

**FOUR STAR BEACH RESORT**

**COX'S BAZAAR, BANGLADESH**

**BY**

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**SEMINAR II**

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## CHAPTER 01

### Introduction of the Project

#### 1.1 Project Brief

1.1.1 **Name of the Project:** 4 Star Beach Resort

1.1.2 **Client:** The Government of Bangladesh

1.1.3 **Location:** Hotel Road, Kolatoli, Cox's Bazaar

1.1.4 **Site Area:** 14 acres approximately

#### 1.2 Background of the Project

The aim of the project was to create an environmentally responsive resort in place of the already existing government guesthouse in the site. The existing guesthouse is not commercially viable since it doesn't have any vacation flavor and its income generation is low. Moreover, due to the growing accommodation demand and hotel business during the tourist seasons in Cox's Bazaar, the guesthouse is facing commercial pressure from other relative sources. The main objective of the project hence is to create a vacation retreat where people will perceive the essence of living in nature through architecture and landscaping as a contrast to the city life.

#### 1.3 Rationale of the Project

Bangladesh, a very rich tourist spot, lacks comfortable hotels, resorts and other lodging facilities which play a very crucial role in popularizing any tourist destination and upholding the economy of a country. In this case, comfort is not only bound by the parameters of physical wellbeing but also includes a sense of relaxation to the soul. Unfortunately, the tourism industry is not being exploited to the fullest in Bangladesh unlike other countries, and as a result, it's not being able to contribute as much to the economy of the country as it could have due to the lack of the presence of the holiday zest in most of the hotels and resorts existing. And Cox's Bazaar, having the longest stretch of natural beach, demands to have hotels and resorts which not just serve the purpose of "bread and breakfast" but also provide tourists with an expression of the natural setting of our country and engage them with activities which might give them the sense of freedom that comes with living in the wild and creating an experience which they can take back with them.

## 1.4 Functions and Programs Required for the Project

- **Front of the House**
  - Reception and Lounge Area
    - Lobby
    - Lounge
    - Front Desk
    - Front Office
    - Washrooms
  - Shops
  - Business Centre
  - Restaurants
  - Poolside Café
  - Bar
  - Recreational Facilities
    - Swimming Pool
    - Spa
    - Sauna
    - Steam Bath
    - Fitness Centre
    - Indoor Games Room
  - Guest Accommodation
  - Banquet Hall
  
- **Back of the House**
  - Kitchen
    - Main Kitchen
    - Bakery Pantry
    - Employee's Dining
    - Cold Storage
    - Dry Storage
    - Garbage Disposal
  - Laundry
  - Linen Store
  - Housekeeping
  - Mechanical and Electrical Plant
  - Service and Loading Dock
  - Staff Area
  - Storage

- Parking
- Employee's Washroom
- Cloakroom

### **1.5 Reasons for Choosing the Site**

The site is attractive due to its closeness to the beach and direct accessibility from the road. Moreover, the site is well connected to the main road, Marine Drive, restaurants, Burmese markets, bus counters, ticket counters of cruises and ships, banks, ATM booths, and many other facilities.

## CHAPTER 02

### Site Appraisal

#### 2.1 The site

**2.1.1 Location:** Hotel Road, Kolatoli, Cox's Bazaar

**2.1.2 Site Area:** 14 acres approximately

609840 sq ft



Figure 2.1: Site Overview

Source: Author



Figure 2.2: Location of Site

Source: Google Earth



Figure 2.3: Road Network

Source: Author

## 2.2 Site Analysis

### 2.2.1 Environmental Forces

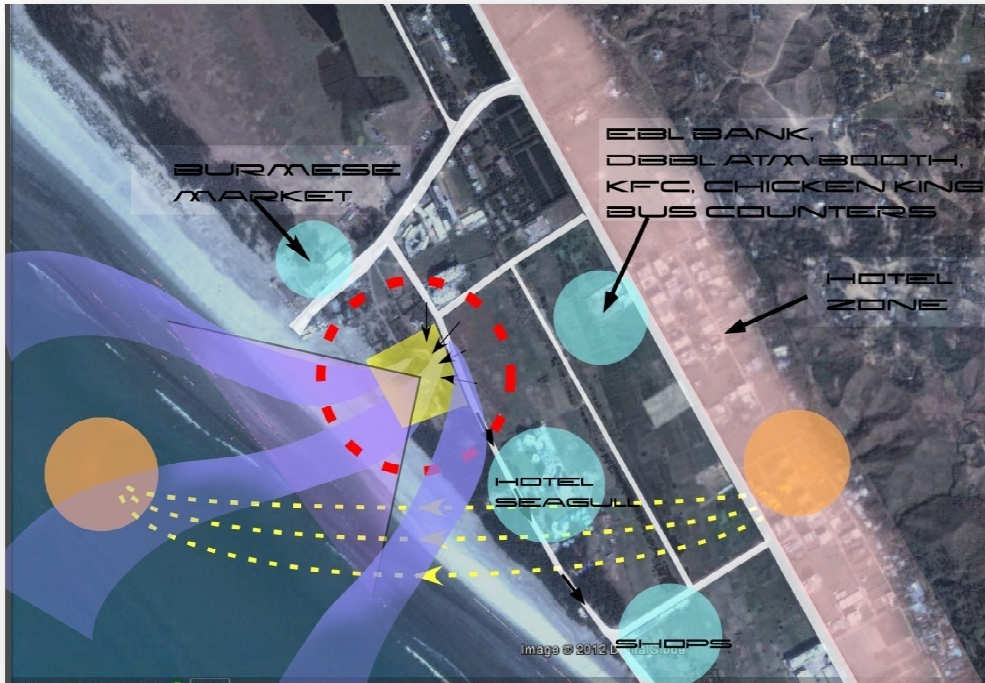


Figure 2.4: Environmental Considerations

Source: Author

### 2.2.2 Site Surroundings

The site is located at a position which is at close proximity to both the main beach, called Laboni Beach, and Kalatali Beach. The site is about 20 minutes from the local airport and is close to the Burmese shops, indoor swimming pool of Cox’s Bazaar and restaurants like KFC, Anderson’s, etc.

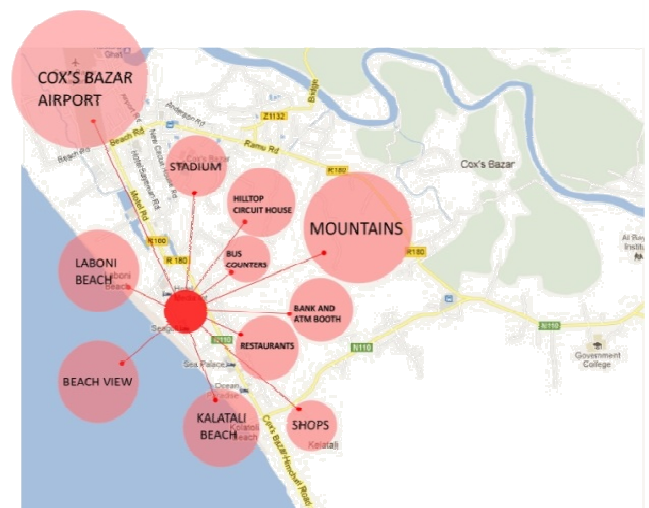


Figure 2.5: Site Surroundings

Source: Author

### 2.2.3 Commercial Facilities Available to the Site



The site is at 10-15 minutes distance from the local post office, bus terminals, terminals of ships for trips to Saint Martin’s island and the local police station.

Figure 2.7: *Amenities at Vicinity*

Source: *Author*

### 2.3 Photographs of the Site

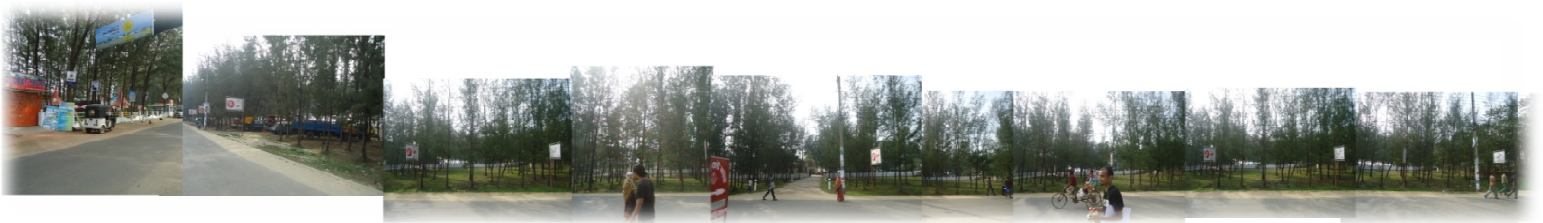


Figure 2.8: *View of the Site from Road*

Source: *Author*





Figure 2.9: *View of the Beach from the Site*

Source: *Author*



Figure 2.10: *Plot adjacent to the Site*

Source: *Author*



Figure 2.11: *Hotel Sea-Gull across the Road*

Source: *Author*



Figure 2.12: *Road Adjacent to the Site*

Source: *Author*

## 2.4 SWOT Analysis

### 2.4.1 Strengths

- Being located only 700 ft from the sea, the site has a full view of the beach and sea only obstructed by the forest of tamarisks constituting the green belt.
- The site is well connected to the local markets, shops, restaurants, transportation facilities, banks, travel agencies, ATM booths, etc.
- The site is connected to the main circulation road of Cox's Bazaar by a secondary road and therefore, the traffic pressure is quite low.
- The temperature variation is negligible and throughout the year the weather remains pretty comfortable.

### 2.4.2 Weaknesses

- The south-west side of the site despite being open to the major site strength, the beach, is also exposed to heat.
- The dense forest of tamarisks situated in the site is a weakness of the site as they block the beach view above 25ft height and the tamarisks neither serve the purpose of preventing soil erosion nor do they have any economic value.

### 2.4.3 Threats

- The site faces the threat of getting submerged during storms and cyclones and monsoon.

### 2.4.4 Opportunities

- The other commercial growths in the vicinity can enhance the popularity of the site.

## 2.5 Climatic Analysis of the Site

### 2.5.1 Climate

The annual average temperature in Cox's Bazaar is 34.8 °C and a minimum of 16.1 °C. The climate remains hot and humid with some seasons of temperate weather. The average amount of rainfall is 4285 nm.

Climate in Cox's Bazar												
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Avg high temperature (°F)	80°	83°	87°	90°	91°	87°	86°	86°	87°	87°	85°	80°
Avg low temperature (°F)	57°	61°	68°	75°	78°	77°	81°	77°	77°	75°	67°	60°
Average Precipitation (inches)	0.1"	0.5"	1.5"	4.2"	12.7"	31.1"	35.5"	27.8"	15.3"	7.2"	3.3"	1.0"

Figure 2.13: Average Temperature and Precipitation Trend of Cox’s Bazaar

Source: Internet (WeatherBase.com)

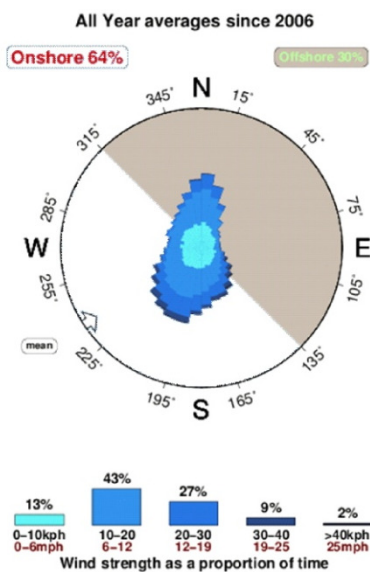


Figure 2.14: Cox’s Bazaar Wind Statistics

Source: Internet

### 2.5.1 Temperature

The chart below plots the average high and low temperature for each month of the year. It also shows the maximum and minimum recorded temperatures.

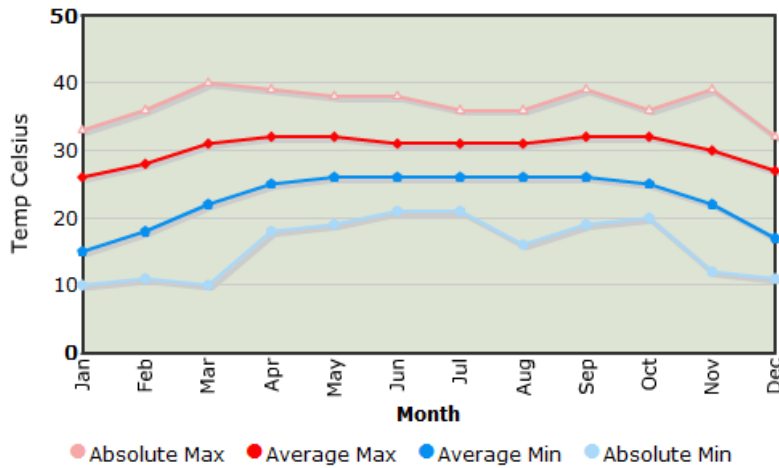


Figure 2.15: Average and Extreme Temperature Variation with Month

Source: Internet

### 2.5.2 Precipitation Amount

The chart below plots the average monthly precipitation amount.

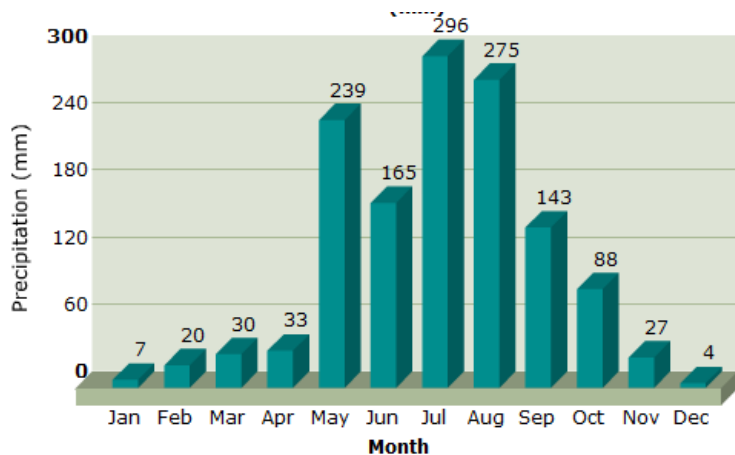


Figure 2.16: Precipitation Amount

Source: Internet

### 2.5.3 Rain days

The chart below plots the average number of days in any month that you can expect to see rain falling.

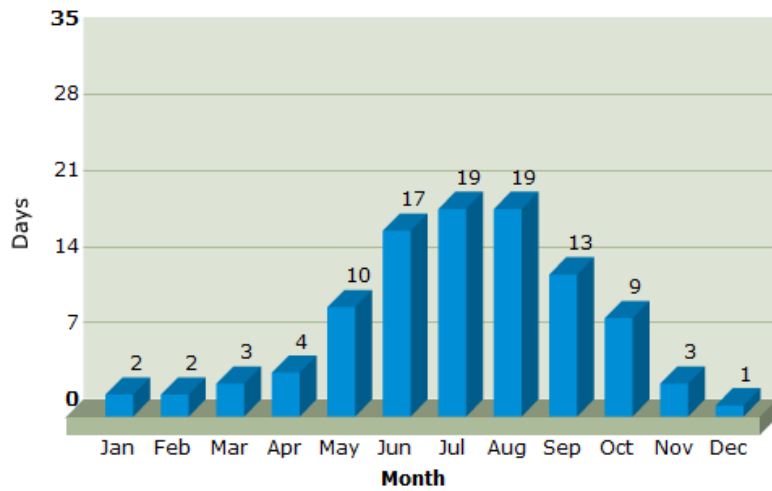


Figure 2.17: Number of Rain Days

Source: Internet

### 2.5.3 Wind Speed

The chart below plots the average daily wind speed you can expect for any month. It also shows the maximum recorded sustained wind speed for each month.

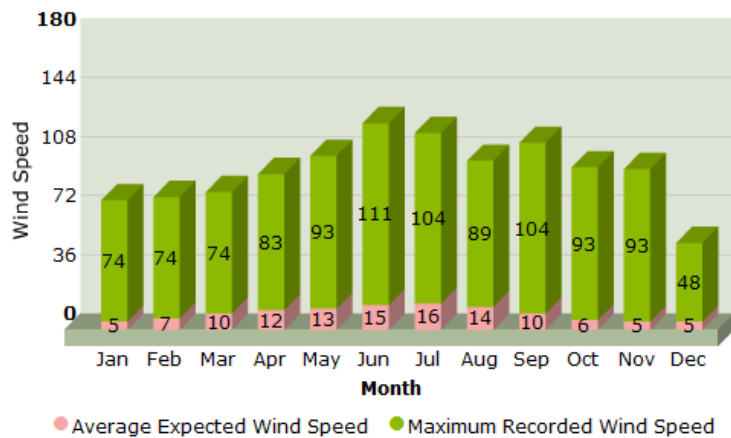


Figure 2.18: Wind Speed

Source: Internet

## 2.5.4 Tourist Trends

Year	Tourist Arrivals '000'	
	Number	Growth Rate (%)
1991	113242	
1992	110475	(-) 2
1993	126785	(+) 15
1994	140122	(+) 11
1995	156231	(+) 12
1996	165887	(+) 6
1997	182420	(+) 10
1998	171961	(-) 6
1999	172781	(+) 0.5
2000	199211	(+) 15
2001	207199	(+) 4
2002	207246	(+) .02
2003	244509	(+) 18
2004	271270	(+) 11
2005	312575	(+)15
2006	343590	(+)10
2007	397410	(+)16
2008	468951	(+18)
Average Growth Rate		+9%

Figure 2.19: *Tourist arrival Statistics in Bangladesh of 2009*

Source: *Bangladesh Parjatan Corporation (BPC), 2009*

## CHAPTER 03

### Literature Study

#### 3.1 Definition of Hotels

The word hotel is derived from the French *hôtel* (coming from *hôte* meaning *host*), which referred to a French version of a townhouse or any other building seeing frequent visitors, rather than a place offering accommodation. Nowadays the meaning of hotels have evolved and are now referred to buildings that provide accommodation, meals and other recreational or business facilities for a short period of time to the travelling public on a commercial basis. In other words a hotel is any building that provides at least six letting bedrooms of which at least three must have attached washrooms. Hotels are usually categorized and rated by stars, 1-5 star, based on the number of guestrooms, service quality and other facilities. However, there is no standard method of classification of hotels as such. Hotel standards vary from country to country, for example a European hotel may look quite different from an Asian or US hotel having the same rating but providing different kinds of amenities. Hotels of the same rating within the same country may also differ based on the availability of services, quality, recreational facilities etc. Therefore, whether a hotel will comply with the typical or standard requirements of facilities is completely a matter of choice.

Other than the basis of star ratings, hotels may also vary according to their nature. Hotels are basically classified into three types, transient hotels, resort hotels, intended primarily for vacationers, and residential hotels, essentially apartment buildings offering room and meal service. However, hotels can also be categorized more elaborately into the following categories:

- **Conference and Resort Hotels**

These usually house full-sized luxury accommodation and facilities.

- **Historic Inns and Boutique Hotels**

These are also known as “lifestyle hotels” or “design hotels” which started appearing in the 1980s in large cities like London, New York, and San Francisco.

These are hotels which contain luxury facilities of varying size in unique or intimate settings with full service accommodations.

- **Select service Hotels**
- **Limited Service Hotels**
- **Extended Stay Hotels**
- **Timeshare**

*“A timeshare is a form of ownership or right to the use of a property, or the term used to describe such properties. These properties are typically resort condominium units, in which multiple parties hold rights to use the property, and each sharer is allotted a period of time (typically one week, and almost always the same time every year) in which they may use the property. Units may be on a part-ownership or lease/"right to use" basis, in which the sharer holds no claim to ownership of the property.”*(<http://en.wikipedia.org/wiki/Hotel>)

- **Destination Club**

### **3.2 Emergence of the Concept of Hotel**

The concept of hotels emerged from the existence of inns from the Roman era. In those times, inns were needed to serve merchants and other travelers with occasional lodging and bread-and-breakfast on a regular basis. Medieval European monasteries also operated inns to offer refuge for travelers in hazardous regions. During the mid 19<sup>th</sup> century, due to the industrial revolution, people suddenly started having a great amount of leisure time which triggered off the concept mass tourism as travelling for pleasure became very convenient due to the advent of railroads. At first hotels used to be situated near rail stations and later nearby airports. According to Dr Jong-yun Ahn the 21<sup>st</sup> century will be the “the century of tourism”. According to him, tourism evolved in several stages, *“The first stage of mass tourism began during the Industrial Revolution in mid-19 century Europe. The second stage took place in America during the 1910s, and the third stage happened in many countries across the Northern hemisphere during the 1960s. The fourth stage of this mass*



*tourism will happen throughout many Asian countries in the 2010s with the irresistible trend of globalization.” (Ahn, 2009)*

Therefore, the emergence of the phenomenon of mass tourism was a result of the new lifestyle of people due to the sudden availability of leisure time, as well as the tendency to enjoy their freedom, enrich their minds and self-exploration.

### 3.3 Philosophy of Tourism

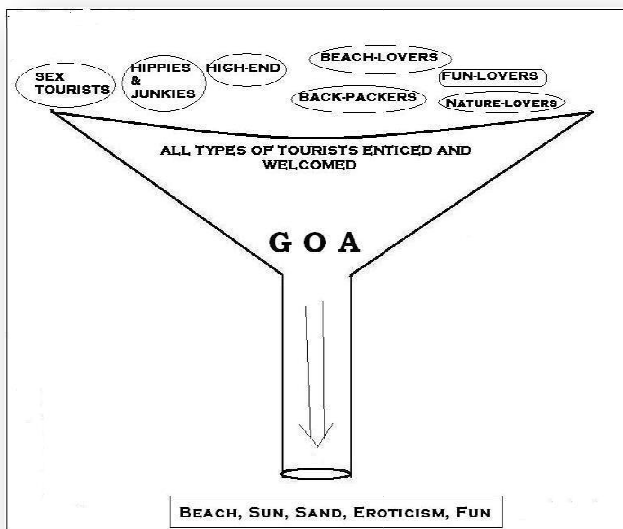


Figure 3.1: Goa Funnel Model of Attracting Tourists

Source: *Internet*

Tourism plays a very crucial role in the socio-economic dynamism of a country. It not only contributes enormously to the economy of a country but also publicizes the natural resources of the country which in turn attract more tourists. Therefore, it is an interrelated relationship which can dramatically swivel the economic status of a country. Thus, it is only apparent that every country competitively wants to establish an effective policy to attract global tourists on the governmental level. All activities of tourism such as marketing, event development, attraction operations, and visitor reception programs will greatly be affected by various kinds of

tourism policies, for instance, the role of tourism within the overall socioeconomic development of the destination, financing for the tourism sector, environmental restrictions, transportation access and infrastructure, etc.

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development, attraction operations, and visitor reception programs will greatly be affected by various kinds of tourism policies, for instance, the role of tourism within the overall socioeconomic development of the destination, financing for the tourism sector, environmental restrictions, transportation access and infrastructure, etc.

A policy is referred to as a set of rules and regulations, objectives and promotional strategies which provides a framework for guiding and influencing the decisions taken to promote any phenomenon of a country. Tourism policy is a similar set of laws which comprises of decisions, both collective and on an individual basis, which affects long-term tourism development of a country. Therefore, policies need to be developed in the government level to ensure the maximization of profit to the country while minimizing the adverse effects.

The applicability of such tourism policies is primarily dependent on the geographical location of the country and the natural resources or tourist spots available. The efficiency of any tourism policy also depends on the weather, climate, cultural diversity, accessibility, time of year, but more importantly the timing and situation of the country.

Tourism can be addressed as a major asset and potential of a country and therefore can be defined as *“science, art and business of attracting and transporting visitors, accommodating them, and graciously catering to their needs and wants”* instead of just being seen as business.

### **3.4 Sustainable Tourism**

Sustainable tourism, also termed as ecotourism is defined as "responsible travel to natural areas that conserves the environment and improves the well-being of local people."

The concept and genesis of ecotourism evolved from a creative strategic view for conservation, promotion and protection into a massive comprehensive economical endeavor. Its popularity is gradually gaining the tourism industry more than any other type of travel.

Ecotourism was first introduced in Africa in the 1950's with the legalization of hunting. This need for recreational hunting zones led to the creation of protected areas, national parks, and game reserves. In the 1980s, the concept of ecotourism became much more widely known and studied. Unlike other forms of tourism, the more educated people have become, the faster ecotourism grows as a sub industry of tourism. Ecotourism is likely the fastest growing sub sector of the tourism industry. In the past, people did not understand or

value the importance of preserving natural resources. If they had, then the history of ecotourism would have extended further into the past.

Eco-tourism focuses on local cultures, wilderness adventures, volunteering, personal growth and learning new ways to live on our vulnerable planet. It is typically defined as travel to destinations where the flora, fauna, and cultural heritage are the primary attractions. Responsible Eco-tourism includes programs that minimize the adverse effects of traditional tourism on the natural environment, and enhance the cultural integrity of local people. Therefore, in addition to evaluating environmental and cultural factors, initiatives by hospitality providers to promote recycling, energy efficiency, water reuse, and the creation of economic opportunities for local communities are an integral part of Eco-tourism.

Over the years, ecotourism has become more and more popular because people have begun to realize the importance of preserving the environment. More and more people are aware and scared of what might happen when the earth's natural resources run out or run low. With knowledge, people are more curious about exploring natural environment and doing good deeds at the same time.

### 3.4 Do's and Don'ts of Ecotourism

- **Do's**
  - Carry back all non-degradable litter such as empty bottles, tins, plastic bags etc. These must not litter the environment or be buried. They must be disposed in municipal dustbins only.
  - Observe the sanctity of holy sites, temples and local cultures.
  - Cut noise pollution. Do not blare aloud radios, tape recorders or other electronic entertainment equipment in nature resorts, sanctuaries and wildlife parks.
  - In case temporary toilets are set-up near campsites, after defecation, cover with mud or sand. Make sure that the spot is at least 30 meters away from the water source.
  - Respect people's privacy while taking photographs. Ask for prior permission before taking a photograph.

- **Don'ts**

- Do not take away flora and fauna in the forms of cuttings, seeds or roots. It is illegal, especially in the Himalayas. The environment is really delicate in this region and the bio-diversity of the region has to be protected at all costs.
- Do not use pollutants such as detergent, in streams or springs while washing and bathing.
- Do not use wood as fuel to cook food at the campsite.
- Do not leave cigarettes butts or make open fires in the forests.
- Do not consume aerated drinks, alcohol, drugs or any other intoxicant and throw bottles in the wild.
- Do not tempt the locals, especially children by offering them foodstuff or sweets. Respect local traditions.
- Polythene and plastics are non biodegradable and unhealthy for the environment and must not be used and littered.

### 3.5 Wind-solar hybrid system

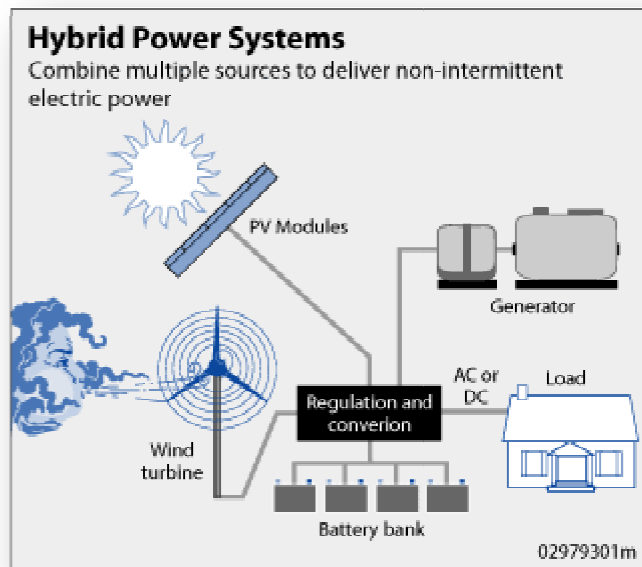


Figure 3.2: Diagrammatic Representation of the Wind-Solar Hybrid System

Source: Internet

According to many renewable energy experts, a small hybrid electric system that combines wind and solar (photovoltaic) technologies offers several advantages over either single system.

In much of the United States, wind speeds are low in the summer when the sun shines brightest and longest. The wind is strong in the winter when less sunlight is available. Because the peak operating times for wind and solar systems occur at different times of the day and year, hybrid systems are more likely to produce power when needed.

Many hybrid systems are stand-alone systems, which operate off-grid—not connected to an electricity distribution system. For the times when neither the wind nor the solar system are producing, most hybrid systems provide power through batteries and/or an engine generator powered by conventional fuels, such as diesel. If the batteries run low, the engine generator can provide power and recharge the batteries.

This technology is already being used in Bangladesh at St. Martin's Island and Kuakata.

- **Wind-Solar Hybrid System at St. Martin's Island**

A 10kw Wind-Solar Hybrid System has been installed at St. Martin's Island with the finance from UNDP and MoEF and it's the first hybrid model in the country.

Main advantage of wind-solar hybrid is that, when sunshine is more wind speed is low and vice-versa. Even at night considerable amount of power is produced from wind turbines. So power generated from PV module and wind turbine is stored in a battery bank. It is then converted to AC power and supply to the compound through underground cable line.

However, power is proportional to the cube of velocity,  $P \propto V^3$  and considerable amount of time wind speed is between 3-4 m/s, therefore we have installed 7 turbines. Each turbine has a rated capacity of 3.2 Kw at wind velocity of 13.5 m/s.

Demonstration of 10 KW Wind-solar hybrid power systems at St. Martin's Island facilitates biodiversity and conservation research works and promotes ecotourism infrastructures. Electricity to Laboratory, Central Plaza, Dormitory, Barrack House, Motel, Water pump etc. smoothly operates research work.

The system power is being used in laboratory for lighting, running fans, refrigerator facilitating excellent research work of turtles breeding, conservation of coral flora, fauna, reef fisheries and other marine species. Power access to central plaza and IT facilities (computer, printer) at barrack house creates standard working environment and arrangement of seminar/workshop. Power supply to motel, dormitory and water pump provides comfortable accommodation and utilities. Street light within compound secured easy mobility at night.



Figure 3.3: *Wind-Solar Hybrid System at the Central Plaza at St. Martin's Island*

Source: *Internet*



Figure 3.4: *Wind-Solar Hybrid System at St. Martin's Island*

Source: *Internet*

○ **Wind-Solar Hybrid System in Kuakakata Beach**

Location: LGED Guest house cum cyclone shelter, Kuakata Sea-beach, Kalapara, Patuakhali.

Capacity: 400 Watt

Wind Turbine: 400 watt, Air 403 Model (Marine Version)

Rotor Diameter: 46 Inches (1.17 meters)

Start up Wind Speed: 7mph (3.0 m/s)

○ Impact :

- Demonstration of Technology
- Enhance tourism in Kuakata



Figure 3.5: *Wind-Solar Hybrid System at Kuakata*

Source: *Internet*

**3.6 Biogas Plant for Power Generation**

There are two types of biogas plant, floating dome and fixed dome. This is the first application of floating dome unit for power generation in Bangladesh. In floating dome biogas unit the output gas available at a constant pressure of about 10cm of water whereas in fixed dome type gas pressure is not constant. So it is preferable to select floating dome biogas plant for electricity generation although its maintenance work is not convenient.

Floating dome consists of a deep well shaped underground digester connected with inlet and outlet pipes at its bottom which are separated by a partition wall dividing the 3/4th of the total height into two parts. A mild steel gas storage drum is inverted over the slurry which goes up

and down around a guide pipe with accumulation and withdrawal of gas. In this system a 3.5 KW gas generator intakes gas from biogas and produces AC power. To run the system at least 300Kg/day excreta is needed.

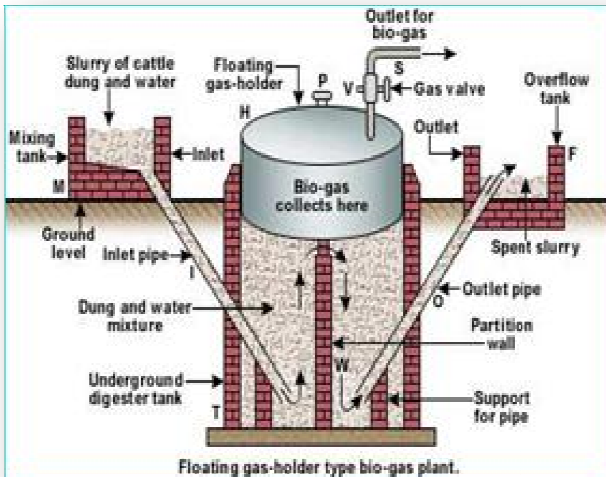


Figure 3.6: Diagram of Floating Dome Biogas Plant

Source: *Internet*

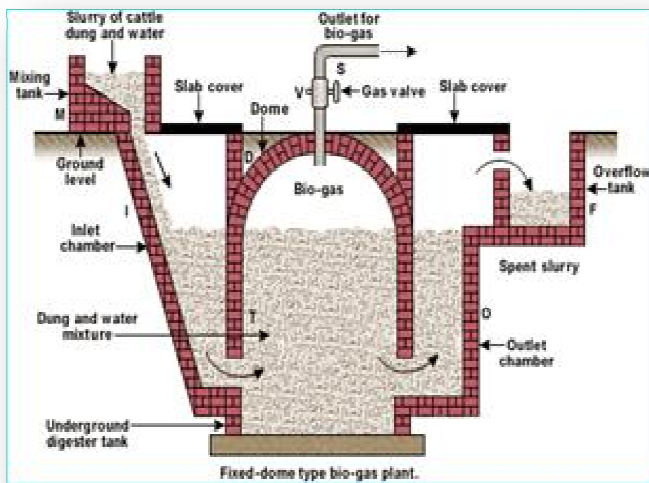


Figure 3.7: Diagram of Fixed Dome Biogas Plant

Source: *Internet*



## CHAPTER 04

### CASE STUDIES

#### 4.1 Case Study 1: The Dune- Ecovillage and Spa

- Location and Climate of Pondicherry

The climate of Pondicherry is similar to that of coastal Tamil Nadu. Summer lasts from April to early June, when maximum temperatures frequently hit the 41 °C mark. The average maximum temperature is 36 °C. Minimum temperatures are in the order of 28 - 32 °C. This is followed by a period of high humidity and occasional thundershowers from June till September.

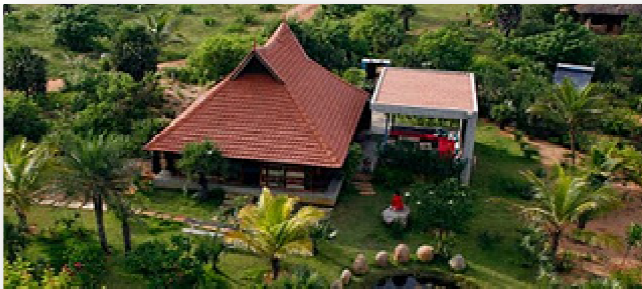


Figure 4.1: *Reception Block*

Source: *Internet*

The Northeast Monsoon sets in during the middle of October, and Pondicherry gets the bulk of its annual rainfall during the period from October to December. The annual average rainfall is 1240 mm. Winters are mild, with highs of 30 °C and lows often dipping to around 18 - 20 °C.

- **Location of the resort:** 15 km north of Pondicherry, India.

Pondicherry is a weekend getaway ex-Bangalore / Chennai and visited as a part of South India Itinerary.

The Dune is a thematic village, 15 km North of Pondicherry, designed to cater to the growing demand for long stay destinations with soul and comfort where cultures, ideas and people

merge with one another. It is spread over a 25 acre eco-friendly beach village and comprises following facilities:

- Restaurant
- Spa
- Seafood Bar by the Beach.
- Garden Barbeque and Tandoor
- Fresh Juice Bar
- Organic coffee bar
- 24 hrs Room service.
- DVD Library & In-Room Player and minibar.
- In-Room Safe
- Yoga and Ayurvedic Massage Center
- Gymnasium
- Boating
- Volley Ball
- Children Play area and Pool
- Tennis Court
- Swimming pool
- 700 m Beach
- AC Lounge / Conference & Banquet Hall.
- Open Air Auditorium.
- 2 Km Jogging track.
- Organic Farm & Vegetable Garden
- Travel desk.
- Auroville & Pondicherry Sightseeing.
- 

The eco-resort consists of vegetable gardens, separate bungalows and living blocks encompassing the whole 35 acres, every function connected by pathways and walkways, some of them shaded. The bungalows have their private courts and gardens and are partly constructed using reclaimed building materials. The resort also utilizes solar water-heating system and waste water treatment plant. It also shelters “The Children of the World India”, a charitable trust with an organic model farm and a catering school for Tsunami affected children.

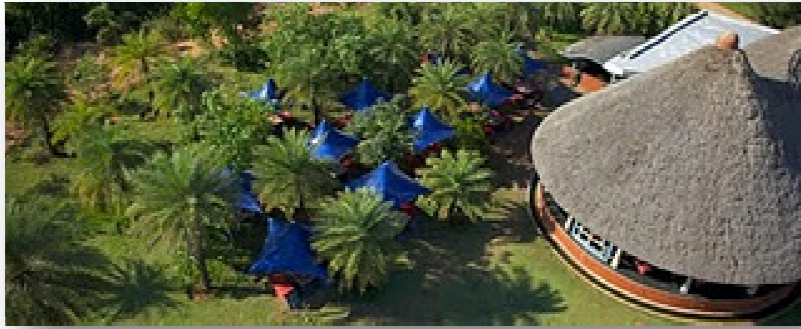


Figure 4.2: *Bungalows and Facility Block*

Source: *Internet*



Figure 4.3: *Personal Courtyards*

Source: *Internet*

There are 2 restaurants serving healthy gourmet fusion food, prepared using organically farmed vegetables. The Paradise Spa offers Ayurvedic treatments, Yoga and meditation as well as many alternative therapies including Watsu. The Dune is the base for AIR (Artists In Residence) a programme providing work studios for Artists from all around the world. It also shelters the activities of "Children of the World India", a charitable trust with an organic model farm and a catering school for Tsunami affected youngsters. It is Located on the Coramandel coast of Tamil Nadu, South India, 150 km south of Chennai (Madras) and just 15 Kms from the heart of Pondicherry on the east coast Road. The Dune cherishes the spirit "to live in harmony with nature and men". For ages, swamis (Holy Men) from the nearby temples of Mahabalipuram used this scenic beach reserve as a place of pilgrimage and meditation.



Figure 4.4: *Pool Cafe*

Source: *Internet*

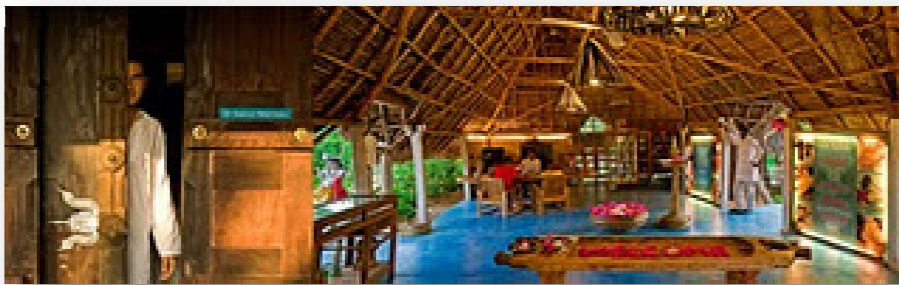


Figure 4.5: *Spa and Sauna*

Source: *Internet*

## 4.2 Case Study 2

### Forest Dream Boutique Resort

#### LOCATION:

Forest Dream sits in 25 acres of subtropical forest, located in Diani beach on the South coast of Kenya.

Forest Dream is about finding peace in nature, having a selective number of rooms, private villas and cottages spread out over a large forest area. What makes Forest Dream a unique spacious boutique resort is its attempt to keep its natural setting intact with minimum human intervention.

The large indigenous forest grounds are home to diverse indigenous birds, plants and monkeys. This lush green scenery is met with sand and water.

The wide range of high quality accommodation has been designed to fit the natural colors, forms and shapes of the forest. The Swahili and Zanzibar styled rooms maintain all the comforts of a modern resort.

The facilities are in service of offering the guests the possibility to see the amazing surroundings. This is why a variety of daytrips like local safaris, forest walks and sailing trips are organized to the many beautiful surrounding islands.

The resort accommodation offers a variety of standard rooms, luxury rooms, suites, private cottages and villas. Each in their own style and luxury, they are designed to embrace the natural shapes, tones and textures of the forest surroundings.

There are three varieties of rooms: standard, luxury and suite. All the rooms are flamboyant and spaciouly created in Swahili design. Flamboyant, modern and decorated in a Swahili style, the rooms are spacious and privately located to ensure a quiet night of sleep. All the standard rooms have an extra shared (not exceeding more than 5 rooms) outside living area. From this spacious outside living the view of the forest garden can be enjoyed. The cottages are built in the African Swahili style and sit in the midst of its own tropical garden. The outside living area is spaciouly set to give a 360° view of the forest surroundings.



Figure 4.6: *Bungalows and Common Areas of the Resort*

Source: *Internet*

### 4.3 Findings

The key features that were taken as inspiration for the design were as follow:

- Using the whole site to locate functions so that there is minimum residual space.
- Try to keep as many of the vegetation and trees existing in the site as possible instead of applying tabula rasa for convenience.
- To integrate the design with the landscape so that one doesn't seem superimposed on the other.
- Create several degrees of introverted and extroverted spaces.

## CHAPTER 05

### Program Development

#### 5.1 Front of the House

- **TYPE: RECEPTION AND LOUNGE AREA**

FUNCTION NAME	QUANTITY	SPACE (sft)
FRONT DESK	1	250
FRONT OFFICE	1	800
COMBINED LOBBY AND LOUNGE AREA	1	1500
TOILET	2 (male & female)	500
TOTAL		3050

- **TYPE: SHOPS**

FUNCTION NAME	QUANTITY	SPACE (sft)
TRAVEL AGENCY, RENT A CAR, TRADING CO., AIRLINES, CARGO	1	800
PASTRY SHOP	1	300
TOTAL		1100

- **TYPE: BUSINESS CENTRE**

FUNCTION NAME	QUANTITY	SPACE (sft)
COMPUTER AND PRINTING FACILITY	1	200
MEETING ROOM(200 PERSONS)	2	1400
MEETING ROOM LOBBY	1	700
BUSINESS CENTRE	1	576
TOILET	2 (male & female)	300
TOTAL		3176

- **TYPE: RESTAURANT**

FUNCTION NAME	CAPACITY (seats)	QUANTITY	SPACE (sft)
RESTAURANT	55	1	1000
BAR	25	1	600
POOL SIDE CAFÉ	30	1	500
TOTAL			2100

- **TYPE: RECREATIONAL FACILITY**

FUNCTION NAME	SIZE	QUANTITY	SPACE (sft)
SWIMMING POOL	85'X32'	1	2624
CHANGING AREA		2 (male & female)	500
SPA/MASSAGE		1	200
INDOOR GAMES ROOM		1	1500
TOTAL			4824

- **TYPE: HEALTH FACILITY**

FUNCTION NAME	QUANTITY	MALE (sft)	FEMALE (sft)	SPACE (sft)
SAUNA	1	25	25	250
STEAM BATH	1	25	25	250
LOCKER AND CHANGING ROOM				300
FITNESS CENTRE	1			1020
TOILET				500
TOTAL				2320

- **TYPE: GUEST ROOM**

FUNCTION NAME	SIZE	QUANTITY	SPACE (sft)
TWIN BED	13' X 24'	65	18720
SUITE	56' X 34'	5	4760
TOTAL			38080



## 5.2 Back of the House

- **TYPE: KITCHEN**

FUNCTION NAME	QUANTITY	SPACE (sft)
MAIN KITCHEN WITH CUTLERY STORAGE	1	3000
BANQUET KITCHEN	1	600
PANTRY FOR RESTAURANT	1	600
BAKERY	1	600
AUXILIARY KITCHEN FOR SPECIALITY RESTAURANT	1	400
CHEF'S ROOM	1	150
ADJOINING KITCHEN FOR EMPLOYEE AND EXECUTIVE DINING	1	300
TOTAL		5650

- **TYPE: LAUNDRY, LINEN AND HOUSEKEEPING**

FUNCTION NAME	QUANTITY	SPACE (sft)
LAUNDRY, DETERGENT STORE, LINEN STORE	1	2000
HOUSEKEEPING	1	1000
TOTAL		3000

- **TYPE: MECHANICAL AND ELECTRICAL**

FUNCTION NAME	QUANTITY	SPACE (sft)
WATER TREATMENT AND FILTRATION PLANT	1	1500
MECHANICAL AND ELECTRICAL WORKSHOP	1	500
BOILER ROOM	1	1000
GENERATOR ROOM	1	1000
WATER RESERVOIR	2	1500
ENGINEER'S ROOM	1	400
TOTAL		5900

- **TYPE: SERVICE AND LOADING DOCK**

FUNCTION NAME	QUANTITY	SPACE (sft)
TIME KEEPER ROOM	1	100
UNIFORM ROOM	1	100
GARBAGE ROOM	1	100
GOODS RECEIVING AND PURCHASING	1	100
DOCK AREA	1	600
PERSONNEL INTERVIEWING, TRAINING INCLUDING FIRST AID FACILITIES	1	350
TOTAL		1350

- **TYPE: STAFF AREA**

FUNCTION NAME	QUANTITY	CAPACITY (seats)	SPACE (sft)
EMPLOYEE'S DINING ROOM	1	30	300
EXECUTIVE DINING ROOM	1	15	200
EMPLOYEE'S LOCKER	2(male & female)		300
PRAYER ROOM	1		500
ABLUTION SPACE	1		150
GENERAL OFFICE	1		2500
TOILET	2(male & female)		300
TOTAL			4250

- **TYPE: MULTI-PURPOSE HALL**

FUNCTION NAME	CAPACITY (seats)	QUANTITY	SPACE (sft)
MAIN HALL	250	1	3440
PRE FUNCTION AREA		1	1000
DRESSING ROOM		2(male & female)	500
TOILET		2(male & female)	500
TOTAL			5440

- **TYPE: STORAGE**

FUNCTION NAME	QUANTITY	SPACE (sft)
FURNITURE STORAGE/REPAIR/CARPENTRY	1	500
COLD STORAGE	2	500
REFRIGERATION ROOM	1	500
BAR STORAGE	1	300
<b>TOTAL</b>		<b>1800</b>

- **TYPE: PARKING**

FUNCTION NAME	CAPACITY (cars)	SPACE (sft)
PARKING FOR GUEST ROOMS	30	13800
<b>TOTAL</b>		<b>13800</b>

TOTAL AREA WITHOUT CIRCULATION	93216 sft
30% CIRCULATION	27964 sft
<b>TOTAL AREA FOR HOTEL</b>	<b>121180 sft</b>

## CHAPTER 06

### Design Development

#### 6.1 Concept

Cox’s Bazaar is one of the major tourist spots and vacation retreats in Bangladesh. Yet, most of the hotels and resorts existing lack the essence of returning to nature. Somehow the contrast that should prevail between the two contexts, i.e. the city of concrete the tourists come from and the pleasant blissful experience of spending a few days in nature is lost. When we think of Bangladesh, the image that comes to our mind is a flatland submerged in a mesh of green. But now the image of the major cities has changed from “low rise courtyard centralized structures” into piles of concrete.

The main concept and rationale behind the project was to provide the guests with a beautiful unobstructed view of the horizon and sea hidden from the connecting road and buildings and totally submerged in a forest of trees. The objective was to create a stark contrast between the two experiences of living in a city and returning to nature and provide a sense of relief to the people coming and staying in the resort so that they can take it back with them. The design is inspired by the flatness of the terrain of Bangladesh and the masses are connected by walkways through interconnected courtyards.

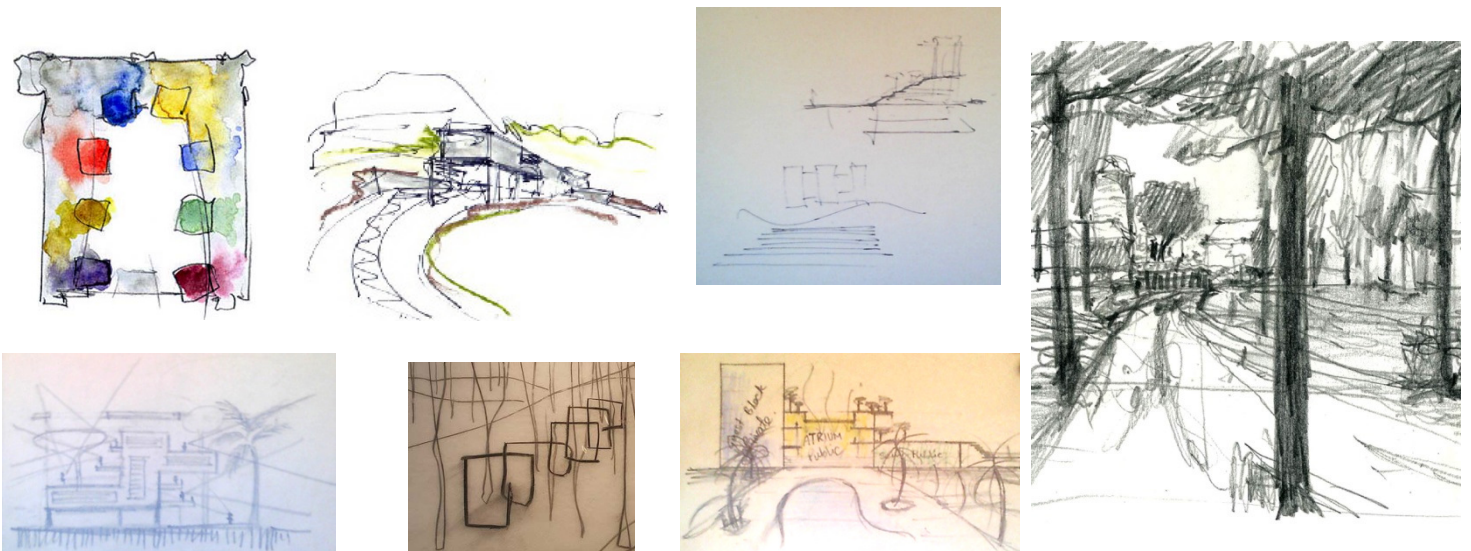


Figure 6.1: *Conceptual Diagrams and Sketches*

Source: *Author*

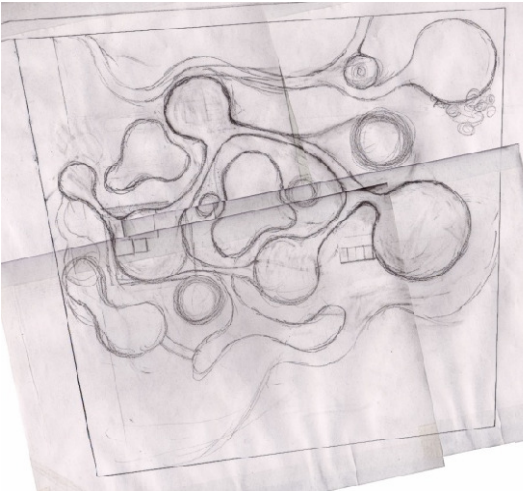


Figure 6.2: Conceptual Diagrams and Sketches

Source: Author

### 6.2 Analysis of the Functional Relationships between the Front and Back of the House

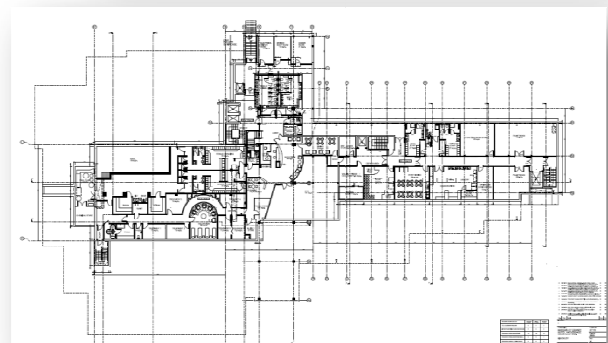
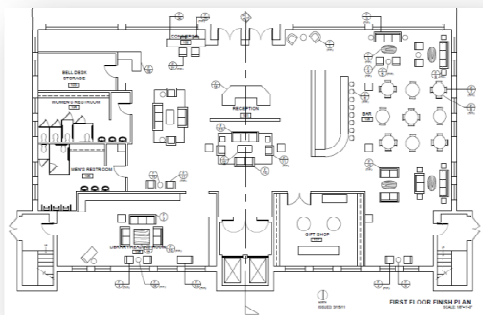
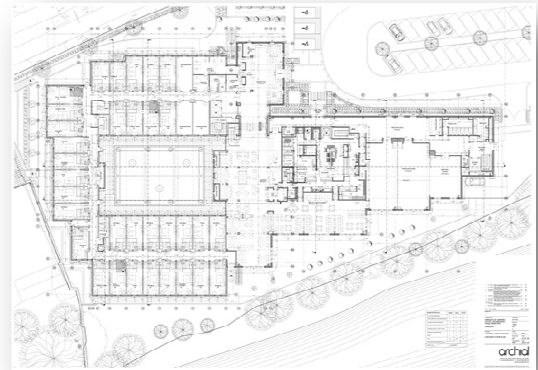
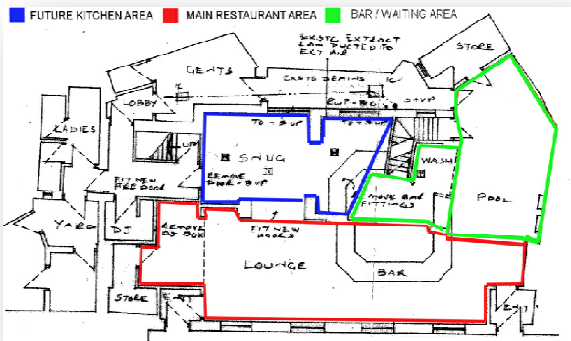


Figure 6.3: Function Analysis

Source: Author

### 6.3 Formation of Bubble Diagram

The bubble diagram or functional flowchart emerged from the case studies and the functional requirements of the project.

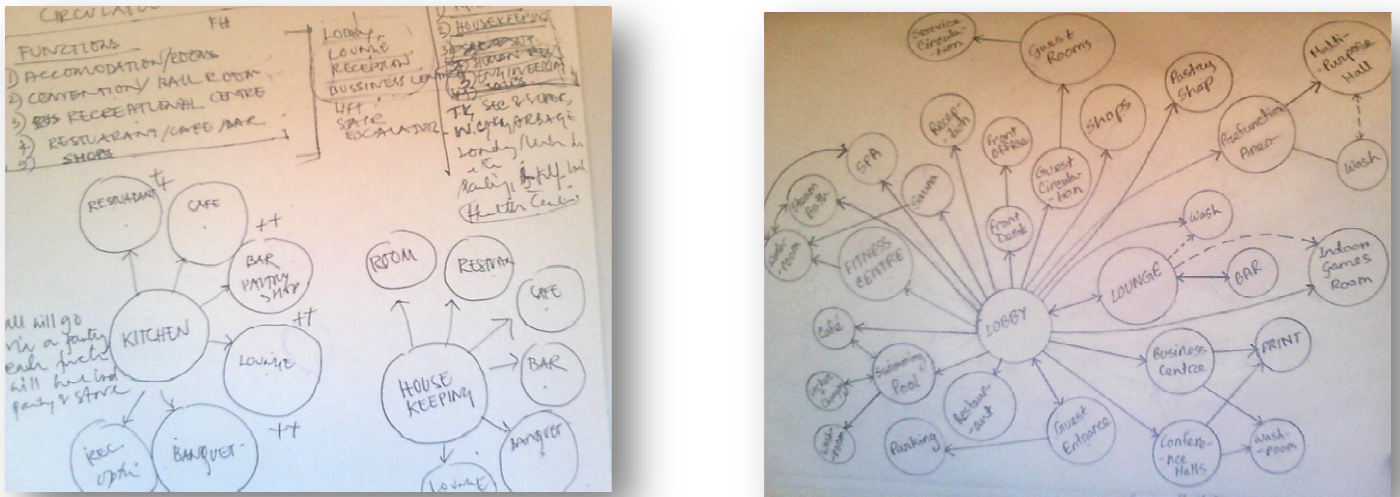


Figure 6.4: Initial Stages of Bubble Diagram

Source: Author

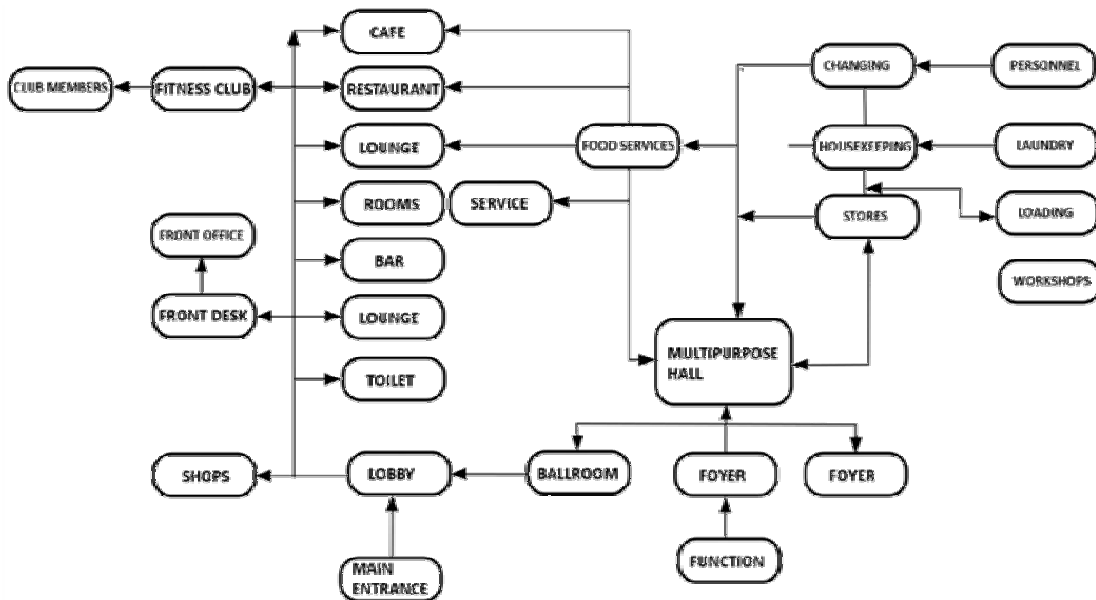


Figure 6.5: Final Stage of Bubble Diagram

Source: Author

## 6.4 Orientation and Zoning

Since the Bay of Bengal is in the west, the buildings were oriented so most of the rooms get the view but at the same time the heat gained is somewhat minimized by the orientation.

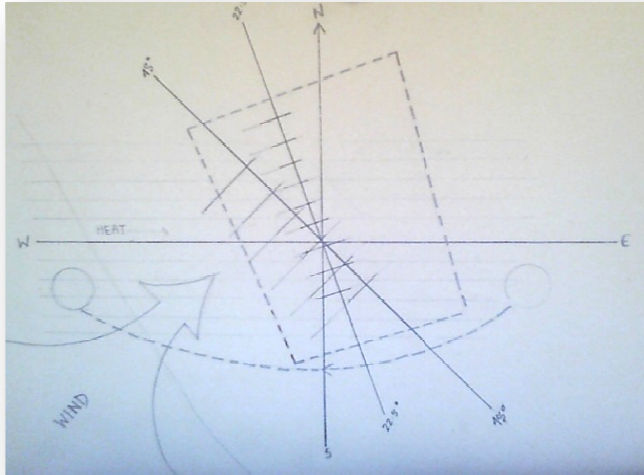


Figure 6.6: *Building Orientation Analysis*

Source: *Author*

### 6.3.1 First Phase

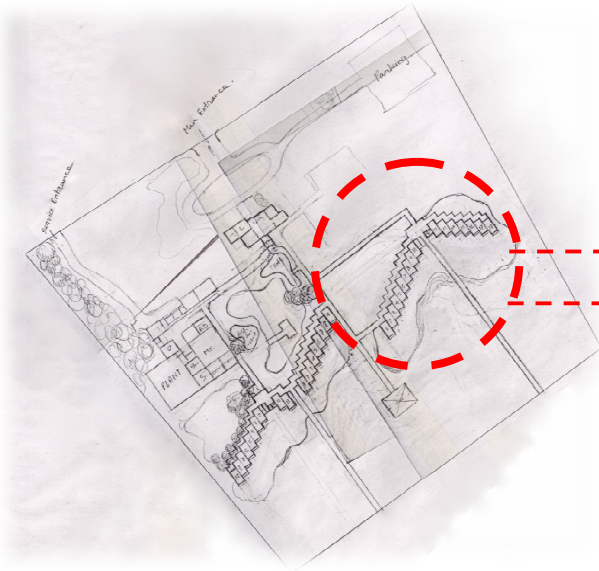


Figure 6.7: First Stage of Zoning

Source: Author

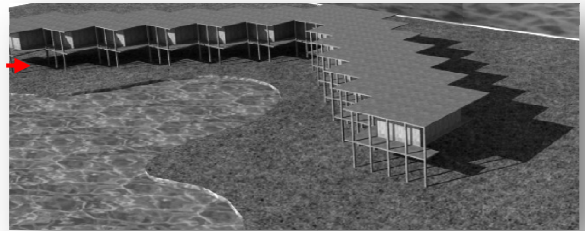


Figure 6.8(a): Initial Module

Source: Author

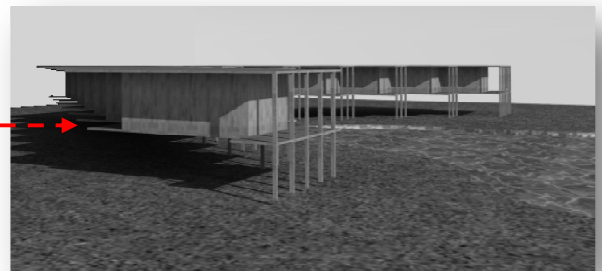


Figure 6.8(b): Initial Module

Source: Author

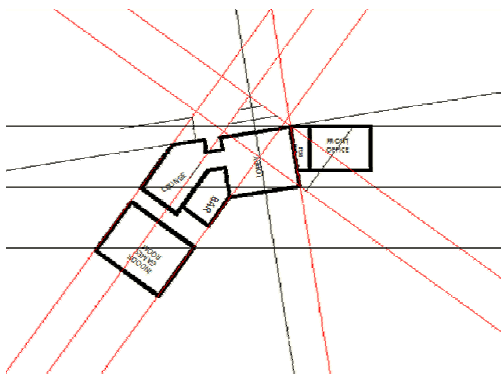


Figure 6.9: Zoning of Reception Block

Source: Author

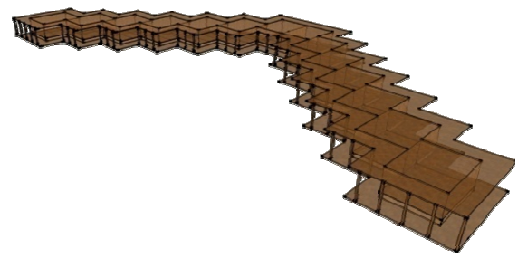


Figure 6.8(c): Initial Module

Source: Author

Although this module fulfilled the condition of all rooms facing the sea, this form or module was occupying a large portion of the site and the central open space which would connect the functions together was becoming harder to obtain.



6.3.2 Intermediate Phase

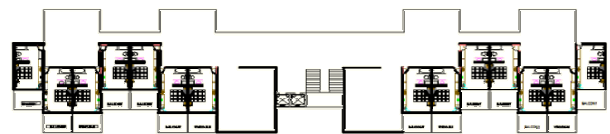
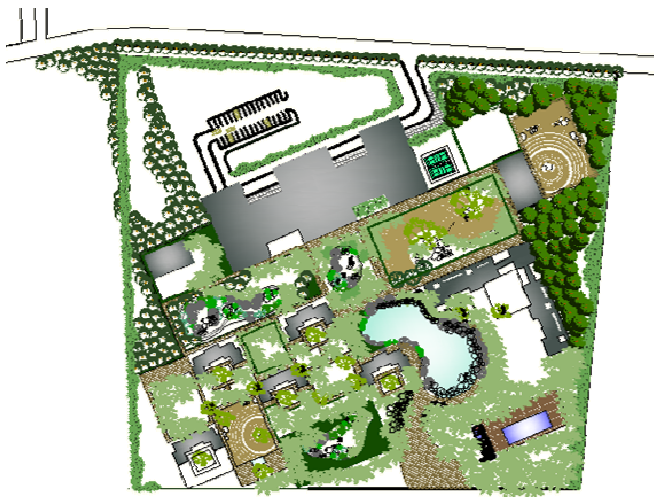
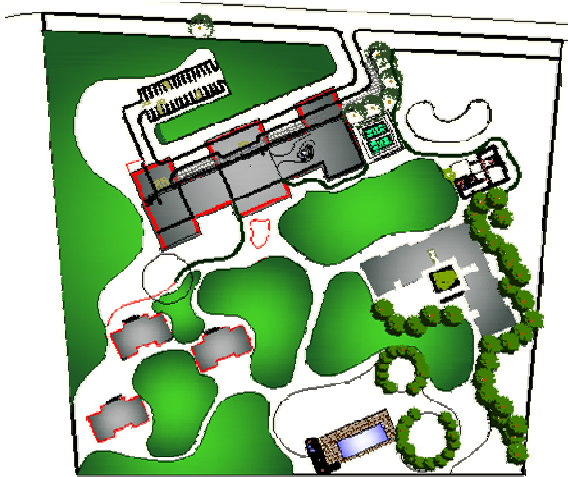


Figure 6.11: *Economic Accommodation*

Source: *Author*

Figure 6.10: *Master Plan Development*

Source: *Author*



Figure 6.12: *Economic Accommodation Elevation*

Source: *Author*

In this phase the structures and landscape elements seemed too fragmented and too dispersed. The master plan didn't appear integrated and the elevations of the buildings were too solid, the transparency and lightness was not there.

### 6.3.2 Final Phase

- Master Plan

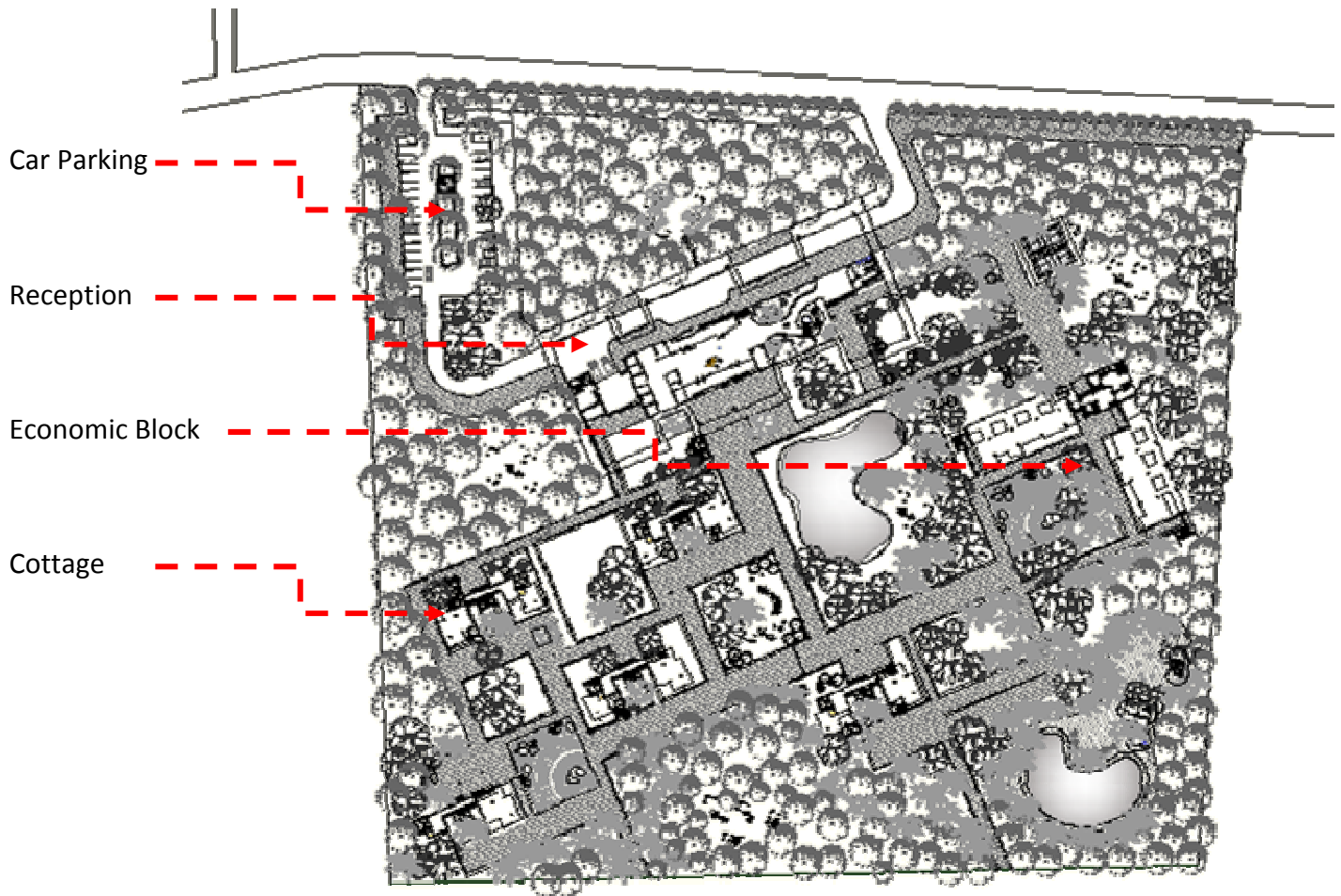


Figure 6.13: Master Plan

Source: Author

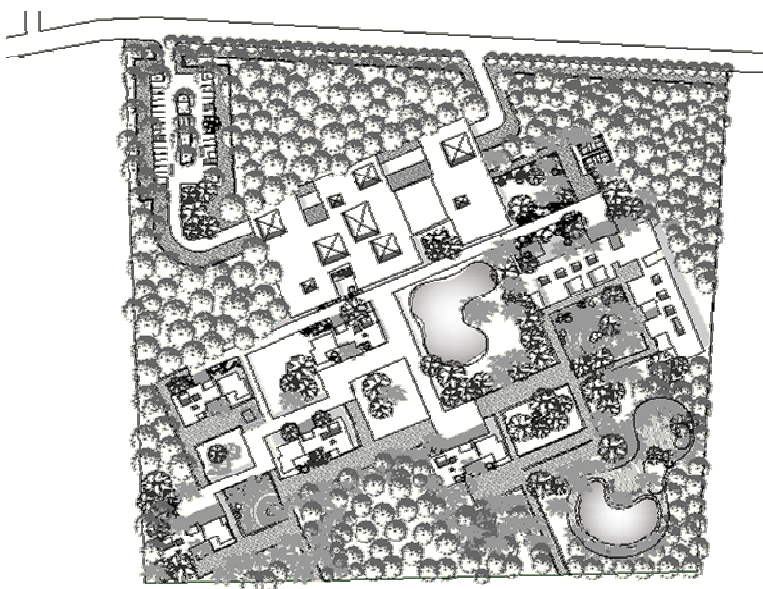


Figure 6.14: Roof Plan

Source: Author



- Site Elevation

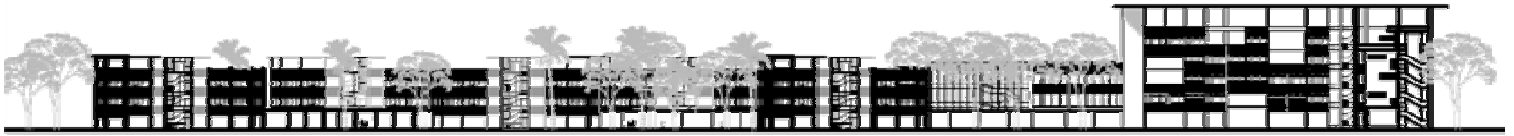


Figure 6.15: *Site Elevation*

Source: *Author*

- Cottage

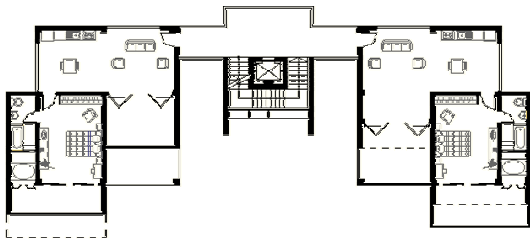


Figure 6.16(a): *Typical Plan of Cottage*

Source: *Author*



Figure 6.17: *West Elevation*

Source: *Author*

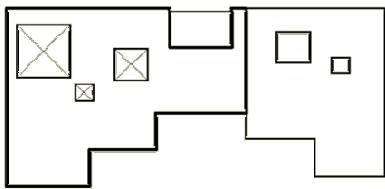


Figure 6.16(b): *Roof Plan of Cottage*

Source: *Author*



Figure 6.18: *Section AA'*

Source: *Author*



Figure 6.19: *Section BB'*

Source: *Author*

- Economic Accommodation Block

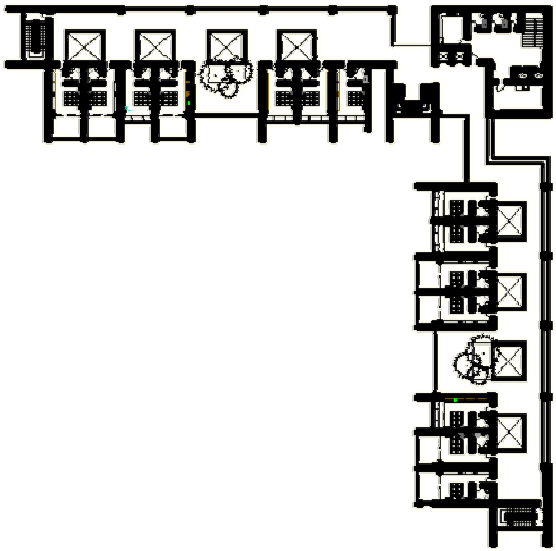


Figure 6.20: *Typical Floor Plan*

Source: *Author*

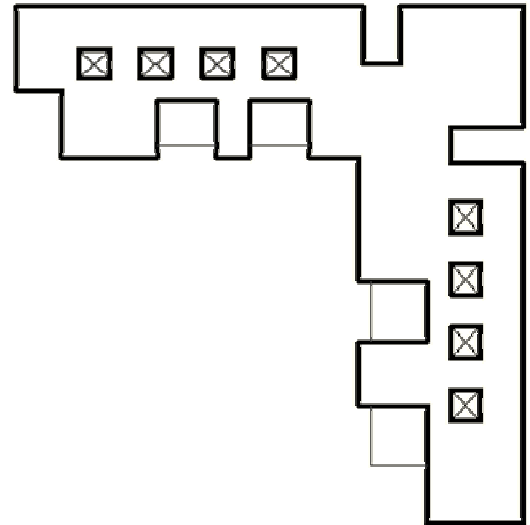


Figure 6.21: *Roof Plan*

Source: *Author*



Figure 6.22: *West Elevation*

Source: *Author*



Figure 6.23: Section AA'

Source: Author

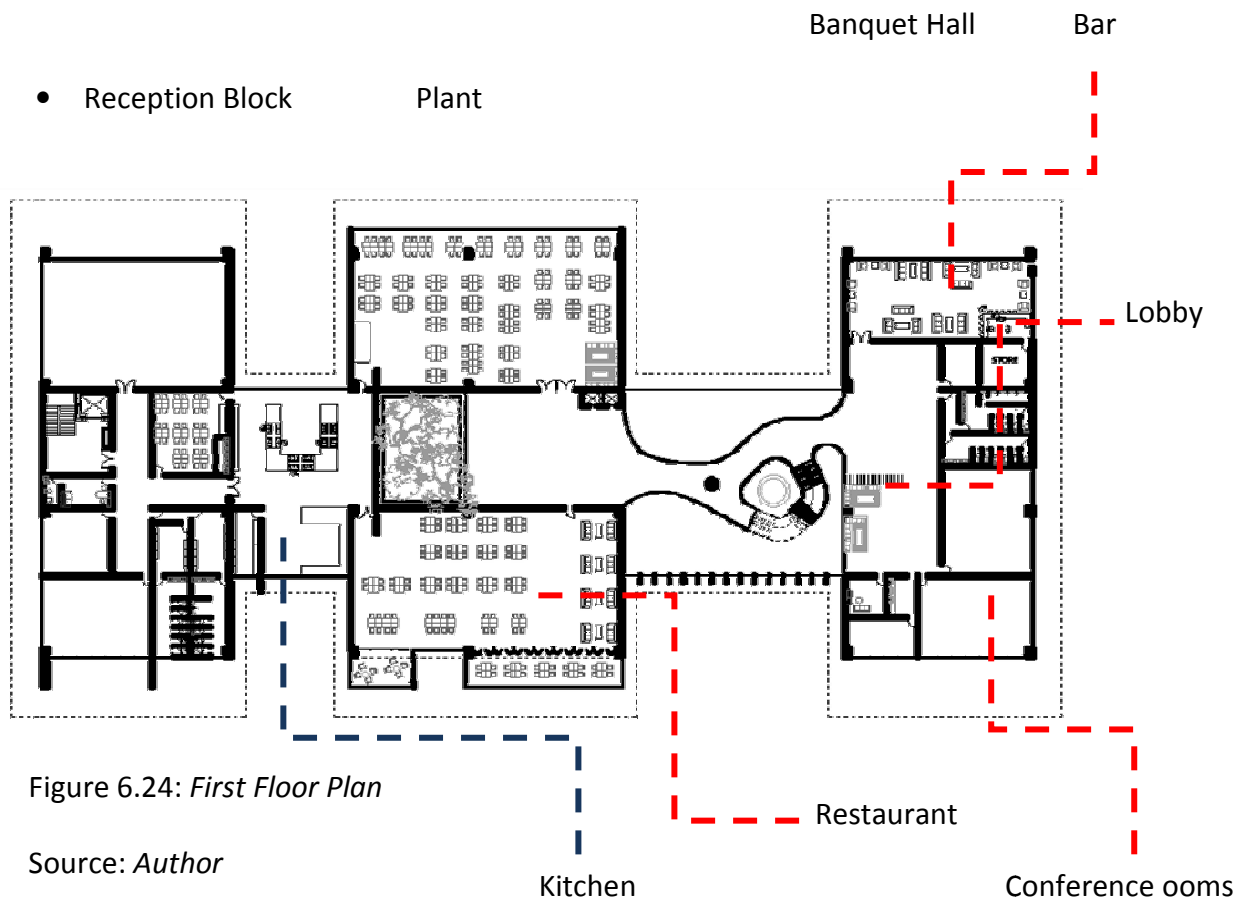


Figure 6.24: First Floor Plan

Source: Author

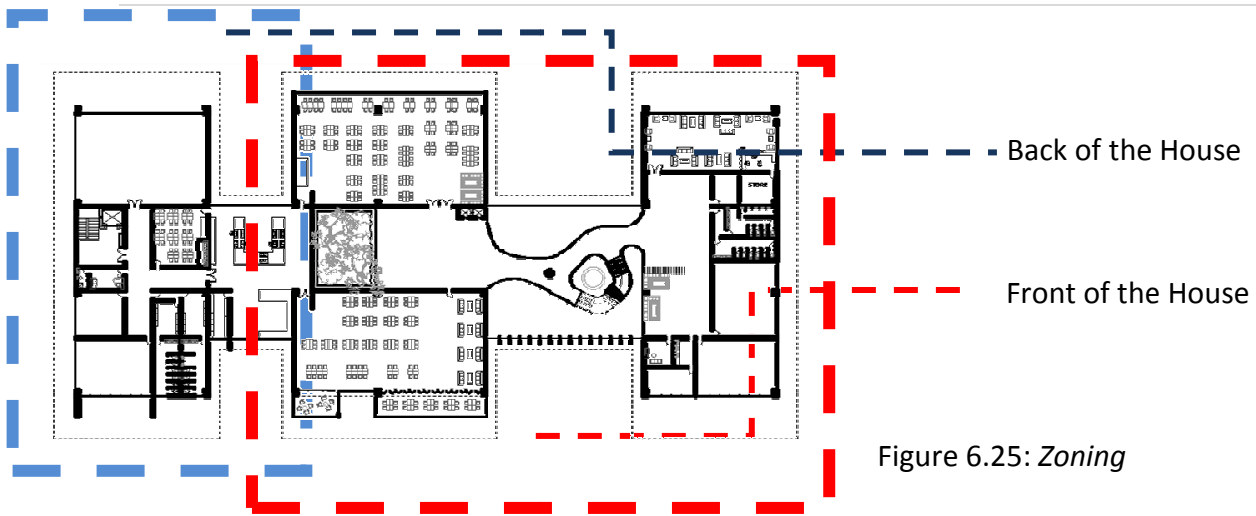


Figure 6.25: Zoning

Source: Author



Figure 6.26: West Elevation

Source: Author

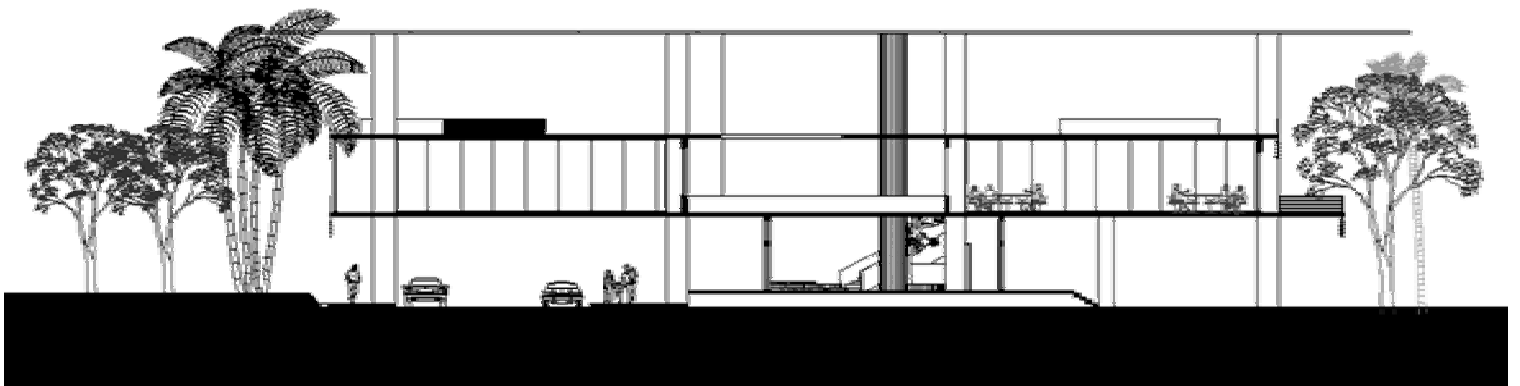


Figure 6.27: Section AA'

Source: Author

### 6.3.3 Room Detail

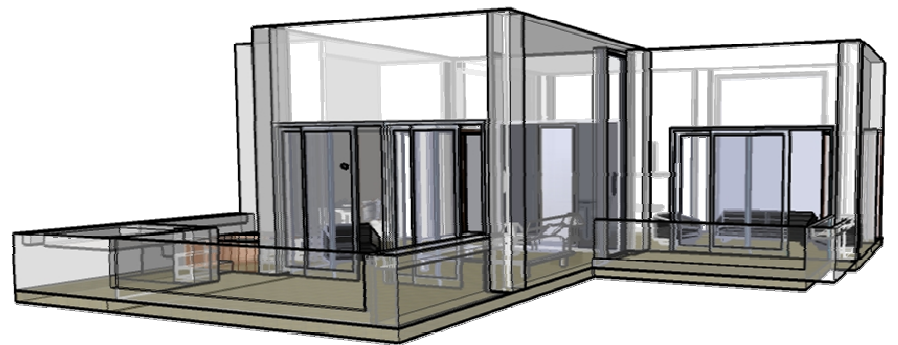
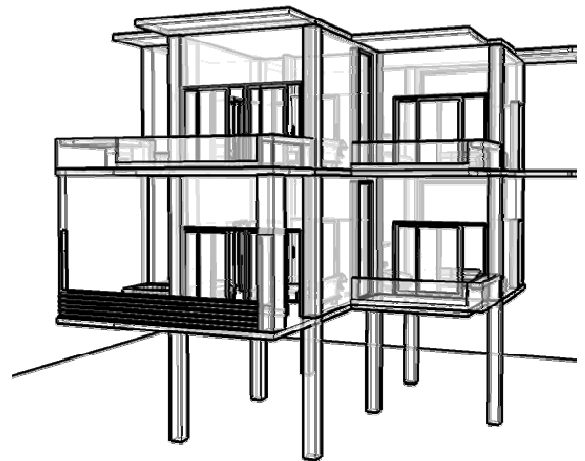
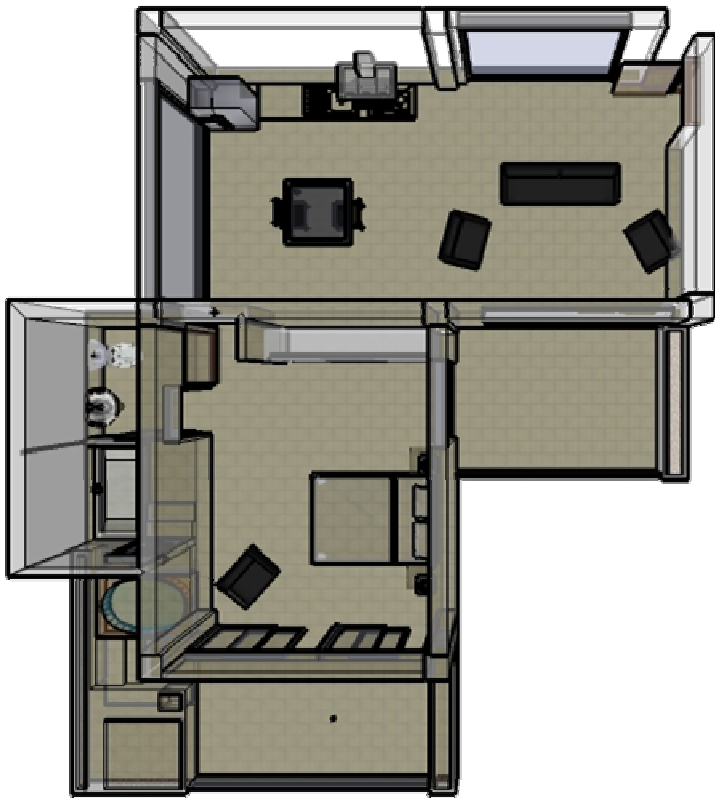


Figure 6.28: Suite Detail

Source: Author

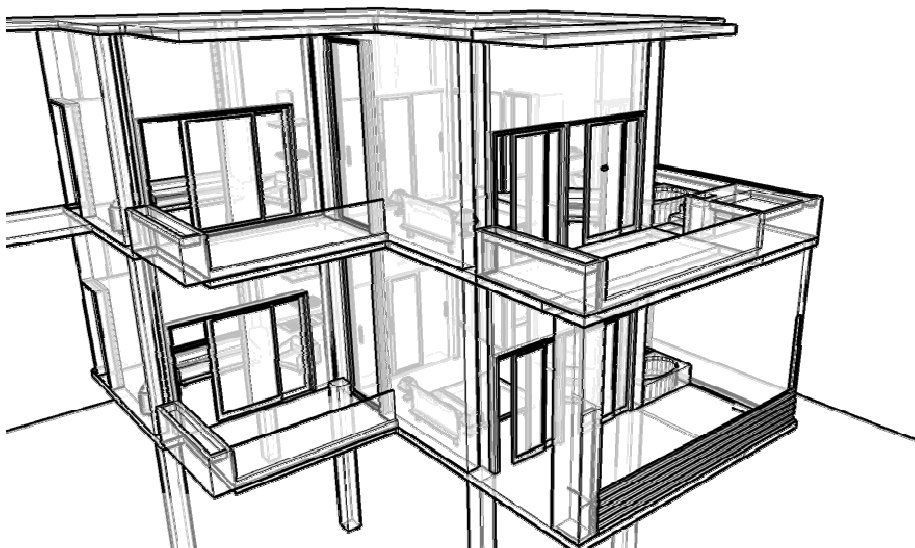


Figure 6.29: Cottage Perspectives

Source: Author

### 6.3.4 Perspectives

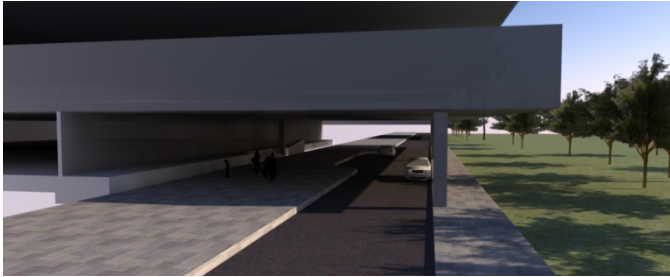


Figure 6.30: *Drop-off at Reception*

Source: *Author*

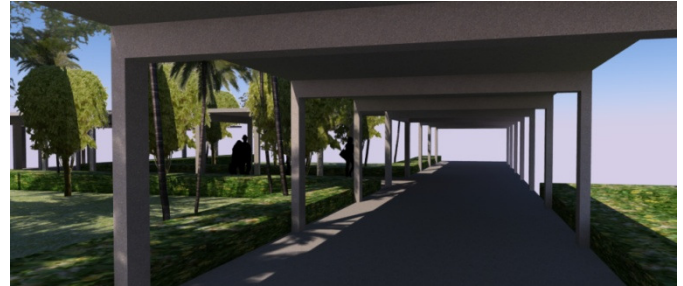


Figure 6.31: *Shaded Walkways*

Source: *Author*



Figure 6.32: *Courtyard*

Source: *Author*

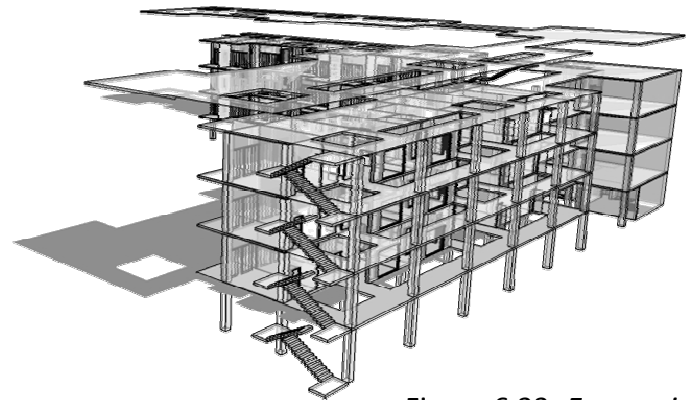


Figure 6.33: *Economic Block*

Source: *Author*

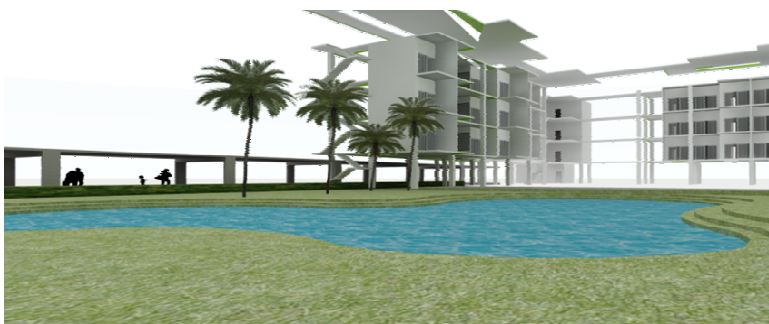


Figure 6.34: *View from Garden*

Source: *Author*



### 6.3.5 Model

- Main Model



Figure 6.35: Main Model

Source: Author

- Detail Model of Cottage

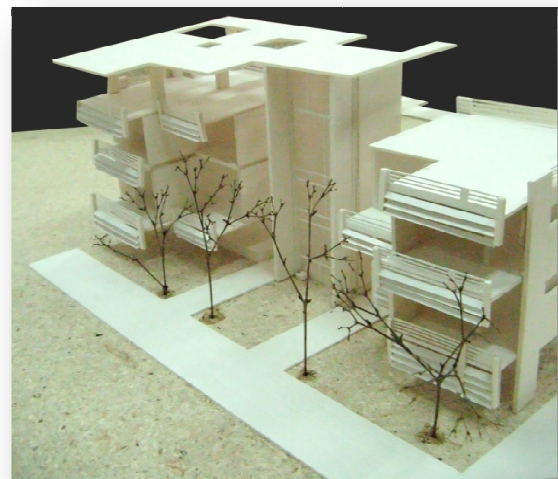
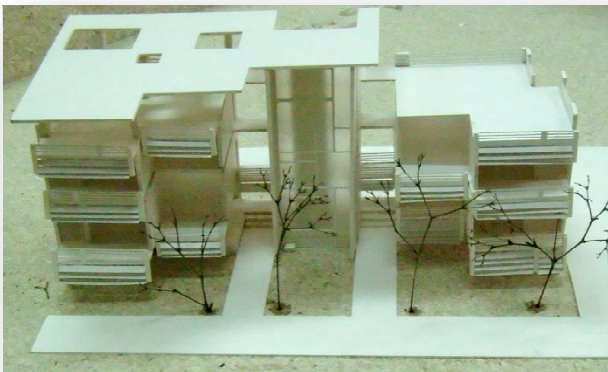


Figure 6.36: Cottage

Source: Author

## **Bibliography**

Ahn, D. J.-y. (2009). A Philosophy of Tourism and its Policy. *Annals of Tourism Research, A Social Science Journal* .