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Bachelor of Architecture

List of students undertaking field project or research projects or internships.

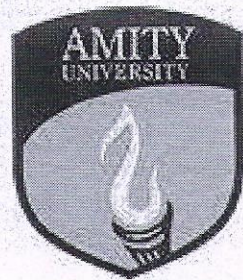
Program Code	Programme name	Name of the students
12040	Bachelor of Architecture	Mr Arihant Bhansali B
12040	Bachelor of Architecture	Ms Rishika Mishra
12040	Bachelor of Architecture	Mr Harsh Nawaria
12040	Bachelor of Architecture	Mr Rudra Pratap Singh
12040	Bachelor of Architecture	Mr Ronak Jain
12040	Bachelor of Architecture	Ms Shriya Sarva
12040	Bachelor of Architecture	Mr Gaurav Naval
12040	Bachelor of Architecture	Mr Sumit Mundhra S
12040	Bachelor of Architecture	Mr Akshay Chhajer
12040	Bachelor of Architecture	Mr Pankaj Jangir
12040	Bachelor of Architecture	Mr Mohammad Shohel
12040	Bachelor of Architecture	Mr Shashank Dhanalia
12040	Bachelor of Architecture	Mr Shravan Kumar
12040	Bachelor of Architecture	Mr Ashwani Jangir
12040	Bachelor of Architecture	Mr Ankit Kurra
12040	Bachelor of Architecture	Ms Vaishali Tank
12040	Bachelor of Architecture	Ms Khushi Joshi
12040	Bachelor of Architecture	Mr Shubham Kumar
12040	Bachelor of Architecture	Mr Pooshan Kileen Mahajan
12040	Bachelor of Architecture	Ms Avni Chopra
12040	Bachelor of Architecture	Ms Shreya Sudesh Periwat
12040	Bachelor of Architecture	Mr Manan Bhargava
12040	Bachelor of Architecture	Mr Mirza Fazil Baig
12040	Bachelor of Architecture	Ms Pallavi Sahu
12040	Bachelor of Architecture	Mr Neeraj Singh Tomar
12040	Bachelor of Architecture	Mr Vedant Nagar
12040	Bachelor of Architecture	Mr Sushant Rathi
12040	Bachelor of Architecture	Mr Yasin Mansuri
12040	Bachelor of Architecture	Mr Sudarshan Kumawat
12040	Bachelor of Architecture	Mr Kartik Kansal
12040	Bachelor of Architecture	Mr Sandhu Pradeep
12040	Bachelor of Architecture	Ms Reema Khandelwal



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12040	Bachelor of Architecture	Parul Agarwal
12040	Bachelor of Architecture	Bharat Verma
12040	Bachelor of Architecture	Aditi Narayan
12040	Bachelor of Architecture	Katakam Vijay Chandra
12040	Bachelor of Architecture	Archit Parihar
12040	Bachelor of Architecture	Shriya Banka
12040	Bachelor of Architecture	Purvi Varshney
12040	Bachelor of Architecture	Tarun Sharma
12040	Bachelor of Architecture	Umang Sharma
12040	Bachelor of Architecture	Aditi Vinod Khandelwal
12040	Bachelor of Architecture	Mukesh Kumar
12040	Bachelor of Architecture	Savsani Kush Sanjaybhai
12040	Bachelor of Architecture	Rupan Biswas
12040	Bachelor of Architecture	Abhishek Kumar Singh
12040	Bachelor of Architecture	Mohammed Adil
12040	Bachelor of Architecture	Parul Agarwal
12040	Bachelor of Architecture	Bharat Verma
12040	Bachelor of Architecture	Aditi Narayan
12040	Bachelor of Architecture	Katakam Vijay Chandra
12040	Bachelor of Architecture	Archit Parihar
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12040	Bachelor of Architecture	Mukesh Kumar
12040	Bachelor of Architecture	Savsani Kush Sanjaybhai
12040	Bachelor of Architecture	Rupan Biswas
12040	Bachelor of Architecture	Abhishek Kumar Singh
12040	Bachelor of Architecture	Mohammed Adil



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**Facilities for cremation at Ahley
Gumpa, Namchi**

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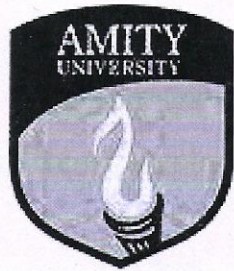
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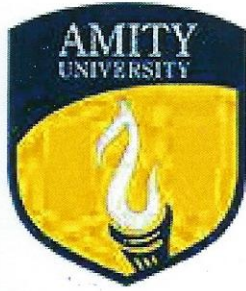
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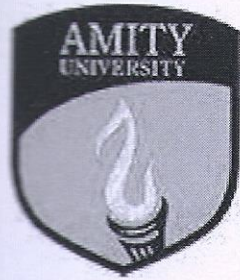
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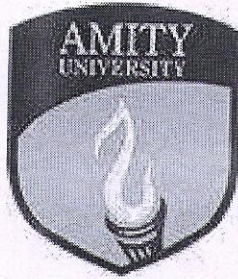
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“Indian Institute of Bodh Darshan, Tabo”

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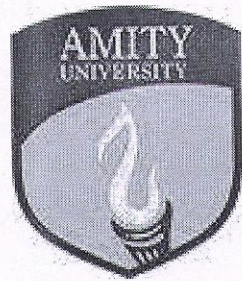
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(SCIENCE CITY MYSORE)

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ISBT HEERAPURA, JAIPUR

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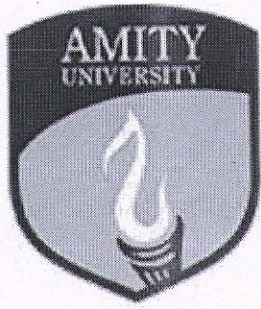
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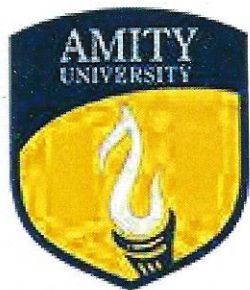
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Date of Submission:

12/02/2021

Word count:288

Thesis Guide: Ar. Mohd shoeb Jafri



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**Development of International Trade
Promotion Centre in Gurugram as
World Trade Centre**

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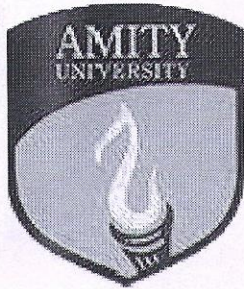
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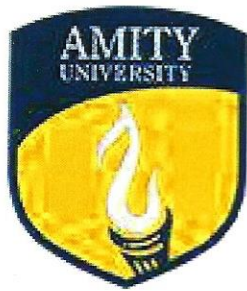
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“SAINIK SCHOOL, HALDEENA, ALWAR”

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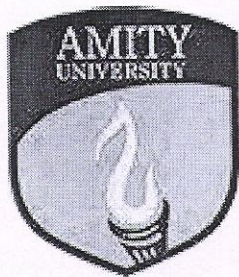
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DEVELOPMENT CENTER**

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ECO RESORT AT GAJOLDOBA, WEST BENGAL

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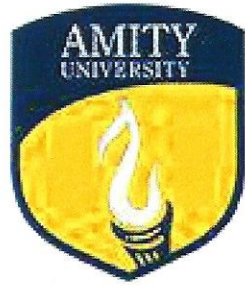
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(RESORT RAISINGHPURA)

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GLOBAL AYURVEDIC VILLAGE, KERALA

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5 star Hotel

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**5 STAR HOTEL CUM
CONVENTION CENTRE,
MOHALI, PUNJAB.**

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“LUXURIOUS APARTMENTS”

B.ARCH THESIS REPORT

By

Pallavi Sahu

University Enroll. No. (A20104016028)

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Certificate I (Declaration)

I, **Pallavi Sahu**, 10th Semester student of the 2016-21 Batch of five years Bachelors of Architecture Degree Programme of **Amity School of Architecture and Planning, Amity University Rajasthan**, hereby confirm that this Thesis Project entitled "**Luxurious apartments**", submitted for the partial fulfillment of the Degree of Bachelor of Architecture is my own work and has not been copied from any print/digital source.

I also confirm that I have not submitted this work for any other Degree/Diploma/Certificate.

Signature of the student

Pallavi Sahu

B. Arch (Xth Semester)
(A20104016028)

Date: 21/06/21

Place: Jaipur



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CERTIFICATE II

This is to certify that **Pallavi Sahu**, B.Arch. Semester (10th) of **Amity School of Architecture and Planning, AUR**, has completed the Architectural Thesis under the guidance of **Ar. Ankita Saxena**, and coordination of **Ar. Mohd. Shoeb Jafri** in the duration from January 2021 to May 2021.

In this duration the student has submitted the regular work in the phase of Synopsis, Theoretical Studies, Literature Studies, Case Studies, Comparative Analysis and Conceptual Drawings, Report and Design with regular discussions and inputs.

The final submission of the Thesis Project is compiled in the format of report and sheet presentation for evaluation.

M. S. Jafri

Signature of Thesis Coordinator
(**Ar. Mohd. Shoeb Jafri**)

Signature of Thesis Guide
(**Ar. Ankita Saxena**)

Signature of HOD
(**Dr. Anurag Varma**)

Date: 21/06/21

Place: Jaipur

Stamp of the Department



Amity School of Architecture & Planning (ASAP)
Amity University Campus, Kant Kalwar, NH-11C, Jaipur

CERTIFICATE III (RECOMMENDATION)

I hereby recommend that the Thesis Report entitled "**Luxurious Apartments**" has been prepared by **Pallavi Sahu**, 10th Semester student of the 2016-21 Batch of five years **Bachelors of Architecture** Degree Programme of **Amity School of Architecture and Planning, Amity University Rajasthan**, under my guidance. The Report may be accepted as requirement for the partial fulfillment of the Degree of Bachelor of Architecture.

Date: 21/06/2021

Ar. Ankita Saxena

Thesis Guide

M. S. Jafri

Signature of Thesis Coordinator

(Ar. Mohd. Shoeb Jafri)

Signature of HOD

(Dr. Anurag Varma)

Accepted /Not Accepted

Ashwani Kumar

External Examiner

(Dr. Ashwani Kumar)

External Examiner



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This thesis is a milestone in my academic career. I have been fortunate to learn new theories and concepts which would have been impossible if I had not extensively carried out the needed research.

I would first like to thank my guide **Ar. Ankita Saxena (Assistant Professor, Amity School of Architecture and Planning, Amity University, Jaipur)**, who guided me and was there throughout my preparation of the proposal and the conceptualization of its structure. I would have not been able to do the research and achieve learning in the same manner without her help and support. Her recommendations and instructions have enabled me to assemble and finish the thesis effectively.

Also, I would like to extend my sincere gratitude towards **Prof. (Dr.) Anurag Varma Sir (HOD, Amity School of Architecture and Planning, Amity University, Jaipur)** and **Ar. Mohd. Shoeb Jafri (Professor, Amity School of Architecture and Planning, Amity University, Jaipur)** for their support throughout the semester.

Signature of the student

Pallavi Sahu
B. Arch (Xth Semester)
(A20104016028)

Date: 21/06/21

Place: Jaipur



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1. INTRODUCTION

The real estate industry is one of the biggest industries in India. The necessity of this industry is inevitable as the growth population will need to leave out its future in the cities. But our current city doesn't have what it takes to absorb the influx and still run with efficiency. The solution is for India to plan and built portfolio of newer and smarter cities. Cities that are sensitive in environment and provide for the increasing urban/global migration. One such project is this LUXURY APARTMENTS in the heart of Raipur. Since the city is envisioned to be capital entertainment of Raipur, this residential complex won't be catering to the needs of domestic high end society.

What Is a Luxury Apartment ?

A luxury apartment is a high-end apartment that includes everything you could ever want or need. Luxury apartments are large and spacious and situated in premium locations. A luxury apartment is a type of apartment that is intended to provide its occupant with higher-than-average levels of comfort, quality and convenience. However, it can also mean any apartment with extra amenities, such as a door man, yoga studios or bowling alleys, among others.

Luxury Apartments vs. Regular Apartments

Compared to regular apartments, luxury apartments simply offer more— more square footage, more conveniences, more responsive maintenance, more luxurious landscaping. As you compare both the apartments, we would find out many differences. Many of these distinctions will change by location. Some luxury apartments are truly packed with perks, while others may have just a few distinctions.

2. BACKGROUND RESEARCH

INTRODUCTION

This project is an ultimate contemplation of the urban lifestyle located in Raipur, Chhattisgarh. This project hosts in its lap exclusively designed luxurious apartments that are an oasis of calm and peace. It is a large project spread over an area of 26 acres located in the heart of the city. It comprises of 2 BHK, 3 BHK and 4 BHK apartments with floor plans that presents the most exciting and aggressive floor plans designed for an extravagant lifestyle with 10 floors, that includes best amenities like club house, swimming pool, tennis court etc.

THE NEED AND IMPORTANCE OF THE PROJECT

The real estate industry, is one of the biggest industries in India. The necessity of this industry is inevitable as the growth population will need to live out its future in cities. But our current cities doesn't have what it take to absorb the influx and still run with efficiency. The solution for India is to plan and built portfolio of newer and smarter cities. Cities that are sensitive to environment and provide for the increasing urban/global migration.

One such future cities is Raipur, a planned city for a fast evolving future. Accommodations options in Raipur ranges from budget to luxury and variety of amenities to cater its needs.

One such project is this, In the heart of Raipur. Also responding directly to its unique context. Also to study the needs of the high end society and planning according to it.

PROJECT BACKGROUND

A luxury apartment is a type of apartment that is intended to provide its occupant with higher-than average levels of comfort, quality and convenience. While the term is often used to describe high-end regular apartment. Luxury apartments have become increasingly popular in the last few decades. It is important to understand the challenges and opportunities they entail, which are unique to this type of building. High-rises are complex buildings and it is difficult to overview the effects of design choices, as many different aspects are likely to be affected. There is a lot of experience and information in the different aspects of high-rise design, such as structural design, vertical transportation and fire safety.

ABOUT THE CITY

The real estate market of Raipur is on a positive trajectory. To meet these, the developers in the city are coming up with new developments. Proximity from commercial hubs, residential colonies and easy connectivity are two major factors that add to the positivity of the realty market. Presence of excellent healthcare facilities and good educational institutions also add to this positivity.

PROJECT REQUIREMENTS

This project gives an opportunity to reside in the heart of the city Raipur. The various configurations in which the flat units are available in this project are 2 BHK, 3 BHK AND 4 BHK apartments with perfect combination of contemporary architecture and features to provide comfortable and luxurious living.

SITE LOCATION



2.01 SITE LOCATION MAP

SITE CONNECTIVITY

- Bank – 1.6 kms
- Hospital – 3 kms
- University – 3.2 kms
- Railway Station – 6 kms
- Airport – 18 kms
- Bus Stand – 6.5 kms
-

SITE LOCATION

This site is located near Kabir nagar in Raipur, Chhattisgarh, close to the AIIMS, Suyash hospital, Khallari temple etc.

- Area – Total: 25 Acres, Built up: 7.2 acres
- Type of Development – Luxurious apartments (Residential)
- Permissible Ground Coverage – 30%
- Minimum green area – 5% → FAR – 1.3
- Minimum plinth height (from adjacent road level) – 0.45 M
- Maximum height - 35 meters
- Height of boundary wall - 1.8 - 2.0 meters
- Setbacks: Front – 15 Mts.
Both sides – 9 Mts.
Rear – 9 Mts.

JUSTIFICATION FOR SELECTING THE PROJECT

As the "Luxury apartment" segment presented by the real estate is getting very famous now-a-days. So to provide the sophisticated living spaces that are in a convenient location from where residents can commute easily to their workplaces and other important destinations.

3. THEORETICAL STUDIES

SCOPE FOR ARCHITECTURAL DESIGN

- For providing landscaping, green spaces etc. accordingly.
- Provision of basic amenities in luxury apartments.
- To study the basic standards of these apartments with the standard living and amenities.
- To contribute to intensification and efficient development patterns that support healthy, liveable and safe communities

METHODOLOGY

RESEARCH WORK:

- Study about the topic.
- Importance of the topic.
- Collection of data from library, articles, internet
- Formulation of aim, objective, scope & limitations.

SITE ANALYSIS:

- Analysis of proposed site.
- Study of climatic and geographical data.
- Studying the surroundings, regulations and norms.

CASE STUDY:

- Live case studies at preferable places.
- Literature studies from internet, books etc.

PLANNING:

- Area analysis through charts for concept visualization.
- Conceptual site planning.
- Conceptual planning of the building.
- Layout of spaces

PRESENTATION:

- Building plans
- Elevations and sections.

AIM

To research and analyze the term luxury and the constraints/challenges developed by the unique context of the land selected and design luxury based residential complex.

OBJECTIVES

- To analyze the architectural characteristics of Raipur, to be incorporated while designing.
- To research and analyze the unique context of the land, understanding its complexities and designing with its accord.
- To understand the term luxury and its accord with architecture and designing to the needs of the high end society.
- To develop the site plan along with other set of required drawings to cater the needs of the project.

SCOPE OF STUDY

- To research various case studies (literature/live) and analyzing the requirements of designing a project.
- To study the bye-laws of Raipur and designing with its accord.
- To design the residential complex for the high end crust of the society.
- To design and develop the site plan along with other set of required drawings to cater the need of this project.

THESIS OBJECTIVES

- The main objective of the study is to analyze the architectural and planning characteristics of luxurious apartments and to develop environment that should perfectly define the term luxury.

SCOPE OF WORK

- Analysis and incorporating design principles for these luxurious apartments and also to design such spaces which enhances the physical and visual interaction.
- And also to design spaces which will enhance both the nature and harmony.

LIMITATIONS OF THE PROJECT

- Limiting the site development / designing only upto 30,450 sqft (7.5 Acres) total plot area 25 acres.

4. CASE STUDY

I. Palm Bellagio, Raipur, Chhattisgarh



4.01 SITE LOCATION MAP



4.02 SITE VIEW

a. Important landmarks-



4.03 AGRAWAL PUBLIC SCHOOL



4.04 AASTHA GREENS



4.05 SMC HOSPITAL



4.06 LUXORA AND EDGE

b. Accessibility-



7 kms from Railway station



9 kms from Bus stand



13 kms from Airport

- 4 kms from Main market

c. Technical data-

- **Apartments:** Magnificent Duplexes /4 types/ 2.5 BHK, 3 BHK, 3.5 BHK and 4 BHK
- **Height:** 30 meters
- **Floors:** G+8
- **Units -** 400
- **Construction system:** Concrete
- **Architects:** Palm Group
- **Year:** 2018-19
- **Building type:** Multi-family housing
- **Architectural style:** Modern

d. Site photos-



4.07 VIEW 1



4.08 VIEW 2

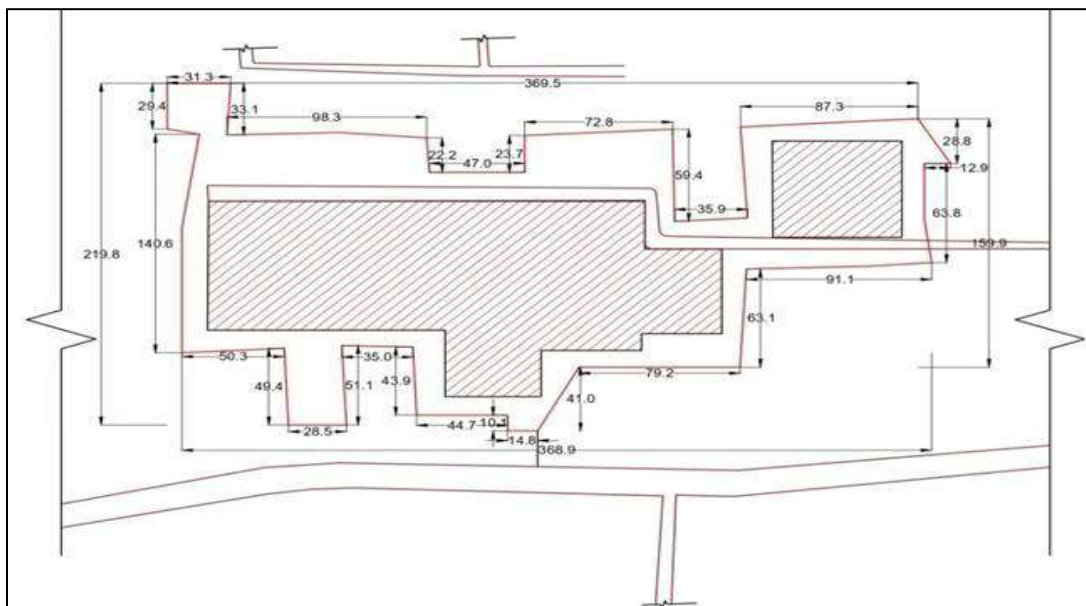


4.09 VIEW 3



4.10 VIEW 4

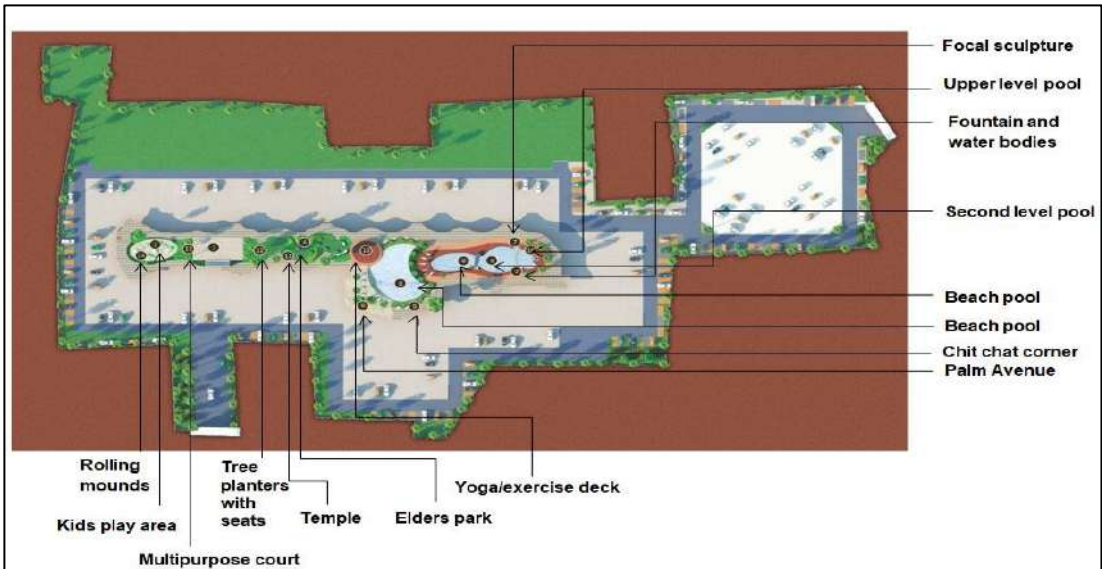
e. Site plan-



Total site area – 87,590 sqft

Built up area – 55,500 sqft

f. Site plan-



g. Terrace plan-



h. Specifications –



4.11 Duplex lower & upper floor plan (2885 & 2030 sqft.)

DUPLEX TYPE

- Lap Pool With Bar Counter
- Home Theater
- Centralized Air-Conditioning Unit
- Living Room
- Dining Room
- Bathrooms
- Kitchen
- Balcony & Utility Balcony



**4.12 FLOOR PLAN - 2.5 BHK
(1870 sqft.)**



**4.13 FLOOR PLAN - 3 BHK
(1925 sqft.)**

- 2.5, 3, 3.5, 4 BHK**
- Living room
 - Dining room
 - Bedrooms
 - Bathrooms
 - Kitchen
 - Balcony & Utility Balcony

1.10 FLOOR PLAN - DUPLEX

i. Feasibility –

No. of blocks/floors: Palm Bellagio is a luxurious residential project with 400 luxurious units of 4 different variants including 2.5, 3, 3.5 and 4 BHK units. The built up area varies from 1870-2350 sqft. There are 2 different building towers.

j. Key Features-

- Landscaped pathway is provided for the entire stretch, which will enhance the appearance of the main entrance to the apartment.
- Different types of recreational areas are provided.
- The entrance pathway to the apartment lobbies are paved with natural pavers and granites.
- Different open reserved spaces are provided.

k. Design And Details-

- **Orientation:** An integrated design approach was followed to evaluate and maximize the energy reductions of the building. To optimize the cooling effect, day lighting, ventilation etc. the building mass and openings were shaped and sized at its best. The site plan and orientation was decided to provide aesthetically good views.
- **Analysis of plan and Circulation:** The plan is linear and is designed in such a way that there should be more amounts of open spaces for proper light and ventilation.
- **Concept:** The main concept of this project was to provide its own of luxurious apartments along with the spacious rooms, superior architecture, and best amenities.

l. Distinct Architectural Character –

- **Exterior:** White panels and concrete construction bears a strong resemblance to a modern building while the terrace garden provides a look of the traditional bungalow.
- **Material used:** Glass, wood, Italian marble, granite, UPVC, Ceramic tiles, Vitrified tiles
- **Construction technology and structural system:** RCC frame structure



4.14 FLOOR PLAN - 3.5 BHK (2270 sqft.)



4.15 FLOOR PLAN - 4 BHK (2350 sqft.)

m. Objectives -

- The history of urbanization.
- The Trend of Urbanization in Nepal.
- The Future cities in rapid Urbanization.
- The Challenges of Urbanization.
- The need of apartment.
- The characteristics of high rise apartments.
- Amenities & services in apartment.
- The practical use of byelaws in apartment.
- The inter relationship between the surrounding and the building.
- The relation between social and apartment.
- Factors affecting high rise apartments.

n. Functional layout-

- To encourage dwellings that provide the functional areas that meets the need of the residents.
- To provide dwellings that can be adapted to meet the changing needs of the residents.

o. Parking-

- Surface parking : 180 cars
- Basement parking : 450 cars

p. Water Supply-

- To encourage the use of alternative sources of water such as rainwater, Rainwater harvesting is also provided.

q. Air conditioning/Electrical Layout-

- VRV unit with adequate tonnage. Modular switches are provided in each of the units. Use of fire resistant electrical wires of high brands.

r. Solid Waste Disposal System-

- For garbage disposal, garbage chutes are provided in each of the buildings to encourage waste recycling.
- They ensured that waste and recycling facilities are accessible, adequate and attractive.

t. Other System-

- 2 passenger lifts of 15 persons capacity for access in the apartments.

u. Landscape-

- The landscape was designed according to the design response throughout the site.
- Also to encourage developments that respects the landscape character of the neighborhood.
- And also to encourage the retention of mature vegetation on the site.
- The main aim was to promote climate responsive landscape design.

v. Fire Protection-

- Fire sprinkler and Smoke detectors systems in each of the buildings including the common area.
- Fire hydrant systems in common areas.

II. Kings House apartments, Bangalore



Location- Bangalore, India **Site area-** 30,000 sqft **Project area-** 1,00,000 sqft **4.16 VIEW 1 (2350 sqft.)**

a. Introduction -

Occupying a strategic position in the heart of Bangalore city, the project is in close proximity with some of the best hospitality in medical, and commercial facilities. The architecture of this project would re-interpret new levels of luxury in living. The built form also had to capture the richness of its vibrant and significant urban context of the city. The design challenge was to capitalize on the potential of the 30,000 sqft site without compromising on the existing green cover and minimizing the ecological footprint of the structure.

The idea of going higher was restricted by the existing Byelaws which did not allow the building to go beyond 12m. The master plan had to thus examine and organize the programs of the site to address the complexities of Super luxury living within the Green Parameters embedded within the site context.

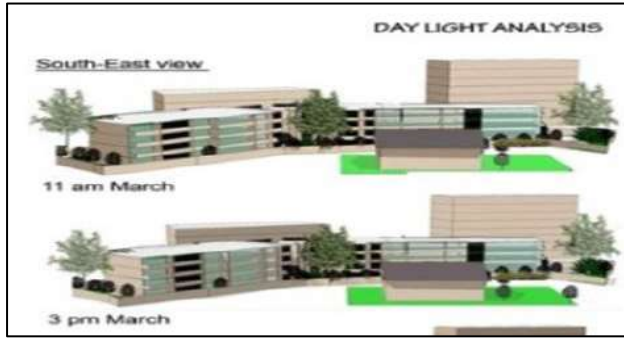
b. About the project -

The project houses 7 Sky residences with areas ranging from 10,000 to 20,000 sqft individually and each of which is crafted to suit the client's lifestyles. The design expressed here is spread over an area of 20,000 sqft layered in two floors and is designed more like a Holiday home.

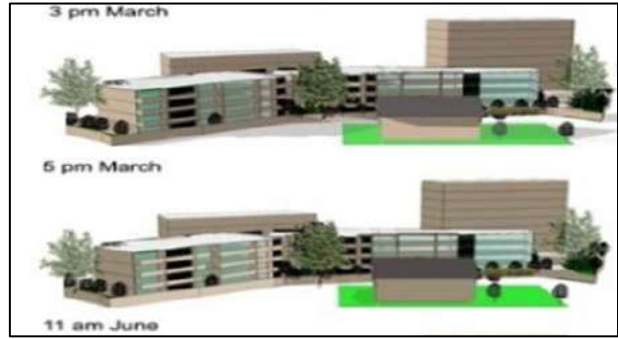
The two floors are functioned for different purposes and are connected internally through a private elevator. The lower floor is designed as a social space consisting of entertainment zones and the upper floor is treated as a personal/family space. The overall concept for the home on both the levels is a fresh and contemporary design approach.



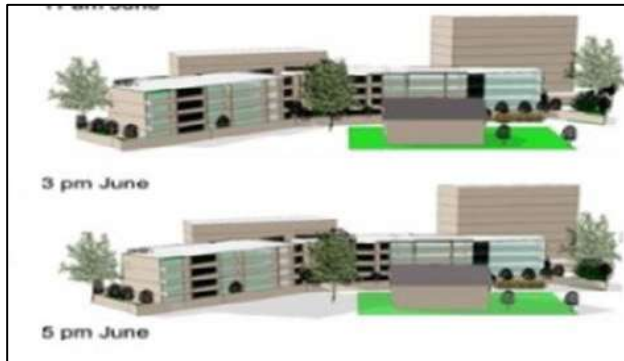
4.17 SITE PLAN



4.21 DESIGN ANALYSIS 1



4.22 DESIGN ANALYSIS 2



4.23 DESIGN ANALYSIS 3

e.Construction resources-

The construction deals intensely on using green materials to integrate multiple sustainable features into the project. Using materials like AAC Blocks, PV Cells for solar lighting, Solar Reflective tiles for High heat reflectance, Double Glazed Windows, Permeable Paving & Rain water harvesting for Ground Water Recharge are few of the systems that saves significant energy and minimizes the carbon footprint.



4.24 VIEW 1



4.25 VIEW 2



4.26 VIEW 3

The building thus functions as a selective environmental filter, enhancing the best components of the regional climate to address heating, cooling and ventilation needs of the structure. While the concept of the building focuses on green factors of design and use of sustainable materials, the aesthetic character of the building is far from being compromised. With individual residential units being approximately 10,000 sqft in size, the ecological elements are conscientiously woven together with the luxury requirements of the project that conclusively expresses a contemporary response which further establishes a contextual relationship and giving each residence the highest degree of originality.

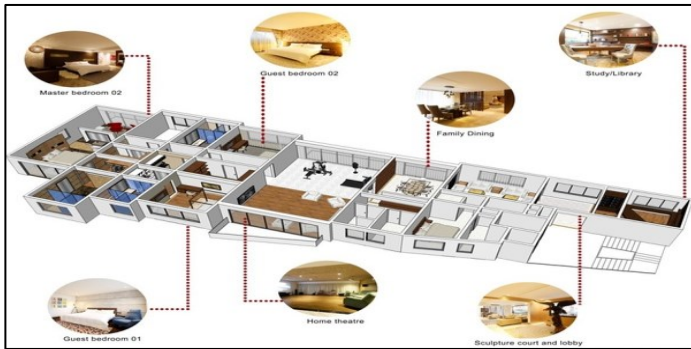
f. Floor plans-



4.27 FLOOR PLAN 1



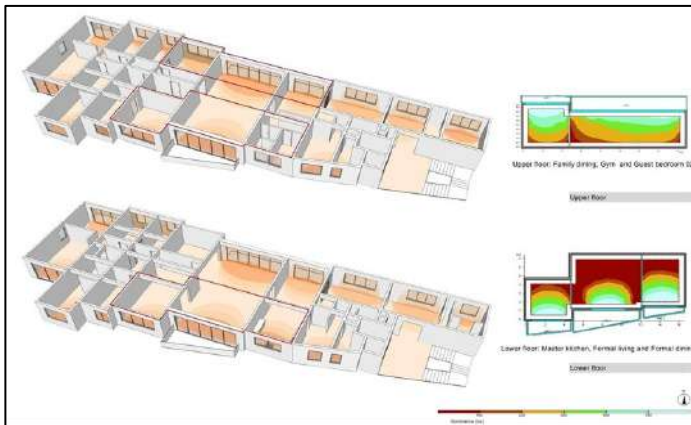
4.28 FLOOR PLAN 2



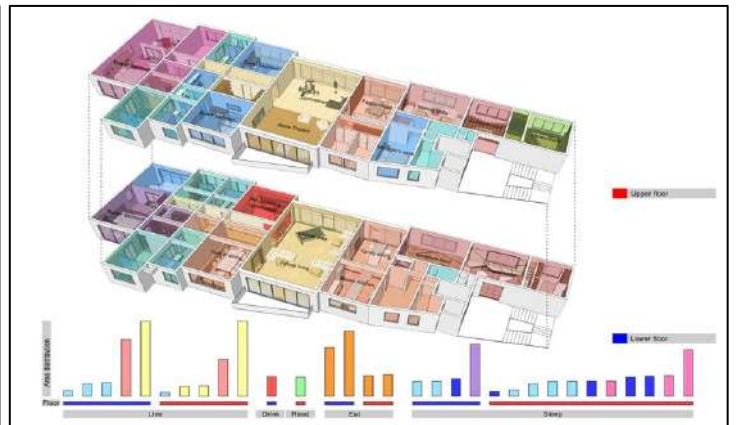
4.29 Isometric View



4.30 Isometric View



4.31 Zoning Diagram



4.32 Zoning Diagram

iii. Kanchanjunga apartments, Maharashtra

a. Technical data-

- **Apartments:** 32 Luxury apartments/3, 4, 5, 6 BHK
- **Height:** 84 meters
- **Floors:** 27
- **Construction system:** Concrete
- **Architects:** Charles Correa Associates
- **Year:** 1970-1983
- **Building type:** Sky-scraper multi-family housing
- **Architectural style:** Modern, Brutualism
- **Lot size:** 5260 sqm.
- **Tower footprint:** 436 sqm
- **Surface parking:** 20
- **Basement parking:** 30



4.33 KANCHANJUNGA APARTMENT

b. Feasibility-

No. of blocks/floors

It's a project of 27 floors which has 2 BHK and 3 BHK floors in it. Area of the flat is around 1100 sqft. of 2 BHK and 1500 sqft. of 3 BHK and 32 luxurious apartments with 4 types (3 to 6 bedrooms).

c. Site plan-



4.34 SITE PLAN

d. Design details -

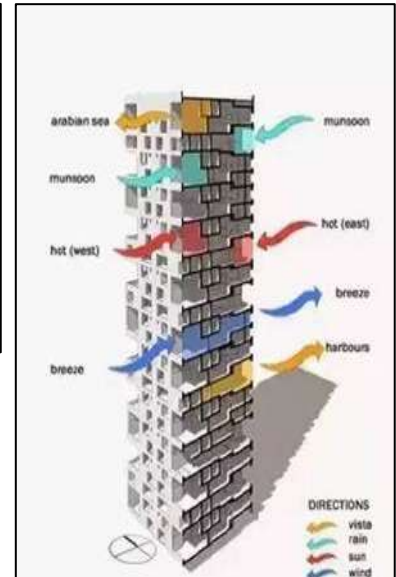
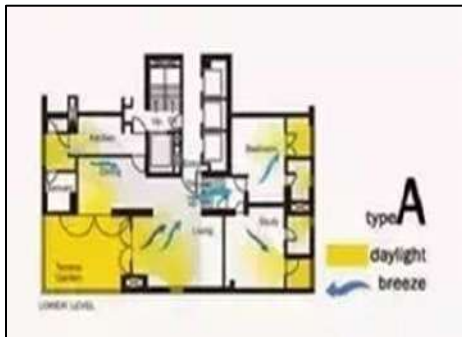
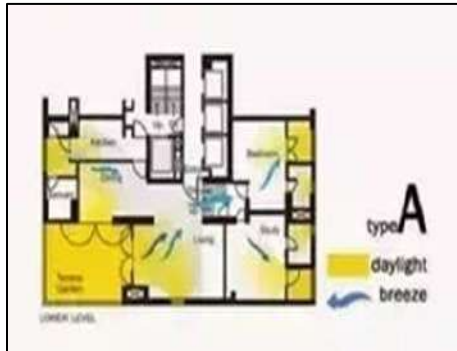
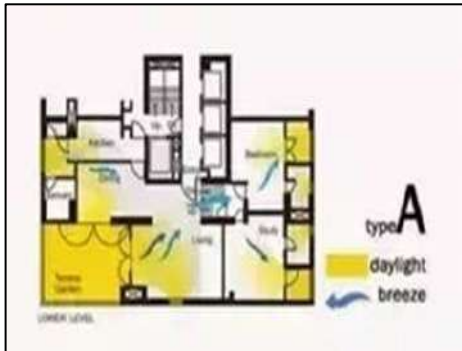
In Mumbai, an apartment has to be oriented east-west to catch the prevailing sea breeze and open up to the best views of the city, Arabian sea on one side and harbor on the other half of them to east of the Arabian Sea. 62.5% of the total verandahs are oriented to the views of harbor on the east.

e. Planning -

- The main idea of Charles Correa for this building is to give a resident feeling of a luxurious bungalow in high rise buildings.
- If we talk about the planning of the building, it is designed in the centre of the site with a protective green landscape around the building.
- Landscaping around the building creates a passive cooling effect for a building.
- Kanchanjunga is located in the main city center having roads on many sides. Traffic jams always happen on the roads lead to substantial noise pollution on the site.
- Trees on all sides of the building help in reducing noise pollution on the site.
- The slip method of construction is used in Kanchanjunga apartments.
- Designed as a concept of "Through Ventilation", of Kanchanjunga apartments.
- Charles Correa thinks that dealing with the environment and dealing with energy is much more than building a glass structure and using low yield glass to get a lead certificate.

f. Orientation -

- Kanchanjunga Apartments is oriented toward the East-West side so that the building can catch the sea-breeze.
- The design and orientation of the building are done towards the seaside so that it will get the best viewpoint from the house.
- The drawback of the orientation of the building is that the direction of the sea- breeze, and view is also the direction of hot sun and monsoon rain.
- So Charles Correa designed a veranda at which will work as the first line of defence for a house.
- Designing of deep Varandah and open balcony creates a protective layer for the living room.
- Kanchanjunga apartments is a 28 story luxurious residential building consists of the different typology of houses varying from 3BHK to 6BHK.



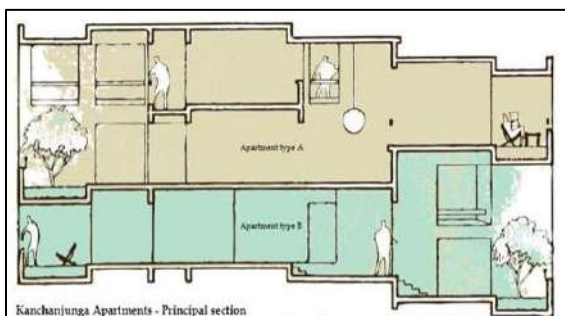
4.35 IMAGE 1

4.36 IMAGE 2

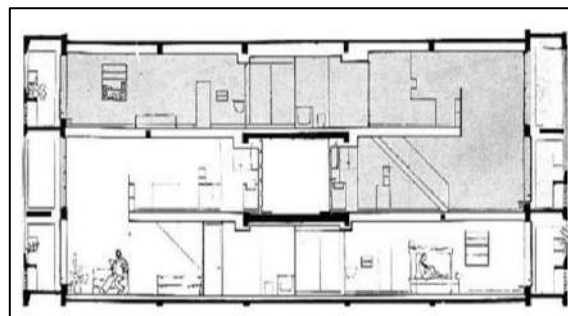
4.37 IMAGE 3

4.38 IMAGE 4

- Each house in kanchanjunga apartment provided with the two-story garden terrace.
- Cross ventilation works very effectively in the building helps in reducing the heat gain.
- In this figure, you can clearly see a sufficient amount of natural light is coming inside the house.
- The surface at the one end cut away to create a double-height space which gives a whole new sense to high rise buildings.
- Slab drop is given to the terrace gardens for plantations.
- A great deal of transparency has been achieved by using a large opening in Kanchanjunga apartment.



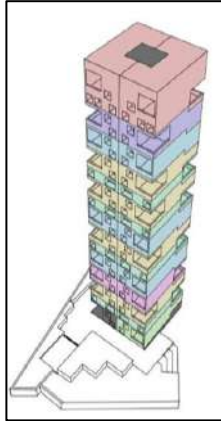
4.39 DESIGN 1



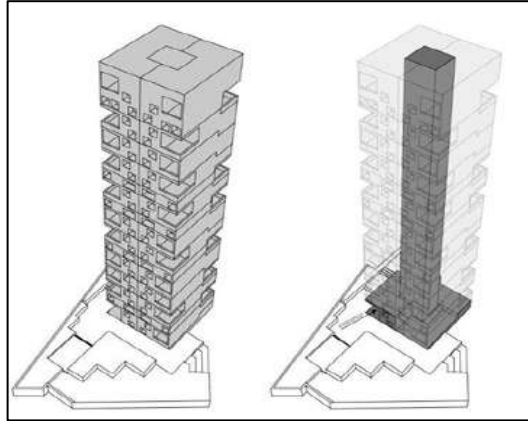
4.40 DESIGN 12

h. Aesthetics-

- From aesthetical point of view, the composition of squares and rectangles formed on the façade using basic design principles looks very elegant.
- This is high rise apartment with verandah at the corners that also provides aesthetically good experience.



4.41 Different versions of apartment

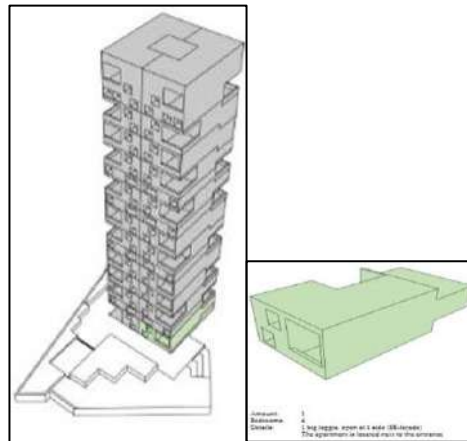


4.42 The central core of this apartment is used for the vertical transportation, and therefore it is open from the upward.

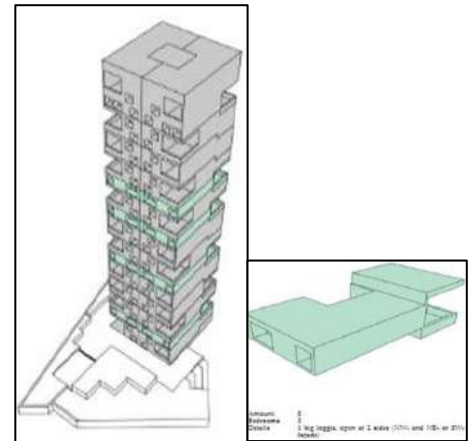
i. Apartments types-



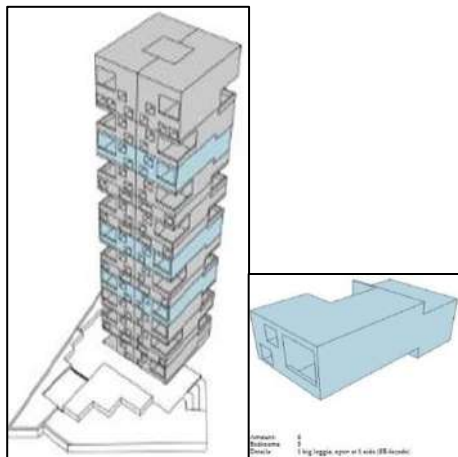
4.43 Type A



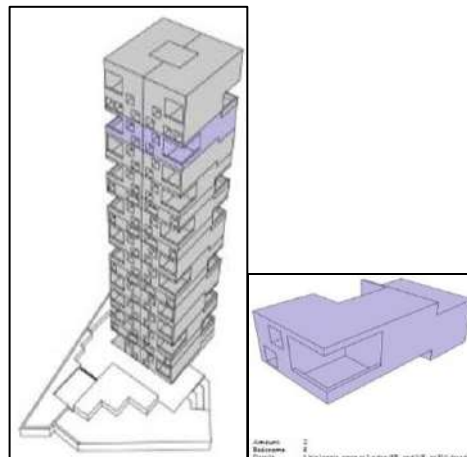
4.44 Type A Special



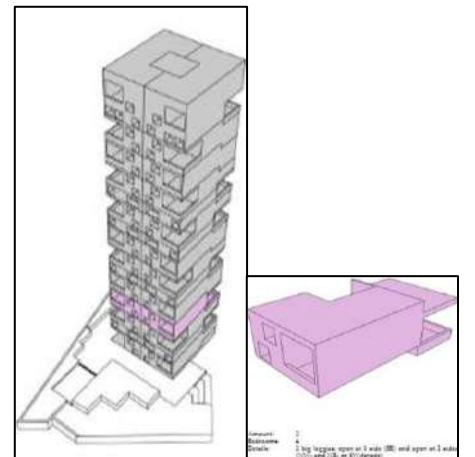
4.45 Type B



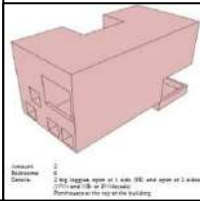
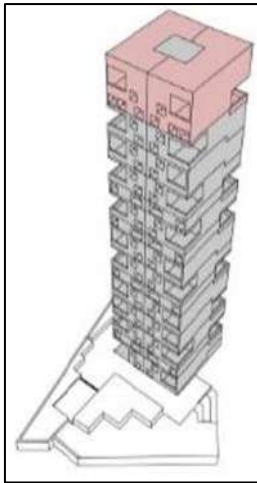
4.46 Type C



4.47 Type C Special



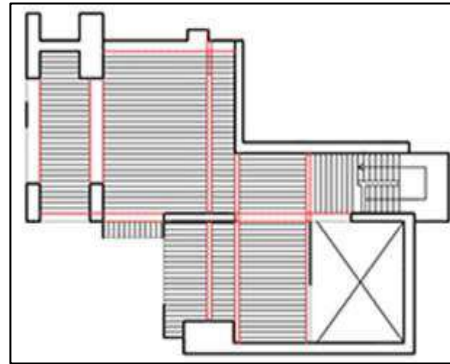
4.48 Type D



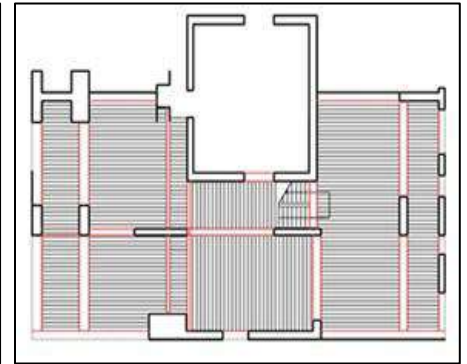
4.49 Type E

J. Construction technology and structural system-

- This building is made from reinforced concrete. It building has 27 stories high with 6.3 meters cantilevered terrace garden.
- The central core of 7.8 X 6.9 meters caters the lifts and service areas.
- This central core also acts as the main structural element in resisting lateral loads.
- Central core was constant ahead of the main structure using SLIP methods of construction.



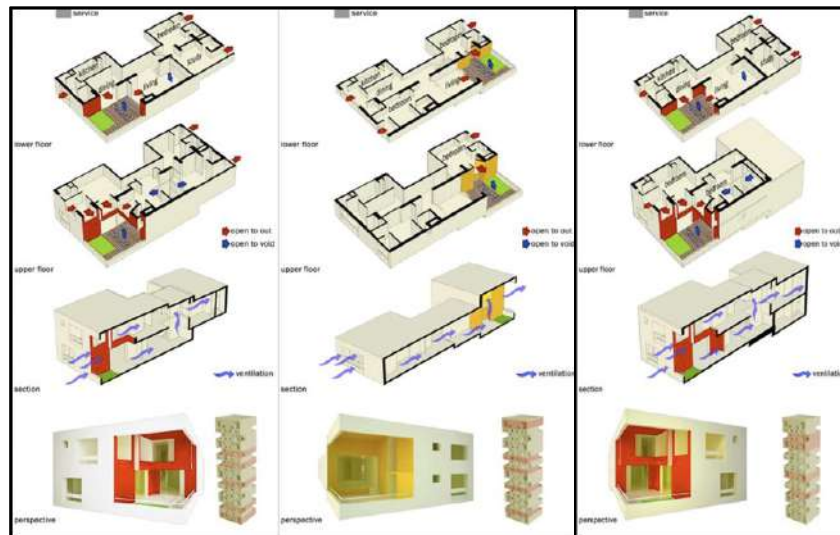
4.50 STRUCTRE DESIGN 1



4.51 STRUCTRE DESIGN 2

k. Circulation-

A great deal of transparency has been achieved by use of terrace gardens and large openings on every floor. 10-15% of each floor has provided common circulation spaces.



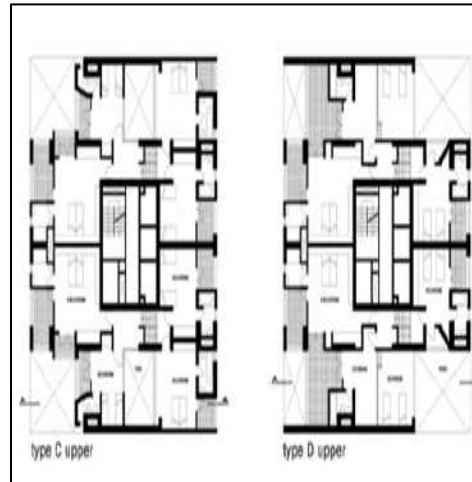
4.52 CIRCULATION DIAGRAM

l. Analysis of plan-

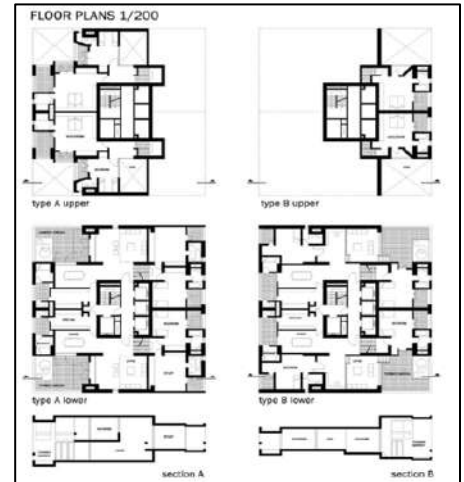
- The buildings have been planned in east-west orientation.
- West side of the building has sea and east side of the view of the city which is playing dynamic role in the form of the building.
- But the orientation towards the hot sun and heavy rain, the orientation may be rotated that may give positive value.
- The verandah is covered and controlling the sea breeze and providing comfort to the living.
- The building is also having good access to the daylight and breeze through terrace garden and window.
- The surface cut away to open up double height terrace gardens at the corners is aesthetically good.



4.53 FLOOR PLAN 1



4.54 FLOOR PLAN 2



4.55 FLOOR PLAN 3

m. Distinct Architectural Characters-

Exterior:

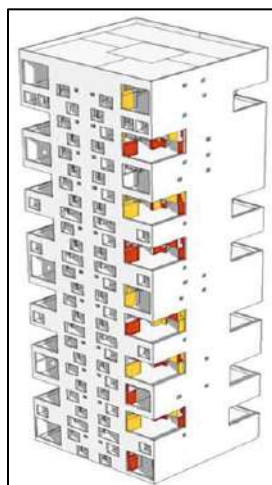
White panels and concrete construction bears a strong resemblance to a modern building while the terrace garden provides a look of the traditional bungalow.

Interior-

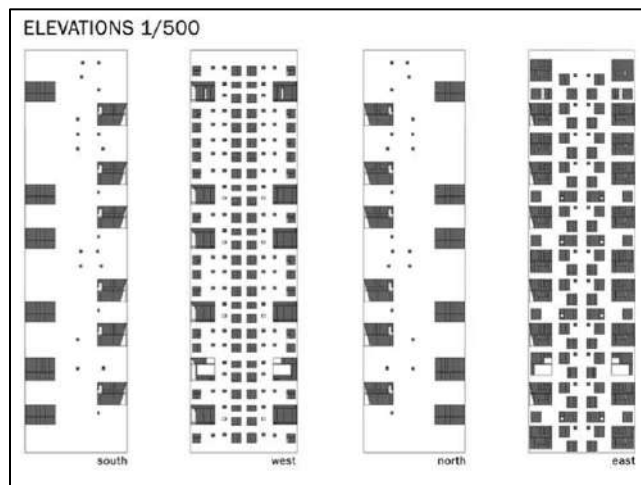
The quality of sunlight, climate and culture influences the colour choices, hence would observe a preference for blue and its shades in the west while in India and other Asian countries, one finds a pre-dominance of red and yellows.

Material study-

- The structure is made using white panels and concrete.
- Superficially this building's tower with its concrete construction and large area of white panels bears a strong resemblance to modern apartments buildings in the west tower proportion.
- Warm color is used in the terrace garden of kanchanjunga.
- Warm colors make space look bigger, more open and inviting.



4.56 ISOMETRIC VIEW



4.57 ELEVATION

n. Key features:

- Climate is tropical wet & Dry.
- City landscape is surrounded by mid-rise and high-rise structures.
- Prevailing wind direction is from south-west and north-west.
- The apartment himself is a direct response to the present society, the escalating urbanization, and the climatic conditions for the region.
- Well ventilated and appear to suit the contemporary life style.
- One and two floor height terrace gardens in each flat alike to the protective verandas in bungalow.
- The typical open floor plans with double heighted living room for cross- ventilation.
- Best views of Arabian Sea on west just 450 m away and the harbour on the east.

5. SITE STUDY & ANALYSIS

1. Site location –



5.1 MAP OF INDIA



5.2 MAP OF CG



5.3 PROPOSED SITE

The proposed site is located near WRS colony in Raipur, adjacent to various residential complexes, hospitals, temples etc. The plot is located in the southern corner of and can be approached directly from Ring road no. 2. Also consisting various cluster of trees within the site.

2. Approach –



3.5 kms from Railway station



36 kms from Bus stand



28 kms from Airport

3. Vegetation –



5.4 Madar / Aak



5.5 Morning glory



5.6 Dub grass

4. Accessibility –



The site being located near the main landmarks of Raipur city. The site is easily accessible from vehicular as well as



The site has roads on the either sides. The width of the front road is 30 meters. There is rush of traffic because of the presence of important landmarks.

5. Important landmarks –



5.7 Golden arcade



5.8 Singapore city



5.9 Maruti lifestyle



5.10 Club Paraiso



5.11 Ram mandir



5.12 Ambedkar hospital

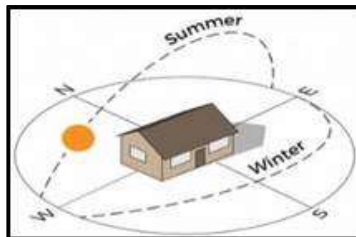
6. Neighbourhood context –

- The site has many major complexes surrounding it, that are also the major landmarks.
- And all these complexes are having contemporary as well as modern built form

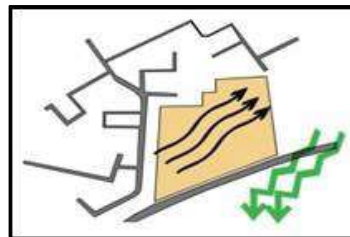
7. Landuse –

- The land use pattern observed in the vicinity is highly residential since it is a township.
- The neighboring complexes includes Maruti lifestyle, Ram mandir, Singapore city etc. and also residential space for students.
- The site is a barren land which can be used for the development of the residential complex which will help the city in its further development.

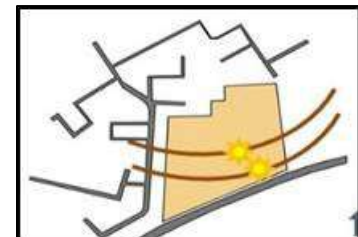
8. On- site factors (Micro) –



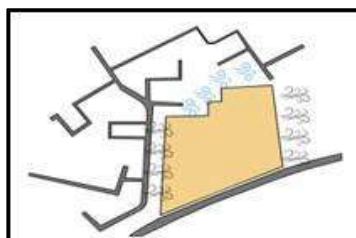
5.13 Orientation diagram



5.14 Wind direction



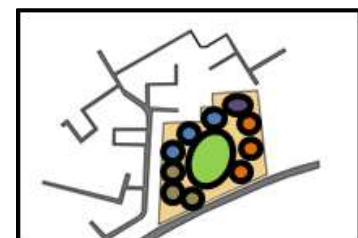
5.15 Sun path diagram



5.16 Noise diagram



5.17 Vegetation diagram



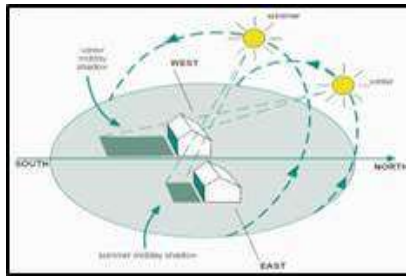
5.18 Zoning diagram

9. Road network –



5.19 ROAD NETWORK

10. Orientation –



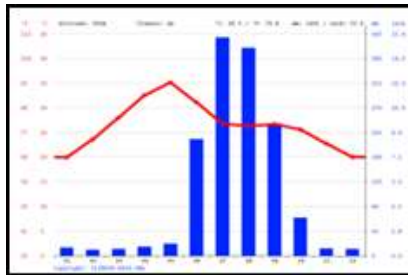
- Sun path diagram showing summer and winter solstice and shadow formation with.

5.20 BUILDING ORIENTATION

11. Soil typology–

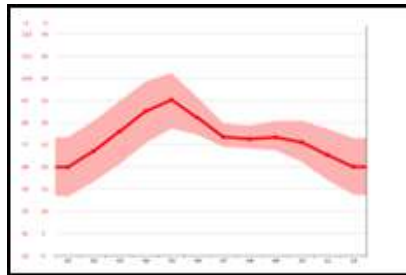
- Soil type on the site is red alluvial soil, red sandy soil, red loamy soil, black soil, laterite soil.

12. Climatology–



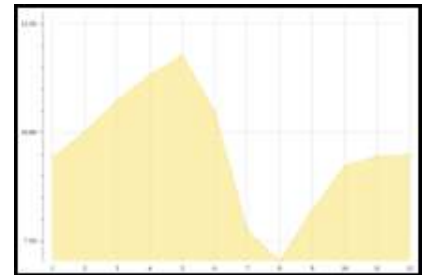
5.21 PRECIPITATION

Precipitation is the lowest in February, with an average of 11 mm. Most precipitation falls in July, i.e, average of 398 mm.



5.22 SUMMER

At an average temperature of 35.1°C, May is the hottest month of the year. In January, the average temperature is 20.0 °C, the lowest of the whole year.



5.23 SUNSHINE

In Raipur, around 3493.3 hours of sunshine are counted over the entire year. The monthly average is 114.93 hours of sunshine.

13. Site views–



5.24 VIEW 1

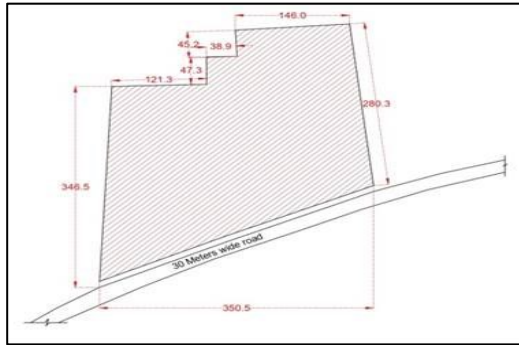


5.25 VIEW 2



5.26 VIEW 3

14. Proposed site-



5.27 PROPOSED SITE PLAN

- **Total site area-** 1,02,247 sq.m
- **Total built up area-** 91,037 sq.m
- **Ground coverage-** 30,042 sq.m
- **FAR-** 1.5
- **Height-** 35 meters
- **Longitude-** 82° 6' to 81° 38'E
- **Latitude-** 22° 33' N to 21°14'N
- **Climate-** Humid sub-tropical
- **Shape-** Irregular

15. SWOT analysis-



- Site is in strategic location because of AIIMS, Railway stations etc.
- High pedestrian flow around the site.
- Ground is suitable for easy excavation and is flat and not rocky.



- Site suffers heat retention from the surrounding.
- Site is having heavy traffic due to main connecting road.



- Designing open spaces with the help of trees and plants.
- Designing up the buffer zones in the site to reduce noise level and bad finishing of the residential complex.



- High vehicular traffic surrounding the site could be a danger to pedestrians.

16. Observations-

- The location of the site is ideal for the development of a residential building.
- Climatic factors of the area can be dealt with by the orientation and design of the structure.
- Development of a residential complex will result in increase in land value of the area making it more equipped with required amenities.

17. Geography-

- Raipur city is situated between 22° 33' N to 21°14'N Latitude and 82° 6' to 81°38'E Longitude.
- The Mahanadi River flows on the East of the Raipur city and the Southern part of the city has dense forest.
- Maikal hills rise on the north side of the city, which later stretched and merged with Chota Nagpur Plateau of the Jharkhand state.
- And Deccan Plateau lies on the South Part of the Raipur city.

18. About the city-

- Raipur is the capital city of the newly formed state of Chhattisgarh. It is the largest urban center of the state.
- The city is presently functioning as a center of trade and commerce, services and educational facilities in regional context.
- Raipur has population of 10,10,087 people. The city is growing at an average rate of 5.3%.
- The existing city infrastructure is woefully inadequate to cater the present population.
- The main railway station, Raipur Junction, is located at the city center and there are also eight other small railway stations in the city.
- Swami Vivekananda Airport is located at about 15 km away from the city center.
- The airport operates around 38 flights daily and connects with major airports across India.

6. COMPARITIVE ANALYSIS

a. On the basis of other factors –

COMPARITIVE ANALYSIS				
S.NO.	BASIS	KANCHANJUNGA APARTMENTS, MAHARASHTRA	PALM BELLAGIO, CHHATTISGARH	KINGS APARTMENTS, BANGALORE
1	Locality	Kanchanjunga is located in the main city center having roads on many sides. Traffic jams always happen on the roads lead to substantial noise pollution on the site.	The location of Palm Bellagio makes sure that the home-seekers are choosing the right	Occupying a strategic position in the heart of Bangalore city, the project is in close proximity with some of the best hospitality in medical, and commercial facilities.
2	Method of construction	The slip method of construction is used in kanchanjunga apartments.	And the construction technology used in these building is RCC frame structure.	While the concept of the building focuses on green factors of design and use of sustainable materials. The building thus functions as a selective environmental filter.
3	Use of building materials	The whole structure of kanchanjunga apartments is made of reinforced cement concrete .	Glass, wood, Italian marble, granite, UPVC, Ceramic tiles, Vitrified tiles etc. are used in this luxury apartments.	Using materials like AAC Blocks, PV Cells for solar lighting, Solar Reflective tiles for High heat reflectance, Double Glazed Windows, Permeable Paving & Rain water that saves
4	Orientation of building	The building is oriented toward the East-West side so that the building can catch the sea-breeze . The design and orientation of the building are done towards the seaside so that it will got the best viewpoint from the house .	An integrated design approach was followed to evaluate and maximize the energy reductions of the building. To optimize the cooling effect, day lighting, ventilation etc. the building mass and openings were shaped and sized at its best. The site plan and orientation was decided to provide aesthetically good views.	Two blocks were planned to house one apartment on each side per floor that would emerge from sunken gardens and blend into the peripheral greens amidst the site.
5	Planning and circulation	The main idea of Charles Correa for this building is to give a resident feeling of a luxurious bungalow in high rise buildings, along with the with a protective green landscape around the building, which	The plan is linear and is designed in such a way that there should be more amounts of open spaces for proper light and ventilation.	An integrated design approach was followed to evaluate and maximize the energy reductions of the building. Solar studies and simulations were used to generate data regarding daylighting, shadow analysis, rainfall
6	Use of colour	Warm color is used in the terrace garden of kanchanjunga to make space look bigger, more open and inviting.	Light yellow colour is used in the exterior facade along with the yellow tinted louvers. This yellow colour helps in highlighting the	

5.A TABLE 1

b. On the basis of area-

S.NO.	SPACES/TYPES	CASE STUDY 1 (Kanchanjunga Apartments)			CASE STUDY 2 (Palm Bellagio)			CASE STUDY 3 (King's apartments)																												
		No. of units	Area/Unit (sqft)	Total area	No. of units	Area/Unit (sqft)	Total area	No. of units	Area/Unit (sqft)	Total area																										
1	2.5 BHK Bedroom + Toilet + Dressing Bedroom + Toilet Bedroom Living room Dining room + Toilet Kitchen Temple Store room Dry balcony Deck + Lobby TOTAL				1	260	260	1	200	200																										
2	3 BHK M. Bedroom + Toilet+ Dressing Bedroom + Toilet Living room Dining room+ Toilet Kitchen Temple Store room Dry balcony Deck+ Lobby TYPE A TYPE B	10	242	2420	12	294	3528	1	270	270	2	202	404	1	209	209	1	118	118	1	88	88	1	12	12	1	20	20	1	24	24	4	195	780	1.138	1925
3	3.5 BHK M. Bedroom + Toilet+ Dressing Bedroom + Toilet Bedroom Living room Dining room+ Toilet Kitchen Temple Store room Dry balcony Deck + Lobby TOTAL				2	308	616	1	201	201	1	150	150	1	209	209	1	118	118	1	88	88	1	12	12	1	20	20	1	24	24	4	195	780	1.138	1925
4	4 BHK M. Bedroom + Toilet+ Dressing Bedroom + Toilet Living room Dining room+ Toilet Kitchen Temple Store room Dry balcony Deck + Lobby TOTAL				2	254	508	2	205	410	1	209	209	1	118	118	1	88	88	1	12	12	1	20	20	1	30	30	4	206	825	1.342	2270			
5	5 BHK M. Bedroom + Toilet+ Dressing Bedroom + Toilet Living room Dining room+ Toilet Kitchen Temple Store room Dry balcony Deck+ Lobby TOTAL	4	361	1444	8	373	2984	5	191	955	2350																									

5.B TABLE 2

7. DESIGN SYNTHESIS (CONCEPT)

“CONCEPT – HOURGLASS”



- Building blocks and plans are derived from the basic form of hourglass, after eliminating the possible curves.
- As the design itself is coruscating, and is categorized in different blocks including 2 BHK, 3 BHK AND 4BHK apartments. So, I have connected my concept to 'TIME'.
- A clock comprises of a dial, a hour hand, a minute hand and a second hand. And in contrast to that, I have related dial with the site and hour, minute and second hand with the building blocks, that captures the experience of moving our bodies around a building, 3 dimensionally and throughout time.



Hourglass is untangled to its simpler form by eliminating its frames.



Straight lines are added to make it linear.



HOUR HAND as PRIVATE CIRCULATION, for the more intimate movements within the building, or the more ugly ones which require a degree of privacy i.e back of house, storage zones etc.

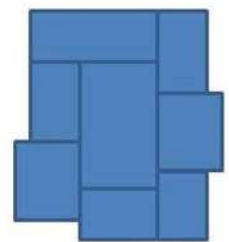
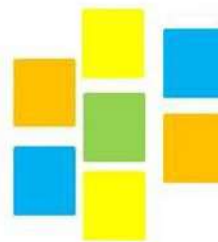
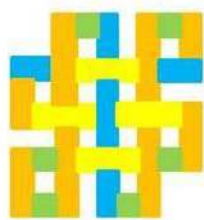


MINUTE HAND to PUBLIC CIRCULATION, which are most widely and easily accessible, such as a lobby, atrium and is enhanced to a high level of architectural quality.



SECOND HAND to HORIZONTAL/VERTICAL CIRCULATION, i.e. paths, entries/exits, critically linked to the flow, function and feeling of the space. Vertical circulation includes stairs, lifts, ramps, escalators etc. which allows us to move from one level to another.

BUILDING BLOCK CONCEPT



Firstly, it was just a semi-interlocked spaces that were linked together to get a particular form.

Then, divided into different spaces depending on the particular functions.

Then, finally they are merged together with space requirements.

“OUROBOROS”

The Ouroboros is an ancient symbol depicting a serpent or a dragon eating its own tail. In my design, I have depicted this as a snake, which is in the form of a straight line and represents time, and it meets different types of events, which forces it to bend in a flow that tends to create a infinity time loop.

The events occurred are socializing, happy environment, mental and physical fitness etc. which will help to improve the life, progress and efficiency of the residents.

For this design to work out, a Club house with best amenities is provided, Which follows the concept of the Ouroboros.



'WELA' is a word that means TIME in Thai, and LAZO means PLAZA in Spanish. So by amalgamating these word, the result is WELAZO.

8. FINAL DESIGN DRAWINGS

I. Site plan-

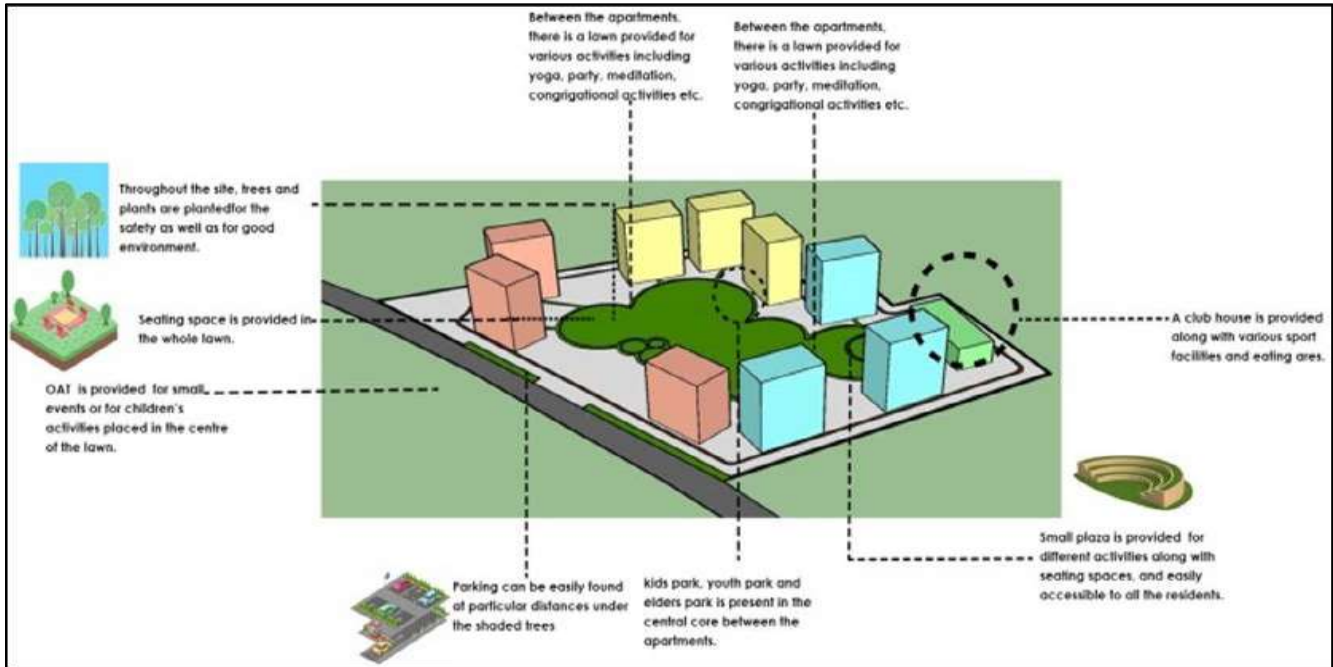


8.01 SITE PLAN

- 1 Basketball Court
- 2 Swimming Pool
- 3 Skating Ring
- 4 Club House
- 5 Tennis Court
- 6 Kids Seating Area
- 7 Tensile Canopy Covering
- 8 Sand Pit
- 9 Meditation Pergola
- 10 Tree Groove
- 11 Elders Seating Area
- 12 Kids Seating Area

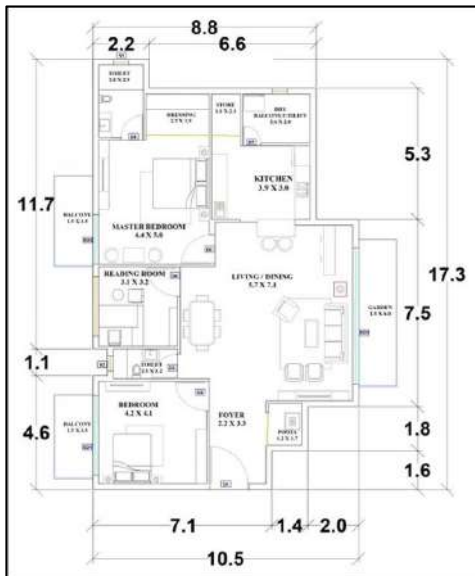
- 13 Sand Pit
- 14 Tensile Canopy Covering
- 15 Multi Purpose Lawn
- 16 Peace Lawn
- 17 Pebble Garden
- 18 Youth Seating Area
- 19 Herbs Park
- 20 Tree Grove
- 21 Peace Lawn
- 22 Meditation Pergola
- 23 Congrigational Lawn
- 24 Reflexology Park

- 25 Sand Pit
- 26 Tensile Canopy Covering
- 27 Kids Seating Area
- 28 Chit Chat Corner
- 29 Elders Park
- 30 Open Fitness Park
- 31 Palm Avenue
- 32 Elders Park
- 33 Kids Play Area
- 34 Amphitheatre
- 35 Jogging Track
- 36 Plaza



8.02 SITE DETAILS

II. 2 BHK Apartment-

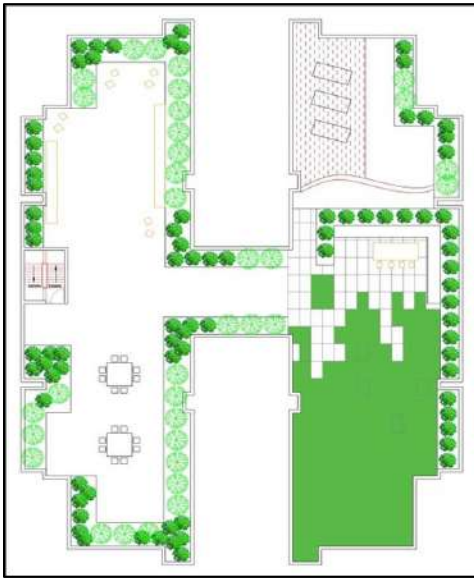


Floor Plan

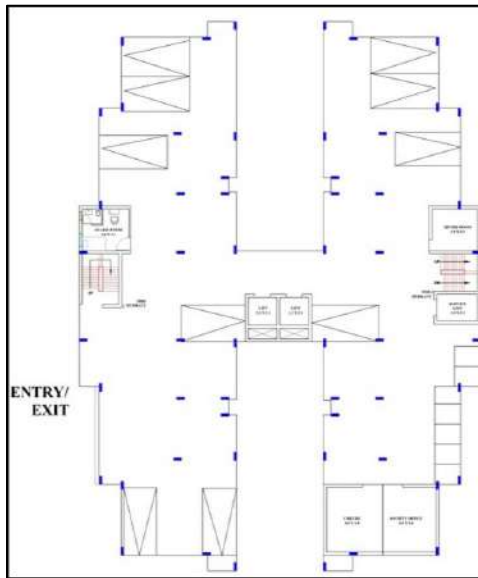
NO.	SPACES	AREA
1	Living/Dining room	5.5 X 7.1
2	Master bedroom	4.4 X 5.0
3	Dressing area	2.5 X 1.9
4	Toilet	1.8 X 2.9
5	Bedroom	4.2 X 4.1
6	Common toilet	2.5 X 1.2
7	Reading room	3.1 X 3.2
8	Kitchen	3.9 X 3.0
9	Utility/Dry balcony	2.6 X 2.0
10	Store room	1.1 X 2.1
11	Pooja	1.2 X 1.7
12	Bar counter	1.3 X 2.1
13	Balcony (3)	23.7

Area chart

- CARPET AREA- 140.8 sqm
- BUILT UP AREA- 173.7 sqm
- BALCONY AREA – 23.7 sqm



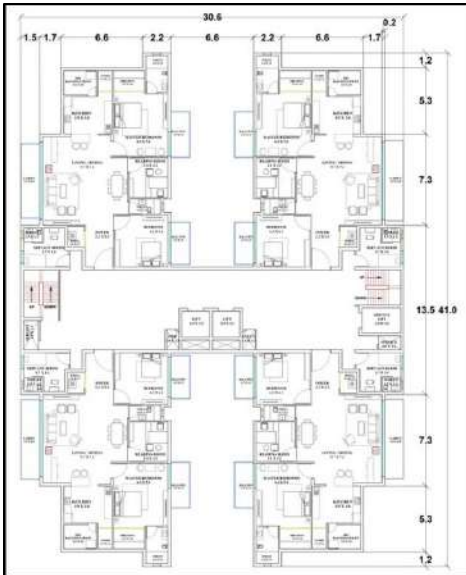
Terrace plan



Still plan



8.03 View 1

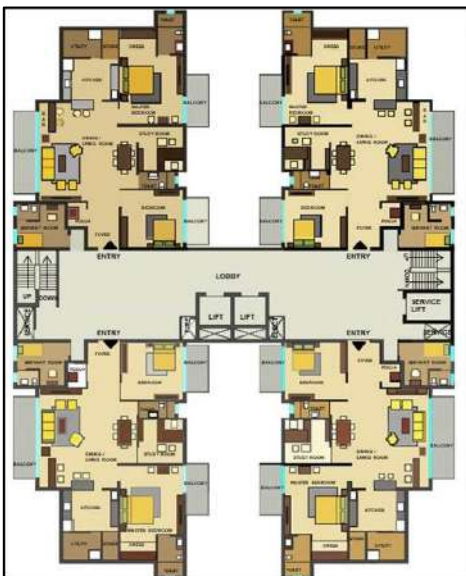


Cluster plan

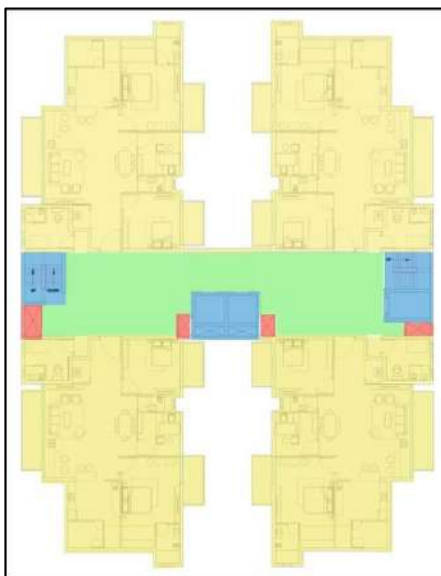


Column grid plan

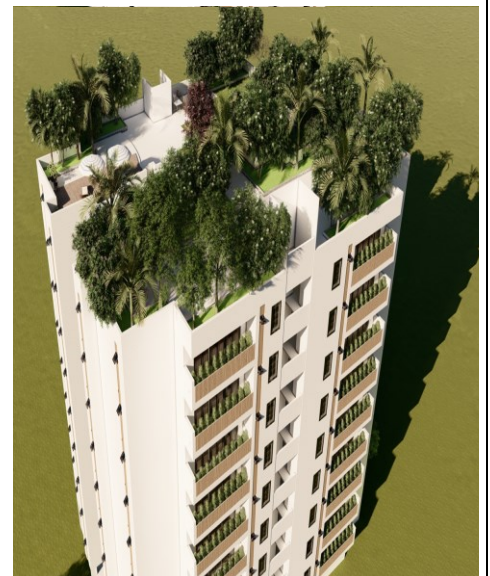
- CARPET AREA- 140.8 sqm
- BUILT UP AREA- 173.7 sqm
- BALCONY AREA – 23.7 sqm
- TOTAL AREA – 945 sqm



Cluster plan

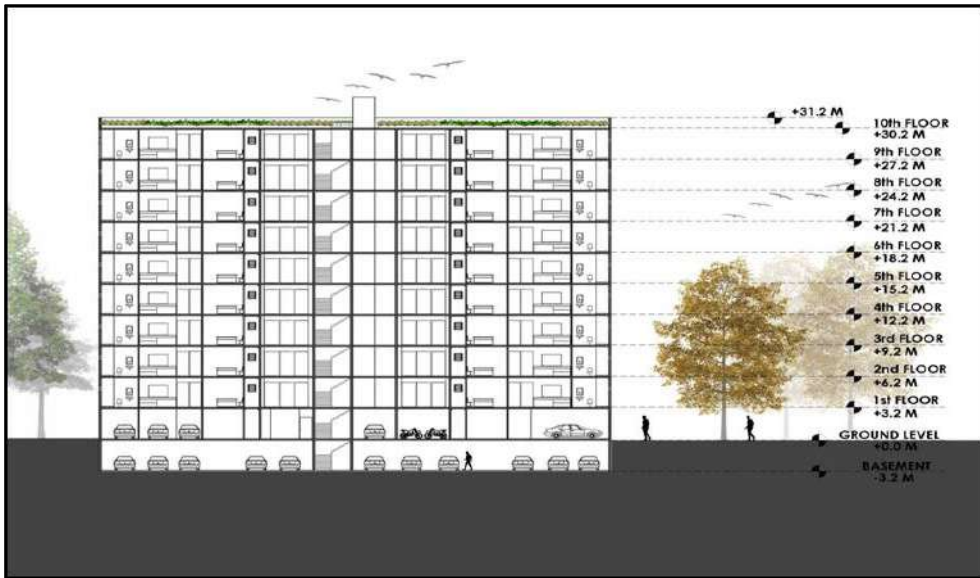


Zoning plan

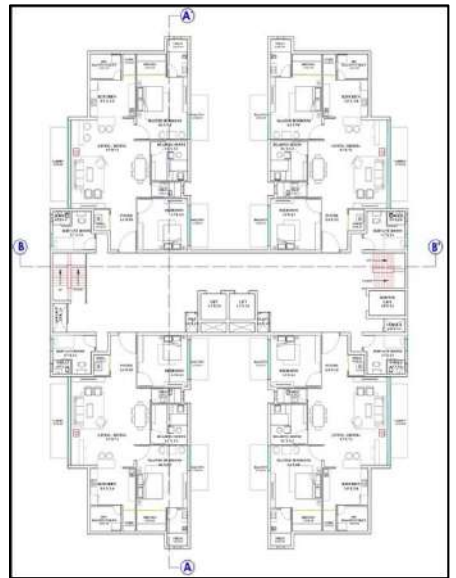


8.04 View 2

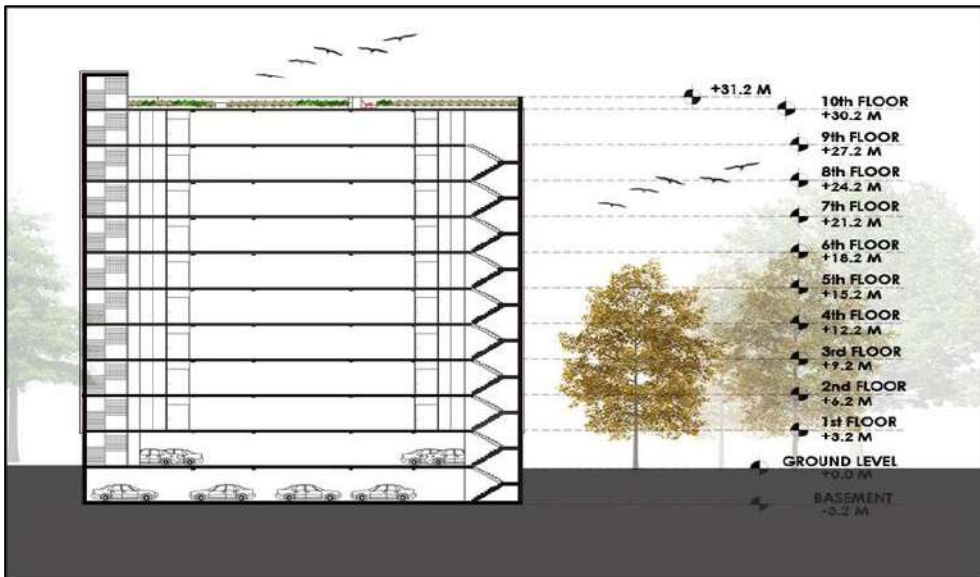
- Horizontal circulation
- Vertical circulation
- Services
- Apartments



Section A-A'



Column grid plan



Section B-B'



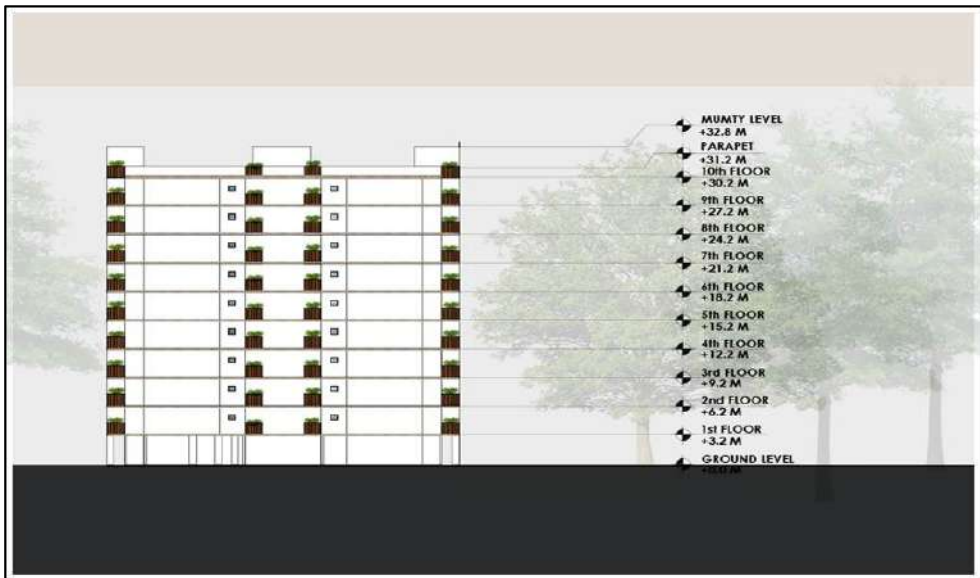
8.04 View 3



Front elevation



8.05 View 4

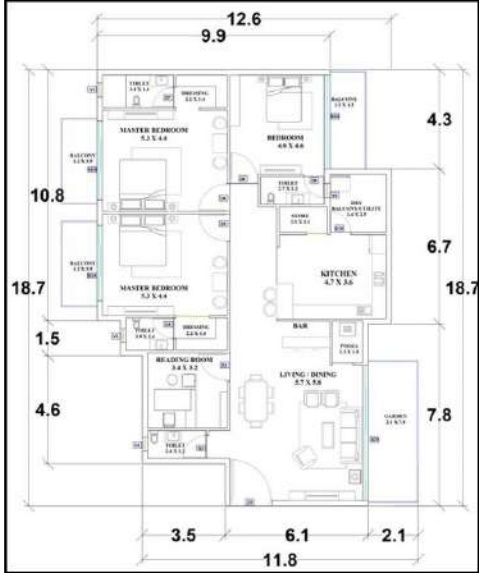


Rear elevation



8.06 View 5

III. 3 BHK Apartment-



Floor Plan

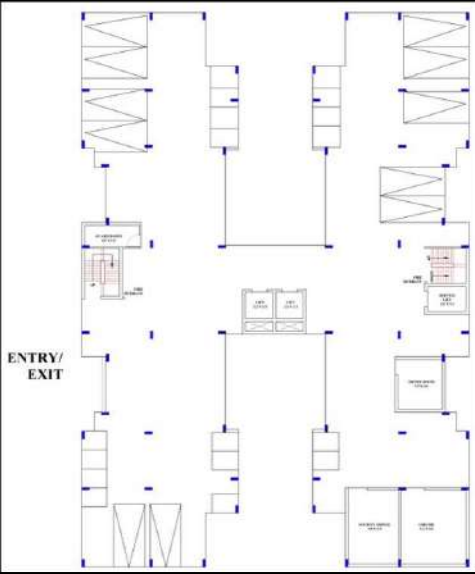
NO.	SPACES	AREA
1	Living/Dining room	6.1 X 7.8
2	Master bedroom (2)	5.3 X 4.4
3	Dressing area	2.2 X 1.4
4	Toilet	3.0 X 1.4
5	Bedroom	4.0 X 4.6
6	Common toilet	2.4 X 1.2
7	Reading room	3.4 X 3.2
8	Kitchen	4.7 X 3.6
9	Utility/Dry balcony	2.4 X 2.5
10	Store room	2.1 X 1.1
11	Pooja	1.3 X 1.8
12	Bar counter	2.3 X 2.0
13	Balcony (4)	31.2

Area chart

- CARPET AREA- 180 sqm
- BUILT UP AREA- 225 sqm
- BALCONY AREA – 31.2 sqm



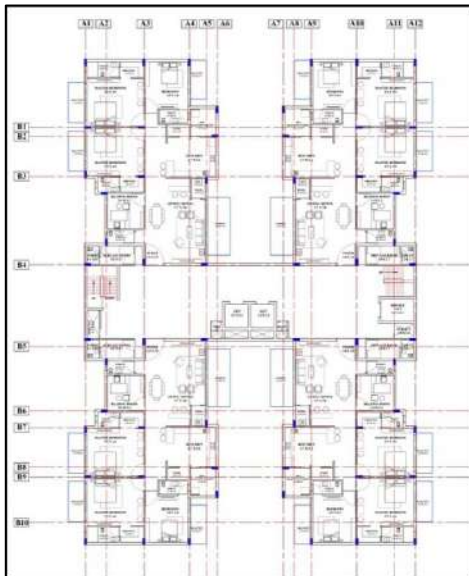
Terrace plan



Stilt plan



8.07 View 6



Column grid plan



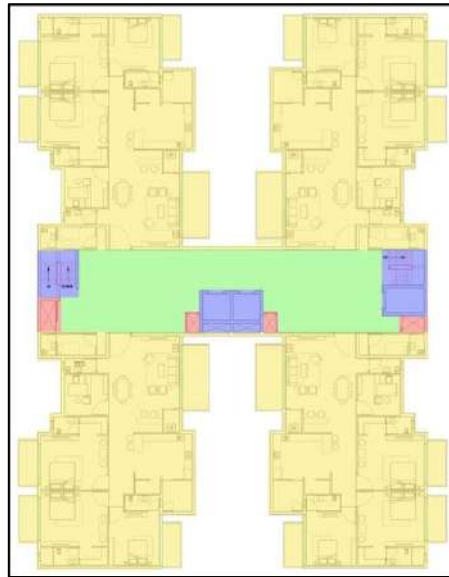
Cluster plan



8.08 View 7



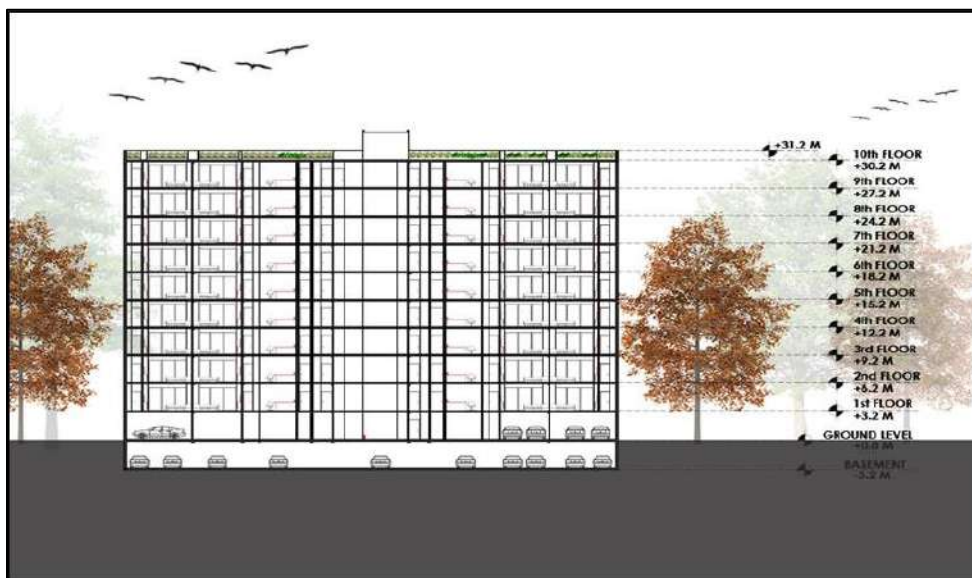
Cluster plan



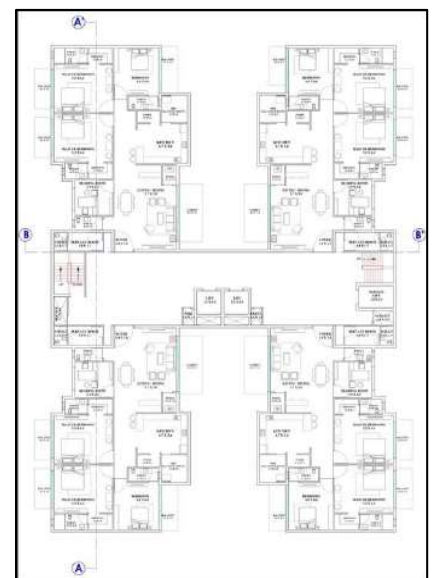
Zoning plan

- CARPET AREA- 180 sqm
- BUILT UP AREA- 225 sqm
- BALCONY AREA – 31.2 sqm
- TOTAL AREA – 1145 sqm

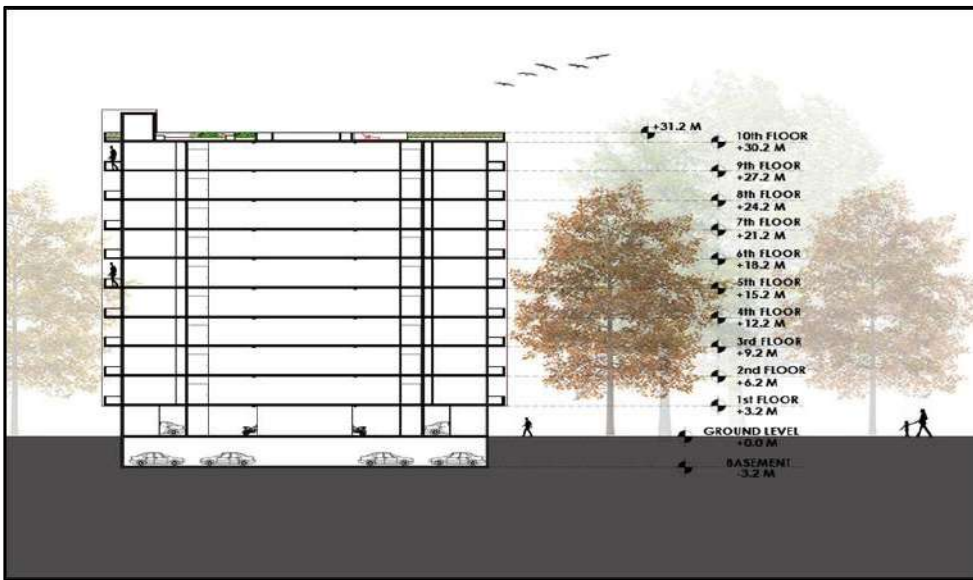
■ Horizontal circulation
■ Vertical circulation
■ Services
■ Apartments



Section A-A'



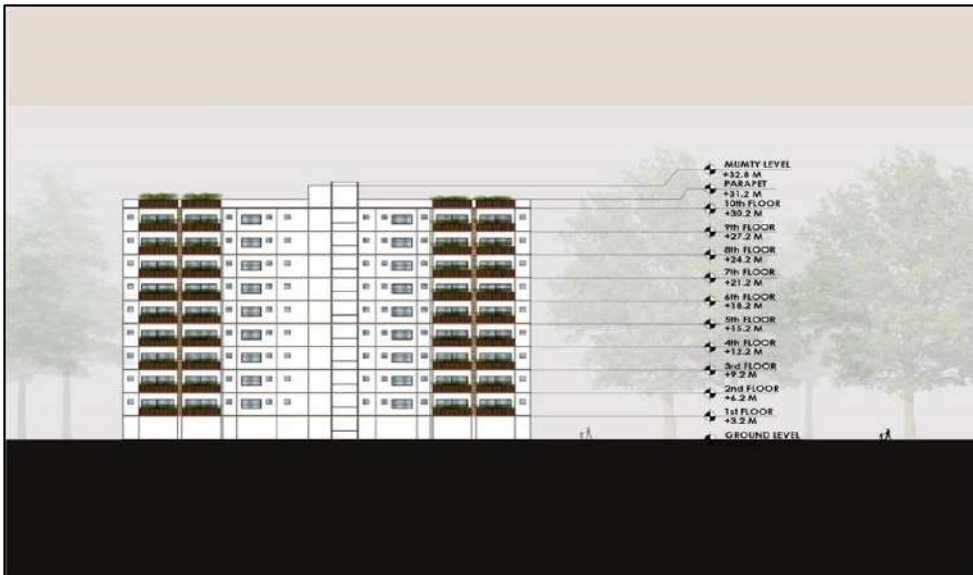
Column grid plan



Section B-B'



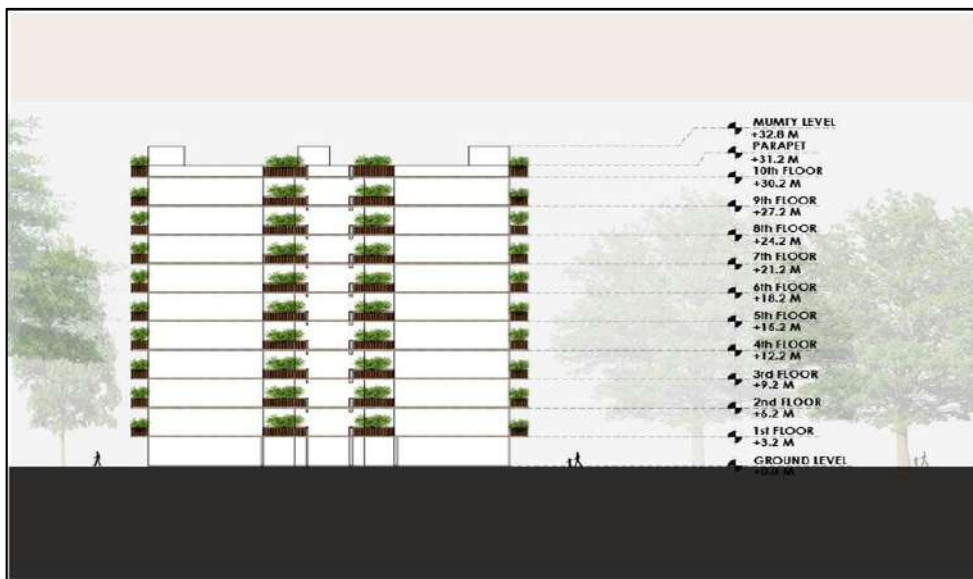
8.09 View 8



Front elevation



8.10 View 9



Side elevation



8.11 View 10

IV. 4 BHK Apartment-

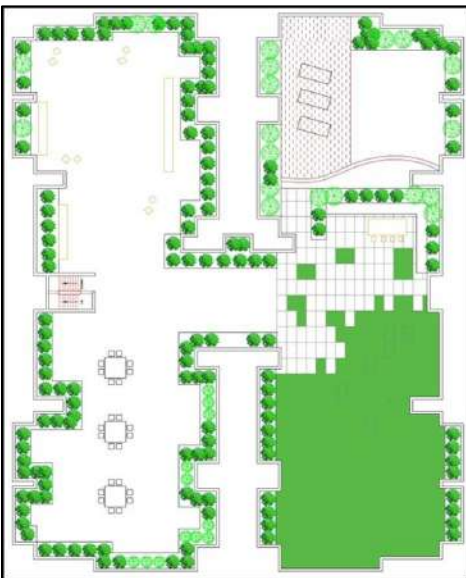


Floor plan

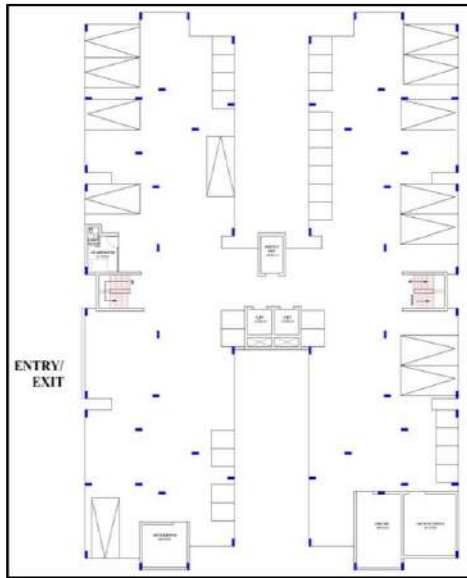
NO.	SPACES	AREA
1	Living/Dining room	6.6 X 8.5
2	Master bedroom (2)	5.4 X 5.4
3	Dressing area	2.2 X 1.5
4	Toilet	1.8 X 3.0
5	Bedroom	5.0 X 4.1
6	Common toilet	2.5 X 1.2
7	Reading room	3.4 X 3.2
8	Kitchen	3.8 X 3.8
9	Utility/Dry balcony	2.3 X 1.8
10	Store room	2.3 X 1.2
11	Pooja	2.1 X 1.2
12	Bar counter	3.0 X 1.6
13	Balcony (5)	37

Area chart

- CARPET AREA- 226 sqm
- BUILT UP AREA- 248 sqm
- BALCONY AREA – 37 sqm



Terrace plan



Stilt plan



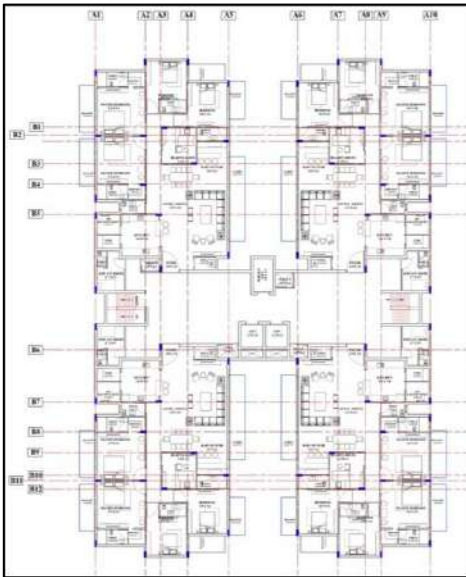
8.12 View 11



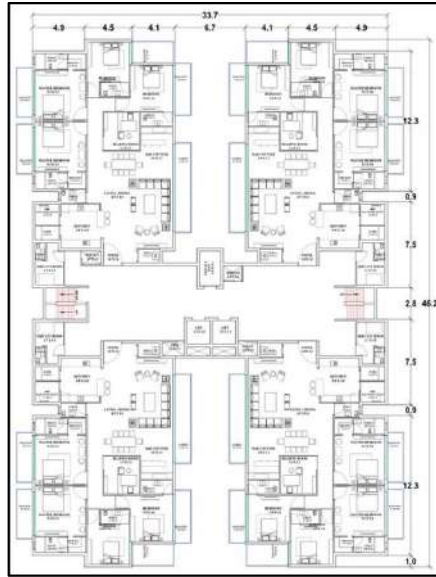
8.13View 12



8.14 View 13



Column grid plan



Cluster plan

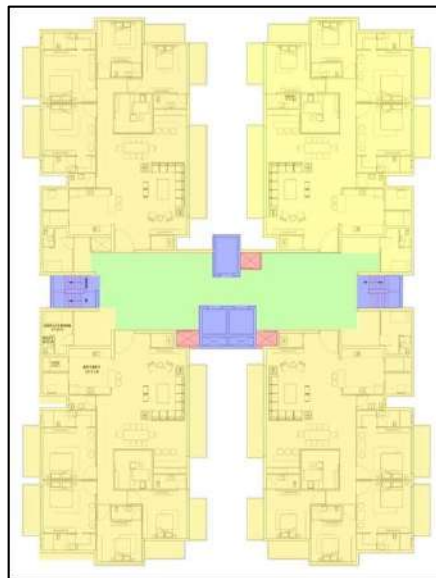
- CARPET AREA- 226 sqm
- BUILT UP AREA- 248 sqm
- BALCONY AREA – 37 sqm
- TOTAL AREA – 1383 sqm



8.15 View 14

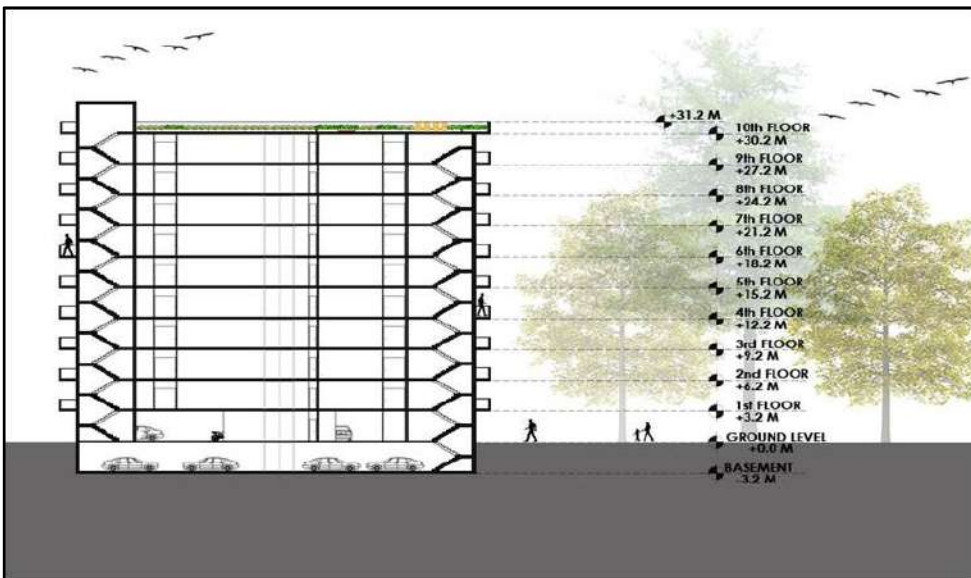


Cluster plan

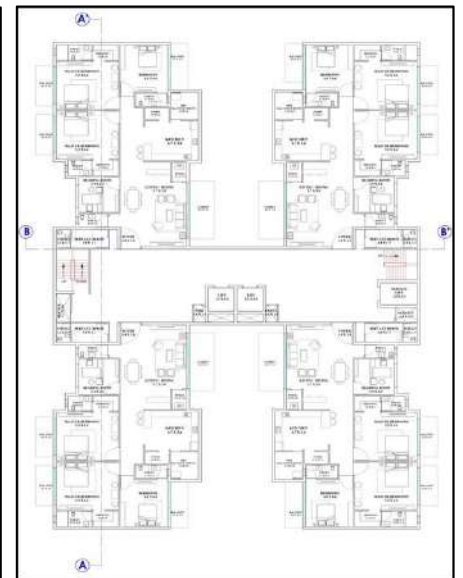


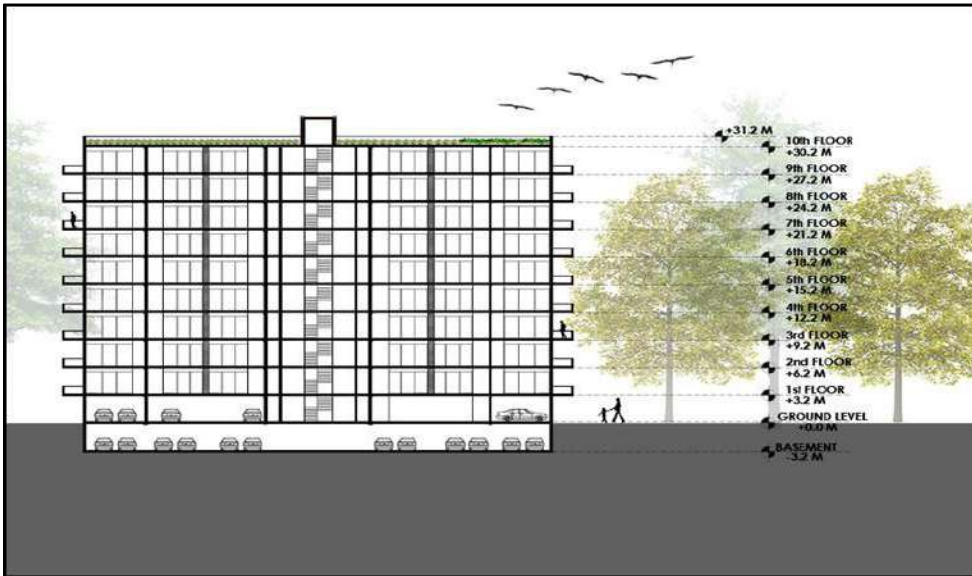
Zoning plan

- Horizontal circulation
- Vertical circulation
- Services
- Apartments



Section A-A'

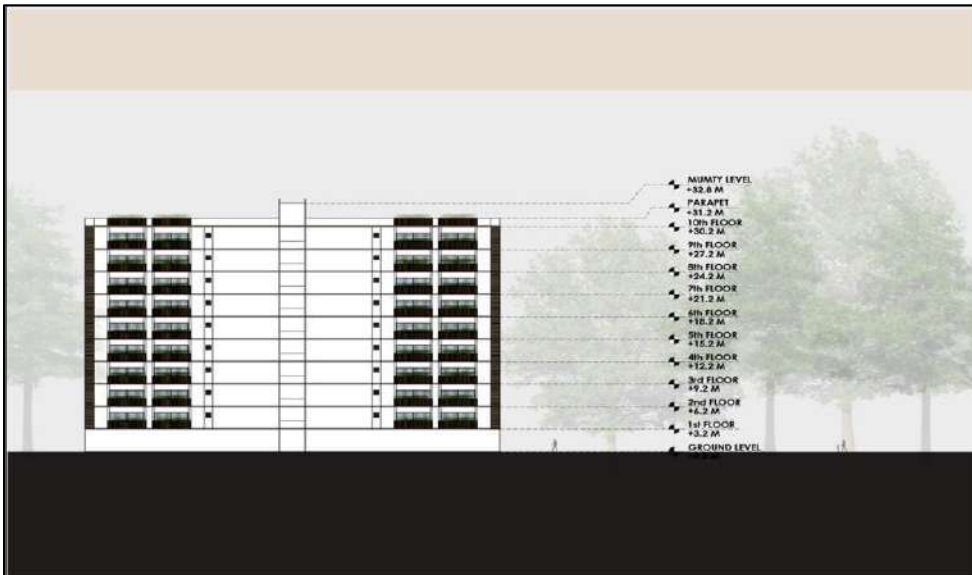




Section B-B'



8.16 View 15



Rear elevation



8.17 View 16

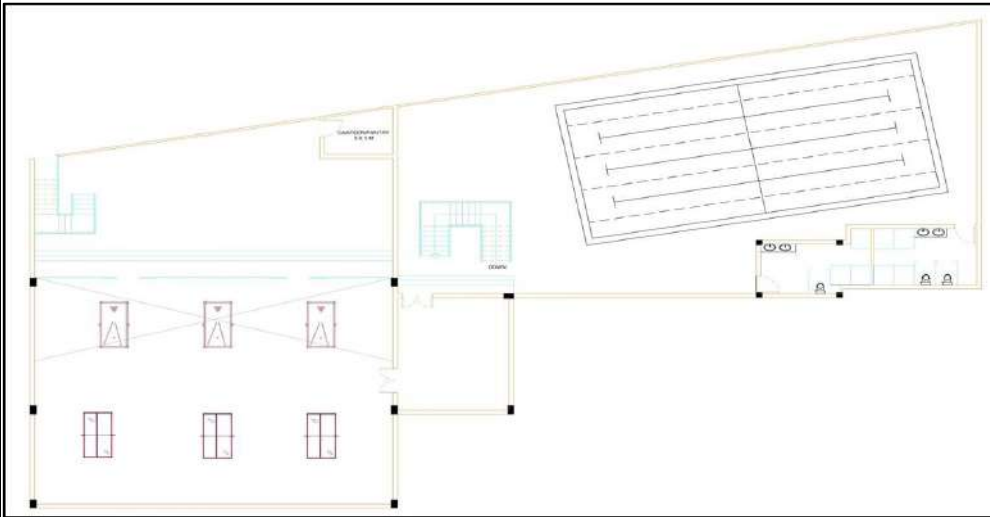


Side elevation

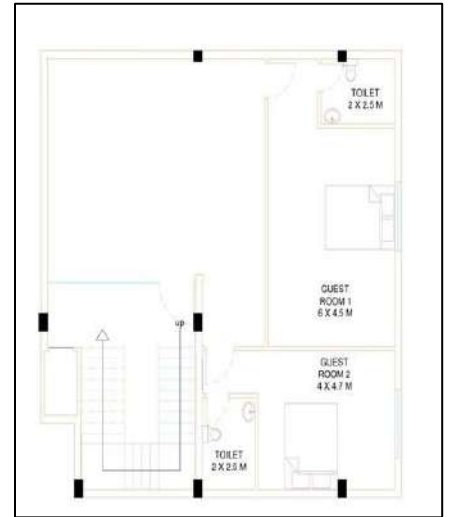


8.18 View 17

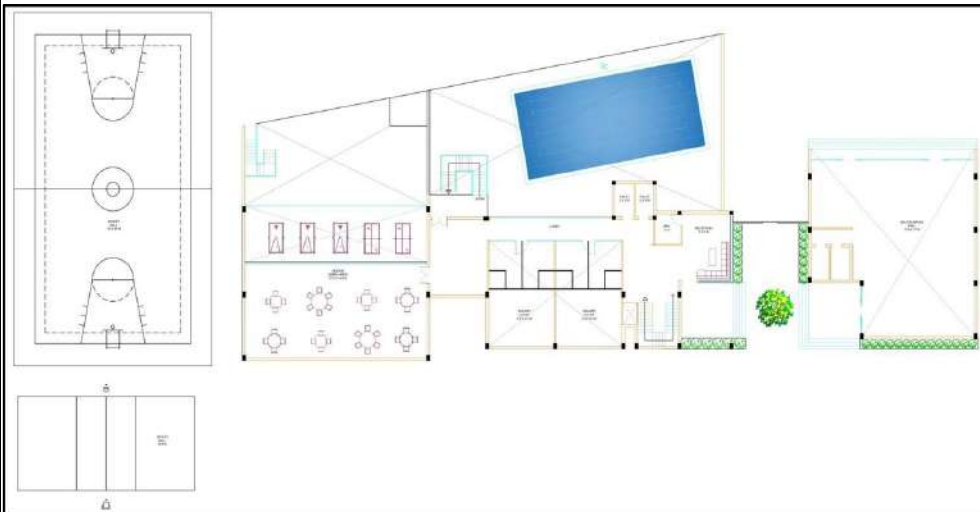
V. Club house-



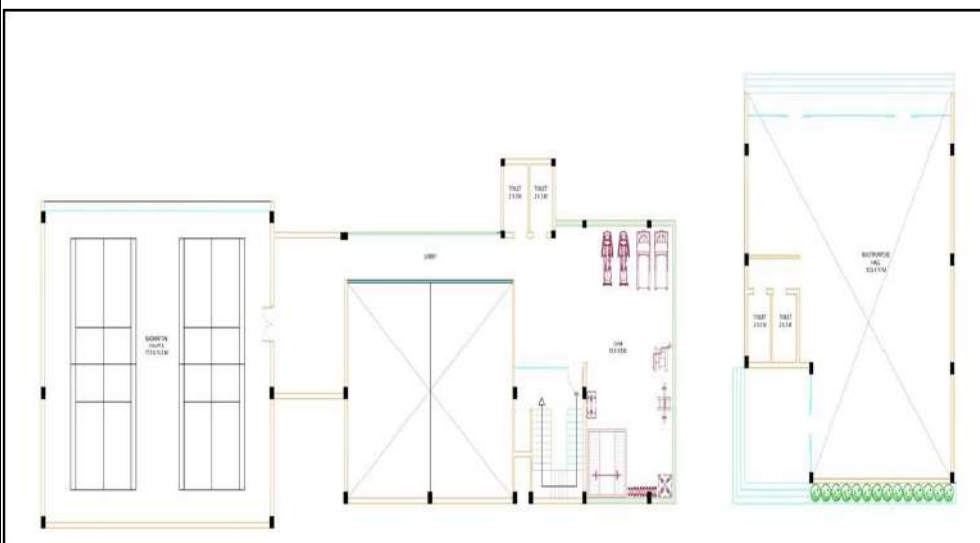
Basement floor



Second floor

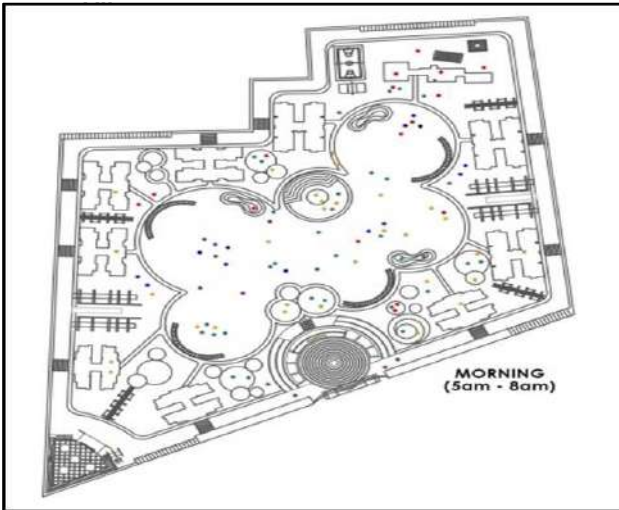


Ground floor

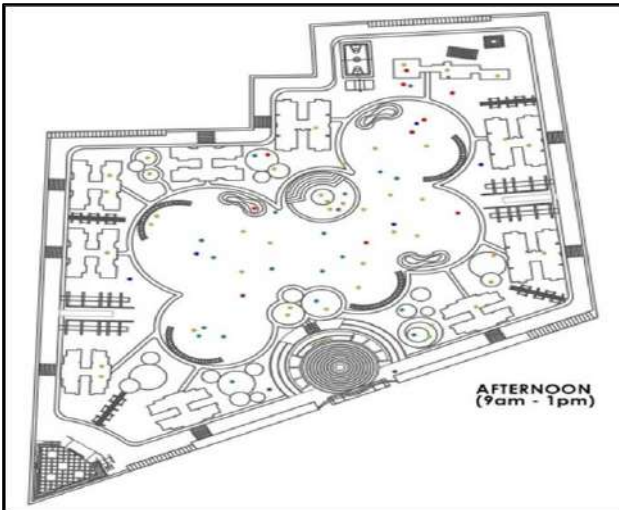
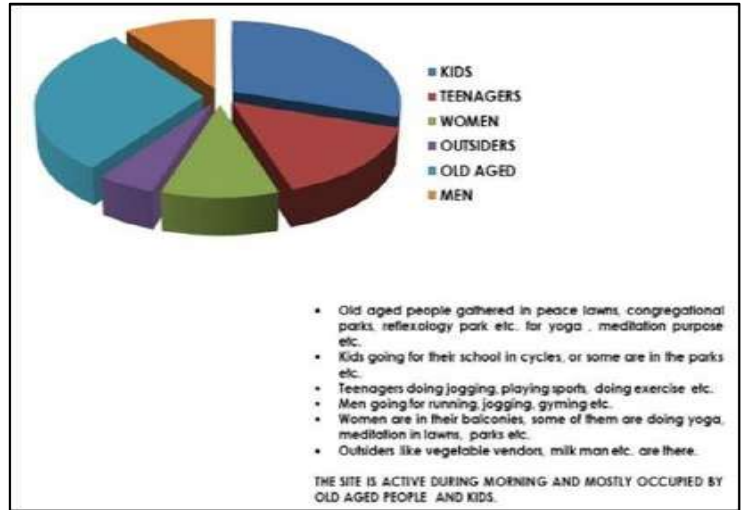


First floor

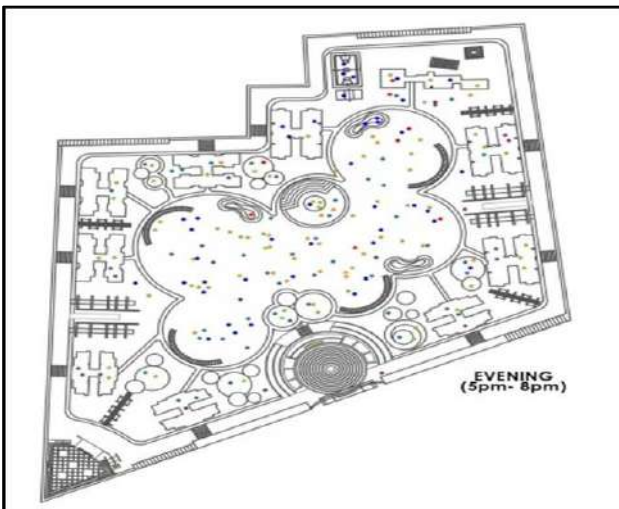
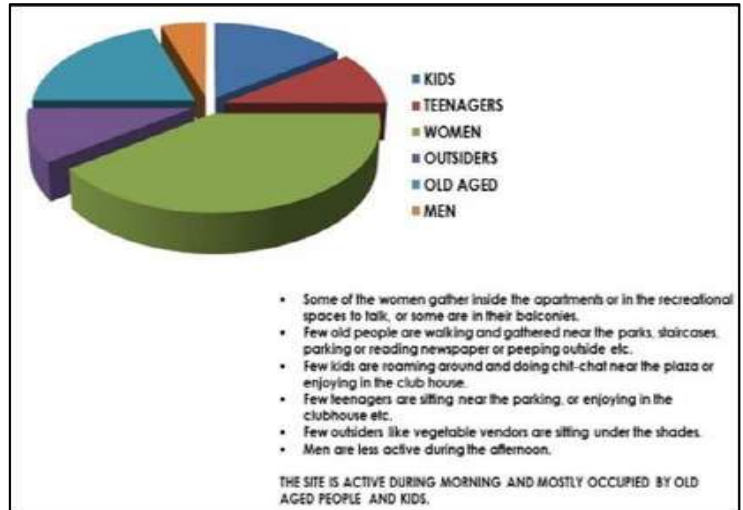
VI. Activity mapping-



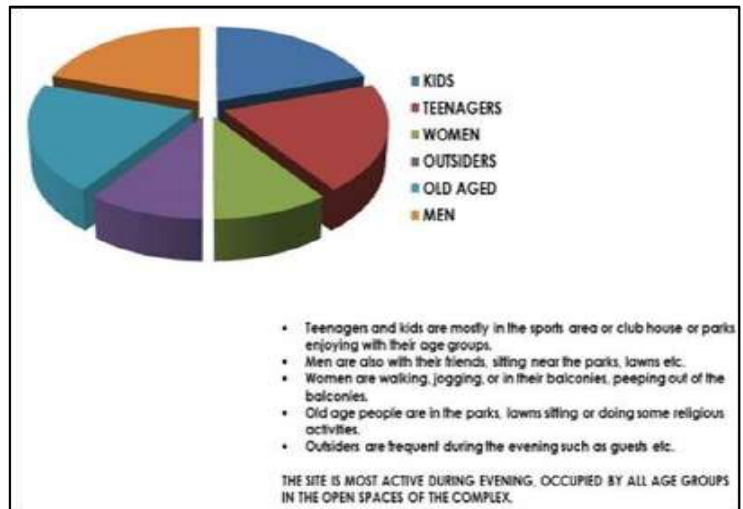
8.19 MORNING ACTIVITY MAPPING



8.20 MORNING ACTIVITY MAPPING



8.21 MORNING ACTIVITY MAPPING



VIII. Views-



8.22 BEDROOM 1



8.23 BEDROOM 2



8.24 BEDROOM 3



8.25 LIVING ROOM 1



8.26 LIVING ROOM 2



8.27 KITCHEN



8.28 SITE VIEW 1



8.28 MAIN ENTRANCE



8.29 SEATING SPACE



8.30 SAND PIT AND SEATING AREA



8.31 SITE VIEW 2



8.32 CLUB HOUSE VIEW 1



8.33 AMPHITHEATRE



8.34 ELDERS SEATING AREA



8.35 MEDITATION PLAZA



8.36 SITE VIEW 4



8.37 KIDS PLAY AREA



8.38 SHADED PATHWAY



8.39 BUILDING VIEW 1



8.40 BUILDING VIEW 2



8.41 BUILDING VIEW 3



8.42 VIEW 5



8.43 PLAZA



8.44 PLAZA VIEW 1



8.45 PLAZA VIEW 2



8.46 PLAZA VIEW 3



8.47 MAIN GATE VIEW



8.48 ENTRANCE PLAZA



8.49 SITE VIEW 6



8.50 PARKING AREA

9. ANNEXURES

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21. Locations

<https://www.google.com/maps>



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Amity School of Architecture and Planning
Amity University Rajasthan

URBAN ENTERTAINMENT VILLAGE

B.ARCH THESIS REPORT

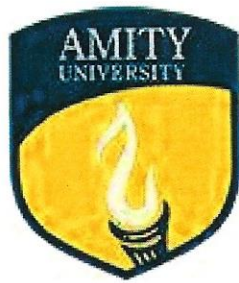
By

Neeraj Singh Tomar

UNIVERSITY ENROLL. NO. (A20104016029)

2021

*Amity School of Architecture & Planning (ASAP)
Amity University Campus, Kant Kalwar, NH-11C, Jaipur.*



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Amity School of Architecture and Planning Amity University Rajasthan

IIM AMRITSAR

B. ARCH THESIS REPORT

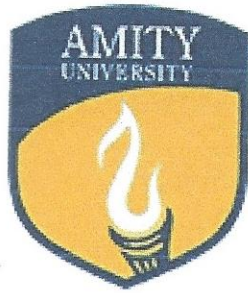
By

VEDANT NAGAR

UNIVERSITY ENROLL. NO. A20104016031

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Kalwar, NH-11C, Jaipur.*



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Amity University Rajasthan

ECO TOURISM HUB (HANDLOOM CENTRE & ECO RESORT
GUWAHATI, ASSAM

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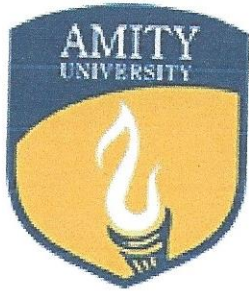
By

SUSHANT RATHI

UNIVERSITY ENROLL. NO. A20104016032

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Amity University Campus, Kant Kalwar, NH-11C, Jaipur.



AMITY
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Amity School of Architecture and Planning
Amity University Rajasthan

REDEVELOPMENT OF NAGPUR RAILWAY STATION
NAGPUR, MAHARASHTRA

B.ARCH THESIS REPORT

By

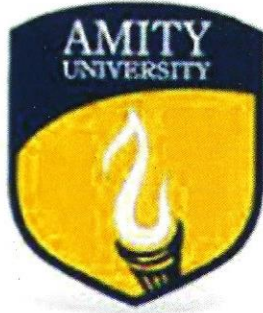
Sudarshan Kumawat

UNIVERSITY ENROLL. NO. A20104016034

2021

Amity School of Architecture & Planning (ASAP)
Amity University Campus, Kant Kalwar, NH-11C, Jaipur.

AMITY SCHOOL OF ARCHITECTURE AND PLANNING
AMITY UNIVERSITY RAJASTHAN



MUSEUM BUILDING COMPLEX AT BHAIRON MARG,
BEHIND PURANA QUILA, NEW DELHI, INDIA

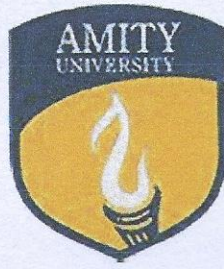
B.ARCH. THESIS REPORT

THESIS COORDINATOR:
AR. SHOEB JAFRI

SUBMITTED BY:
KARTIK KANSAL
B. ARCH 10TH SEM
ENROLL: A22204016001

THESIS GUIDE
AR. ANJANI KUMAR SHUKLA

Amity School of Architecture & Planning Amity
University, Kant Kalwar, NH-11C, Jaipur



AMITY
UNIVERSITY
— JAIPUR —

Amity School of Architecture and Planning Amity University Rajasthan

Lakeside resort at Jal Mahal

B.ARCH THESIS REPORT

By

Reema Khandelwal

UNIVERSITY ENROLL. NO. : A20180316006

2021

*Amity School of Architecture & Planning (ASAP) Amity University
Campus, Kant Kalwar, NH-11C, Jaipur.*

TRAINING CERTIFICATE

To whomsoever it may concern

This is to certify that Ms. Parul Agarwal, a student of 4th year, Amity School of Architecture and Planning, Jaipur has under gone training at our organization as “Architecture Intern” for the period starting from 5th January 2021 to 4th February 2021.

During this period, she had worked on various projects including Housing, Hostel, Residential, Commercial etc. She was involved in various stages of the project, i.e., Design Development, Presentation drawings and Working Drawings. She was also involved in Client and Contractor Meetings.

Parul is very Creative, sincere and hard working. She has good theoretical and practical knowledge. She is a wonderful team worker. Her knowledge of various softwares was very helpful in the projects she was handling.

We wish Parul all the best for her future Career.



(Atul Gupta)
Architect
June 12, 2021.



TEAM ARCHITECTS

Creating Sustainable Design Solutions
Practicing Eco- Architecture

TA/IC/2/2020

June 15th 2021

CERTIFICATE FOR PRACTICAL TRAINING

This is certified that Parul Agarwal, 4th year student of B.Arch, Amity School Of Architecture & Planning, Amity University, Rajasthan has completed Practical Training in our office from 12 February 2021 To 31 May 2021.

Her contribution in our projects as Trainee Architect has been of positive value to us. We find her very sincere and hardworking. We wish her a bright and prosperous future and a creative life in future.

With all best wishes,



Akshya Singhvi
Principal Architect

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Mr. Bharat Verma** has undergone his training in our organization from 06th January 2021 to 15th June 2021.


He has worked on the following project during his training period:

- **Jubilant Life Sciences, Greater Noida**
- **Indian Institute of Management Raipur, Chhattisgarh**
- **DLF Group Housing Sector 63, Gurugram**
- **Jubilant Biosys, Bengaluru.**

We find **Mr. Bharat Verma** to be independent, well behaved, hardworking, result oriented and expect him to develop into a responsible Architect for the profession.

We wish him all the best for his future.

For Arcop Associates Pvt. Ltd.



Deepak Taneja
(Associate Director)

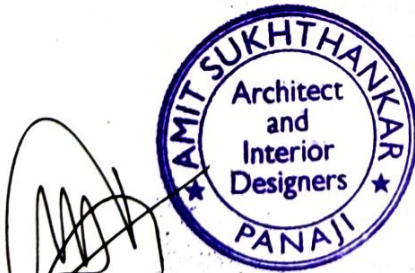
AMIT SUKHTHANKAR

ARCHITECTS, INTERIORS, DESIGNERS
2ND Floor, Lawande Manor, Near St.Inez Church,
St.Inez Panjim, Goa – 403001 (India)
Tel: (0832) 2225439, 2422906, Fax: (0832) 2225439
Email: mssuctancar@gmail.com, info@mssdesign.in

Date: 11/05/21

TO WHOM SO EVER IT MAY CONCERN

This is to certify that Ms. Aditi Narayan has successfully completed architectural training in our firm from 15th January 2021 to 30th April 2021. She had been actively involved in designing, handling residential and commercial projects. We have found her to be honest and of hardworking nature. We wish her every success in her future.



Arch. Amit Sukhthankar



Re: APPLICATION REGARDING INTERNSHIP FROM JANUARY 2021 TO JUNE 2021

1 message

Bindu Rejimon <abrejtech@gmail.com>
To: Vijay Chandra <vijaychandrakatakam@gmail.com>

Wed, Jan 20, 2021 at 11:24

Dear Mr Vijay

With reference to your mail regarding the internship we are pleased to inform you that you have been selected for the internship with the following details

Your monthly stipend will be Rs 5000 and would give accommodation free

Looking forward to meet you at our office

Regards
Bindu Rejimon

On Tue, Jan 19, 2021, 8:47 PM Vijay Chandra <vijaychandrakatakam@gmail.com> wrote:

Sir/Mam,

My name is Katakam Vijay Chandra and I am sharing my Resume for your reference.
I have been pursuing Bachelors of Architecture from Amity School of Architecture and Planning Jaipur, Rajasthan.
I am looking forward to an internship opportunity for a duration of 6 months in an organization of repute like yours.
I request you to give me an opportunity to interact with you through an online platform or telephonic conversation and I am really hoping to get associated with your organization and start my practical experience.

Thank You
Warm Regards
Katakam Vijay Chandra
(Bachelor of Architecture)
+91-9121968979
vijaychandrakatakam@gmail.com

Issuu Link for Portfolio : https://issuu.com/vijaychandra912/docs/portfolio_-_katakam_vijay_chandra-

**ARCHITECTURE
INTERIORS
PLANNING
MANAGEMENT**

SPACE FORMS
DESIGN STUDIO

24th April 2021
BANGALORE.

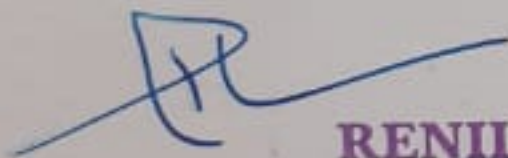
#112,1st MAIN, 6th CROSS, ASHWATH NAGAR
MARATHAHALLI, BANGALORE -560037,
TEL: +91 80 41106172,
E-MAIL: bangalore@spaceforms.in

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Mr. Archit Parihar**, student of **AMITY UNIVERSITY, Rajasthan** has successfully completed his **4 months** (10th January, 2021 to 24th April, 2021) long internship program at our firm. During the period of his internship with us, he is found to be Sincere, Creative, Punctual and a very fast learner. We find his character and conduct to be very good.

We wish him all the successful endeavors in future.

Regards,
For Space Forms,



RENIL.P.K. B Arch
Architect
Reg.No: CA/2005/36617

Ar. RENIL P.K.
(PRINCIPAL ARCHITECT)



Habitat Design

Architecture | Interiors | Project Management
122, Sector 55, Gurugram

CERTIFICATE FOR PRACTICAL TRAINING

This is certified that Shriya Banka, final year student of B. Arch, Amity School of Architecture & Planning, Amity University Rajasthan has completed Practical Training in our office from February 1,2021 TO March 16,2021.

Her contribution in our projects as Trainee Architect has been of positive value to us. We find her sincere and hard working. We wish her a bright and prosperous future and a creative life in future.

With all best wishes,

PRINCIPAL ARCHITECT: AR. KSHITIZ KAPOOR

AR. KSHITIZ KAPOOR
COA Reg. No.: CA/2011/53982
HABITAT DESIGN ARCHITECTS
122, SECTOR-55
GURGAON-122 010

(Name with Signature)

15 JUN 21



ARCHITECTURE | URBANISM | INTERIORS | CONSULTING

CERTIFICATE FOR PRACTICAL TRAINING

This is certified that **SHRIYA BANKA**, fourth year student of B. Arch, Amity School of Architecture & Planning, Amity University Rajasthan has completed Practical Training in our office from **March 17, 2021** TO **June 7, 2021**.

Her contribution in our projects as Trainee Architect has been satisfactory. We wish her a bright and prosperous future and a creative life in future.

With all best wishes,

Akshay Goyal

Design Principal | Architron Group

Founder | Tron Ventures

Co Founder | Atal Museum

Co Chair | Harvard Alumni Entrepreneurs India

Adjunct Faculty | Sushant School of Art & Architecture

AIIA; RA; AIIID; IGBC AP; Ecodistricts AP

MDes Harvard University | MArch Architecture & Urbanism (AA London) | BArch (India)



वैज्ञानिक तथा औद्योगिक अनुसंधान परिषद्
Council Of Scientific & Industrial Research

अभियांत्रिकी सेवा प्रभाग
Engineering Services Division

सी.एस.आई.आर. कॉम्प्लेक्स
इंस्टीट्यूट ऑफ़ होटल मैनेजमेंट के सामने,
लाइब्रेरी एवेन्यू, पूसा, नई दिल्ली- 110 012
CSIR Complex
Opp. Institute of Hotel Management,
Library Avenue, Pusa, New Delhi-110 012

June 22nd2021

CERTIFICATE FOR PRACTICAL TRAINING

This is certified that Purvi Varshney, 4th year Architecture student Of Amity University, Rajasthan has completed her Practical Training in our office from 01 February 2021 to 31 May 2021.

Her contribution in our projects has been of positive value, she is found to be sincere, creative and a fast learner. We wish her all the success in future.

Ar. Rupesh Behera

(Sr. Architect)

E-mail : csircx@giasdl01.vsnl.net.in

Tele/Fax No. : (91-11) 25842756, 25843677

Phone : 25843767, 25841356, 25843677, 25848121, 25841583, 25841785

15 June 2021

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Mr. Tarun Sharma** has undergone his training in our organization from 04th January 2021 to 15th June 2021.

He has worked on the following project during his training period:

- **DLF Downtown, Gurugram, Haryana.**
- **Paderu Hospital, Visakhapatnam**
- **Eye Hospital, Gurgaon, Haryana**
- **Medanta Noida.**

We find **Mr. Tarun Sharma** to be independent, well behaved and hardworking and expect to develop into a responsible person in the profession.

We wish him all the best for his future.

For Arcop Associates Pvt. Ltd.



Vimram Singh Saini
(Associate Director)



ARCHITECTURE | URBANISM | INTERIORS | CONSULTING

CERTIFICATE FOR PRACTICAL TRAINING

This is certified that **Umang Sharma**, 4th year student of B.Arch, Amity School Of Architecture & Planning, Amity University Rajasthan has completed Practical Training in our office from **11-01-2021** To **07-06-2021**.

His contribution in our projects as Trainee Architect has been satisfactory. We wish him a bright and prosperous future and a creative life in future.

With all best wishes,

Akshay Goyal

Design Principal | Architron Group

Founder | Tron Ventures

Co Founder | Atal Museum

Co Chair | Harvard Alumni Entrepreneurs India

Adjunct Faculty | Sushant School of Art & Architecture

AIIA; RA; AIIID; IGBC AP; Ecodistricts AP

MDes Harvard University | MArch Architecture & Urbanism (AA London) | BArch (India)

Date:01/06/2021

TO WHOMSOEVER IT MAY CONCERN.

This is to certify that **Ms.Aditi Khandelwal** a student of Architecture from Amity University, Jaipur had joined our Firm **Inspire Architect** for a practical training from 15/01/2020 to 20/05/2021.

Ms. Aditi Khandelwal has prepared conceptual design, working drawing, and interior layouts, etc. for a few Residential buildings.

We wish her Good Luck for the bright future.

Thanking You,

Yours Faithfully,



Ar. Pratik. Senghani
Principal of Architect

CERTIFICATE FOR PRACTICAL TRAINING

This is certified that Mukesh Kumar, final year student of B.Arch, Amity School of Architecture & Planning, Amity University Rajasthan has completed Practical Training in our office from 8 March 2021 To 30 June 2021.

His/her contribution in our projects as Trainee Architect has been of positive value to us. We find him/her very sincere and hardworking. We wish him/her a bright and prosperous future and a creative life in future.

With all best wishes,

Ashish
30/6/21

Ar. Ashish Jethmalani

Principal Architect

ASHISH JETHMALANI
ARCHITECT
Reg.No.-CA/2016/74406

Date: 05.05.2021

We are in **idEAS**

TO
Mr. Rupan Biswas,
Amity School of Architecture & Planning
Jaipur, Rajasthan.
Pin code-303002

Contact no.: +91 8258081686

EXPERIENCE CERTIFICATE

TO WHOM-SO-EVER IT MAY CONCERN

It is our pleasure to write on behalf of **Mr. Rupan Biswas**, who has worked with **Effective Architectural Services** in the capacity of "**Architectural Assistant**" for a period of Three & half months only (from:- 18.01.2021 to 04.05.2021)
During this tenure of his work **Mr. Rupan Biswas**, , remained involved in his work dedicated and honest.

We wish him all the best in his future endeavor.

EVALUATION CHART

Grades	Leadership / Initiative	Punctuality / Attendance	Commitment / Knowledge	Delivery / Timeliness
Very Good		✓		✓
Good	✓		✓	
Average				
Poor				

For any reference regarding the above you may contact the undersigned.

Thanking You

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Arch. Milind Ramani



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T. +91 832 2424664,
F. +91 832 6642788,
E. easgoa@yahoo.com



(In Letterhead of the firm /office)

**CERTIFICATE FOR PRACTICAL
TRAINING**

This is certified that (Abhishek Kumar Singh), final year student of B Arch, Amity School Of Architecture & Planning, Amity University Rajasthan has completed Practical Training in our office from __20-01-2021_ To __26-05-2021_____.

His/her contribution in our projects as Trainee Architect has been of positive value to us. We find him/her very sincere and hardworking. We wish him/her a bright and prosperous future and a creative life in future.

With all best wishes,

Anil Singh 
PRINCIPAL ARCHITECT

(Name with Signature)



TEAM ARCHITECTS

Creating Sustainable Design Solutions
Practicing Eco- Architecture

TA/IC/2/2020

June 15th 2021

CERTIFICATE FOR PRACTICAL TRAINING

This is certified that Mohammed Adil final year student of B.Arch, Amity School Of Architecture & Planning, Amity University Rajasthan has completed Practical Training in our office from 02-02-2021 To 20-06-2021.

His contribution in our projects as Trainee Architect has been of positive value to us. We find him very sincere and hardworking. We wish him a bright and prosperous future and a creative life in future.

With all best wishes,



Akshya Singhvi
Principal Architect



HOUSING SOLUTIONS FOR PAVEMENT DWELLERS

B.ARCH. DISSERTATION REPORT

By

PARUL AGARWAL

University Roll No. A20104017001

Guided By: Ar. Ankita Saxsena

2022



AMITY
UNIVERSITY
— RAJASTHAN —

INNOVATIVE FAÇADE
FOR HOT AND DRY CLIMATE

B.ARCH. DISSERTATION REPORT

By

BHARAT VERMA

University Roll No A20104017002

2021

Amity School of Architecture & Planning (ASAP)
Amity University Campus, Kant Kalwar, NH-11C, Jaipur



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— JAIPUR —

NATURAL LIGHTING AT AIRPORT TERMINALS

B.ARCH., DISSERTATION REPORT

By

ADITI NARAYAN
University Roll No. - A20104017004

2021

Amity School of Architecture and Planning (ASAP)
Amity University Campus, Kant Kalwar, NH-11C, Jaipur



SUSTAINABLE DESIGN FACTORS IN HIGH RISE BUILDINGS

DISSERTATION REPORT

By

KATAKAM VIJAY CHANDRA
University Roll No: A20104017005

2021

Dissertation Guide:- AR SHAILENDRA KUMAR

Amity School of Architecture and Planning(ASAP),

Amity University Rajasthan.



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— RAJASTHAN —

**SUSTAINABLE FEATURES OF VERNACULAR
ARCHITECTURE OF KUMAON REGION OF
UTTARAKHAND**

DISSERTATION REPORT

By

ARCHIT PARIHAR

A20104017006

09.12.2021

Dissertation Guide- Ar. Swechha Roy

Amity School of Architecture and Planning,

Amity University Rajasthan



DISASTER RESISTANT HOMES IN CYCLONE- PRONE AREAS (ODISHA)

B.ARCH. DISSERTATION REPORT

By

SHRIYA BANKA

University Roll No A20104017007

Guided By:

Ar. Anurag Varma

2022

Amity School of Architecture & Planning (ASAP)



**AMITY
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— RAJASTHAN —**

**AMITY SCHOOL OF ARCHITECTURE AND PLANNING (ASAP)
AMITY UNIVERSITY, JAIPUR, RAJASTHAN**

**RENEWAL OF ISLAMIC
ARCHITECTURE: A CASE OF DUBAI**

COURSE COORDINATOR:

**AR. PRASHANT VIJAYVARGIYA
ASAP, AUR**

SUBMITTED BY:

PURVI VARSINEY

**ENROLL.NO.: A22204017001
5th YEAR, B.ARCH. (2017 -22)
ASAP, AUR**



Architecture for better learning spaces in primary schools

B.ARCH. DISSERTATION REPORT

By

Tarun Sharma

University Roll No A22204017002

2021

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Amity University Campus, Kant Kalwar, NH-11C, Jaipur**

CERTIFICATE

This is to certify that **Tarun Sharma** of B.Arch Semester (IX) of Amity School of Architecture and Planning, AUR, has completed the dissertation under the guidance of **Ar. Anurag Varma**, in duration from **August 2021 to November 2021**. In this duration the student has submitted the regular work in the phase of Synopsis, Literature Studies, Case Studies and Conclusions on the basis of the observation. The Student has also kept the regular track of the record of Activities conducted during the sessions in the form of log books. The final submission of the dissertation is compiled in the format of report.

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Date: 8.12.21

Place: Jaipur

DECLARATION

I **tarun sharma** Student of B.Arch Semester (IX) Semester of Amity School of Architecture and Planning, AUR, Batch 2017-2021 hereby accept that the work conducted during the dissertation is the self- work of the researcher/ Enrolled student of B.arch.

The Work compiled in the form of the dissertation report includes information, images, tables, figures, sketches, which are being created and constructed by the above-mentioned scholar.

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Introduction

Children today will be the actors transforming the future tomorrow. They will develop our society and be innovative, solving problems we could only dream of finding solutions to. Nurturing our children with competences and motivation are key for our society to develop. An investment in education is an investment for the future.

Considering that schools are educational spaces, with the mission of promoting it, in theory they cannot lead the students on educational issues. In fact, there really are two issues that weaken or strengthen the issue. The first, practices and attitudes to education and the space with environmental impact. Architecture as a way to use as the background and foundation of the principles in education in order to create a safe environment, conducive to learning in training centers supports flexible solution to meet the changing needs of different users; In fact, the architecture responds to needs to put forward a solution as flexible and architectural solutions are proposed in this regard, according to its dimensions and forms of education of each country. In Iran, identifying and determining the scales of this problem requires understanding the emergence context of such thinking; in fact, such ground is provided when in the first place the education system responds to the change positively, and at the next place, architecture optimizes this change. In this study, based on the library documents, we have been trying to understand the history of this issue to analyze the existing solutions and make the role of architecture functional at the second step. It has been shown in the analysis that design with effective participatory steps can multiply the likelihood of success.

Schools play an important role in widening our outlook and life chances. We all know how these environments can affect our self-esteem, performance and friendships - which in turn shape us into the adults we become. Every pupil deserves a place at a good school. This is a key Government objective, but is becoming harder to achieve in the face of budget pressures and increasing numbers of children entering the education system. With limited funding

available to provide extra school places and many existing schools in need of an overhaul, there could not be a better time to look more closely at how excellent design can help the Government's capital funding programme deliver better value for money. Better value does not mean building schools very cheaply, but creating cost effective environments that help drive up educational outcomes, enhance teacher and pupil wellbeing, and limit future running and maintenance costs

Aim

Education is a crucial part of sustainability and it is also a highly current topic that is widely discussed in India and world. For me, this dissertation is opportunity to study what education in India is beyond the school results and how the built environment can support learning. The children starting school this year will work until 2075 and probably even longer. How can schools educate and prepare the children to live and act in our future society?

- To find out the architectural strategy for school and learning institute designs specially for kids.
- Identifying issues related to the architecture of school and learning spaces.
- To find ways to make learning spaces more engaging and finding design solutions for the school buildings.
- Finding design recommendations for primary school design.

Methodology

The study on school environment is organized in three parts.

- The first part develops a deep literature study and research.
- The next part consists of a number of interviews with educators. Two interviews, the most important, became most useful open-ended conversations.
- The third part includes two case study of schools that illustrate different architectural approaches to the development of effective learning environment.

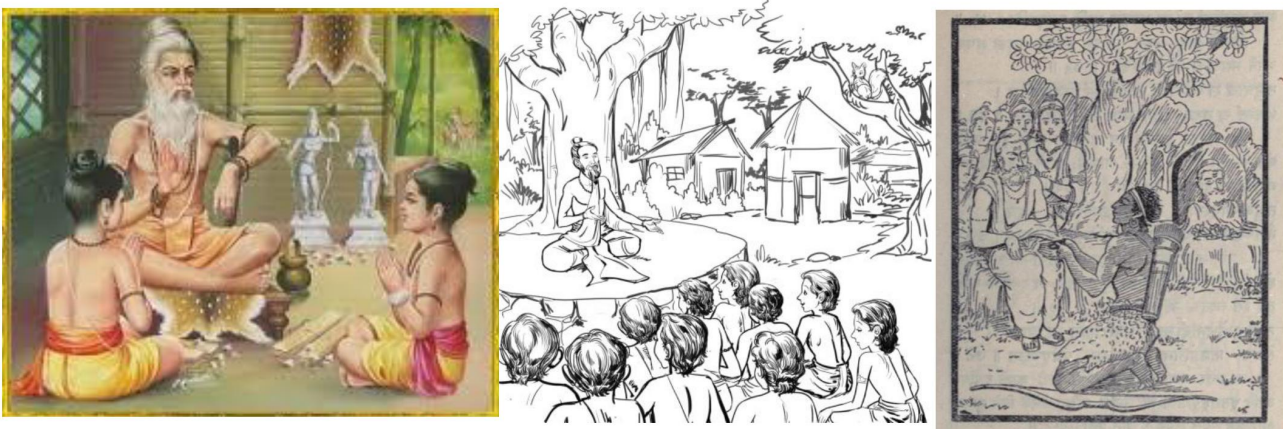
The literature review, focusing on multidisciplinary research and theoretical works on the complex interaction of physical, pedagogical, and social environments of learning . part 2 analyses various interviews. Part 3 introduces two case studies of architectural solutions. They are significant examples of the intentions in the approach to a learning environment and the type of discourse among the stakeholders, typically educators and architects, which structured the related solutions.

Next chapter builds on the findings and analyses of previous chapters to discuss environmental factors related to learning, or learning factors, that could support a collaborative discourse among the stakeholders in the planning, design, and construction of schools.

The final recommendation is for the promotion of multidisciplinary research on learning environments, a strategy for a sustainable development of the collaborative discourse, and the alignment of pedagogical practices with the organization of the learning environment of schools.

History of Indian schooling and education

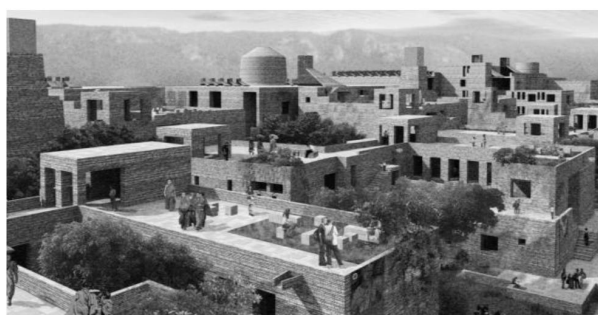
During the ancient period, two systems of education were developed, Vedic, and Buddhist. The medium of language during the Vedic system was Sanskrit, while those in the Buddhist system were Pali. During those times the education was of Vedas, Brahmanas, Upanishads, and Dharma sutras. From the Rigveda onwards, our ancient education started with the objective of developing the students not only in the outer body but also on the inner body. The ancient education focused on imparting ethics like humility, truthfulness, discipline, self-reliance, and respecting all creations to the students. The education was mostly imparted in ashrams, gurukuls, temples, houses. Sometimes pujaris of the temples used to teach students. The education system of ancient India has some special features and uniqueness which was not found in any other ancient education system of the other countries. The education was mostly given in forests under the blue sky, which keeps the student's mind fresh and alive. During ancient times people used to live a simple life and doing their work with devotion and hard work



Gurukul was the hometown of teachers where students come after completing their initiation ceremony and learn until the completion of their study. The parishads or academies were the places of higher learning and education

where students learn through discussions and debates. Goshti or conferences were the places where the kings of the states used to invite scholars from every institute to meet and exchange their views. Ashramas or hermitages were the other learning centers where students from various parts of the country used to come and learn from saints and sages. Vidyapeeth was the place of spiritual learning founded by great Acharya, Sri Shankara in places like Sringeri, Kanchi, Dwarka, and Puri, etc. Agraharas was an institution of Brahmins in villages where they used to teach. Viharas were the educational institutions founded by Buddhists where the students were taught the subjects related to Buddhism and philosophy.

Takshila and Nalanda are the examples.



In the design cycle of schools, three specific pillars of user (student), architect, educational expert and psychology must interact with each other to plan close to ideal.

Here the students and teachers both use to design their own learning spaces according to their own needs and requirements.

Literature review:

After going through all the literature study and data the following analysis has been drawn:

Understanding the changing patterns of classical schools and new schools needed to determine the type of architecture As in all traditions, education system with any orientation is structure is based on four pillars: teacher, student, program and content, so the pattern of change in these factors will be dealt with.

	New schools	Old school
Axial features	Discovery Creativity Experience Awareness Freedom and diversity	Information Skills Education Following Discipline
The centrality of teacher and student	Teacher-centered	Student-centered
Goals	Familiar with the changing and evolving world	Transfer issues fixed

Background of flexible educational environments:

School reform movements, especially in the years following the Second World War were accelerated and the expectation to change a four-walled class to living spaces for children became a general problem. (Kamelnia, 2007: 6) in the late 50s of Twentieth century, when the effects of the War Worldwide Second were yet felt, and people searched for schools with low cost, severe reactions against traditional education system resulted from lack of attention to Issue of Learning, needs and real character the students, attracted most views to provide a ground for change in the current educational systems. Some educational experts along with some architects concentrated on building schools based on individual needs, talents and personal abilities of children. With a view to the history of education in different countries, we can expand the environmental analytic views. Many schools in England from 1950, sought to increase their social experiences of students, which was developed in 1967 in a report, such as training in small groups or individually and practical work in a broader range.

In addition, it was the time when it was necessary to eliminate any element of school walkway plant lest someone hides in their shelter .In the 70s ,tendency in British primary education was to take a broader view in relation to three activities: physical environment was enriched gradually, the number of schools increased more rapidly with new and innovative design , human environment within the school gradually became a warm and safe environment and responsibilities and participation of students increased . Informal contact of student and teacher increased, the school became more accepted with open plan, and integrity and greater attention to different aspects of a child were responded. Learning environment and education gradually began to change. Quiet class gave way to the places of group discussions. In the first steps in 1973 and 1976 against the traditional school, encouraging experiences such as those of open schools were rejected by teachers because it was not accompanied by adequate teacher training and not enough facilities and not so scientific - research and considered to be in its various aspects, and in part as a reaction against traditional schools.

The role of architectural flexibility in promoting school space quality

From psychologists viewpoint, flexible individuals are more grown people as their life is rich of experience and have suitable reaction against forced changes. Flexibility in child is an ability to overcome thought barriers. Using this ability, child can change his or her approach and promotes it. It is worth mentioning that although emotional and physical flexibility is an innate issue, it is related with other factors among which family support, school support and contact with friends are known to be more effective.

Therefore, some conditions must be provided for children to embrace the changes and use the opportunities of life events to orient and increase their own flexibility.

Flexibility means Competency of coordination with every status and every environment and simplicity of variability to have compatibility and being suited to environment and its changes. Based on new definitions, flexibility is accessibility to strategies of overcoming a mental stressor and tendency to investigate them. Flexibility is defined to be a dynamic process which is responsible for positive adaptation despite opposite or traumatic experiences in individual.

The ultimate goal to design a flexible system is to allow the available convertible resources, as technology to start their changes (Valiant 1995: 59). Flexible educational spaces with

technological changes and future needs can predict, in the different ways by architects in the future, learning activities and then the actual space design.

Torin Monahan expresses the concept of training flexibility as: the widespread use in architectural literature, for flexible is to follow easy description adapted with its goals.

This flexibility makes the communication duration of space for multiple audiences with different values at the same time increase showing the power degree. In order to study educational spaces, the five divisions of space can be cited for five properties: fluidity, versatility, functionality, scale change and modification of function space

1. liquidity : represents a space designed for visual communication, hearing and the surrounding atmosphere.
2. Versatility : represents the extent of space that allows the space to be used for several functions.
3. Convertibility (variability): Determination of ease of adapting educational space to new uses
Variability is the quality of a building that allows us to perform various activities without having to displace parts. For example, if a class can hold a small celebration or be well suited to play a game and learning entertainment or any sort of mobility, flexibility in its design is considered. (Sami Azar, 1997: 13)
4. Scaling change : Features for space description with the expansion or contraction. A feature to describe the space to develop or expand. The appendixes may be required to meet the ever increasing needs of students schools and the necessary changes may happen in plan and fixed spaces may be costly in the short-term demand barriers to growth, and for contraction (need to reduce space), schools should be able to build temporary spaces which have to be removed if necessary. For example, excess school space can again become the building with the training program (Brubaker 1998: 22).
5. Modification of space function : a classroom and the equipment and furniture should be designed to have power of adaptation in order to change or modify various training methods to teach in the regulatory environment.

Pioneers of Educational Philosophy and Practice:

Dewey and Washburne Carleton Washburne was a charismatic superintendent of schools in Winnetka, Illinois, from 1919 to 1943. 9 Learning effectiveness relates to the learner's opportunity for reaching the level of optimal experience, which benefits from a pedagogy that aligns the learner's skill level to the challenge level he or she has to deal with.

Washbiirne applied and developed John Dowel's philosophy of progressive education to the Wirinetka public school system. Of his books on education, one in particular, narrates the experience of developing his own interpretation of Dowel's educational philosophy (1997). His approach included a deep commitment to the importance of the school's physical environment for meeting pedagogical needs and supporting the school climate. The culmination of that commitment resulted in Crow Island School, a kindergarten to elementary school that became internationally famous, influenced school architects, and established the paradigm of a successful school planning process. Washbiirne had a direct impact on the general concept for Crow Island

School and the classroom in particular, that he described in detail, a result of his development of a collaborative discourse with the 10 architects Eiel and Eery Saarinen, and Lawrence Perkins (Perkins, Wheeler and Will of Chicago).

Vygotski Zone of Proximal Development

Past and current pedagogical directions toward collaborative learning could be traced to Lev Vygotsky (1978), 10 concept of the zone of proximal development (ZED), an aspect of Vygotsky social development theory. Accordingly, the "zone" measures the distance between learning in isolation and in relationship with others. For Vygotski (1978), best advancement and appropriation of knowledge occurs in social transactions with other people and through use of tools for specific tasks.

Contemporary Theories of Learning Environments

The book *Theoretical Foundations of Learning Environments* (Jonassen and Land, Ads., 2000) presents a number of essays about interpretations and developments of cognitive theories since the 1990s that promoted an educational paradigm shift. A more social and constructionist view of student-centered learning is replacing past instructional views. In essence, the selected essays by Jonassen and Land sustain the argument that the shared meaning of "learning environment" is the operational framework of a student-cantered pedagogy. Lev Vygotsky (1896-1934), Russian psychologist. His most productive years were at the Institute of Psychology in Moscow (1924-34), where he expanded his ideas on cognitive development, particularly the relationship between language and thinking. His writings emphasized the roles of historical, cultural, and social factors in cognition and argued that language was the most important symbolic tool provided by society.

a level of development attained when children engage in social behaviour. Full development of the ZED depends upon full social interaction. The range of skill that can be developed with adult guidance or peer collaboration exceeds what can be attained alone.

(<http://tip.psychology.org/vygotsky.html>)

In the essay *Student-Centered Learning Environments* (Land and Hannifin, 2000), the authors discuss five core foundations: **psychological, pedagogical, technological, cultural, and pragmatic**. What is avoided, however, is a discussion about the possible relation between pedagogy and the physical organization of space that facilitates rather than hinders pedagogy, from the overall concept of the school facility to the shape and organization of a classroom. The essay makes only an unspecified reference to the "context" in which learning occurs. The only reference to the physical organization of learning environments relates to the technological foundation. Here, technology, such as computerized applications for visualizing scientific investigations, is used to provide opportunities for learners to develop cognitive capabilities. Paraphrasing Vygotsky, technology tools are used to facilitate the learner in reaching his or her "zone of proximal development".

Those clever designers can also create learning environments that afford progress toward these new goals, environments that are so closely aligned with the goals that they encourage optimal performance" . By adopting the expression optimal performance, the authors refer to the work of Csikszentmihalyi (1991). Jonassen and Land's review of new theoretical foundations is necessary

because of their implications for the design of new pedagogy as well as school's facilities having the common purpose of optimizing the learning environment. Similar to Jonassen and Land's approach, in an article published in Change magazine, Barr and Fagg (1995) discuss the urgent need to change the traditional "instruction paradigm" into a "learning paradigm" focused on the learner and the production of learning.

A Theory for the Optimal Experience of the Learner

Csikszentmihalyi (1991) "theory of flow" maintains that the key to having an optimal experience is for an individual to align the skill level to the challenge level they deal with. The right challenge level relates to the individual engagement to new challenge and skill development. In that condition a state of "flow" can occur, characterized by the loss of self-consciousness and where the individual's activity is rewarded regardless of the 13 original goal. Too small a challenge level relates to the individual's boredom and disengagement. Too large a challenge level relates to the individual's frustration and disengagement. Csikszentmihalyi's theory could apply to active learning through the interaction of the learner with challenges and problem solving, as a means to the optimal learning experience that would correlate to their potential level of developmental and academic achievement.

theories and research from different disciplines have developed interpretations of the physical and social attributes of the environment, its influence on the human perception of place and related behaviour. Ultimately, education and environmental science have fostered inquiry about the impact of social and physical characteristics of the learning environment on school climate

The Sense of Place-

The expression sense of place has several meanings. It is useful to clarify interpretations of the expression that in the literature apply to architecture and the subject of the dissertation, the architecture of schools as learning environments. To begin, the word place has different meanings. Place may informally be used interchangeably with space, but in the context of this writing, place has a meaning of a different order. Consider the following related definitions:

The dictionary definition already contains the meaning of the expression sense of place as it is intended in the development of the research. In fact, the quote refers to the perception of non-physical characteristics of place. In practice, the experience of space as physical environment, such as the school facility, could relate to both, the students' acquaintance with the entrance, the classrooms, the auditorium, etc., as well as to their perceived sense of the entire place. Up to this point, I have considered dictionary derivations on the meanings of place or sense of place. Indeed, there is good evidence of the way in which place is seldom entirely neglected. Increasing multidisciplinary interest on human transactions with the physical environment has been nourishing the discourse about place and its implications related to the phenomenology of perception in architecture, environmental psychology, and social behaviour.

Phenomenology of Perception: The Architecture of Place.

In this section, environmental concepts on place and the sense of place are represented in relation to specific architectural perspectives. In *Genius Loci: Towards a Phenomenology of Architecture* (1984), Christian Norberg-Schulz acknowledges the influence of the philosophy of Heidegger as the catalyst that determined the approach to his book. Heidegger's concept of the existential foothold, or dwelling gives purpose to architecture, beyond earlier concepts of functionalism in architecture. Man dwells when he can identify himself with an environment and experiences it as meaningful (p.5). According to Norberg-Schulz, place is a goal of architectural investigation, where the "spirit of place", an expression that translates an ancient Roman concept, denotes the character of the place, its "genius loci". This timeless principle captures the essence of the sense of place as an existential phenomenon. (Norberg-Schulz, p.18). The author asserts the transformative quality of architecture, where people's experience of space makes it a living place. His intention is to convey an urgent message, after decades of "scientific" theory, for a return to a qualitative, phenomenological understanding of architecture. Although Norberg-Schulz argues for a theory of place applicable to architecture, his writing falls short of developing a complete definition. His essay is among the best of a number of theoretical "contributions", to use his expression, by architectural writers. Besides, Norberg-Schulz admits that the discourse on a theory of place originates among philosophers' interpretations. He refers to Heidegger, but other philosophers have produced works of inspiring quality.

To elaborate, Norberg-Schulz reviews and illustrates a great number of places from ancient history to the 20th century: natural, primitive, man-made places, cities as places, and places today, gradually enriching the notion of an architecture of place that unites modern architecture with the past. Furthermore, Norberg-Schulz mentions issues related to the demand for imagination in architecture that have been advocated by Sigfried Giedion, and the need for an education through art, as the place which gives us our identity (1984). The reader could extend Norberg-Schulz's theory to other types of places other than those he uses to illustrate his argument. In essence, architecture can convey a "sense of place", the perception of nonmaterial characteristics to the physical space, such as a sense of belonging, meaning and purpose. His argument has true merit and can be applied to an architecture of learning environments that is capable of contributing to a positive sense of place in support of learning. In the case of a school, where students' experience of a physical context may subtly encourage connections with the environment, and its occupants, the sense of place becomes a catalyst of the learning climate and the student learning engagement.

contextual Views of Place vs. Learning

The Power of Place.

In *The Power of Place* (1994), Winifred Gallagher reports that the psychologist Roger Barker is frequently cited for his 1960s research on situations that he named "behaviour settings", related to people interacting with social structures: people, things, and the physical places. According to Gallagher: He decided to chronicle entire days in the lives of children, recording their interactions...After examining his data, the psychologist came to a startling conclusion: their (the children's) settings were more important determinants of his subjects' behaviour than their personalities. (1994) The implication for the school environment is that everything in it encourages people to maintain the state of being and behaving by the sense, or power of place. People are no longer just individuals, but teachers and students. As reported by Gallagher, Frank Putman, a

research psychiatrist, says "We maintain the idea that we are the same person at home, in the office, in the car, but on some level, we know there is a lot of discontinuity in our lives". So, it seems that the place in which we first master information helps recreate the state necessary to retrieve it through feelings that are important influences on memory, a phenomenon called state-dependent learning. The basic principle that links our places and states is that the experience of good or bad environments promotes good or bad memories, which influence good or bad mood, and in turn, good or bad behaviour. In conclusion, by merging architectural and environmental research perspectives, reviewed in this and previous sections, the sense of place is the direct psychological human response that architecture can produce as a result of the symbolic transaction between people and the physical environment. This response influences behaviour.

Meyrovitz book, *No Sense of Place*, is particularly relevant in contemporary interpretations of place, as he shows that our experiences and behaviour are no longer shaped by where we are. He questions whether place is still a large determinant of behaviour, vs. something else that has been traditionally tied to and confused with place. His question leads to the postulate that it is not the physical setting itself that determines the nature of the interaction, but the patterns of information flow.

According to Meyerovitz, in school education the age-grading system demands consistency between chronological age and mental and social development. Therefore, the information flow to children is carefully controlled through the curriculum. However, television bypasses this linear sequence because it is accessible to children in no particular order. In addition, children are exposed to facts and information that contradicts ideals even before they learn about them in school. As a result, the school system can probably never regain the near monopoly over information it once held. Meyerovitz recommends that for the school to survive it must maintain a "knowledge edge" by giving students the sense they are "in the know" because of the school (p. 255- 257).

The Digital Environment: A Place of Cognitive Evolution.

A final comment relates to the evolution of cognitive processes that are globally affecting culture and behaviour of younger generations. Although this thesis is concerned with learning within a school system of education, it is important to observe evolving forms of learning that occur outside of schools' education. In fact, cognitive processes that evolve as social phenomena of life experiences external to schooling deserve to be studied in relation to the development of pedagogical methods and the organization of learning environments. Following is a case in point.

The Digital Natives could be hypothesized as a case of cognitive and behavioural evolution of the general population that has adapted to the conditioning effect of digital technology. New research may find that younger generations of students - perhaps even including some of the students that formerly would have been classified with attention and hyperactivity issues - are recognized as the emerging society, around which economy, politics, life styles, and education must pay attention. The sensitivity to the Digital Natives' ability to perform in multiple concurrent activities offers the opportunity to study the application of this cognitive/behavioural mode to pedagogy and the related architecture of learning environments.

A Transactional Perspective Environmental psychology research applied to the learner's transactions with the physical and social environments of the school is an important component of

interdisciplinary research on learning environment. A principle of this transactional perspective suggests that people and psychological processes are embedded in and inseparable from their physical and social contexts. This principle means that psychological phenomena experienced by a person, 23 such as the sense of place in a learning environment, are considered as holistic units rather than combinations of separate elements.

Altman views are shared by other researchers. For example: "Psychological phenomena are best understood as holistic events composed of inseparable and mutually defining psychological processes, physical environments, social environments, and temporal qualities."

Altman environmental research interest considers two possible ways to relate the physical environment to social relationships and psychological processes: One, as an aspect of behaviour, for example use of space, territorial behaviour, etc.; Two, as a context or setting within which psychological processes, relationships, and behaviours are embedded, a view that is of particular relevance to the study of architecture of learning environments (Lippman, 2003b). In this case the environment is not seen as simply in its behavioural sense, but it also becomes part of a phenomenon contributing to its meaning, and highlighting the holistic quality of relationships (Altman, 1992). In essence, transactional views could be managed according to the purpose of the researcher, while they alert the researcher that psychological phenomena must be considered as being integrated within the context in which they occur.

School Climate

Research shows that school climate is a complex variable relating to many areas and people, from interactions among students and teachers, to the structure of buildings, examples of a broad scope of factors.

Therefore, school climate is a most important subject of research on learning environments, because its concept captures important attributes of the social context that contributes to the identity of each individual environment. 24 Interest in research about school climate originates from a more general question: how effective the school environment is in relation to student academic engagement and achievement?

In regard to the school facility characteristics, studies of secondary schools found that student behaviour and academic achievement tended to be better when the school was clean, without graffiti, contained student work displays, and had good appearance features.

Several other studies link small school size to a positive school climate, student performance, and safety.

Some research evidence also indicates that landscaping school grounds results in better student behaviour

In conclusion, research has found that school climate influences student morale and performance. Furthermore, school climate attributes need to be included in a model that can be used for climate improvement research and implementation.

Positive Academic Climate –

- 1. Collaborative Processes**
- 2. Administrative-Staff-Student**
- 3. Leadership skills**
- 4. Peer Norms**
- 5. Teacher Skills**
- 6. Opportunity for Student Participation**
- 7. Use of Rewards**

Conclusion of literature review-

The literature review brings to evidence physical and social factors related to learning, such as classroom organization, learning technologies, and school climate. These are factors of high educational interest that are useful for advancing a common language between educators and architects toward a collaborative discourse on effective learning environments. Following are final comments for consideration in relation to the thesis.

- The sample of studies in environmental psychology included in this review illustrates the scientific methodology this kind of research has shown to adopt. In this regard, research methodology in environmental psychology deserves consideration for designing the structure of interdisciplinary research on learning environments 'Lippman, 2003).
- The boundaries of knowledge, once propriety of separate disciplines, has given way to the understanding of transferability of findings. This is like to say that, given an 38 issue of inquiry, a finding could be used as a multiple entry by the different disciplines undertaking the inquiry. When such an approach is adopted it is reasonable to foresee the value and economy for developing a collaborative discourse, a common language where each discipline is part of the inquiry process. In parallel fashion to the above argument, education research has adopted cognitive research in order to better apply pedagogy to multiple forms of learning.
- Environmental psychology emerges as a catalyst of a new paradigm for research on planning and architecture of schools. Thus, it facilitates the discourse between education and architecture. Therefore, a new advance in planning and design of school facilities, as effective learning environments, would result from an interdisciplinary theoretical discourse, and research collaboration between education, environmental psychology, and architecture.
- On a separate point, it must be noted that the pervasive impact of digital technology on cognitive learning processes cannot be ignored in the development of pedagogical implications on school architecture.
- A most relevant aspect of the review is that current research is recovering the values of Dowel's Progressive Education, active and collaborative learning, and the centrality of the learner in the development of pedagogy. That being an important postulate for this research, planning and design of schools as learning environments, must consider the need to facilitate the optimal experience of the learner.
- The architectural implication of the theory of place and phenomenology of perception is that the exercise of architecture is the construction of a dialogue between form and meaning, between the physical language and mental languages in which perception and feelings are important forms of human understanding and identification. In an analogous way the

exercise of school architecture could be the construction of a dialogue in which the physical environment of the school acts as a transactional model for the learner's psychological processes, such as the acquisition of a sense of place and identification.

- In brief, the research literature review-.
 - The school's physical environment is an integral part of the school's learning environment and contributes to the school climate.
 - Research and application of findings from environmental psychology and cognitive science that are related to behavioural and motivational responses to the physical environment, improve the methodological approach to planning and design of school learning environments.

Case study and interview:

Mrs. Jyoti manhotra, seedling public school, Jawahar Nagar, Jaipur:

My interview with Mrs Jyoti manhotra occurred on November 9th 2021, she had been the principal of seedling public school, Jawahar Nagar Jaipur, a public elementary school built in 1991 in Jaipur. I was interested to find how such engagement could be related to the quality of learner's interactions with the physical as well as social contexts of this school. The conversation with ma'am added a new dimension to my research, which helped shaping the report as it evolved in its finalized argument.

Topics that addressed opening questions, soon switched to the new dimension of my study. In essence, what emerged from the conversation brings the scenario of the architecture of schools as learning environments to a key formula that can guarantee its success.

Knowledge, from philosophy to science, could reach discernment about architectural and environmental solutions, but in order for them to effectively materialize, a unifying process of collaborative communication among the stakeholders, educators and architects in particular, must happen. This means that the fundamental part of the process is the development of a common language for a common purpose.

The conversation with Mrs. Jyoti manhotra also covered the relation between the physical environment of the school and learning. The classroom organization, a learning factor discussed in the report, was a point of discussion.

"Children need to experience place, they need to experience the coming together", ma'am said, endorsing, in a brief statement, two issues the literature review brought to attention. One relates to the phenomenology of perception Norberg-Schulz discusses having implication with the sense of place, which, in this case, relates to the child's identification with the learning environment and supports learning engagement. The other issue is at the core of the discourse on school architecture that addresses issues related to the social environmental context.

Nikhil Sharma, director, ken world school Banipark Jaipur:

Mr. Nikhil explained that he had been interested in Dowel's philosophy of education based on experimentation and practice.

The physical environment of the school, past the entrance, is an open space for about 70 students, grades 1 to 5. This "great room" gives access to several smaller rooms for office, library, crafts, kitchen, music and dance.

The school practices a progressive educational approach to teaching and learning. Student creativity is encouraged. Within the open space several teachers address different classes and different grades. Students seat at scaled-down tables reminiscent of the "kitchen table" at which many of them will do work at home. These tables are all of the same size, but are painted in different colours that are easy to move around for their arrangement in clusters or independent learning spaces. A number of more enclosed working stations are also arranged in the space, mainly along perimeter walls. I did some observation during classes. The noise level is noticeable, and a student noticed that the noise could be distracting. However, all children appeared to be attentive to teachers, participating in group sessions, or concentrating on their individual activities. The environment, is that it gives a distinct sense of place empowering the occupants. The school performance, by educational outcomes, is rated good to excellent.

Conclusion of interviews:

A commonality observed through the interviews is that the sense of place tends to associate with the social environmental context, a major component of the school climate.

An intriguing hypothesis derived from the experience of interviews, and related observation of learning environments, is that the physical environment is definitely an important component of effective learning environments, but is not characterized by commonalities. Indeed, the bigger differences I observed among the schools where I interviewed educators are in the physical context of effective learning environment.

It justifies the hypothesis that commonality, or a set of standards, in the physical context of the environment is not a requirement to guarantee the effectiveness of the learning environment.

Case study on children's academy Banipark, Jaipur:



children's academy Banipark, Jaipur, for nursery to intermediate students was built in 1990. Designed by the firms of akalpan architect Jaipur, its most important feature is that it is the architectural expression of Dowel's progressive educational philosophy based on the children's need of self-expression, the development of their attitudes, and their emotional and social adjustment.

The architects were successful in interpreting the needs of the children and meet the educational objective of the school district.

Each of the classrooms is organized as a self contained schoolhouse, adaptable to multiple learning situations, suggesting a reinterpretation of principles that informed the one-room rural schoolhouses of the last part of the 19th and the first half of the 20th century. Each classroom contains large sections of glass windows and walls, in order to admit natural light into the room and the hallway. Also, while small separate courtyards are accessible from each classroom, the articulation of spaces and moveable furniture, enhance the perceived quality of the place contributing to the experience an inviting and spacious learning environment.

The architects studied every detail of the built environment to address its fitness to children's size, from the height of door handles, to custom made seating, and tables that could be rearranged for individual study or group learning activities.



Tajimi Jr. High School, Japan

From Japan is a case of the evolving discourse on school architecture. Tajimi Jr. High School, located in the town of Tajimi-shi, Japan is the result of a concerted effort of the town community, the school district, and the architect to create an environment centered on the learners' experience. The school occupies 113,000 sq ft of floor space. The school that was designed by the architectural firm Atelier Zoo, based in Tokyo, was completed in 2001. Figure 4.6 illustrates the site of the school surrounded by plants and a public park with a large pond. Also noticeable is the area devoted to sports in the lower section of the plan, and the parking area, placed in the upper left corner of the plan. Within the green boundaries of the campus, the configuration of the campus gives the perception of a walking village.

The core of the complex is made of two rows of three-floor buildings, separated by an extended courtyard with a space for new planting. The courtyard is an extension of the public park, which is accessible through the bridge on the little pond on the right of the plan. Covered walkways allow pedestrian circulation all around the complex.

According to the architect, the intention (resulting from the collaborative planning process) was to create an environment that would give students the opportunity of a multi-sensory experience of nature, materials, forms and scales, codirection of inside and outside spaces. For example, the courtyard is to experience shades, the rain, winds, sounds and silence. The site and buildings, even the roofs, are covered with plants and gardens. All around there are benches, and small corners for people to seat and relax. The place suggests observation, touch, and understanding of forms and scales. It inspires a feeling of freedom, as a counterpoint to traditional boxlike classrooms in which body and mind are confined. Learners will choose some favourite place that will become part of their school memories.

A major point of the building program is the adaptability to day-to-day changes of pedagogical objectives that is reflected in the design of the classrooms' module, or "house" as it is called

The house contains two classrooms, a multipurpose space in between, and an extended space called the "alcove". For lectures, a classroom is used, and for group activities, which require more space, a classroom and a multipurpose area are united. For art, science, and home economic

classes, which usually require specialized rooms, a sink in the alcove provides possibilities for some light work. The "house" sustains activities.

for different subjects and it is expected to be a center for extended research projects. Finally, the house gives access to an outdoor covered space with water and various furnishings. In different ways, the Tajimi school combines established principles of an effective physical context of learning environments with an improved approach to multiple learning situations in a classroom space. The declared intention about the importance of students' integrated daily experience of living and learning in the school environment, such as the contact with nature, and the planned alternating use of indoors and outdoors, could be codirected with principles expressed by the pioneering example of Crow Island School's environment. Koji Ado, former principal of the school, did acknowledge that after the completion of the school "students have bright expressions on their faces... they are living in a nice atmosphere", and that students were involved in the planning. Again, Mr. Ado stated: "To realize requests of the students, some arrangements were made during planning. For example. to renew an image of school restrooms they were designed in a bright and new style.

Conversely, the concept of articulating various spaces in the paired classrooms' modules called "houses" was intended as an innovative improvement to multiuse classroom organization. This type of solution appears to offer a great deal of adaptability to active learning approaches and variable number of students in a class. Although there are no available data on its effectiveness, the solution could deserve a place in the discourse of school architecture for the study of new learning environments.

Concluding the research

In the course of developing this research the expression learning environments has evolved from its original meaning related to the architectural language. Intended as an architecture of the school's physical environment for supporting a learner-centered pedagogy, the dissertation has become a learning journey in itself across a widening linguistic landscape. The concept of learning environments, when seen through multiple perspectives, such as those of education, cognitive science, architecture, and environmental psychology, loses sharpness and gains dimension. The deeper understanding of learning environments is beneficial to all interested parties, architecture, education, and the community of stakeholders. This understanding facilitates the discourse among the stakeholders, especially educators and architects, who are involved in the process of planning a facility, building it, and making it the sustainable instrument of an optimal learning experience.

As the concept of learning environments has widened, so is that of architecture. using the term architecture as in "teaching and learning architectures" is a good example of linguistic appropriations that, as in the case of learning environments, hints of the trend toward mutual understanding and purpose between disciplines.

Evidence from research literature, theoretical works, interviews, and exemplar case studies has revealed that the nature of the problem of finding a relation between schools, learning environment and students' learning engagement is a complex issue subject to several interdependent variables. What is needed is to assess and redefine the discourse on school architecture in relation to changing approaches to teaching and learning. In other word, it is necessary to address and understand the specific educational environment at both, the national and the local community levels, the structure of pedagogy, and the meaning of learning as perceivable by the learners today. As the literature review shows, research in education and architecture debates arguments that support learner-centered, constructionist approaches to learning leading to reform. The general diffusion of such a reform in public school systems would have a huge social impact because the control of education would presumably be more decentralized in order to be effective.

Furthermore, the study has also identified the importance of the social environmental context in relation to learning, as confirmed by environmental psychology and research on school climate. Although the physical environment is a component, school climate relates in great part to the social environmental context. Ultimately, findings confirm the importance of the research of an environmental approach to school architecture addressing both, the physical as well as the social contexts

Resources:

1. <https://ibo.org/contentassets/4217cb074d5f4a77947207a4a0993c8f/rules-for-ib-world-schools-dp-en-2018.pdf>
2. <https://www.cbse.gov.in/cbsenew/infra.html>
3. <https://indiaeducationdiary.in/school-infrastructure-impact-child-development#:~:text=Buildings%20classrooms%20labs%20and,dropout%20statistics%20among%20other%20benefits>
4. The Impact of School Infrastructure on Learning, By- peter barrett.
5. Architects' Data, Book by Ernst Neufert
6. edutopia.org/
7. <https://www.ted.com>
8. <https://www.who.int/news-room/fact-sheets/detail/physical-activity#:~:text=Children%20and%20adolescents%20aged%205,least%203%20days%20a%20week.>
9. <http://www.designshare.coni/index.php/projects/tajimi-junior-high>



AMITY SCHOOL OF ARCHITECTURE AND PLANNING (ASAP)
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Dissertation Report

UTOPIA IN URBANISM

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GREEN SKYSCRAPERS

B.ARCH. DISSERTATION REPORT

By

ADITI KHANDELWAL

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2021

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DECLARATION

I, **ADITI KHANDELWAL**, student of fifth year, 9th Sem. (2017-21 Batch) of *five years Bachelors of Architecture Degree Programme* of **Amity School of Architecture & Planning, Amity University Rajasthan**, hereby confirm that this dissertation entitled **"GREEN SKYSCRAPERS"** submitted for the partial fulfillment of the Degree of Bachelor of Architecture is my own work and only 20 percent of the matter into the report is being referred from the outside sources.

I also confirm that I have not submitted this work for any other Degree/ Diploma/ Certificate.

Dated: 10/12/2021

Place: Jaipur

ADITI KHANDELWAL

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RECOMMENDATION

I hereby recommend that the Dissertation Report entitled **“GREEN SKYSCRAPERS”** has been prepared by **ADITI KHANDELWAL**, student of the fifth year, 9th Sem. (2017-21 Batch) of *five years Bachelor of Architecture Degree Programme* of **Amity School of Architecture & Planning, Amity University Rajasthan**, under my guidance. The report may be accepted as requirement for the partial fulfillment of the Degree of Bachelor of Architecture.

Dated: 10/12/2021

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Ar. Prashant Vijayvargiya

Dissertation Coordinator

Dr. Anurag Varma

Director, ASAP-AUR

**A
DESSERTATION
REPORT
ON**

**APPLICATION OF BIO MIMICRY IN CREATING ENERGY-
EFFICIENT FACADES**



AMITY SCHOOL OF ARCHITECTURE & PLANNING

AMITY UNIVERSITY, RAJASTHAN

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**POTENTIAL INFLUENCE OF COURTYARDS IN
ENERGY EFFICIENCY OF OFFICE BUILDINGS IN
HOT-DRY CLIMATE**

B.ARCH. DISSERTATION REPORT

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DESIGN OF SHOPPING MALL IN POST

COVID SCENARIO

Dissertation Report

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DISSERTATION REPORT
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DISSERTATION REPORT

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