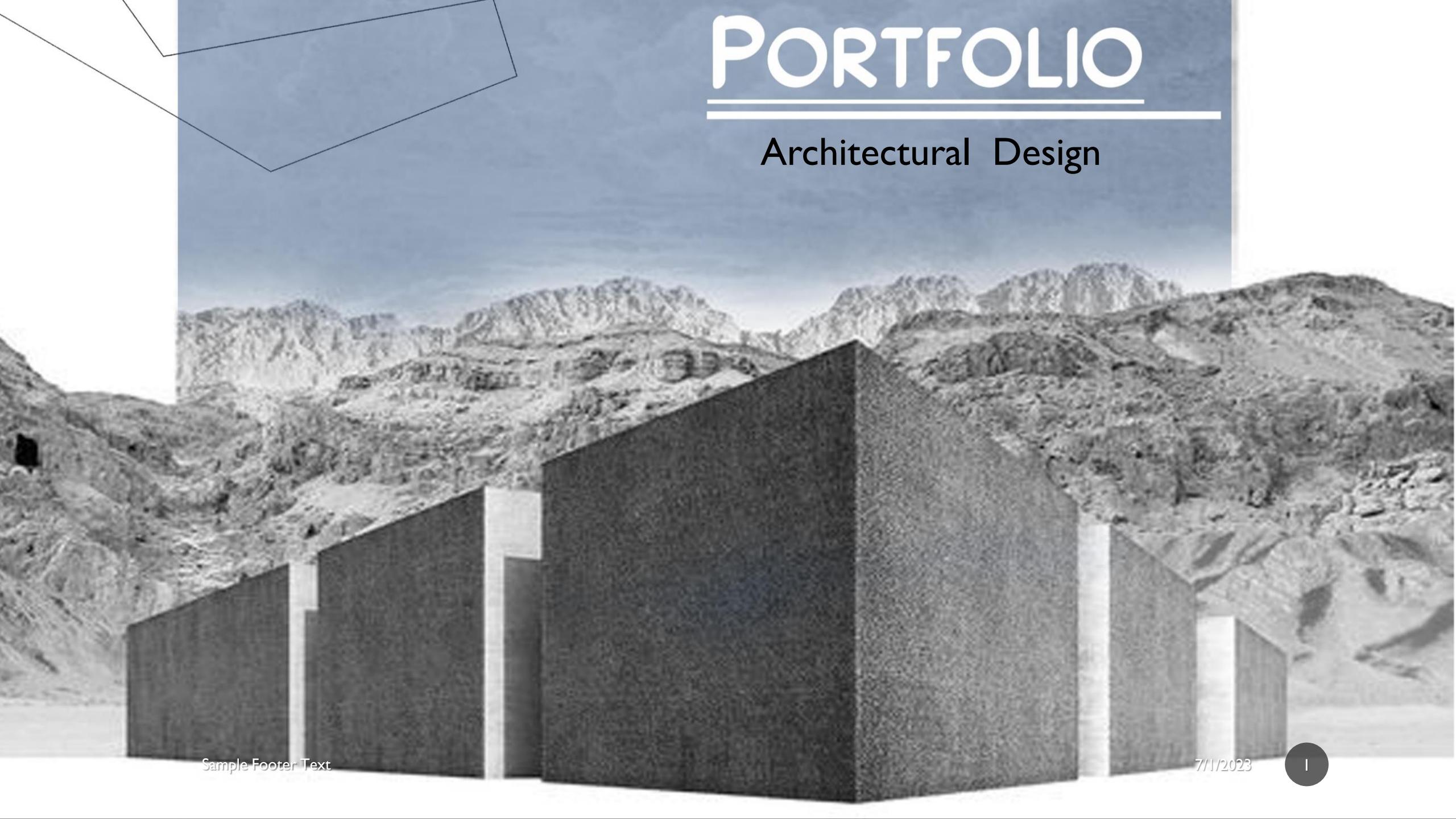


# PORTFOLIO

Architectural Design



# PROFILE INFO

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**Email id:**

[rgoyal3035@conestogac.on.ca](mailto:rgoyal3035@conestogac.on.ca)

**LinkedIn:**

<https://www.linkedin.com/in/radhika-goyal-a89b64216>



# RESUME

## Education:

- Bachelor In Architecture Planning and Design  
Dit University, India -2013-2018
- Certificate in Construction Management  
Conestoga College, Waterloo, ON -2023-2025

## Experience

Architectural Manager,  
Vishal Dhiman Designs, Dehradun- 2020-2022

Assistant Architect,  
Macziom Architects, Delhi – 2019-2020

## Hard Skill:

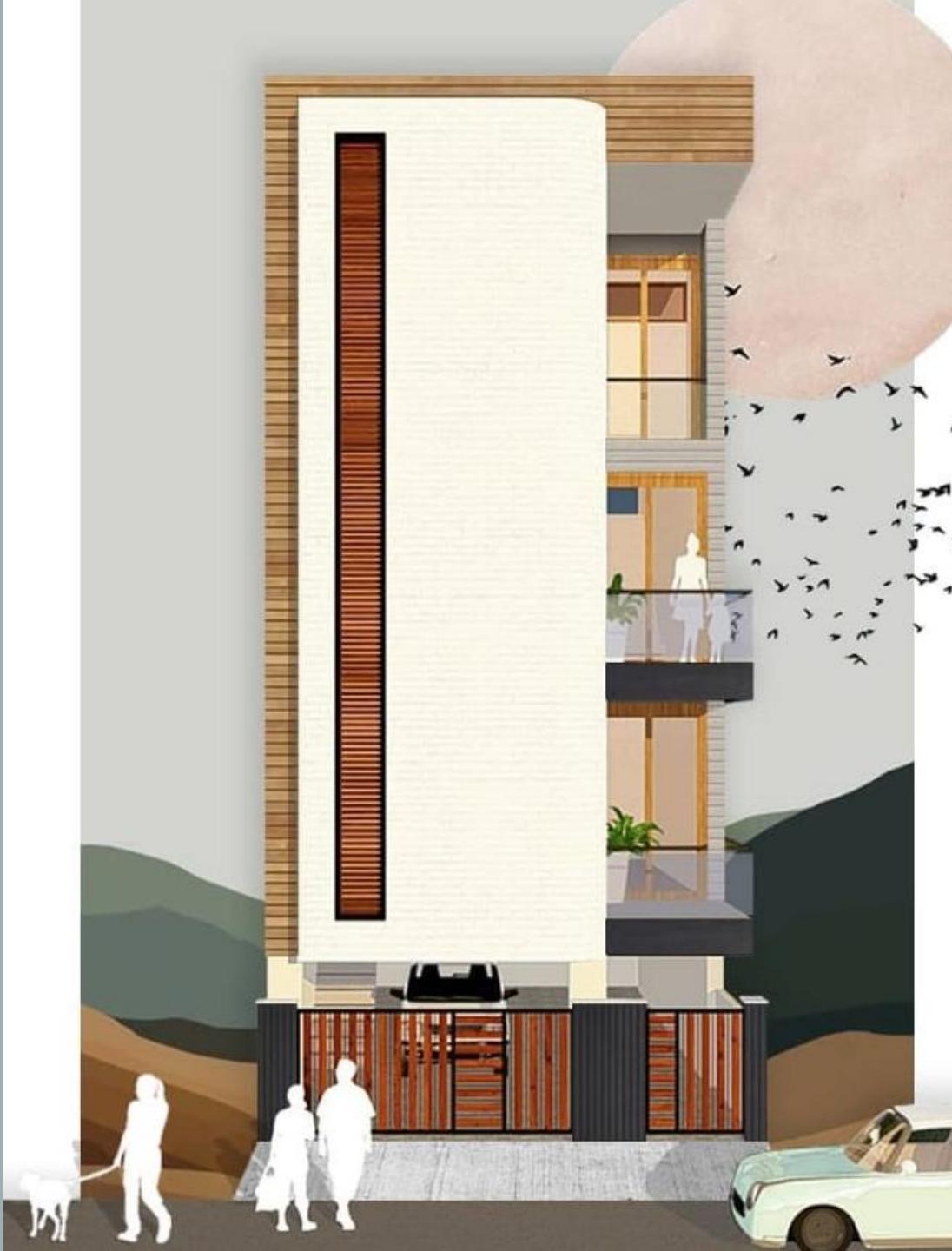
- Proficient in AutoCAD, 3D Modelling Photoshop, Adobe Illustrator, Microsoft Suite, and Outlook

## Soft Skill:

- 4 years of experience in architecture planning
- Demonstrating a solid understanding of residential and commercial spaces
- Knowledge of Construction building and material
- Communication skills.
- Effective time management skills
- Confident, eager to learn, and strong professional work ethic.
- Strong research and writing abilities with a talent for presenting information clearly.

# CONTENT

- URBAN DESIGN PROJECT
- WOMEN DEVELOPMENT CENTRE PROJECT
- RESORT DESIGN
- OTHER ACTVITIES



# URBAN DESIGN

The redevelopment of sustainable housing with recreational spaces around the river song suited at Jharkhand, Rajpur Road, Dehradun. Through site survey and Swot Analysis, we identified the major causes and impacts on the environment and neighborhoods. Hence, we proposed a new design scheme comprises of changes required for sustainable living.

# SWOT ANALYSIS

## Character & Identity



### Farmlands



### River Song



### Canals



## SWOT Analysis

### Strength

#### Agriculture

More than 85% land is under Agriculture that helps retain the softscape of the site.



85%

Agricultural Land

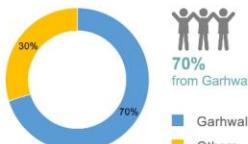
#### River Song

One of the two flourishing rivers of Doon, Song flows adjacent to the site.



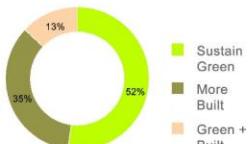
#### Cohesive Community

Close to 70% families are Garhwali migrants sharing mutual regards for each other.



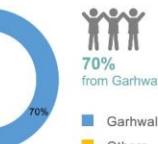
#### Modest Lifestyle

While most families find the available infrastructure sufficient only 35% families feel need for more infrastructure than also mostly in form of better roads, street lighting, hospitals and schools.



#### Low Population Density

With the population density being as low as 5.05 people per acre, the ill effects humans cause to environment are still low.



5.05

People per acre

### Weakness

#### Public Transport

Poor and inadequate Public Transport Facility.



#### Street Lighting

Poorly lit street lights for where they are available while most part of the site has no lighting at all.



#### No Community Space

Total absence of parks and any other community space.



#### Disregarded Canals

Several new construction have their drain outlets in canals while traces of garbage are also frequent in them.



#### No Grabage Disposal

Several new construction have their drain outlets in canals while traces of garbage are also frequent in them.



#### Flood Irrigation

It is an unsustainable practice that consumes almost 50% more water than what crops require.



### Opportunity

#### Economy Through Agriculture

By increasing the productivity and growing crops in demand in the market an Agro base economy can be developed.



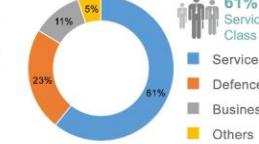
#### Agrotourism

The agrarian landscape can be promoted as a new experience for urban population of doon and neighbouring cities.



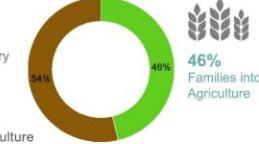
#### Service Class Society

Agro based economies should find acceptance by the community for they will create job opportunities for the dominant 61% service class families.



#### Agrarian Community

46% families practice agriculture as a part of lifestyle that can be the service provider and primary beneficiaries of agro base economies.



#### Abandoned Factory and the Forest Belt

The factory can be given an adaptive reuse for an agro base industry. The factory along with the forest can be a key feature if agro tourism is developed.



### Threat

#### High Development Influx

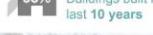
This high influx could completely deplete the character of the place if not governed. Unrestricted growth can bring song to the same fate of Bindal and Rispuna.



21% Buildings built in last 2 years



37% Buildings built in last 5 years



53% Buildings built in last 10 years

#### Depleting Agriculture

There is a prevalent changing land use from Agriculture to Residential with fragmented farmlands and agriculture bringing in no money for the community.



#### Elephants

There are frequent incidents of crop raiding and property damage by elephants. It puts both the human and the elephant at risk.



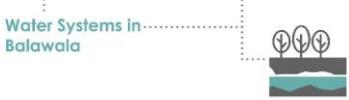
## Design Proposals

### Objective



#### Conserving Water Systems

Water Systems in Balawala



River Song ..... Conserving Song .....

Irrigation Canals ..... Conserving Canals .....

Ground Water ..... Conserving Ground-Water .....



River Song ..... Conserving Song .....

Irrigation Canals ..... Conserving Canals .....

Ground Water ..... Conserving Ground-Water .....



Sustain Softscape (Agriculture)

Generate Economy through Agriculture / Soft

Introducing Agrotourism



Prevent Settlements Encroaching the River Banks

Sustain Softscape (Agriculture)

Generate Economy through Agriculture / Soft

Introducing Agrotourism



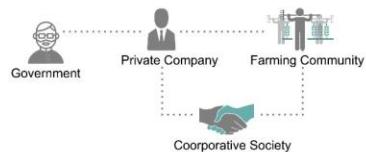
# DESIGN SCHE ME

## The Design Scheme

### PPP Model and Cooperative Society

The scheme is undertaken as a PPP Model. Government gets a certain royalty for the project while the Private company takes over the project for execution and its smooth functioning.

The private company forms a cooperative society with the farming community and itself as its members.



### Phase I (0 to 1st Year)

Calculating Investment for Phase II  
Land Pooling & Restructuring Farmlands  
Selling the Acquired Land

### Phase II (1st to 2nd Year)

Selling Integrated Organic Farming  
Setting up Drip Irrigation  
Setting up Community Space and Training Centre  
Setting up the Palmyra Fence

### Phase III (5th Year to 6th Month of 6th Year)

Starting Aloe Vera Farming  
Setting up Aloe Vera Storage  
Selling the First Harvest (14 months after Planting)  
Setting up the Food Bank

### Phase IV (6th Month of 6th Year to 8th Year)

Selling the Second Aloe Vera Harvest  
Collection of Food Harvest  
Equitable Distribution of Food Harvest  
Equitable distribution of Profit from the Aloe Vera Sales  
Setting up Infrastructure for Tourism  
Project Completion

### Phase V (Project Completion at 8th Year)

Selling the Second Aloe Vera Harvest  
Collection of Food Harvest  
Equitable Distribution of Food Harvest  
Equitable distribution of Profit from the Aloe Vera Sales  
Setting up Infrastructure for Tourism

### Phase V (Project Completion at 8th Year)

Free Collection and Distribution of food crops from food bank  
Free distribution of Vermicompost, Milk, Biogas  
Equitable Distribution of the Revenue Generated from selling of:  
Aloe Vera  
Extra Food Crops  
Extra Milk  
Fruits

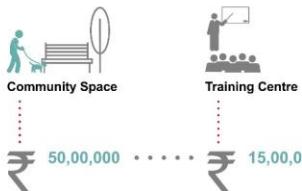
## Phase I

### Calculating Investment for Phase II

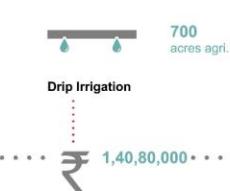
#### Setting up Integrated Organic Farming



#### Setting up Community Space and Training Centre



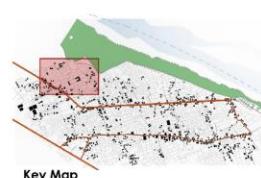
#### Setting up Drip Irrigation



#### Setting up Palmyra Fence



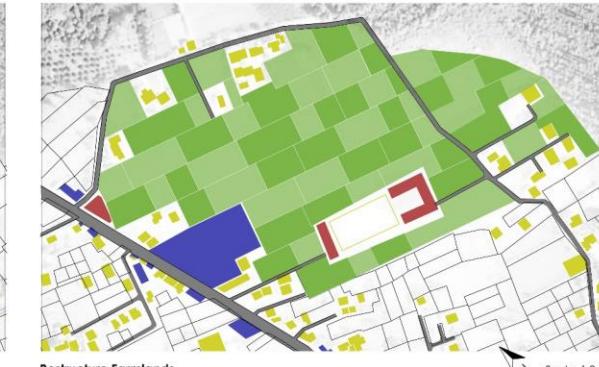
### Acquiring Money for Phase II



Land Pooled adjacent to the Main Road to get Higher Returns.

Land Pooled at the starting of the site so that the commercial building to come up does not interrupt the character of the place.

The farmers pooling the land will get an annual monetary return along with interest.



64 Farmlands  
Restructured

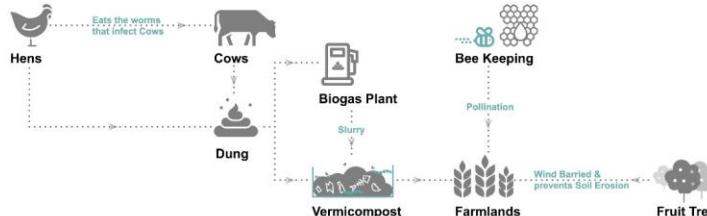
Scale 1:3,500

# DESIGN SCHEME II

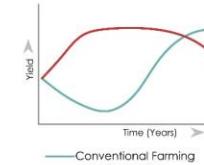
## Phase II

### Integrated Organic Farming

#### The Network



#### Benefits



The yield of organic produce fall for the first 3-4 years and then rise to around 30% more than conventional produce.

The conventional farming gives immediate boost in the beginning years, but depletes the soil with time.

Figurative comparison of Organic Yield v/s Conventional yield

#### Area Requirement & Cost Benefit Analysis

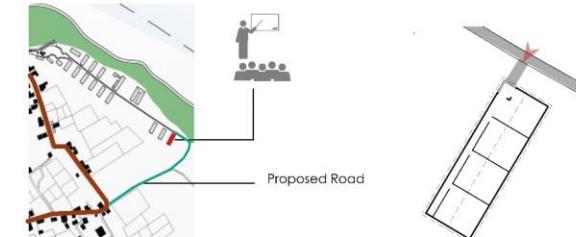
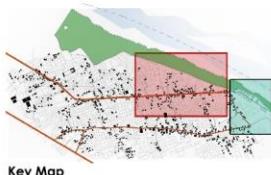
	250 Cows	1000 Hens	Biogas	Vermicompost	Bee Keeping	Fruit Trees
Area	3,000 sq.m	100 sq.m	500 sq.m	1 acre	0	1 acre
Recurring Cost/yr	36,96,000	1,05,000	1,45,000	39,60,000	3,30,000	0
Profit/yr	19,14,000	2,80,000	72,800	1,58,40,000	3,50,000	0
Total Area				11,700 sqm		
Net RecurringCost				82,36,000		
Net Profit						1,84,56,8000

#### Drip Irrigation

##### Benefits

- 40-50% less water consumption
- Improved Growth
- No Soil Erosion
- Consistent long supply of water nourishes plants better. It causes no Soil Erosion unlike flood irrigation.

#### Land Pooling for the Setup



#### Training Centre



400 Farmers  
120 Sitting Capacity  
365 sq.m Gross Area

#### Community Space



400 Sitting Capacity OAT  
3,000 sq.m Gross Area

#### Palmyra Fence



Barassus flabellifer  
Scientific Name

8 Years  
Growing Age  
100 Years  
Life Span

Its an Sustainable bio fencing technique evolved in Sri Lanka that successfully mitigate Elephant Human Conflict



Existing Farmlands

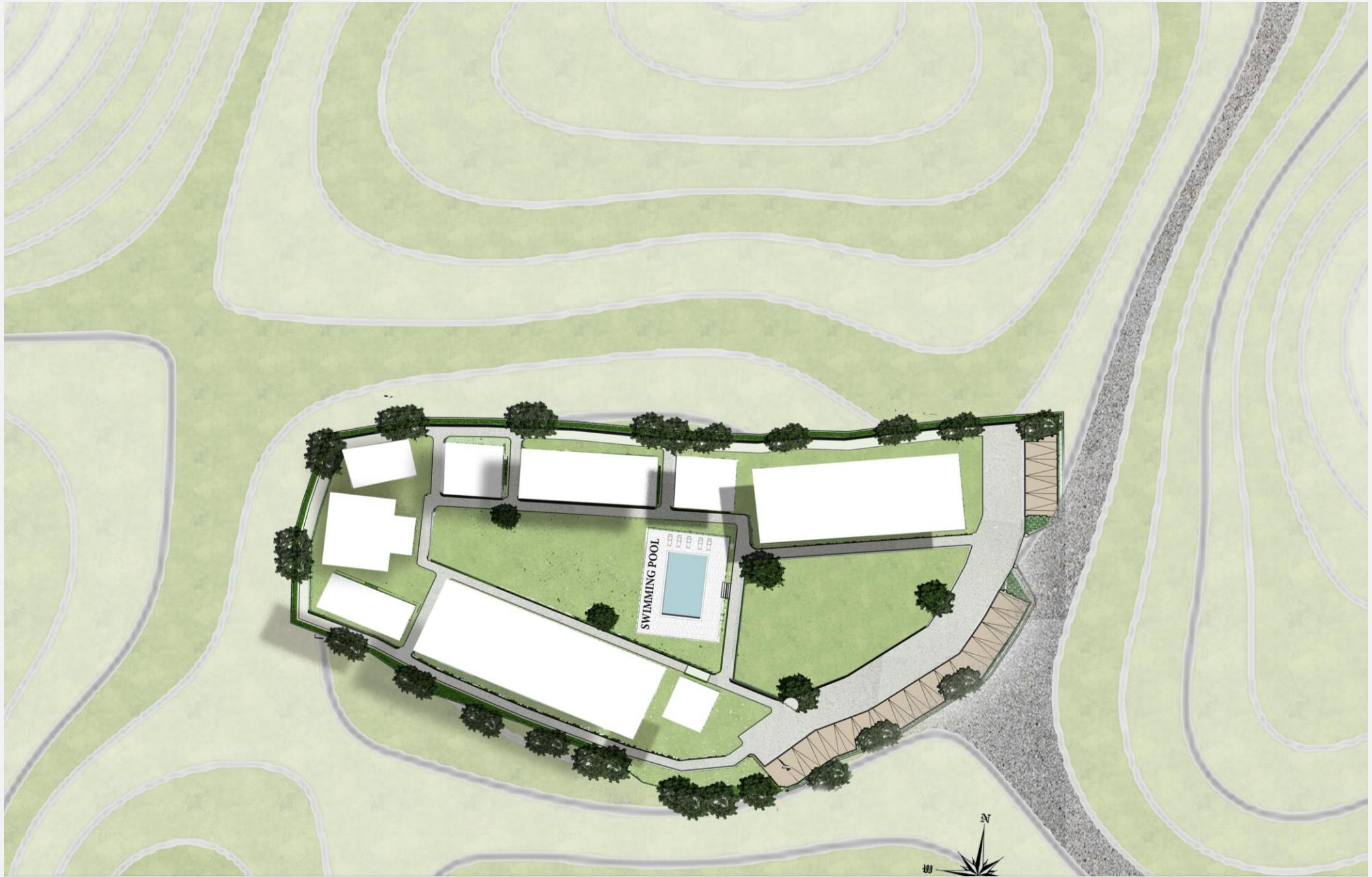
Farmlands After Restructuring

Scale 1:3,500

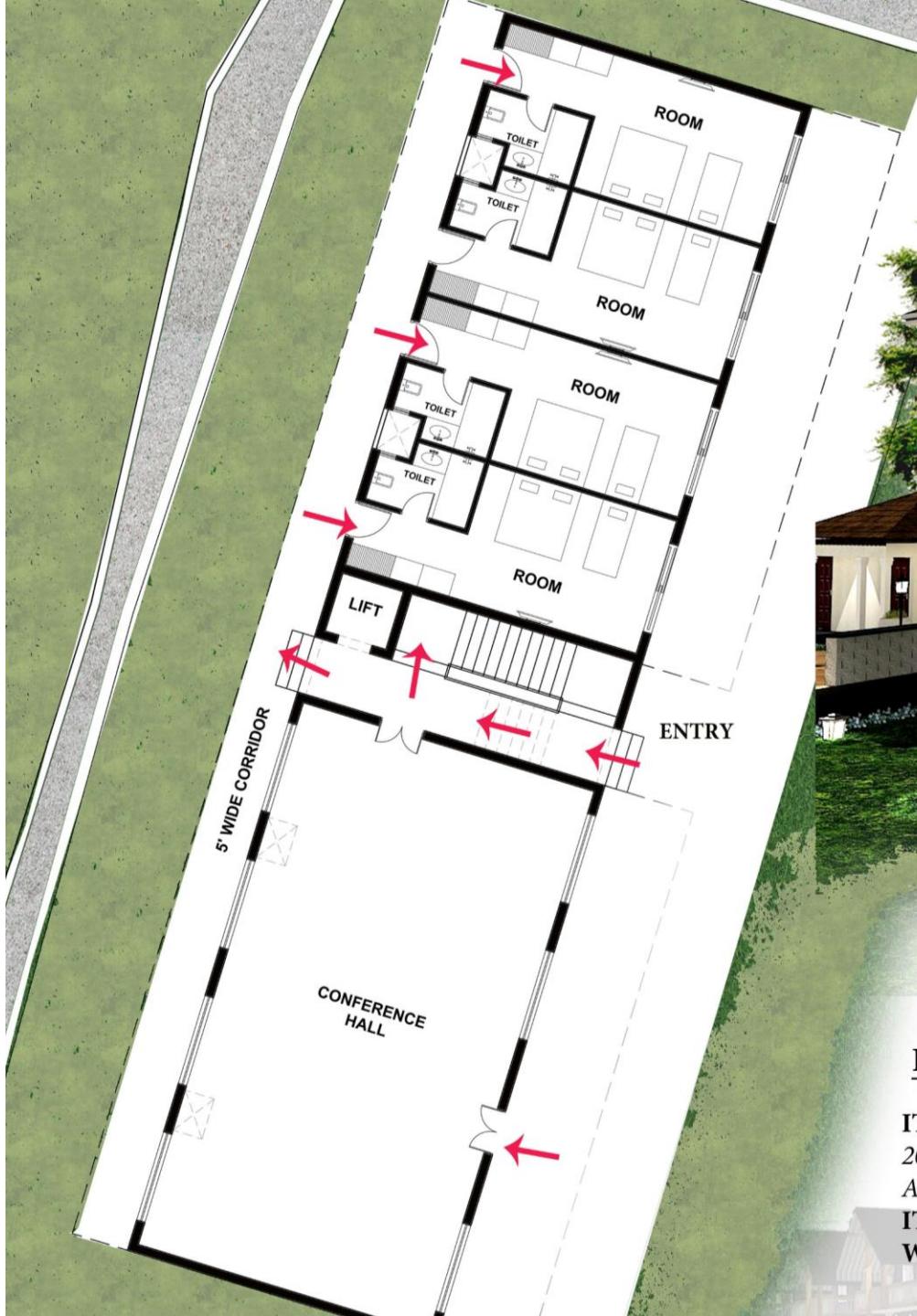
# RESORT

A resort design proposal for a private owner at Mussoorie( hilly area), Uttrakhand. The project requirements cottages, a banquet hall, an outdoor recreational space, a kitchen, a parking lot, and a swimming pool.

S - T E  
P L A N



# 3D MODELING



## HOTEL

IT CONSIST OF:  
20 BEDROOM SET WITH ATTACHED TOILET  
A CONFERENCE HALL ON GROUND FLOOR  
IT IS ALSO DESIGN IN COLONIAL STRUCTURE  
WITH UPVC DOOR AND WINDOW AND PITCHED ROOF

3D  
M O D E L L I N G

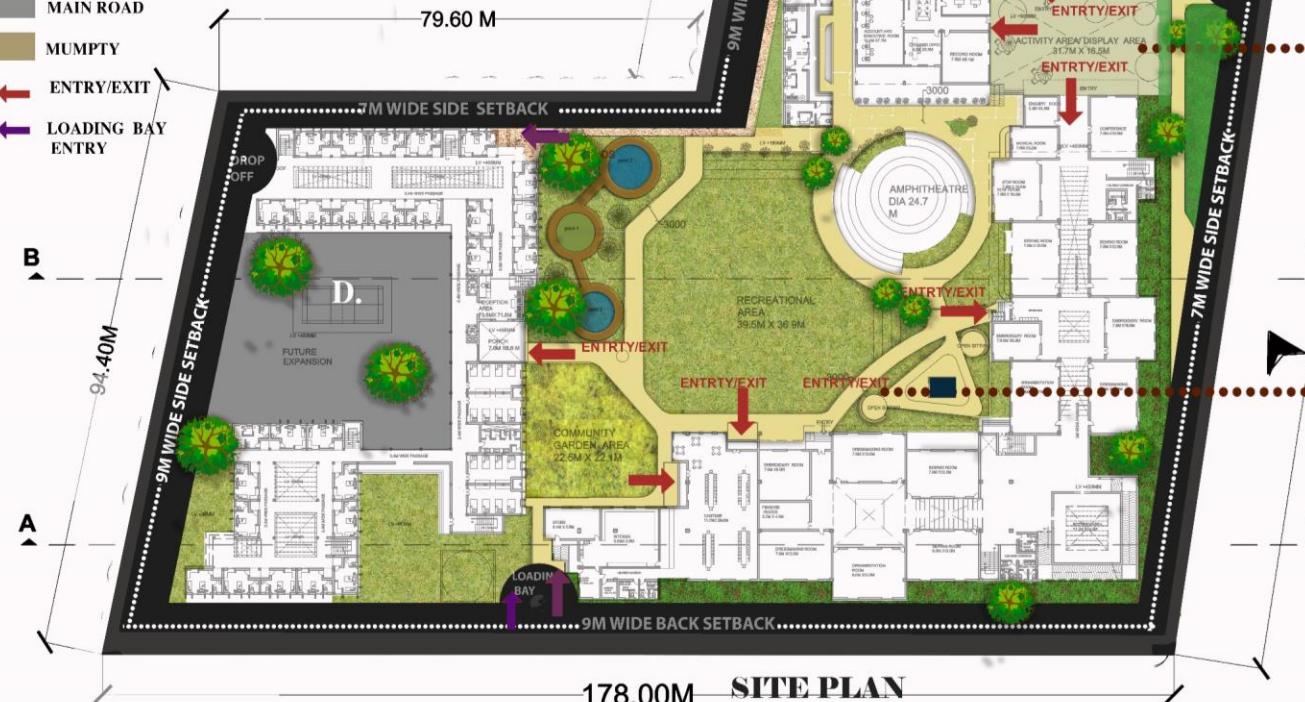


# WOMEN DEVELOPMENT CENTER

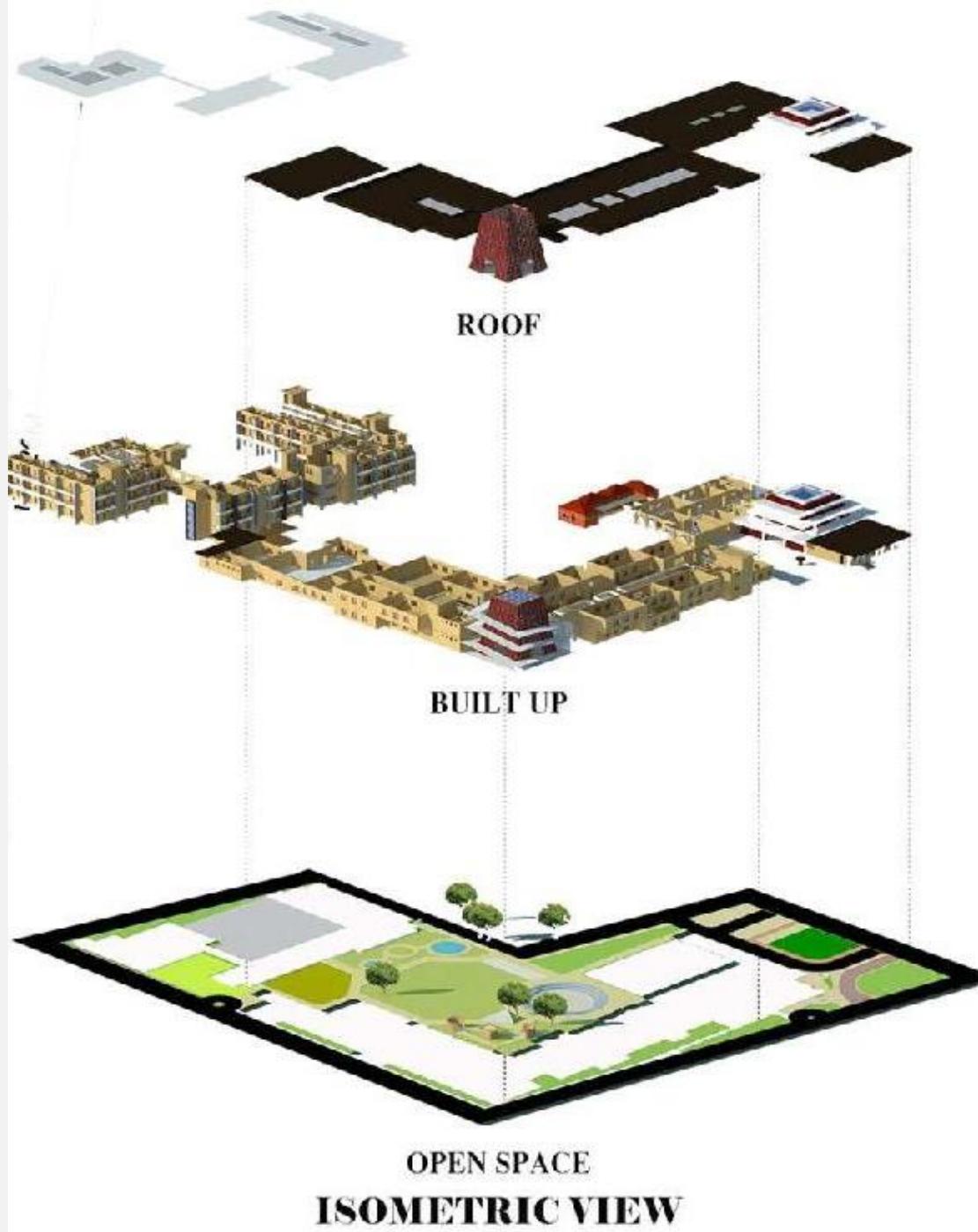
It is the thesis project which revolves around the need for a women's personal development center in Vrindavan, India with an area of 36346.2 SQM. It is developed by the government for the growth and welfare of homeless women. This center provides educational training programs such as stitching, packing, computer aids, farming, and crafting. Through the market analysis, it was identified a high percentage of women aged 40 and above are unable to work for their welfare and are homeless.

# SITE PLAN

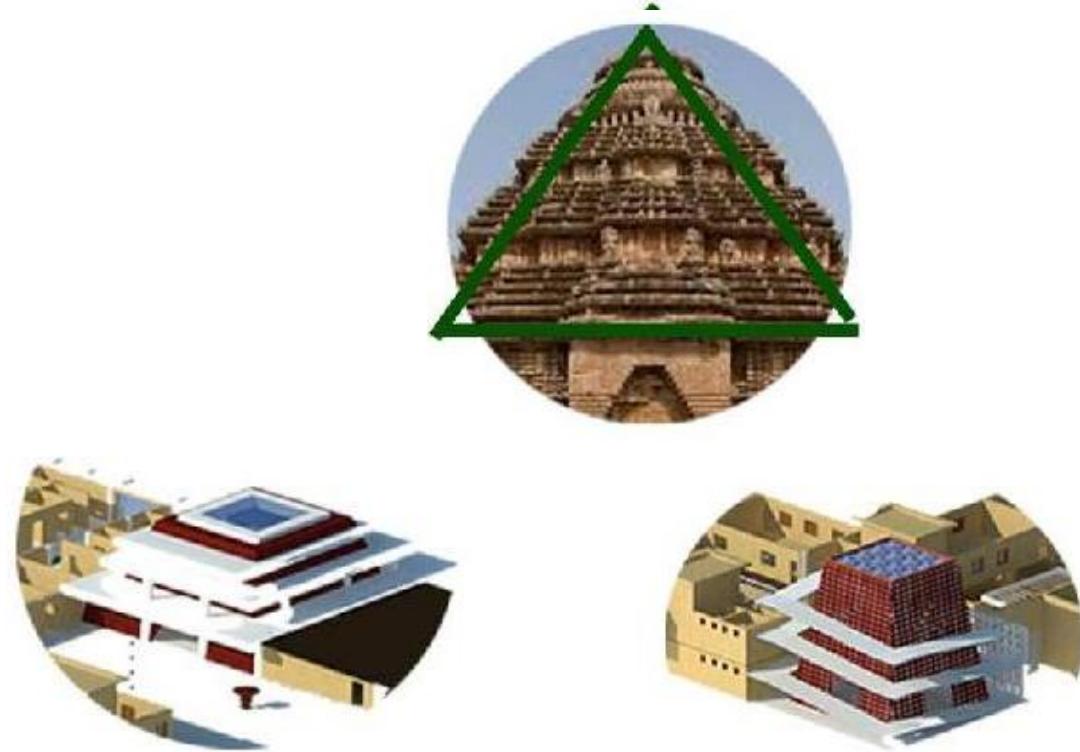
- A. ADMIN AND MARKET
- B. TRAINEE BLOCK
- C. CANTEN AND KITCHEN
- D. RESIDENTIAL UNIT
- E. GUEST ROOM



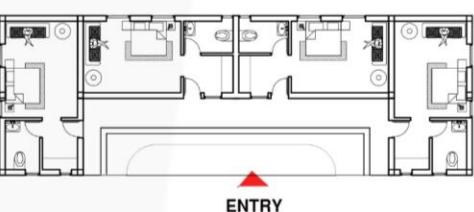
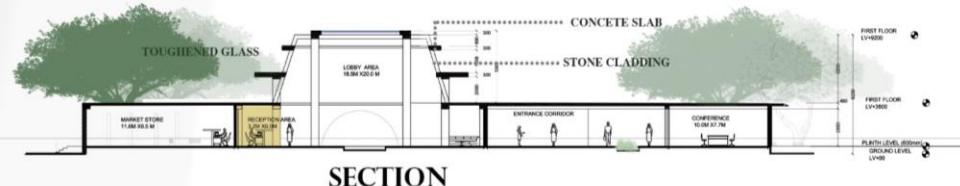
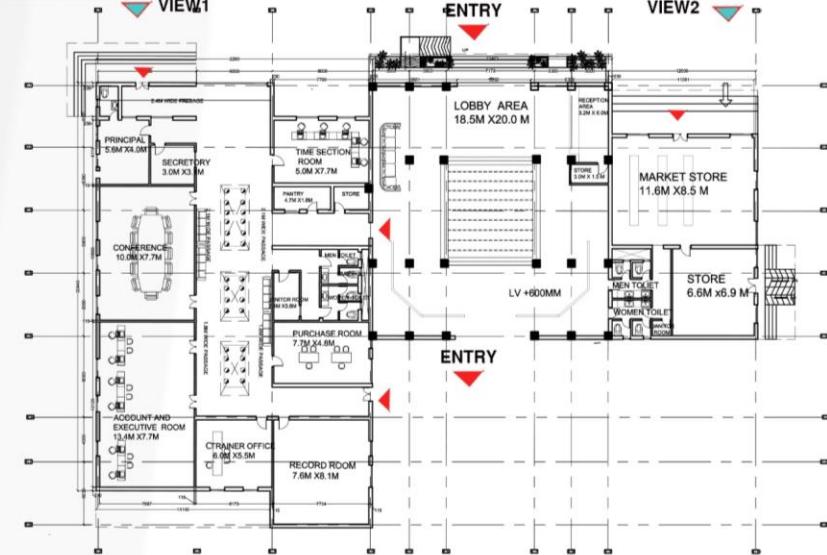
# 3D LAYOUT DESIGN



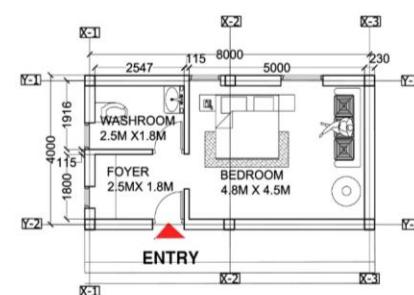
TRIANGULAR SHAPE DEFINES THE THREE PILLARS OF GROWTH AND DEVELOPMENT AND DEPICTS INDIAN ARCHITECTURE



# FLOOR PLANS



**GROUND FLOOR PLAN**  
LAYOUT OF GUEST HOUSE



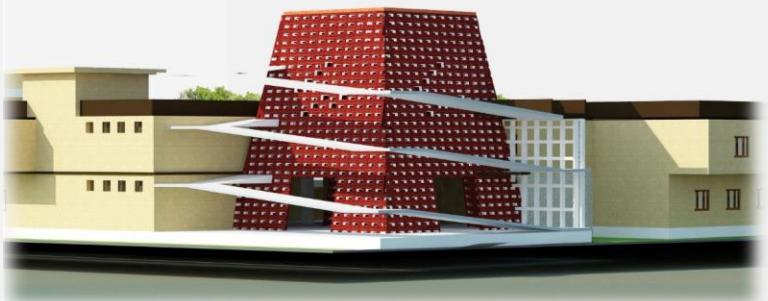
**GUEST HOUSE**  
8.3M x 4.3M



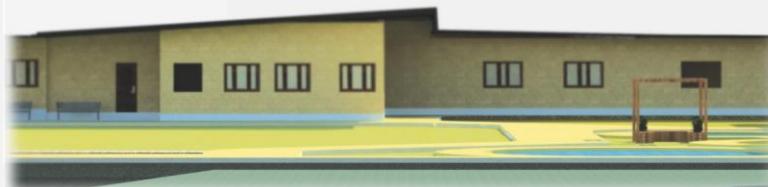
# FLOOR PLANS



**VIEW1- SECOND ENTRANCE**



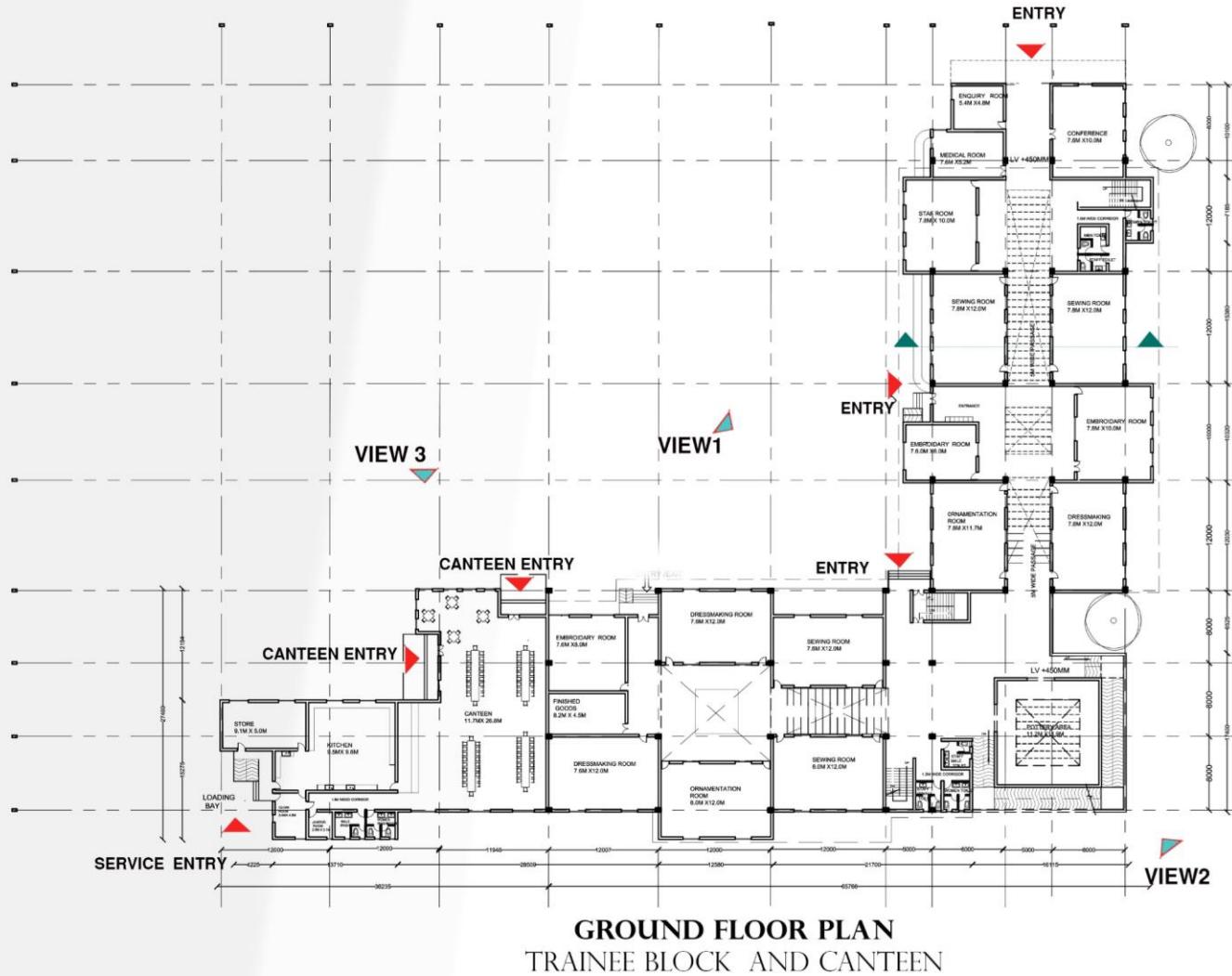
**VIEW2- POTTERY AREA WITH SURROUNDING RAMP**



**VIEW3-CANTEEN ELEVATION**



**VIEW4- LEFT SIDE ELEVATION**



**SECTION**

N

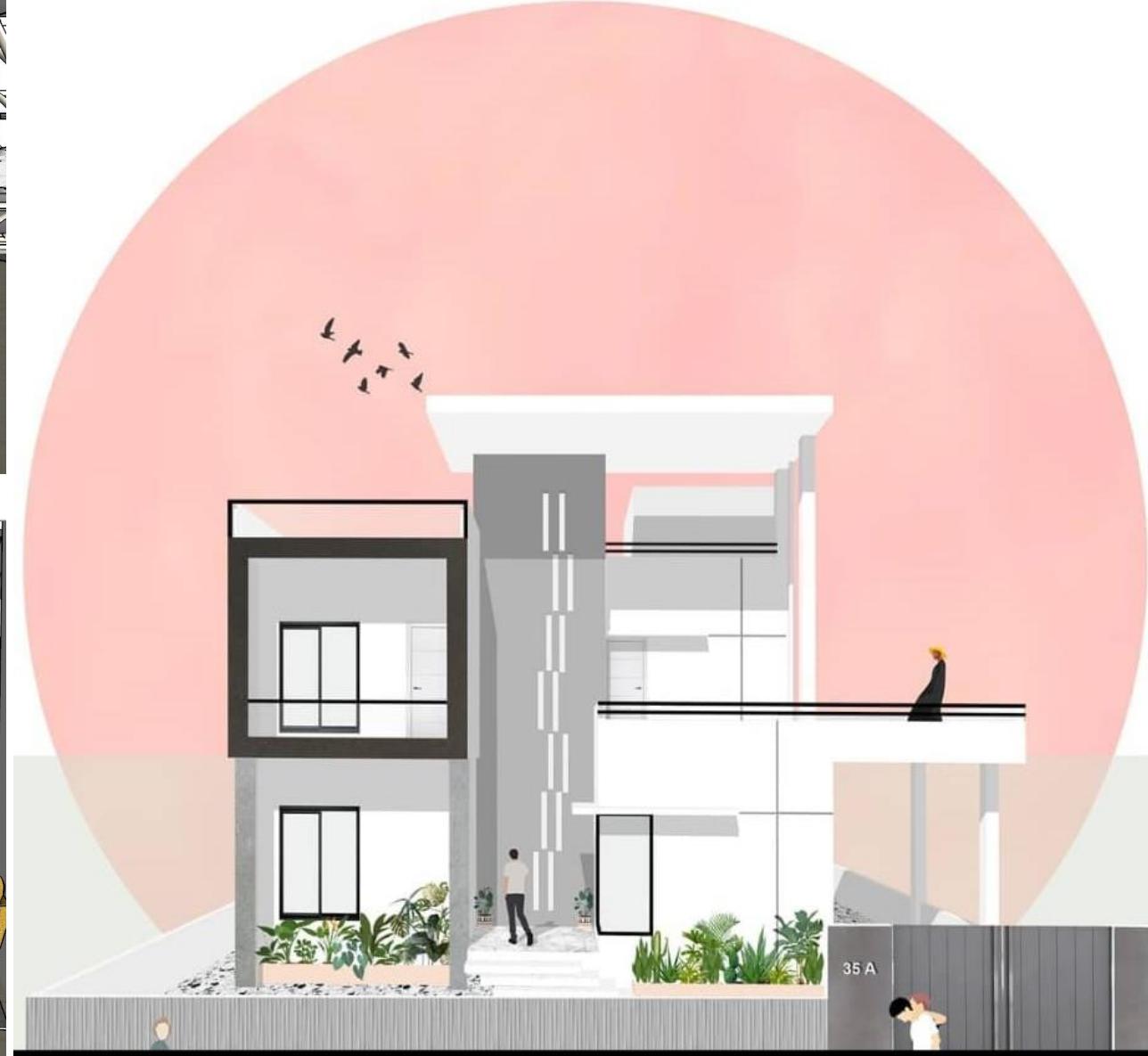
## OTHER ACTIVITIES

Illustration

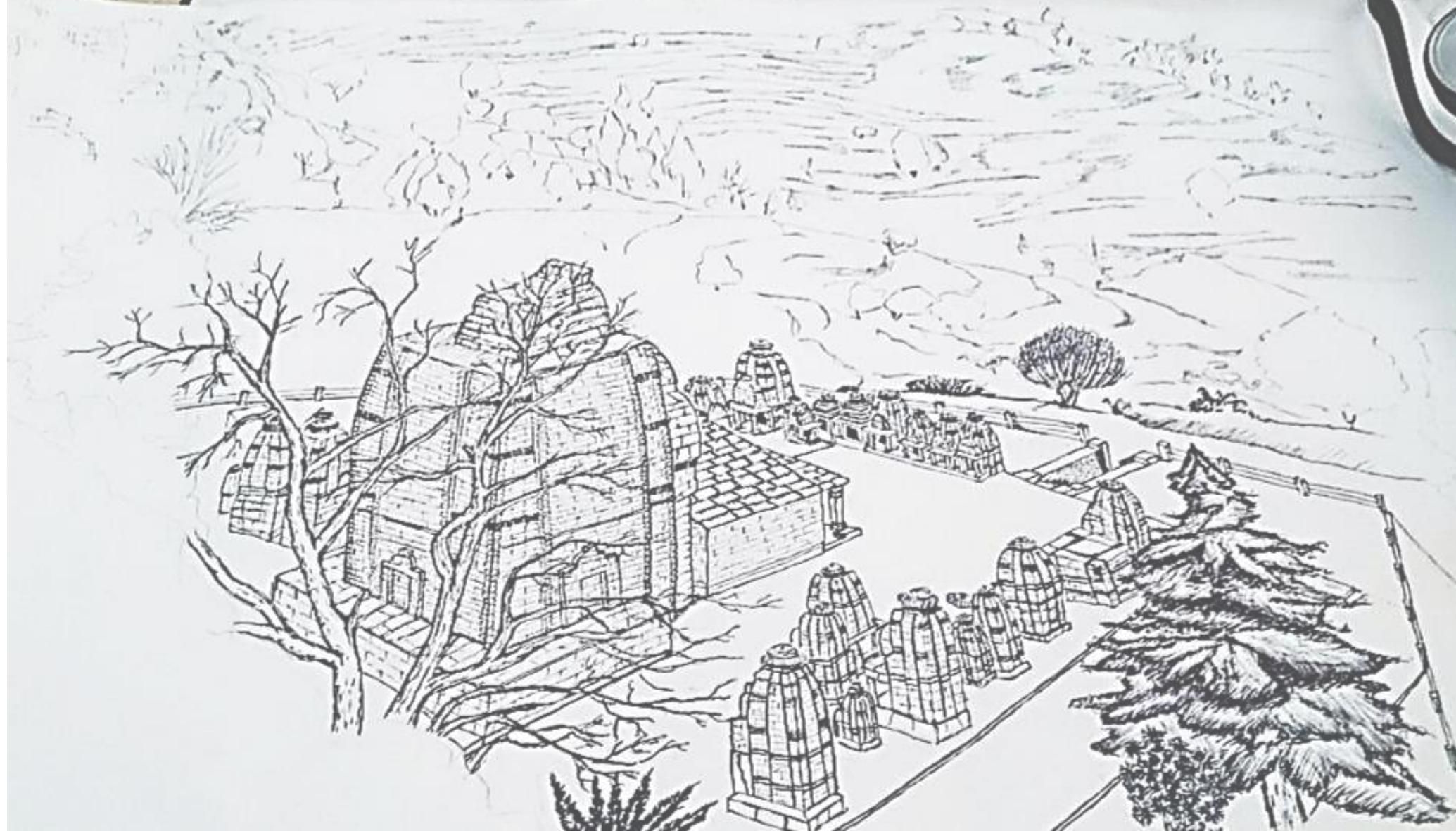
Model-making

Sketching

# ILLUSTRATION



# SKETCHING



# J O B R E F E R E N C E

**“Her confidence, easy-to-approach attitude, and high level of energy showed the qualities of a great team player and a leader. Her major achievements, I would like to mention is her coordination and communication with cooperative bodies.” Vishal Dhiman, Principal Architect of House of Vishal Dhiman Design Studio.**

# THANK YOU

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