



**K.R. MANGALAM UNIVERSITY**  
THE COMPLETE WORLD OF EDUCATION

Sohna Road, Gurugram


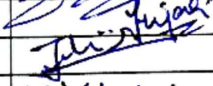
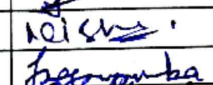
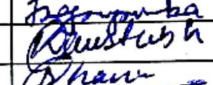
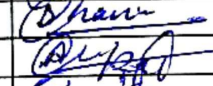
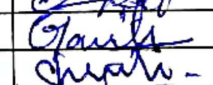
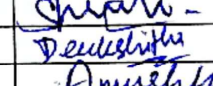
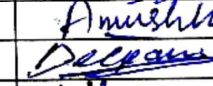
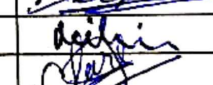
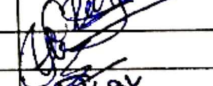
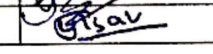






**"Revitalizing Community Spaces: A Comprehensive Design Proposal for the  
Ghamroj Community Center"**

SCHOOL OF ARCHITECTURE AND DESIGN Programme code: APAR217A

Project Guide: Ar. Praveen Gupta, Associate Professor, SOAD

## DECLARATION

We undersigned hereby declare that this Community Centre project report represents work carried out by Students of B. Arch 3<sup>rd</sup> Semester. We also declare that we have adhered to all the principles of academic honesty and integrity and have not misrepresented or fabricated or falsified any idea/ data / fact /source in our submission. We understand that any violation of the above will lead to disciplinary action by the Institute. The findings in this report are based sampling/survey/data collection / recording during the site visit, held on 25/09/2023 at Ghamroj Village, Haryana under the guidance of Ar. Praveen Gupta, Associate Professor, School of Architecture & Design.

S.No.	ROLL NO.	NAMES	SIGNATURE
1	2206160001	Tejas Singh	
2	2206160002	Anjali Sharma	
3	2206160004	Juhi Gupta	
4	2206160005	Nisha Bansal	
5	2206160007	Loyangamba Thongamcha	
6	2206160008	Kaustubh Sahai	
7	2206160009	Dhanvi Ranjan	
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9	2206160011	Garvita Kaushik	
10	2206160012	Shruti Upadhyay	
11	2206160013	Deeckshitha S.	
12	2206160014	Anushka Singh	
13	2206160015	Deepansh	
14	2206160016	Mihir Srivastava	
15	2206160017	C. Lalrinkima	
16	2206160020	Shubham Jangra	
17	2206160021	Utsav Singh	

B.Arch (APAR217A)

Date -25/09/2023

Place- Ghamroj Village, Gurugram, Haryana.

## CERTIFICATE

This is to certify that

Sr. No.	Student's Name	Roll Number	Place of Work	Duration of Site Visit
1.	Tejas Singh	2206160001	Ghamroj Village	One
2.	Anjali Sharma	2206160002	Ghamroj Village	One
3.	Juhi Gupta	2206160004	Ghamroj Village	One
4.	Nisha Bansal	2206160005	Ghamroj Village	One
5.	Loyangamba Thongamcha	2206160007	Ghamroj Village	One
6.	Kaustubh Sahai	2206160008	Ghamroj Village	One
7.	Dhanvi Ranjan	2206160009	Ghamroj Village	One
8.	Avinash Raj	2206160010	Ghamroj Village	One
9.	Garvita Kaushik	2206160011	Ghamroj Village	One
10.	Shruti Upadhyay	2206160012	Ghamroj Village	One
11.	Deeckshitha S.	2206160013	Ghamroj Village	One
12.	Anushka Singh	2206160014	Ghamroj Village	One
13.	Deepansh	2206160015	Ghamroj Village	One
14.	Mihir Srivastava	2206160016	Ghamroj Village	One
15.	C. Lalrinkima	2206160017	Ghamroj Village	One
16.	Shubham Jangra	2206160020	Ghamroj Village	One
17.	Utsav Singh	2206160021	Ghamroj Village	One

Enrolled students in *Bachelor of Architecture (B. Arch) APAR217A* have satisfactorily completed the project title "*Revitalizing Community Spaces: A Comprehensive Design Proposal for the Ghamroj Community Center*" under the guidance of *Ar. Praveen Gupta, Associate Professor* of the subject "*Architectural Design –II*" *School of Architecture and Design*.

*This design proposal work represents their original work and the references given in the present report are authentic.*



Guide Name: Ar. Praveen Gupta

Department: Architecture



Dean Name: Dr. Tanaya Verma

School Name: SOAD

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## I. Introduction

"Vernacular architecture: where the wisdom of the past meets the innovation of the present, crafting a timeless dialogue between culture and construction."

In the tapestry of architectural design, the concept of **vernacular architecture** stands as a testament to the intimate dialogue between a community and its built environment. As we embark on this journey of crafting a community center in Ghamroj, we find inspiration in the rich tapestry of vernacular styles that have shaped diverse communities across the globe.

Our exploration began with a literature study through the architectural narratives of various states, unraveling the stories woven into the very fabric of their buildings. This literary study served as a prologue to our deeper understanding of vernacular architecture—where local traditions, materials, and techniques converge to create structures that resonate with the essence of a place.

From these textual landscapes, we ventured into the realm of practicality by delving into two compelling case studies. The first, an international voyage, unfolded the pages of a community center abroad, showcasing how vernacular elements transcend borders, forming a universal language of architecture. The second, nestled within the heart of India, illustrated how vernacular aesthetics bridge the past and the present, honoring heritage in the context of community spaces.

Our immersion into the living vernacular heritage took us to Ghamroj village, where the soil itself seemed to whisper the stories of generations past. Through keen observation, we absorbed the nuances of local construction, the artistry in using indigenous materials, and the wisdom embedded in age-old construction techniques. The village became a living museum, showcasing the seamless integration of architecture with the natural and cultural landscape.

As we stand on the threshold of designing a community center in Ghamroj, we approach this endeavor not merely as architects but as custodians of a narrative. It is a tale of tradition and innovation, of a place finding its voice in the language of bricks and mortar. Our mission is to synthesize the whispers of vernacular wisdom into a harmonious design that resonates with the soul of Ghamroj.

## II. Objectives:

- Cultural Preservation and Integration:

To Preserve and celebrate the local cultural identity by incorporating vernacular architectural elements and design aesthetics.

- Sustainability and Environmental Sensitivity:

To utilize local materials and construction techniques that align with the principles of sustainability.

Design an energy-efficient and environmentally friendly community center that minimizes its ecological footprint.

- Local Materials and Construction Techniques:

To Explore and utilize indigenous materials found locally for construction.

Incorporate traditional construction techniques that have proven effective in the local context, ensuring sustainability and resilience.

### III. Description of Activities

#### Literature study:

Our exploration into vernacular architecture commenced with a comprehensive literature study, a collective endeavor aimed at unraveling the diverse architectural narratives woven across the states of India. Individuals was tasked with delving into the vernacular architecture of a specific state, with the objective of gaining insights into the unique techniques, local materials, and construction methods inherent to each region.

#### Local Materials and Construction Methods:

The study emphasized the intimate connection between vernacular architecture and locally available materials.

From the red sandstone of Rajasthan to the bamboo structures of Northeastern states, the choice of materials was deeply rooted in the geographical and environmental attributes of each region.

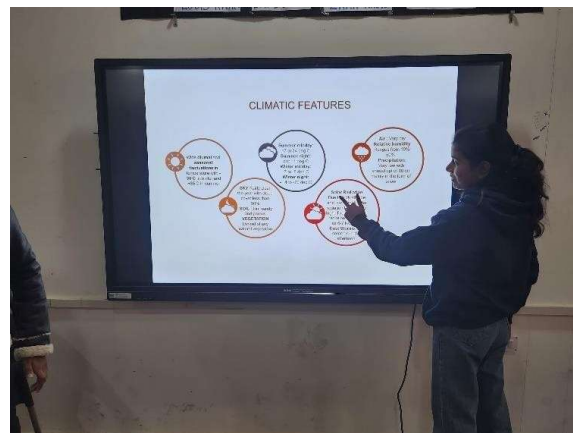


Figure 1 PRESENTATION OF LITERATURE STUDY

#### Case Study:

Our exploration expanded to global perspectives through case studies of vernacular architecture buildings around the world. This phase aimed to deepen our understanding of community center planning, emphasizing architectural considerations such as building orientation, climatic responsiveness, material integration, and the role of local craftsmanship.

### **Methodology: Group**

#### **Case Study:**

Teams of three individuals were formed for a collaborative exploration of a vernacular community center located abroad.

The focus was on understanding the design principles, incorporating locally available materials, roof structures, planning, circulation, design strategies.

#### **Individual Case Study:**

Subsequently, each team member conducted an individual case study on a vernacular community center in India.

The objective was to analyze the building's orientation, roof structure, use of local materials, involvement of local craftsmen, and the balance between passive and active design strategies.

### **Key findings:**

#### **Community Center Planning:**

Both case studies highlighted the meticulous planning involved in community center design, emphasizing functionality, accessibility, and community engagement.

#### **Climate-Responsive Design:**

Orientation and roof structures were tailored to the climatic conditions of the respective regions.

#### **Material Integration and Craftsmanship:**

Locally available materials played a pivotal role in the design, contributing to sustainability and cultural relevance.

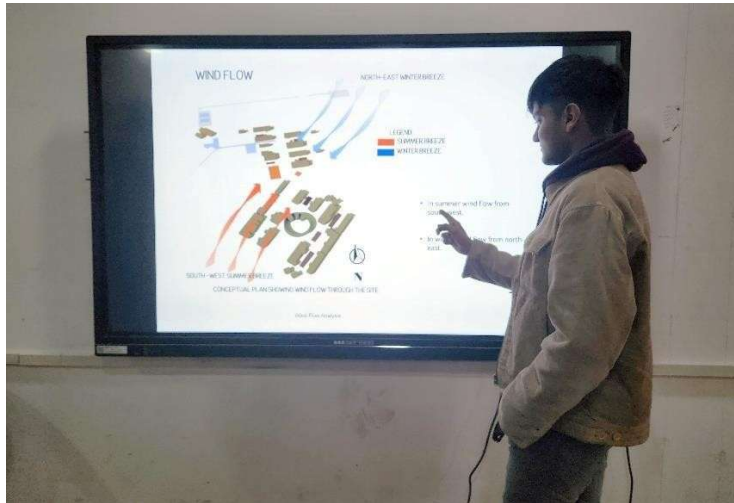
The involvement of local craftsmen showcased a synergy between traditional skills and modern design needs.

#### **Passive Design Strategies:**

Both case studies demonstrated a commitment to passive design strategies, minimizing energy consumption through natural ventilation, lighting, and shading.

Active strategies were judiciously employed, with an emphasis on sustainability.





*Figure 2 PRESENTATION OF INDIVIDUAL CASE STUDY*

## **Design Process**

### Site Description

The project site, spanning 1176 sq m, presents a unique set of challenges and opportunities. Key site elements include a BSNL tower, transformer, existing building, vegetation, and a washroom.

### Program Requirements

The community center program was developed with requirements of two meeting halls, a library, office room, reception, sitting spaces, kitchen/pantry, washrooms, parking area, and outdoor spaces. Each element was carefully considered to meet the specific needs of the community.

### Concept Development

The design concept revolves around the celebration of vernacular architecture. Traditional building forms, materials, and spatial arrangements were explored to create a design that is not only functional but also deeply rooted in the cultural identity of Ghamroj village.

### Schematic Designs

A series of schematic designs were developed to explore various design possibilities. Each iteration considered the unique characteristics of vernacular architecture, experimenting with different layouts, forms, and façade treatments.

### Building Permits and Bye-law

The design complies with local building permits and bye-laws, ensuring regulatory requirements are met. Special attention was given to the vernacular theme while adhering to safety and accessibility standards.

### Detailed Design Development



The double line plans, site plans, sections, and elevations were meticulously developed, reflecting the culmination of the design process. Integration of site elements is seamlessly woven into the overall design narrative.

#### Sustainability Considerations

The project incorporates sustainable design principles, utilizing locally sourced materials and implementing energy-efficient strategies. This approach not only aligns with environmental goals but also promotes economic resilience within the community.

#### Appendices

Drawings, renderings, and sheets are included in the appendices to provide a comprehensive understanding of the design process.

### **IV. Analysis & Interpretation**

#### Community Needs Assessment:

The identified shortcomings in the village, notably the absence of common meeting halls and a library, underscore the immediate need for communal spaces and educational resources. Recognizing the lack of a community center further emphasizes the void in facilities that could benefit a diverse range of village residents, especially students.

#### Strengths of the Design:

The design developed by us emerges as a robust solution to address these shortcomings. The inclusion of meeting halls provides a dedicated space for community gatherings and events, fostering a sense of unity and shared experiences. The addition of a library meets the educational needs of students, offering a resourceful haven for accessing books and promoting knowledge dissemination.

#### Community Empowerment:

The designed community center serves as a source of strength for the village. It empowers residents by providing a central hub for social, educational, and cultural activities. The inclusion of various spaces caters to the diverse needs of the community, creating an inclusive environment that fosters growth and community engagement.

#### Sustainability and Vernacular Architecture:

The integration of sustainability principles in the design reflects a forward-thinking approach. By utilizing vernacular architecture, the project not only pays homage to the cultural identity of the village but also ensures that the construction aligns with local climate conditions and available resources. This choice is advantageous, promoting environmental sustainability and economic resilience within the community.

## **V. Conclusion**

Our venture in vernacular architecture, manifested in the Ghamroj community center, signifies a seamless fusion of tradition and innovation. From global case studies to the vibrant living heritage of Ghamroj village, we've witnessed the universal language spoken by vernacular elements.

As architects, we see ourselves as stewards of a narrative, intricately woven with local materials, transcending the structure into a nuanced blend of tradition and innovation. The community center stands as a living testament to the harmonious coexistence of tradition and modernity in Ghamroj.

Incorporating local materials and honoring vernacular wisdom, the center becomes a vibrant expression of cultural identity, engaging in a continual dialogue with contemporary innovation. The design choices ensure the center's integration with its surroundings, fostering social cohesion and reflecting the values ingrained in the vernacular fabric of Ghamroj. By seamlessly blending tradition with innovation, the design transcends temporal boundaries, ensuring its relevance in the past, present, and future.

Our commitment is rooted in a deep respect for the wisdom embedded in vernacular architecture, with the community center serving as a vessel that carries the rich tapestry of local heritage forward.

The design of the Ghamroj community center, rooted in a fusion of tradition and innovation, directly benefits the locals in real-time by contributing to their overall holistic development. The incorporation of locally available materials and adherence to vernacular wisdom not only respect the community's cultural identity but also stimulate economic activity by engaging local craftsmen. This involvement fosters skill development and empowers the community, promoting sustainable practices and enhancing the local economy.

Moreover, the community center serves as a social hub, fostering interaction and cohesion among the locals. The thoughtful planning and integration with the surroundings create a space that accommodates various communal activities, contributing to the social development of the community. The center becomes a platform for gatherings, events, and cultural activities, enriching the social fabric of Ghamroj.

In terms of sensitizing students towards local issues, the design itself becomes an educational tool. By incorporating vernacular elements, materials, and construction techniques, students are exposed to the importance of cultural sensitivity and context-specific design. The community center stands as a living example of the harmonious coexistence of tradition and modernity, encouraging students to appreciate and learn from the local context.

The process of designing the Ghamroj community center has offered valuable insights into societal dynamics. The collaborative exploration, including global case studies and immersion in the living heritage of Ghamroj, has reinforced the significance of inclusive design practices. It underscores the importance of understanding and respecting local cultures, engaging with communities, and addressing their needs and aspirations in the architectural process.

Finally, the design of the Ghamroj community center not only benefits the locals in real-time through economic, social, and cultural enhancements but also serves as an educational tool for students, sensitizing them towards the intricacies of local issues. The learning from this experience extends beyond the technical aspects of architecture, emphasizing the broader societal responsibilities and the role of architects in contributing to holistic community development.

vi. Appendix



Figure 3: SITE VISIT TO GHAMROJ



Figure 4: INTERACTION WITH LOCAL PEOPLE





Figure 5: DISCUSSION WITH OFFICIAL MEMBER.



Figure 6: EXISTING ELEMENTS IN THE SITE.



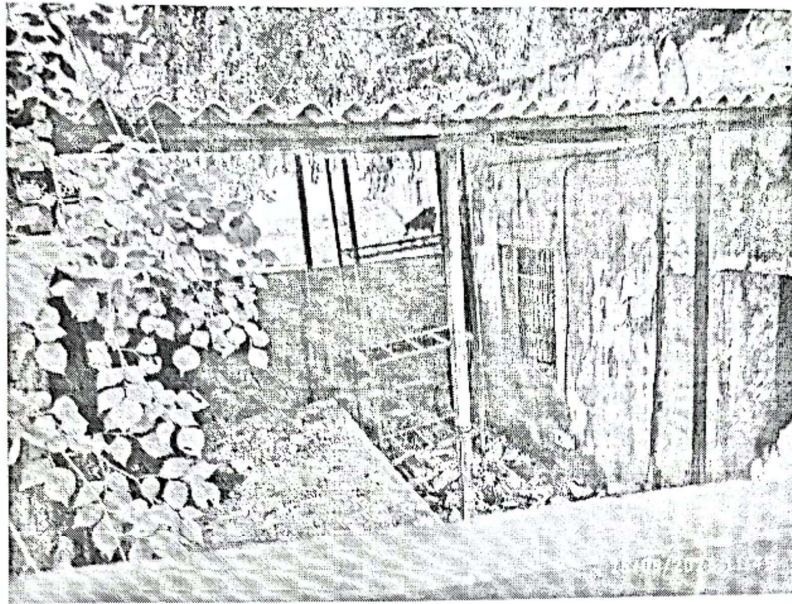


Figure 7: EXISTING BUILDING IN THE SITE.

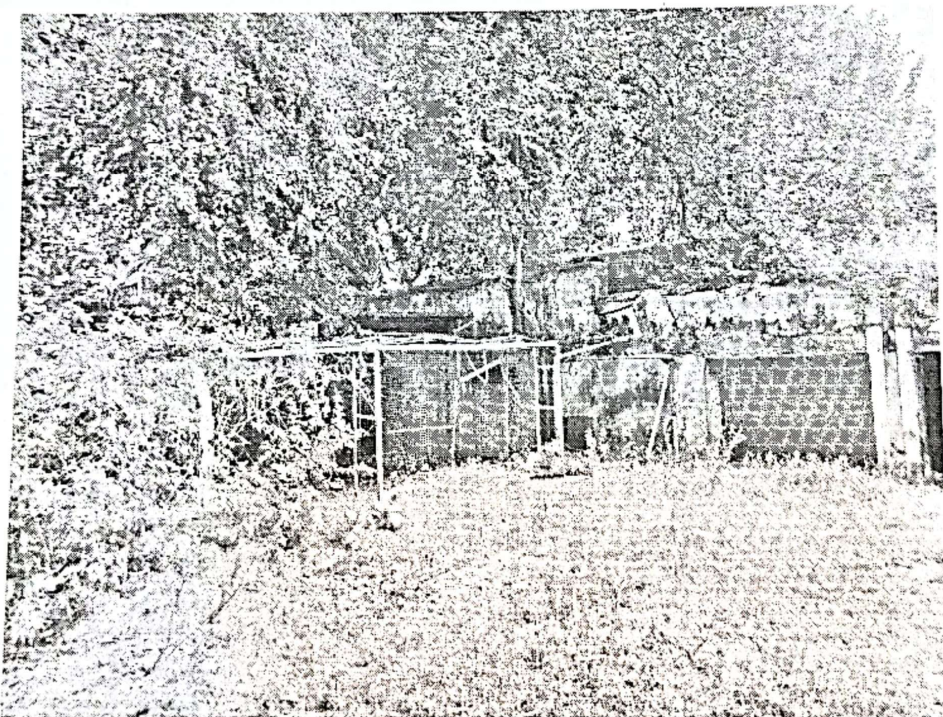



Figure 8: EXISTING BUILDING IN THE SITE.

  
 Ar. Praveen Gupta  
 Associate Professor, SOAD  
 Faculty Coordinator

  
 Dr. Tanaya Verma  
 Dean SOAD



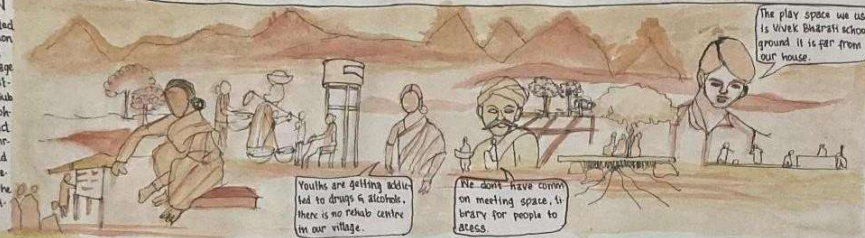
# ARCHITECTURAL DESIGN - II PORTFOLIO

DEECKSHITHA S  
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BARCH, SEM - II  
KRMU

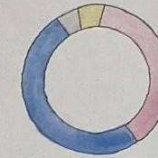
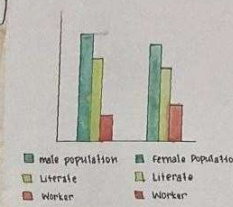


## INTRODUCTION

Ganroj village is located in Sohna Tehsil of Gurgaon district in Haryana. Total geographical area of village is 1575 hectares. It is situated 40km away from Sub district headquarters Sohna and 10kms from district headquarters Gurgaon. Ganroj village is administered by a Sarpanch who is elected representative of the village by the local electorates.



## DEMOGRAPHY



Population	-	4797
Male	-	2494
Female	-	2303
Literacy Rate	-	84.13%
Male	-	79.3%
Female	-	65.39%
Families	-	842
Sex Ratio	-	923



INDIA



HARYANA



GURGAON



LAND USE

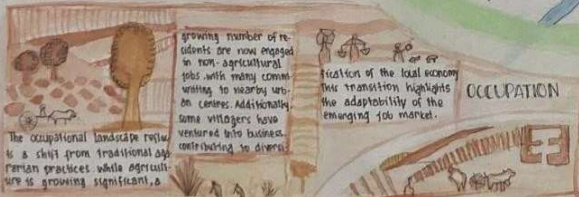
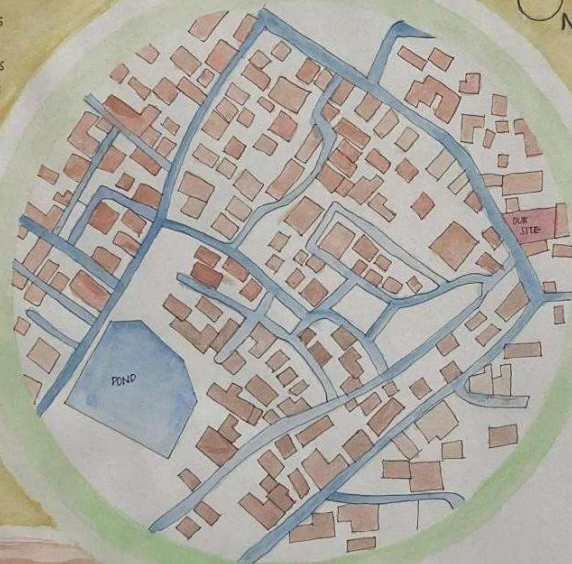
## ACCESSIBILITY

IGI Airport	-	34 Kms
Gurgaon Railway Station	-	21 Kms
Ganroj Bus Stop	-	1.2 Kms
Vardaan Hospital	-	3.2 Kms
Govt. girls School	-	350 M
Bondsi Police Station	-	15 Kms

Location: BSNL exchange tower, ganroj, Gurgaon, India.  
Site Area: 1176 M<sup>2</sup>

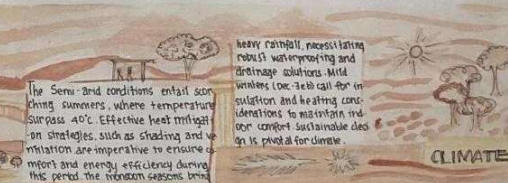
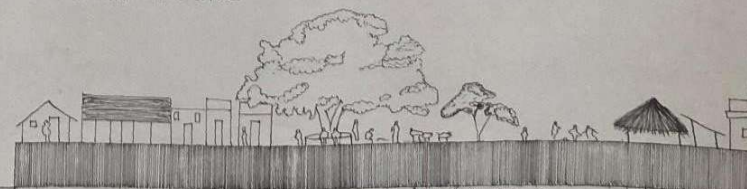
## LANDMARK

Pond	-	400m
Krishna Mandir	-	240m
DK Medical Store	-	200m
Anshul Mobile Centre	-	250m
Ambaji Hardwares	-	110m



## OCCUPATION

## COMMON GATHERING SPACE



## CLIMATE

STRENGTH	WEAKNESS	OPORTUNITY	THREAT
<ul style="list-style-type: none"> <li>Position in central village</li> <li>Traditional style of life</li> <li>Biodiversity</li> </ul>	<ul style="list-style-type: none"> <li>No medical facility</li> <li>No place for engagement of people</li> <li>Noise disturbance</li> </ul>	<ul style="list-style-type: none"> <li>Provides opportunity to gather</li> <li>Creates sustainable environment</li> </ul>	<ul style="list-style-type: none"> <li>Not resistant to earthquakes</li> <li>Load bearing structure cannot develop more than 2 levels</li> </ul>

GRAMODAYA

- PANCHAYAT BHAWAN

SITE ANALYSIS

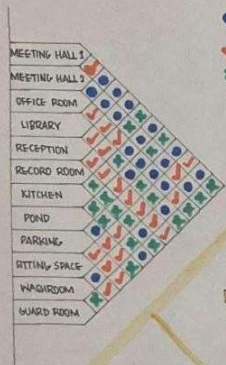
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# REQUIREMENTS

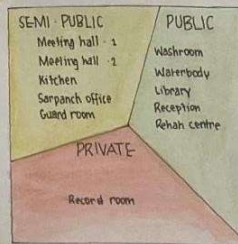


## PROXIMITY CHART

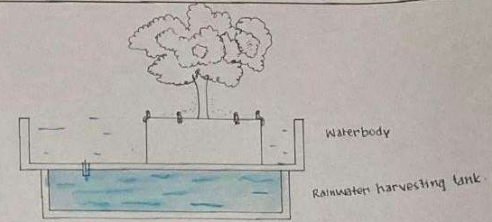
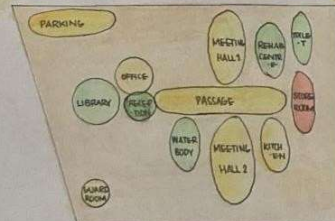


## FORM EVOLUTION

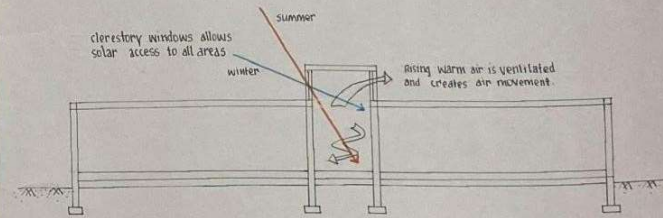
### ZONING



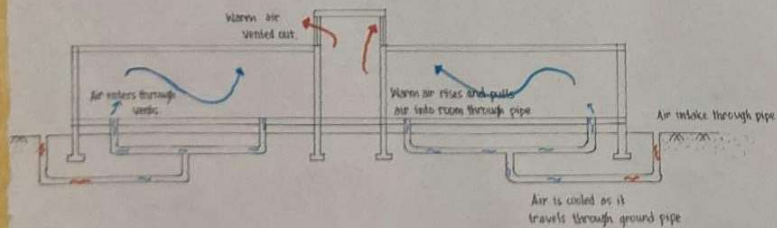
### BUBBLE DIAGRAM



Rainwater Harvesting Technique

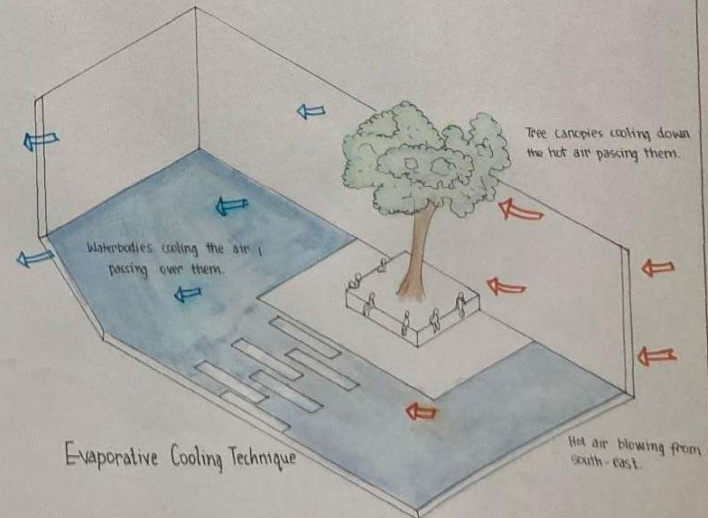


Clerestory Window Passive Design



Solar Chimney

## PASSIVE COOLING TECHNIQUES



Evaporative Cooling Technique

GRAMODAYA

- PANCHAYAT BHAWAN

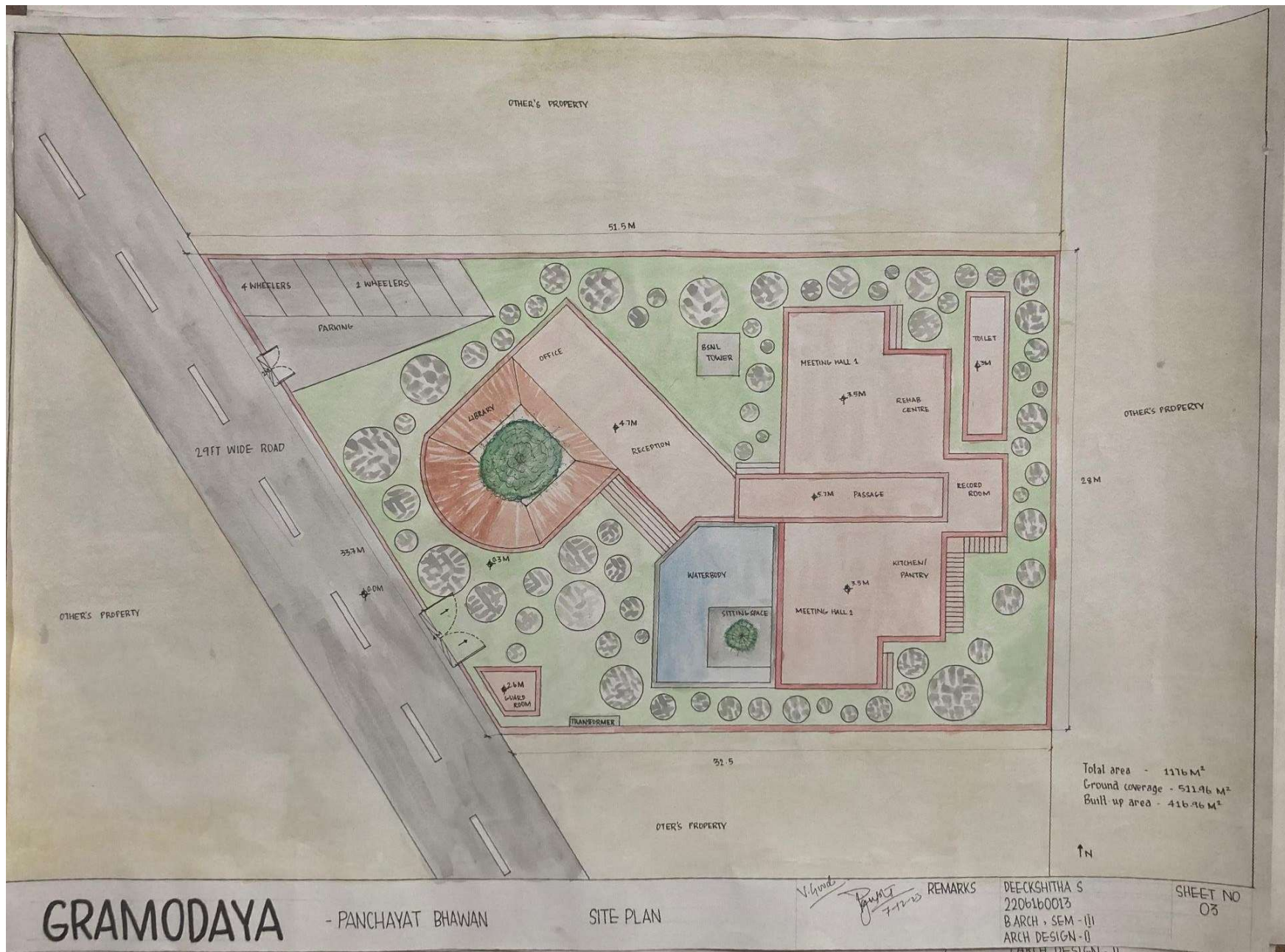
CONCEPT

REMARKS

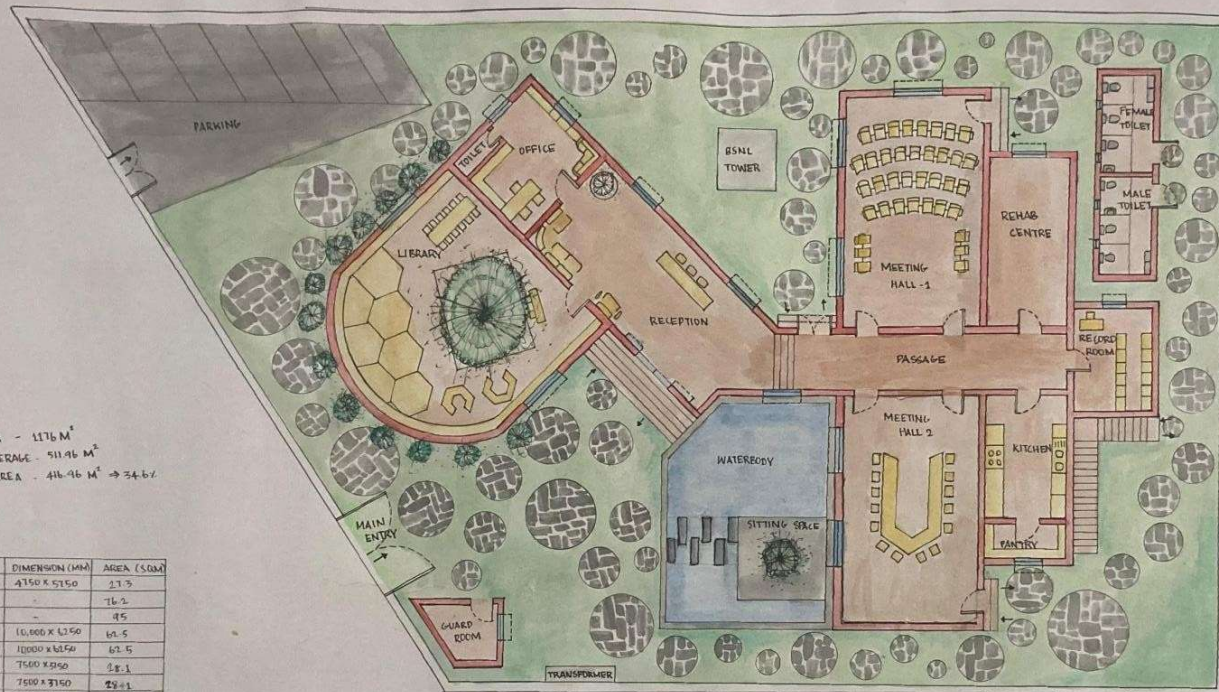
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ARCH DESIGN - II

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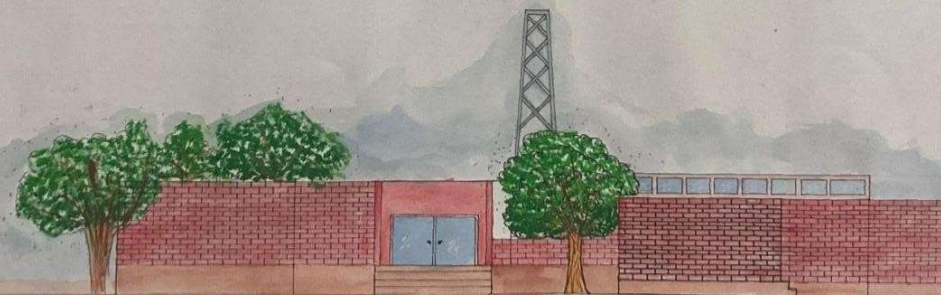






TOTAL AREA - 1176 M<sup>2</sup>  
 GROUND COVERAGE - 911.46 M<sup>2</sup>  
 BUILT UP AREA - 414.96 M<sup>2</sup> → 34.4%

SPACE	DIMENSION (MM)	AREA (SQ.M)
SURFACING OFFICE	4750 X 5150	24.3
LIBRARY	-	76.2
WATERBODY	-	45
MEETING HALL 1	10,000 X 6,250	62.5
MEETING HALL 2	10,000 X 6,250	62.5
RECORD ROOM	7500 X 950	7.1
REHAB CENTRE	7500 X 3750	28.1
KITCHEN / PANTRY	3250 X 4150	13.4
TOILET	4000 X 2250	20.2 SQ.M
GUARD ROOM	-	6.56 M
PASSAGE	2.5M WIDE	-



SOUTH ELEVATION

GRAMODAYA - PANCHAYAT BHAWAN

FLOOR PLAN & ELEVATION

REMARKS	DEECKSHITHA S 2206160013 B ARCH - SEM - III ARCH DESIGN - II	SHEET NO 04
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# MATERIALS



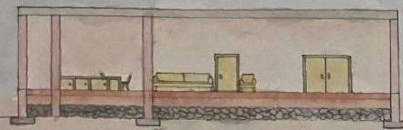
BRICK WALL



MUD FLOORING

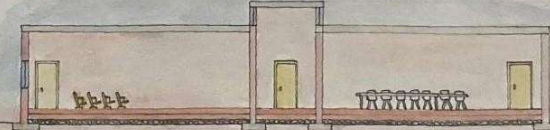


STONE PAVEMENT



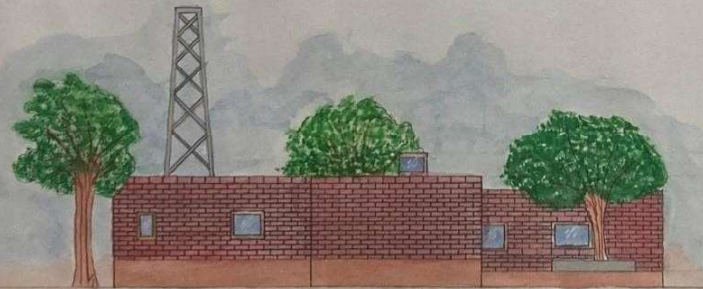
SECTION B-B

4.7M  
1.2M  
0.3M



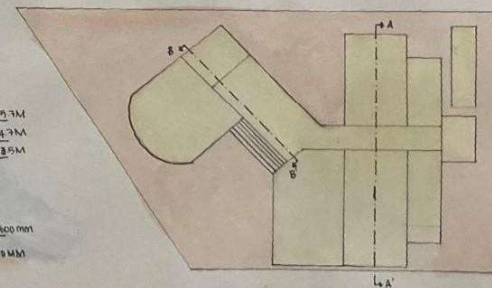
SECTION A-A

5.7M  
3.5M  
0.3M  
0.3M



WEST ELEVATION

5.7M  
4.7M  
3.5M  
400 mm  
300 mm



KEYPLAN SCALE 1:250

GRAMODAYA

- PANCHAYAT BHAWAN

SECTION, ELEVATION & MATERIAL

REMARKS

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BARCH, SEM - III  
ARCH DESIGN - II

SHEET NO  
05

















