is often rewarded by optimum production and results. Recreation and relaxation as a basic need of man is catered by the availability or provision of recreational facilities. These facilities are enhanced by various factors that determine how much interest in them is stirred up within the mind of potential users.

Those who visit areas for recreation are recreationists or tourists and they go out of their way to visit various locations based on their attraction to these places. The sum total of various factors like natural attractions and sophistication of facilities included to enhance, form the resource that attracts the tourist who could be around the locality of the tourist attraction or from several miles away.

The primary attraction to a place of tourism provides the main attraction but other attributes such as the quality of accommodation, social activities, etc., have a strong influence on choice.

Jacaranda is a resort visited by many for several reasons that have been the source of attraction to the place over time. Its location at the outskirt of Kaduna city (away from the hustle and bustle- typically the experience of most city centers) is a welcome reason to visit for most residents of Kaduna who want to get away from the pressure or simply to relax. Potteries made at the pottery section are souvenirs for visitors from within and outside the capital. A restaurant, within surroundings beautifully landscaped, and a lone chalet at a vintage point of scenic views, are the main attraction to the site. However, these facilities have proven insufficient for most of the visitors seeking to engage in leisure that is more active, or visitors who want to stay long hours and eventually camp on site. An ecological nature of development is evident. There are a number of features notably characteristics of ecological architecture.

- The use of biodegradable materials; (bamboo, raffia, straw, red laterite stone (marmara) burnt brick, granite and of course timber).
- The commendable craftsmanship in the use of these biodegradable materials.
- The organic pattern of building/landscape.

These pose together as an influential factor in the creation of an eco-friendly environment well suited to the activity of leisure and relaxation.

This thesis is a proposal to upgrade the existing facility, which is already a tourist attraction, to cater for a wider scope of recreational, and leisure needs

including accommodation. It would entail an extension and expansion of the existing facilities by incorporating the new facilities with the old.

1.1 PROBLEM DEFINITION

Buildings are a basic need of man to house functions necessary for his survival However; buildings constitute a major source of damage/destruction to the earth. The building industry is the second largest in the world after agriculture and so there is great cause for concern.

The production of building materials involves mining and harvesting activities that cause damage to the earth crust. The process of manufacturing some of those materials results in air pollution.

During occupancy, maintenance processes and the use of fuels for heating and cooling of the building causes adverse impacts on the environment. “Pollution from the heating and cooling of buildings fast exceeds that from cars”.(Ecopolis architects 2004).

At the end of its life, when the building goes into the landfill, materials, which are not biodegradable, pose a problem, as they cannot blend in with the natural environment.

Most buildings are not capable of creating the desired effect for users

There is a need to encourage architecture that would fit into the ecosystem rather than impose itself on it. This will help maintain an ecological balance.

The ecological approach to architecture is tied to a number of principles necessary to adhere to where ecological architecture is the desired result.

The expansion of an existing tourist resort should not distort the identity of the existing especially where this in itself constituted the point of attraction. Rather than

superimposing any forms on the existing forms and landscape, an attempt should be made to integrate the new scheme into the existing so that both structure and landscape of the two are seen to visibly belong to each other.

1.2 AIMS AND OBJECTIVES

The primary aim of this thesis is to analyze the existing situation of the site and structures as well as the new functional units to be provided and combine them in a system of related parts so that the two are seen to be fully part of each other. The focus would be on trying to achieve an interesting and challenging design, which is unique and blends into the site as well as existing facilities. The approach of unifying the building with the site based on the principle of ecological design would be used.

The following objectives shall facilitate the achievement of this aim;

a. To evolve a new design that can be seen to be related to the existing.

b. To bring together different architectural focus catering for various functions which are unified in their adherence to the principle of organic architecture and ecological design.

c. To provide landscape, that is satisfactory in articulation, relating to the existing situation, and catering for human, vehicular and equipment circulation.

d. The design seeks finally to meet the expectation and needs of the tourists and vacationers who seek an experience with a purely natural touch.

1.3 SCOPE AND LIMITATIONS

The proposal covers the design of a centre, which properly caters for leisure, recreation and relaxation/accommodation. Landscaping being a major consideration to direct human, vehicular and equipment traffic, will be used for creating a pleasing environment that will facilitate relaxation and be appealing to the users. Future expansion would also be a consideration in case of future needs.

The thesis is a documentation of existing facilities and an attempt to upgrade by expansion and provision of new facilities based on the principles of ecological architecture. The new facilities provided are administrative facilities, motel chalets, outdoor and indoor recreational facilities, amphitheatre and upgraded restaurant.

1.5 MOTIVATION

One major motivating factor is an interest in the principles of ecological architecture and then the need for such a centre to invest in by the owners - The Kaduna Diocese, Anglican Communion. This is apart from the desire to join in meeting the needs for a leisure/recreation centre for the community at large - An Eco-resort.

1.6 ARCHITECTURAL SIGNIFICANCE

The centre is intended to cater for users from within and outside Kaduna. This would be individuals, groups etc. There is therefore a need to present a welcoming atmosphere in its landscape and structure.

The existing facilities had sought to cater for the above to a satisfactory extent and the new proposal would by extension, do the same.

The integration of commercial, non-commercial recreational and residential facilities would be tasking but a careful analysis of these parts and how they can be

fitted together ecologically without compromising the basic requirements of one for another would help enhance the architecture.

1.7 RESEARCH METHODOLOGY

The task of this project is to make an attempt to evolve with a new scheme, which would easily be integrated with the existing. The research methodology would therefore be;

1. A careful study of the existing features on site to highlight the areas that can be incorporated into the new scheme in form of concepts derived from observation of the existing situation.

2. A study or appraisal of existing projects which are similar to the proposal. These would act as case studies, and would comprise of both local and foreign examples. Merits and demerits would be assessed to inculcate merits and avoid demerits.

3. An interview with the leaders of the Anglican Communion was conducted to understand some of the rules that should guide and influence the design.

4. A comprehensive review and documentation of published and unpublished materials relevant to proposal will be undertaken. This would help give an in-depth understanding of some of the philosophies that guide the evolution of such a proposal.

CHAPTER TWO

RESORTS

2.0 OVERVIEW

A resort is a place or environment within which facilities are provided to support activities that characterize relaxation, recreation and/or rejuvenation. They provide an escape from the hustle and bustle of everyday life. Resorts are usually located within an environment that is tranquil and has a natural attraction. Environments like sea sides and mountain sides are great for the location of resorts as they in themselves pose as an attraction to people who need a place characterized by beauty and security to relax, rejuvenate and ease stress.

People visit resorts with an expectation to leave transformed, rejuvenated, refreshed, livelier and well rested after the resort experience.

For those planning a vacation, resorts, regardless of their location are fast becoming a popular option, especially for travelers seeking additional amenities.

Years ago a resort was simply known as a lodging property (often near a beach) with extra amenities such as activities, meals, drinks and more. Today resorts are more complex; there is no one perfect definition. Now they may cater specifically for singles, seniors, families, golfers or couples; offer a la carte or all-inclusive options; and be located in the mountain, near tropical beaches or any number of places. Many regular hotels offer similar extras, making it difficult to distinguish between the two lodging types.

In differentiating a resort from other accommodations e.g. hotels, Amy Ziff, editor-at-large for Travel city noted "---the facilities tend to be bigger (having extras) such as fitness centers, spas and pools". "Everything is there for you" echoed Stallings. "It simplifies vacation planning" Wiser, president of marketing for Club

Med advocated because "you have the ability to do what you want, when you want or do nothing at all. It's a vacation with no sense of time or cost and travelers really live in the moment".

2.1 WHO WOULD RESORTS SERVE BEST?

According to Pascarella (2004), Resorts are a good option for travelers who like to participate in planned activities, as well as those who are less adventurous or do not want to expend a lot of effort in structuring their vacation. Naturally, there are specific traveler groups who fit within this definition and resorts make an effort to appeal to them directly. (Families, couples, and groups traveling together).These travelers may benefit from staying at a resort because of all the options available. For families, resorts will offer planned activities that appeal to all age groups, plus baby-sitting services for parents wishing to have some time to themselves. For example, at Club Med, you may have 8 people in a family doing 8 different activities, customized by age groups, and everyone is happy.

In addition, young adults- both couples and single travelers- may enjoy a resort stay. Couples looking for a romantic escape, who want to do things together, plus receive instruction and equipment on some of the activities they want to do, would be a good fit for a resort. Resorts are also a popular choice with honeymooners seeking to relax after the stress of planning a wedding. Single travelers, on the other hand will also find resort catered just to suit them, with plenty of nightlife, entertainment and like minded travelers at the same property.

Lastly, seniors may also be attracted to the convenient amenities of a resort as there is less hustle in finding activities, booking tours and choosing meal options.

On the other hand, resorts may not be beneficial to the more adventurous who would rather get out and see a broader range of experience and explore out their own. Resorts are designed so that you never have to leave the property. Resorts are not typically centrally located near downtown areas or outside attraction; therefore young urbanites may not enjoy a resort. In addition, those who just want to go out, read a book and relax, and be by themselves could get a better value at a hotel, as they are unlikely to take advantage of the included activities.

2.2 SOME DIFFERENT TYPES OF RESORTS

The choice of a resort would usually depend on preferences or necessities. As a matter of preference (for example) a single traveler looking to meet other single people would do good to stay away from a resort catering to families with younger children.

In the case of necessity, it would be beneficial for a medical patient in need of therapeutic treatment to book with and/or visit a spa as recommended by the medical consultant.

Some of the various types of resorts include;

- Bed and breakfast, - Fishing resorts, - Romantic resorts,
- Beach resorts, - Golf resorts, - Spa resorts.
- Driving resorts, - Eco-tourism resorts, - Luxury resorts,
- Family resorts, - Resort hotels, - Holiday resorts,

The activities within these resorts range from, Beach activity, Bicycling, Birding, Boating and sailing, Diving, Down hill skiing, Fly-fishing, Fresh water fishing, Golf, Gambling, Hiking, Horse back riding, Hunting and shooting, Motor sports, Paddling and canoeing, Salt water fishing, Sight seeing, Swimming pool/lake,

Tennis, Wildlife and nature to Archeology, Fitness and beauty, Photography and shopping.

Below are some different activities in resorts:



Plate 1: Golfing at Golf Resort (source: Kaduna State tourist guide)



Plate 2: Skiing at Beach Resort (source: Anoka county)



Plate 3: Picnicking at Family Resort (Awake magazine)

2.3 LEISURE

The National Playing Field Association, London defined leisure as "free time" i.e. time spent neither in work nor in the necessary occupation of life, such as sleep, eating, household chores, traveling to work and other essential duties. It is the time available to an individual when he is free to choose the way in which he would spend his time. Walter Menhes (1975) defined "free time" as the "space between survival activities- like working, cooking and commuting- and sleep.

The term leisure is gotten from the Latin word "licere", which simply means to be free or to be permitted. The term has been conceptualized into three basic contexts and these include time, activity and state of mind. However, of all the three contexts, the emphasis is on time and activity.

In understanding leisure therefore, time and activity have to be considered. With time and activity in mind, Okunlola L. (1990) defined leisure as the time, which an individual has free from work, or other duties, which may be utilized, for purpose of relaxation, diversion, social achievement, or personal development. The amount of time available to an individual for leisure, he says, determines what he/she can do at that period whether playing a musical instrument, traveling etc.

2.3.1 TYPES OF LEISURE

According to Okunlola L (1990), There are five major types of leisure, which are classified as follows:-

2.3.1.1 Practical leisure

This involves making things such as pottery, needlework, gardening and other related creative activities, which are performed during ones leisure time.

This type of leisure is common among rural dwellers, which are utilitarian in nature and often associated with family duties.

2.3.1.2 Physical leisure

Physical leisure is called physical because it involves the exertion of physical effort as well as some basic skills in the particular activity engaged in. such activities include swimming, walking, tennis, outdoor and indoor games etc.

2.3.1.3 Artistic leisure

This type of leisure deals with visual communication or appreciation. It may involve visiting a museum or monument or simply taking time to appreciate any natural scope.

This form of leisure is passive in nature and helps in the area of self-development.

2.3.1.4 Intellectual leisure

This is educative leisure and could involve reading of newspapers, magazines, listening to radio or television, as a pastime. The aim of being involved in such leisure is to broaden knowledge and give a feeling of fulfillment.

2.3.1.5 Social leisure

This type of leisure involves social interaction among people. It usually takes the form of visits, public meetings, and social engagements for the purpose of social achievements, relaxation and personal development.

Leisure has been part of mans activities right from the primitive years of his existence when the main objective was shelter and hunting.

Over the years man has used his intellectual and innovative abilities to bring about development in various areas and with technological advancement, more time for leisure is achieved as well as more sophisticated ways of spending this leisure time.

2.3.2 LEISURE AND RECREATION

Leisure and recreation are so related in their definition that they are often used interchangeably. However, a line can still be drawn between the two when the words, time and activity are used, because while leisure is simply free time, recreation involves activity engaged in during this free time or during the time of leisure.

It is important to note the essence of leisure and recreational activities. The importance of allowing these to run alongside basic everyday activities cannot be over emphasized and while some inhabitants of urban centers in Nigeria like Lagos and Kaduna recognize this, a large percentage of Nigerians neglect this part of human need.

According to D.K.Mattars in his book "Beginning conditioning", he states that as we grow older, we need to pay more attention to physical activity". This is especially so regarding the fact that technological advancement has de-necessitated the exertion of physical energy or effort in carrying out most of mans duties in the contemporary world.

So many other benefits are achieved as a result of engaging in recreation during leisure time. Some of these are obvious benefits while some are far fetched and may not be seen to really be as a result of recreation. Some psychologists have

suggested that recreation is so beneficial that provision for and engaging in it can even reduce the rate of juvenile delinquency and crime in a community. M.Vamer (2001) for example says, when he wrote on delinquency and its cause in his book "Methods and materials in recreation leadership", that "It must be remembered that anti social use of leisure is only one of the many factors causing delinquency".

2.4 RECREATION

2.4.0 DEFINITION.

Recreation has been defined by various scholars with the words – leisure time, fun, activities, play, relaxation and other synonymous words playing a dominant role within the definition in an attempt to draw a line between the meaning of recreation and that of leisure.

"Recreation is broad enough to include play in its every expression and other activities that are usually not thought of as play such as music, crafts, drama, every free activity and especially creative activities for the enrichment of life".

Finely (1967).

Recreation as defined by the National Playing Field Association (NPFA) (1974) is that activity which takes place during leisure time. It includes sports, enjoyment of the art and informal enjoyment of town and countryside.

Abram (1971) also defined recreation as- "Any activity voluntarily undertaken for pleasure, fun, exercises, self expression or release from boredom, worry or tension, that which is physically or psychologically rejuvenating because it is different from the essential routine of ones life.

Recreation is basically the sum of activities engaged in during leisure time.

2.4.1 SIGNIFICANCE OF RECREATION

According to Fagbemi O. (2001), recreation is a fundamental need that contributes to human happiness in that it aids the maintenance of a balanced life comprising of work, rest, love and worship. The pursuit of happiness, the love of adventure and the desire for achievement are strong propelling forces in man, which for a large number of people are realized fully in recreation.

Unlike machines, man is not adapted to long hours of repetitive tasks. Rather he is essentially an outdoor being whose daily activities call into play the use of his entire body.

Most people develop and maintain a healthy and balanced physique outside their working hours. Recreation according to most psychologists is an absolute necessity for people whose energies are used mechanically.

Some of the physical activities engaged in during recreation facilitate body co-ordination and development. Recreation is also used as a therapeutic and rehabilitative tool in some psychiatric treatment.

2.4.2 TYPES OF RECREATION

According to Fagbemi O. (2001), people engage in recreation for various reasons and the motivation or purpose for which recreation is done informs the type.

2.4.2.1 Leisure recreation

This type of recreation is completely void of any activity that can be attached to work as it is engaged in during free time. The recreationist exercises choice about the use of such time and is motivated by a desire to have fun and

enjoyment, excitement and amusement and also relaxation. It forms a break from more serious everyday life routines and is passive in nature.

2.4.2.2 Business recreation

This type of recreation is formal and often short-lived. The recreationist in this case is less motivated by a desire to have fun than one to make money. Participants in such recreation expects some earnings.

2.4.2.3 Educative recreation

Recreation of this sort is motivated by the quest to acquire some sort of knowledge in a particular field or discipline. It could be formal or informal, individual or group, compulsory or obligatory participation.

Educative recreation is usually interactive in nature and leaves the participant better informed, mentally alert and socially healthy.

2.4.2.4 Specific recreation

There are more specific types of recreation like health recreation, religious, sporting recreation etc. These are usually found in themed recreation centers and are participated in with the aim of being refreshed or rejuvenated in the particular area engaged in.

2.4.3 FORMS OF RECREATION

People engage in various forms of recreation that can be broadly classified into Indoor recreation, Outdoor recreation and out of locality recreation. The form of

recreation engaged in usually depends on the complexity of the participants' nature and his social environment.

2.4.3.1 Indoor recreation

Carried out within enclosed spaces, those activities engaged in result in the physical and mental refreshment of the participants. Examples of this are snooker, chess etc.

2.4.3.2 Outdoor recreation

This involves activities carried out in the open spaces e.g. skiing, boat riding, hunting. Those who participate in them experience a revitalization of the spirit. Such activities usually require the natural environment and might prove impossible to carry out indoors.

The relationship between outdoor recreation and open space is based on the need to retain some natural environment in a setting and also the psychological effect on potential recreationists created by retaining these natural features in the general surrounding.

People tend to gravitate to open space where they can be in harmony with nature or relax within a natural setting.

2.4.3.3 Out of locality recreation

This is also termed tourism. It involves travel and stay, of non-residents on a temporary basis and involves indoor or out door activities or both. This form of recreation involves general phase which include planning, anticipation, travel to site, on-site experiences, travel back to locality and recollection.

2.4.4 BENEFITS OF RECREATION

According to Butter (1957), recreational experience is enhanced by the fact that they give almost as much of satisfaction in memory as at the time, thus, such experiences are made possible for large members of people, and provide great rewards as well.

2.4.4.1 Psychological benefits

Fagbemi O. (2001) Recreation, particularly planned, out of the home recreation recharges ones psychic batteries, sends participants back to work energized and refreshed, rejuvenates a tired marriage or romance and provides a new sense of daily excitement as recent excitements are recounted to friends and associates, or as next outings are planned.

2.4.4.2 Health benefits

Cabot (1965), in collaboration with medical authorities testified that certain forms of recreation cause increased circulation, greater respiratory activities, and better elimination of waste and improved digestion. Also big muscle activities stimulate growth and are essential for the growing child and that athletic games and sport contribute largely to the proper development of the vital organs.

Recreation therefore, enhances physical fitness; promote emotional stability by affording rest and the ability to cope with nature.

2.4.4.3 Community benefits

Fagbemi O. (2001), Recreation lessens juvenile delinquency, mental illness and other undesirable consequences and ills of modern life.Those not directly involved never the less gain a better total community life that is,

though you and I are neither juvenile delinquents nor mentally ill, we benefit if these ills are diminished in the community at large.

Moreover, when people are brought together for common purposes at recreation centers, resorts, parks etc, this helps reduce or minimize social tension.

2.4.4.4 Economic benefits

If well planned, maintained and widely administered recreation areas and facilities will pose as an increase in property values in the nation.

Revenue generation is increased and less is spent on health crisis as sound health is promoted already.

Employment opportunities are created for people who are charged with the responsibility of managing facilities and areas for recreation.

Historic recreation centers like the Museum of Traditional Nigerian Architecture (MOTNA) promote national heritage and if well administered will promote foreign exchange via tourism.

2.4.4.5 Educational benefit

Man is a social being; recreation via tourism gives him an insight into the culture, sophistication, historic beauty and diversity of the places he has the pleasure of visiting.

Below are some recreational activities;



Plate 4: Swimming at Spa/Health Resort (source: Field work)

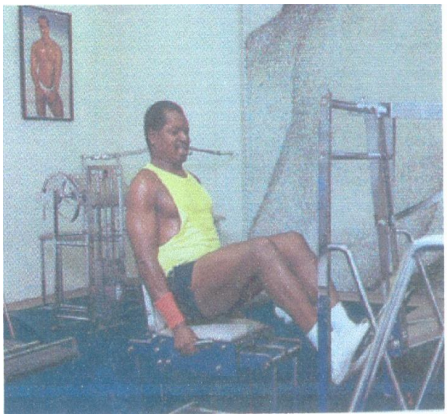


Plate 5: Body building at Fitness center (source: Hilton magazine)



Plate 6: Polo game (source: Kaduna state tourism guide)

2.4.5 TYPICAL RECREATION NEEDS FOR DIFFERENT AGE GROUPS

An urban center may comprise of a number of differing language groups. While these groups may have similarities in terms of culture, such as annual festivals, religions, life patterns etc, a major characteristic of urban centers is that, the young ones would have recreational needs that are much influenced by the western culture. The younger population is usually of the largest percentage in an urban setting and should therefore be catered for.

To provide recreational facilities for a society with differing life patterns would involve providing such for various groups that constitute it.

The following table indicates the typical recreation needs of each age group;

Group	**Indoor Activities**	**Outdoor Activities**
Under five	Wheeled toys, Audiovisuals	Creative play, Sand arrangements, Hard surface for wheeled toys
School children	Indoor games; Table tennis, Playing cards, Audiovisuals	Ball games, Running, Jumping, Climbing, Water play- Pools, Adventurous areas
Teenagers	Refreshment, Social activities, Theatre entertainments, Indoor games and sports- Table tennis	Ball gaming- Badminton and Lawn tennis courts, Swimming, sailing.
Early family and housewives	Refreshment, Indoor games-Table tennis, Theatre entertainment, Cultural festival, Exhibition	Ball games- Badminton and Lawn tennis courts, Swimming, Sailing

Table 1: Typical recreation needs for various age groups
(Source Okunlola L. 1990)

Some examples of recreation needs for different age groups;



Plate 7: Adventure pool for children (source: Anoka county)



Plate 8: Adults playing volleyball (source: Anoka county)



Plate 9: Cultural display (source: Kaduna state tourist guide)

CHAPTER THREE

TOURISM

3.0 THE TOURISM INDUSTRY

Tourism is an industry that has thrived due to the tremendous amount of natural tourist attractions as well as man made attractions/human resources that pose as areas of interest for visitors. The World Tourism Organization, (WTO), has predicted a skyrocketing of the number of international tourism receipts by the year 2020 as triple those recorded in 2000.

3.1 THE SITUATION IN AFRICA

Recreational travel in Africa was highly common in 1997, 23 million tourists (a number researchers predicted would increase to 75 million by 2020) traveled to Africa's game park, natural wonders, historic sites, markets and beaches, Tourism in 1997 accounted for approximately 12.6% of the average gross domestic product for African countries and employed 13 million people.

Tourism gives African Governments an incentive to protect endangered species and historic monuments, and it can provide foreign visitors with a deeper appreciation of Africa's history and culture, than they could ever obtain from movies and textbooks. Still, how much Africa's economics, ecosystem, and citizens really benefit from tourism remains open to debate.

Tourism in Africa has had its drawbacks- displacement of people, leakages, harm caused to the environment etc- but it is seen by many African countries as a source of future economic growth.

3.1.1 EARLY TOURISM

Activities related to tourism can be dated back to Roman occupation of Egypt. They explored the ruins of Thebes and tombs in the Valley of the Kings. For centuries, Arab, Asian and later European explorers trekked across portions of the continent, often keeping records of the sites and the peoples encountered. During the early colonial period however, modern tourism emerged in Africa. Well-to-do Europeans and Americans inspired by the published account of 19th century European explorers, traveled to Africa to glimpse the wonders of Egypt and other scenic wonders. Western sportsmen traveled to east and southern Africa for game. The development of far, easy and inexpensive travel as well as the construction of luxury accommodation around Africa's prime attractions set stage for mass tourism. By the late 20th century, tourism in Africa took many forms.

3.1.2 CULTURAL TOURISM

This has been popular for many years. North Africa is the most visited region of Africa for the spectacular monuments and artifacts Egypt has to offer and its proximity. West African countries are now attracting African American and other tourists interested in learning more about the transatlantic slave trade. Tourists generally visit the village and cultural settings in Africa to learn more about the people.

3.1.3 WILD LIFE TOURISM

Africa's wildlife has long fascinated foreigners. Wildlife tourism has become an important source of tourism for countries like Kenya, Tanzania, Uganda, Namibia, Botswana, Zambia, Zimbabwe, Malawi and South Africa. Tourists can visit, view and take pictures of what South African companies call the Big Five, that is, lions,

elephants, rhinoceros, leopards, and buffalo. In recent times local communities have been given an opportunity to be a part of the planning processes and benefit from revenue generated in various countries e.g. Zimbabwe. They are therefore encouraged to support these schemes.

3.1.4 COASTAL RESORT TOURISM

European and South African tourists take delight in sunbathing, snorkeling and sailing on Africa's balmy coastlines. The beaches of Kenya, Togo, Mauritius, the Seychelles and the Gambia are all popular winter vacation spots for Europeans.

3.1.5 ECOTOURISM AND BEYOND

Ecotourism is being promoted in more recent times as it is in principle, environmentally and culturally sensitive, educational and locally controlled- or at least locally beneficial. The result is that the host community can see the economic value of preserving resources and biodiversity. This form of tourism seeks to involve the whole community.

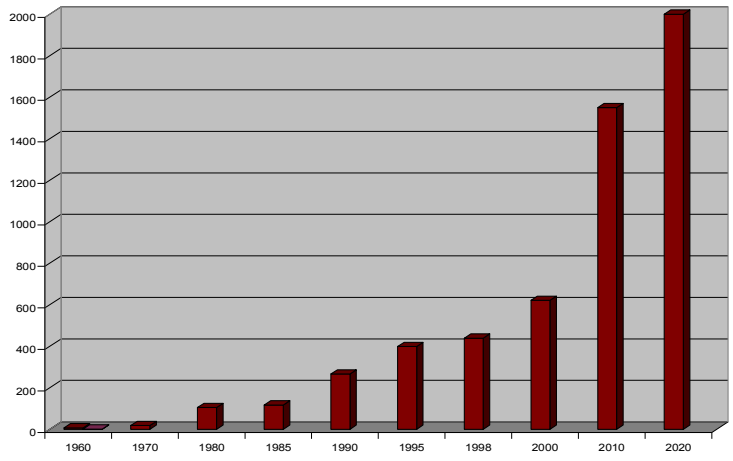


Figure 1: Forecast on Overall Growth in Worldwide Travel (1995-2000)
(source: World Tourism Organization)

3.2 TOURISM IN NIGERIA

Tourism in Nigeria is a relatively young industry and this is more because of a running neglect of abundant resources naturally endowed on the country than the lack of them. However, in the past three decades, the industry has undergone a gradual but progressive evolution.

Nigeria is greatly endowed. It is blessed with warm, sundry climate, over 800 kilometers of fascinating beaches and evergreen vegetation in the south, while in the north, alluring landforms overshadows savannah grasslands. There are interesting natural features in the form of waterfalls, springs, hills, some mountainous areas with temperate like climate and a range of special and common species of tropical wildlife.

3.2.1 CLASSIFICATION OF TOURIST ATTRACTIONS IN NIGERIA

An exhaustive list of tourist attractions in Nigeria was put together by the ministry of culture and tourism and cited by nigeriabusiness.com. It indicates various classes of these places identified in the 36 states of Nigeria. These range from natural attractions to cultural attractions, etc. Although these venues have potentials, which if harnessed would boost the tourism industry, a visit to more than 70% of these tourist attractions would hardly be repeated by most tourists. This is largely due to neglect of the resources available.

Tourist attraction in Nigeria can be classified as follows;

1. **Natural Attractions:** There are abundant physical attractions that include hills, caves, springs, lakes, and mountains across the entire country. These fascinating features and alluring scenes are good sites for leisure, adventure

and other tourism-related endeavors. Example of these are the Gurara falls, Olumo rock etc

2. **Man-made Attractions:** These are man-made sites created for the purpose of relaxation. These include Ray field Holiday resort in Jos, the Bowmer's tower in Ibadan and various amusement parks that are spread over the length and breadth of Nigeria's major towns and cities.
3. **National parks:** These are special natural ecosystems with unique attributes. They play unquantifiable roles vital to national/regional well being as well as act as a catalyst for the development of eco-tourism. They also enhance ecological processes and life support systems such as soil regeneration, protection of nutrient cycles, cleansing and purifying hydrologic cycles. There are eight such parks in Nigeria. They are :
    - Yankari National park, Bauchi state
    - Kainji lake National park, Kwara state
    - Old Oyo National park, Oyo state
    - Gashaka Gumte National park between Adamawa and Taraba state
    - Chad basin National park, Yobe state
    - Okomu National park, Edo state
    - Kamuku National park, Kaduna state
    - Cross river National park, Cross river.

All these have peculiar attributes to them.

4. **Cultural Attractions:**

    These are activities based on peoples way of life expressed as religion beliefs, colorful festivals, dance songs, artworks etc. The cultural assets of Nigeria are amongst the most fascinating in Africa, some of which include the

Osun/Oshogbo festival in Osun state; Kano/Katsina Durbar, and the Mwanwu festival in South Eastern Nigeria.

5. Museum and Monuments:

Nigeria is enriched with finest collection of arts and crafts as well as archeological relics showing our historical past like Terracotta head from the old Nok culture, the famous Benin bronze art works etc. These great varieties of ancient relics can be found in all branches of Nigerian national museums.

s6. Nigerian crafts:

Crafts are a symbol of Nigeria's material and spiritual heritage. Crafts are well integrated into living patterns of Nigerians and inseparable from their spiritual philosophies. They are therefore prized objects for the promotion and preservation of tourism. Nigerian crafts are grouped into textiles, pottery and ceramics, fiber crafts, bronze, brass and iron works, wood works, calabash decorations, leather works, ivory, jewelry etc.

7. Conference/Business Tourism:

This is a veritable area of tourism in which Nigeria is selling fast her credentials to the rest of the world community. There is an international conference center located in the central business district of Abuja, which can comfortably host any conference of international standard. In addition, there is the Economic Community of West African States. (ECOWAS) secretariat located in Asokoro district of the Federal Capital Territory (FCT) and it complements the former services.

8. Sports tourism:

Nigeria can pride itself in the area of sport tourism with the sport and soccer veterans it has produced whose names are household names today as

far as sport tourism is concerned. Examples are, Chioma Ajunwa, Akeem Olajuwon, John Fashanu etc.

9. Ecotourism and recreation

Nigeria possesses an exhausting list of potential tourist attraction though the environment is generally undergoing deep degradation.

Abdulkarim M. (2004), presented a paper at the national conference on landscape architecture and the Nigerian landscape; problems and prospects. They stated that Nigeria is not likely to be included in the map for ecotourism destinations. A proposal for tourism with a difference was presented having three opportunities being family and resort tourism, sport fishing tourism and balneo-tourism.

Ecotourism supports the conservation and preservation of the environment and this is necessary to achieve a balance or build back balance into our ecosystem.

Park viewing and Bird watching are prominent recreation activities apart from hiking among the trails. The Dogon ruwa waterfalls have a high potential for the development of swimming pool. The rocks are not only fascinating but are good training grounds for mountaineering and endurance training.

Consequently, regardless of whatever options are adopted for tourism in Nigeria, ecotourism is adoptable along side such options.

Table two below highlights tourist attraction in Nigerian states according to their nature. Jacaranda pottery and restaurant listed among the tourist attractions in Kaduna state

TABLE 2: TOURIST ATTRACTIONS IN NIGERIA.

State	Capital	Attraction/Description
ABIA	UMUAHIA	Arochukwu Caves, Natural/Physical attraction * National War Museum Monument Umuahia. * Akwette Weaving Centre Arts and Crafts (Souvenirs) * Long juju of Arochukwu Cultural festivals * Azumini Bule River Natural/Man-made Tourist Village. * Museum of Colonial History Monument
ADAMAWA	YOLA	Gashaka Gumti National Park, Eco-Tourism (Wildlife) * Sukur (UNESCO World Monument Heritage Site) * Lamurde Hot Spring Natural/Physical * Modibbo Adam's Tomb Monument * Three Sister Rocks Monument * Mandara Mountains Natural/Physical * Kiri Dam Natural/Physical
AKWA	UYO	Ibeno Sand Beach/ Natural/man-made IBOM Mobil oil treatment * Ekpo Masquerade festival Cultural * Oron Museum, Oron Museum/ Monument * Mary Slessor House/ Monument Tomb
ANAMBRA	AWKA	Ogbunike Caves Natural/Physical * Rojeny Tourist Village Man-made Oba * Mmanwu Festival Enugu Cultural * Agudu lake/Gully Natural * Aguleri Game Reserve Eco-Tourism * Igbo Ukwu Archaelogical Monuments Reservations
BAUCHI	BAUCHI	Marshal Caves, Yankari Natural Park * Wikki Warm Spring, Natural Yankari Park * Tafawa Balewa Tomb Monument * Lame/Bura Game Wildlife/Eco- Reserve Tourism * Geji Rock Painting Monuments
BAYELSA	YENAGOA	Oloibiri Oil Museum Museum/ Monument * Slale Transit Hall Resort/Man-made * Igidi Shrine Cultural
BENUE	MAKURDI	Ushongo Hills, Ushongo Natural/Physical DI * Ikwe Holiday Resort Natural/Man-made * Enemabia Warm Spring, Natural Okpoya * Kwag-hir Puppet Festival, Cultural (Nov./ Gboko/Makurdi Dec.) Souvenir * Dajo Pottery, Makurdi Traditional * TIV Anger Weavers, Monument Ajikpo * J.S. Tarka Foundation Cultural Centre, Makurdi * Montane Game Reserve Wildlife/Eco-Tourism * The Rare Manatee, Natural Katsina-Ala River
BORNO	MAIDUGURI	Laffy falls, Kuya L.G.A. Natural * Chad Basin National Eco-Tourism Park * Abba Kari Zoo, Maiduguri- Eco-Tourism * Gwoza Hills Natural * Sambisa Game Reserve Wildlife/Eco- Tourism * Kyarimi Amusement Resort/Man-made Park
CROSS RIVER	CALABAR	Kwa falls, Kuya L.G.A. Natural RIVER * Agbokim falls, Ikom Natural L.G.A. * Obudu Cattle Ranch Resort (Man- made) * Coercopan, Ishie Close, zoo Calabar * Cross River National Park Eco-Tourism/ Wildlife * Drill Ranch, Calabar Zoo * Ekpe Masquerade Cultural * National Museum Monument * Rock with foot prints National
DELTA	ASABA	Chief Nana's Palace Cultural * Koko Port Natural/Man-

		made * Escravo's Beach Natural/Man-made
EBONYI	ABAKALIKI	Umuana Afikpo Golden Natural Lake Sand Beach
EDO	BENIN	Fugar Caves Physical * Okomu Wildlife Eco-Tourism Sanctuary * Igwe Festival Benin Cultural (September) * Igun Bronze Casting, Souvenir/Cultural Benin City * Oba's Palace, Benin Cultural * Ramat Park Monument * Sakpoba Holiday Resort.Man-made Resort * Asoro Shrine Cultural/ Traditional Rel. * Samorikal Hills Physical
EKITI	ADO	Erinta Falls, Ekiti West Physical L.G.A. * Olosunta Hills, Ikere Physical * Ikogosi, Warm Spring Natural
ENUGU	ENUGU	Mmanwu Festival Cultural * Nike Holiday Resort Natural/Man-made * Ezeagu Tourist Complex Man-made * Nkalagu Silicon Sand Physical * Uzo-Uwani Natural Nature's Wonder * Iva Valley Coal Mine Natural
FCT	ABUJA	Abuja Amusement Park, Resort/Man-made Zone 1, Wuse * Abuja Gardens, Central Resort/man-made Area * Abuja Zoological Garden, Zoo/Man-made Area 1, Garki * ECOWAS Secretariat Man-made * Women Development Resort/Man-made Centre * Abuja Plant Nursery Physical/Man- made * Aso Rock Physical/Natural * Usman Dam Man-made * IBB Golf Course Sports Tourism * Jabi Dam and Holiday Man-made/Resort Resort
GOMBE	GOMBE	Tula Highlands/Hills Physical* The Famous Tangale Dome Shaped Rock/Hill Formation Physical * Dadin Kowa Dam/Tomatoes Factory & Farms Man-made * Buba Yero Tomb * Ashaka Cement Factory Man-made
IMO	OWERRI	Oguta Lake Holiday Resort, Natural Man-made Oguta * Ikeji Festival, Arondizogu Cultural * Palm Beach Holiday Resort, Awo-Amana Man-made/Natural * Zoological and Botanical Garden Nekede * Amusement Park, Owerri Zoo/Man-made
JIGAWA	DUTSE	Hadejia/Ngum Wetlands and Bird Sanctuary, Jigawa Eco-Tourism/Wildlife * Binin Kudu Rock Painting Natural/Man-made * Ringim Dyeing Pits Cultural * Baturiya Birds Sanctuary Wildlife * Wowan Rafi Lake Natural
KADUNA	KADUNA	Luggard Hall and Government Monument Bridge * General Hassan Usman Park, Man-made Kaduna * Nok Terra Cotta, Nok Village, Cultural Kaduna * National Museum Museum/Monument * Emir of Zazzau's Palace, Zaria Cultural * Jakaranda Pottery, Kaduna Souvenir
KANO	KANO	Roxy Amusement Park, Airport Road, Kano Man-made * Cooky Amusement Park, Kano Man-made * Hills and Valleys Amusement Park Dawakin Kudu Junction, Kano Man-made * Bagauda Lake/Tiga Lake Resort Man-made * Tourist Camp, Kano Man-made * Audu Bako Zoo, Kano Man-made * Kano Salla Durbar Cultural * Gidan Makama Museum Monument/Museum * Emir of Kano's Palace Cultural * Kofar Mata Dyeing Pit, Kano Cultural * Bagauda Lake Resort Conference Centre, Kano Man-made/Business Tourism
KASTINA	KASTINA	300 years old Gobarau Minaret Katsina Monument/Cultural * 10th Century Kusugu Well, Monument/Cultural Daura * Emir of Katsina Palace Cultural * 11th Century KASTINA City Walls of 7 gates Monument/Cultural * Jibia Holiday Resort, Jibia Resort/Man-made

KEBBI	BIRNIN KEBBI	Argungu Fishing Festival Natural/Physical * Kanta Museum, Argungu Museum/Monument * Girmace Shrine, Zuru Cultural/Traditional Religion
KOGI	LOKOJA	Ita-Okueta Weaving, Okene Cultural * Ata Igala's Palace, Idah Cultural * Inikpi (Shrine) Statue Idah Cultural * Kpata Rock, Bassa Physical * Confluence Zone, Lokoja Natural * Relics of Colonial History, Natural Lokoja * Lord Luggard's Residence & Office, Lokoja Monument * Warlord War Cenotaph Monument * Iron of Liberty Monument
KWARA	ILORIN	Owu Water Falls, Owa Kajola Natural * Wreckage of Mungo Park Boat, Monuments Jebba * Owe Kajita Falls Physical * Owu Water Falls, Owu Physical * Tomb of Past Emirs, Ilorin Monument * Ubo Aiyegunle Lakes Physical
LAGOS	IKEJA	Bar Beach, Lagos Physical/Man-made * Badagry Beach, Lagos Physical/Man-made * Kaiyetoro Maiyegun Beach Physical/Man-made * Eleko Beach Physical/Man-made * Lekki Peninsula Physical/Man-made * Tarkwa Bay, Lagos Physical/Man-made * Water Parks, Toyin Street, Ikeja Man-made Resort * Apapa Amusement Park Resort/Man-made * Frankid Leisure Park, Festac Resort/Man-made * Whispering Palms Iworo-Physical/Man-made Badagry * Lekki Conservation Centre Man-made * National Museum, Onikan Museum/Monument * Slave Relics Badagry Monument * First Storey Building, Badagry Monument * MUSON Centre, Onikan Man-made * National Theatre, Iganmu Man-made * Oba's Palace Lagos Cultural* Igbo Igunun, cultural
NASSARAWA	LAFIA	Peperuwa Lake Physical/Eco-Tourism * Late Captain Maloney Tomb/ Monument Hills * Oku Akpa Picnic Centre Physical * Ogan Fishing and Cultural Cultural Festival * Akiri Warm Spring with Curative Power in Awe L.G.A. Cultural * Akiri Salt Village, 145km, from Lafia Town Natural * Doma Dam, Doma L.G.A. Eco-Tourism * Dyeing Pits and Calabash Carving in Lafia Cultural/Souvenir Arts & Crafts * Hunki Ox-Bow Lake, Awe L.G.A. Crafts * Farin Ruwa Falls Wildlife/Eco-Tourism * Keana Salt Village, Keana L.G.A. Arts & Crafts/ Souvenir * Numan Rocks, Akwanga L.G.A. Physical * Ara Rocks/Festival Physical * Eggon Hills and Caves Cultural/Physical * Keffi Hunting; Festival Feb/April Cultural
NIGER	MINNA	Gurara Falls, Gurara LGA Natural/Physical * Zuma Rock, Near Suleija Natural/Physical * Kainji Lake National Park Wildlife/Eco-Tourism * Brass/Glass Works, Bida Arts & Crafts/ Souvenirs * Shirro Dam Tourist Resort Natural/Man-made * Mayanka Water Falls Natural
OGUN	ABEOKUTA	Management Training Centre, Ogere Man-made * Adire Market, Itoko Abeokuta Cultural * Olumo Rock, Abeokuta Physical * Birikisu Sungbo Shrine Cultural/Religious Attractions * Obute-Oni Tourist Beach Natural * Ancient Palace of the Cultural/ Alake of Egbaland Monument * Ogunde Theatre Centre Man-made/Monument
ONDO	AKURE	Idanre Hills, Idanre Physical * Owo Museum Monument * Ipale Iloro Water Fall Physical

OSUN	OSOGBO	Mat Weaving, Ipetu-Ilesha Arts & Crafts / Souvenir * Ooni's Palace, Ile-Ife Cultural * Ife Museum, Enuwa, Ile-Ife Monument/Museum * Osun Osogbo Festival/Shrine Trad./Religious Study Centre/Cultural * Ife Bronze, Ile-Ife Physical * Oramiyan Staff, Ile-Ife Cultural/Souvenir, Obafemi Awolowo University, Ile Ife.
OYO	IBADAN	Igbeti Hills, Igbeti Physical * Trans Amusement Park, Ibadan Man-made Resort * Captain Bower, Tower, Ibadan Monument * Agodi Gardens, Ibadan Man-made * Old Oyo National Park Wildlife/Eco-Toursim * University of Ibadan Zoo/ Zoological Garden Man-made * Alaafin of Oyo's Palace Cultural * Calabash Carving Cultural/Souvenir * Ado-Awage Suspended Lake Natural * Aso Oke Weaving, Iseyin Traditional/Souvenir
PLATEAU	JOS	Assop Falls, Rivom LGA Physical * Shere Hills, Near Jos Physical * Riyom Rock Formation, Rivom Physical * International Youth Tourism Centre, Kurra Falls Physical/Man-made * Rayfield Resort, Jos Man-made Resort * Heleena Farms, Liberty Dam Physical/Man-made * Jos Wildlife Park Wildlife Eco-Tourism * Jos Zoo/Museum Zoo/Monument * Naraguta Leather Works, Arts & Crafts/ Naraguta Souvenirs * Solomon Lar Amusement Park Man-made
RIVERS	PORT HARCOURT	Isaac Boro Park, Port Harcourt Man-made * Monument of King Jaja of Opobo Monument * Okrika Aquatic Stadium Man-made * Ifoko Beach, Ifoko Physical * Port Harcourt Tourist Beach Physical
SOKOTO	SOKOTO	Tomb of Usman Dan Fodio, Monument Sokoto. * Sultan's Palace, Sokoto Cultural * Sokoto Museum Monument
TARABA	JALINGO	Mambilla Holiday Resort, Gembu Man-made * Gashaka Gumti National Park Wildlife-Eco-Tourism * Mamara Crocodile Pond National * Kpambo and Fikiyu Mysterious Rocks Physical
YOBE	DAMATURU	Dufuna Canoe, Damaturu Discovery/Monument * Hadejia Nguru Bird Life Project Wildlife/Eco-Tourism * Gujba Forest Reserve Wildlife/Eco-Tourism * Fika Ancient Town, Fika Monument * Bula Tura Oases, Nguru Natural * Mai Madrinama's Palace Cultural
ZAMFARA	GUSAU	Kalele Hippo Pools, Maru LGA Natural/Wildlife/ Eco-Tourist

Source: nigeriabusiness.com.

3.3 THE SITUATION IN KADUNA STATE.

Kaduna is one of the 19 northern states and it is a recommended state for travel to a vacation. A great variety of landscape and monuments of her past witnessing the layers of civilization, are characteristic of the state. These characteristics are special, producing varied spectacular contrast in natural scenery.

In the state capital, Kaduna, tourists and residents usually take advantage of outdoor facilities for relaxation as well as for cooling of after a hard days work. More so, parks and other public recreational centers have changed the concept of recreation tourism to the sheer delight of the city inhabitants.

The Kaduna State Government is striving hard for the full realization of the federal government policy on tourism in the state. The incumbent governor being a member of the recently constituted Presidential Committee on Tourism has put in place some positive measures to boost tourism in the state:

- The replacement of the Kaduna State Tourism Board by the newly created Kaduna State Ministry of Culture and Tourism
- The involvement of the private sector in the industry within visible evidences
- The institution of a new committee on Tourism in the state
- Rural electrification of the state to boost tourism in the rural areas.

These measures have boosted tourism in the state as Kaduna state hosted the National Festival of Arts and Culture (NAFEST) in October 2004 at one of its recreation parks.

Notable tourist attractions in Kaduna state are;

a. Kagoro hills

The Kagoro hills scenery is one of the most beautiful natural attractions in Kaduna state. The hills influence the weather of the area and the area enjoys a nice climate similar to that of Jos Plateau. There is a heavy rainfall with mild humid wind during the rains.

Those hills form a long range with tall trees and rocky places at the base. The area is good for hunting, rock climbing, and mountaineering and has beautiful sceneries for picnics and general relaxation.

b. Matsirga waterfalls

This is popularly known as "River Wonderful Falls". It is situated in Kafanchan, about 227 kilometers south of Kaduna. The water drops 180 meters into a gorge that has been supported by beautiful rocks. The fresh cool breeze is soothing and the proximity of the Kagoro hills as well as Nok Museum is an added advantage to tourist visiting the area.

c. Nok terracotta settlement

The Nok culture is over 2500 years old. It is one of the most significant cultures in Black Africa. Nok findings were made around Katsina-Ala in the Southeast to Kagara in the North-West. This reflect early central and indicates a widespread of people in the Nigerian area.

Excavated objects such as Terracotta heads of monkeys, other animals, men, women, stone, axe, spear, ornaments, pots etc some over 800 years old constitute relics displayed at the museum.

d. Queen Amina city wall of Zaria

Zaria is believed to be one of the largest Hausa states of the early 15th century. Another name for Zaria is Zazzau and the inhabitants are called "Zage-zagi" or "Zazzagawa".

According to history, Bakwa Turunku was the 22nd Habe (Hausa) ruler and had two daughters, Amina the older and Zaria the younger. Amina was a great warrior built the original wall with a length of about 15 kilometers round the city of Zaria. (The younger daughter's name begat the modern emirate.)

The city wall has eight gates namely; Kofar Doka, Kofar Gayan, Kofar Tukur-Tukur, Kofar Kona, Kofar Kuyanbana, Kofar Galadima, Kofar Jatau, Kofar Bai.

e. Kangimi dam

This is located in Kangimi about 14 kilometers north of the Kaduna-off the Kaduna-Pambegua road. The water body attracts visitors for picnicking, fishing; boating and relaxation in make shift tents due to its proximity to the Kaduna metropolis and beautiful scenery.

f. **General Hassan Usman Katsina Park**

This is situated at the end of swimming pool road, Kabala-East Kaduna. The entrance point to the park is about 273 meters from Kofar Gamji. The park was used as a garden during the period of colonial and modern administrations. The park occupies about 7000 sq meters. It has a natural orchard and is clotted with small islands from River Kaduna, which flows gracefully beside it. The beauty of the landscape with assorted flowers and palm trees is further enhanced by the introduction of modern and traditional architectural features.

Facilities within the park include cafes, swimming pool, fast food restaurant, art gallery, souvenir shop, open-air theatres, indoor games, fishing hooks, boats etc.

Other tourist attractions within the state are:

- Emir of Zazzau's palace
- National museum
- Arewa house
- St. Bartholomew's church. 1st missionary settlement, Wusasa
- Kamuku game reserve, Birni Gwari
- Zaria dam
- Birni Gwari dam resort
- Gurara dam
- Trappco Ranch and Resort
- Kajuru Rock Castle and Lake
- And of course Jakaranda pottery and restaurant.

The Kaduna state tourism board offers a number of services to the general public and these include:

1. Giving advice to groups and individuals on how to plan their journeys both within and outside the state.
2. Organizing of inclusive/packaged tours within the country.
3. Organizing of excursion tours outside the state.
4. Production of booklets, brochures, postcards, etc. for sale to tourists.

3.4 TOURISM PLANNING AND RESOURCES

Tourism planning is goal oriented; and should conform to the various and often conflicting interests of all the parties involved which are;

- Developers: Entrepreneurs or organizations who initiate a project and bring together the necessary resources and skill to execute it (funds, professionalism). The developer's motivation and interest often reflects on the character of the development.
- Intermediaries: agencies, operators who establish links between the actual facilities and potential clientele. These agencies have direct contact with the clientele and exert a strong influence on their choice of activity and destination.
- National, regional or local authorities: they play major roles in decision making, legislative programmes.

Below are some of the major attractions in Kaduna state;



Plate 10: St. Bartholomew's Church Wusasa (source: Kaduna state tourist guide)

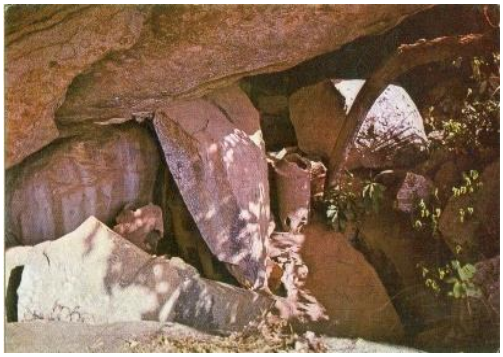


Plate 11: Nok settlement (source: Kaduna state tourist guide)

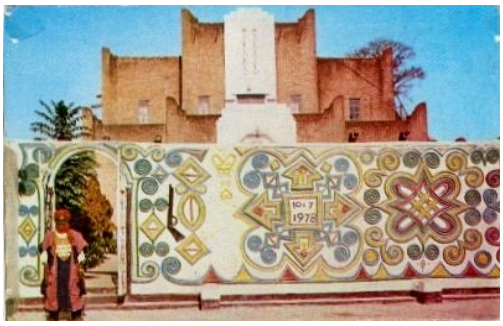


Plate 12: Emir of Zazzau's palace (source: Kaduna state touristguide)



Plate 13: Lord Luggard hall (source: Kaduna state tourist guide)

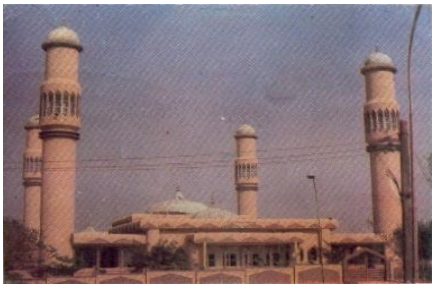


Plate14: Arewa house mosque (source: Kaduna state tourist guide)

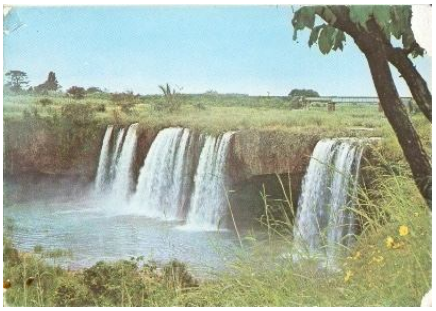


Plate 15: Matsirga falls (source: Kaduna state tourist guide)



Plate 16: Jacaranda resort gardens (source: Field work)

CHAPTER FOUR

ECOLOGICAL APPROACH

4.1. WHAT IS ECOLOGY?

Ecology is defined in the oxford dictionary of science new edition as the study of interrelationships between organisms and their natural environment, both living and non-living.

Ecologists study organisms in the context of the populations and communities in which they can be grouped and the ecosystems of which they are part of.

The study of ecological interactions provides important information on the nature and mechanisms of evolutionary change.

Advances made in ecology over the last 25 years have led to increased concern about the effect of man's activities on the environment (notably the effect of pollution), which has resulted in a greater awareness of the importance of conservation.

4.2. ECOLOGICAL ARCHITECTURE

Presently, there is a widespread, but quiet movement towards an architecture that treads more lightly on the planet. This movement has various terms. However, they embody the same thing in principle and final products. The terms are Ecological Architecture, Environmental Architecture and Green Architecture. Basically, these all refer to any Architectural design that takes into account such Ecological principles as reduction of pollution, sustainable growth, recycling, energy efficiency, conservation of scarce resources, environmental –friendly materials, and products that are cleaner, quieter and more durable(Walker, 1992). The idea is based on the need to;

- Reduce impacts on the earth from construction of building materials (Mining and harvesting, embodied energy, pollutant in manufacturing)

- Reducing impacts which arise during occupancy (fuel use, land pattern disruption, maintenance impact)

- Reducing the impact of the structure at the end of its life (whether decaying in place or joining to landfill).

- Creating a more desirable human experience (natural materials have profound effects on people).

Ecological Architecture seeks to complement and fit into the eco-system rather than impose itself on it, to the end that the balance in the eco-system is maintained.

4.2.1. THE NEED FOR ECOLOGICAL ARCHITECTURE

An article from Enertia building system.inc.1995-2005 stated that buildings, not cars are the major damagers of the earth. Pollution from the heating and cooling of buildings exceeds that from cars, even in America. After Agriculture, building is the second largest industry in the world and the manufacture of building materials consumes enormous energy, and exhaustible resources. It is therefore paramount that those in the building industry world wide when embarking in building projects consider the use of an eco-friendly approach seriously.

From ancient times, man had much respect for nature and his environment. However, with technological advancement and his intellectual development, he has paid little attention to it.

Since the industrial revolution, man has fashioned a more “egocentric” style for himself.

(Claude. T. 2000). With machines came disregard for animal labour and herbal treatment. The more man developed, the more obsessed he became with advancement.

One event has led to the other in the history of man from the industrial revolution, to the world wars and the oil boom. In the quest for power, wealth and

knowledge, man has explored the earth to the point of destroying non-renewable natural resources.

The issue of conserving has become extra important because of the following reasons that threaten balance in the eco-system

1. There are resources that exist in fixed supply (e.g. metal ores)

2. There are those that are replenished far too slowly to be relevant to human planning and

3. There are those termed as renewable but fragile like plant and animals

Conservationists are at work with two major goals in view and these are;

a. Resource protection

b. Pollution prevention

In every facet of life or field of study ranging from the science to the social science and the arts, there has been a reference to the need to be more environment conscious.

4.2.2. A BRIEF HISTORY OF ECOLOGICAL ARCHITECTURE

In the 18th Century, Stephen Hales (1677-1761) demonstrated the relationship between plant life and the atmosphere (currently, it has been established that one tree produces sufficient amount of oxygen for four people to breathe (Wines, 1997) Hales further established the importance of trees on rainfall (Norton, 1996). As a result of this, interest was piqued in the minds of people and sensitized them to the importance of trees.

A conservationist, John Muir, in the 19th century influenced the information of a federal conservation policy in the US (1876). Although he had a strong opposition from government, he was relentless in his passionate advocation for natural preservation.

"A thing is right when it tends to serve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise" say Aleopolo's one of J. Muir's famous disciples.

The publication by Rachel Carson "silent spring" enlightened people on the dangers of pesticides especially DDT, on the environment leading to the reborn of the conservation movement which was virtually forgotten in the economic boom that followed the world war.

More discoveries like ozone layer depletion, the bad states of the oceans, the climatic changes, global warming e.t.c. in the 70^{th} century has produced more environmental consciousness in people. Consequently, a number of summits like the UN earth summit Rio de Janeiro (1992) and the world, eco-tourism summit held at Quebec (2002) under the auspices of the world tourism organization and the UN environmental programme have been held to look into the issues threatening the earth and how to resolve them.

Various non-governmental organizations like the International Union for conservation of nature (IUCN) and the world wildlife fund (WWF) where established to work along-sides the United Nations Environment Programme. (UNEP).

By 1980, this union gave birth to a document "world conservation strategy" presenting worldwide strategies for the rational use of resources. In the area of wild life conservation, issues like poaching were addressed in the Lusaka agreement for African countries. National parks were established around the wall to reduce extinction rates.

In the musical arts, songs like Joni Mitchell's "By Yellow Taxi" drummed the message into her listeners" (Claude T, 1999)

The quest to preserve environment has been unrelenting and continues to date.

Architecture like most other facets of life that characterize man's world is no exception where quest for environmental consciousness is concerned

Through various eras from Mesopotamian era, which saw the hanging gardens of Babylon to the era of ancient Greece, and the Roman empire where open courts and atriums had gardens in them, man had been conscious of nature and integrated it into design. Other applications of the concept of the environmentalism can be seen in the vast landscape lawns and scenic vistas of the dark ages. In addition, though little attention was paid to the environment during the industrial revolution, architecture critics and social scientists like Karl Marx, J.S. Mill, John Ruskin, William Morris and W.R. Lethaby were not silent in their disapproval of the lack of acknowledgement of the place of nature in architecture. Ruskin noted that the inspiration architects should seek is not found in the machine but in "the world of flora and fauna" (Edwards, 1999)

Frank Lloyd Wright, father of organic Architecture made remarkable contributions in the field of Ecological Architecture with his advocation for an architecture that blends with the site. One of his works, the falling waters stands as a good and remarkable example and makes a lasting impression for residential building.

A number of firms now specialize in Ecological architectural design for example Enviro Arc focuses on green residential design with their emphases on the renovation and additions of existing houses. This is based on a belief that to avoid urban sprawl and decay, Existing built environment should be recycled and reused.

Many other architects have woken up to their sense of moral and social responsibility by designing buildings that are ecologically sustainable with less negative impact on the environment.

4.2.3. GENERAL CONCEPTS IN ECOLOGICAL ARCHITECTURE

Ecological Architecture is rather broad and it engulfs related theories like Arcology and biotecture (Claude T, 1999). Claude T noted rather clever interpretation of the term "Ecological design" by Edwards as the "maximum of richness and diversely using the minimum of resources, with waste being perpetually recycled" (Edwards 1999). He noted that the definition is rather broad and by no means exhaustive but its broad nature he says permits it to engulf the above-mentioned related theories.

Arcology (Walker 1992) is a corruption of architecture involving a fusion of architecture and ecology proposed by Paolo Soleri, an Italian architect –resident in US. The aim is to create a self-sufficient community based on a huge green house powered by solar energy. One of Soleri's visionary projects, Arcosanti is a structure resembling a small hill town set in the Arizona desert

Biotecture is a term combining 'architecture' and 'biology'. Rudolf Doernach coined it. It is a movement rising from the 60s and in 1972. The Italian Carlo Americo Lenzi employing the terms "bio-architecture and biological architecture", defined biotecture as ''a system of town planning and of architecture exclusively programmed on a biological base and adapted to the ecological characteristics of every environment so as not to alter the free progression of micro and macro evolution" (Walker, 1992). Considering the broadness of Ecological Architecture, there is bound to be a number of interpretations of the idea that are not globally acceptable especially when such interpretation is open to criticism. However, they cannot be completely discarded where they are representations of the main idea in principle.

For example, Claude states that a biotecture concept garners considered the Arcology concept as virtuously monastic and counter. However, it is a matter of

opinion, because as at the early 90s, volunteer work by students had already commenced on the Arcosanti project.

In order to achieve sustainability in design, four choices were advocated from much debate in Germany. Claude (1999)

1. 'Place' must inform design (i.e. climate, culture and local materials)
2. Heavy weight materials (stone, brick) should be locally sourced but lightweights (more high technology materials)can be obtained globally.
3. Recycling is a choice to be made during and not after a design.
4. Water matters as much as energy, and arguably more so globally.

According to John Crane, there are three central tenets of sustainable design. Namely reduced, reuse and recycle i.e. reduce energy consumption; reuse existing buildings (rehabilitation), recycle building materials, (Brannon, 1997)

Ecological architecture has found much favor with most architects in times that are more recent. Perhaps Claude says, due to its subjectivity and room for creativity.

4.2.4 NATURAL BUILDING VOCABULARY IN ECOLOGICAL ARCHITECTURE.

Natural building carries its own vocabulary and understanding some of these key terms can help in the building process. Some of these terms are;

1. Passive cooling

Passive cooling is using natural techniques like cross ventilation, stack ventilation, nighttime ventilation and evaporative cooling to keep the buildings comfortable without air conditioning. This requires a good understanding of the climate, of the climate proper placement of windows, doors and other openings and in most climates, thermal mass that can help store cool air.

2). Thermal Mass

Thermal mass is any dense material used in any construction that can absorb and store radiant heat. Thermal mass inside your home acts as a giant flywheel helps moderate, and show temperature swings. Tile, brick, concrete, stone, plaster, gypsum board, rammed earth, cob and water are some typical types of thermal mass used in climate responsive design.

3). Climate responsive design

Climate responsive design means designing buildings to take advantage of sunlight, rainfall and winds available on sale. With a little design foresight and effort, the building can be heated with the sun, cooled with breezes collect rainwater, and provide microclimates for a wide range of plants.

4). Earth plasters

They are plasters made from clay and sand with additives such as fine chopped straw, wheat paste, milk protein (casein) or mica. Earth plasters are excellent thermal mass (see passive solar system) and can help moderate swings in humidity.

5. Outdoor rooms

These are garden spaces that are extensions of indoor living spaces. They are often partially enclosed on two or more sides with plantings, benches, or trellises and furnished for eating, socializing or relaxing.

6. Strawbale construction

Originating from the US in the late 19^{th} century, it has spread through out US and the world because of its amazing insulation properties and simple, straightforward building technique. It is a building technique that uses stacked

straw bales for the exterior walls of a building. When plastered the thick walls look similar to stone or adobe.

7. Rainwater catchment

Rainwater catchment means collecting the rainwater that falls on the roof and using it for drinking, washing and toilet or in landscape. Systems for drinking include fine filtration treatment and ultra-violent treatment, while those for washing and landscape only filter out large contaminants.

8. Earthen construction (Adobe, Cob, Rammed earth and PISE)

Earthen Construction uses earth in some form, as the primary building material. Earthen construction is thermal mass with no insulation and is especially well adapted to dry areas with large swings between daytime and nighttime temperature.

- Adobe construction uses earth and straw formed into sun-dried bricks, which are then laid up into walls.
- Cob is a mixture of earth, sand and straw which is used wet to form thick walls or built into furniture.
- Rammed earth is earth compressed (rammed) into removable formwork.
- PISE is Pneumatically Impacted Structural Earth. It is wet earth blown like granite against formwork. (Source- One world design)

Below are some ecological buildings;







Plate 17: Ecological buildings (source: One World design)

4.2.5. PRINCIPLES OF ECOLOGICAL ARCHITECTURE

In the quest for an architecture that is eco-friendly, Prince Charles of England put forward ten principles that would help achieve such an ecological design. “They

provide a serviceable warp and weft on which a good design can be woven" (Ecopolis 1997).

As part of a coherent and intelligent approach to ecological development, it is necessary to incorporate appropriate aesthetics and design guidelines to ensure that the result is an ecological design regardless of the development process. The principles are:

1. The place

"Respect the land"

The buildings should respect the land on which they are built. Rather than be superimposed on the land, the buildings should blend with the land and pay homage to it and its surroundings.

2. Hierarchy

"Architecture is a language"

If a building cannot express itself, how can we hope to understand it? (Ecopolis Architect 1997). Ecological Architecture should honestly reflects its antecedents

3. Scale

"Buildings must relate first of all to human proportions"

The buildings should not be dehumanizing or intimidating but should be accommodating for the users.

4. Harmony

"The playing together of the parts"

Uniformity does not ensure harmony. Harmony can include counterpoints and is usually the better for it. (Ecopolis Architects 1997)

5. Enclosure

"An elementary idea with a thousand variants"

This connects closely to the idea of place and location. Architecture and planning can either reinforce or undermine any effect of place by the way it responds to climate.

6. Materials

"Let where it is be what it is made of"

Put simply, in timber countries, timber buildings should be the dominant form of construction, in clay countries clay or adobe construction and in stony land-stone.

This was the norm when importation of non-indigenous materials was too different or expensive. It gave unconsciously, an integrated character to buildings of a region, which we now need to regain by design and by insisting on local content in construction. This will strengthen the construction sector of the local economy.

7. Decoration

"A bare outline won't do; give us the details"

Decoration should be something of and about the thing it decorates, not a mask over the reality but make-up highlighting its intrinsic features.

8. Art

"Art should always be an organic and integral part of all great new buildings-and most humble" (Ecopolis, 1997).

9. Signs and Light

"Don't make rude signs in public places"

Circulation pattern should be resolved in such a way to avoid the use of signposts. Articulation of circulation is necessary so that people can naturally flow into spaces both exterior and interior.

10. Community

"Let the people who will have to live with what you build help guide your hand"

This is very important. Public input to ecological development should be involved. Enabling a free flow of information about ecological development ideas and programs will ensure that people are taken into confidence, feel confident and are more able to assimilate new or unexpected ideas.

4.3. ECOLOGICAL APPROACH IN RESORT DESIGN

The ecological approach has become the trend in design of resorts in response to the increased awareness of the need to preserve the environment. Embarking on the design of resorts based on the principles of ecological architecture is a necessary ingredient for a functional solution. There are two basic reasons, which are interrelated. Firstly, with all the sermons preached on the necessity to preserve and conserve the earth's environment, it would be a deliberate neglect of social responsibility on the part of architects if design were not done with minimal impact on the environment in view. Secondly, a resorts natural environment is the basis for attraction to the venue and where care is taken to preserve the identity or improve on it to enhance the natural environment; it is more likely that interest would be steered up in minds of potential users/ visitors. Resorts where the ecological approach is

applied in design are called eco-resorts and there are numerous examples of other type of resorts.

4.4. TOWARDS AN ECOLOGICAL APPROACH TO REDEVELOPMENT OF JACARANDA RESORT

Based on the principles of Ecological Architecture already enumerated in the foregoing text (4.2.3)

An attempt to translate this to the specific goals of the thesis is necessary.

In order to achieve an Ecological Architecture, the following derivatives from the foregoing text on Ecological Architectural principles must be considered:

1. User-Architecture Relationship

Ecological Architecture cannot be achieved without the participation of the whole society in the process of its creation. The sustainability of Ecological Architecture depends largely on the users and where they are not satisfied (Though that is another issue altogether as humans are insatiable) the whole is likely to fail. It is therefore paramount to incorporate user preference in planning.

In application to this thesis the users are in two basic categories;

a) Those who visit the place for recreation and leisure

b) Those who manage and maintain the place.

For the first category, it is necessary to create an environment that is conducive for the activities they desire to engage in while maintaining an aesthetic natural environment and for the latter it is necessary to design easily manageably, clean buildings.

2. Respect for the land/Genius Loci and regionalism

Ecological Architecture is developed with a high regard for the land on which it is built. Great impact like cut and fill should be avoided. The dynamics of site can

influence and enhance creativity on the part of the architect. In addition, the genius loci (the spirit of the place) are important to take note of in order to integrate into the scheme of design. The uniqueness of the area and the values of the people are a necessary consideration in order to give the buildings an identity.

In application to this particular thesis, the concepts of site planning, form and design are necessarily derivatives of the existing situation for proper integration.

3. The use of Natural/ Biodegradable materials and local materials

The use of natural materials in Architecture helps Architecture to blend aesthetically into the natural setting of the environment. The result is a harmony of the fabricated (buildings) and the natural.

Natural materials are biodegradable "depending on the conditions in which they are placed" (Debra Lynn, 2005). A biodegradable product has the ability to break down, safely and relatively quickly, by biological means, into the raw materials of nature and disappear into the environment.

Incorporating reusable/ recyclable/ biodegradable building materials in your project can reduce waste, pollution and energy use. Some examples of reusable/ recyclable/ biodegradable building materials include

1. Wood (reusable/ recyclable/ biodegradable
2. Earthen materials (reusable/ biodegradable)
3. Steel, Aluminum, Iron, Copper (reusable/ recyclable)
4. Bricks (reusable, recyclable)
5. Concrete (may be crushed and recycled)
6. Gypsum/ Drywall (recyclable, sometimes biodegradable)
7. Straw Bale Insulation (biodegradable)
8. Wool Carpet (biodegradable)

9. Linoleum flooring (biodegradable)

Below are some natural building materials;

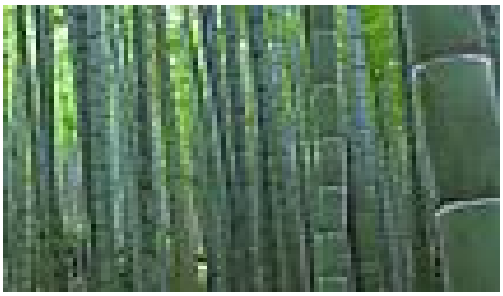


Plate 18: Bamboo

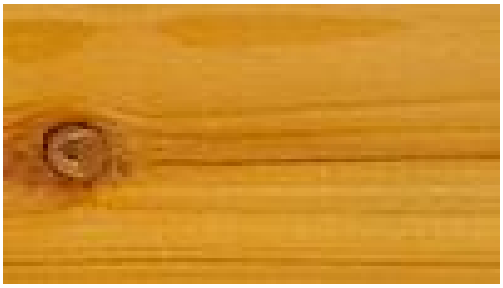


Plate 19: Timber



Plate 20: Straw (source: One World Design (OWD))

Enertia building system, Inc. Suggests the maximum use of renewable building materials like wood (already accepted (even cherished) for its beauty, workability, energy efficiency, and now renewable) "Wood should be used as close as

possible to its natural state, but not untouched, as modern science can alter wood so that it will not rot, burn or become food for insects". They also suggest the minimum use of non-renewable, energy-intensive building materials like steel, brick, vinyl, aluminum and insulation.

Natural materials are available all over the world but those available at various locations differ. The use of these materials depends largely on the availability of the materials and the technology available in processing them.

Materials like Cork are peculiar to the western world while laterite can be found in the tropics. Straw is a material very much available everywhere though in different quantities. However, the availability of technology informs its use. For example, Straw bale is a recent product from straw used in the western world to build walls for insulations, and in developing countries, it (Straw) is used mostly for thatch and as a binding agent for mud blocks.

It is interesting to note that milk is used as paint in developed countries too.

In application to this thesis, the available materials that can be locally sourced are red stone laterite, granite, straw for thatch, bamboo, raffia, adobe/ mud blocks and of course timber. Moreover, the use of these materials where applicable will result in eco-friendly architecture.

4. Cohesive Integration of landscaping and Structures

The integration of the interior and exterior and the transfer of information between the structures are made possible using intensive landscaping.

Landscape is defined as an art that combines the beauty, balance and form of plants with the look and feel of permanent structures to create attraction and pleasant surroundings. Landscaping are grouped into soft and hard landscape elements.

Soft landscape elements includes trees, ground cover, flowers and water bodies and these all play specific roles on site. Trees relate buildings to site, give privacy, act as buffer, demarcate boundaries and provide shelter from wind, dust, sun and noise.

Ground cover like carpet grass is necessary to suppress needs, provide pleasing effect and control erosion on steep slopes.

Flowers control/ direct circulation demarcate boundaries and spaces and provide pleasing effects.

Water bodies provide a feeling of coolness, calmness and tranquility. Some times used to divert the attention of viewers, they enhance social interaction.

Hard landscape elements include road and pathway, parking, sculptures and furniture's and they too, play very important roles to aesthetic roles.

One ecological philosophy that incorporates the integration of landscape in its principle is "Ecological Symbolism" as displayed by Site in "passages" where buildings are conceived as an integration of structures and landscapes in a mutable, metamorphic and evolutionary fashion constantly conveying levels of information.

The "passages" concepts solicits, that walls, instead of being seen mainly as barriers, enclosures or compositional elements, can also serve as information-filtering partitions, or points of passage, that fuse and dissolve traditional inside/ outside relationships and incorporate narrative commentaries(Wines, 1997)

This symbolic concept has great merit in its flexibility in the orientation of sheltered services, as the covered areas can be distributed arbitrarily. It allows for the line between the buildings and landscape to fade away as the two are literally entwined (Claude T, 2000).

In application to this thesis, it is imperative to create an interactive dialogue between the buildings and the landscape in order to achieve wholeness.

4.6. CONCLUSION

This chapter has briefly analyzed the ecological approach to architecture, and the various principles and elements that make achieving it possible. This analysis is necessary in the process, which is to terminate in the provision of an eco-resort- A place where people and nature can interact while the satisfaction of the basic need for which they have come, is not compromised.

The addition of recreational facilities (whether indoor or outdoor) would involve provision of structure and landscape. These can be provided for while maintaining major physical characteristics of the site.

The general environment and its ecological balance can also be enhanced and preserved rather than be destroyed.

Developing ecologically keeps the ecosystem in balance and in the end; Man is a great (probably the greatest) benefactor.

"The ecological building weaves sun, air, water and earth into a complex interactive whole that support both your health and the worlds vitality"

- One world design

CHAPTER FIVE

CASE STUDIES

5.0 CASE STUDIES

With the widespread awareness of a need for recreation / leisure centers, many holiday resorts and recreation parks have been built to cater for this need.

This chapter contains an appraisal of such facilities as are similar to that which this thesis seeks to provide. They are case studies drawn from recreation centers /resorts which have the following characteristics;

- Redevelopment
- Man-made attractions.

The Main aim of each case study will be to observe the under mentioned;

- Physical planning/layout.
- Functions, facilities and services.
- Conformity to the principles of organic architecture

The following are the variables studied, compared and synthesized in the analysis of each of the case studies.

1. Architectural typology
2. Scope of facilities
3. Congeniality between old and new facilities
4. Relationship between buildings and site
5. Appropriateness of scheme

5.1 GEN. HASSAN USMAN KATSINA PARK, KADUNA

The park was set aside as a government garden by the then governor of the northern region, Sir Lord Lugard purely for the purpose of recreation, for the civil

servants. A swimming pool (from which the street derived its name) was established in the garden for the training of the then West African frontier force (WAFF).

The Lord Lugard footbridge, a major attraction in the park was transported to Kaduna as a monument when the seat of government moved from Zugeru to Kaduna. This was 50 years after it was erected. After the reign of the colonial masters, the garden suffered neglect and trespass.

In 1996, the military administration of Colonel Lawal Jafaru Isah considered the importance of the garden and this led to its restoration. With this redevelopment, the garden was renamed in memory of a fallen hero, Gen. Hassan Usman Katsina who was the first indigenous governor of the northern region. The Kaduna state tourism board who has managed it since 1999 when they took over from a private consultant (SINTAX), presently manages it. Presently, redevelopment has once again commenced by way of expansion with the completion of a multi-functional theatre as well as provision of parking spaces for cars.

5.1.1 SITE LOCATION

The park occupies an area of 25.05 acres along swimming pool road and the main entrance point is 273m from Gamji gate behind police college Kabala east in Kaduna metropolis, Kaduna state. It is bounded on one side by a tributary from river road. Kaduna state occupies the central position of northern Nigeria and lies between latitudes 9 and 14 degrees north of the equator.

5.1.2 FUNCTION/FACILITIES OF PARK

The main objectives of the park are to provide recreational facilities to the teaming population of Kaduna. It was also created to provide more job opportunities for the residents of Kaduna. Inclusive, is that it helps fosters unity amongst different

cultural groups within and serves as a venue for the preservation of monuments and extinct and rare animals like crocodiles, Ostriches, etc

5.1.3 FEATURES AND FACILITIES

- Open air theatre of traditional architecture.
- Cafes for sale of snacks
- Art gallery and coffee shop
- Souvenir shop
- Swimming pool
- Fishing and racing facilities
- Fitness centre/beauty saloon
- Indoor games like snooker etc
- Children facilities like pleasure rides
- Multi-purpose theatre

5.1.4 VARIABLES STUDIED

5.1.4.1. ARCHITECTURAL TYPOLOGY

Within the site where this park is located, there are two schools in the choice of Architectural typology. There are some structures built with stone and thatch, these have simple forms while some of the heavier structures built with reinforced concrete, have complex morphology/forms. These complex forms lack vernacular character especially because of the use of modern high-tech materials while the simpler ones are vernacular in character. (The use of local materials gives the vernacular effect).

The result of this use of conflicting forms as well as inconsistency in the use of materials is a lack of harmony, balance or unity, perceived at a

glance at the whole scheme. However, each building possesses uniqueness appreciable when studied on its own.

5.1.4.2 SCOPE OF FACILITIES

The scope of facilities already listed above ranging from shops, children's recreational facilities, swimming pool and nightclub, to multipurpose hall, restaurant, art gallery, fishing and racing facilities. The scope of these facilities suggests to the visitor that all age groups i.e. children and adults mostly, have their needs catered for. The provision of a nightclub also suggests that visitors can spend late hours of the day on site. However, overnight camping is impossible, as there is no provision for that.

5.1.4.3. CONGENIALITY BETWEEN OLD AND NEW BUILDINGS

The older buildings, built of stone and thatch with simple vernacular forms, conflict in character with the newer ones which are built of high tech materials (reinforced concrete) having complex forms, which characterize modern architecture. The result of this is that the buildings on site do not visibly belong together. They have no specific identity.

5.1.4.4. RELATIONSHIP OF BUILDINGS WITH THE SITE

The inference upon study of this scheme is that there was an attempt to harmonize some of the structures with the site and the use of natural materials helped to achieve this harmony. However, in the use of high tech materials to build complex forms, the buildings appear to superimpose their mass on the site.

5.1.4.5. APPROPRIATENESS OF SCHEME

The question asked here is whether the facilities serve the purpose of their creation, (in this case, to cater for recreational needs of the general public) and the answer is yes.

5.1.5 MERITS

1. Gen. Hassan Usman Park is a self-sustaining park.
2. The site is at a good distance away from traffic and is therefore quiet and peaceful most of the time.
3. The River Kaduna running along its side presents a serene environment for relaxation.
4. Adequate security measures are employed in the park.
5. Facilities for all age groups are available at the park.
6. Enough spaces for parking are also available at the park.

5.1.6 DEMERITS

1. The redevelopment going on does compliment existing facilities.
2. Facilities around the site are quite detached without enough landscaping to form a link between functions.
3. Maintenance of facilities is obviously not taken as top priority.
4. There are no spaces for overnight camping provided yet.



Plate 21: Shop and resting huts at the riverside (source: Fieldwork)



Plate 22: Multipurpose hall under construction



Plate 23 : Swimming pool (source: Fieldwork)

5.2 SOLOMON LAR PARK, JOS.



Figure 2: Site map of Solomon Lar Park (source: Fieldwork)

This project was designed by SINTAX consultants Kaduna. It was commissioned in the year 2000 by Governor Joshua Dariye. The Plateau state tourism and culture board is the client and they are presently managing the park. Both domestic and international tourists appreciate its scenic, man-made features.

5.2.1 SITE LOCATION

The site is located along Tudun-wada ring road in Jos. It is bounded by little settlements as it was itself once a settlement for the natives until the government took the place over.

5.2.2 FUNCTION OF PARK

The park was designed to boost tourism in the state as well as for ceremonies, conferences and other formal functions.

5.2.3 FEATURES AND FACILITIES

The design radiates around a focal cenotaph with the layout providing for both passive and active recreation. Major facilities include:

- Man-made stream with bridges to cross over
- Swimming pool / changing room
- Picnic ground
- Souvenir shops
- Chalet
- Multi-purpose hall
- Children's playground

5.2.4. VARIABLES STUDIED

5.2.4.1. ARCHITECTURAL TYPOLOGY

At Solomon Lar Park, the simple structures, very similar to those that characterize vernacular architecture are built of modern building materials- concrete and long span aluminum roofing sheets. There are buildings of stone on site too. Also, Circular and rectilinear forms placed at various positions radiate from the central cenotaph.Due to the simplicity in planning of the individual structures, the buildings have a vernacular character.

5.2.4.2 SCOPE OF FACILITIES

The range of facilities here caters for various groups. For example, there are two swimming pools- one for children and one for adults, plus many other facilities for a wide range of age groups. In addition, facilities are available for both day and night activities. As a result, visitors are encouraged to spend longer hours and even days within the park.

5.2.4.3. CONGENIALITY BETWEEN OLD AND NEW BUILDINGS

The buildings on site are, technically, a replacement for the old ones, leaving no trace of the old thatched roofed buildings, which were on site. Dilapidation of these old buildings prompted there destruction. In other words, there are no old buildings for comparison with the new ones.

5.2.4.4. RELATIONSHIP OF BUILDINGS WITH THE SITE

There was an obvious effort made to unite the Architecture with the site. This was beautifully done with the simple forms that are on site and the use of natural man-made landscaping elements to enhance the environmental aesthetics.

5.2.4.5. APPROPRIATENESS

Every facility on the site is suited to a particular type of activity or set of activities and generally, the purpose for which the facilities were provided has been satisfactorily taken care of.

5.2.5 MERITS

- The use of water as a major feature to aid relaxation.
- Blend of site with other organic features and design
- The use of vernacular concepts in design.
- Land degradation remedy in place.
- Enough space for leisure activities.

5.2.6 DEMERITS

- Lack of strong aesthetical appeal probably due to:

    i. Improper Coordination and linkage of the various parts of the facilities.

    ii. The extensive use of tar.



Plate 24: Chalets



Plate 25: Swimming pool



Plate 26: Multipurpose hall by Children's' playground (source: Fieldwork)

5.3 RAYFIELD RESORT, JOS.

The Rayfield holiday resort was designed in 1986 though its main attraction had been in existence for a while that is, two large lakes that resulted from mining activities on the site.

5.3.1 SITE LOCATION.

The resort is located in central Jos in an area called Rayfield, between modern township and Bukuru.

5.3.2 FUNCTION

The main function of this park is to cater for the needs of tourists who do visit the site to relax within the environs of the lake. The resort caters for recreational needs for both adults and children.

5.3.3 FACILITIES AND FEATURES.

- Boating facilities.
- Restaurant and bar.
- Beach huts.
- Playground for children.
- Chalets.
-Discotheque.

5.3.4 VARIABLE STUDIED

5.3.4.1 ARCHITECTURAL TYPOLOGY

The architecture on the site is mostly vernacular with the use of local building materials like stone and thatch. Concrete was used but most of the forms are suited to what can be referred to as vernacular as they are simple round huts, courtyard design e.t.c. the new buildings however are modern and

of more complex design with precast construction, steel reinforcement e.t.c. which characterize high-tech architecture.

5.3.4.2 SCOPE OF FACILITIES

The scope of facilities provided here cater for both children and adults and they allow for day and night stay. However, most of the structures need rehabilitation.

5.3.4.3 CONGENIALITY BETWEEN OLD AND NEW

The new buildings have no relationship with the old except for the fact that they all are buildings. While the old buildings- the restaurants, the huts e.t.c. are simple and quite adapted to the site, the new building- chalet has an imposing character on the site rather than a blend with it.

5.3.4.4 RELATIONSHIP WITH SITE

There is a relative harmony between the structures- especially the old ones- and the site. The blending in of structures into the site was achieved by the use of vernacular concepts and reconstruction to simple forms. The only building that breaks such a harmony is the complex of chalets, which is self-imposing.

5.3.4.5 APPROPRIATENESS

Generally, the facilities provided meet the functional requirements.

5.3.5 MERITS

- The designs on site have indigenous touch.
- The contact with the natural feature of attraction was not compromised.
- Landscaping suits topography to a large extent.

5.3.6. DEMERITS

- Site is obviously not planned.

- Car parking spaces do not exist.

- Inconsistency in form noticed in the construction of chalets built to expand on existing facilities.



Plate 27: Beach hut by Barbecue area



Plate 28: Restaurant by lake



Plate 29: Children's playground (source: Fieldwork)

5.4 EL MONTE SAGRADO LIVING RESORT, TAOS, NEW MEXICO

The exquisite features of this resort reflect and an array of global influences inspired by native American culture, foreign lands and local artists.

5.4.1 SITE LOCATION

The luxurious El Monte Sagarado living resort is located at No. 317 Kit Carson Road, Taos, New Mexico.

5.4.2 FUNCTION OF THE RESORT

This resort is as unique as the philosophy that guides it. Renowned for it commitment to Ecological preservation and Sustainability, the lush sanctuary of the result is where you can relax body and soul naturally.

5.4.3 FEATURES AND FACILITIES

The resorts offer 35 suites with décor that reflect global influences inspired by Native America culture, foreign land and local artists.

Major facilities includes De latiera Restaurant, the living spa, the dinning, library, conferences, seminar rooms, museum and accommodations.

5.4.4 VARIABLES STUDIED

5.4.4.1 ARCHITECTURAL TOPOLOGY

Based on the resorts philosophy, the buildings and landscape on the site, are constructed of biodegradable materials and they reflect a vernacular architecture. That tells us of the nature of the people.

5.4.4.2 SCOPE OF FACILITIES

The word, scope of facilities here refers to day and night recreational activities and therapeutic needs etc. Visitors to this place are unlikely to get bored as there would be something new to do at every visit.

5.4.4.3 CONGENIALITY BETWEEN OLD AND NEW FACILITIES

There is a thin line between the general outlook of the old facilities and the new ones. This is because the development of this resort is based on the philosophy of Ecological architecture this acts as a guide to remain focused on a particular goal and as a result, the whole project is in harmony.

5.4.4.4 RELATIONSHIP WITH THE SITE

The motor for the resort developers is "living in harmony with the earth without sacrificing comfort, luxury or styles and this has been adhered to, to an impeccable level. The buildings, landscape and site all exist as whole with the various parts super-imposed on each other.

5.4.4.5 APPROPIATENESS

In adherence to the set goal and in catering for the leisure and recreation needs of the public, I would say the facilities appear appropriate.

5.4.5 MERIT

1. Harmony achieved with the site and among the building, presents a natural torch that aids relaxation, rejuvenation and recreation in the resort.
2. Aesthetics, style, harmony and comfort will not sacrifice in the bid to develop ecologically.
3. The wide scope of facilities at the resort keep visitors for long hours having a nice time.

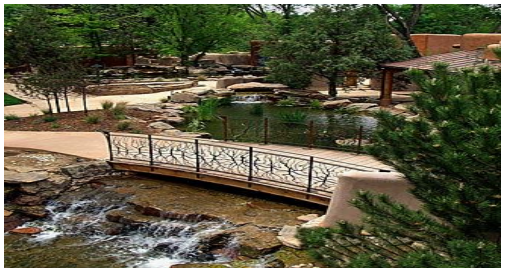


Plate 30: Garden (source: Fieldwork)



Plate 31: Dinning

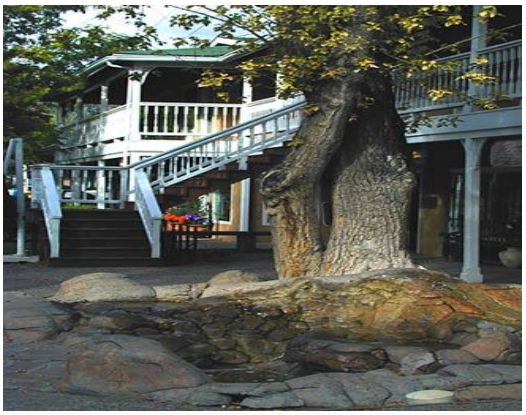


Plate 32: Library



Plate 33: Conference room (source: Fieldwork)

5.5 CONCLUSION

Based on the variables studied in all the case study the following conclusions have been drawn out. These are a helpful guide towards the evolution of a proposal based on this thesis.

1. The architectural typology of the facilities in a resort gives the resort its identity.
2. The scope of facilities in a resort determine
    a. The age group of visitors that can visit.
    b. The length of stay at the resort.
3. Congeniality between facilities in a resort that is, between old and new facilities is a basic factor in achieving harmony.
4. The relationship between buildings and site is another factor that influences harmony. Harmony is achieved using similar forms or similar building materials.
5. When the facilities provided serve their function the scheme is appropriate.

CHAPTER SIX

THE SITE

6.1. SITE LOCATION

a. Country of location

The site is located in Nigeria, a West African state that is bordered on the east by Cameroon and on the north by Niger and Chad, on the west by the republic of Benin and on the south by the Atlantic Ocean.

b. The state

Kaduna state where the site is located is in the Northern part of Nigeria. It occupies almost the entire central position of this area of Nigeria having 23 local Government Areas and share borders with Zamfara, Kastina, Kano, Bauchi, Nasarawa and Niger States as well as Abuja the Federal Capital Territory. The state as an Area of about 48, 473.2 square Kilometers. The global location of the state is between longitude 0610 and 0900 east of the Greenwich Meridian and also between latitude 0910 and 1130 North of the Equator. The entire land structure consist of an undulating plateau however as one moves to the Southern part of the state there are hills. Major rivers include River Kaduna, River Wonderful, River Kagoma, and River Gurara.

c. The site

The site is located at the outskirts of Kaduna along Kachia road.

The site's geographic coordinates are longitude $7^0 33' 08'' N$, 15435.76m and latitude$10^0 26' 18'' E$, 15967.94m.

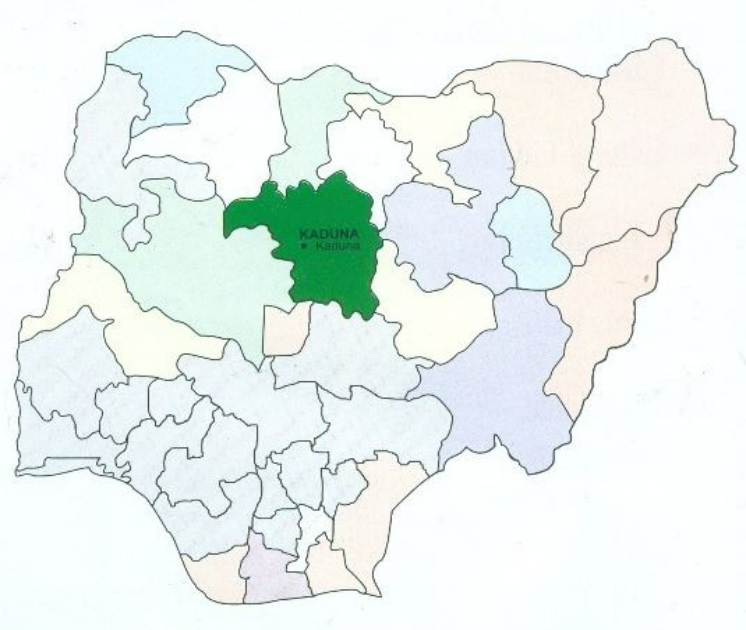


Figure 3: Map of Nigeria highlighting Kaduna state.

Figure 4: Site location map

Figure 5: Site analysis.

6.2. SITE ANALYSIS

6.2.1. PHYSICAL CHARACTERISTICS OF THE SITE

When pondering on the physical characteristics of the site, colour, texture and patterns, forms and views are taken note of. The eyes of an architect or even a nonprofessional cannot miss the distinctive characteristics of the site during a critical study.

A. Colour

The immediate colours that catch the eye on entrance into the site are the usual colours that greet the beholder of nature at a glance. These colours are green brown and blue with a few other brighter ones, which give more colour to the environment. These include red, yellow and white. These colours together have a calming and refreshing effect and they communicate tranquility and serenity thereby giving the surrounding a peaceful perception.

B. Texture

The environment has textures varying from sandy to grassy. Combined with the skyline, all these textures coming together are linked in a way making the contrast quite appealing to the onlooker or viewer. The introduction of red laterite stone in building and granite in pavement created a deeper contrast for a pleasurable experience.

C. Geomorphic forms

These imply important topographic features and this is the basic feature of the site harnessed in the construction of existing buildings and landscape. The site slopes steeply and gently at three basic intervals with a height difference of 30m from the highest to the lowest point of the site. There

is a rather beautiful interplay of gentle and steep slopes on the rest of the site. Harnessing these will create appeal. The vegetation cover also compliments this. Due to the sparse vegetation however, the lowest point of the site is liable to erosion, this has already begun and could get worse.

D. Hydrographic forms

There are a few water bodies on site. Those existing on site are man made ponds and water fall. There is a stream at the southeastern part of the site flowing northeast to southwest, dammed for irrigation purpose.

E. Drainage

The site slopes towards the southeast and drains into the stream at the tail end, which in itself is a tributary to river Kaduna.

F. Views

The interesting topography gives the observer a chance to view beautiful scenic views from the site. From the higher point of the site, panoramic views will be the experience and at various vintage points, impressive vistas seen.

G. Vegetation (flora and fauna)

The site falls within the northern guinea savanna with typical vegetation cover, a few trees and grassland over a large expanse of land. Ornamental trees like cactus, eucalyptus, flame of the forest, etc., woody trees, fruit trees, and indigenous grass patches are the sum total of the type of vegetation cover existing on site. Most of these grew naturally while the former management of the site planted some.



Plate 34: Main Access



Plate 35: Soil on site



Plate 36: Vegetation on site (source: Fieldwork)



Plate 37: Vegetation on site



Plate 38: Stream



Plate 39: Artificial pond (source: Fieldwork)

6.2.2 CLIMATIC CHARACTERISTICS OF SITE

Due to its location in the northern part of Nigeria, typical climatic conditions attributed to areas located in the guinea savannah region, are experienced. The wind direction and sun's position at various times and seasons within the year contribute to the climatic conditions experienced on the site.

- **North East trade wind**

  This trade wind is characterized by coldness, dryness and dust. It is the harmattan wind between September and March, and so effort will be made to use passive environmental control to modify the effect of the wind.

- **South West trade wind**

  This wind is cool and moist, bringing with it, rain. The effects are felt between April and September. The locations of opening would be done in order to trap the wind and to facilitate comfort in the interior.

- **Sunrise (East)**

  Solar intensity is mild during the early morning hours.

- **Sunset (West)**

  Solar intensity is quite high due to the intensity of light. Efforts will therefore be made to control the heat and light by the use of over-hangs to create a more comfortable microclimate. An alternative would also be the use of thick walls and recessed windows to eliminate direct sunlight penetration through windows.

6.2.3 CLIMATIC DATA

- **Temperature**

  Highest temperatures are measured in March, with temperatures ranging from 23^{o}C to 36^{o}C and the lowest temperatures are measured in December and January, with temperatures ranging from 15^{o}C to 30^{o}C. The average minimum temperature is 17^{o}C and the average maximum temperature is 33^{o}C.

- **Rainfall**:

  This is always affected by the south-west trade winds (moisture-laden winds). Annual rainfall is between 1016mm and 1524mm. Rainfall is experienced between the months of May and October with its peak in late July and August.

- **Sunshine**

  The average daily sunshine is 8hours and the highest is 10hours.

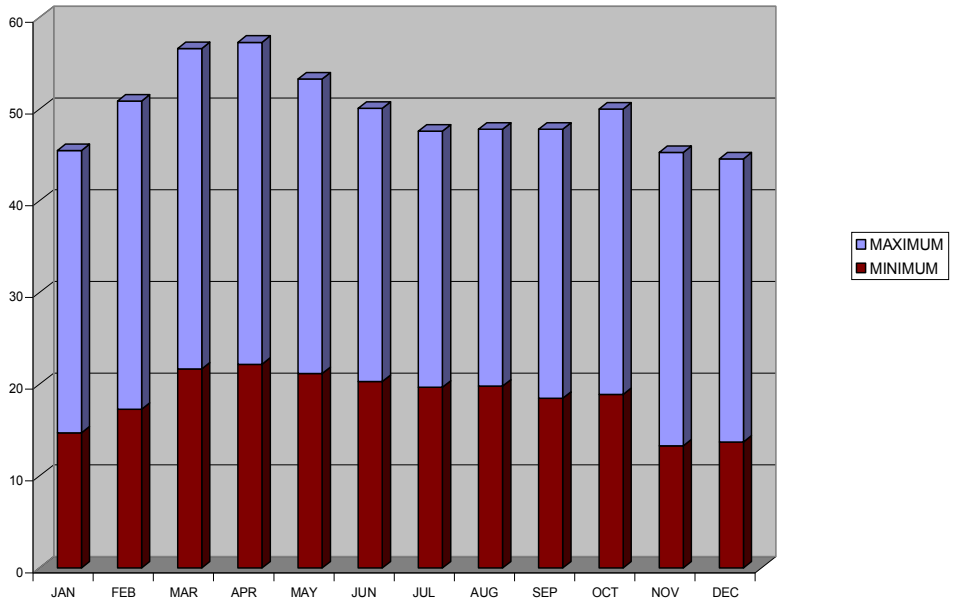


Figure 6: Monthly temperature for Kaduna (1984 – 1994,in ^{o}C)

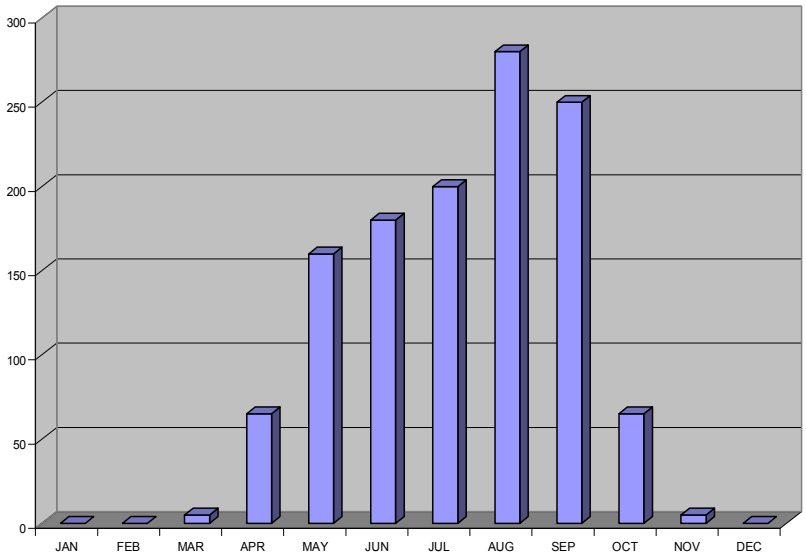


Figure 7: Mean Monthly values of Daily rainfall in Kaduna (in mm)

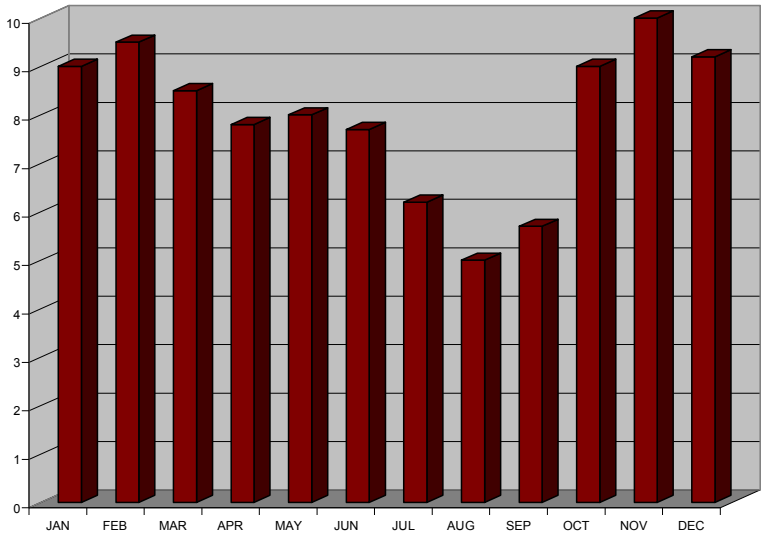


Figure 8: Sunshine Distribution for Kaduna (in hours / day)

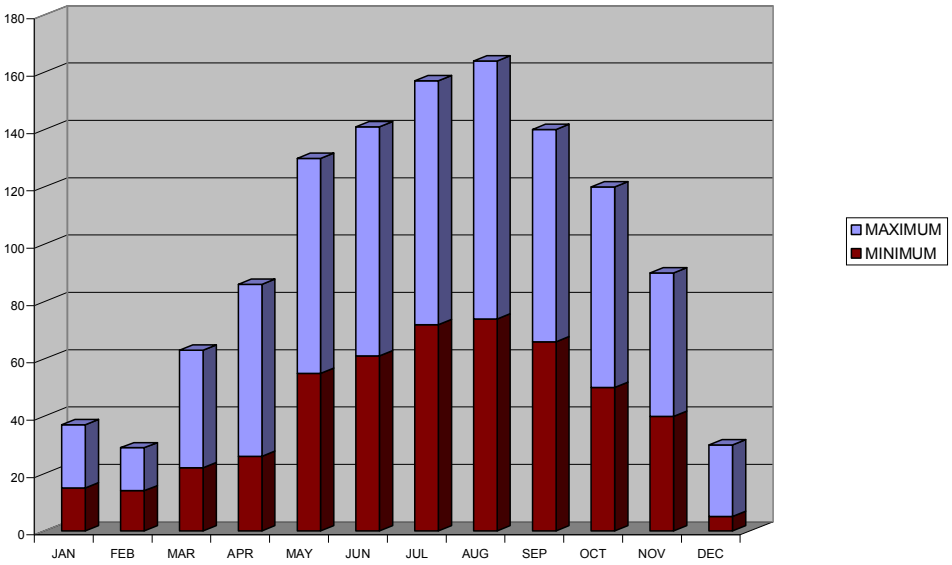


Figure 9: Monthly Relative Humidity For Kaduna.(in%)

6.3 SITE SELECTION CRITERIA

1. Jacaranda's history as a vacation spot.

Jacaranda has a history of being a place where people visit to get away from the hustle and bustle of the city. This is due to its serene environment.

2. Accessibility

The site is very easily accessible by a major road leading from the city center to the outskirts i.e. from Kaduna to Kujama-Kachia.

3. Attraction

The major attraction to Jacaranda is the serenity and tranquility that characterizes the site due to its location, complimented by the extensive use of natural/biodegradable building materials like laterite stone/rock, bamboo, thatch, etc as well as the beautifully designed man-made landscape features. Earthenware produced in the pottery serve as souvenir for tourists from within and outside Kaduna.

4. Conferences and seminars

Kaduna is a major center of activity for both national and international conferences and workshops and so the location of such a place would be providing a unique kind of venue for exchange of ideas and consequently, development.

6.4. DOCUMENTATION OF EXISTING FACILITIES

Jacaranda pottery and restaurant has existing facilities to cater for some needs of the visitors to the site though it is obvious from the critical observer's point of view that there was no preconceived site plan. The major characteristics at a glance include the following:

6.4.1 SITE LAYOUT

The site has its major buildings i.e. the pottery and the restaurant at the periphery of the site i.e. closer to the road. It is however obvious that there was no preconceived site plan. Consequently, there is no sign of provision for expansion and so fitting new facilities on this site is likely to be a problem if proper zoning is to be achieved. However, the buildings are visibly linked by well defined landscape features with which connectivity between exterior and interior spaces/ zones was achieved.

One other factor that can be deduced from the mode or pattern of development of the site is that the gentler sloping areas were used for building while the steep slopes were landscaped to give an appealing look.

6.4.2 BUILDING FORMS

There is a use of more than one type of shape in the planning of the building in site. Rectilinear forms are predominant and round huts were strategically placed housing complimentarily functions.

Generally, the design of the buildings were kept very simple and the idea of the developers was to unify the elements using Vernacular Architectural building materials to achieve a natural outlook or environment. The use of these materials resulted in the surrounding being conducive for relaxation due to the serenity and tranquility exuded by the building forms and the landscape elements surrounding them.

6.4.3 LANDSCAPING

The site in itself does not present any natural landscape features like hills, rocks, water bodies' e.t.c occurring naturally but its unique topography can be harnessed like has already been done to an extent in order to create a landscaped

environment with man-made natural features that are placed in unity with the site to the end that the landscaping world be perceived as having naturally occurred on the site or at least look like it has.

Existing on the site are pavements of stone i.e. laterite stone, pebbles and granites that gives the visitor the impression that he/she is walking on a rock especially because the area paved is on higher ground. An artificial waterfall flows down through manmade stone paved/ faced channels creating artificial streams, which terminate at crocodile pits. The water running through this areas flow in a mechanical channel.

In addition, there are shady trees planted at strategic points to act as a ceiling and protection from the sun resulting in a rather cool surrounding. Floor lights at steps and outdoor lights or stands to give light at night facilitate longer hours of stay for those who would like to stay longer.

6.4.4 CONSTRUCTION AND MATERIALS

In the construction of all the buildings, the predominant materials used are biodegradable materials .These include, laterite stone, granite, bamboo, thatch, burnt bricks and mud blocks were used .Timber and thatch was used for the constructions of roofs. Some non-biodegradable but reusable materials were used-Aluminum roofing sheets for roofs, concrete for floors and steel stilts to raise a building off the site. However, these were used minimally.



Plate 40: Timber trusses in portal frame



Plate 41: Timber columns in portal frame



Plate 42: Thatch in hut roof



Plate 43: Detail at corner



Plate 44: Picture showing Marmara and thatch in workshop (source: Fieldwork)



Plate 45: Bamboo and timber construction (source: Fieldwork)



Plate 46: Thatch over shed (source: Fieldwork)

6.4.5 DESCRIPTION OF EXISTING FACILITIES

The existing facilities at the Jacaranda Resort and Restaurant can be grouped into four major sections, which include

a. The pottery section

b. The restaurant section

c. The chalet section

d. The staff accommodation section

Below is a documentation of each of these sections and the building there in.

6.4.5.1. THE POTTERY SECTION

This area houses equipments that facilitate production and display of pottery which are souvenirs from Jacaranda.

The spaces provided to facilitate pottery production comprises of workshops and stores. In addition, exhibition sheds are available.

There is a kiln, water pump and pits each of which act as auxiliary equipment providing support to the main work done in production of the souvenirs.

The basic features that characterize this section are further illustrated;

i. Workshops

There are two workshops in this section and each of these is rectangular in plan with thatched roofs soaring up to three meters high in each case. The buildings are made of stone and mortar and the roofing materials are of timber in a portal frame construction, which is exposed on the interior. The windows of one of these are of glass on either side while the other workshop has metallic windows on one side and fenestrations on the other. The wall of one of the workshop is plastered with some sort of chalk on which finger made decorations can be seen.

The construction is neatly done to the extent that it can be boldly left open for inspection and admiration by the users or visitors. The wood used is hard wood of high/ good quality.

ii. Stores

The stores are also built of stone, have thatched roofs and metallic doors and windows. They are round in plan and are closer to the service entrance. The roofing materials are exposed on the interior.

iii. Kiln and mud pits

The kiln and clay pits are auxiliary equipment mode of mud to serve their individual respective functions of processing and storage of clay.

iv. The exhibition sheds.

There are two open sided sheds. They are simply constructed with thatched roofs on timber poles fixed to concrete floors of rectangular plan. These are suitable for use for the exhibition of pottery souvenirs.

v. Shops

This building is made up of semidetached huts, one of burnt red bricks and pentagonal in shape attached to a round hut made of stone. The timber roof construction is covered with thatch.

vi. Landscaping

The landscaping of this area is not intense. A stone round about in the center of this section serves as a planter on which broken pots indicating the purpose of the area are placed. The ground is covered with red laterite and is bare of any grasses.



Plate 47: Souvenir Shop



Plate 48: Workshop



Plate 49: Pottery made at Jacaranda (Source: Fieldwork)

6.4.5.2 THE RESTAURANT SECTION

This section comprises of an outdoor garden bar/ dinning area, an indoor dinning along with a kitchen and a pantry. The general layout of this area allows for relaxation as well as a little recreation especially for children. This is made possible, by the provision of landscape area with streams, waterfall, bridges, lawns, crocodile pits, stone paving, swings e.t.c and a few shady trees.

i. The outdoor dinning

This area welcomes any visitor to this section and acts as the entrance area. A hut placed strategically in the center of this area has dwarf walls of stone and thatched roof under which a high table for six is placed. There are also four more round shades over tables simply constructed as thatched roofs over four poles each. These ones house four diners each. The floors under the shades are concrete floors.

The ground is covered with a rich luscious green lawn with stones arranged on a meandering line from the entrance to the bar.

ii. The Garden Bar

This facility opens directly into the outdoor eating area and so visitors are easily served from this point with drinks of their choice. The space has a polygonal plan with four columns made of burnt bricks and faced with carved timber resulting in an African character created by the motif and decoration of these elements.

The counter is made up of a hyperbolical shaped wall and top and is one meter high. The ceiling boards are of raffia mat. .

iii. The Indoor dinning/ restaurant

This building was constructed and finished in such a way that it has a vernacular character.

However, high-tech materials were used for stability of the structure. Due to the slope of the site and obvious desire not to tamper with this, steel stilts were used to raise the building; these were made of steel and formed with bolts.

The space comprises of timber portal frames at two meters centers having a table on either sides between the portal frames. The elements used in construction are exposed and give a feeling of living with nature especially because the walls of the restaurant interior and exterior were covered with raffia and bamboo. respectively. The roof is covered with thatch too.

iv. Landscaping

This area is beautifully landscaped and any beholder will no doubt see this. The wall harnessed use of the site slopes to evolve with a landscape that seems to have occurred naturally is impeccable. The landscaping features comprise of both hard and soft elements. These include, stone retaining walls, stone and crocodile pits e.t.c among the hard elements and the soft patches of grass, the trees, the water flowing artificially e.t.c among the soft elements.



Plate 50: Restaurant placed in beautifully landscaped surroundings



Plate51: Garden Bar

(source: Fieldwork)

6.4.5.3 PRIVATE ACCOMMODATION

i. Chalet

There is only one lone chalet on the northeastern side of the built up area and this is made up of twin huts with spaces for sitting, sleeping and toilet. The building is at the highest point of the site, it was built at the beginning of the steep slope which is landscaped with stone to give a rocky finish. The point at which this building lies presents a panoramic view to any one who stands at the southeastern end of the building. It is built of stone and roofed with bamboo and thatch like most of the other buildings

ii. Landscaping

Like stated above, the surroundings of the buildings is paved with granite stone having steps running down the steep slope at the southeastern point of the building and a little garden and fish pond on the same side.

This chalet is for the personal use of the owner of the resort.



Plate 52: Twin huts



Plate 53: Landscaping of chalet surroundings

(source: Fieldwork)



Plate 54: A scenic view from the chalets (Source: Fieldwork)

6.4.5.4. THE STAFF ACCOMMODATION

This facility houses 4 single bedrooms, 2 living rooms, 2 kitchens and 2 toilets. It is built of mud, plastered with sand -cements mortar and roofed with corrugated roofing sheets. Of all the buildings on site, this building has suffered the most dilapidation and needs renovation or demolition.

Table 3: showing schedule of Accommodation of Existing facilities

SECTION	UNIT	SPACES	SIZE (m^2)
A. Pottery	Workshops	Workshop One	105
		Workshop two	120
	Stores	Four round huts	19 (x 4)
	Kiln	mud oven	9
	Exhibition area	Two exhibition sheds	24 (x 2)
	Shop	Reception	70
		office	19
B. Restaurant	Outdoor dinning	Central hut.	28
		Other huts.	20
	The bar		56
	Indoor eating area	Hall	80
	Toilets	Male	4
		Female	4
	Kitchen		70
C.Private	Twin huts	Living area	77

accommodation	Bedroom	44
	Toilet	8
D. Staff accommodation	Bedrooms	12 (x 4)
	Kitchens	4 (x 2)
	Living rooms	14 (x 2)
	Toilets	4 (x 2)

6.4.5.5. ECO-ARCHITECTURAL ANALYSIS

The existing buildings were built to compliment the natural topography. Steep slopes were taken advantage of in landscape design and the use of simple forms as well as buildings on stilts shows an attempt to compliment the natural features of the land.

The buildings reflect African traditional architecture in the use of round huts, African motif and decoration on walls, etc.

The existing buildings are satisfactory in relation to human proportions as the spaces provided in terms of area and height show special consideration for standard anthropometrics.

The use of multiform is beautifully harmonized with the environment due to the use of natural materials in building and the extensive use of natural landscape elements, especially the numerous species of trees and general vegetation.

The buildings existing at Jacaranda resort respond favourably to the climatic conditions of their location. This is made possible by the use of

thermal mass and the employment of passive cooling techniques like cross ventilation in design.

The natural materials used were locally sourced with the exception of bamboo, which is not readily available in the northern part of Nigeria. However, the use of thatch, red laterite rock (Marmara), granite, timber etc are evidence of locally sourced materials. The only diversion from this rule is the use of corrugated aluminum sheet for some roofs.

The decoration on the buildings in the resort were done to harness the potentials of the natural building materials used in construction especially timber and mud. The intrinsic features of these unique building materials are highlighted as a result.

It is worthy of note that the buildings were built in such a way that interest would be stimulated in the minds of the users. From the carved timber used on concrete columns to the exposed timber, trusses displayed to show the high level of craftsmanship involved in construction. The buildings themselves are art.

There are signposts all over the resort to direct the users. This is necessary, as the circulation pattern for vehicular and pedestrian movement is not well defined. The facilities available create the desired effect and environment for the users although they have proven insufficient over the years for visitors and tourists seeking a place for active recreation and relaxation in the bid to have a more rejuvenating experience.

From the above study, which is based on the principles of ecological architecture, the most obvious deduction is that the architecture of the existing scheme can be said to be ecological. Subsequently, the extension or expansion

of this scheme to accommodate a wider scope of facilities should compliment, enhance and improve on this rather than be superimposed on it. This is in support of the main essence of the whole thesis to develop ecologically.

6.5 ANALYSIS ON QUESTIONNAIRE SURVEY

Part of Ecological Architecture is to let people be part of it. For the purpose of this, project a questionnaire survey was carried out in January 2005. In addition, a sample of one hundred individuals within Kaduna metropolis was taken and the result helped in finding more about user's needs, requirements and comfort.

Some of the findings are as follows:

a) That public opinion sampled shows that 82% of leisure enthusiasts go to resorts in the hot dry season. .

b) That a greater part of the visitors to resorts goes there on weekends (Saturdays and Sundays) or public holidays and festival periods (Easter, Christmas and Id-el-kabir)

c) That about 15% go to the resorts between 8.00am-12noon that most of the visitors go to relax between 12noon and 6pm.

d) For those who had visited Jacaranda, the experience was relaxing but staying beyond 6.00pm was not convenient due to lack of facilities for night activities.

e) Time spent at resort ranges between 1-5 hours.

f) Most visitors come from Kaduna metropolis using their private cars as few public buses ply the road.

g) That most visitors buy food, snacks and drinks from the resort due to rules that discourage bringing personal food but the general complaint is the very expensive menu available.

h) That both Nigerian and international needs should be met.

CHAPTER SEVEN

DESIGN ANALYSIS

7.0 DESIGN ANALYSIS

An upgrading of Jacaranda resort is expected to cater for the need for facilities to support a wider scope of activities, which are typically engaged in at resorts. The design should therefore present a welcoming, planning and peaceful atmosphere for the users.

The researcher's focus is on applying the principles of ecological architecture evolving with new facilities that compliment the old/existing facilities and fit into the site. The challenges faced are those of maintaining the trend in the existing facilities as well as aesthetics, good architectural design and landscaping.

The use of biodegradable materials, proper zoning, placement of and orientation of openings, intense landscape are some of the basic features applied to achieve this.

7.1 DESIGN PARAMETER

A number of parameters based on the principles of Ecological architecture have been evaluated and employed in the bid to evolve with a design that caters for leisure and recreation needs of visitors to Jacaranda resort.

These parameters can be broadly grouped into three, and these are:-

(a) Environment Consideration

(b) Planning Consideration

(c) Design Considerations.

- Site design considerations
- Site adaptive design considerations
- Spatial design considerations

7.1.1 ENVIRONMENTAL CONSIDERATION

The factors considered in the environment include thermal comfort and wind control.

i. Thermal comfort:

A number of factors come together to achieve thermal comfort in a building. In this case, the researcher has employed thermal mass, which includes stone and burnt brick and passive cooling which involves the use of cross ventilation in the provision of openings and sun shading devices.

Good thermal comfort can also be achieved using natural or manmade water bodies like fountains, pools, ponds etc. as well as proper orientation of buildings.

The emphasis is on good design and good choice of buildings materials. In the existing buildings, the features that enhance thermal comfort can be seen.

ii. Wind Control

Wind control is very important to help maintain or induce comfortable conditions in the buildings. The use of trees to act as buffer against uncontrolled wind and noise pollution is necessary in catering for the comfort and peace of the users.

7.1.2 PLANNING CONSIDERATIONS

This involves an evaluation of the needs of social groups of people. The basic principle of planning consideration is in site planning. The principle of site planning is aimed at:-

a) Flexibility and growth

b) Adequate zoning .

In planning for a venue to be upgraded in order to cater for leisure/recreation needs, certain issues need to be addressed;

i) Program

Adequacy of space to accommodate facilities and provision of needs for youths, children, and adults.

ii) Aesthetics

The integration of old and new facilities in a pleasing composition using good architectural design and finally integrating these with beautiful natural elements and landscaping.

iii) Inter-functional Arrangement

This is the general planning of the site to ensure that there is good coordination in relationship between spaces and zones.

iv) Economy

There should be cost effectiveness in design and the design should be applicable to the Nigerian context.

v) Natural features

This involves the use of natural features on the site natural building materials for the structures and natural elements for the landscape. Trees and water are important natural features in recreation/leisure.

vi) Accessibility

Easy vehicular and pedestrian circulation. These should be articulate and easily accessible from the main access.

7.1.3 DESIGN CONSIDERATIONS

7.1.3.1 SITE DESIGN CONSIDERATIONS

In the site design and planning, various factors were considered to achieve harmony between buildings and site in order to enhance the natural environment with the use of architectural features without super imposing the architecture on the site.

i. The premises.

The attractiveness of the site is mainly in its remoteness from other development and the tranquil environment. The proposal seeks to conserve this feature.

ii. Density.

This involves placing the facilities on the site in a dispersed or concentrated manner. While natural landscape is easier to maintain, if facilities are carefully dispersed, concentration of structures leave more undisturbed natural areas. This proposal combines the two concentrated and dispersed facilities at various points on the site.

iii. Slopes

In the bid to integrate the new facilities with the old ones; and create visual appreciation, the proposal includes buildings to be located on moderate slopes.

iv. Views

Views are critical and reinforce the visitor's experience. The location of the site maximizes views of natural features. Maximization of views of visitors and support features has been done to achieve greater privacy.

v. Access to natural and cultural features.

Good placing on site of facilities to maximize pedestrian access to the wide variety of onsite and offsite resources as well as recreational activities has been done with low impact development on some areas to protect vital resource areas. Example of resource areas with low or no impact are,

- A major part of the site reserved for farming and grazing.
- A dam not frequently visited by humans due to its distance. This dam is well visited by cattle.

vi. Energy and utilities.

The use of already existing conventional energy and utility systems would be minimal with the provision of good natural ventilation, Kaduna state water board already supplies water and a borehole built on site.

vii. Road and design construction.

An curvilinear alignment has been designed to flow with the topography and add visual interest. Retaining walls will help stabilize the soil with the built up area.

viii. Core site access

Access within recreation-related development is typically pedestrian. Automobiles are to be restricted to the edges of the development.

ix. Utility and waste systems

- **Storm drainage**

The main principle in storm drainage control is to regulate run off to provide protection from soil erosion and avoid directing water with unmanageable volumes. The use of depressions to capture runoff (to help

recharge ground water supply) would help re-vegetate areas to replicate natural drainage system.

- **Irrigation system**

  Captured rainwater recycled gray water or treated effluent could be used as irrigation water.

7.1.3.2. SITE-ADAPTIVE DESIGN CONSIGERATION.

In this ecological approach to redevelopment, more ecological knowledge is at the core of the design. Instead of human functional needs during the site design, site components respond to the indigenous spatial character, climate, topography, soil and vegetation as well as compatibility with the existing building forms and tree locations and the character of existing landscape will be largely maintained. Natural buffers openings are used rather than artificially produced.

1. Natural characteristics

Like natural, the design should not be static but always evolving and adapting to interact more intimately with the surroundings.

i. Wind

The major advantage of wind in the recreation development is its cooling aspect. Orientation of the structures and outdoor gathering places to take advantage if this cooling wind movement or natural air conditioning. The technique used in nature culture has been employed.

(a) Courtyard design in Amphitheatre.

(b) Balconies as in accommodation units.

ii. Sun

Due to the interest sun, the natural vegetation and shade structures are provided for shade to enhance human comfort.

iii. Rainfall

Clean portable water is usually in short supply at the resort; therefore, rainfall can be captured for a variety of use, e.g. flushing toilets. Wastewater and excess runoff is channeled and discharged to allow for ground water recharge.

iii. Topography

The topography has been used to provide more privacy for individual structures and enhance the visitor's experience.

iv. Visual character

The proposal focuses on maintaining natural look by using native building materials (marmara, burnt brick, granite, thatch, timber, raffia e.t.c.) hiding structures with the vegetation and working with the topography.

2. Cultural context

Local archaeology, history and people are the existing matrix into which visitation must fit. Ecological principles seek balance between existing cultural patterns and development. With this, the following were noticed and studied to help create a more ecological design.

i. History

From an evaluation of vernacular Hausa design and vocabulary, local Hausa design elements and architectural character Hausa been employed in establishing a theme for new development.

ii. Indigenous living cultures

Cultural traditions should be encouraged and nurtured. This proposal caters for art and craft production, local food preparation, natural displays and local architectural celebration.

7.1.3.3 SPATIAL DESIGN CONSIDERATION

This involves a thorough understanding of spatial Organization and the analysis of spaces for a functional centre;

i) **Space analysis**

This involves the analysis of the spaces to be provided in terms of quantity, size and condition and translation of these to physical dimensions and a final proposal.

ii) **Products**

This is the sums total of physical elements. Catering for space needs. These needs include visual, acoustic, comforts, equipment furnishing etc to make the space usable.

iii) **Space Program**

This involves an itemization of requirements for each space unit (standardized or individual). This is categorized to the primary functional or activity group and the total areas requirement for each group.

7.2 PLANNING PRINCIPLES

7.2.1. SITE PLANNING

The site planning done in the proposal was mainly aimed at restoring vehicular and pedestrian circulation, this was done with visual appreciation and enhancement of the natural environment as a major goal.

The entrance to the site is located on its highest points on the border and the road into the site is major at the periphery to avoid over intrusion of vehicular traffic in the other areas of activities. The road is furnished with gravel with rainwater drainage channels running along it and across it. This empties into the dam.

Most of the buildings are at the periphery of the site about 50m from the main access road. All radiating from the existing facilities, the new facilities have pedestrian pathways leaden to and from the terminals of the vehicular access.

Security has been considered in the planning and a major portion of the site, that is, over 80% of the site has been preserved virgin with trails leading to the small stream at the lowest point of the site. Picnicking, bicycle riding and fishing will be done within this area.

7.2.2. BUILDING FORMS

The building forms were developed based on the form concept and design concept. These in turn were derived from a study of the existing facilities.

The buildings are fluid to create a more relaxed atmosphere and integrate them with the natural environment. The geometric forms that govern these building forms are polygons, rectangular and circles. The chalets comprise of polygonal and rectilinear forms and the amphitheatre comprises of 5 circles around the concrete racking.

7.2.3. LANDSCAPING

Landscaping is a major element in ecological Architecture because it helps integrate the outdoor and indoor spaces lightening, the dividing line between the two landscaping as it compliments the building bringing the indoor out and the outdoors in. With the use of landscape, a number of benefits are afforded and these include:-

- Aesthetically pleasing environment
- Reduction of noise pollution
- Increase in thermal comfort and wind control.

Landscaping features can be divided into hard and soft landscaping.

Hard landscape includes roads, playing courts, stone pavements, sculpture and parking lot. The roads and stone pavements are necessary for vehicular and pedestrian circulation. Parking is more organized with the provision of the parking lot. The sculpture and furniture bring in some aesthetics. Sculpture of wood and stone are very much applicable in this case.

Soft landscape includes trees, ground cover, showers, and water bodies. Trees help direct traffic/circulation, give privacy and provide shelter and buffer from sun, noise, and wind.

The ground cover which includes low grass cover helps suppress needs and control erosion. Flowers are mostly in a variety of colours, leaf sizes and shapes. They add beauty to the environment water bodies. These include the stream, ponds, and fountain which provide a feeling of coolness, calmness and tranquility. These enhance social interaction.

7.2.4. INTERIOR SPACES

As part of the ecological process, the interior spaces are planned such that they possess a similar atmosphere with that of the exterior. Views of the exterior are enabled with the use of glass windows. Cross ventilation is a major consideration in the planning of the exterior spaces to enhance passive cooling.

The extensive use of indigenous materials on the interior of the chalets is aimed at providing an atmosphere that is natural and compliments exterior surroundings.

7.2.5. CONSTRUCTION METHODS AND MATERIALS

The construction methods employed are similar to those employed in the existing facilities. Timber trusses and portal frame construction were used in the existing facilities and these have been modified for use in the proposed facilities. The

materials used are indigenous however; reinforced concrete is employed in floor construction sand amphitheatre racked sitting. The indigenous materials used include marmara (red laterite stone), burnt brick, thatch, grass roofing, raffia mat ceiling, timber, gravel and granite stone.

7.3 PLANNING BRIEF

The proposal for the redevelopment of the resort entails a careful study of the existing facilities and a proposal to upgrade those observed to be in need of some adjustment. In addition, more facilities for indoor and outdoor recreation would be designed with emphasis, on ecological architecture in both scenarios.

To achieve an articulate site plan the old facilities have been zoned in relation to the new ones. This is to enable a properly resolved circulation pattern.

7.4 ZONING ANALYSIS

The existing and proposed facilities have been zoned together under the following zones;

1. Existing Ancillary zone
2. Proposed primary Ancillary zone
3. Proposed secondary Ancillary zone
4. Existing interaction zone
5. Proposed interaction zone
6. Existing cultural zone
7. Proposed cultural zone
8. Existing Accommodation Unit

9 Proposed Accommodation Unit

10. Existing landscaped zone
11. Proposed landscaped zone

12. Proposed outdoor leisure/rescue zone

13. Proposed Water sport leisure zone

14. Vehicular transition zone.

7.4.1 EXISTING ANCILLARY ZONE

This zone comprises of the staff accommodation. 'Live-in' staffs do the maintenance of the resort. The staff accommodation unit comprises of the following:-

a) Single bedrooms

b) Toilets

c) Kitchens

d) Courtyard

This zone has been re-zoned as staff accommodation zone.

7.4.2 PROPOSED ANCILLARY ZONE.

This comprises of the administrative area from which the whole resort will be run and maintained. This comprises of:-

a) Entrance porch

b) Entrance lobby

c) Reception

d) Secretary's office

e) Director of Affairs Office

f) Accounts office

g) General office

h) Kitchenette

i) Seminar room

j) Boardroom/conference room

k) Offices

l) Library

m) Toilets

7.4.3 PROPOSED SECONDARY ANCILLARY ZONE

This zone comprises of facilities to support the accommodation units provided for easy management of this zone. These include-

a) Dry cleaners

b) Saloon

c) lounge with telephone and boutique

d) Kitchen

7.4.4 EXISTING INTERACTION ZONE

This zone encourages social interaction between visitors with facilities like;

a. Garden bar

b. Restaurant

c. Kitchen

d. Toilet

e. Store

f. Landscaped area

g. Huts for sitting

This zone would be left in its location with just a little redevelopment to ensure an ecological outlook.

7.4.5 PROPOSED INTERACTION ZONE

The provision of this zone is intended to be an extension of the existing and this will include-

a. Indoor games

b. Swimming pool

c. Upgraded restaurant

d. Extension of landscape to include children's playground.

e. Changing rooms.

7.4.6 EXISTING CULTURAL ZONE

This zone has facilities for the production, display and sales of souvenirs. The facilities provided include-

a). Workshops

b). Stores

c). Kiln

d) Mud pits

e). Souvenir shop

Souvenirs from here are mostly pottery of clay.

7.4.7 PROPOSED CULTURAL ZONE

This zone provides a venue for celebrations of religious festivals, cultural festivals and life's events in general e.g. weddings etc. The facilities provided will include an Amphitheatre.

7.4.8 EXISTING ACCOMMODATION UNIT

This unit caters for the owner of resort who built it for his personal use. It will be maintained for this purpose though a proposal for redesign would be made. The unit comprises of a chalet made up of twin huts and the spaces provided within include;

a. Bedroom

b. Living area

c. Toilets

7.4.9 PROPOSED ACCOMMODATION UNITS

These are to cater for visitors who desire to spend the night or a number of days at the resort. Family and single chalets are to be provided.

For the family chalets, there are two types and these include the 2 bedroom and three bedroom chalets. The former include-

a). Entrance porch

b). Sitting

c). Dinning

d). Bedrooms

e). Kitchenette

f). Outdoor sitting/balcony

g). Toilet/bathroom

While the latter includes:

a). Entrance porch

b). Sitting

c). Dinning

d). Bedrooms

e). Toilet/bathrooms

f). Outdoor sitting/balcony

g). Kitchen.

For the singles the chalet to be provided include-

a) Bedroom

b) Kitchenette

c) Toilet

7.4.10 EXISTING LANDSCAPE ZONE

This zone is a major feature that makes Jacaranda resort a place where people love to visit. This zone comprises of elements that brings the visitors in close proximity to nature. They include:-

a). Crocodile pits

b). Store paved walkways

c). Fish pond

d). Artificial water fall

e). Trees for buffer

7.4.11 PROPOSED LANDSCAPE ZONE

This zone is a proposal to expand on the existing in order to intensity the feeling of harmony between the new structures and the old one. The elements here would include.

a). Fish ponds

b). Store walkways

c). Vehicular access roads

d). Lawns, trees and flowers

e). Fountain.

7.4.12 PROPOSED OUTDOOR RECREATION ZONE

As part of the redevelopment scheme, this zone would cater for recreation that is more active and facilities provided would include:-

a). Children's playground

b). Swimming pool

c). Rest tents

d) Volley ball court

e). Badminton court

f). Handball court

g). Squash court

h) Basket ball court

i). Lawn tennis court

j). Kiosks

7.4.13 PROPOSED WATER SPORT LEISURE ZONE

Considering the nature of the only natural water body that flows at the extreme end of the site, facilities for water sport would be limited to (fishing).However, a few more facilities would be provided and areas mapped out for:-

a). Picnic grounds

b). Kiosk

7.4.14 PROPOSED VEHICULAR TRANSITION

Facilities for visitors parking which were not provided for in the existing site plan would be provided for with pedestrian walkways leading from these to the other zones. Emphasis would be on pedestrian movement, as this in itself would facilitate rejuvenation.

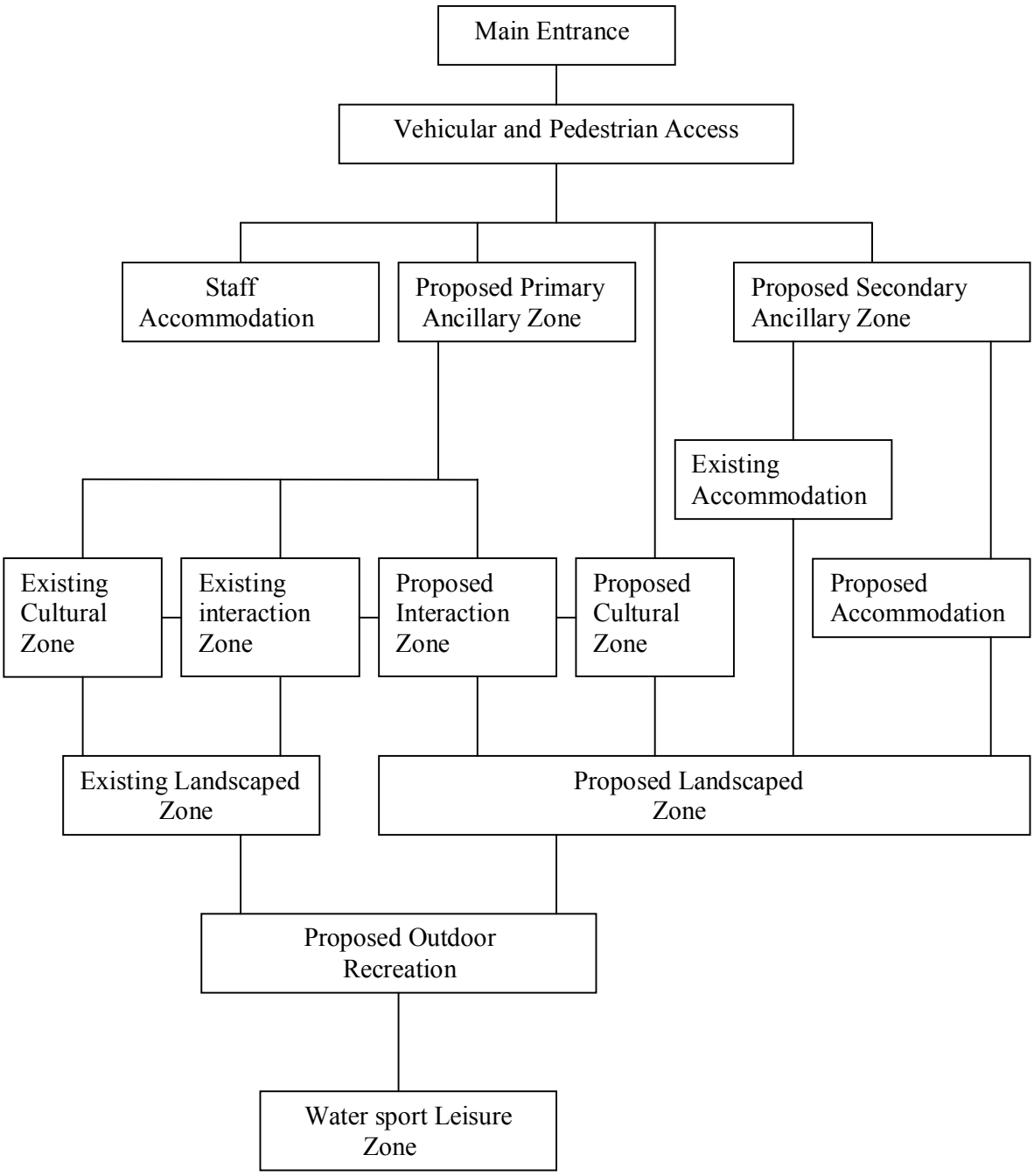


Figure 11: Detailed Functional Diagram

7.5 DESIGN BRIEF

A resort is a place visited for the purpose of recreation, relaxation and rejuvenation, and people take out time to visit this place to get away from the hustle and bustle of everyday life and environment:

Jacaranda resort has facilities well suited to their purpose for being created however; a number of facilities need to be provided to cater for the need for a wider scope of activities that characterize leisure and recreation.

The facilities existing are

a). Pottery facilities

b). Outdoor and indoor restaurant/garden bar

c). Staff accommodation

d). Chalet.

Those to be added to these include-

a). Restaurant

b). Motel chalets

c). Administrative block

d). Amphitheatre

e). Swimming pool bar

f). Indoor games

g). Children's playground

h). Outdoor recreation

i). Parking lot

j). Water Sport (fishing)

k). resting huts

l). Commercial service

7.6 REDEVELOPMENT PROPOSAL

After a careful study of the existing facilities, the following proposal for each of the facilities within the 4 sections mapped out would be treated as follows:-

7.6.1 THE POTTERY SECTION

This area has facilities for the production storage and display/sales of pottery.

Redevelopment Proposal

The buildings are permanent structures and would be left as they are. An exception would be made of one of the exhibition sheds, which would be removed and relocated to create an access route to the proposed chalets. The shed is made of reusable timber and bamboo however, the thatch would be changed.

7.6.2 THE RESTAURANT SECTION

The area has facilities for indoor and outdoor dinning.

Redevelopment Proposal

All the structures are to be left in place. However, the aluminum-roofing sheet on the indoor restaurant would be covered with thatch to give a more natural outlook and create harmony with the surrounding structures. It is notable that corrugated roofing sheets are more permanent than thatch and so a combination of the two would result in combined benefits. These are:

a) Permanent roofing from the aluminum sheets.

b) Solar insulation and natural aesthetics from the thatch.

7.6.3 THE CHALET

This building comprise of twin huts made of stone with space for sleeping and sitting as well as a toilet/bath. However, the spaces are too large for these activities.

Redevelopment Proposal

The building needs to be redesigned to organize its interior properly and as a result, the redevelopment is a proposal to demarcate spaces which would include:-

a. Bedroom

b. Living

c. Dinning

d. Kitchen

e. Office

f. Toilet

7.6.4 THE STAFF ACCOMMODATION

This visit has spaces to house workers on site for the smooth running and maintenance of the facilities available. However, its location is wrong. It is at the access point of the site and is the first building seen on entry. This is a problem as the building is not aesthetically pleasing.

Redevelopment Proposal

The material used in building this structure is mud and mud is reusable. The proposal is therefore to demolish this building and reuse it in the construction of a similar building at a new location on the site.

7.7 NEW FACILITIES PROPOSED

The new facilities proposed to upgrade the existing ones include:-

a. Administration

This section provides offices for workers. This is to aid a more organized running of the resort centre. Proper supervision and management will be aided with the provision of this facility.

b. Commercial Services

These would be provided for by the design of a complex for saloon, boutique and dry cleaning services.

c. Kitchen

This facility is the area for preparation of meals for room service for visitors at the accommodation area of the site.

d. Amphitheatre

This is an open-air theatre for screen fitness cultural display, musical concerts and open-air lecture users writings this area can have a feel of the natural environment while inside the building.

e. Accommodation Units

These are chalets for singles and families to camp over night with adequate landscaping to enhance relaxation.

f. Indoor recreation

The indoor recreation facilities are for table tennis, billiards and body building and table games like draft, chess, monopoly etc. direct access to the outdoor area is to be considered.

g. Outdoor recreation

This would cover a large space with the provision of facilities for active recreational activities. These include five a side football, basket ball, swimming pool (accessible to the indoor games), volleyball, water sport and horse riding.

h. Children recreation

These should be located close to the indoor games and interaction zone of older users for easy supervision and to make the children feel safer.

Provision is made for adventurous and conventional plays. Adventurous play helps the children discover themselves through do it yourself activities like sand play. Conventional play includes playing on slides, swings, sea saw, climb frames etc.

i. Public toilet and changing rooms

These should be placed at strategic places for the convenience of the visitors.

j. Kiosks and Stall

In addition to the restaurant and bar, kiosks placed at strategic points of the resort would provide snacks and drinks to reduce the necessity of visitors moving back and forth in the bid to meet their need for refreshment.

k. Parking Spaces

This is provided to enable coordination in the movement of traffic.

7.8 SITE CONCEPT

The site concept applied in this proposal is based on features inherent in the present site. These include the location of existing facilities and consequently the likely direction of future expansion, the microclimate, site features and the source of noise on the site. The site is zoned into noisy, semi quiet and quiet zones. The quiet zone is the farthest from the major access route and the presence of trees, as well as the topography of the area act together as a barrier against noise. For the semi quiet zone, all the existing facilities except the existing chalet are within this zone and they act as the point of interception of the quiet and noisy zone which would have more active recreational facilities as it is already a likely zone that would be further expanded. The noisy zone is within the most likely direction for future expansion and presently it is within the most treaded zone.

7.9 DESIGN CONCEPT

The design concept is based on the trend observed in the existing buildings, of integrating the landscape and structure in such a way that the line between these two is blurred. Areas between buildings will be landscaped to ensure continuity and fluidity of spaces.

7.10 FORM CONCEPT

This concept is directly drawn from the analysis of the existing features on the site. The form concept is that of harmony of multiforms using natural materials.

These concepts conform to principles of ecological architecture.

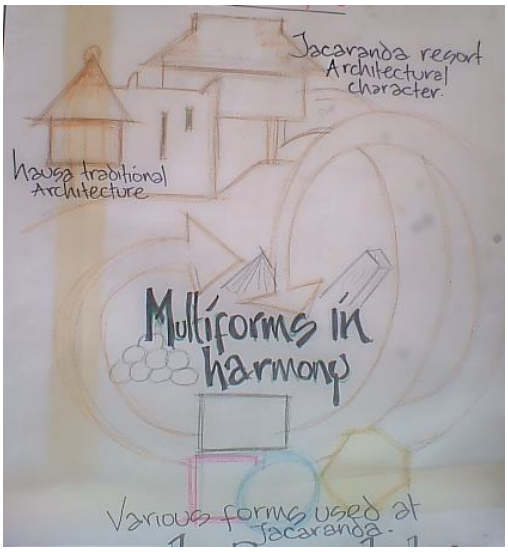


Fig. 11: Form Concept



Fig 12 : Design Concept

TABLE 4 : SCHEDULE OF ACCOMODATION PROPOSED

Description	**Quantity**	**Total Area(m^2)**
Administrative Section		
Gatehouse	1	$7m^2$
Entrance lobby	1	$30m^2$
Reception	1	$225m^2$
Secretary	1	$20m^2$
Director	1	$30m^2$
Accountant	1	$25m^2$
General Office	1	$30m^2$
Conference room	1	$120m^2$
Seminar room	1	$150m^2$
Upgraded restaurant		
Restaurant	1	$80m^2$
Balcony restaurant	1	$64m^2$
Garden Bar/Outdoor restaurant	1	$220m^2$
Toilets	1	$8m^2$
Kitchen	1	$70m^2$
Changing rooms	1	$8m^2$

Indoor Recreation and Swimming Pool		
Table Tennis	1	$72m^2$
Billiards Room	1	$72m^2$
Fitness Room	1	$72m^2$
Lounge	1	$48m^2$
Children's Playground		
Children's' Swimming pool	1	$80m^2$
Play area		$169m^2$
Open Space		
Outdoor Recreation		
Swimming pool	1	$165m^2$
Resting Huts		$7m^2$
Basketball	1	$365m^2$
Lawn Tennis	1	$740m^2$
Volleyball	1	$365m^2$
Chalets • **3 Bedroom Chalets**		
Bedrooms	2	$9m^2$

	1	$12m^2$
Kitchen	1	$7m^2$
Living room	1	$22m^2$
Dining	1	$12m^2$
Toilets	1	$6m^2$
• **2 Bedroom Chalets**		
Bedroom Chalets	2	$12m^2$
Kitchenette	1	$6m^2$
Living	1	$9m^2$
Dining	1	$6m^2$
Toilet	1	$6m^2$
• **1 Bedroom Chalet Type 1**		
Bedroom	1	$12m^2$
Living	1	$10m^2$
Kitchen	1	$6m^2$
Dining	1	$6m^2$
WC/Bath	1	$6m^2$
• **1 Bedroom Chalet Type 2**		
Bedroom	1	$10m^2$
Kitchenette	1	$4.5m^2$
WC/Bath	1	$6m^2$

• **Upgraded Chalet**		
Living	1	$39m^2$
Dining	1	$19m^2$
Kitchen	1	$19m^2$
Bedroom	1	$22m^2$
Office	1	$22m^2$
WC/Bath	1	$8m^2$
Amphitheatre		
Entrance Hall	1	$78m^2$
Sitting Area		$700m^2$
Stores	2	$14m^2$
Backstage		$215m^2$
Stage	1	$100m^2$
Staff Accommodation		
Bedrooms	4	$12m^2$
Living rooms	2	$14m^2$
Toilets	2	$4m^2$
Kitchens	2	$4m^2$
Ancillary For Chalets		
Kitchen	1	$30m^2$
Laundry	1	$12m^2$

Lounge	1	$24m^2$
Salon	1	$12m^2$
Toilet	2	$6m^2$

7.11 SERVICES

The buildings will be ventilated naturally using cross-ventilation for passive cooling. Special consideration has been made in the design of the chalet to ensure cross-ventilation in all bedrooms and living spaces.

7.11.1 COMMUNICATION SYSTEMS

Public Phone service will be provided at the reception of the administrative blocks and at the lounge near the chalets. All Chalets and facilities will in turn be connected to an intercom system, which will be routed to the communication system of the resort.

7.11.2 POWER SUPPLY

The primary power supply is already installed by the National Electric Power Authority (NEPA).An alternative source of power has also been provided for with the installation of a standby generator for emergencies.

7.11.3 WATER SUPPLY

A borehole supplies water to the resort as a supplement for the main water supply. The water from the borehole is used for cleaning, cooking and laundry. It also supplies the artificial waterfall with water. The swimming pool and fountain will obtain their water

From the main water supply provided for by the Kaduna State Water Board.

7.11.4 SEWAGE

Individual septic tanks and soak aways will be used and planned such that the surrounding vegetation will use the wastewater.

CHAPTER EIGHT

CONCLUSION

8.0 CONCLUSION

It is worthy of note that in more recent times, the widespread awareness and on the need to engage in recreational activities has led to the provision of facilities for recreation, leisure and relaxation as a response to this need . Residents and tourists would visit a resort not just for the facilities it provides but also for the pleasure experienced with the use of sophisticated facilities, placed within a natural setting, which constitutes an integral part of the tourist attraction.

A resort's identity should be defined to give it character. In order to achieve this, the design principles employed are based on the philosophy of ecological architecture in the bid to emerge with a design that will compliment and harmonize with both the existing facilities as well as the surrounding environment.

In order to make the growing built environment more humanly (habitable), having due regard for ecological interest, an understanding of the process which produces natural structures is indispensable. Knowledge of the processes will enable Architects find more constructive solutions, which are easily integrated with nature.

This thesis has sought to contribute to ecological architecture, which has virtually become a global theme in the professional design industry. The emphasis was to preserve the existing facilities which and at the same time upgrading by proposing new facilities which are in harmony with the existing; a study of the existing situation, environmental conditions and the use of indigenous materials being a means to this end.

The design is also expected to contribute to the development of Jacaranda resort by attracting more visitors, tourists and vacationers from within Kaduna state and beyond.

Ecological architecture covers very diverse and interesting topics; however, this thesis only highlights the process of achieving ecological architecture using an ecological approach. It is hoped that this thesis will prove useful to those venturing into ecological architecture / resort redevelopment in future.

APPENDIX A

JACARANDA RESORT REDEVELOPMENT

There is a proposal to upgrade the existing Jacaranda pottery and restaurant to a resort, in response to the increasing need for leisure/ recreation facilities in Kaduna. This questionnaire has been designed to sample your opinion. Thank you.

Questionnaire.

1. Are you in support of this project? a) Yes ----- b) No -----
2. How long have you lived in Kaduna?
    a) Less than one year
    b) 1-5 years
    c) 5-10 years
    d) Above 10 years
    e) Holidays/ Leaves only
3. How much period of vacation do you have to yourself?
    a) Less than one week
    b) 1-4 weeks
    c) Varies
    d) None
4. How much of this period do you have for leisure at a resort?
    a) All
    b) ½, ¼, ¾ of it
    c) None
5. How often do you visit a resort?
    a) Daily
    b) Frequently

c) Occasionally

d) Rarely

e) Yearly

6. At what time of the day do you go to a resort?

a) 8.00am- 12.00noon

b) 12.00noon- 4.00pm

c) 4.00pm- 8.00pm

7. Which days of the week do you go to the resort?

a. Weekdays

b. Saturdays

c. Sunday

d. Everyday

e. None

8. Which season attracts you to the resort?

a) Rainy season

b) Cold Dry season

c) Hot Dry season

9. What mode of transport do you take to get to the resort?

a) Private car

b) Public car

c) Buses

d) Motor bike

10. How many hours do you spend there?

a) Less than one hour

b) 1-5 hours

c) 5-10 hours

11. How do you spend leisure time at the resort?

a) Play traditional local games (Ayo, Draft, Wrestling e.t.c)

b) Swimming

c) Horse riding

d) Name others ----------

12. How do you cater for food, snacks, or menu?

a) Bring from home

b) Available at resort

c) Prepared at resort

d) No provision made

13. What kind of image will you like a resort to have?

a) Nigerian

b) African

c) International

d) All of the above

14. If Nigerian, what kind of activities will give it a Nigerian outlook.

---

15. Have you been to Jacaranda before? a) Yes ----- b) No ------

15 b. If yes, what did you like about the place? ----------

---

16. What were your disappointments about the place? ----------

---

17. The facilities for the following are being proposed. Would you indicate by ticking the activities of your preference?

a) Safe car parking

b) Amusement park

c) Restaurant upgraded

d) Night club

e) Various facilities for children

f) Amphitheater

g) Chalets

h) Sporting facilities for

- Swimming

- Tennis and

- Horse riding

18. Are there any facilities you would have loved to have at your disposal, but did not? a)Yes----- b)No------.

19. If yes, what facilities? ----------

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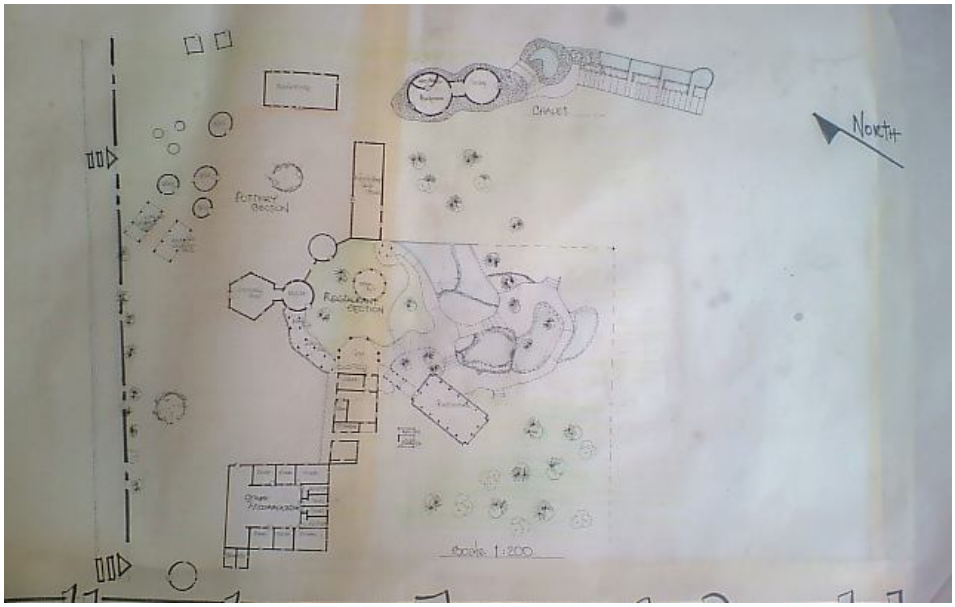
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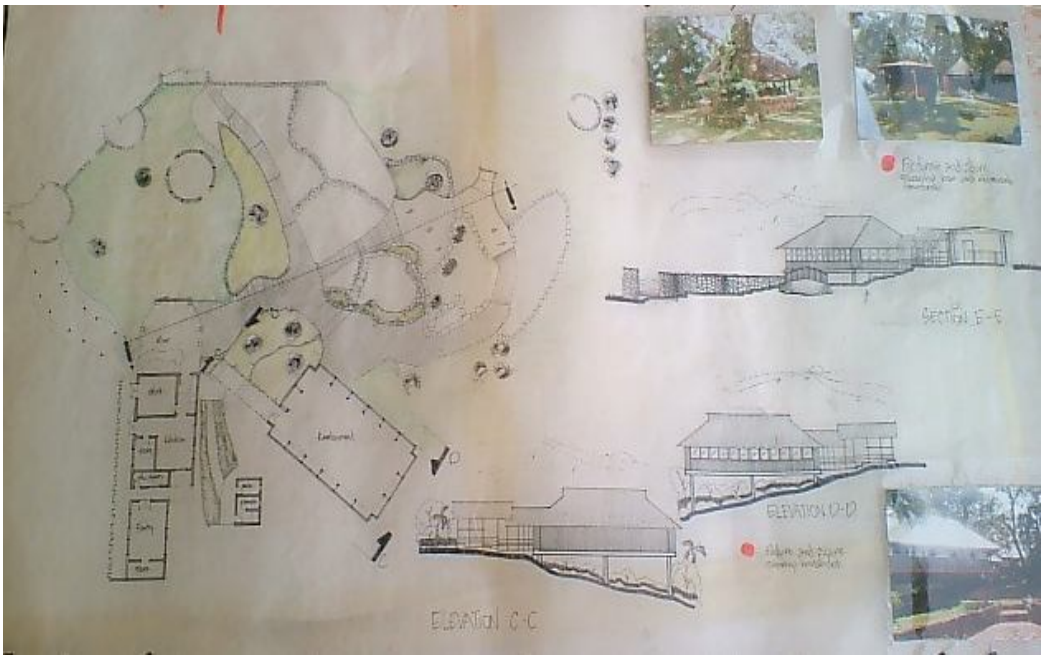
Existing site layout



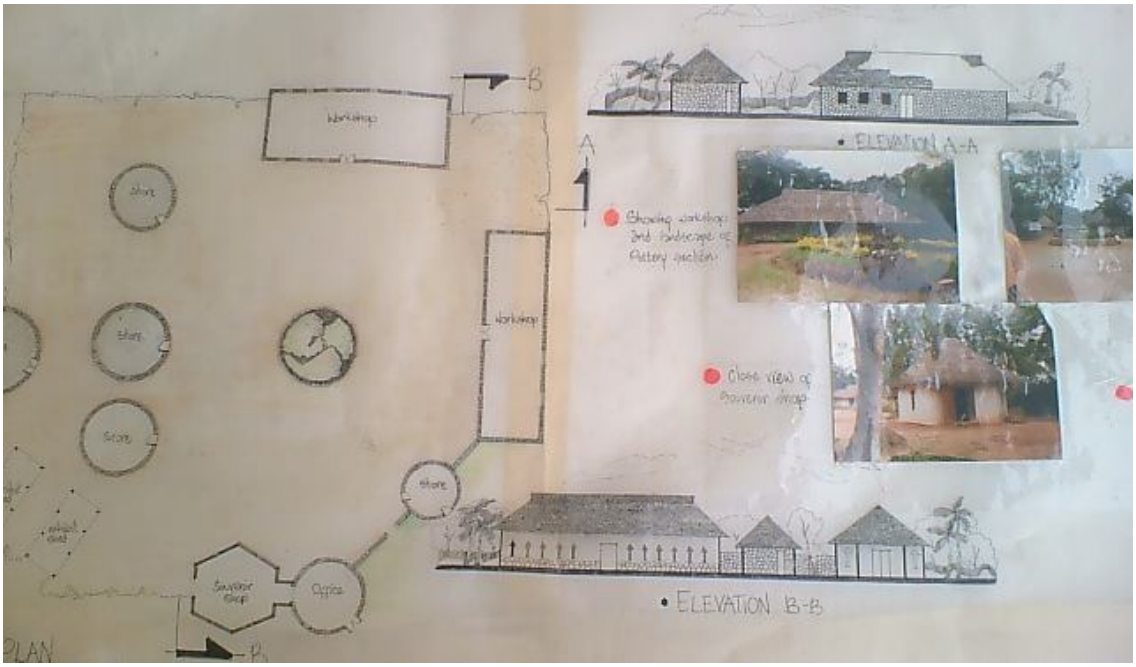
Proposed site layout



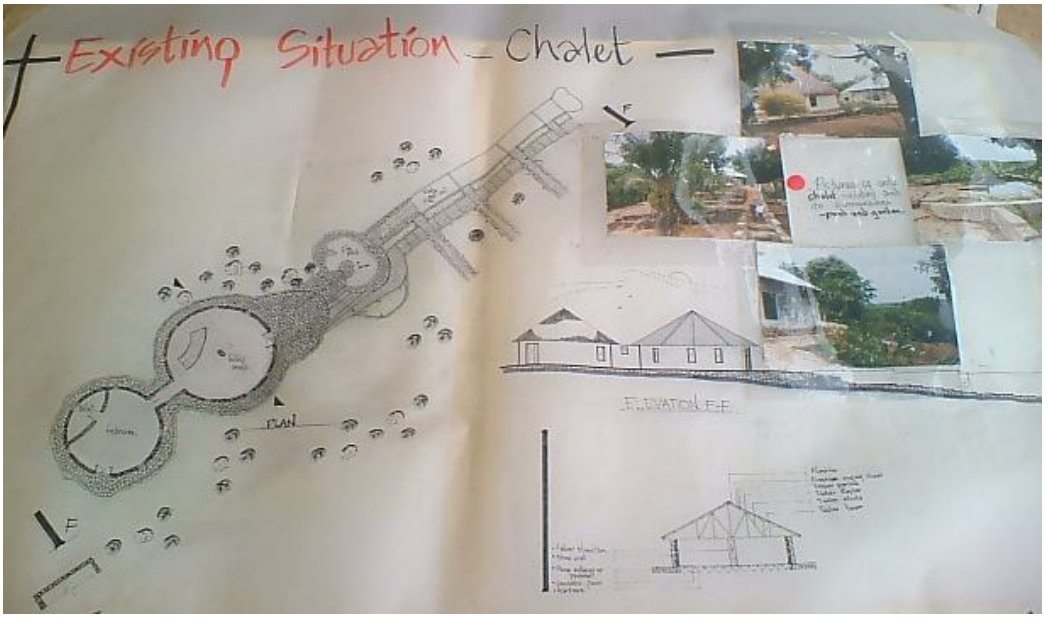
Existing Site layout



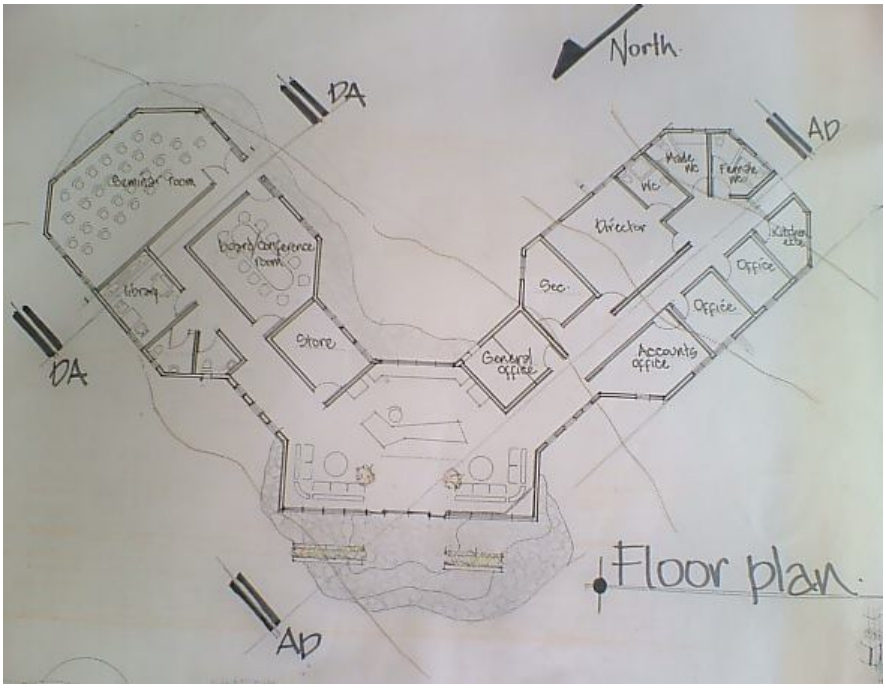
Existing Restaurant



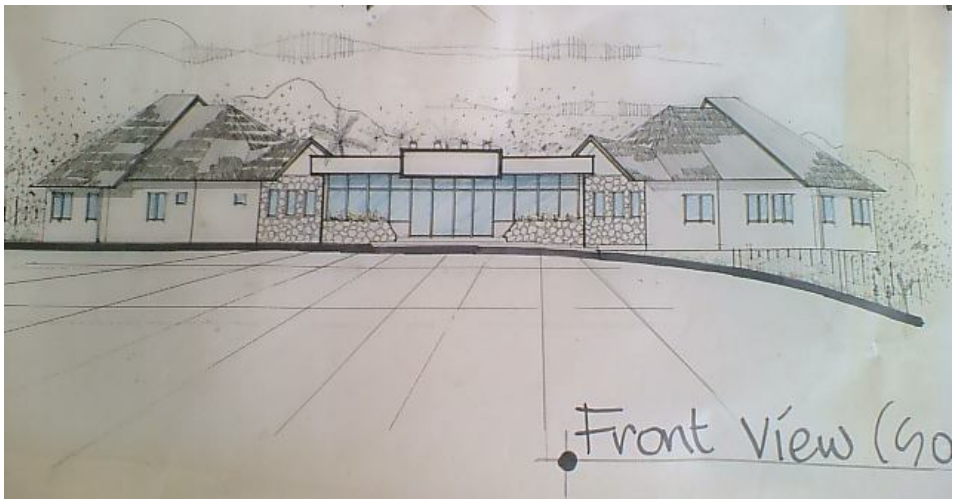
Existing pottery



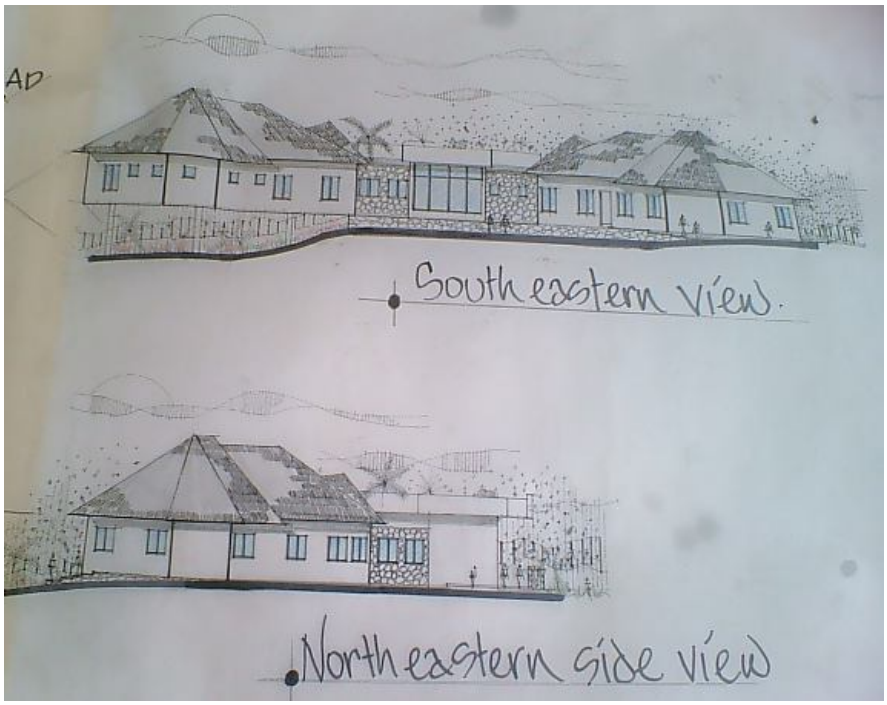
Existing Chalet



Proposed Administrative block



Approach Elevation



Elevation s of Administrative Block



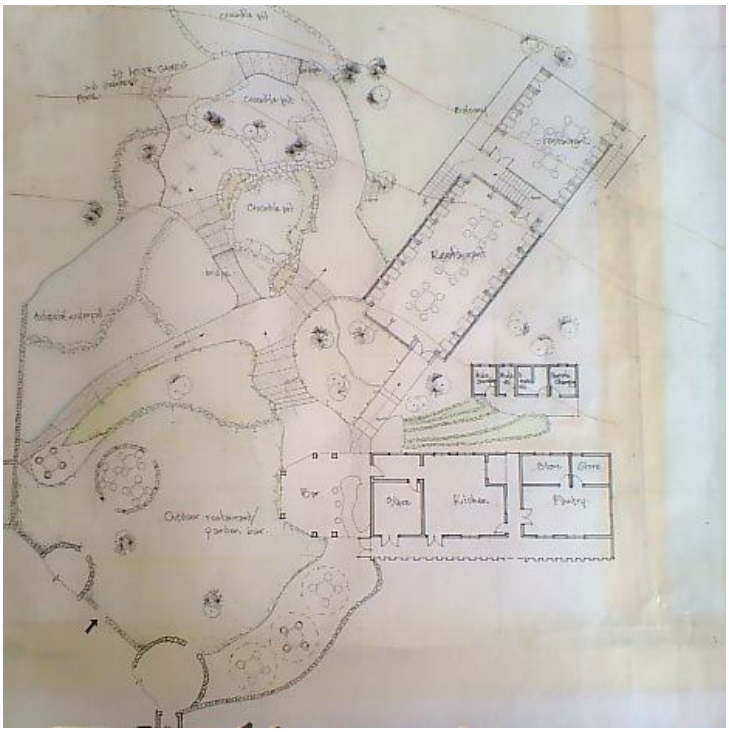
Proposed Chalets



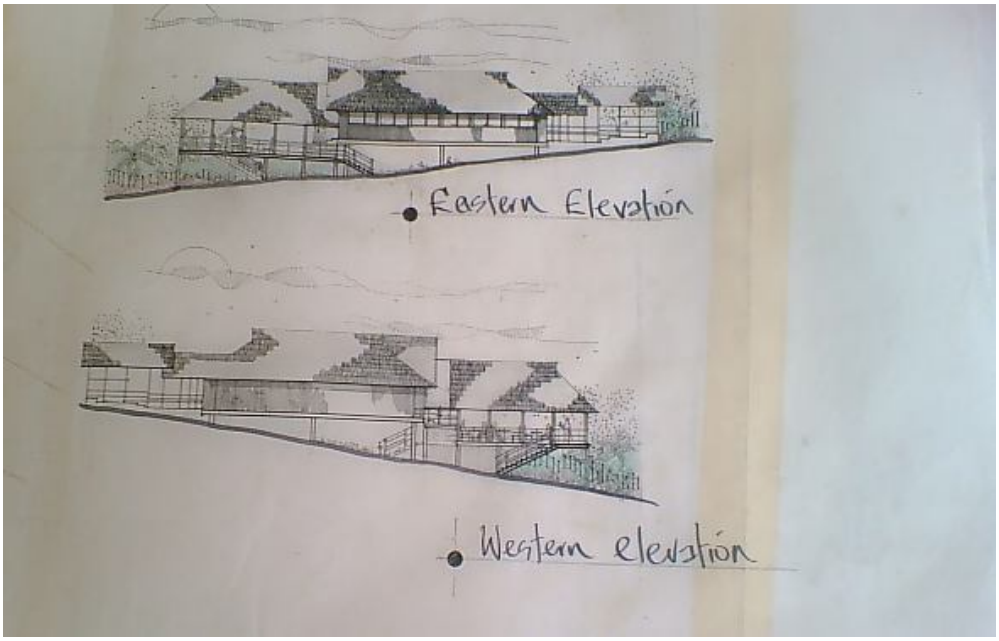
Proposed Chalets



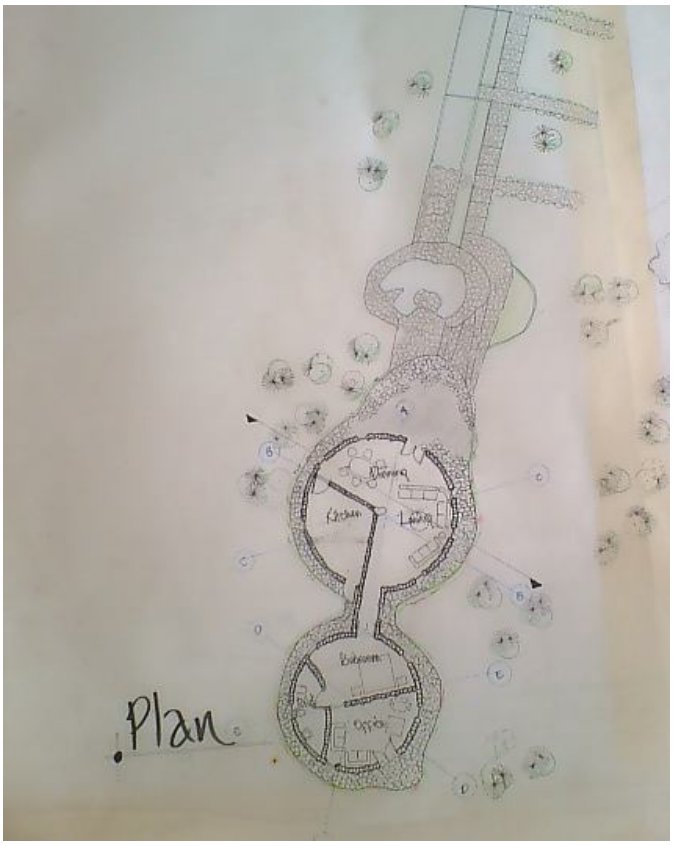
Elevations of Chalets



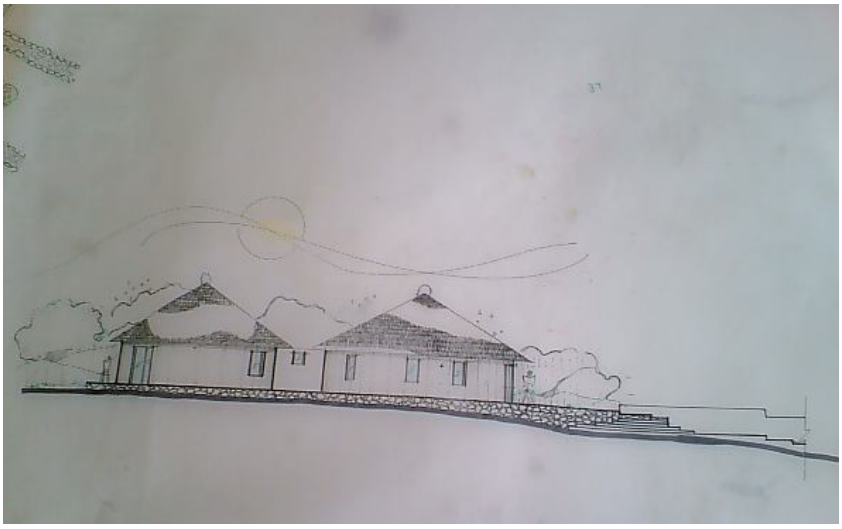
Upgraded Restaurants



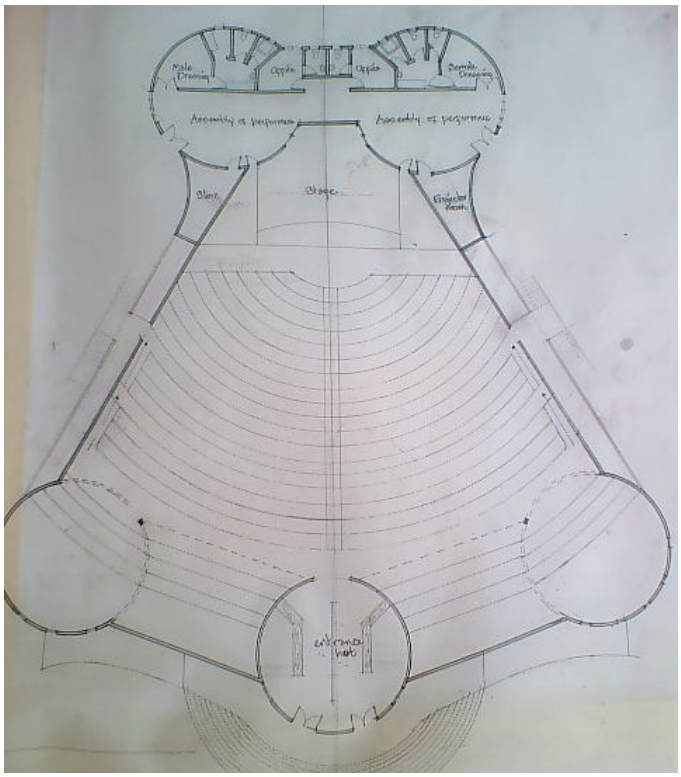
Elevations of Restaurants

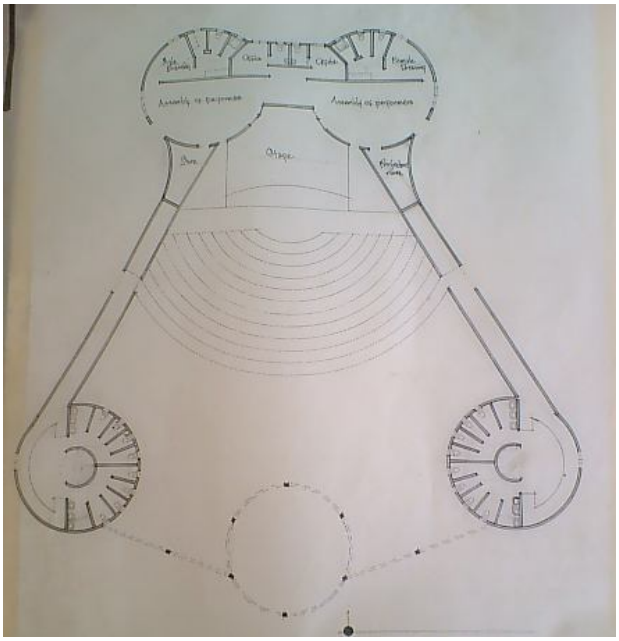


Upgraded Chalets

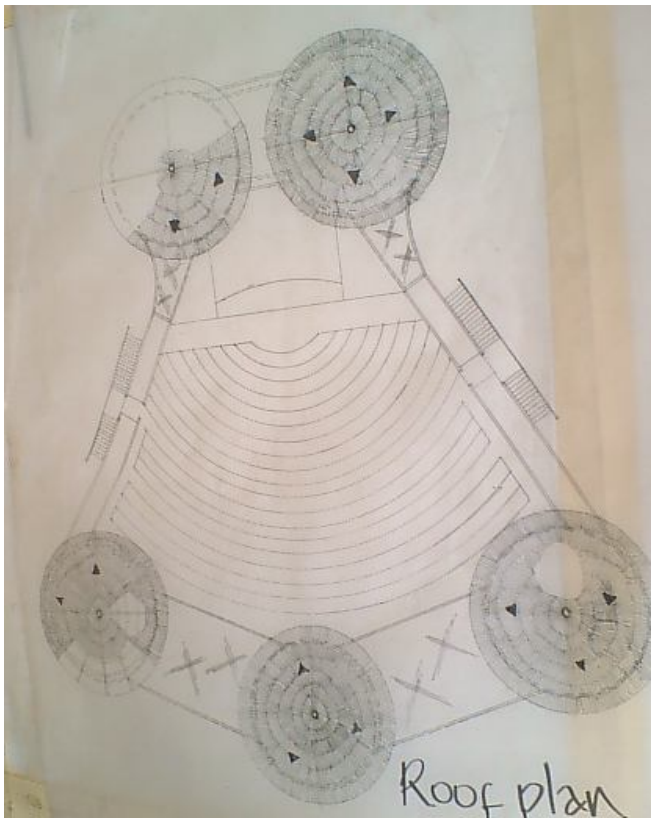


Elevation of Chalets





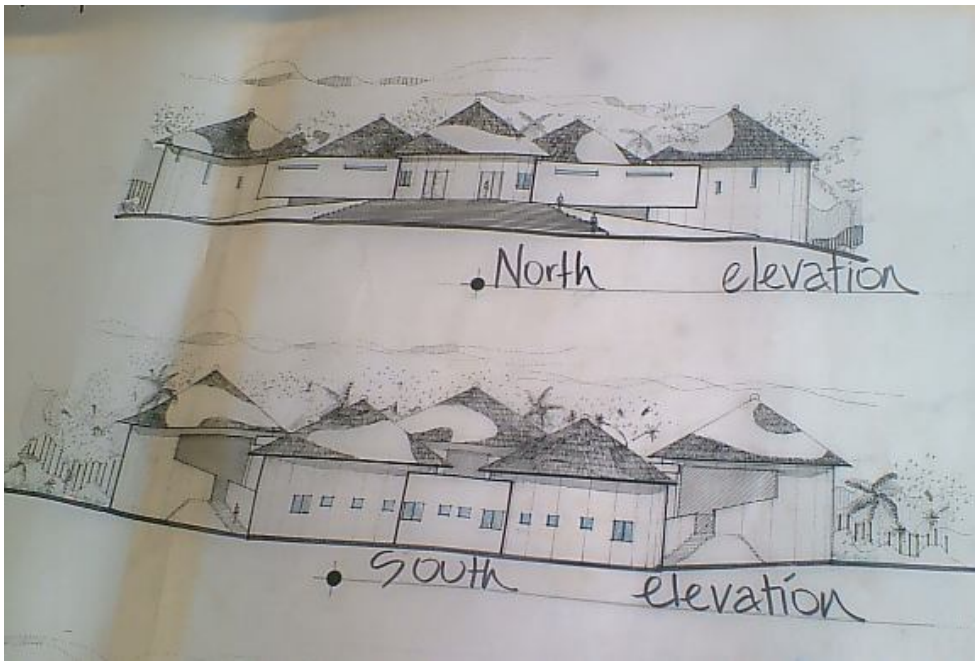
Floor Plans of proposed Amphitheatre



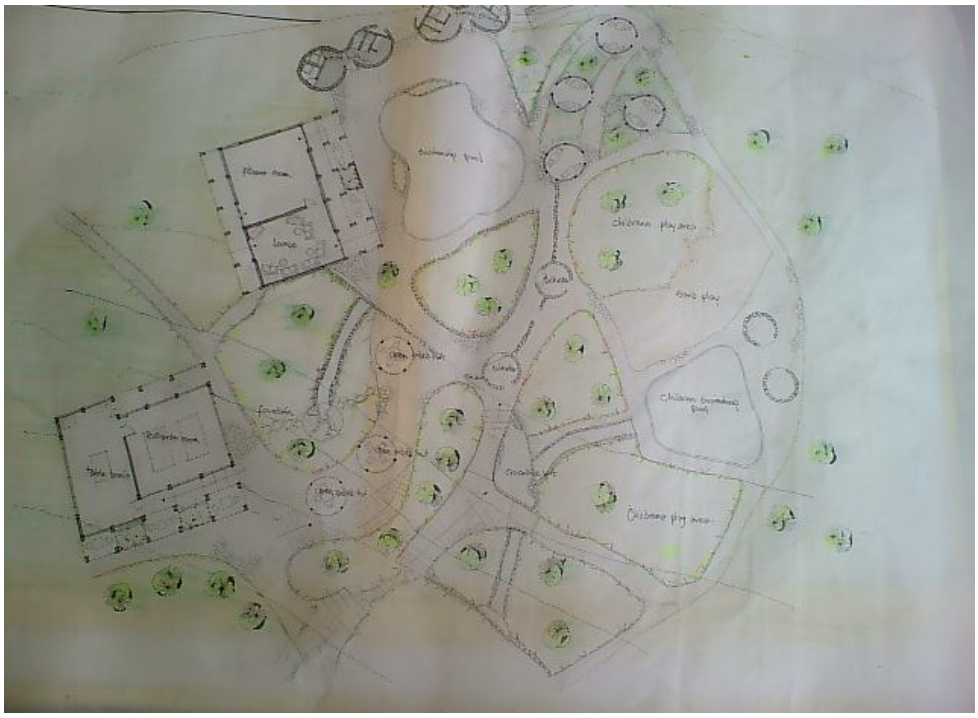
Roof plan of proposed Amphitheatre



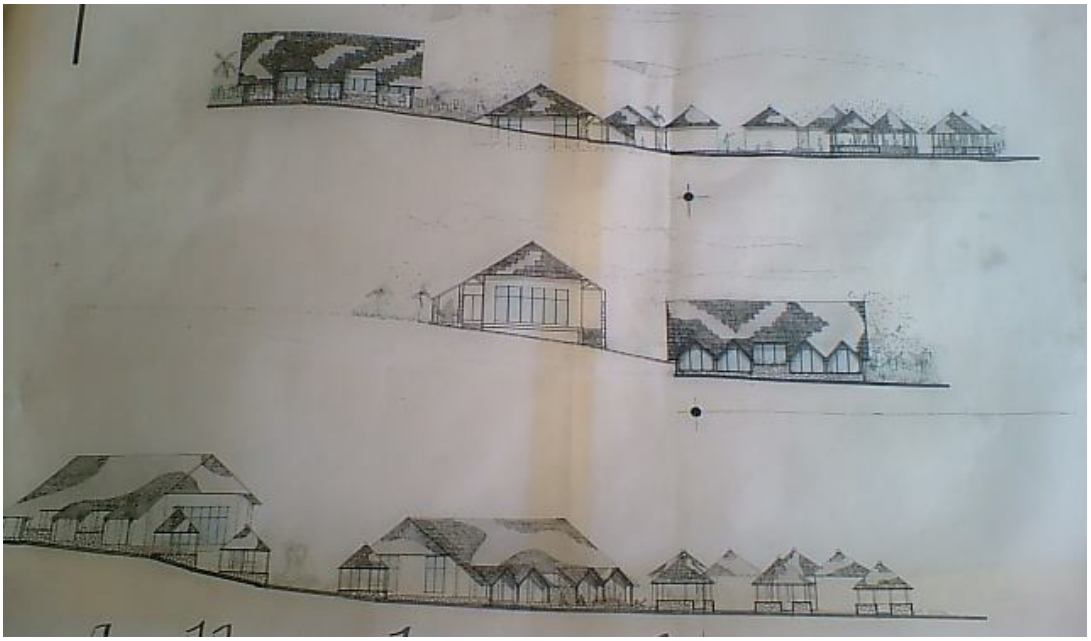
Section though Amphitheatre



Elevations of Amphitheatre



Proposed Indoor games area



Elevations