



THESIS REPORT ON
“DESERT CULTURE CENTER, JAISALMER

A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE
DEGREE OF:

BACHELOR OF ARCHITECTURE
BY
(ALOK KUMAR SINGH)
(1190101006)

THESIS GUIDE
(PROF.AR. SAURABH SAXENA)

SESSION
2023-2024

**TO THE
SCHOOL OF ARCHITECTURE AND PLANNING
BABU BANARASI DAS UNIVERSITY
LUCKNOW.**

**SCHOOL OF ARCHITECTURE AND PLANNING
BABU BANARASI DAS UNIVERSITY, LUCKNOW (U.P.).**

CERTIFICATE

I hereby recommend that the thesis entitled “DESERT CULTURE CENTER, JAISALMER“ under the supervision, is the bonafide work of the students and can be accepted as partial fulfillment of the requirement for the degree of Bachelor’s degree in architecture, school of Architecture and Planning, BBDU, Lucknow.

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7. Specification regarding thesis format have been closely followed. Yes / No
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TABLE OF CONTENT

S.no	TITLE	PAGE NO
1	INTRODUCTION	06-08
2	SITE ANALYSIS	09-19
3	DEAD CASE STUDY 01	20-29
4	DEAD CASE STUDY 02	25-29
5	LIVE CASE STUDY 01	30-37
6	SITE ANALYSIS	38-43
7	CONCEPT	44-45
8	PLANS	46-47
9	SECTIONS/ELEVATIONS	48-49
10	RENDER	50-51
11	ELECTIVE	52-53
12	BIBLIOGRAPHY	54

INTRODUCTION

Nestled near the tranquil shores of Godisa Lake, within the labyrinthine streets of Jaisalmer city, the Desert Culture Center emerges as a symbol of reverence to the city's rich heritage and an architectural ode to the resilience of its people. This thesis embarks on a journey to explore the intricate interplay between culture, climate, and architecture, with a particular focus on implementing passive design strategies to harmonize with Jaisalmer's hot and arid environment.

Approaching the design of the Desert Culture Center, our endeavor is rooted in the ethos of sustainability and cultural preservation. We recognize the significance of passive design principles as not only pragmatic solutions but also as expressions of reverence for the natural environment and local traditions.

To achieve a harmonious coexistence with the desert climate, the Center integrates passive cooling techniques into its architectural framework. Utilizing strategic orientation, the building maximizes natural ventilation, allowing prevailing winds to cool interior spaces while minimizing reliance on mechanical systems. A combination of thermal mass, insulation, and efficient building materials ensures optimal thermal comfort, even amidst the scorching desert sun.

Shading becomes paramount in mitigating solar heat gain. Inspired by traditional Rajasthani architecture, the Center incorporates architectural elements such as brise-soleil, jaalis (lattice screens), and courtyards, which not only provide shade but also create dynamic play of light and shadow, evoking a sense of serenity and intrigue.

Moreover, the design of the Desert Culture Center is deeply rooted in community engagement and cultural context. Local craftsmanship and vernacular building techniques are celebrated, fostering a sense of ownership and connection among the inhabitants. By seamlessly blending modern innovation with time-honored traditions, the Center becomes a living testament to the adaptive spirit of Jaisalmer's

As we embark on this exploration, we invite you to join us in reimagining the Desert Culture Center as more than just a building but as a sanctuary where culture, climate, and community converge in harmony. Together, let us envision a future where sustainability is not merely a design strategy but a way of life deeply ingrained in the fabric of our cultural identity.

Within the enchanting environs of Jaisalmer, where history and tradition resonate in every whisper of the wind, the Desert Culture Center stands as a beacon of architectural innovation and cultural reverence. Rooted in the concept of circles, symbolic of unity and continuity, this design endeavor encapsulates the essence of Jaisalmer's heritage while embracing modern techniques for sustainable living.

At the heart of this architectural narrative lies a commitment to passive design principles, aimed at mitigating the harsh realities of the desert climate. Inspired by traditional methods of cooling, the incorporation of Windcatchers emerges as a pivotal element in the quest for thermal comfort and environmental harmony.

The circular motif serves not only as an aesthetic expression but also as a pragmatic response to solar exposure. By minimizing the building's surface area facing the sun, the design mitigates heat gain and reduces reliance on mechanical cooling systems. This deliberate choice not only enhances energy efficiency but also fosters a sense of enclosure and intimacy within the Center's spaces.

Central to the passive cooling strategy are the Windcatchers, meticulously integrated into the architectural fabric. Drawing upon centuries-old techniques perfected by desert civilizations, these towers harness the natural movement of air to create a cooling effect within the building. Strategically positioned throughout the Center, the Windcatchers serve as conduits for cross-ventilation, channeling cool breezes into interior spaces while expelling hot air upwards.

Furthermore, the circular layout of the Center fosters a sense of connectivity and fluidity, encouraging exploration and engagement with the surrounding environment. Courtyards, atriums, and shaded walkways create a network of interconnected spaces, inviting visitors to embark on a journey of discovery and contemplation.

As we navigate through the Desert Culture Center, guided by the principles of circularity and sustainability, we invite you to embark on a voyage of exploration and enlightenment. Together, let us reimagine architecture not merely as a shelter but as a catalyst for cultural revival and environmental stewardship in the desert landscape of Jaisalmer.

In the sun-kissed expanse of Rajasthan's desert, where the sands whisper tales of ancient civilizations and the wind carries echoes of bygone eras, lies Jaisalmer – a city steeped in the vibrant tapestry of art, culture, and tradition. As guardians of this cultural legacy, we are tasked with the profound responsibility of preserving and celebrating the rich artistic heritage that thrives amidst the arid landscapes of this enchanting region.

The importance of preserving the art and culture of the desert area of Rajasthan, particularly in Jaisalmer, transcends mere historical documentation. It embodies a profound connection to our collective identity, a testament to the resilience, creativity, and ingenuity of generations past and present. In the intricate patterns of local craftsmanship, the melodious rhythms of folk music, and the captivating narratives of desert folklore, we find a reflection of our shared humanity and a reservoir of wisdom to guide us through the sands of time.

At the heart of this cultural preservation effort lies a profound recognition of the intrinsic value of diversity and heritage. The art and culture of Jaisalmer are not static relics of the past but living, breathing expressions of the human spirit – evolving, adapting, and flourishing amidst the challenges of the modern world. From the ornate carvings of ancient havelis to the vibrant colors of traditional attire, each aspect of Jaisalmer's cultural tapestry serves as a vibrant thread in the fabric of our collective consciousness.

Moreover, the preservation of art and culture in Jaisalmer is not merely a matter of nostalgia or sentimentality; it is a strategic imperative for sustainable development and inclusive growth. As tourism emerges as a cornerstone of the region's economy, the cultural heritage of Jaisalmer

serves as a magnet for visitors from around the world, offering immersive experiences that transcend mere sightseeing to foster deeper understanding and appreciation.

In essence, the importance of preserving the rich art and culture of the desert area of Rajasthan, particularly in Jaisalmer, lies in its power to inspire, unite, and uplift. As stewards of this precious legacy, we must embrace our responsibility with reverence and determination, ensuring that the sands of time do not erode the vibrant hues of Jaisalmer's cultural mosaic, but rather, enrich them with each passing generation.

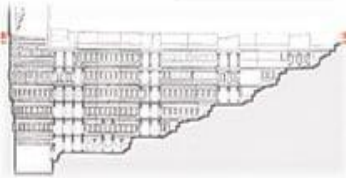
CASE STUDY-1[LIVE]

1. NATIONAL HANDICRAFTS AND HANDLOOM MUSEUM DELHI,INDIA

BY AR. CHARLES CORREA



PROJECT COMPLETED IN 1990



NATIONAL CRAFT MUSEUM, DELHI

INTRODUCTION-

- The Crafts Museum displays various objects from different parts of India.
- Showcase India's rich tradition of handicrafts.
- Some of the most rare and lovely pieces of art and craft that have been carefully and selectively collected from all over the country can be found here



AIM:

- The aim of the museum is to serve as a store to house the objects of antiquity as well as a platform for the craftsmen whose hereditary traditions were fading on the face of modern industrialization.
- It not only sustains the age old traditions of crafts of India but also boost up the inventive power of craftsmen.



Description

- Location: PragatiMaidan, Bhairon Road, Delhi
- Architect: Charles Correa
- Client: Ministry of Textiles, GoI
- Programme: Museum
- Plot Area: 6 acres, approx. 100x300m
- Built up Area: 6800 sqm
- Ground Coverage: 12%
- Village Complex Area-5 acres
- LOCATION AND SURROUNDING- Crafts Museum is located near Purana Quilla on the Bhairon Road. Just opposite Pragati Maidan



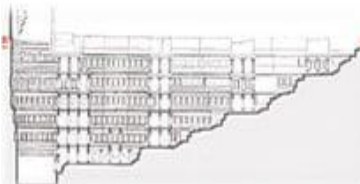
DISTANCE CHART & CLIMATE

DISTANCE

CRAFTS MUSEUM TO ISBT	: 6.3 KM
CRAFTS MUSEUM TO RAILWAY STATION	: 5 KM
CRAFTS MUSEUM TO INDIRA GANDHI INTERNATIONAL AIRPORT	: 16.7 KM
CRAFTS MUSEUM TO SUPREME COURT OF INDIA	: 1.7 KM
CRAFTS MUSEUM TO INDIA GATE	: 2.6 KM

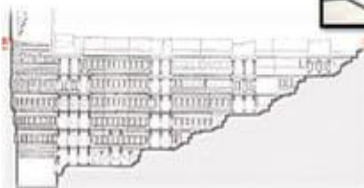
CLIMATE

MAX TEMPERATURE : 46 °C
 MIN TEMPERATURE : 8 °C
 RAIN : 250 MM
 SNOW FALL : 0 MM
 WIND SPEED AVG : 13.3 KM
 VISIBILITY 13.8 KM



CONCEPT

- The craft museum follows the concept of ancient temple which were structured around open to sky courtyards concept is of great relevance to the architecture in an warm Climate.
- The craft museum is organized around a central pathway ,revealing a sequence of open spaces along the pedestrian spine .Off these courts are exhibits of the various village crafts.
- The exhibits can be viewed individually or seen as unfolding of events along the way .This sequence ends via roof gardens which forms.
- The Scales and proportions of the building are based on those of the traditional Indian village.

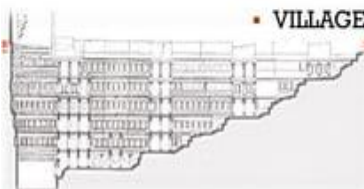


FACILITY PROVIDED IN A COMPLEX-

UNITS

AREAS IN SQM

▪ ADMINISTRATION	50
▪ SHOP	40
▪ BUTA SCULPTURES	60
▪ FOLK & TRIBAL ART	100
▪ VILLAGE COURT	60
▪ TEMPLE COURT	140
▪ CULTIC OBJECT	125
▪ COURTLY CRAFT	500
▪ DARBAR COURT	60
▪ TEMPORARY EXBHITION	130
▪ LIBRARY	110
▪ RESERVE COLLECTION	100
▪ CONSERVATION LAB	50
▪ AMPHITHEATRE	140
▪ CRAFT DEMONSTRATION	2000
▪ VILLAGE COMPLEX	3000

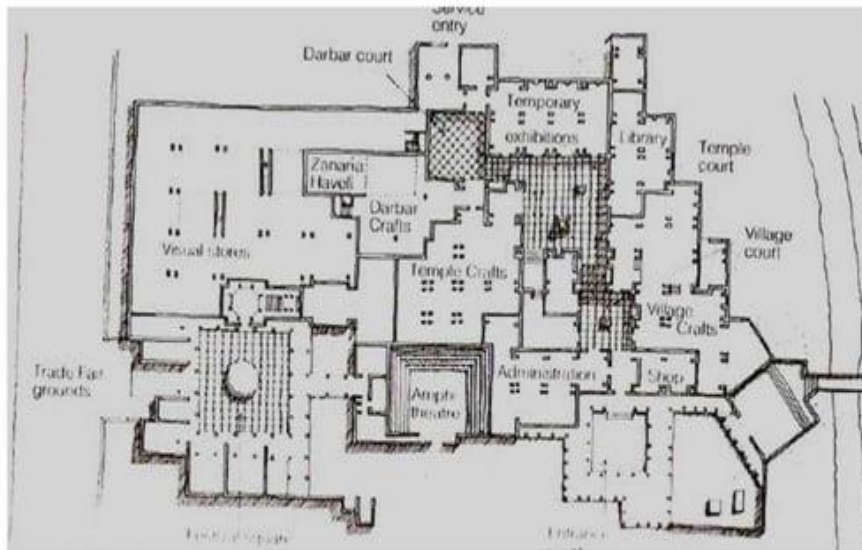


SITE PLANNING

SITE PLANNING



- The museum is placed near the main entrance and comprises of display galleries, store and library.
- The village comprises of traditional butts of different parts of India organized around pedestrian courts
- Modular planning is adopted with modules arranged around central courtyards. Entry to the various display areas are via these courtyards.
- Craft museum is divided into 3 main parts
- Display gallery & store
- Craft demonstration area
- Village complex



PLAN SHOWING CRAFT MUSEUM

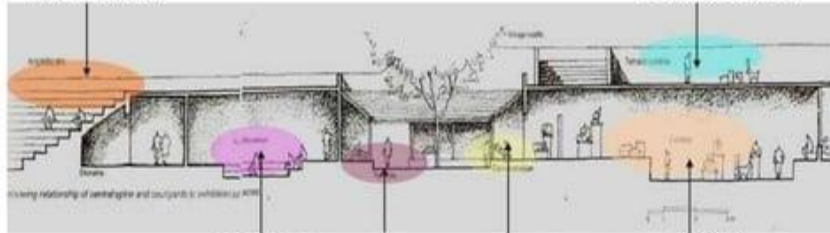




SECTION

AMPHITHEATRE

TERRACE EXIBITS



AUDIO VISUAL

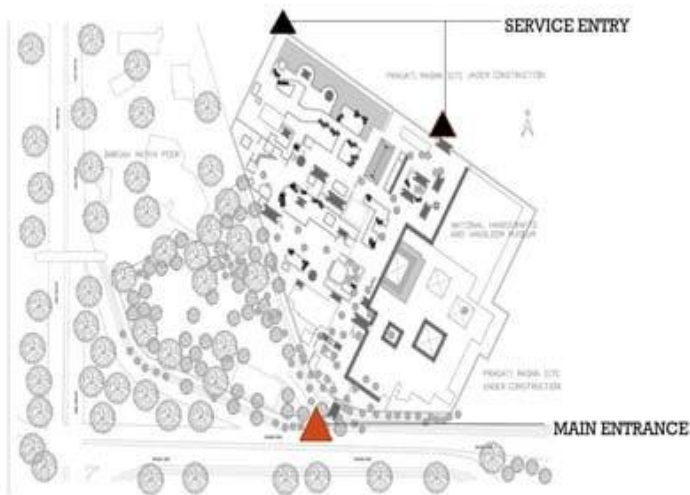
PATH WAY

DEMONSTRATION

EXIBITS



SITE AND SURROUNDINGS



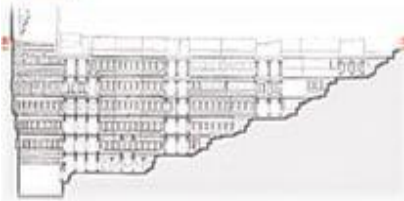
- PARKING IS NOT AVAILABLE
- SITE CAN BE ACCESSED BY A SINGLE ROAD
- SERVICE ENTRIES ARE FROM THE BACK BUT NOT USED CURRENTLY DUE TO CONSTRUCTION IN PRAGATI MAIDAN



LANDSCAPING PLAN



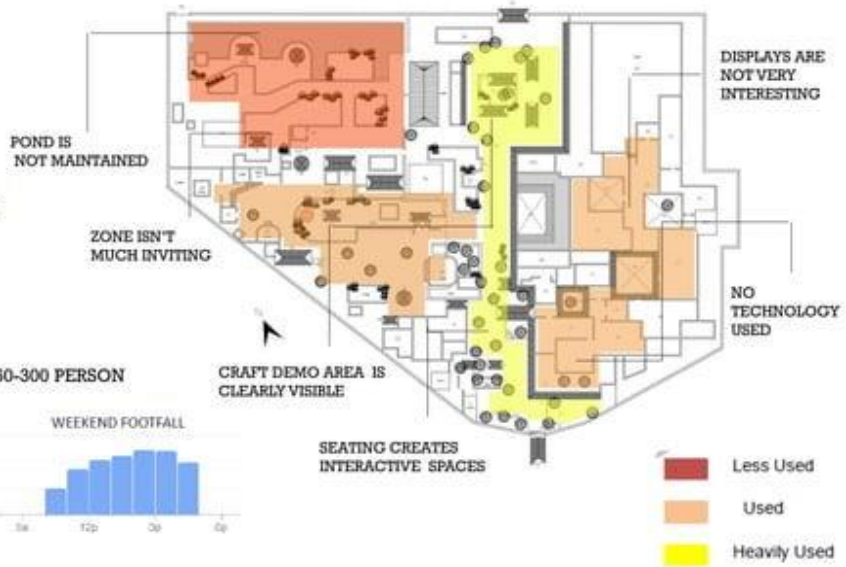
- Brick on Edge paving creates a rural characteristics
- Courtyards in the museum complex brings daylighting and ventilation and provides visual interest
- Seating around trees helps to create a place for interaction



USED OF SPACE

USERGROUPS :

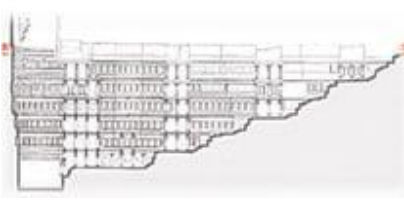
- CRAFTSMEN,
- PROFESSIONALS
- STUDENTS OF ARTS AND HANDICRAFT DISCIPLINE
- TOURIST LOCAL PEOPLE WITH FAMILY



DAILY FOOTFALL 250-300 PERSON

WEEKDAY FOOTFALL

WEEKEND FOOTFALL



FUNCTIONS HELD IN THE COMPLEX

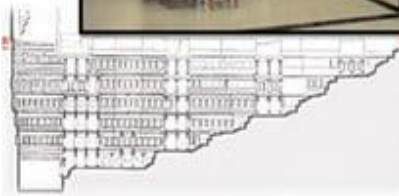
Museums/Display Area

- The core collection of the crafts museum was put together to serve as a reference material for the craftsmen who are increasingly losing touch with their own traditions.
- At present the Museum collection consists of over 33,000 specimens in various crafts, acquired over a period of 60 years collected from various states of India. The collection reflects the continuing traditions of handicrafts and handlooms.



Library

The Crafts Museum Reference Library has around 10,000 volumes in the area of Arts and Crafts with 35 seating capacity, including many classics and rare books, and is open to the public. Books are available for reference on site and may not leave the premises.



Demonstration Area

- The demonstration program provides visitors an opportunity to see the craft creation unfold before them.
- The architect has brought about the rustic in the complex by use of mud and plastered walls; brick paved flooring and by getting the structure built in their respective authentic style.
- The open walls within and outside the building is prominently outlined by terracotta tile roofs giving it a rustic ambience.
- Each month the Museum invites around 50 craftsperson, except monsoon period of three months when only 10 crafts persons, to be in residence, to demonstrate their skills and sell their wares.

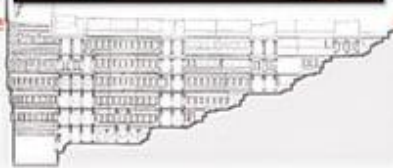


DISPLAYING TECHNIQUES

▪ **Interior Display:** The permanent collection is displayed in glass cabinets, shelves & niches. Temporary collection of textiles is displayed on moveable frames



▪ **Exterior Display:** The exterior walls have used to display folk art of different regions. Terracotta sculptures have been used as landscaping elements.



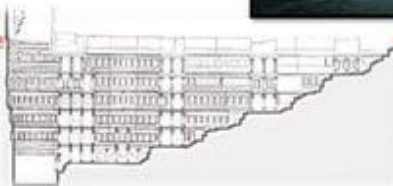
WORKSHOPS

▪ The craft museum conducts creative workshops in which the students are attached to a particular craftsmen from whom he learns the basic techniques of the craft.

▪ Mud plaster huts with thatched roofs act as workshops for the craft persons and the brick paved floors and stepped platform act as open air studios for the children .

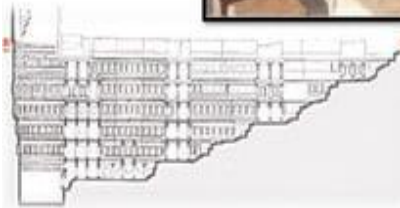
▪ the museum creates an ideal environment for interactive and creatively .

▪ The Crafts Museum has on display part of its permanent collection in its galleries of Bhuta Sculpture Gallery, Tribal & Folk Art, Ritual Craft Gallery, Courty Craft & Textiles Gallery , painting.



Structure, Material and Construction Techniques

- Brick is the main material used in walls as well as pathways. Walls are plastered with mud and cow dung plaster.
- Bamboo is used as purlins and rafters in roofing and as screens to separate one area from another.
- Supported on wooden truss, the roof is covered with Mangalore tiles.

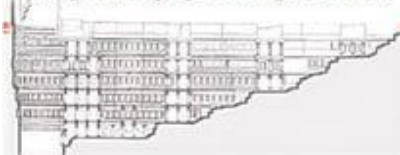


POSITIVE POINTS

- Segregation of areas via strong axis, yet creating visual and physical connection
- Universal accessibility by ramps wherever change of levels .
- In the village complex, a number of small interactive spaces are provided.
- Courtyards in the museum provide daylighting and ventilation .
- The architectural character of folk art of India is shown brilliantly in material and color palette.
- Attention to details in paving patterns .
- Similar spaces like Workshops, craft demonstration area, haat and residence are placed in close proximity, are easily visible and are closed to the services.

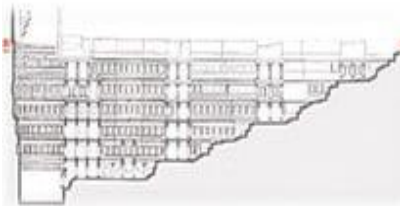
NAGATIVE POINTS

- Pond and few part of village complex is completely segregated and no one visits it.
- Display in galleries lack interesting feature and modern day technology .
- No parking space is provided.



Conclusion:

- The Craft Museum has stated a good example by preserving and conserving the tradition or art and culture in a modern way.
- The skill full art, the lost tradition must be preserved as they are our identity; we need not go out and search for our identity if it is preserved.
- The craft museum serves and preserves the spirit of art, making awareness. The thoughtful space planning, the human scale, the tribal and rural display all gives a sense of belonging.



CASE STUDY-2[LIVE]

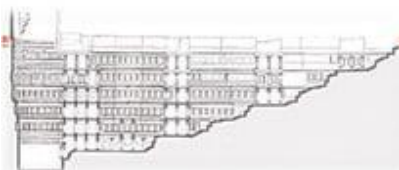
2.LLDC – THE LIVING & LEARNING DESIGN CENTER

By Ar.Uday Andhare & Ar.Mausami Andhare



INTRODUCTION

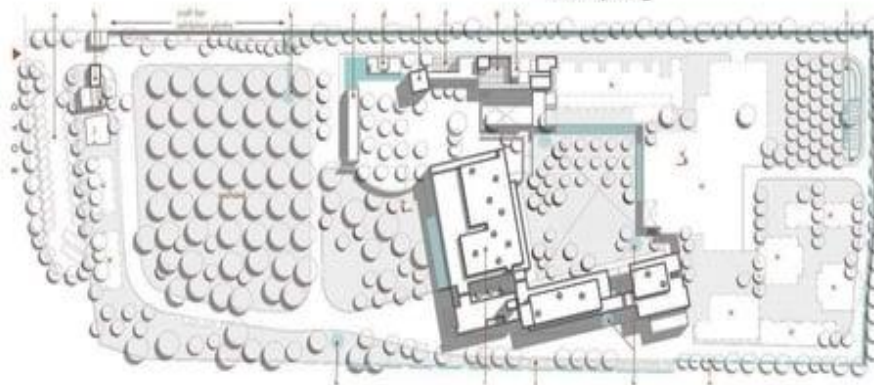
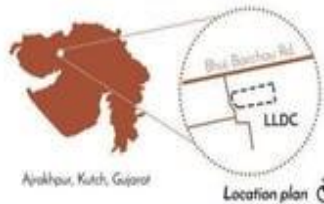
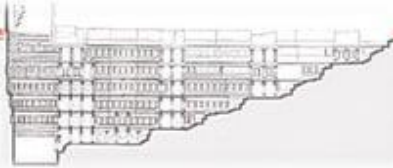
- Client :Living & Learning Design Center- LLDC - Ajrakhpur - Kutch
- Design Team :Mitesh Panchal, Sayali Andhare, Tejas Jasani, Shweta Rathod, Surendran Aalone
- Consultants :Prof. R.J.Shah & Mehul Shah, Ami Engineers, Ahmedabad
- Site Area :8 acres
- Building Area :1.2 lac sq.ft
- Civil Engineers :Shrujan Team



LOCATION

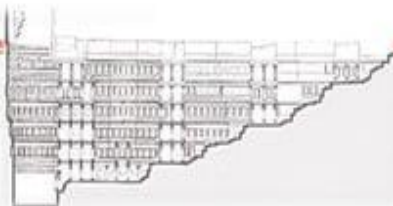


- Location :Ajrakhpur, Dist - Kutch, Gujarat
- Distance from Bhuj city : 15km
- Distance from railway station Bhuj - 14.2 km
- Distance from Bhuj airport – 17.1 km
- Distance from Bhuj bus stand - 16.5 km



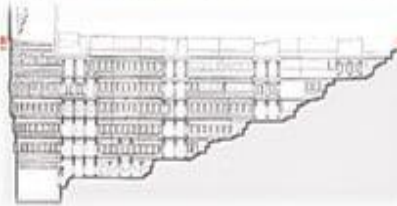
Site plan 0 10 20

- | | |
|---|--|
| <ul style="list-style-type: none"> • Parking • Security • Entrance profile • Terrace • Library • Cafe • Restaurant • Shop | <ul style="list-style-type: none"> • Gallery • Parking • Perimeter • Decentralized waste water management • Rain water harvesting tank • Storm water drain • Future expansion |
|---|--|



CONCEPT

- The living and learning design Center (LLDC) was conceived as a project during this time. It was meant to be a 'place' that would become a tactile and visual repository of the various crafts of Kutch. Its primary role as a resource center for artisans doubles up as a public museum and place for demonstrative, hands on learning.
- The predominantly hot, dry and arid landscape of Kutch, its people and cultural nuances formed a rich backdrop to our intervention. There has been a tendency to preserve, emulate and replicate the notion of what may be deemed vernacular, in this case Kutchi.

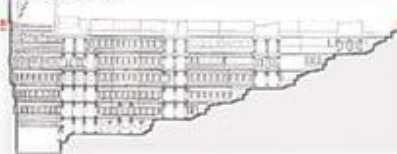


- The architecture of the museum block is a series of large solid volumes, punctuated by conoidal skylights that cut out the elements and the dust. Along with this core, are the ancillary passageways and shaded spaces for craft demonstrations and impromptu workshops that attach to the core as porous appendages, allowing spontaneous and simultaneous experiences.



ART AND CRAFT

- Embroidery
- Lippan work
- Pottery
- Lacquer art
- Aari art
- Leather
- Bhandhani
- Music



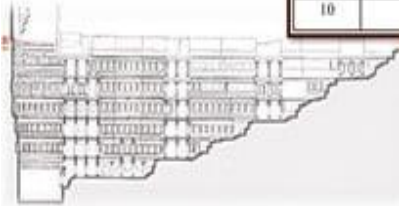
BUILDING MATERIALS

- Thermal barriers: Lime and fly ash bricks were manufactured on site using waste carbide lime slurry, sand and fly ash to reduce cost and get the required strength and thermal stability compared to any other material. Lime mortar was prepared on site by slaking lime in large ponds and grinding it with sand and crushed brick. Gauged lime mortar was used in the masonry work and natural lime plaster using traditional methods* was used in three coats in some areas.

CONSTRUCTION DETAILS

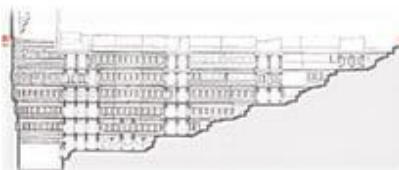
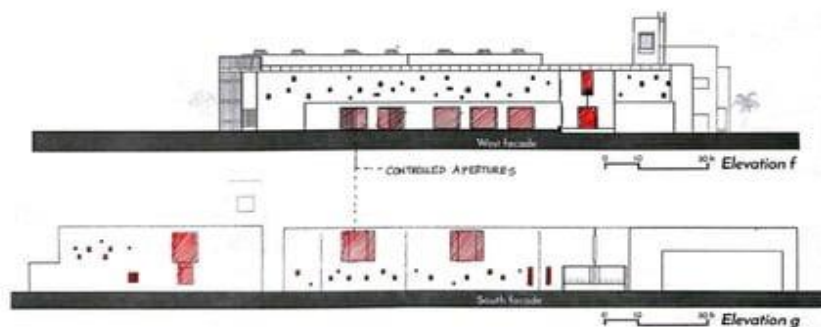
- LLDC is a manifestation of the idea of sustainability. The design responds, to the local climate, program, economic realities and the need to create a thermally stable environment for the exhibits.

NO	DESCRIPTION	ANALYSIS
1	Structure	Load bearing
2	Material	Exposed concrete, stone, Fly ash bricks
3	Wall finish	natural dolomite lime plaster
4	Roof	Flat roof finished with broke china mosaic
5	Height of walls	6m
6	Wall thickness	450mm
7	Flooring	Yellow polished khavda sand stone, kotah stone,
9	Foundation	Rubble stone
10	No of storey	2 + 1 Basement

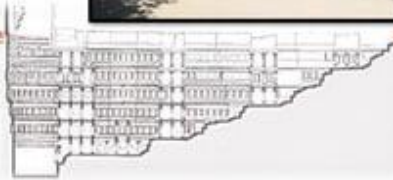
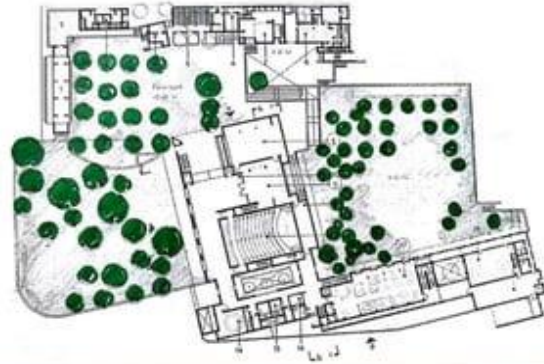


FENESTRATIONS:

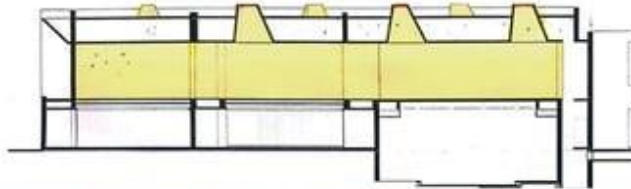
- windows and cutouts on the west and south allow the winter sun to warm the interiors while keeping out the summer sun. Controlled apertures, calibrated to the sun angle ensure its working and becomes a simple strategy to effect ventilation without increasing thermal gain..



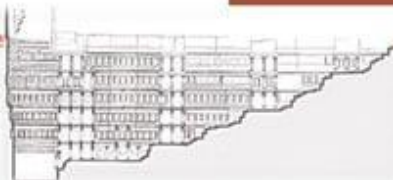
▪ **Vegetation:** Local low water consumptive, dense canopy, tree species planted to augment existing trees in the orchard. Tree shaded enclosures ensure appropriate use of outdoor spaces for people in the intense summers.



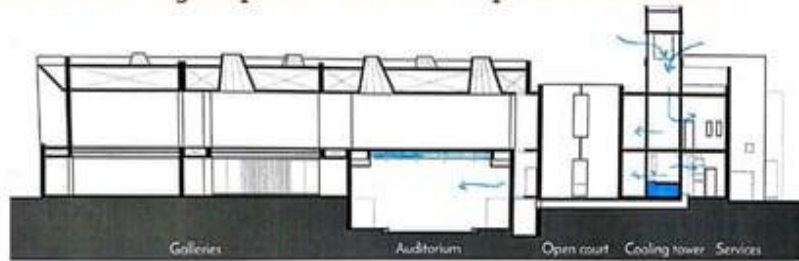
▪ **Light and its modulation:** The quality and quantum of light in the galleries is guided through carefully crafted concrete truncated conical skylights, which orient to the sun allowing for a diffused play of light. A special IR/UV film over the glass covering the oculus cuts off the harmful UV and keeps the heat out.



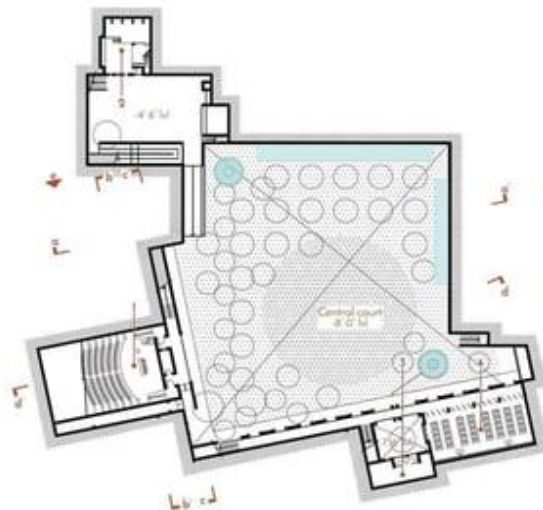
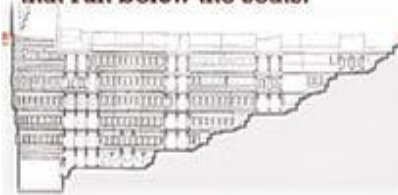
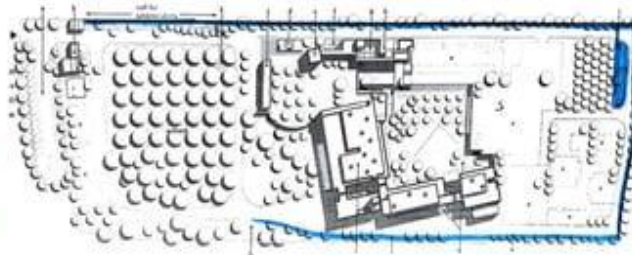
▪ **Stored rainwater cools the structure:** Rainwater harvesting tanks, integrated in the design collect, 500,000 liters of rain annually for drinking. Use of radiant cooling pipes circulate the same stored water below the floor on terraces and other slabs, draining the heat continuously to maintain the mean radiant temperature of the structure between 30 and 34 deg c. ensuring that very little energy is used to cool the air and maintain the desired humidity using low energy humidity control.



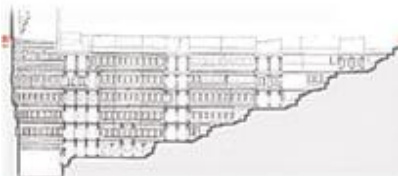
- **Grey water usage:** Decentralized wastewater treatment system (DEWATS) is designed to handle all the wastewater from the site including the process effluents from the workshops and toilets. Water from the site is managed within the site through a series of percolation wells and trenches that hold water along the perimeter of the compound wall section.

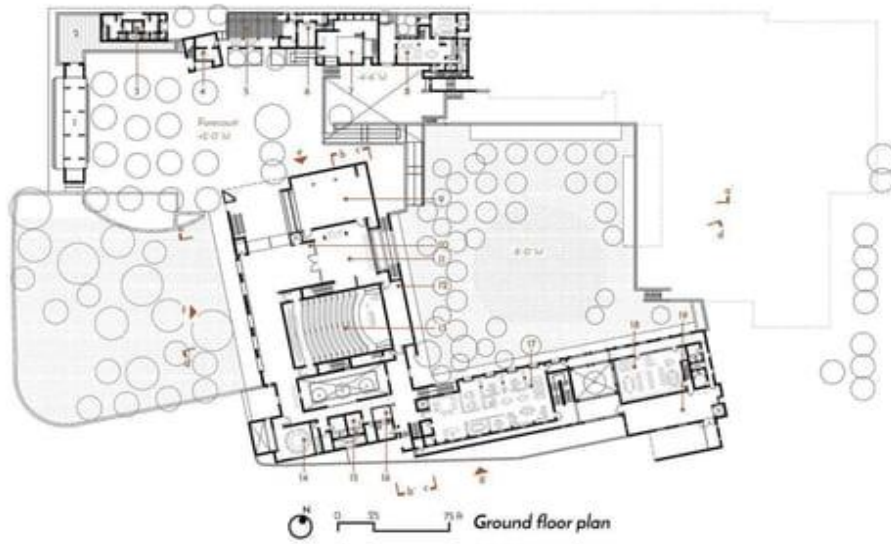


- The space within the vertical shaft of the overhead water tank is designed to act as a cooling tower. Nighttime cool air is passed over a thermal mass created by stored bottles of packaged drinking water stacked in crates almost three floors high. Air is guided to the auditorium area through ducts that run below the seats.



Basement plan
 Legend
 1. Auditorium
 2. Craft shop
 3. Workshop/storage
 4. Classroom

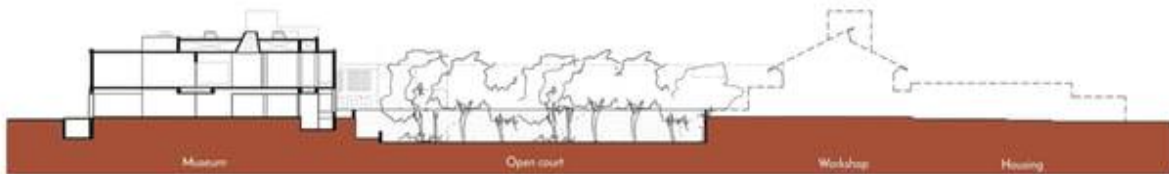
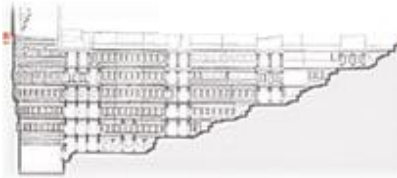




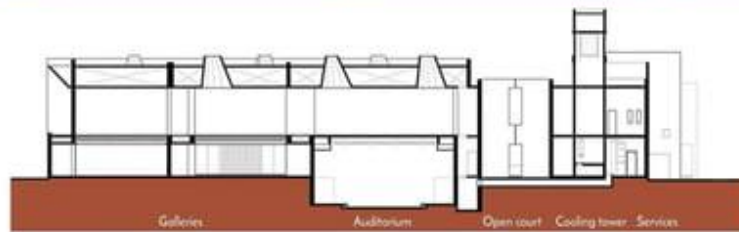
Ground floor plan

Legend

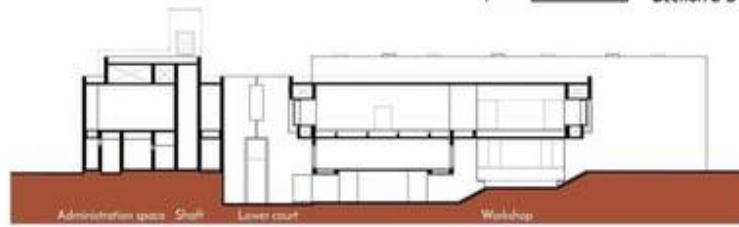
- | | | | |
|---------------------|-----------------------------|----------------------|-----------------------|
| 1 Entrance pavilion | 6 Kitchen | 11 Orientation space | 16 Cooling tower |
| 2 Pond | 7 Museum Shop | 12 Hands-on gallery | 17 Admin |
| 3 Toilets | 8 Guest house | 13 Auditorium | 18 Library |
| 4 Seating tower | 9 Temporary exhibit gallery | 14 Conference room | 19 Conservation space |
| 5 Outdoor cafe | 10 Foyer | 15 Toilets | |



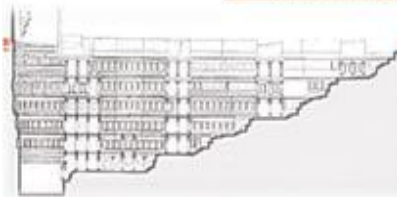
Section a-a'

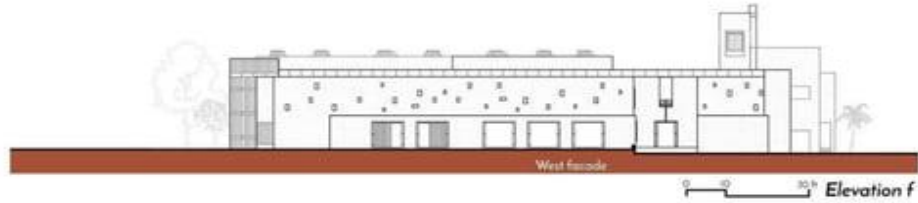
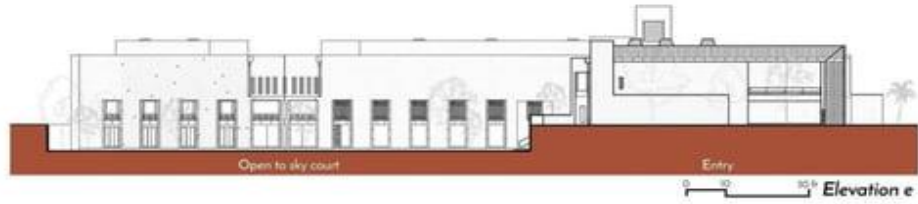


Section b-b'



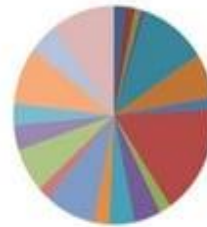
Section c-c'





FUNCTIONAL ANALYSIS

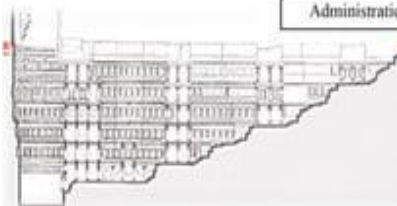
SPACES	AREA (IN SQ M)	NO OF USERS
Cafe	36	20
Kitchen	30	
Museum shop	20	10
Guest house	60	6
Exhibition gallery	210	100
Temporary exhibition	130	60
Hands on gallery	33	5
Auditorium	322	150
Conference room	36	20
Library	84	31
Restaurant	80	50
Demo printing area	49	6
Informal workshops	155	30
Storage	40	
Classroom	128	80
Craft shop	72	10
Toilet	64	
Storage for exhibition	165	
Orientation space	90	20
Administration	200	60



- Cafe
- Kitchen
- Museum shop
- Guest house
- Exhibition gallery
- Temporary exhibition
- Hands on gallery
- Auditorium
- Conference room
- Library
- Restaurant
- Demo printing area
- Informal workshops
- Storage
- Classroom
- Craft shop
- Toilet
- Storage for exhibition
- Orientation space
- Administration

Area of spaces

The auditorium, gallery and the exhibition areas occupies the largest area



- **Program details and buildings:** The museum comprises of four galleries including a temporary exhibit area. The main gallery is devoted to the permanent collection of the 'Design Center on Wheels' (DCOW) program run by the NGO Shrujan in Bhujodi. The collection includes 1150 exquisite demonstrative embroidery panels that have been painfully documented over the years.
- The other galleries house traditional artifacts highlighting the textile arts related to everyday life of the indigenous people of Kutch. The DCOW archive and conservation block within the museum enclave forms its core. A library for visual and textual resources, instructional auditorium space and conference room, classrooms for artisans and public orientation and information kiosks outside the galleries, complete the ensemble.

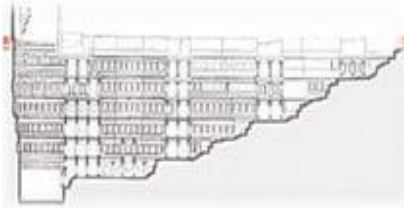


- The Crafts school is the other significant half of the institution. Working spaces for every art and craft of Kutch makes it the single largest living and working craft environment in Kutch. The architectural plan organizes activities along a central movement spine, reminiscent of the covered 'suq' or covered markets of other arid desert regions of the world. It creates a climatically appropriate gesture coupled with sustainable methods of building to define these working areas. Complex interweaving of functions brings about interest and diversity of experience.



INFERENCES

- Manifestation of the idea of local availability and sustainability
- Use of vernacular architecture in a modern way
- Disaster resilient techniques
- Clubbing of courtyards and activities
- Incorporation of light to galleries through truncated pyramids
- The site selection criteria should be based on the location of the users
- Use of water treatment plant



CASE STUDY-3[DEAD]

3. UTTRAYAN ART FOUNDATION VADODARA , GUJARAT.

BY AR. KARAN GROVER



PROJECT COMPLETED IN 2009

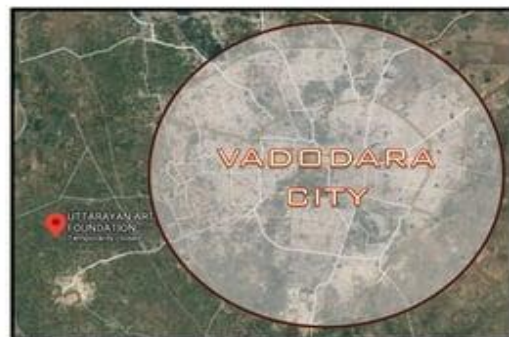


LOCATION



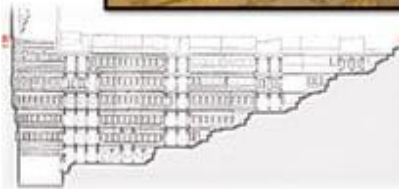
JHASPUR, VADODARA, GUJARA

- Distance from Baroda city : 25km
- Distance from railway station - 15.2 km
- Distance from airport - 6.1km
- Distance from bus stand - 5.6km

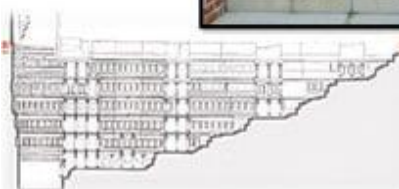


INTRODUCTION

- The Uttarayan Art Foundation was conceptualized in 2005 and later materialized under the supervision of the artists P.D. Dhumal and the industrialist Rakesh Agrawal.
- The studio facilities and the residency is established on an 80-acre farm. About 8.6-acres is used for the studio space and as a sculpture garden.
- The project to develop the studio space and the surrounding landscape was realized under the supervision of a local architect Karan Grover in 2009.
- The lush green surrounding of the foundation is a perfect venue for artists to get together, practice their art, and exchange ideas.



- The art foundation is fully equipped with excellent infrastructure and studio facilities for sculptures, printmakers, and painters to practice.
- The artists are invited to come and work at Uttarayan Art Foundation for 20 days to 3 months. The foundation conducts workshops, symposiums, and lectures, where they invite artists from all over the world.
- The Uttarayan Art Foundation aims to develop an international platform where Indian art can be appreciated on a truly global platform. It gives the local artists the required exposure and opportunity to interact with international artists: beautifully lighted studio spaces, open space, outdoor exhibition space, and an amphitheater.
- The primary goal of the founding members of Uttarayan is to create a sculpture garden, museum, and to provide excellent studio facilities.



CONCEPT :

- “ Returning to the theme of domestic architecture ”.
- Domestic architecture :

Baroda the 'Cultural Capital' of Gujrat has its own style of architecture i.e. indo saracenic style and brick architecture .



The Laxmi Vilas Palace

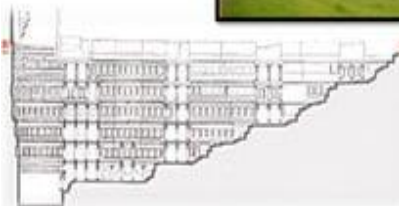


Kirti Mandir



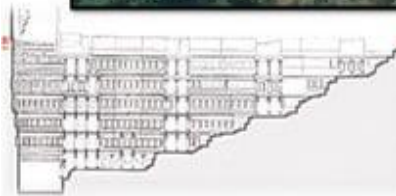
CLIMATE AND VEGETATION

- Average maximum temperature - 40°C
- Average minimum temperature - 23°C
- Average humidity(%) – 56.2
- Average rainfall - 93 cm
- Climatic condition – semi arid
- Flora and fauna :
 - existing – Bamboo , Neem tree,
 - grown on site - Palm tree , Plumeria flower



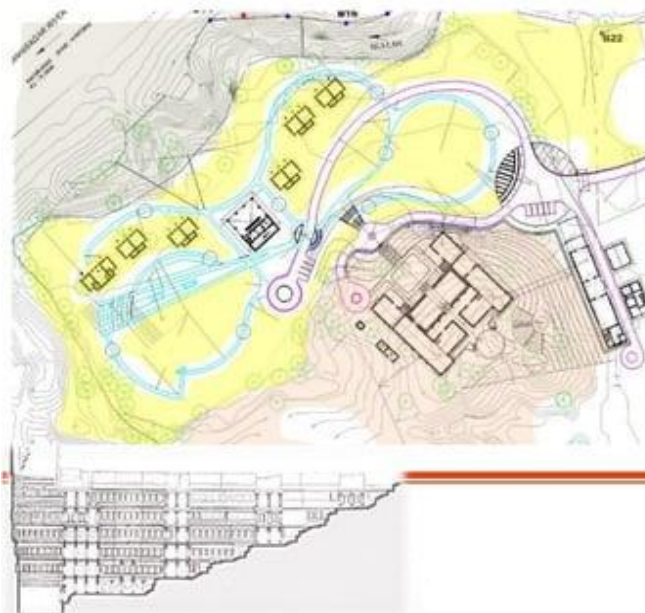
SITE SURROUNDINGS

- Outskirts Of Baroda.
- Near Jashpur village.
- Centre is situated on the Bank of the river 'Mahi'.



CIRCULATION WITHIN THE CAMPUS :

- **Vehicular access** and **pedestrian** are connected by a wide stairways overlooking the whole campus And it act as linking bridge Between residential area (cottages And cafeteria) and training area (art centre).



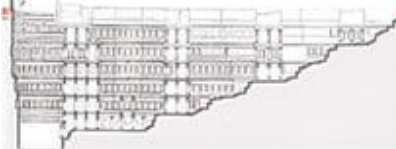
- vehicular access
- pedestrian

Use of contours

● Contour levels :

- **Upper** : centre
- **Middle**: cafeteria and Cottages
- **Lower** : deck over viewing River

- As one enters in the site, It gives access to two Separate are as that of the 'Art centre' on upper level and 'Cafeteria and artisans cottages'.



Site plan :

Area analysis :

Total site area : 80 acres
 Area for art center : 8.6 acres (34800 sqm)
 Built up area : 1420 sqm



Art center has Studios for painting, sculpture making , pottery , classroom , seminar hall , Office area with conference hall.

Workshops of wood , ceramic , stone , Metal are kept away from center as it create noise and disturbance to the students in the centre.

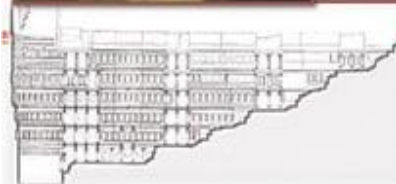


Cottages are located near the river front capturing view of the river.
 No. of cottages : 4 , Dormitories : 1
 Capacity of dormitory : 16 persons

Cafeteria has sitting area , kitchen, Utility area.
 In front of cafeteria there is a small book library with outdoor reading plaza.



Service room is located near art center which houses both electricity control room, generator room and water purification.

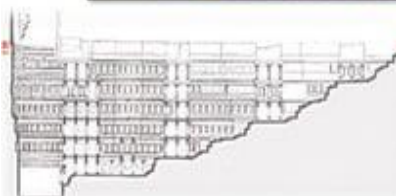
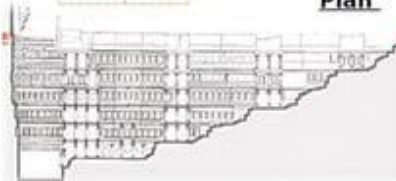


ART CENTRE



Plan form :

- Simple C shaped plan form with Central courtyard .
- This courtyard act as social space i.e. gathering space or as interaction Space face towards the river, lined with trees.
- Use of contours such that level difference segregate the activities and creates social gathering spaces.
- These courtyard also act as break out space.

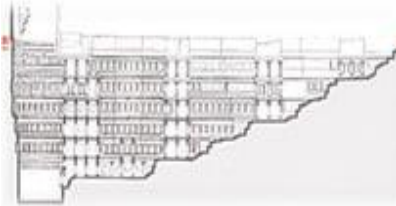




•Studios :

Section showing levels

- Since it's a working space for artists, studios are carefully angled towards the best source of light.
- Double heighted studios with skylights for natural lighting and wind extractors for achieving proper ventilation.
- Verandah also act as display area.



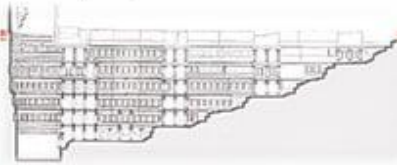
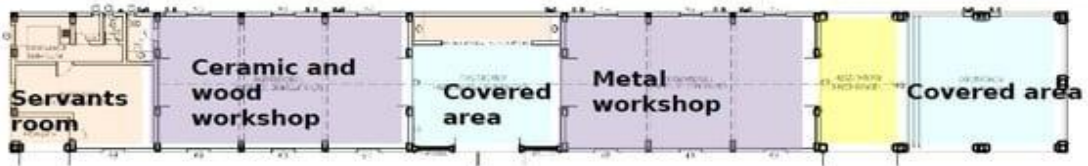
Service room:

- Located near art centre.
- Service block has electric control room, generator room and Water purification plant.
- Sanitation: septic tanks are provide for each toilet block. Rain water harvesting plant.



Workshops:

- Rectangular plan form with orientation such that workshops are well lighted and heat gain is reduced.
- Workshop kept away from centre as to reduce disturbance.
- Its nearer to entrance of the site so that it will be easy to carry and transport the metal, stone crafts.
- As it requires more space for preparation of craft thus it has front yard (outdoor workshop).



CRAFT

- These are some photograph of crafts which are done in workshops.
- stone craft , metal craft , wooden craft , ceramic craft etc.

Stone craft

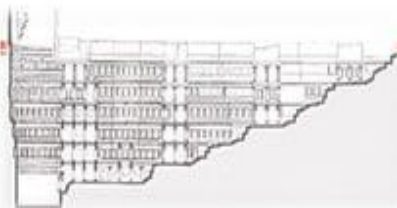


Metal craft



Wooden craft

Ceramic craft



SITE ANALYSIS

LATITUDE -26.9088661
LONGITUDE-70.9290752
ALTITUDE -248.69
AREA OF SITE -13 ACRES
TYPE OF SOIL- SANDY SOIL
POPULATION-91000
TOPOGRAPHY-DESERT
CLIMATE- HOT AND DRY



Location and Context:

The site located in Jaisalmer, is a the proposal is done on the site. The site has a rich historical context. The site is well connected with roads, i.e. at a distance of 200 m hence the site offers view of the lake as well as Jaisalmer Fort. The project will incorporate the climate and other water related issues of the site.

Situated near the tranquil shores of Godisar Lake, the site enjoys a picturesque setting amidst the golden sands of the Thar Desert. Surrounded by a rich tapestry of historical landmarks, including the majestic Jaisalmer Fort and ancient havelis, the area pulsates with the vibrant energy of centuries-old traditions and bustling community life.

Climate and Environmental Factors:

The climate of Jaisalmer is characterized by its arid desert conditions, with scorching temperatures during the day and significant fluctuations between day and night. The site experiences intense solar exposure, necessitating innovative strategies for passive cooling and sun protection. Wind patterns play a crucial role in moderating temperatures, offering opportunities for natural ventilation and evaporative cooling techniques.

Cultural and Historical Significance:

The Godisar Lake area holds profound cultural significance for the residents of Jaisalmer, serving as a focal point for religious ceremonies, cultural festivities, and leisure activities. The lake itself is surrounded by lush vegetation, providing a tranquil oasis amidst the desert landscape. Nearby temples and ghats add to the area's spiritual ambiance, attracting pilgrims and tourists alike.

Accessibility and Infrastructure:

Accessibility to the site is facilitated by well-established road networks connecting it to the city center and surrounding areas. Adequate infrastructure for utilities, transportation, and amenities exists within close proximity, providing essential support for the proposed Desert Culture Center. Additionally, the site's central location makes it easily accessible to both local residents and visitors, enhancing its potential as a cultural hub.

Site Opportunities:

- Proximity to Godisar Lake offers opportunities for integrating water features and promoting sustainable practices such as rainwater harvesting and landscape irrigation.
- Surrounding historical landmarks provide inspiration for architectural design and cultural interpretation, fostering a sense of continuity with the city's rich heritage.
- Abundant natural light and expansive views of the surrounding landscape present opportunities for creating dynamic spatial experiences and connections with the environment.

Site Challenges:

- Intense solar exposure and extreme temperatures necessitate effective sun shading and thermal insulation strategies to ensure occupant comfort and energy efficiency.
- Preservation of the site's ecological integrity and cultural significance requires careful consideration of environmental impact and heritage conservation measures.
- Balancing the needs of a growing urban population with the preservation of the site's natural and cultural assets poses challenges in sustainable development and community engagement.

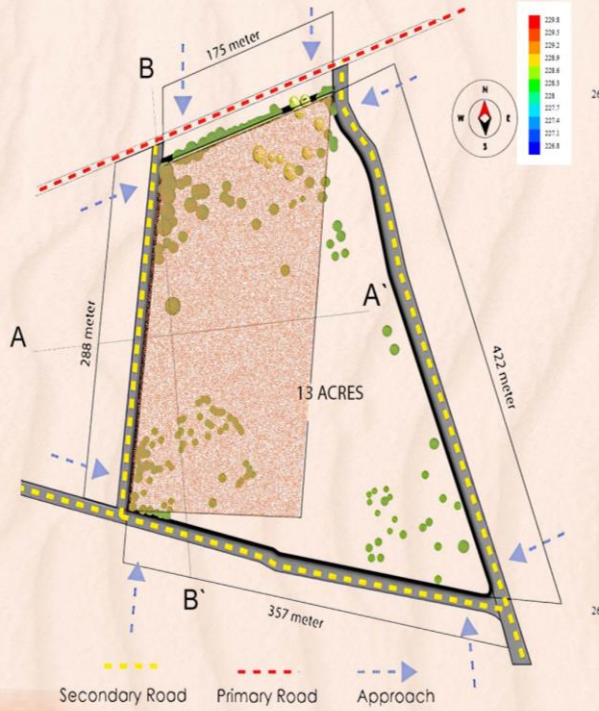
URBAN LEVEL ANALYSIS- PHYSICAL AND SOCIAL INFRASTRUCTURE:



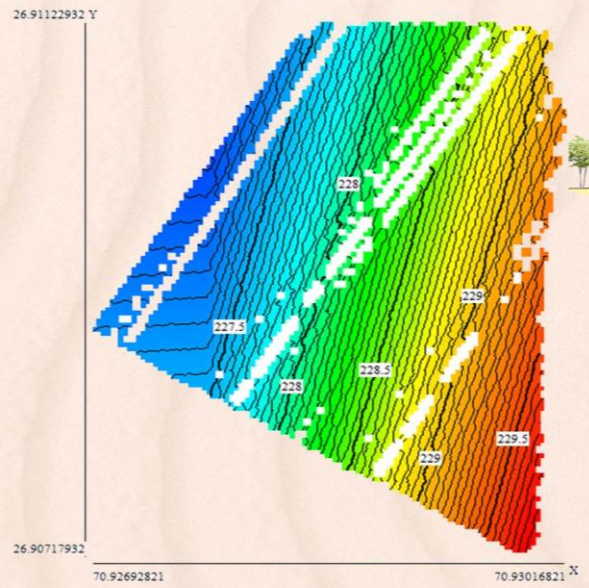
SITE



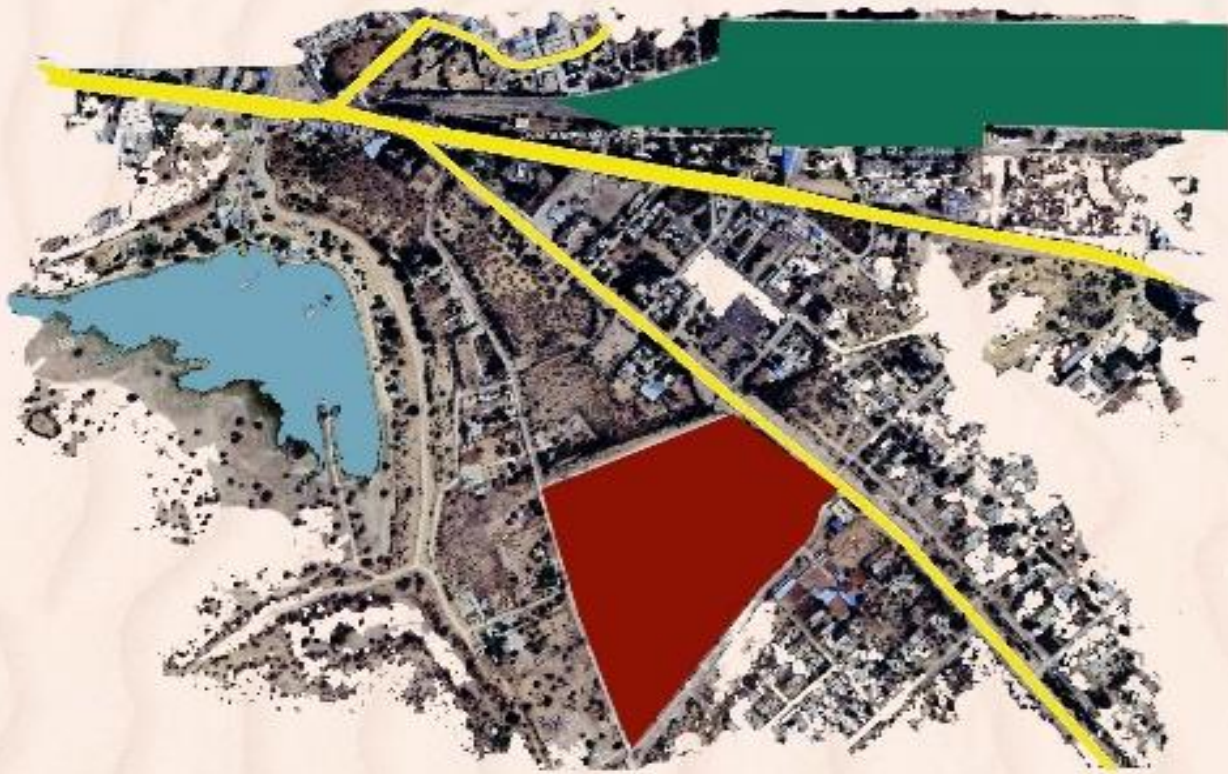
SITE DIMENSION AND ROAD



CONTOUR



SURROUNDINGS AND LANDMARKS



The site is very close to famous gadisar lake and to the railways station as landmarks.

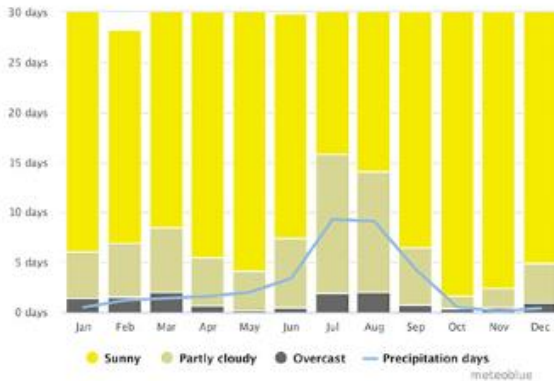
CLIMATE

Climate of Jaisalmer:

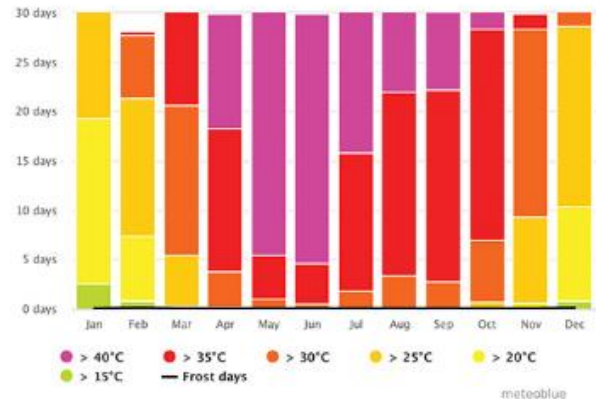
Jaisalmer, often referred to as the "Golden City," is located in the heart of the Thar Desert in the western Indian state of Rajasthan. Its climate is characterized by extreme aridity, with scorching summers, mild winters, and minimal rainfall. Understanding the unique climatic conditions of Jaisalmer is crucial for designing sustainable architecture and ensuring the comfort and well-being of its inhabitants.

1. **Hot summers:** Summers in Jaisalmer are blisteringly hot, with temperatures often soaring above 40°C (104°F) from April to June. The intense heat is exacerbated by the city's location within the desert basin, where solar radiation is amplified, and there is minimal cloud cover to provide relief.
2. **Drastic Diurnal Temperature Variation:** One notable feature of Jaisalmer's climate is the drastic diurnal temperature variation. While daytime temperatures are scorching, dropping significantly after sunset, often leading to chilly nights, especially during the winter months.
3. **Minimal Rainfall:** Jaisalmer experiences minimal rainfall throughout the year, with most precipitation occurring during the monsoon season from July to September. However, the city receives scanty rainfall compared to other regions, averaging around 200mm annually. Consequently, water scarcity is a significant concern, necessitating sustainable water management practices.
4. **Dry Conditions:** The arid climate of Jaisalmer is characterized by dry air and low humidity levels, particularly during the summer months. This dryness contributes to rapid evaporation of moisture from the skin, leading to dehydration and discomfort if adequate hydration measures are not taken.
5. **Wind Patterns:** Wind patterns play a significant role in moderating temperatures and influencing climatic conditions in Jaisalmer. The prevailing winds, typically from the northwest, carry hot, dry air from the desert, contributing to the city's arid environment. However, these winds also offer opportunities for natural ventilation and evaporative cooling techniques, which can be harnessed for passive climate control in architectural design.

CLIMATE ANALYSIS:

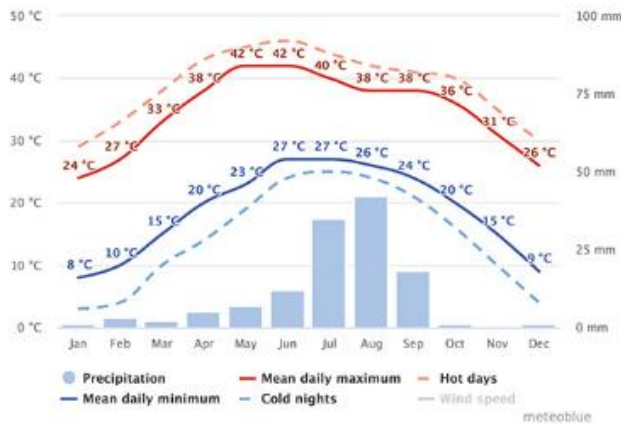


Cloudy, sunny and precipitation days

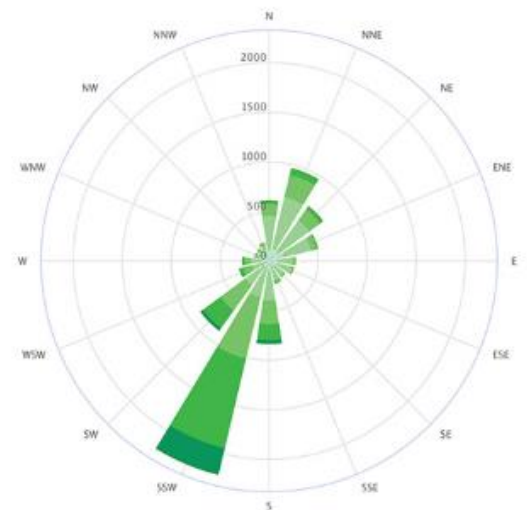


Maximum Temperatures

The "mean daily maximum" (solid red line) shows the maximum temperature of an average day for every month for Jaisalmer. Likewise, "mean daily minimum" (solid blue line) shows the average minimum temperature. Hot days and cold nights (dashed red and blue lines) show the average of the hottest day and coldest night of each month of the last 30 years.

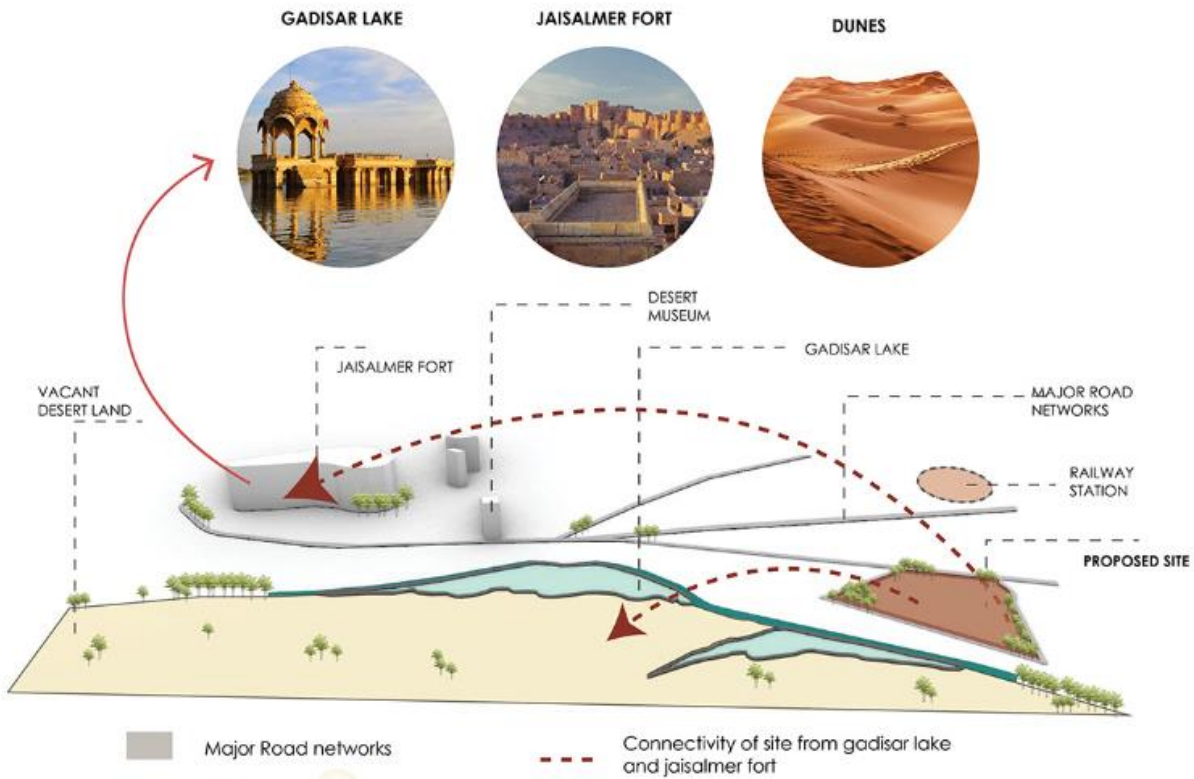


Average temperatures and precipitation



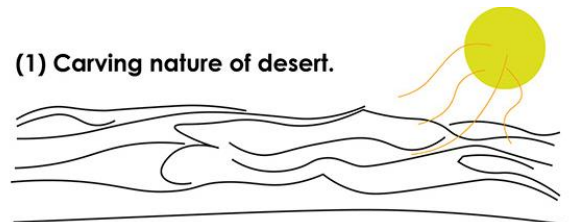
Wind Rose

CONCEPT



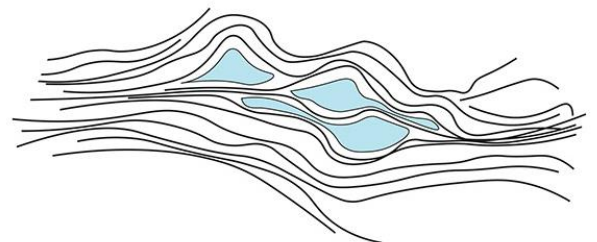
As humans, we have the tendency to perceive everything in a unique way, so the design targets to stitch the stories of Jaisalmer in the built form and let architecture speak of its time and culture.

(1) Carving nature of desert.

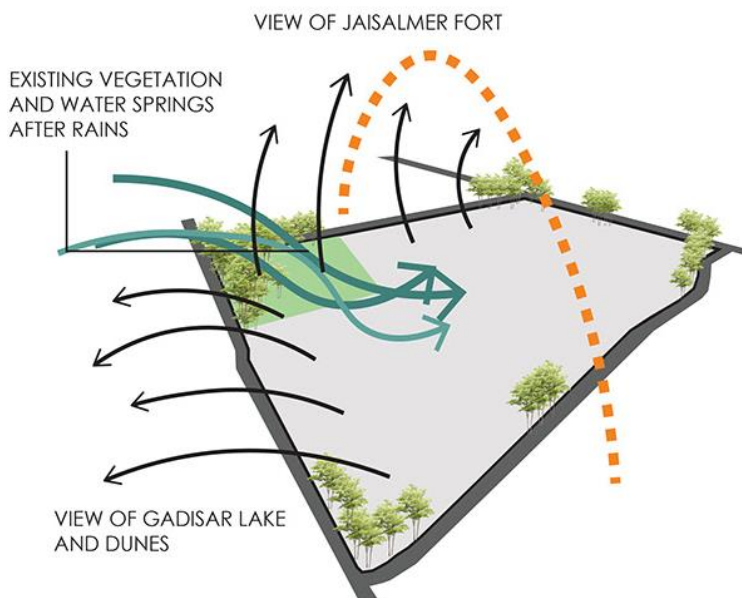


The formation of dunes and the carving nature of the desert inspired the conceptual approach of the project, the project offers an interpretation of urban landscape. Like the cactus and the camel, buildings must adapt to survive, so the main focus of the design was how form and material can combat the challenging climatic conditions and how better site planning and landscaping can be done for an efficient visitor's management.

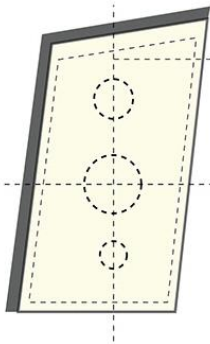
(2) Urban oasis, Reflecting the horizontal properties of the desert.



Integrating desert, water and the cosmopolite, the spaces offers a unique interpretation of urban landscape and presents an innovative harmony between waterways, urban areas and pedestrian walkways. The building appears to have been shaped naturally from water erosion, making it iconic and easily recognizable.

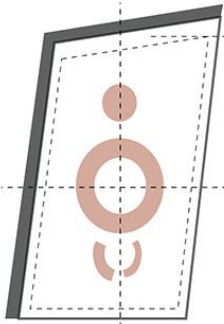


ZONING:



The building buildings are formed around three circles in an axis and the circulation is facilitated around these circles.

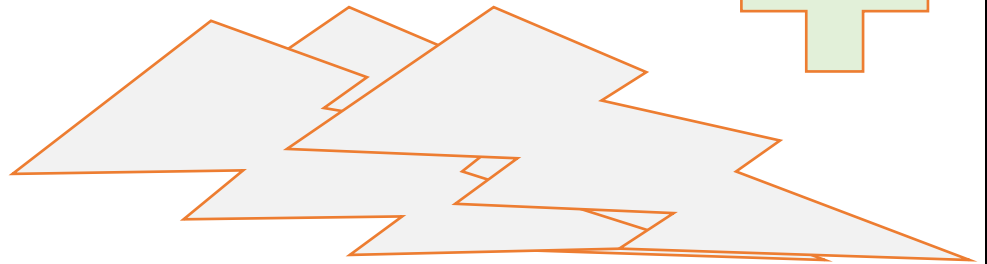
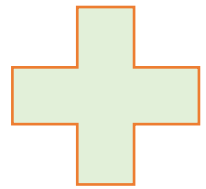
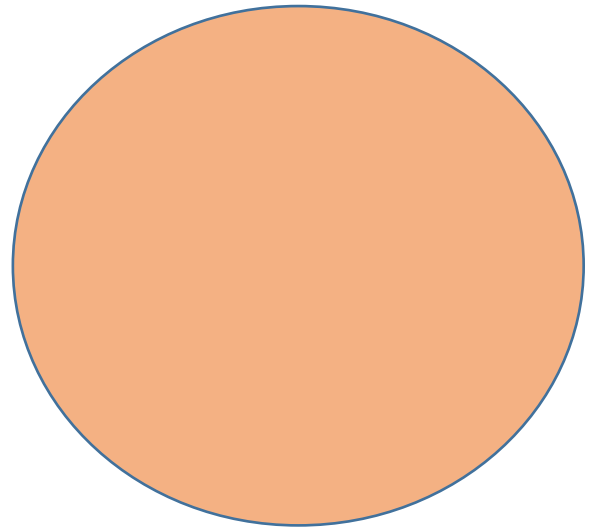
The radial nature of building ensures smooth movement and visual accessibility between blocks.



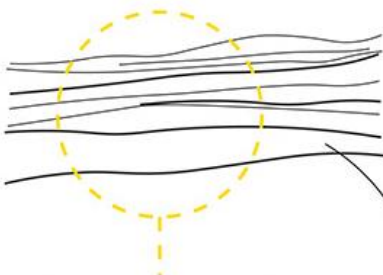
The zones are divided around the two main axis dividing the circle into two parts. One part of circle is zoned as museum and the opposite is zoned as production centre.

Basement is planned in the central open space which ensures a cool environment of spaces.

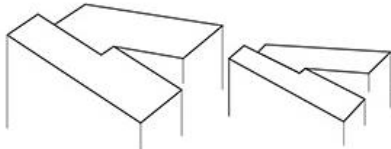
CIRCLE



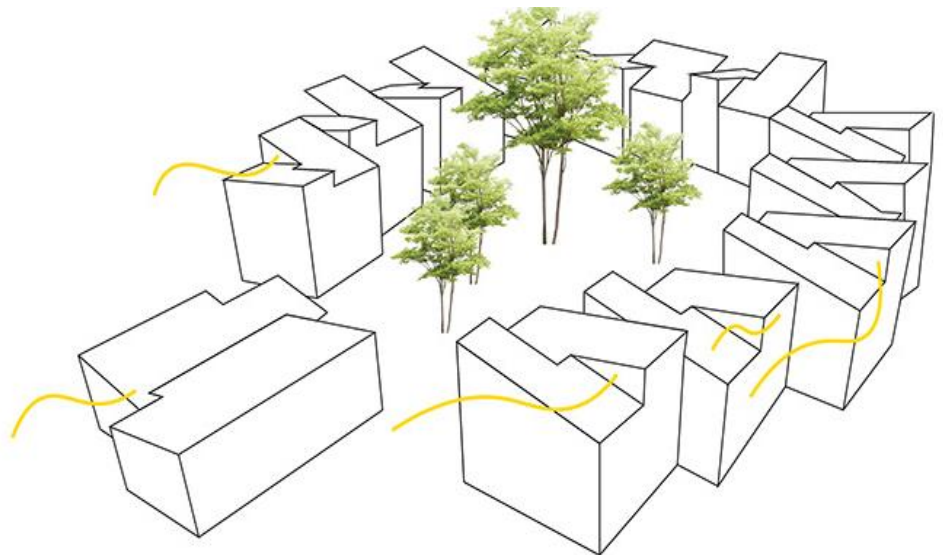
DUNES



SAND DUNES IN DESERT REGIONS



ROOF FORM: ABSTRACT OF THE SAND DUNES SEEN IN DESERT REGION FROM A DISTANCE



ARRANGEMENT OF ROOF IN SUCH A WAY THAT IT BRINGS NORTH LIGHT INSIDE THE BUILDING.

PLANS

SECTION/ELEVATION

RENTERS

ELECTIVE

BIBLIOGRAPHY

- NEUFERT THIRD EDITION DATA.
- TIME SAVER STANDARDS
- CEPT WEBSITE
- WWW.GOOGLE.COM
- WWW.NID.EDU
- WWW.WIKIPEDIA.COM