SINHGAD TECHNICAL EDUCATION SOCIETY'S SINHGAD COLLEGE OF ARCHITECTURE, PUNE

VIRTUAL STUDY TOUR REPORT 2021-22 (B. Arch. II to IV Years)



Architectural Virtual Study tours: Every year study tours are conducted for all students from First year to Fourth Year B. Arch. This year, due to COVID 19 pandemic no tours were carried out, hence, virtual study tours are designed linking with Architectural Design Projects. Faculty and students of each class decided the place and studied based on secondary resources available in internet, so that the students get exposure of various places and would be equipped to design in varied physical and socio-cultural context. This Endeavour is conducted by Second, Third and Fourth year B. Arch. Classes. This study comprises of following parts:

- 1. Study of the area and context.
- 2. Identification of site and finalization of Design project
- 3. Architectural Design project: site, preamble, requirement briefs
- 4. Virtual study tour report & documentation

SINHGAD COLLEGE OF ARCHITECTURE.

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SECOND YEAR B. ARCH. STUDY TOURS		
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ШΒ	Mandu	Ar.Ila Shende
II D	Lonand	Dr. Priyamvada Chitale, Ar. Mukta Pandit, Ar. Sejal Desarda
THIRD YEAR B. ARCH. STUDY TOURS		
III A	Chandigarh	Prof.Kalpana Hadap, Ar.Avani Topkar, Ar.Akshar Mendhe
ШВ	Ahmedabad	Ar.Niketa Patil
ШС	Gwalior	Ar. Kavita Patil, Ar. Janhavi Dhage
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FOURTH YEAR B. ARCH. STUDY TOURS		
IV B	Jodhpur	Ar. Indrayani Dasare
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IV D	Baramati	Ar.Ashish Sakat, Ar.Kirti Bajare, Ar.Avanti Bhogade

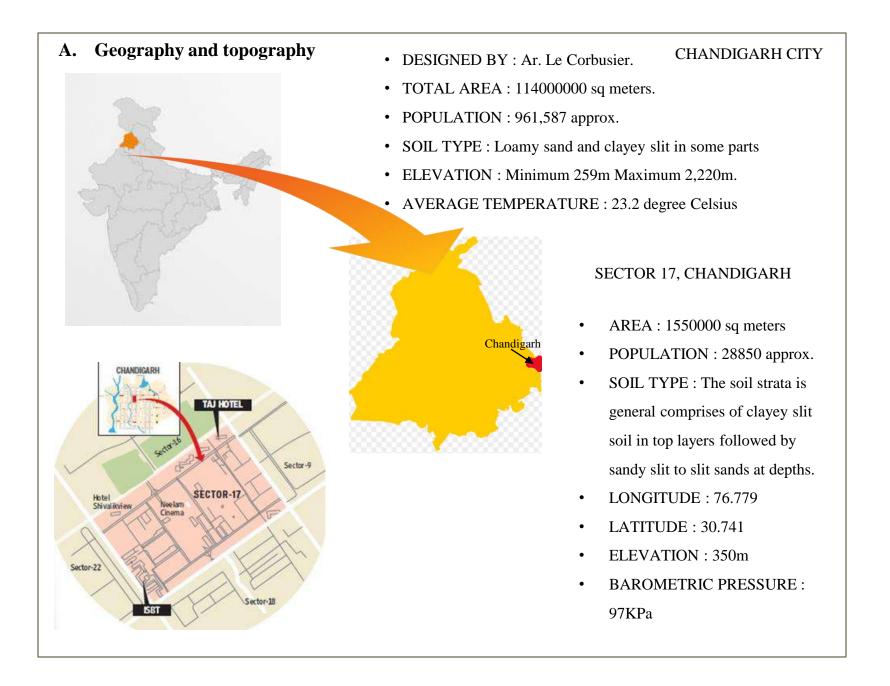
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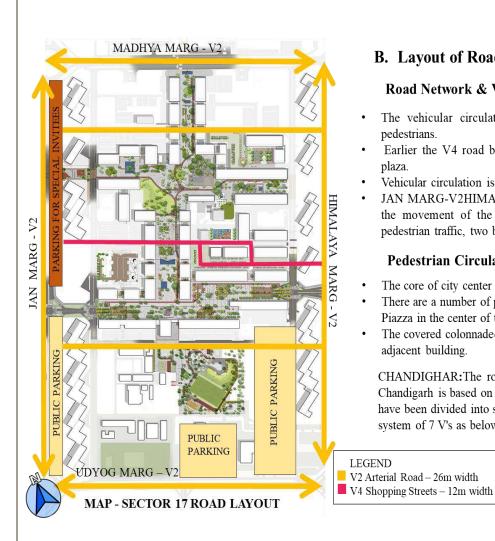
VIRTUAL STUDY TOUR

CHANDIGARH

by Second Year B. Arch.

Division A





B. Layout of Roads and Transportation

Road Network & Vehicular Circulation Bridge

- The vehicular circulation is predominantly peripheral with central areas left for ٠ pedestrians.
- Earlier the V4 road bisected the sector but now, it has been cut-off for making a • plaza.
- Vehicular circulation is confined only to the parking areas. ٠
- JAN MARG-V2HIMALAYA MARG-V212UDYOG MARG-V2 in order to facilitate the movement of the vehicular traffic in city center without interfering with the pedestrian traffic, two bridges were built above the pedestrian areas.

Pedestrian Circulation

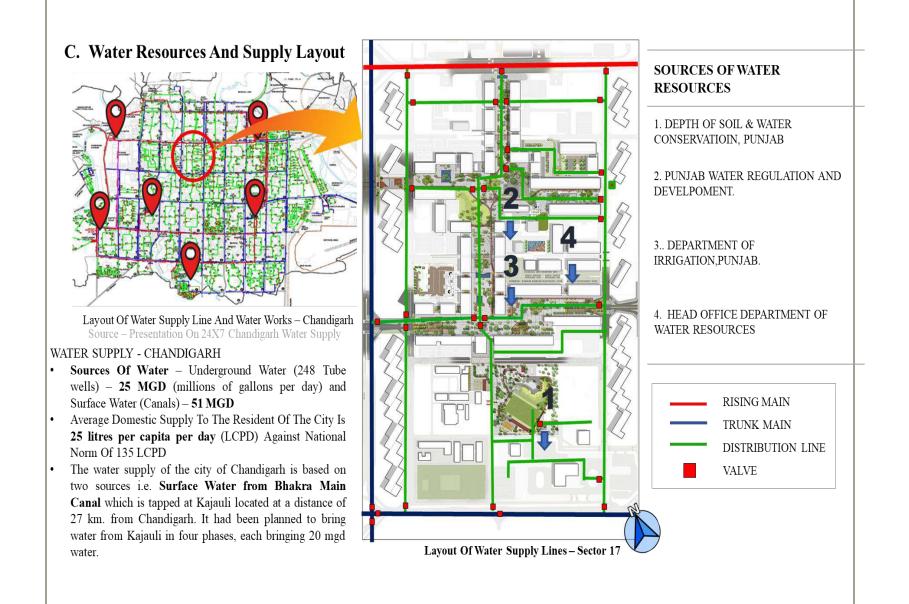
LEGEND

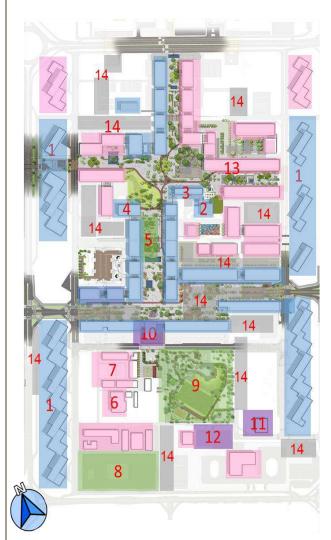
V2 Arterial Road – 26m width

- The core of city center is designed on the pedestrian scale.
- There are a number of pedestrian paths which lead to different piazzas with the largest ٠ Piazza in the center of the sector.
- The covered colonnaded verandas are provided in every block which also connects the adjacent building. Fast Roads connecting Chandigarh to other

CHANDIGHAR: The road network of city of Chandigarh is based on Grid Pattern and the roads have been divided into seven categories known as system of 7 V's as below : -

V-I towns. V-2 Arterial Roads. V-3 Fast Vehicular Roads. V-4 Meandering Shopping Streets. Sector Circulation Roads. V-5 V-6 Access Roads to Houses. V-7 Foot Paths & Cycle Tracks.

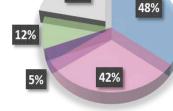




D. Land Use Pattern

- GOVERNMENT OFFICES
 CENTRAL STATE LIBRARY
- 3) TOWN HALL 4) POST AND TELECRAL
- 4) POST AND TELEGRAPHY
- 5) PLAZA
- 6) CINEMA HALL7) POLICE STATION
 - TRAFFIC AND TRANSPORTATION (30%)
 - COMMERCIAL ZONE (48%)
 - RECREATIONAL ZONE (12%)
 - PUBLIC SEMI PUBLIC ZONE (42%)
 - INDUSTRIAL ZONE (5%)

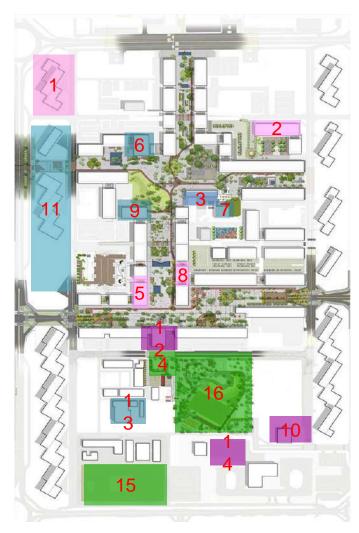
8) PARADE GROUND 9)FOOTBALL STADIUM 10) PETROL STATION 11) FIRE STATION 12) BUS STATION 13) BANKS 14) PARKING 30%



E. Location + Distribution Based On Communities

- Sector 17 Is a Unique Public Space AT The Heart of The City of Chandigarh With a Variety Of Activities Catering To a Range Of user Groups
- Surrounding Street Are Dotted With International Restaurants, Shops And Stores Offering Global Fashion.
- Entertainment Options Cinema And Bars, While Neary Shanti Kunj Park Has a Rose Garden and Lawns For Picnics.
- People Of Sikh Origin Resides There In Majority.
- Other Community Group Are Brahmins , Vaishas , Lohar , Gujjar , Tarkhan & Sansins

Source - https://www.bdp.com/en/projects/india/revitalization-plan-for-sector-17-market/



MAP OF PUBLIC AMENITIES, SECTOR 17

Amenities

INDEX

- 1) HOTEL TAJ
- 2) KC THEATRE
- 3) TOWN HALL BUILDING
- 4) MELA GROUND
- 5) NEELAM CINEMA
- 6) TDI MALL
- 7) STATES LIBRARIES
- 8) BANKS
- 9) TELEPHONE EXCHANGE
- 10) FIRE STATION
- 11) RBI BUILDINGS
- 12) PETROL STATION
- 13) DISTRICT COURT
- 14) BUS STATION
- 15) PARADE GROUND
- 16) FOOTBALL STADIUM









Historic Introduction



City: Chandigarh

Came in existence: 1953

Earlyplanarchitects:PolishArchitectMaciejNowickiandtheAmericanplannerAlbertMayer.

Final plan architect: Swiss-French architect Le Corbusier

Chandigarh capital project team:

- 1. Le Corbusier (Head)
- 2. Jane Drew
- 3. Maxwell Fry

Chandigarh is one of the early planned cities in post-independence India and is internationally known for its architecture and urban design.

Source- Google Earth

Political History : Chandigarh

As part of the partition of India in 1947, the former British province of Punjab was divided into two, mostly Sikh and Hindu East Punjab in India and mostly Muslim West Punjab in Pakistan.

The capital of undivided Punjab, Lahore, had become part of Pakistan after the partition.

Jawaharlal Nehru, the first Prime Minister of India, ordered new and modern city be built to serve as the capital

of Punjab. In 1949 the American planner and architect Albert Mayer was commissioned to design "Chandigarh".

Chandigarh was carved out from about fifty Puadhi-speaking villages in the then-state of East Punjab, India.

Shimla was the temporary capital of the state until Chandigarh was completed.

Chandigarh is a city and a union territory that serves as the capital of the states of Punjab and Haryana.

As a union territory, the city is ruled directly by the Union Government of India and is not part of either state.

Albert Mayer developed a superblock-based city interspersed with green spaces which with an emphasis on cellular neighborhoods and traffic segregation.

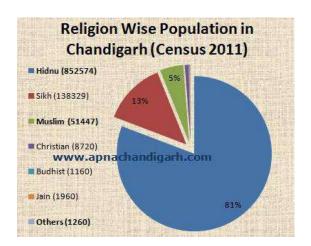
His site-plan took advantage of natural land characteristics; the land's gentle grade promoted proper drainage. Mayer stopped work after his partner Matthew Nowicki died in a plane crash in 1950. Government officials recruited Le Corbusier to succeed Mayer and Nowicki.

Origin of communities and their history

Hinduism is the predominant religion of Chandigarh

Sikhism is the second most popular religion in the city.

Islam is third most followed religion .



Minorities are Christians, Jains, Buddhists, those that didn't state a religion are, and others.

The people of Sector 17, Chandigarh are mostly Punjabis and they trace an Indo-Aryan ethnic origin.

As known as heart Chandigarh of people living in Sector 17 belong to different races and classes thus with lot of diversity.

Irrespective of the caste of the people living here they all mostly lead an urban lifestyle with all the city standards.

Most of the people living here are Punjabis.

Sector 17 is predominantly occupied by the Sikh Jat who are mostly peasants doing agriculture. The other two major native communities of this union territory are the Khatris and Aroras.

The Khatris and Aroras are mainly involved in trading.

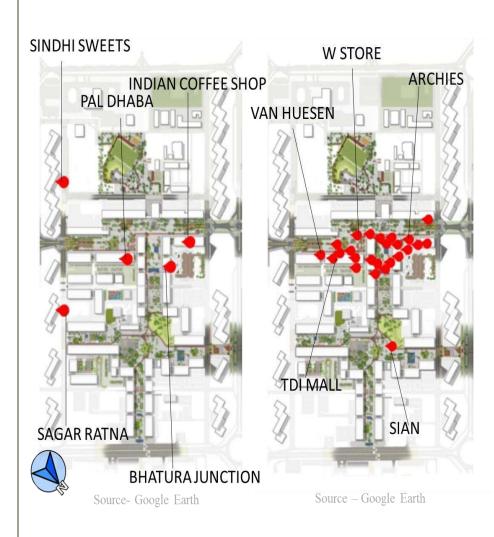
They are very much attached to their social and religious customs and traditions for most of the Sikh men living in Chandigarh wear their turbans.



LIFESTYLE

LANGUAGE

- The culture of Chandigarh reflects a blend of the entire North India. In fact, it can be said that Chandigarh is a land of multilingual people.
- As being the part of Chandigarh the majority of the population speaks Hindi while Punjabi is the secondary language in Sector 17
- Government schools use English, Hindi, and Punjabi textbooks.
- The percentage of Punjabi speakers has come down in 2011, while that of Hindi speakers has increased in Sector 17 with respect to whole Chandigarh



LIFESTYLE

OCCUPATION

- Sector 17 in Chandigarh is known as hub of shopping.
- As Sector 17 is shopping hub of Chandigarh the main occupation there is dependent on retail sale of branded goods and products.
- Secondary and Tertiary occupation like retail sale of produced and branded goods along with occupation in which different types of services are provided are carried out in large scale in Sector 17
- 17 sector also consists of KC Mall, All Branded Showrooms, pubs and disco, Hotel Taj, TDI Mall and other lots of interesting thing.

CUISINE

- Being a part of Chandigarh it is mainly the Punjabi food that forms part of cuisine of Sector 17.
- The staple food mainly consists of wheat-based rotis, parathas and naan.
- Some famous restaurants in Sector 17:
- 1. Sindhi Sweets
- 2. Pal Dhaba
- 3. Sagar Ratna
- 4. Indian Coffee House
- 5. Ghazal restaurants



CULTURE And TRADITION FOLKS AND FESTIVALS

- As sector 17 is majorly influenced by Hindu population Diwal, Holi, Dusshera are the major festival celebrated.
- The people of Sector 17 celebrate festivals like Baisakhi, Guru Nanak Jayant being a part of sikh traditon.
- The region is known for its folk songs and dances which are popular all over the country.
- Parade ground in Sector 17 is the place where officialRavan dahan takes place. Chandigarh administrationofficials are present at this venue to celebrate Dussehra
- **Giddha** is a popular folk dance of women in the Chandigarh region.
- The dance is often considered derived from the ancient dance known as the ring dance and is just as energetic as Bhangra
- Arts and culture of Chandigarh city, in North India reflects the likes of Punjabi culture complete with their manifold folk dances, delicious cuisines and beautiful costumes



SPORTS

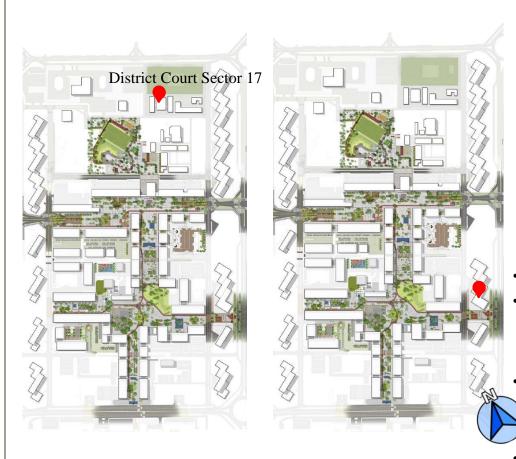
Being part of Chandigarh , the sports like Kabaddi , Kho-Kho, wrestling(Kushti) are played in the Sector 17 region. Gatka is the traditional martial arts form played with help of sword and shield in the region.\

In parade ground you will see prade on 15 August, and 26 January and dashera celebration also and some fest and markets also nearby 17 bus stand.

CULTURE

- Being heart of Chandigarh, culture in Sector 17 is influenced by the neighboring states.
- Though the people of Sector 17 belong to a cosmopolitan culture they are endowed with numerous temples, mosques, shrines and bhawans present throughout the city.
- The culture is a blend of Hinduism, Sikhism and Islam.
- The land of Chandigarh is a meeting ground for different people and race, so the tradition and culture of the city is a mixture of the various culture of **India**

IMPORTANT STRUCTURES



Source- Google Earth

Source- Google Earth

1. District Court, Chandigarh

District Courts, Chandigarh came into existence on 01.11.1966 Shri Jasmer Singh being posted as first District & Sessions Judge, Chandigarh Shri Sohan Lal Verma was Sub Judge First Class, Chandigarh.

Earlier, 20 Courts were functioning in District Court Complex, Sector-17, Chandigarh and were shifted to New District Courts Complex, Sector-43, Chandigarh on 25.01.2013.

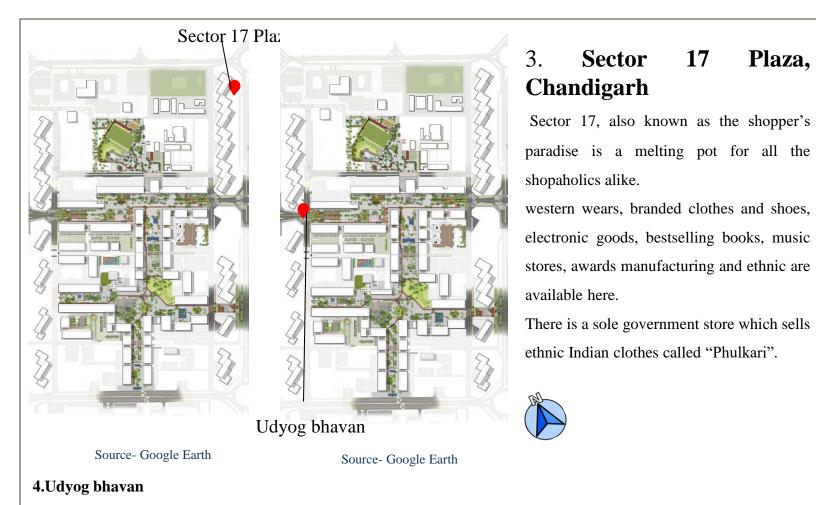
2. R.B.I. Building, Chandigarh

Address: Jan Marg, Near Consulate General Of Canada, Sector 17D,

Sector 17, Chandigarh 160017

- The Jurisdiction of this office is the States of Haryana, Punjab, Himachal Pradesh
 - and the Union Territory of Chandigarh
- Regional Director : Shri Jyoti Kumar Pandey

PS: THERE ARENT NOTABLE HISTORICAL MONUMENTS IN SECTOR 17 SO WE ARE PROVIDING INFORMATION RELATED IMPORTANT STRUCTURES



- Address: Madhya Marg, Sector 17A, 17B, Sector 17, Chandigarh, 160017
- Chairman: st. Gurpreet
- Punjab Small Industries & Export Corporation limited was setup in 1962 with the objective of supporting the individual in his endeavor to set up his own industrial unit. And help him and the small-scale industry to grow in Punjab





TYPOLOGY OF ROADS

The road network of city of Chandigarh is based on *Grid Pattern* and the roads have been divided into seven categories known as system of 7 V's as below : -

The road network measuring about 1400 km was transferred to the Municipal Corporation. Most of the roads especially V6 roads were in poor. During the last five years the Municipal Corporation has completed the recarpeting work of all the V6 roads in the city measuring 499 km. Out of 238.04 km of V3 roads 91.57 km have been recarpeted/ strengthened

The major V3 Roads Recarpeted /Strengthened are as below:

Out of 128.12 km of V4 and 232.14 km of V5 roads 89.99 km and 129.32 km have been strengthened/ recarpeted respectively. **CAUSEWAY :**

Corporation constructed a high level causeway in place of a foot bridge connecting Industrial Area Phase – I, with railway station, thus opening a new route and giving relief to the heavily congested Chandigarh-Kalka Road by bye-passing it & directly linking the city to Railway Station through shorter route.

BOX CULVERT :

A Causeway having discharge capacity of only 300 cusecs on trunk road connecting Chandigarh with Mohali had settled, during the monsoons of 1998. The Corporation had earlier approved provision of a bridge with 6000 cusec capacity for 176.00 lacs. However, it has been replaced with a Box culvert type of bridge with discharge capacity of 8000 cusec at a cost of Rs.45.00 lacs only in a record period of $2\frac{1}{2}$ months.

CYCLE TRACKS :

The original planning of the city envisaged provision of cycle tracks running South to North. The cycle track running through Sector 11, 15, 24, 37 & 41

SCALE AND PROPORTION





The Basic Building Typology is observed as extremely Rectilinear with similar proportions.



In both the developments the smaller individual Residential Units are arranged around central common Green Spaces, although the shapes are different



https://hellotricity.in/wpcontent/uploads/2020/01/chandigarh-news-hellotricity.jpg

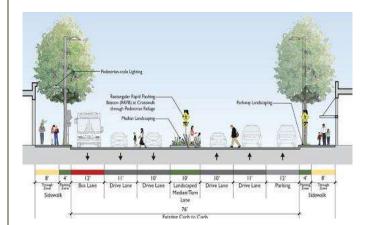


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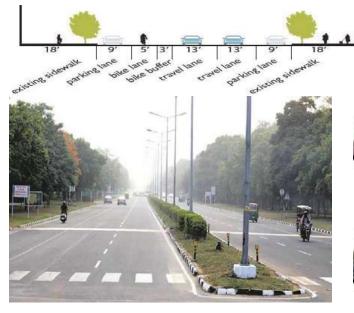
- Streetscape consists of various features like trees, planting beds and areas, paving, road surface steps, boundary walls/ fences/ railings, fountains /water features, public art.
- The roads of V4 market street namely V3 roads, the V4 road and the parking area are all metallic.
- Various stakeholders opined that huge amount of metallic surface leads to overheating of spaces on shopping sides making the area uncomfortable for visitors in the hot summer months (May-July).
- The pedestrian movement area is i.e. the pavements are concrete paved.
- The covered corridors are conglomerate that have different floor materials, the choice of which is at the discretion of the shop owner. It varies from concrete flooring, tiled flooring to stone flooring.
- The floor finishing material in the corridors has also become symbolic of the shops and their social status.



 $https://images.tribuneindia.com/cms/gall_content/2019/8/2019_8\$ largeimg12_Monday_2019_075807747.jpg$



Finish /surface treatment of the street as per the hierarchy and use



SECTOR 17 Street view

The city centre is bound on edges by Madhya Marg, Himalayan Marg, Udyog Marg and Jan Marg in a clockwise manner.

•The roads are designed and oriented in such a way that most of the time during the day, they are under shadow.

•There are parking areas for the commercial zones.

•The Parking lanes are as broad as the main roads.

•There are pedestrian walkway roads that are segregated from the main road with the help of a wide lawn strip.

The ground floor generally consists of shops;
First and second floors have either shops or offices.
Third floor was designed as accommodation for the essential staff of the commercial establishment.



•Streetscape consists of various features like trees, planting beds and areas, paving, road surface steps, boundary walls/ fences/ railings, fountains /water features, public art.



Elevation of Streets

FROM GRO TO SR



SKYLINE OF THE CITY CENTRE WITH ELEVEN STOREYED BUILDING THE TOWER ACTS AS A LANDMARK

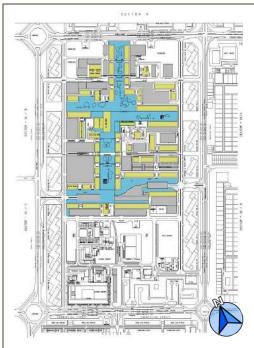


SKYLINE OF SECTOR 17 WITHOUT THE ELEVEN STOREYED BUILDING





- LANDSCAPING, SEATING AND LIGHTING:
- The plaza and other open spaces should be revitalizing through landscaping, seating, and lighting.
- Sector 17 has mostly hard landscape for its paving which becomes very hot in the summers and radiates heat in the evening.
- The seating and lighting are the two factors which need to be done in similar fashion as it is being done in the part of Neelam Plaza.
- BLOCKING, PLAZA, CIRCULATION AND PARKING:
- The fundamental concept of Sector 17 is creation of Plazas. The piazza is working on two perpendicular axis, on the intersection of these two axis there is proposal to built 11 storyed tower which never built.
- To link the space of piazza on ground, the two over bridge has been built for roads to cross.
- The most of blocks are being put around this piazza.



BLOCKING, PIAZZA, CIRCULATION AND PARKING:

- The fundamental concept of Sector 17 is creation of Plazas. The piazza is working on two perpendicular axis, on the intersection of these two axis there is proposal to built 11 storyed tower which never built. To link the space of piazza on ground, the two over bridge has been built for roads to cross. The most of blocks are being put around this piazza.
- The vehicular circulation and pedestrian circulation has been well segregated.
- The parking mostly is on periphery around the plaza so it did not interfere with circulation of pedestrian plaza.
- The most of parking is provided on surface only but now Chandigarh administration has constructed multistoried tower for parking.

Blocking, Piazza and Parking in commercial zone of Sector 17.

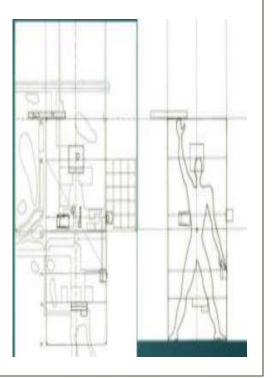
HUMAN SCALE: The city of Chandigarh is planned to human scale.

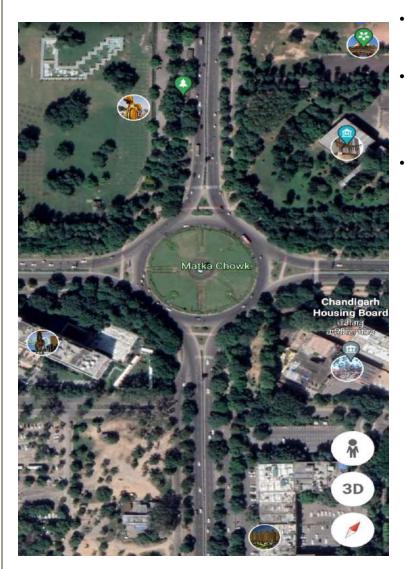
It puts us in touch with the infinite cosmos and nature.

It provides us with places and buildings for all human activities by which the citizens can live a full and harmonious life.

Here the radiance of nature and heart are within our reach.

SECTORS: This city is composed of sectors. Each sector is 800 meters by 1,200 meters, enclosed by roads allocated to fast mechanized transport and sealed to direct access from the houses. the green strip should stay uninterrupted and accommodate schools, sports fields, walks and recreational facilities for the sector. Vehicular traffic is completely forbidden in the green strips, where tranquility shall reign and the curse of noise shall not penetrate.





• Matka Chowk.

- Matka chowk, they call it, for, it has a huge "matka"-like structure made of fiberglass at the center.
- This chowk in Chandigarh is situated on the prestigious Jan Marg and has been designed and maintained by the Chandigarh Housing Board.
 - Famous for the seasonal perennials in full bloom to give the visitors to the city a soothing and pleasing sight this chowk in Chandigarh witnesses, all major rallies and demonstrations.



Landscaping, Seating And Lighting



Number of shady trees are planned in the row in the central piazza around them built in furniture.

The piazza and other open spaces should be revitalizing through landscaping, seating, and lighting.

Sector 17 has mostly hard landscape for its paving which becomes very hot in the summers and radiates heat in the evening. So there is need to mix soft landscape in hard landscape.

The soft landscapes can also create good for LIGHTING:SEATIN Giazza to make it more active visuals for sector 17.

• The city centre which once alleged to be the concrete jungle has now boomed with number of shady trees.





A specialty in area and the centre of attraction is dove of peace sculpture where cascades down from one level to another in geometrically shaped tanks, amidst delightful play of colourful lights.







GREY FACADE

Street Facing Facades

• The sector, known for its lofty grey buildings, is beginning to look unkempt because of the discoloured façade but the bylaws don't permit a coat of paint, even if it's grey in colour. Even if some building owners dare to paint them, they are asked to remove it on the plea that paint does not gel with the uniform look of the façade.

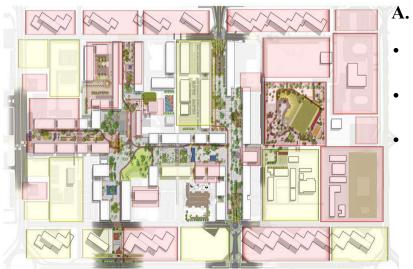
• Most buildings also need cleaning and restoration. Look up and you will see cracks in the exposed concrete, especially in the balcony area of the façade.



White paint on concrete.

Texture on concrete.

CHANGING FAÇADE: There are various types of violation are happening for changing the façade of shops to show case of the shops. Few of these are based on present need of advertisement and most of these are violation.



. Building Typologies

- Basically All Building , Play Ground Are In Rectangular Form.
- Good For Transportation Because Of Building Forms.
- Designed For Human Health And Productivity.



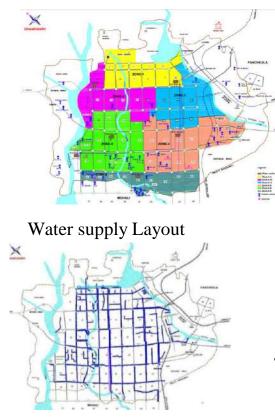
Semi – Private Spaces

B. Building technology, Materials, services



There are mainly four types of construction in Chandigarh that most picked:

- Residential Construction Building.
- Commercial & Institutional Building.
- Industrial Construction Building.
- Infrastructure and Heavy Construction Building.
- Most of the constructions are in Rcc form



Drainage system



- II. Services water supply, electricity, storm water drainage, garbage disposal, etc.
 - **Water supply** : water supply of Chandigarh is based on two sources i.e. Surface water from Bhakra Main Canal which is tapped at Kajauli located at a distance of 27 km from Chandigarh
- **Electricity** :- Chandigarh does not have any dedicated earmark power generating stations, as the capital of Punjab, it gets assured power supply from 920 MW Rupnagar thermal power stations located 40 km away and from 1400 MW IPP, Rajpura thermal power station which is about 50 km from Chandigarh
- **Drainage** :- The city has well laid out under ground ground water drainage system . It is designed keeping in view the slope of the city i.e. from north west to south east. It was initially designed for a rain intensity of half inch per hour.
- **Garbage disposal** :- The corporation is according top priority towards the maintenance of dumping ground . Bull dozer is used for pushing the garbage in the low laying areas is covered with thick layer of earth to prevent foul smell .

i. Size & Proportion of Open Spaces



Diagram Showing Space Between Two Structures

Source – Urban Design Case Study Sector 17



Commercial building with Colonnaded Verandas

Source – Google Images

ii. Outdoor Living areas.



Dove Of Peace Fountain Source – Google Images



Neelam Cinema Source – Google Images

C. External Spaces

Open space between two structures is as big as 73.15M. Thus provides a wide.

The centre of the plaza is lined with trees for shading purpose.

Some Plazas have a width of 45-60

3.35M space in front of shops on ground floor .1.9M wide veranda's for shops on higher floor .

Thus giving rise to colonnaded veranda's which also connects to the adjacent building. This creates a semi covered space and thus links the open space with the structure .

Centre of attraction Dove of Peace is a sculpture where cascades down from one level to another in geometrically shaped tanks, amidst delightful play of colourful lights. It's popular place of recreation and sightseeing

Fountain with music and laser shows held in evening hours and it is a wonderful display of water fountains dancing to a rhythmic livid music.

The Neelam Plaza pulsates with activity and people especially during the weekly carnivals, and seasonal fairs

The multidimensional use of the space is witnessed through the outdoor exhibitions, street plays, awareness drives by various social and cultural organizations of the city.



Map highlighting Outdoor Spaces



Outdoor Living areas

- The city centre is bloomed with number of shady trees in groups or aligned in rows.
- This pedestrian paradise scattered with sculpture, groves of trees is a blend of cuboids and open spaces.

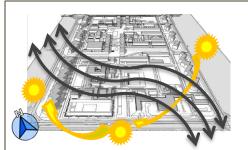
Number of shady trees are planned in a row in the central plaza and around them built furniture is provided for sitting under these trees.

- iii. Role of the open space, in moderating or altering the climate
- Thermal comfort evaluation conducted in three open space typologies plaza, green and waterfront.
- Thermo-neutrality corresponds to a PET value of 24.09 °C.
- Thermal sensitivity varies seasonally and is higher during summer than winter.
- Neutral temperature during summer is 6.21°C higher than winter.
- Respondents endure thermal variation in environments dominated by natural elements.



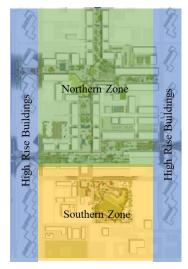
The city centre which once alleged to be the concrete jungle has now boomed with number of shady trees arranged in group or aligned in rows

Number of shady trees are planned in the row in the central piazza around them built in furniture is provided



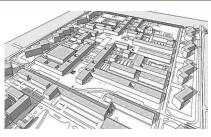
North-South Oriented Site

Source – Urban Design Case Study Sector 17



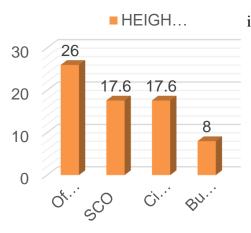
Map Showing High rise Buildings





The Impact Of Heights On Urban Form

Source – Urban Design Case Study Sector 17



Graph Shows The Height Variation In The City Centre In Metres

d. Form and Planning

- i. Orientation axis of the buildings
- Site is north-south oriented.
- Full advantage of N-S orientation is taken.
- Building is oriented such that maximum number of Work spaces area faces N,S,SE,NW direction.
- North façade-public face of buildings (Neelam Cinema) glazed to allow diffuse light
- ii. No. Of storey & height of the building
 - High-Rise Buildings Include G+6 Floors With Height Ranging From 3.7 - 4 M
 - Thus Attending Total Height Of Around 26M
 - Commercial Buildings Are 4 Storeyed Structural With Height Of 17.6M
 - High-Rise Buildings For Offices Are Located Along The NW And SE Sides Of Sector.
 - These Structure Are 6-7 Storeyed High
 - Commercial Buildings Occupy The Region Of
 Northern Zone
- All Structures are 4 storeyed, Thus Creating Uniformity



Large Windows Opening Towards North (Income Tax Office)

Source – Google Images



Egg Crate Windows Source – Google Images



Openings Inclined to Attract More Sunlight & View (Taj Hotel) Source – Google Images



Wide Balcony To Provide Shade Source – Times Of India Article Vet



Shading Devices at Bus Terminus

iv . Location and placement of openings for light and ventilation.

The high rise buildings are oriented at such an angle the most of the windows open towards north and south and there are no openings on the western side

Original plans, Architectural Controls and Building Rules ensured that each individual structure gets adequate share of Sun.

An open to sky cut out was made in some structures for light and ventilations

Shop usually have one entrance , which provides proper light and ventilation.

The peripheral blocks (Offices & Hotels) are designed in such a fashion at inclination to get better sunlight and view from the main road.

v. Shading Devices Used

Vertical fins are used as shading devices at bus terminus having west side exposure.

Egg-Crate shading device used in commercial buildings to have minimal solar radiation.

On the first, second and third floors 2m wide balcony has been made compulsory to provide shade from the summer sun, reduce direct solar radiation.

Broad overhang used at Neelam and Jagat cinema hall.

External environment is also used as shading devices like tall trees and high rise buildings.

They also used internal shading devices like curtains, different types of blinds, awnings







Shweta

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SINHGAD TECHNICAL EDUCATION SOCIETY'S SINHGAD COLLEGE OF ARCHITECTURE, PUNE

VIRTUAL STUDY TOUR

MANDU

by Second Year B. Arch.

Division B

MANDU

Mandu is an ancient fort city in the central Indian state of Madhya Pradesh. It's surrounded by stone walls dotted with darwazas (gateways).

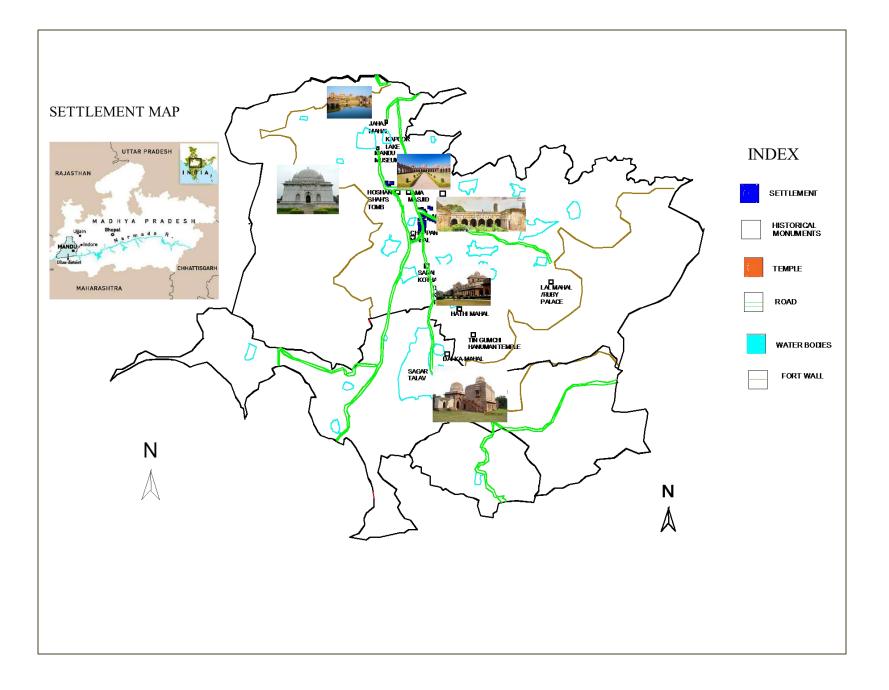
It's also known for its Afghan architectural heritage. Landmark buildings include Hoshang Shah's Tomb, a domed marble mausoleum, and the vast Jami Masjid mosque, with courtyards framed by colonnades. The imposing, centuries-old Jahaz Mahal palace stands between 2 lakes

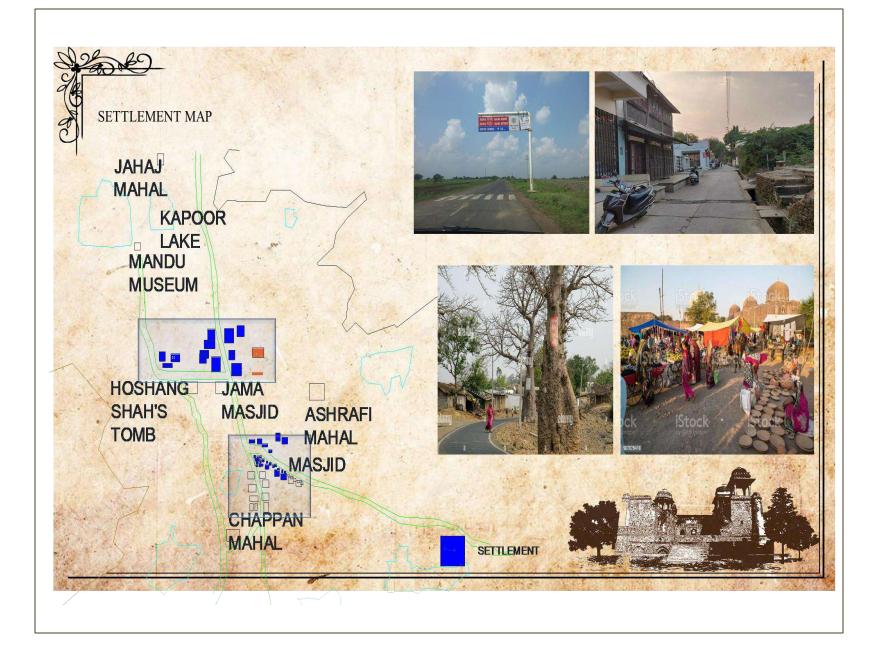


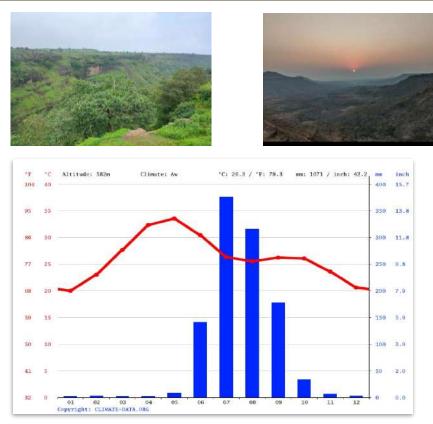












Climate chart of Mandu Source : https://en.climate-data.org

- Precipitation varies between 500-1300 mm per year.
- Receives strong winds during monsoons and dry cold winds in summer.
- A variable landscape and seasonal vegetation characterize this zone.

- Geography and topography
- Mandu, also called Mandava or Mandogarh, ruined city, southwestern Madhya Pradesh state, central India.
- It lies at an elevation of 2,079 feet (634 metres) above sea level in the Vindhya Range, 38 miles (60 km) southwest of Indore.
- The city's ruins stretch for 8 miles (13 km) along the crest of the mountains. The battlemented wall, 23 miles (37 km) in circumference
- Climate

.

- The climate here is composite.
- The temperature in summer varies from 32°C- 43°C and in winter it varies from 10°C- 25°C.
- Soil type
- Fertile black soils are found in Mandu.

TRANSPORTATION MAP

MANDA' ROAD

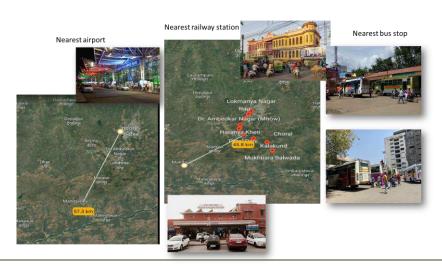
Transportation

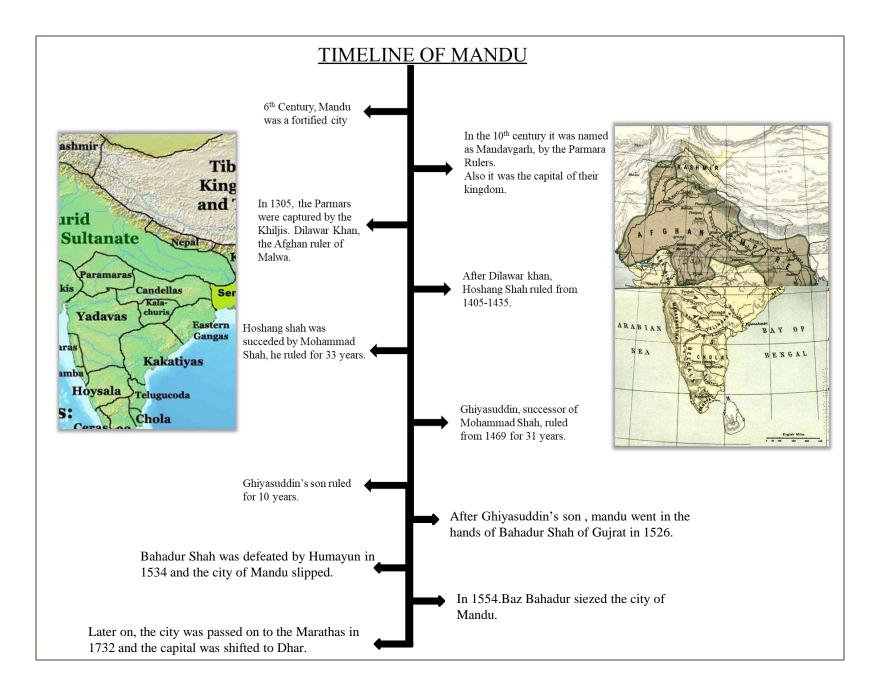
- Mandu is well connected from **Indore (95 km)** and Dhar (35 km).
- From Indore there are two direct bus to Mandu, the first from Gangwal Bus Stand (08:00) and second from Sarawate Bus Stand (14:00). The journey takes 3 hours. Alternatively one can make a break journey at Dhar.
- The nearest airport is indore.

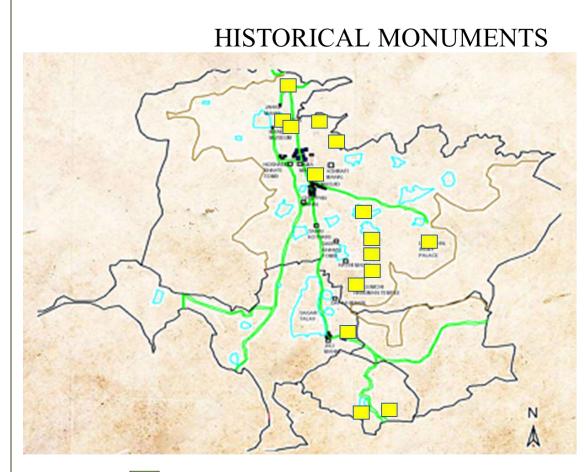
HELIPAD

н

Nearest Airport is Devi Ahilyabai Holkar Airport, Indore, roughly two hour drive from Mandu. It is well connected to a spectrum of cities like Varanasi, Delhi, Lucknow, Kathmandu, Bhopal, Hyderabad and Kolkata via Indigo, Air India, Spice Jet, Jet Konnect and Jet Airways





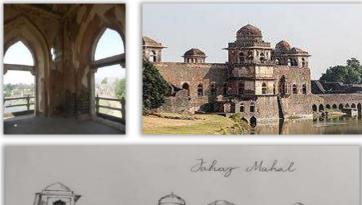


1.Jahaz Mahal 2.Dilawar Khan's Tomb 3.Jami Masjid 4.Tomb of Hoshang Shah 5.Hindola Mahal 6.Malik Mughith's Mosque 7.Ashrafi Mahal 8. Darya Khan's Tomb 9. Rupmati's Pavilion 10.Hathi Mahal 11.Dai ka Mahal &Dai ke choti behen ka mahal 12.Delhi Darwaja 13.Taveli Mahal 14.Ujala Baoli 15.Champa Baoli

HISTORICAL MONUMENTS

1. JAHAZ MAHAL ARCHITECTURAL STYLE – MUGHAL/MUSLIM ARCHITECTURE

•





2. JAMI MASJID



- Jahaz Mahal/Ship Palace is situated between two artificial lakes, this two-storied architectural marvel is so named as it appears as a ship floating in water.
- Built by Sultan Ghiyas-ud-din-Khalji, it served as a harem for the sultan.
- It was built between 1469-1501.
- Red sandstone is the chief material used.
- The palace houses impressive chattris (cenotaphs), the blue tiles standing out amidst the ruins instantly, especially on the centre dome.
- Mostly adorning the roof, these cenotaphs are intricately carved with supporting pillars ranging from 6 to 12 apiece.
- Jama Masjid is a historic mosque in Mandu in the Central Indian state of Madhya Pradesh. Built in Mughal style of architecture, built during the reign of Hoshang Shah and completed during the reign of Mohammad Khilji in 1454.
- The Masjid has three large domes, a courtyard, 54 smaller domes and colonnade of pillared halls. It has a prayer hall and decorated pillars in the masjid.



• The inscriptions on the eastern doorway to the porch indicates that the mosque was modeled on the basis of Mosque of Damascus.

3. DILAWAR KHAN'S TOMB



4. HINDOLA MAHAL



5. TOMB OF HOSHANG SHAH



- Built by Dilawar Khan in 1405 AD, this mosque is one of the earliest Islamic structures in Mandu.
- It was built by Dilawar Khan himself.
- It dates back to an era when the influence of Hindu architecture was seen a lot on the buildings the Afghans were building.
- This expansive mosque although in ruins, shows some remarkable wall paintings which have survived to this date.
- The Hindola Mahal [Swinging Palace] might have been constructed during the reign of Hoshang Shah about 1425 A.D.
- Hindola Mahal may have been used as an audience chamber.
 The construction of this grand edifice got over by the end of the 15th century after it was modified under the rule of Ghiyasuddin Khilji.
- India's first marble edifice, it is one of the most refined examples of Afghan architecture.
- It was built by Hoshang Shah himself.
- It was built in 1440.
- Its unique features are the magnificently proportioned dome, marble lattice work and porticoed courts and towers.

6. MALIK MUGHITH'S MOSQUE



7. ASHRAFI MAHAL

- Malik Mughith Mosque, built in 1452 AD, is one of the first Islamic architectures built in the region.
- According to the ASI board, the building material was taken from Hindu architectures; this was the tradition during that time.
- It was built by Malik Mughith himself.



- Ashrafi Mahal (Palace of the Gold Coin) was built facing the Jami Masjid at Mandu, its approach of a noble flight of stairs aligning with and mirroring that of the mosque.
- The edifice was built by Hoshang Shah during the years between 1405 and 1422 when Mahmud Shah Khilji ruled the area.





- It was built by Darya Khan around 1510-1526AD.
- Darya Khan's tomb and mosque features an impressive architecture and is built on a raised platform.
- The dome is very high, quite similar to that of Hoshang Shah's tomb.

9. RUPMATI'S PAVILLION



10. BAZ BAHADUR'S PALACE

- Rupmati's Pavillon is a small hike from Baz Bahadur's Palace.
- It was constructed in the early 16th century.
- This monument features long corridors and a reservoir of water, which collects rainwater. In fact, Rewa Kund was built by Baz Bahadur to supply water to the building through an aqueduct.
- Rupmati's Pavillon has a subtle beauty; she used to look at her lover's palace and deity Narmada flowing through the plains far beyond.



- Khilji Sultan Nasir-ud-Din constructed the palace between the year 1508-1509, for the last ruler of Mandu- King Baz Bahadur.
- Baz Bahadur's Palace is located on the foothills of the hill on the top of which Rupmati's Pavillon sits.
- This place was especially dear to the Sultan as everyday he could see his beloved going to Rewa Kund to bathe and worship.

11. HATHI MAHAL/ELEPHANT PALACE

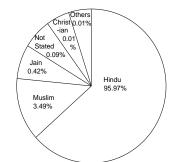


- The monument got its name as Hathi Mahal because of its numerous pillars which are gigantic in size.
- It was built in the 16th century.
- It is magnanimous and was built a luxurious living , but was later turned into a mausoleum .

SOCIO- ECONOMIC STRUCTURE

Caste Factor Chart:-

POPULATION



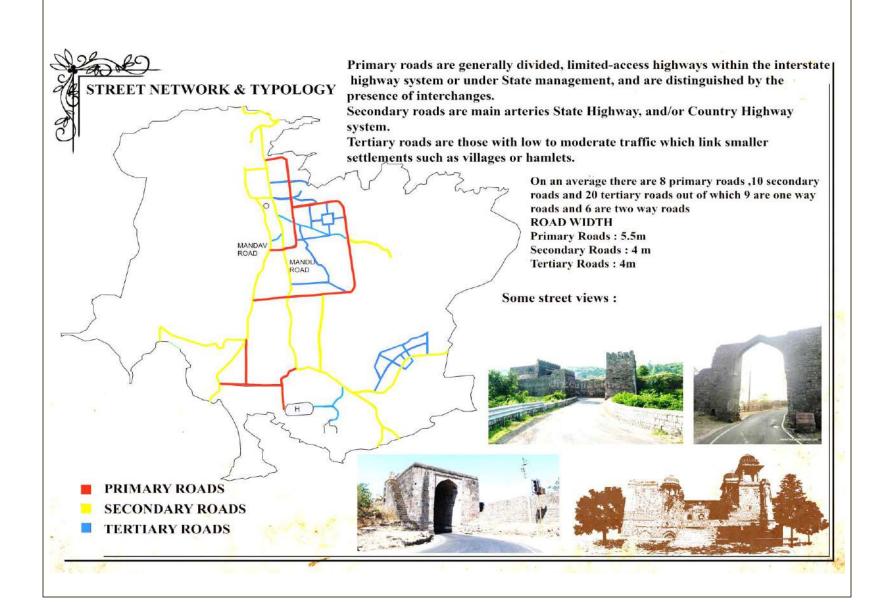
LANGUAGE & CUISINES

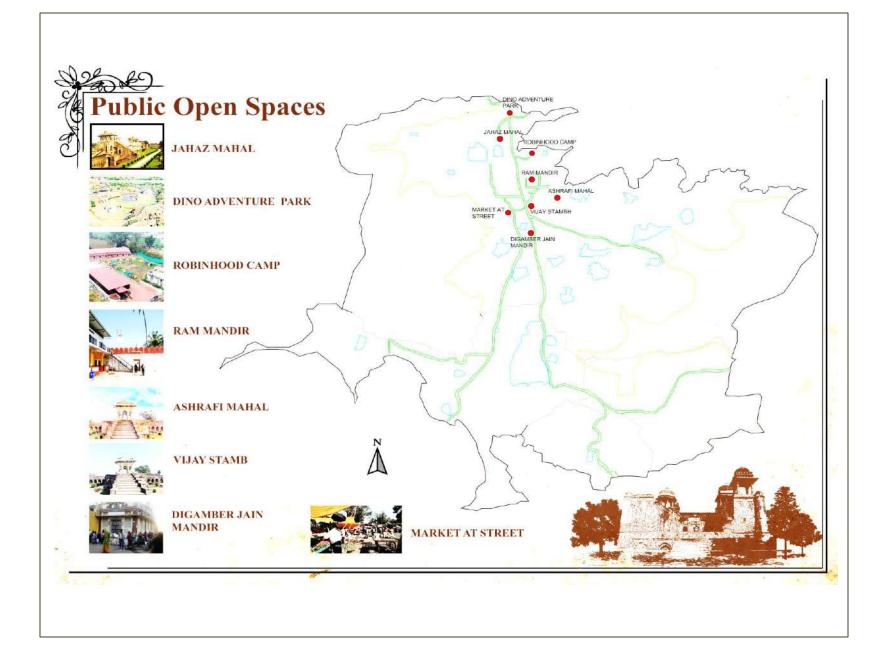


- The Mandu Nagar Panchayat <u>has population of 10,657 of which 5,373 are males while 5,284 are females.</u>
- Population of Children with age of 0-6 is 2201 which is 20.65 % of total population.
- Moreover Child Sex Ratio in Mandu is around 938 compared to Madhya Pradesh state average of 918.
- <u>Literacy rate of Mandu is 53.71 %</u> lower than state average of 69.32 %. <u>Male literacy is</u> around 63.44 % while female literacy rate is 43.94 %.
- Population according to castes are Hindu 95.97%, Muslim 3.49%, Christian 0.01%, Jain 0.42%, Not stated 0.09% & Others 0.01%
- Mandu Nagar Panchayat has total administration over 1,855 houses.
- Language of Mandu is Hindi.
- Some common food items like poha, malpua, kachoris, etc.
- Different regions of malva are famous for their own specialties.
- Mandu is famous for its 'Baingan ka Bharta', 'Dal Bafla', and 'Arbi ki Sabji'.
- <u>Mandu ki imli</u>, is a fruit of boabab tree, used to make <u>kebabs</u>, <u>bhutte ki kees</u>, <u>mawa</u> <u>bati</u>, <u>khoprapak</u>, <u>and malpua</u>.

OCCUPATIONS & OCCUPATION SPACES

- The main occupation for people of mandu are restaurants, transportation, hotels, arts and crafts.
- And <u>agriculture, cattle ranching & farming, fishing, nursery, etc.</u>
- There are many hotels in mandu like Hotel Jahaj Mahal, Hotel Royal palace, Hotel Shree Ram, Hotel Fun n Food.
- The other work is on the <u>sale of clothes</u>, tourist guides, food stalls, adventure activities, etc.
- Most occupation of mandu depends on tourism.
- Agriculture is the basis of Mandu economy. Less than half of the land area is cultivable.
- The main crops which arise are Wheat, Sorghum (Jowar), Corn (Maize), Rice, Pulses, Rice, etc.





ANALYSIS

- 1. Agriculture and tourism in Mandu is well developed which is the source of income for many citizens living there.
- 2. Good use of the landscape available.
- 3. Very intricate and mesmerizing craftsmanship.
- 4. The initiative taken by Mandu government to conduct Mandu Festival every year so that more tourists can explore Mandu in Better way.
- 5. For water filtration the use curvaceous design leading to pool. It is a prominent way to channelize (filter) the water .These channel are filled with sand for filtration.
- 6. Some of the water channel were built on the floor surface of the complex and intricately designed .We can take some inspiration and even adopt some of these techniques in modern architecture to solve our water problems..!

ANALYSIS

- Transportation in Mandu is not fully developed as people have to travel more than 56km to reach an airport and more than 45 km for the railway station and also there are not enough bus stops in Mandu ,Proper bus stops are needed in area.
- 2. On cultural evenings of the festival heavy traffic is seen around venue point
- 3. Poor road networks in Mandu, which leads to many transportation problems. Improper road alignment.
- 4. There is no specific place provided for the market, as the market is held on the streets.
- 5. Most of the monuments in mandu are in bad conditions i.e. they are damaged and are not conserved properly.
- 6. The munj talab in mandu is much polluted and makes a bad impression on tourism.

PROPOSALS

- i. Hospital -Currently, there is only one primary health care centre in Mandu. For any accidental or maternal emergency, people have to travel far away from the Mandu city. That is why we are proposing to design a hospital in mandu city which would fulfil the basic needs of citizens living there and also of tourists
- **ii. Multipurpose cultural centre** -As the main attraction of Mandu is Mandu's festival and its culture so by providing a multipurpose cultural centre will enhance tourism and will give a prominent platform for the local artist to show their art and culture and also can be used for various activities and programs throughout the year.
- **iii. College** Currently only 2 schools are working in the city and there is no availability of higher education though there is a college it is 26km away from the city and it is difficult for the students to travel daily.
- iv. Shopping Complex Currently there is no specific market available in Mandu for localites and also for tourists.
 People over there travel far away from settlements to buy equipments and needed things in day to day life. Having a prominent complex will fullfill all the basic needs of citizens like grocery, Electronics etc at one single space. We would like to propose shopping complex as it would promote the economic growth and employment.

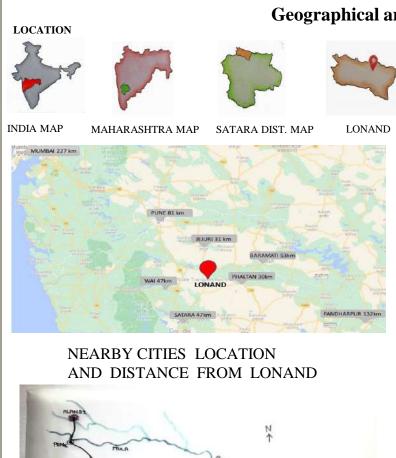
SINHGAD TECHNICAL EDUCATION SOCIETY'S SINHGAD COLLEGE OF ARCHITECTURE, PUNE

VIRTUAL STUDY TOUR

LONAND

by Second Year B. Arch.

Division D



RIVER ROUTE

Geographical and Topological Study

LOCATION AND GEOGRAPHICAL CONTEXT

• Lonand is A Town And Municipal Council In Satara District, Maharashtra

COORDINATES

PIN –

• 18.0404°N 74.1872°E

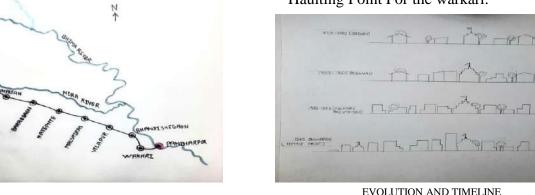
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HISTORY AND TIMELINE :

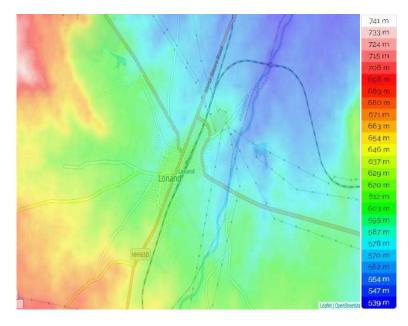
- The Starting Point And Destination Are Inextricably Link To The Natural Part Of River Or Waterbody
- The Palkhi Route Follows The River Indrayani, Neera And bhima.
- Lonand Is One Of Most Important City In the Route Of The Wari as Is The Center town And A Major Haulting Point For the warkari.

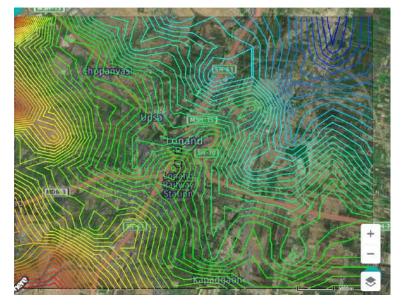
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ELEVATION MAPPING





CONTOUR MAPPING



Maximum elevation 741m	
	Vegetation And Agricultural
Average elevation 599 m	Arable Lands – Approximate
	Lands Covering Roads Build
Minimum elevation 549 m	Area covered by grassland
	Land Is Almost
AREA COVERING ANALYSIS	The amount of land covered
	Building is less comparativ
	1

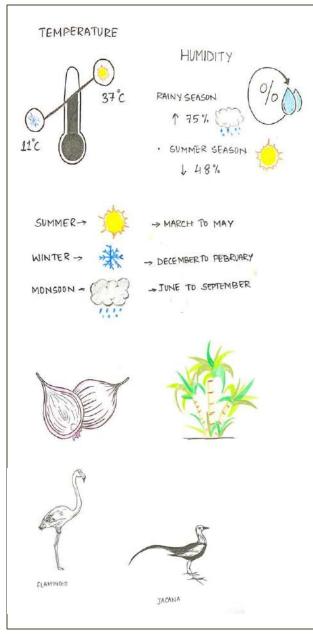
LONAND LAND AREA COVERING :-

Vegetation And Agricultural Land Area Approximately 38.68 % Arable Lands – Approximately 34.30 %

ands Covering Roads Buildings Etc approximately 27.02 %

Area covered by grassland And Agricultural Land And Arable Land Is Almost

The amount of land covered by the Residential and Commercial Building is less comparatively to the agricultural and green grassland



CLIMATE

- (I)Cold Season -Dec
- Ember To February (Ii) Hot Season- March To May
- (Iii)Southwest Monsoon Season -June To September
- (Iv)Post Monsoon Or The Retreating Monsoon Season October And November
- Humidity: In The Rainy Season, The Air Is Highly Humid (More Than 75 Percent) While During The Winter And The Summer Season, The air Is Dry Particularly In The Afternoon. The Eastern Part Of district Is Drier As Compare To Western High Range.
- Temperature: The Mean Minimum Temperature Is 11.60 C Whereas the Mean Maximum Is 37.50 C.

VEGETATION AND ANIMALS

- Lonand Is Surrounded By A Agriculture Land. Lonand And Nearby Villages Are Leading Producer Of Onion And Sugarcane (Jaggery).
 Wheat, Bajara, Maize, And Jawar Are Also Major Farm Crops. Farmers Also Produces All Types Of Vegetables, Grapes In Large Amount.
- Migratory Birds Like The Lesser Flamingo, Greater Flamingo Black-Tailed Godwit, Jacana, Open-Billed Stork, Bar Headed Geese And many More Visit The Mayani Region In The Winters.



Attire Attire For Men-

Dhoti-

A single piece of cloth, Dhotis are secured by making five tucks on each side, and then the loose ends are put in at the back. Attire for Women -

Sarees-

Women wear sarees that are 9 yards long. The saree is tucked in the middle giving it a similar look to the dhoti. The rest of the saree is wrapped around the upper body of the women. This type of saree is usually called LUGADE.

Festivals Ashadhi Ekadashi

All over the state, people observe a fast and partake only simple food, which is a reminder of the journey that the Warkaris undertake, and also a sign of devotion and faith in their Vithu Mauli.

the town people await the Palkhi with enthusiasm as it heralds the festive mood of celebrations.

Gudhi Padwa

It falls on the first day of the Lunar calendar, marking the HINDU new year. It is celebrated with great pomp and show all over the state. Households are decorated and a gudhi is put up outside the home to welcome prosperity , it is a symbol of victory characterized by a bamboo stick with a silk cloth. It is garlanded with flowers and has sweets offered to it.

Food

- Cuisine includes mild and spicy dishes.
- Wheat, rice, jowar, bajri, vegetables, lentils and fruit are dietary staples.









Wari

- Wari route starts from Alandi to Pandharpur, this journey has to be completed in 18 days and has 15 halts in different villages, lonand village is one such halt. These halts are called as **Palakhi Tal**
- After **PADUKA SNAN** in NIRA river the Palakhi reaches Lonand till afternoon.
- The **Palakhi** receives a grand welcome by political officials and villagers.
- The route is decorated with welcome gateways banners, flowers, garlands and firework arrangements, temporary sheds are also erected for warkaris.
- 35 years ago the palakhi base was shifted from outskirts of lonand to its present day location
- The palakhi route is in such a way that it passes along all the major temples in the town and moves toward **Palakhi Tal.**
- Palakhi Tal is a temporary erected structure for warkaris.
- During the period of palakhi the warkari use the transport (bus,truck) as a temporary shelter. Tents and sheds are also set up.
- After the completion of this annual pilgrimage this palakhi tal is used as a weekly market

Nira Ghat

- Nira is key town on Palkhi Marg.
- A very famous Temple of Datta on the bank of river Nira once visited by then Shree Sreedhar Swamy.
- Nira has many more temples, including one Saibaba temple is thebiggest temple, located in ward no 4. Jyotirling Temple at Gulunche is very famous for Katebaras Yatra 5 km from to Nira.
- On the 11th day i.e. on Kartik Shuddha Ekadashi, Palkhi moves for Nira Snan. On last day, Bhaktgan jump in spines of babool



Demography

- As per the Population Census 2011, there are total 4,039 families residing in the Lonand city. The total population of lonand is 18,723 out of which 9,560 are males and 9,163 are females thus the average sex ratio is 958.
- The literacy rate of lonand is 89.5% . The male literacy rate is 92.65% and the female literacy rate is 86.15%.
- The total Hindu population in Lonand is 16,363 which is 87.4% of the total population. Also the total Muslim population in Lonand is 1,360 which is 7.26% of the total population.
- In Lonand Census Town out of total population, 6,871 were engaged in work activities. 94.8% of workers describe their work as Main Work (Employment or Earning more than 6 Months) while 5.2% were involved in Marginal activity providing livelihood for less than 6 months. Of 6,871 workers engaged in Main Work, 1,008 were cultivators (owner or co-owner) while 616 were Agricultural labourer.

Economy

- Lonand is surrounded by agriculture land.
- Lonand is famous for onion as (lonan cha kanda) and nearby villages are leading producer of onion and sugarcane.

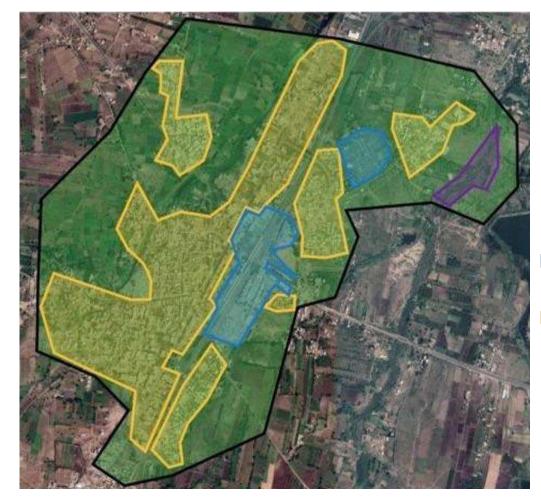
wheat, bajara, jawar are also major farm crops

- Lonand have big marketplace and maharashtra's 2nd most largest yard (krishi utpanna bazar samiti) lonand after nashik for onion.
- There are industries like-: industries biotech, bharath gas, sahyadri group, privileged industries, and many more in Lonand MIDC (maharashtra industrial development corporations)

Governance

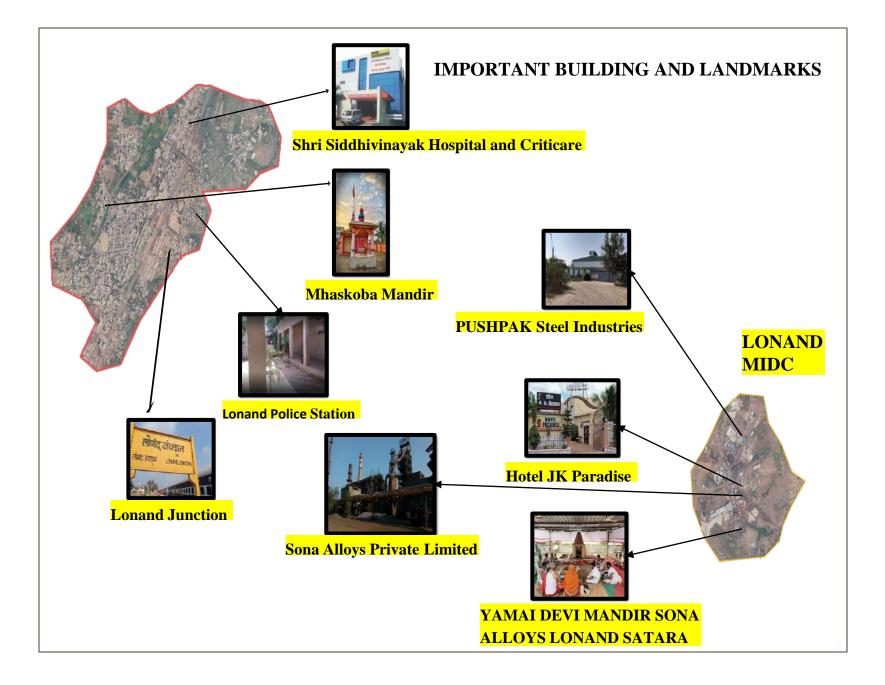
Lonand is a city and municipal council in Satara district, Maharashtra.

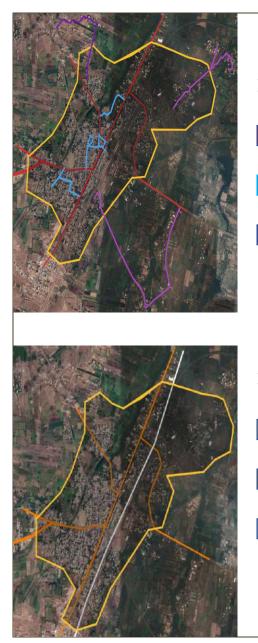
A Municipal Council (also known as Municipality, Nagar Palika, or Nagar Palika Parishad) is an Urban Local Body that administers a city of population 100,000 or more.



BASE LAYERS FOR MAP

- **BLACK-** VILLAGE BOUNDARY
- VELLOW RESIDENTIAL AND SHOPS
- **BLUE** PUBLIC AREA (MARKET, RAILWAY STATION,
- BUS STAND)
- VIOLET HYDROGRAPHY AREA (WATER SOURCE)





INDEX

Primary Road

Secondary Road

Tertiary Road

INDEX

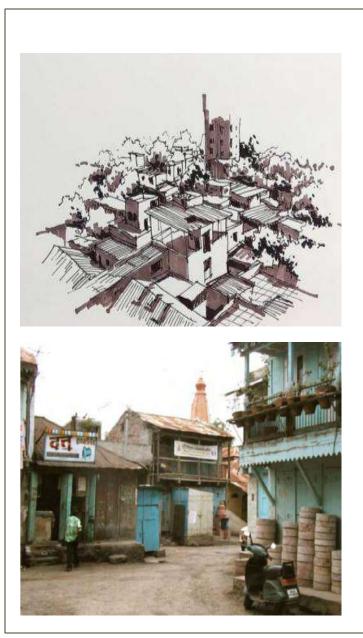
Lonand Border

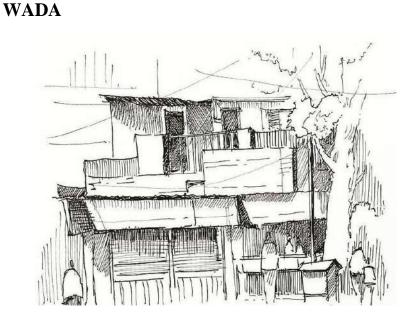
Road Network

Railways

LONAND – ROAD CONNECTIVITY AND NETWORKS

- The National Highway 4 (now renowned as National Highway
 48) goes 20km from Lonand city.
- The State Highway Satara-Lonand-Pune, Pune-Lonand- Phaltan-Pandharpur goes by Lonand
- Lonand has railway station and is onroute from Mumbai to Miraj, Pune, Satara Sangli, Kolhapur, and Bangalore (some trains).
- Railway track from Lonand Pandharpur & Lonand-Baramati are now in under progression and in same Recently Lonand- Phaltan train started as phase 1 of this project.
- For bus, Lonand Bus Stand is available.
- Lonand is well connected to Pune, Satara, Phaltan, Baramati, Pandharpur, Shirwal, Khandala, Bhor, Wai, Wathar st.





The traditional residence 'Wada' included houses of several families or only one family who stayed there. It is generally used to denote a courtyard house mansion. This House form belonged to ruling classes as well as commoners. This typology is very significant in terms of historical, cultural and economic , commercial, residential aspects. The architectural character of this town can be said to be in a state of rapid change. The older buildings have tiled sloping roofs and verandas. Load-bearing construction with local materials like stone, brick; or timber construction is commonly observed here as in the surrounding region. The new buildings have framed reinforced cement concrete (RCC) construction with a modern look of rendered concrete and paint.

TEMPLE IN LONAND



Bhairavnath Temple



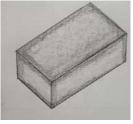


Key Plan

The Bhairavnath Temple is the oldest temple in the town It is quite famous local Many other small temples are located in the gaothan area butare of less historical importance. The Palkhi route with in the town is such that it passes along most of the temples or religious nodes,there by honouring their presence. The shelke and kshirsagar families are the founding residents of lonand and their ancestry dates back to the rule of king shivaji in the sixteenth century. The pakkhi base was shifted from outskirts of lonand to its present day location,within the town due to the growing number of pilgrims. It indicates the palkhi route towards its base.

Elevation

Construction Material









Cement



Teak Wood / Sagwan Wood

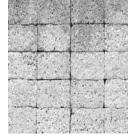


Metal Roofing Sheets



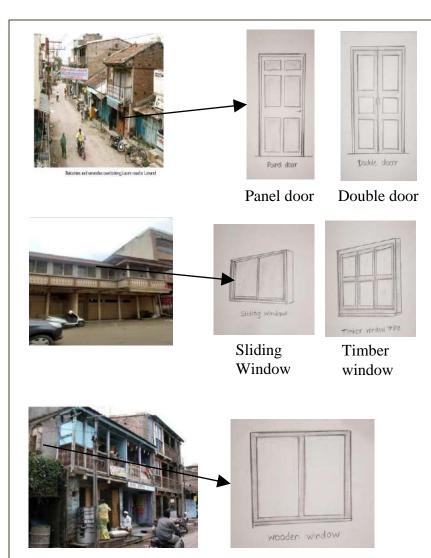


Mangalore Roof Tiles



Grey Laterite Stone

- The new buildings have framed reinforced cement concrete (RCC) construction with a modern look of rendered concrete and paint.
- Load-bearing construction with local materials like stone, brick; or timber construction is commonly observed here as in the surrounding region.
- For doors, windows and columns locally available material timber is used.
- The vernacular architectural style which developed over a period of time is reflected in the usage of local materials such as brick, stone and timber; and construction techniques such as load bearing or timber-frame construction.



Timber window

Study of Features

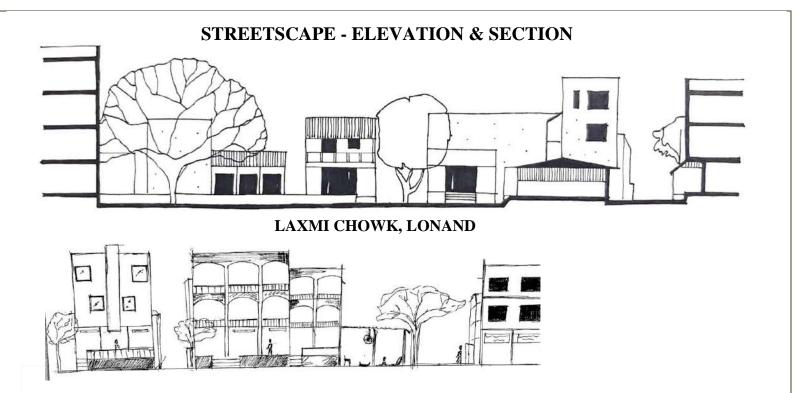
- Ölder buildings have tiled sloping roof.
- 1200-1800 mm wide verandas.
- Different types of windows like casement, sliding window with chajjas.
- Projecting balconies having various design of railing.

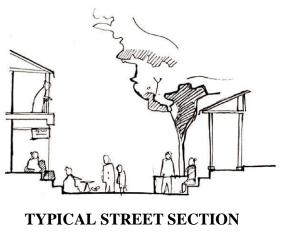
Project Completed

 Laxmi Narayan Apartment
 S No. 433/2, CTS 2, Lonand, Satara.
 Shravak Maza Gharkul Malhar City
 Kalp Kalpvrksha
 By Anand Bansilal Pandit S No. 433/2, CTS 2, Lonand, Satara.
 By Shravak Associates Kapadgaon, Lonand, Satara.
 By Dharmaji Maruti Bhosal Bholi, Lonand, Satara.

Project under Progression and Proposals

- Railway track from Lonand Pandharpur & Lonand-Baramati are now in under progression.
- The project involves development of Baramati-Lonand new railway line in length of 54 km in Lonand-Phaltan section in Maharashtra.
- Recently Lonand-Phaltan train started .
- Proposed New National highway -NH-965D (Inter Corridor Route of Bharatmala Project Route 2 starting from Lonand (Ch 0+000)Satara district and ends at Kedagaon (Ch 51+375) in Pune district approximately 51.375 km).



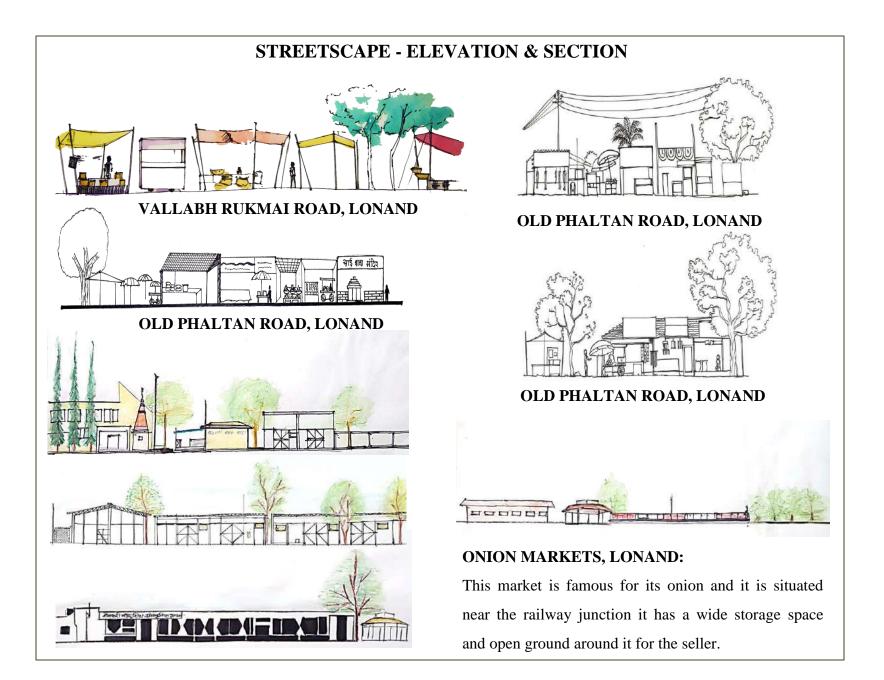


Lonand consists of 1200 -1800 mm wide verandas, connected to the road by steps and covered by the projection of the building above.

It is observed that some of the buildings have g + 1 or g + 2, where the ground floor is allotted for commercial purpose and the first and second floor is used a residential space,

There are some buildings having mutual walls.

3.8 - 4.5 m wide roads main roads, 1.5 - 2 m narrow road between two houses.



SITE



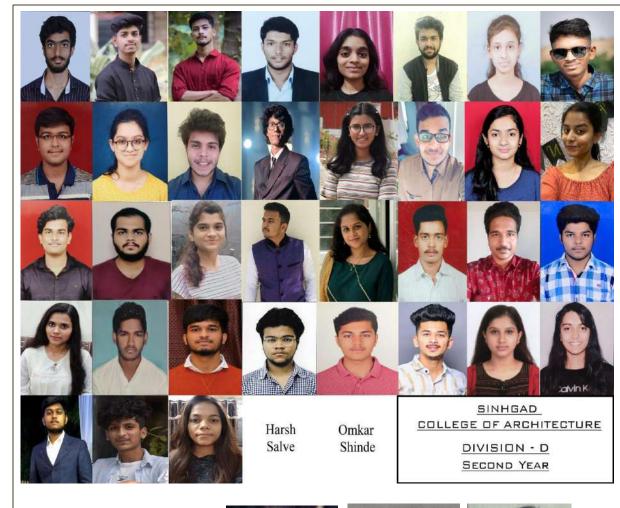
Proposed site

Preamble:

Lonand is a municipal council in Satara district, Maharashtra. It is well connected to major cities and is located 227 km from Mumbai, 81 km from Pune, 47 km from Wai & Satara. Lonand MIDC has the (Maharashtra Industrial Development Corporation) in its vicinity which boasts many industries giving employment to people in the Satara District. In order to guide the development in MIDC area a small MIDC -Branch office is proposed. The proposal also includes Bank extension counter where people can make the financial transactions easily. Students are expected to take design decisions based on following aspects - Socio-Cultural Aspects, Aesthetics, Anthropometry & Function, Climate, Building Material and Construction Technology, Building Services, Site, Universal Design

Site:

The site is located in MIDC area near Lonand. The site is situated adjacent to state highway and has road access from two sides. Site area - 1500 sq.m.



1 KOPAL JAIN 2 SIDDHARTH PAWAR **3 PRACHI SHARMA 4 PULKIT SHARMA 5 RAGHAV AGARWAL** 6 PARAG RAMDIN 7 ARYAN RAMTEKE 8 SWANAND RAYKAR 9 YOGINI ROKADE **10 YADNYESHA SALUNKE 11 DHIRAJ SALVE** 12 HARSH SALVE **13 SRUSHTEE SARGAR** 14 PRASAD SATRAS **15 GAURAV SAWANT 16 MAHABLESHWAR SAWANT 17 YASH SAWANT 18 SARTHAK SHAH 19 RITU SHARMA** 20 SHIVAMSHEDGE **21 GAURI SHENDE** 22 OMKARSHINDE 23 SAKSHI SHINDE 24 SAMEER SHIRSIKAR **25 SHREYASH INGLE 26 SONAWANE MOHINISH 27 SHREYAS SONAWANE 28 TANAYA DHAWALE 29 VEENA TEKALE 30 ADESH THANGE** 31 ANIKET UPADHYE 32 KALPESH VASEKAR **33 VARUN VIDHATE** 34 PRATHAMESH WAGH 35 YASH WAGH **36 SHOUREE WASNIK 37 ADITI WAYKAR 38 SHIVAM WAKODE**

List of students

List of design faculties:

Dr. Priyamvada Chitale Ar. Mukta Pandit Ar. Sejal Desarda







SINHGAD TECHNICAL EDUCATION SOCIETY'S SINHGAD COLLEGE OF ARCHITECTURE, PUNE

VIRTUAL STUDY TOUR

CHANDIGARH

Third Year B. Arch.

Division A

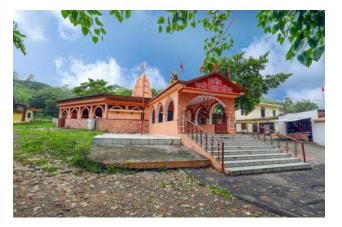
Title : History of Chandigarh city



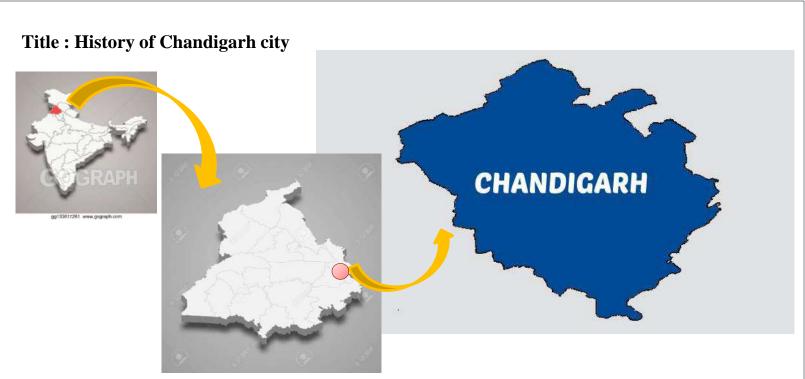


INTRODUCTION:

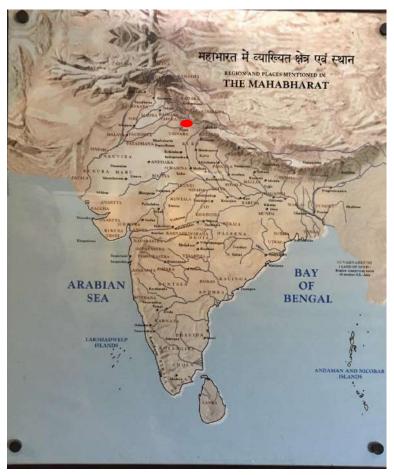
- SOMETHING GOOD COMETH OUT OF EVIL'; thus goes the Biblical saying.
- This legendry proverb aptly describes the birth of the city of Chandigarh, which was conceived immediately after India's Independence in 1947.
- Chandigarh, is the dream city of India's first Prime Minister, Sh. Jawahar Lal Nehru.
- Picturesquely located at the foothills of Shivaliks, it is known as one of the best experiments in urban planning and modern architecture in the twentieth century in India.
- Chandigarh derived it's name from the temple of "Chandi Mandir" located in the vicinity of the site selected for the city.
- The deity 'Chandi', the goddess of power and a fort of 'Garh' laying beyond the temple gave the city it's beautiful name "Chandigarh- The City Beautiful".



Temple of Chandi goddess located in Chandigarh

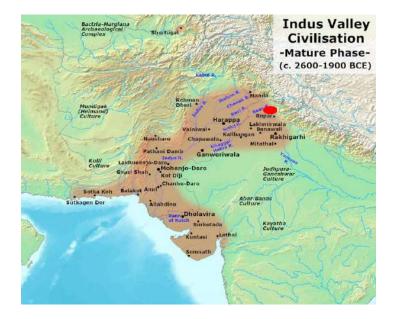


- Since Punjab was divided into two parts, the capital of Punjab i.e. Lahore was left in Pakistan therefore Punjab in India required new capital.
- Initially Chandigarh should have been known as the city of Matthew Nowicki, who joined American architect Albert Mayer's team in early 1950. But then a tragedy happened.
- The 44-year-old Polish architect 'Maciej' Nowicki's life ended in August1950 when his plane, on its way from India to the US, crashed near Cairo, Egypt. The world was poorer for losing a brilliant architect of great promise.
- After this tragic incident Le Corbusier was approached by Punjab government and the prime minister of India.
- Le Corbusier assumed control of the Chandigarh project in 1951
- Maxwell Fry, Jane Drew and Pierre Jeanneret were involved in the team of the architects that were supposed to design Chandigarh.
- Chandigarh is a bold experiment in modern civic design.



PUNJAB IN TIMES OF MAHABHARAT: (3000 BC)

- It is believed that Punjab existed from the times of Mahabharata.
- It was known as "Sapat Sindhu" in those times.
- At that time in place of today's Chandigarh was in between Trigarta and Kuru.



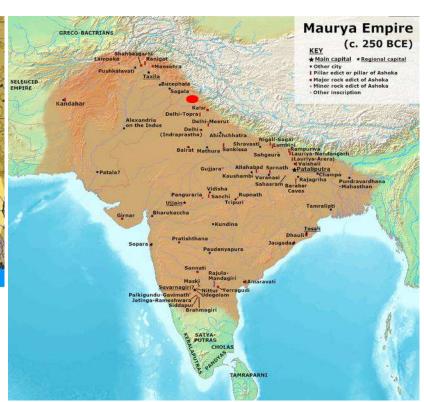
PUNJAB IN TIMES OF INDUS VALLEY CIVILIZATION: (2600-1900 BC)

- About 8000 years ago the area was also known to be a home to the Harappans.
- Today's Chandigarh at time was a place some where near Roper.



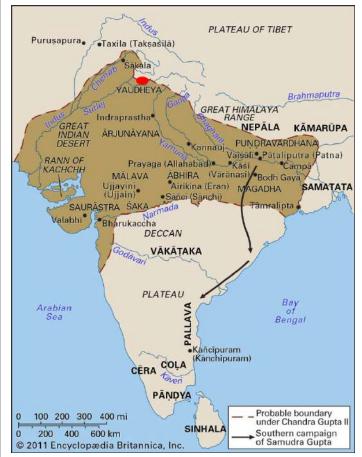
PUNJAB IN TIMES OF VEDIC PERIOD: (1500-500 BC)

- Punjab was still known as "Sapta Sindhu' or the Land of seven rivers.
- The aforementioned seven rivers were the Vitsta and Vitamasa (Jhelum), Asikni (Chenab), Parusni and Iravati (Ravi), Vipasa (Beas), and the Satudri (Sutlej).^[citation needed]
- Today's Chandigarh at that time was Paippatada.



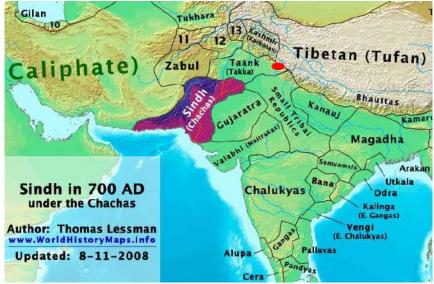
PUNJAB IN TIMES OF MAURYA PERIOD: (322–298 BC)

• In this period Chandigarh was somewhere between Sagala and Kalsi.



PUNJAB IN TIMES OF GUPTA PERIOD: (320–550 AD)

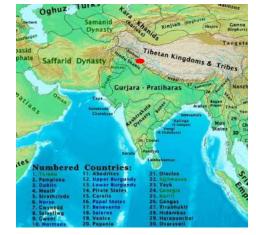
• In this period Chandigarh was somewhere between Sakala and Yaudheya.



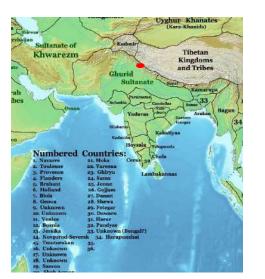
PUNJAB IN TIMES OF TAANKA KINGDOM PERIOD: (700 AD)

EVOLUTION OF PUNJAB FROM 900 -1500

- Gurjar-Pratihara dynasty- 900 AD
- Ghaznavids
- Delhi sultanat
- Mughal Empire: During Mughal rule Punjab received it's name as "PUNJAB"







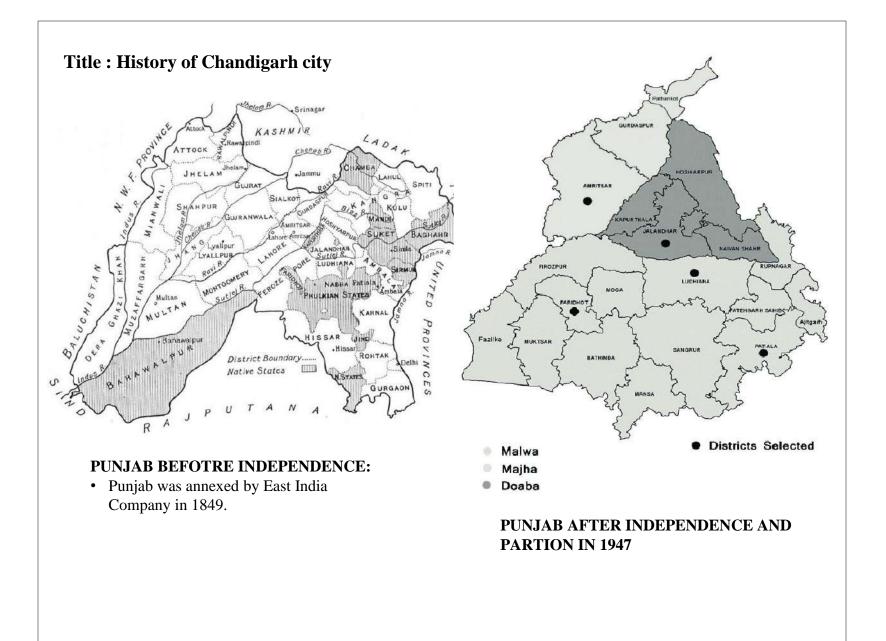
PUNJAB IN 900 AD

PUNJAB IN 1500





Ghaznavids, Delhi sultanate, Mughal Empire (977-1500)



Site selection for Chandigarh:

- The city has a pre-historic past. The gently sloping plains on which modern Chandigarh exists, was in the ancient past, a wide lake ringed by a marsh.
- The fossil remains found at the site indicate a large variety of aquatic and amphibian life, which was supported by that environment.
- In March, 1948, the Government of Punjab, in consultation with the Government of India, approved the area of the foothills of the Shivaliks as the site for the new capital.
- The location of the city site was a part of the erstwhile Ambala district as per the 1892-93 gazetteer of District Ambala.

Images of near by villages near the selected site of Chandigarh:

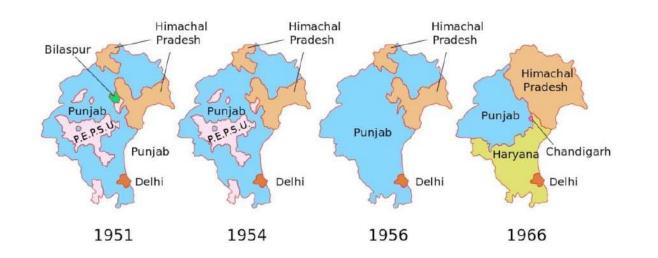


Site selected for Chandigarh city





PUNJAB 1951 TO 1966



• Evolution of Punjab until Chandigarh was complete

Title : NATURAL FEATURES AND GEOGRAPHICAL SETTINGS OF CHANDIGARH

-Chandigarh is located near the foothills of the Sivalik range of the Himalayas in northwest India. It covers an area of approximately 114 km. It borders the states of Punjab and Haryana. The exact geographic coordinates of Chandigarh are 30.74°N 76.79°E. It has an average elevation of 321 metres (1053 ft).

- The subsurface formation comprises of beds of boulders, pebbles, gravel, sand, silt, clays and some kankar.

-The city, lying in the northern plains, includes a vast area of flat, fertile land. Its northeast covers sections of Bhabar and while the remainder of its terrain is part of the Terai. The surrounding cities are Mohali, New Chandigarh, Patiala, Zirakpur and Rupnagar in Punjab, and Panchkula and Ambala in Haryana.

-Chandigarh is situated 44 km (28 miles) northeast of Ambala, 229 km (143 miles) southeast of Amritsar, and 250 km (156 miles) north of Delhi

Title : CONCEPT OF CHANDIGARH.

Text body: The Master plan prepared by Le Corbusier was broadly similar to the one prepared by the team of planners led by Albert Mayer and Mathew Nowicki except that the shape of the city plan was modified from one with a curving road network to rectangular shape with a grid iron pattern for the fast traffic roads, besides reducing its area for reason of economy. Le Corbusier conceived the master plan of Chandigarh as analogous to human body, with a clearly defined part.

- •Head (The capitol complex)
- Heart (The city centre)
- Lungs (The leisure valley, innumerable open spaces and sector greens)
- Intellect (The cultural and educational institutions)
- Circulatory system (The network of roads, the 7Vs)
- Viscera (The industrial area)

Le Corbusier divided the city into 63 "Sectors". Each Sector (what had been named an "Urban Village" in Mayer's plan) or the neighbored unit, is quite similar to the traditional Indian 'mohalla'. The primary module of the city's design is a sector, of size 800×1200 m. Each sector is a self sufficient unit having shops, school, health centers and places of recreations and worship. The population of a sector varies between 3000 and 2000 depending upon the sizes of plots and the topography of the area. Convenient walking distance for social services like schools and shopping centers are provided.

HUMAN SCALE USED IN DESIGN OF CITY

The city of Chandigarh is planned to human scale. It puts us in touch with the infinite cosmos and nature. It provides us with places and buildings for all human activities by which the citizens can live a full and harmonious life. Here the radiance of nature and heart are within our reach.

The concept of the city is based on four major functions: living, working, care of the body and spirit and circulation.

• Residential sectors constitute the living part

•Capitol Complex, City Centre, Educational Zone (Post Graduate Institute, Punjab Engineering College, Panjab University) and the Industrial Area constitute the working part

• Leisure Valley, Gardens, Sector Greens and Open Courtyards etc. are for the care of body and spirit.

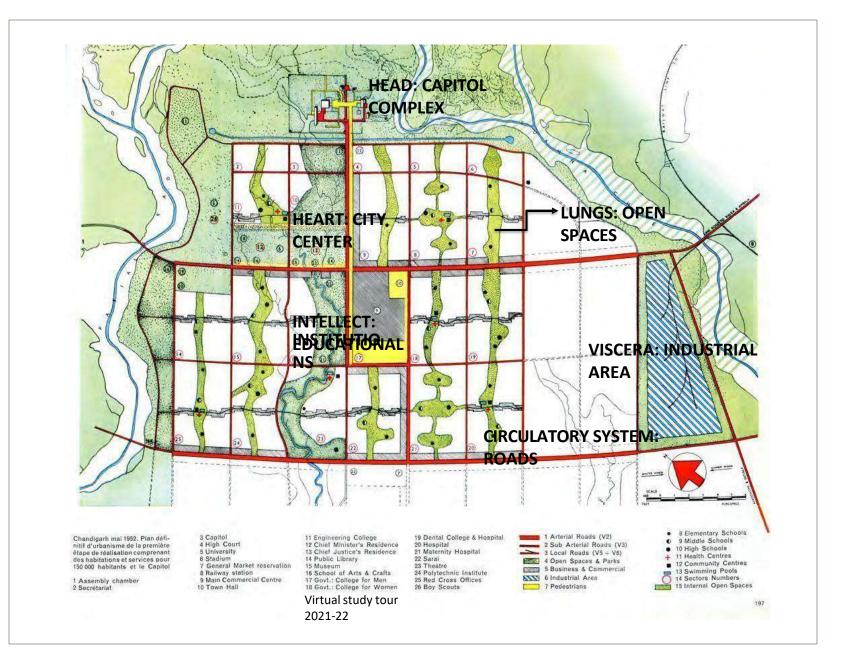
•Circulation system comprises of 7 different types of roads known as 7Vs. And a pathway for cyclists called V8 were added to this circulation system.

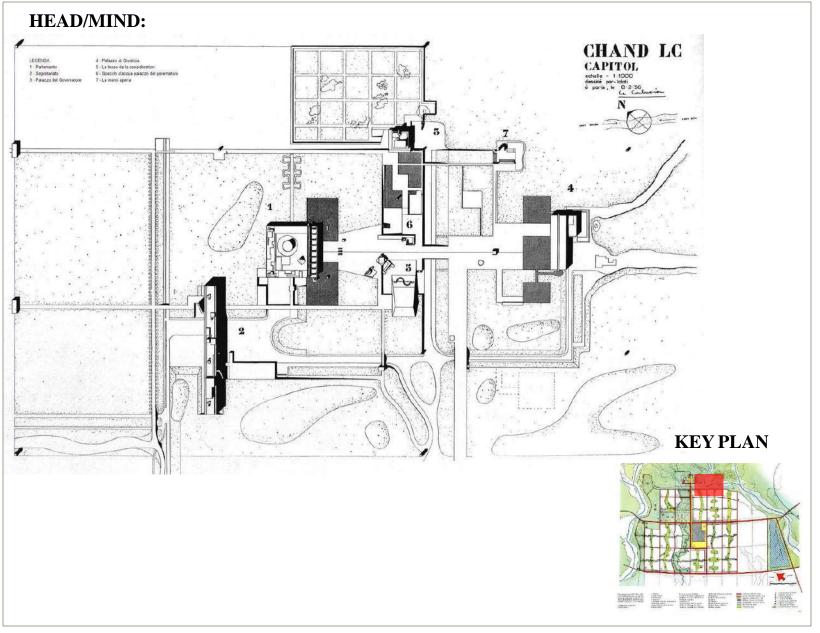
THREE DISCIPLINES

The discipline of money Le Corbusier once remarked that "India has the treasures of a proud culture, but her coffers are empty." And throughout the project the desire for grandness was hampered by the need for strict economy. In working up his designs, le Corbusier consulted the program for each building as given in the budget and then prepared the initial project.

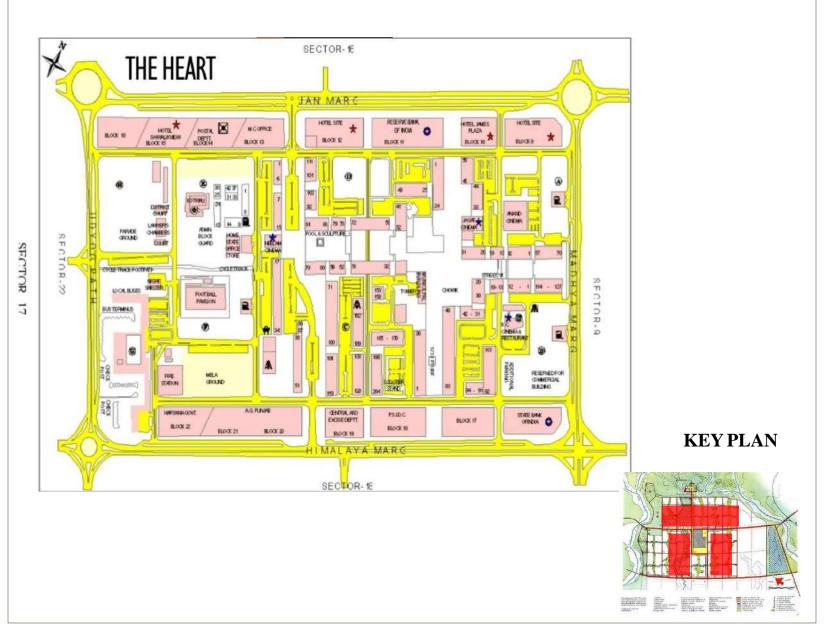
The discipline of technology Available in quantity, however, was good clay stone and sand, and, above all human labor. The materials of which Chandigarh has been constructed are rough concrete in the capitol complex and the central business district and for most of the city, especially in housing, locally produced brick.

The discipline of climate Besides the administrative and financial regulations there was a law of the sun in India. The architectural problem consists; first to make shade, second to make a current of air[to ventilate], third to controlhydraulics.

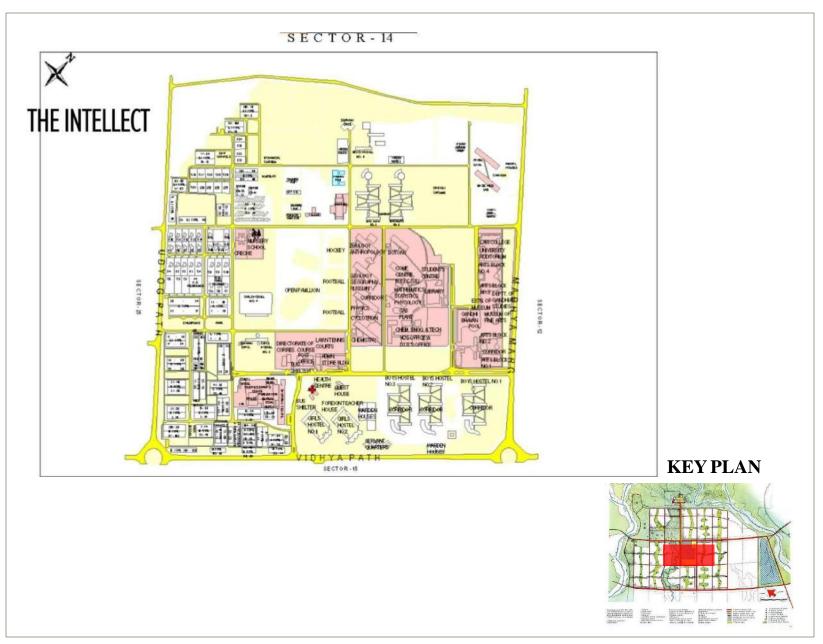




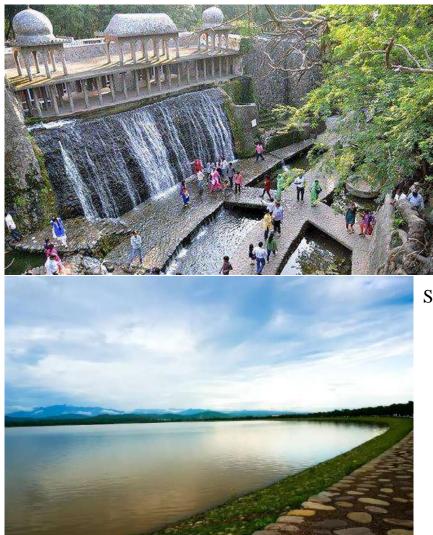
Virtual study tour 2021-22



Virtual study tour 2021-22



LUNGS:



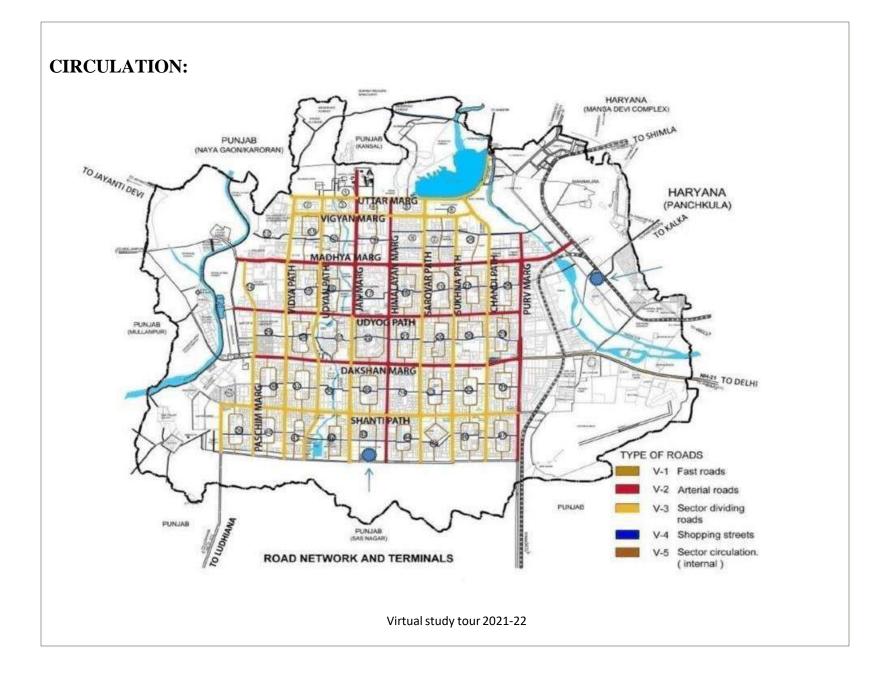
ROCK GARDEN, CHANDIGARH

SUKHNA LAKE, CHANDIGARH

KEY PLAN



Virtual study tour 2021-22





SINHGAD TECHNICAL EDUCATION SOCIETY'S SINHGAD COLLEGE OF ARCHITECTURE, PUNE

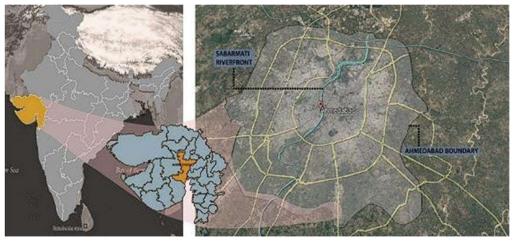
VIRTUAL STUDY TOUR

(AHMEDABAD)

by Third Year B. Arch.

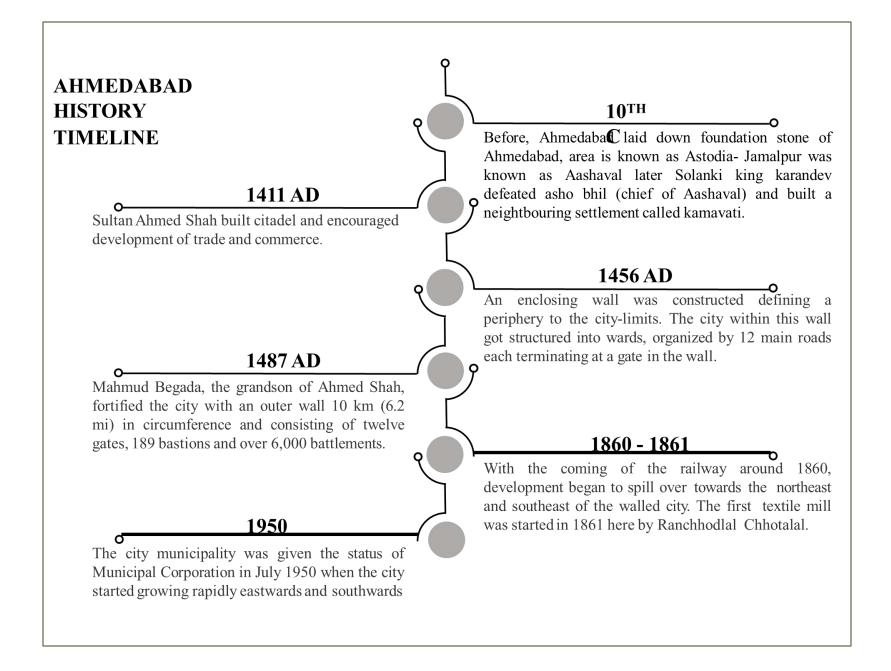
Division B

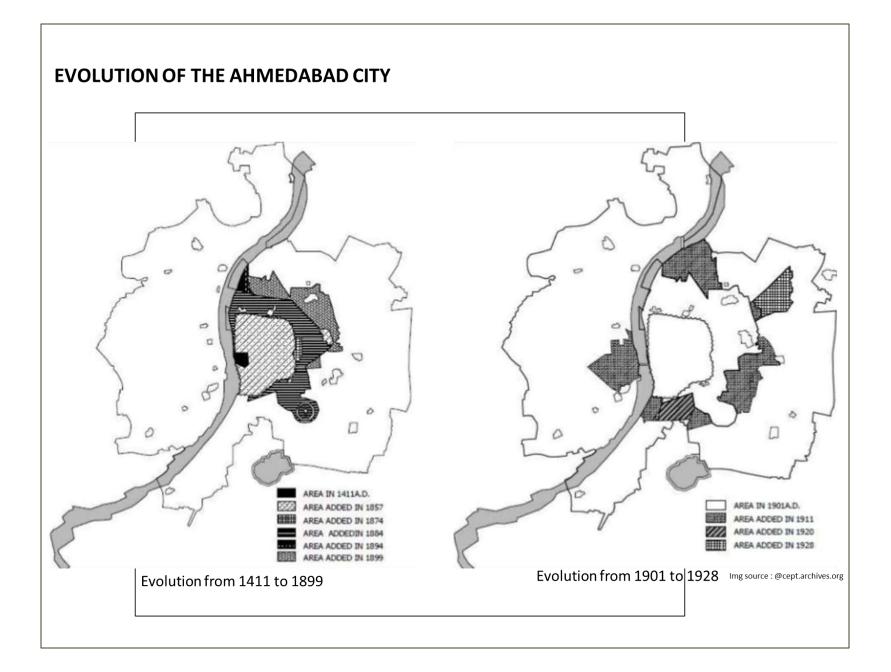
-AHMEDABAD also known as AMDAVAD

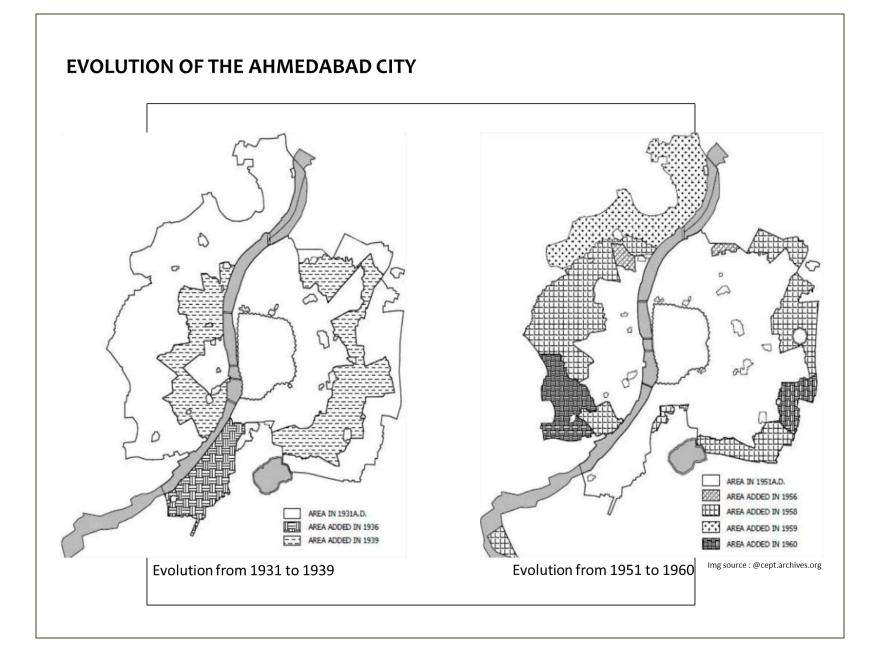


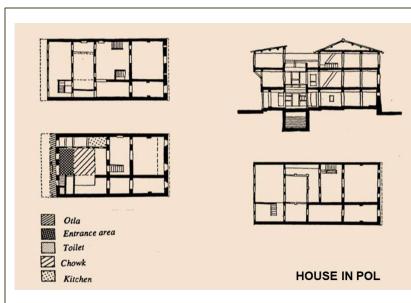
The above img. shows the location of Ahmedabad city.

- Ahmedabad is the most urbanized city in the Gujarat state.
- Ahmedabad has a population of 5,633,927, which makes it the fifth most populous city and seventh largest metropolitan area of India.
- It is located on the banks of Sabarmati river, and has emerged as an important economic and industrial hub in India.
- The city is the administrative headquarter of Ahmedabad district and is the judicial capital of Gujarat as the Gujarat High Court is located here.









Characteristics of Pol housing :

•A typical housing in a Pol consists of an otla (entrance porch), an entrance area/room, a courtyard (chowk) along which the kitchen is located, an inner room and at the rear, the storage room.

• The house normally has two-three stories with terrace above which is used actively.

•There is an underground storage tank for collecting rain water which, with the introduction of piped water, is now used as an extra room.

Ahmedabad housing typology :

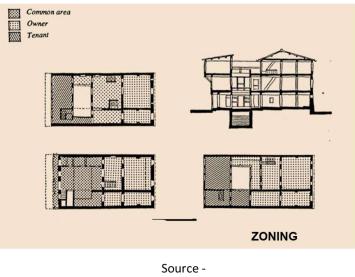
•the interconnected cluster housing in Ahmedabad is called 'Pol'.

•Residents usually belong to same community, trade or religion.

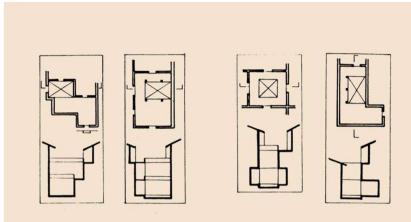
• The Pol architecture makes for an interesting study for evolution in urban living spaces.

•The cluster housing provides a safe, cohesive community space in each Pol.

•With almost zero ventilation, narrow entrance and small courtyards, it becomes stifling hot and humid during summer and rainy seasons.



https://www.researchgate.net/publication https://www.architecturaldigest.in/content



COURTYARD AS A SPACE ARTICULAR

The courtyard/chowk :

- The traditional element in a residence serves to provide the family unit a private setting.
- The chowk serves for overspill of the kitchen activities where vegetables and grains are cut and dried.

•It also serves as a semi-living area 9 area of visitors and drying of laundry).

•The chowk has served as a response to the hot-dry climate of Ahmedabad.

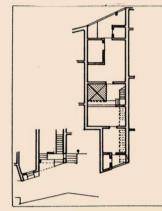
Newly constructed houses :

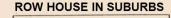
•the new houses constructed in the pols display both continuity in the use of some elements like court and terrace.

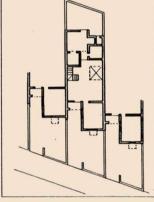
•And transformation of some elements like otla and, in the configuration of house, reflecting the changing concept of privacy among some of the residents.

•The suburbs row house does not have an internal court nor a defined otla.

NEWLY CONSTRUCTED HOUSE







EXAMPLE OF TRANSFORMATION OF THE POL HOUSE TYPE

Source https://www.researchgate.net/publication https://www.architecturaldigest.in/content



Rain water harvesting :

•Rainwater harvesting is essential in the Pol Houses of Ahmedabad. There are storage tanks known as "tanku" under the courtyard, and they may extend to the nearby area.

•There is a provision for the collection of rainwater on the roof through pipes. The rainwater is saved and utilized for the entire year.

•It is extracted through an opening placed in the covered area. The size of the tank depends on the roof terrace area. Typically, the water tank can store 25,000 to 50,000 liters of water during the monsoon season.

•The residents of Pol houses have stopped using the rainwater harvesting system, and the storage tanks are full of mud and other materials. There are many houses still having tanks, but they are not using these for rainwater harvesting.

RAIN WATER HARVESTING TANK UNDER COURTYARD

Neighborhood design of pol houses :

•Pol houses settlements are considered to be 300-400 years old. They have lesser frontage (approx. 4-8m) and more depth (approx. 15 m), allowing streets to have minimal length.

•As per the modern neighborhood concept, this is the best way to design. The streets are narrow (approx. 1-4 m), which is beneficial for the mutual shading concept in summers. It helps in avoiding heat in the street and the house.

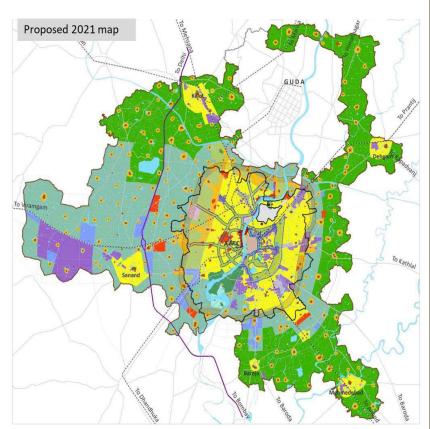
•There is a concept of sharing walls in Pol houses, which is very economical. The Pol houses rarely have front and rear open space, and the courtyard is the only open space. It provides light and ventilation in the entire building. Pol houses neighborhoods have one of the highest population



Source - https://www.researchgate.net/publication https://www.architecturaldigest.in/content

LAND-USE

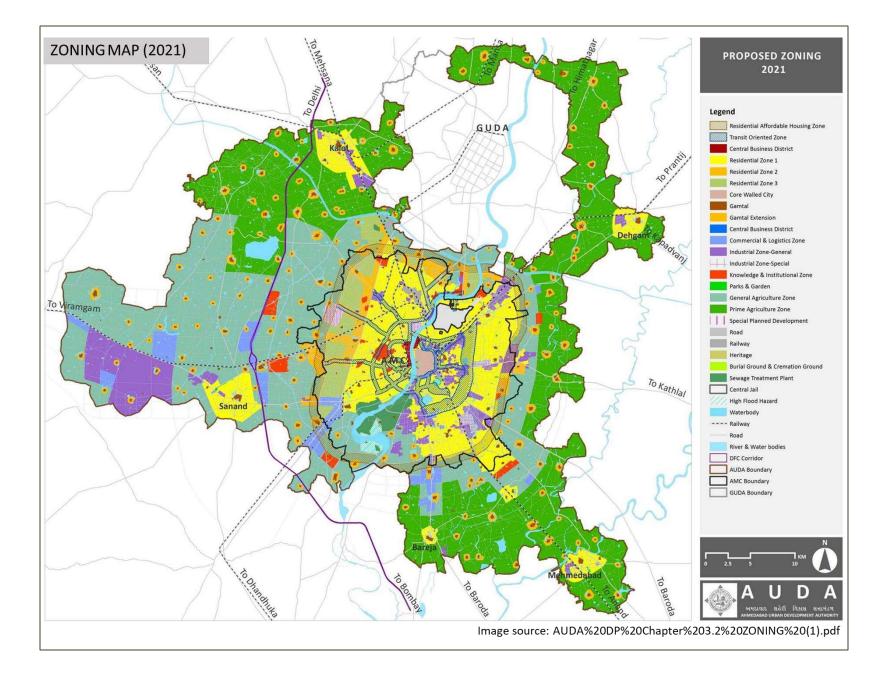
- The core city area in Ahmedabad is dominated by commercial, mixed land-use and major residential areas along the periphery.
- Several parcels of land under industrial zone are within close vicinity of the residential areas within the city's administrative boundary.
- The land-use along the BRTS corrider has changed over time.
- The increase in built up space and in the urban skyline can be vividly seen along the BRTS corridor as more 'ground+5' structures have started getting built.



LAND-USE PLANNING

Image source: AUDA%20DP%20Chapter%203.2%20ZONING%20(1).pdf

- Several land-use policies emerged in the city which helped to bring out the best of the "trinary road system". These included:
- The master plan allows only high-rise (10 to 20 story buildings) and mixed development along the BRT corridors. Also, large-scale shopping centres are only allowed in transit corridors.



ECONOMIC PROFILE –

- Located in Western India on the banks of the River Sabarmati, Ahmedabad is the largest city in the state of Gujarat.
- Industrial Aspects:- chemicals, textiles, drugs and pharmaceuticals and food processing
- - Investment and employment:- Textile and Chemical 21.5% of factories and employs 18% of workers in the state.
- Over14% of the total investments in all stock exchanges in India and 60% the total industrial productivity is contributed by the district Industries
- Name:- Adani Group, Reliance Industries, Nirma Group of Industries, Arvind Mills, Claris Life Sciences, Cadilla Pharmaceuticals, Shell, Vadilal Industries Ltd.,
- Rasna, Bosch Rexroth (Germany) Stork and Rollepac (Netherland). Most of the medium large scale industries are presence in the talukas of ahmedabad



Textile industry



Local market in Ahemadabad (lal Darvaja)

- The city served as political as well as economical capital of the region since its establishment .
- A huge population of 7.8 million people makes this metro city suitable for trade and Industrial establishment .
- Ahmedabad has emerged as an important economic and Industrial hub in India. It is the second largest producer of cotton in India, and its stock exchange is the country's second oldest.
- The effects of liberalisation of the Indian economy have energised the city's economy towards tertiary sector activities like commerce, communication and construction.
- Ahmedabad's increasing population has resulted in an increase in the construction and housing industries resulting in recent development of skyscrapers.
- According to a report in the year 2014. Adding one more milestone, Ahmedabad has been selected as one of the hundred Indian cities to be developed as a smart city under PM Narendra Modi's flagship Smart Cities Mission.



Developing city ahemadabad



Smart city Ahmedabad

AHMEDABAD-Industrial Development Post Independence GoodsOnMove

LOCAL MARKETS IN AHMADABAD



Location of local markets in map

Markets overflowing with vibrant fabrics, chunky jewelry, traditional handicrafts and all things eclectic skinder this city's strong ethnicity growing with a splash of modernity. Due to its ubiquitous wholesale offerings, Ahmedabad has earned the nickname "Manchester of India" Laal Darwaza

- Sindhi Market
- Teen Darwaza Market
- Purushottam Market
- Gandhi Road Market
- Seth Haridas Market
- Maharaja Market
 - Mahaveer Market
 - Dhalgarwad
 - Manek Chowk
 - Law Garden Bazar
 - CG Road
 - Rani no Hajiro
 - Raipur Gate Market
 - Fernandes Bridge
 - Netaji Market
 - Municipal Market

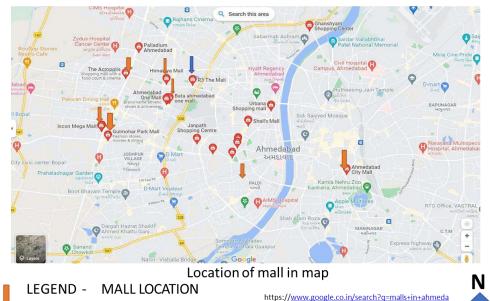
- - Dhalgarwad
- - Laal Darwaza market

٠

- Sindhi Market
 - https://www.google.com/maps/place/Municipal+Market

MALLS IN AHMEDABAD FOR SHOPPING, FOOD AND ENTERTAINMENT!

- 1. (Alpha One Mall)
- 2. The Acropolis
- 3. CG Square Mall
- 4. Arved Transcube Plaza
- 5. 4D Square Mall
- 6. Gulmohar Park Mall
- 7. Ahmedabad Central
- 8. Iscon Mega Mall
- 9. Himalaya Mall
- 10. Shree Balaji Agora Mall
- 11. 10 Acres Mall





Shree Balaji Agora Mall

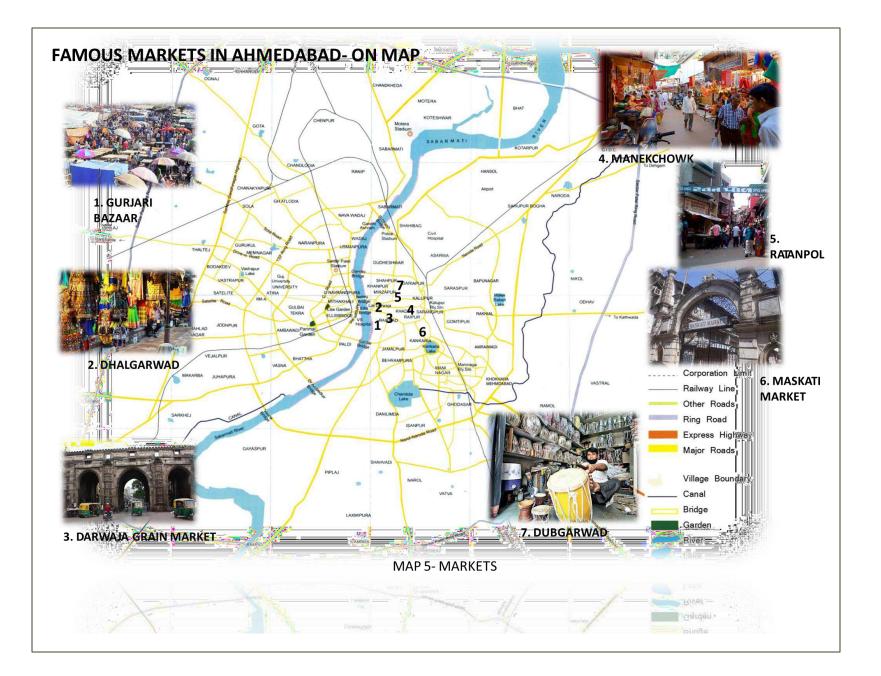


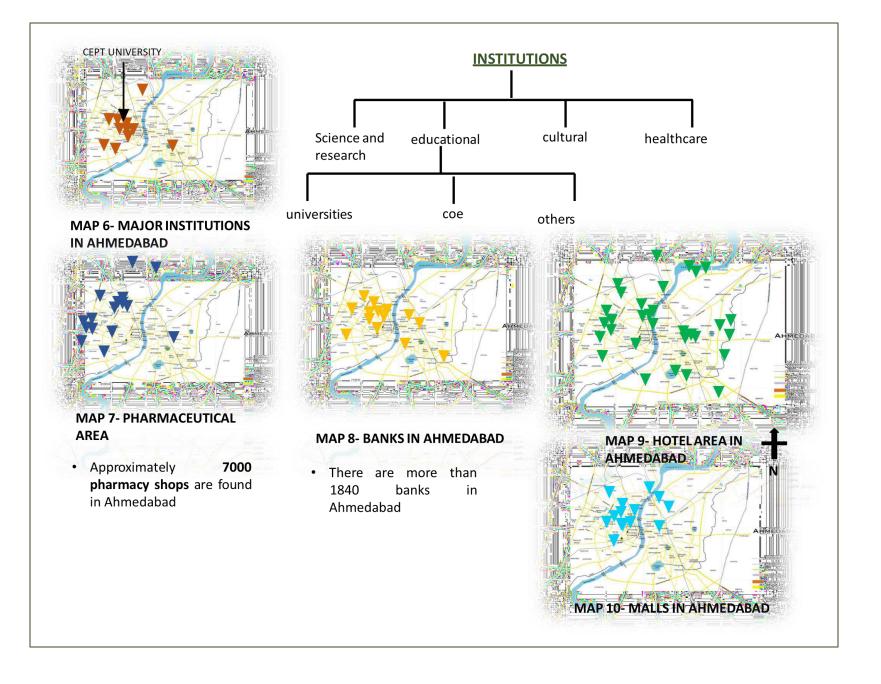
Himalaya Mall



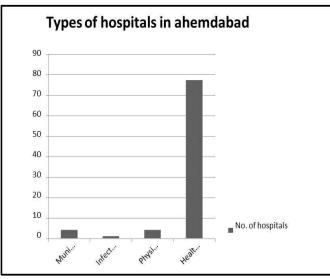
bad+city&sxsrf=AOaemvKpRi2Bi72tiwMzN5cdoyCp4Sq

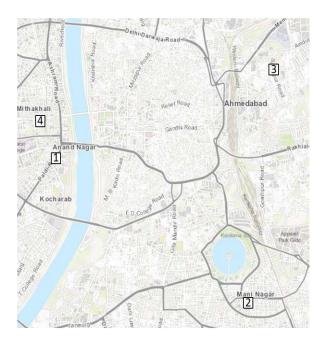
Alpha One Mall





HEALTHCARE FACILITIES -





MUNCIPAL HOSPITALS -

• Amdavad Municipal Corporation runs the following Municipal Hospitals in Ahmedabad City.

1Sheth V.S. General HospitalGeneral HospitalEllisbridge, Ahmedabad.2Sheth Lallubhai Gordhandas Municipal General HospitalGeneral HospitalSheth L.G. Municipal General Hospital, Maninagar, Ahmedabad.3Smt. Shardaben Chimanlal Lalbhai Municipal General HospitalGeneral HospitalSmt. Sa.Chi.La. General Hospital, Saraspur, Ahmedabad.4Sheth Chi.Ha.Nagari Municipal Eye HospitalEye HospitalNear Gujarat College Char Rasta, Ellisbridge, Near Mithakhali, Ahmedabad.	SR NO	NAME	TYPE OF HOSPITAL	ADDRESS
Hospital General Hospital Ahmedabad. 3 Smt. Shardaben Chimanlal Lalbhai Municipal General Hospital General Hospital Smt. Sa.Chi.La. General Hospital, Saraspur, Ahmedabad. 4 Sheth Chi Ha Nagari Municipal Eve Hospital Eve Hospital Near Gujarat College Char Rasta, Ellisbridge, Near	1	Sheth V.S. General Hospital	General Hospital	Ellisbridge, Ahmedabad.
General Hospital General Hospital Smt. Sa.Chi.La. General Hospital, Saraspur, Ahmedabad. 4 Sheth Chi Ha Nagari Municipal Eve Hospital Eve Hospital Near Gujarat College Char Rasta, Ellisbridge, Near	2		General Hospital	
Shefh (hi Ha Nagari Municinal Eve Hospital Eve Hospital	3	Construction of the second construction of the second se	General Hospital	Smt. Sa.Chi.La. General Hospital, Saraspur, Ahmedabad.
	4	Sheth Chi.Ha.Nagari Municipal Eye Hospital	Eye Hospital	

PHYSIOTHERAPY CENTRES-

• Amdavad Municipal Corporation, Health department runs the following Physiotherapy Centres in Ahmedabad City.

SR NO	ΝΑΜΕ	TYPE OF HOSPITAL	ADDRESS
1	Navarangpura Physiotherapy Centre	Head Office	Next to the Navarangpura bus stand, Navarangpura cross road, ahmedabad
2	Mandvini Pole Physiotherapy Centre	Physiotherapy Centre	Jamalpur Shala No. 22, Opp. Gatrad ni Pole, in Mandvi ni Pole.
3	Nava Vadaj Physiotherapy Centre	Physiotherapy Centre	Nava Vadaj Urban Health Centre, Next to Nava Vadaj Police Station
4	Arbudanagar Physiotherapy Centre.	Physiotherapy Centre	Next to the Madhuvan Garden and Sugnan School.

INFECTIOUS HOSPITALS -

•Amdavad Municipal Corporation, Health department runs the infectious diseases hospital for the management of infectious diseases patients coming from within the city area as well as from outside the city area. Treatment provided is free of cost irrespective of address and income of the patient.

SR NO	NAME	TYPE OF HOSPITAL	ADDRESS
1	Infectious Disease Hospital	Infectious Disease Hospital	Behrampura, Pirana Road, Ahmedabad 380022

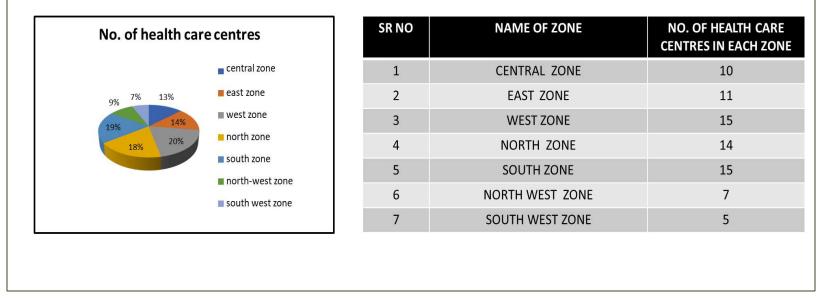
Facilities provided at the Hospital include:

1. Laboratory & X-Ray Facilities for, Pharmacy

2.OPD & Indoor Treatment of Infectious Diseases like Cholera, Acute Gastroenteritis, Diphtheria, Mumps, Measles, Chickenpox, Viral Hepatitis, Dysentery.

URBAN HEALTH CARE CENTRES-

- In Urban Health Centers present in every ward of Ahmedabad City, the following services are provided free of cost:
- Family Planning Services
- Services to Pregnant Ladies: registration, services related to delivery, DPT, Polio, BCG, Hepatitis B and measels vaccination for children
- Vitamin tablets to mother and child
- Vitamin A to children for healthy vision
- Treatment to children for diseases like fever, cough, diarrhea-vomiting, pneumonia
- Conducting camps in slum areas for providing services for vaccination and general well-being of mother and child
- Providing benefits of State Government schemes like Janani Suraksha Yojana, Bal Sakha Yojana, Kasturba Poshan Sahay Yojana, School Health Program etc. to intended beneficiaries
- There are 7 zones all 7 zones contain total 77 urban health care centres



RECREATIONAL FACILITIES -

MUNCIPAL PARKS -

Sr. No.	Zone Name	Total No. of Municipal Gardens	Total Area (in sq.mt.)
1.	North Zone	17	33889
2.	South Zone	19	86833
3.	East Zone	18	159828
4.	Central Zone	15	169139
5.	West Zone	47	405073
6.	New West Zone	86	872534

MUNCIPAL LIBRARIES-

Details of Public Libraries run by Amdavad Municipal Corporation are mentioned below

SR.NO	NAME OF LIBRARIES	NO. OF LIBRARIES
1	A.M.C. Library	45
2	A.M.C. Bal Bhavan	4
3	Sheth Maneklal Jethabhai Pustakalaya & Branch Library	9

SPORTS & RECREATIONAL AREAS-

SR. NO	NAME OF SPORTS AREA	NO. OF UNITS
1	Swimmimg pool	14
2	gyms	36
3	Skating rinks	3
4	Sports complex	3

SERVICES -

- Basic city services may include sanitation (both sewer and refuse), water, streets, the public library, schools, food inspection, fire department, police, ambulance, and other health department issues and transportation.
- City governments often operate or contract for additional utilities like electricity, gas and cable television. Mumbai even provides a lighthouse service.

SR NO	SERVICES				
1			7	Medical Education	
T	1 Water supply		8	Primary Education	
2	Sewage		9		
3	Solid Waste Management		9	Transportion	
Δ	4 Fire Prevention And Ambulance Services		10	Parks And Gardens	
-			11	Ζοο	
5	Health And Medical Services		12	Swimming Pool	
6	Disaster Management		13	Libraries And GYM	



WTP around Ahmedabad

WATER SUPPLY -

1	WATER SUPPLY	1060 MLD
2	WATER TREATMENT PLANTS	4
3	WATER DISTRIBUTION STATIONS	143
4	WATER TRUNK MAINS	250 KM
5	WATER DISTRIBUTION NETWORK	3830 KM
6	POPULATION COVARAGE WATER SUPPLY	90%

WATER TREATMENT PLANTS AND THEIR CAPACITY -

Sr.No.	WATER SUPPLY PLANTS	CAPACITY	UTILIZATION
1	KOTARPUR WTP	715 MLD	650 MLD
2	DUDHESHWAR WTP	70 MLD	-
3	JASPUR WTP	275 MLD	220 MLD
4	RASKA WTP	200 MLD	110 MLD
5	TOTAL	1260 MLD	980 MLD

SEWAGE TREATMENT -

1	EXISTING SEWAGE GENERATION PER DAY	800 MLD
2	POPULATION COVERAGE	85%
3	AREA COVERED	90%
4	SEWAGE NETWORK	1750 KMS
5	STORM WATER DRAIN NETWORK	732 KMS
6	TOTAL DRAINGE PUMPING STATION	45
7	SEWAGE TREATMENT PLANTS	09
8	TREATMENT CAPACITY	1075 MLD

SINHGAD TECHNICAL EDUCATION SOCIETY'S SINHGAD COLLEGE OF ARCHITECTURE, PUNE

VIRTUAL STUDY TOUR

(GWALIOR CITY)

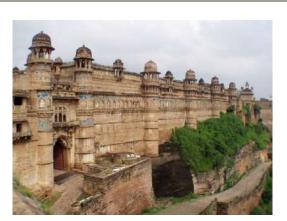
by Third Year B. Arch.

Division C

INTRODUCTION

WHY GWALIOR ?

Gwalior the city which established in 9th century has witnessed many freedom struggles for Indian independence which brought great freedom fighters like Jhansi ki Rani & Tatya tope to its credits.The city has diverse architectural style which is reflected through monuments like suntemple(Shiva temple), Jai vilas palace(Scindias House), memorial of tansen (Islamic architecture) as well as colonial architecture style.





HOW IS THE NAME GWALIOR DERIVED??

There was a saint Galav and a pond in this forest situated in Gwalior earlier no city was there. A king surajsen was hunting in this forest and had leprosy he got thirsty and fell there but the Saint anyhow treated him with water of pond and he was cured and there fore the king set up a city and named it on the Galav Saint called Gwalior also it is said that there were gwalas who came upto this point to herd the animals..

CLIMATE OF GWALIOR

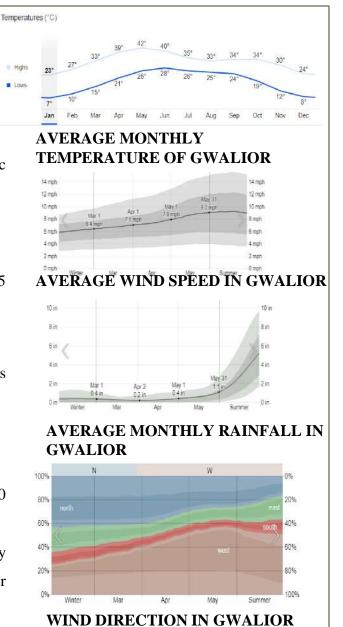
- Climate of Gwalior lives on extremes in both summer and winter Generally rain in Gwalior is only in the months of monsoon.
- During the summer months, the climate of Gwalior is dominated b the heat and the level of humidity also increases.
- From April to June of the month of April, Gwalior gets 45 to 47 dc temperature. The climate of Gwalior is particularly humid in the year.
- In the winter season, the temperature of Gwalior goes up to 2 dc

CLOUDS IN GWALIOR

- September 11 clearest part of the year begins and lasts for 9.5 months and ends at June 27.
- the clearest month of the year in Gwalior is may, 90% of the time.
- June 27 cloudiest part of the year begins and lasts for 2.5 months and ends at September 11 .
- The cloudiest month of the year is august, about 70%.

WIND SPEED IN GWALIOR :-

- the wide-area hourly average wind speed and direction at 10 meters above the ground.
- the average hourly wind speed in Gwalior is rapidly increasing during the spring, increasing from 6.4 miles per hour to 9.0 miles per hour over the course of the season.



GEOGRAPHICAL AND REGIONAL CONTEXT TOPOGRAPHY

Gwalior is located at 26.22° North Latitude and 78.18° East Longitude, in the state of Madhya Pradesh .

The average elevation of the land of Gwalior is about 197 meters above the sea level.

Spread over an area of 5214.00 sq km, I

GEOGRAPHY

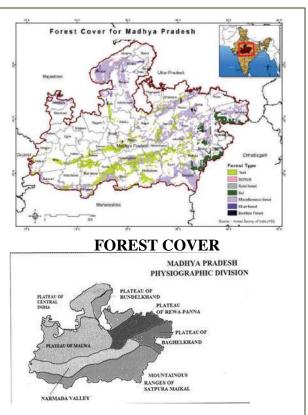
Physiographically granite rocks of Gwalior formation and Vindhyan system forms the hillocks and alluvial plain forming the flat terrain. In Gwalior district 8 groups of geomorphic units have been classified on the basis of differential erosion and deposition of rock material Younger alluvial plain, Older alluvial plain, Inter mountain valley, Mesa, Ridges, Denudational hills, Plateau, pediment

Predominant geological formation Major soil types

Bundelkhand granite Gwalior formation Vindhyan rocks alluvium **Major drainage** Parbati, Neon, Morar, Sind 4 types observed

soils

Well drained clayey soil, Deep well drained firm soil on gentle sloping, Very shallow, well drained loamy soil on gentle slopes, Moderately dep to deep, well drained to mod drained fine



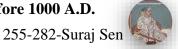
PHYSIOGRAPHIC DIVISION OF MP



MAJOR RIVER BASIN OF MP

HISTORICAL TIMELINE OF GWALIOR

HINDU DYNASTY before 1000 A.D.



(Establishment of Gwaliawar)

401-500-Huna Tribe

801-900-Pratihara's ruled

MUGHAL EMPIRE 1516-1707 A.D.

1516- Ibrahim Lodhi ruled

1527-Babur Conquered Gwalior fort.

1558-Akbar ruled the city

1707-1770-Maratha Defeated

Aurangzeb & conquered the fo

worked in alliances.

1745-1840-Scindia & Britishers

1563-Construction of Mohhamad Ghaus

establishment of Madhya Pradesh, the central district

came up.

1956-1975-After

near Phool bagh developed and new residential colonies

POST

INDEPENDENCE-

and government quarters

1375-Implementation of Tomar

1427-Bhairon & Ganesh

Gate 1500-Badal singh Pol

gate 1486-1516-Man Singh

ruled & built Gujari Mahal

TOMAR DYNASTY 1375-1516 A.D.

1021-Mohhamad Gazni attack

MUGHAL REIGNS 1021-1398 A.D.

1398- Kutub-uddin aibak

1764-1784-Jat king Lokender Sin SCINDIA REIGNS 1707-1926 A.D. ruled

1784-Madho Rao Scindia I ruled. 1810-Daulat rao scindia formed the lashkar & shifted the capital from fort to lashkar

1872-1874-Jiyaji rao scindia ruled -Jai Vilas palace was built by Architect Sir Michael filose designed

1881-Municipal administrative

system started.



1904-1926 -Madho Rao

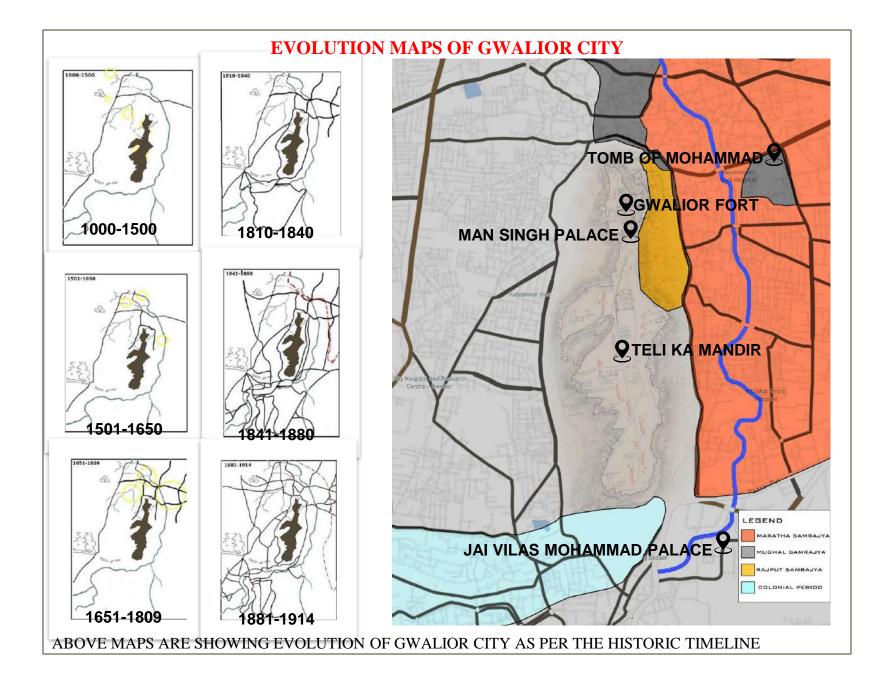
II ruled the city- he built Stations

like ; Gwalior, Moti Jheel,

Sabalgarh, Sheopur Kalan, Morar

British Army Cantonment, Colleges,

Schools and Hospitals in city.



ARCHITECTURAL DEVELOPMENT TIMELINE

8TH AD TELI KA MANDIR

The temple has a rectangular triratha sanctum plan that sits on a jagati platform that is a square of 60 feet . It has a large kapili projecting portico of about 11 feet towards the east. The tower rises about the rectangular sanctum to a height of 80 feet. Above it is a barrel vault shaped cap of 30 feet. The doorway into the temple is 35 feet (11 m) high, and it is ornatethis path has four entrances, one from each cardinal direction which a devotee can use to enter the temple for a darshana . The outer walls are replete with sculptures of various Hindu deities which are elaborately carved.

11TH CENTURY GWALIOR FORT

Gwalior fort is a well known and maintained fort in the country. There are many monuments on the fort. Standing on a steep mass of sandstone, A steep road winds upwards to the fort, flanked by statues of the jain tirthankaras, carved into the rock face. The magnificent outer walls of the fort still stand, two miles in length and 35 feet high, bearing witness to its reputation for being one of the most protected forts of india. The exterior is also sculpted exquisitely containing blue ceramic tiles.

13TH CENTURY MAN SINGH PALACE

A splendid display of hindu architecture .The palace has 20pen courtyards bordered by aprtments on two floors .This 4 storeyed palace has large rooms. The blue paintings on the walls with the touch of green and gold look striking . There are 2 underground or basement floors with circular cells .They were used as prisons.

15TH CENTURY TOMB OF MOHAMMAD

The structure of this tomb is typical mughal architecture with hexagonal pillars stand at each of its four corners. The building is square in plan and topped by a square dome decorated with blue ceramic tiles. It has hexagonal domed kiosks at its corners together with sloping eaves that project from exterior. The tomb walls feature intricate carvings and latticework. Tomb is an onion shaped Tombed. It looks like tomb of Tajmahal.

17TH CENTURY JAI VILAS MAHAL

The palace covers an area of 124,771 square feet, exclusive of the inner square,. The building is double-storied, and the wings and turrets are three- and five-storied. Its total length is 106 feet .The interior of the reception-room is 97 feet 8 inches long by 50 feet broad, and it is 41 feet in height.















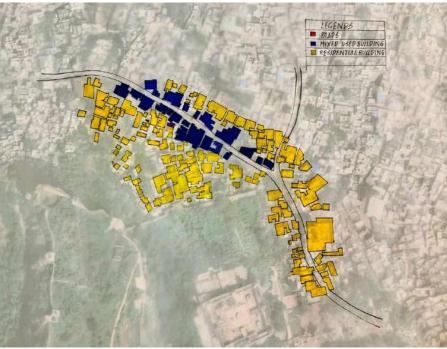




MAP SHOWING SETTLEMENT PLAN







MAP SHOWING BUILDING USED

ANALYSIS OF ARCHITECTURAL STYLE

entrance foyer.



Wooden door

around courtyard

STE'S SCOA | THIRD YEAR B. ARCH. DIV C | DESIGN VI | CONTEXT STUDY | GROUP TOPIC -

Batten door is constructed with the help

of wooden boards in a row parallel throughout the whole of its length and they are held together by diagonal

support battens

ARCHITECTURAL ELEMENTS



Stone Staircase



openingJali



Jali





Cantilever slab support







Jharokha opening



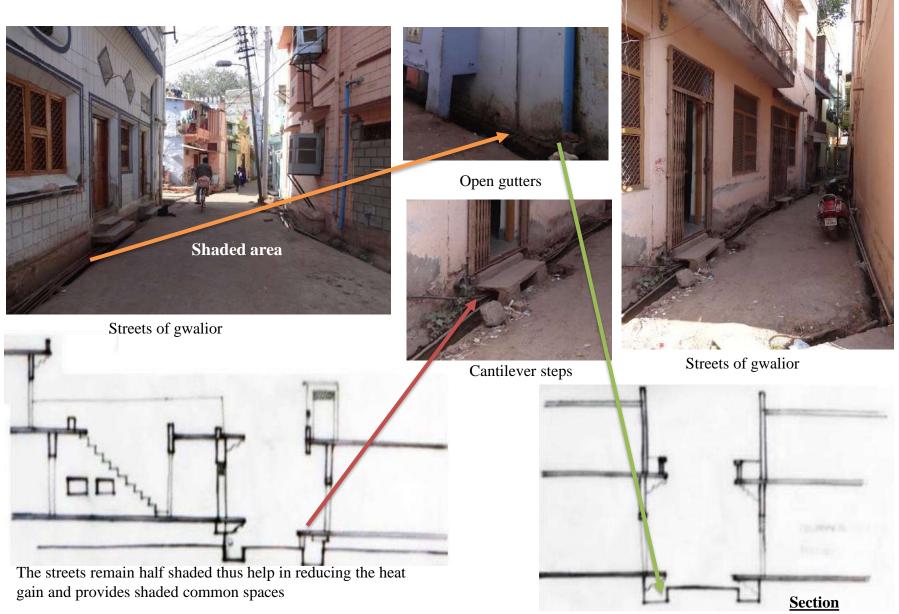
Notches for lamps / plants



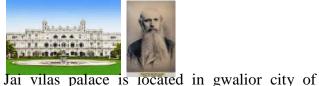


Arch openings

ARCHITECTURAL ELEMENTS



JAI VILAS PALACE, GWALIOR



madhya pradesh.

Interior

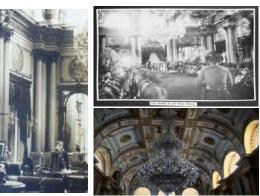
The glass furniture, with a lot of

Gold paint, and a huge dining

Table with a silver toy train used To serve drinks to the guests,

Reflect a synthesis of italian and indian craftsmanship.

Durbar hall has a pair of huge chandeliers with 248 candles a piece, each is 42 ft. High and weighs about 3 tons, one of the largest in the world.



Police officer's mess, gwalior



Category : hospitality architecture Stage : under construction Location : gwalior (m.P) Layout and composition of the buildings is derived from the desired guest experience. The police officer's mess offers guest rooms with main public spaces including restaurant, spa and swimming pool. Buildings are strategically placed at the back of the site, hidden behind lush of green scape of the main road and slightly staggered in such a way that, from guest rooms, view of surrounding landscape is uninterrupted while it allows maximum



The design of palace is based on classic european architecture & spread over approx. 12,0000 sq ft of area.

It is based on tuscan, italian & corinthian styles built in 19th century.

ARCHITECTURAL FEATURES

The palace hall is inspired neoclassical& baroque styles.

Luxury is also one of the main aspect of this palace consisting gold & silver

elements.

ARCHITECT

Lt. Col. Michael filose

Ar. Michael filose designed and Constructed this palace in 2 years.

He was british architect by origin Design uniqueness of each floor Of palace and huge roof of durbar hall were important aspects of his design.

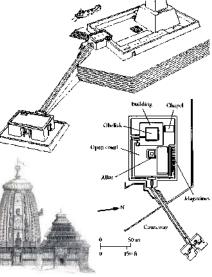
SUN TEMPLE,



Location - residency road, mahaveer, morar,

Gwalior, madhya Pradesh The temple is also called vivaswan temple or Birla sun temple, which is a replica of the famous sun temple in konark. This is a small Drop in the ocean of the philanthropic works Of the birla family.

Its foundation stone was laid in 1984 by G.D. Birla and the construction was Completed in 1988. Spread over an area of 20,500 square feet, the temple is built in the middle on an Elevated platform. There are statues of sri g.D birla and Smt. Birla facing the temple and paying homage to the sun god. The temple walls adorn beautifully carved 373 idols of various gods, including the 10 incarnations of lord vishnu.



Design features

The gwalior fort has been taken in Major consideration over here. The jalis and carvings on the Gwalior for has been made on Stadium also to represent the Historical significance of the city As well as our country.

There are three entrances to the sanctum, one main at front and two at sides. Each entrance door has idols of the nine planetary gods (the navgrahas). There are beautiful marble steps that lead the way into a peaceful sanctum.

Gwalior stadium, gwalior, madhya pradesh

Project name – gwalior stadium Architect – p. K. Das About the project Gwalior international cricket stadium

is a new under construction international Cricket stadium at shankarpur village in gwalior west by the madhya pradesh cricket association.

The construction of the proposed stadium is expected to be completed in 2022. It will have a seating capacity of around 50,000 spectators. It will also be equipped with flood lights For night matches, a swimming pool, sauna bath, modern gym, dressing room, and 30 corporate boxes



DESIGN BRIEF

MAJOR PROJECT – Business Centre at Hinjewadi, Pune

Date of introduction: 18/01/2022

Date of final submission: 01/04/2022

AIM:

To create Service oriented project

OBJECTIVE:

Encourage student participation design brief and program formulation.

To understand Architectural Design as a processof generating design brief and taking design decisions based on the following aspects: Socio-cultural aspects, Aesthetics, Anthropometry and Function, Climate, Building materials and construction technology, Building services, Site, Universal Design, Precedent Studies.

INTENT:

To understand the scale & complexity, Current needs of the city and context oriented design program, aspects of unbuilt & in between spaces in a campus, relationship & continuity.

DESIGN BRIEF:

To design Business Hotel in Pune. Pune is the eighth largest metropolises in India Pune is located in the state of Maharashtra. It is the second largest city in the stat after Mumbai, and is an important city in terms of its economical and industria growth. Pune is among the 109 cities shortlisted in India's Smart Cities Mission. Hinjawadi is a neighbourhood in the city of Pimpri-Chinchwad, Pune, India. It i home to a huge chunk of Global Technology Companies and Start-Ups within th Rajiv Gandhi Infotech Park, a large IT and business park spread over 2,800 acre which was built by the Maharashtra Industrial Development Corporation Hinjewadi is a prominent employment hub situated 19 km from the city centre. I comprises the Industrial, commercial and Residential development.

It is one of the most important Business hub in Pune. It increases the footfall fo commercial activities. Development of Business Hotels is a need of the place. Design a Business Hotel in Hinjewadi context. Each design produced with the exploration of 3D forms and the multi-storey building layouts with services.



MTHOOLOGY:

- Research for Commercial Building Design through the case study and Building standards as par following points
- Building form understanding with various building examples
- Byelaws study
- Building services Study
- Anthropological Study
- Site identification
- Conceptual level designing.
- Exploring Single line Design
- Design development
- Exploring material possibilities & their structural details involved.
- Exploring Façade treatment / Design
- Detailed Planning

DESIGN OUTCOME:

Build competency and ability to make communicative architectural drawings that are of readable scales, preferably in: 1:200 (Site level drawings & Model) 1:100 (Cluster level drawings) appropriate details to be explored at 1:50/20/10 etc.

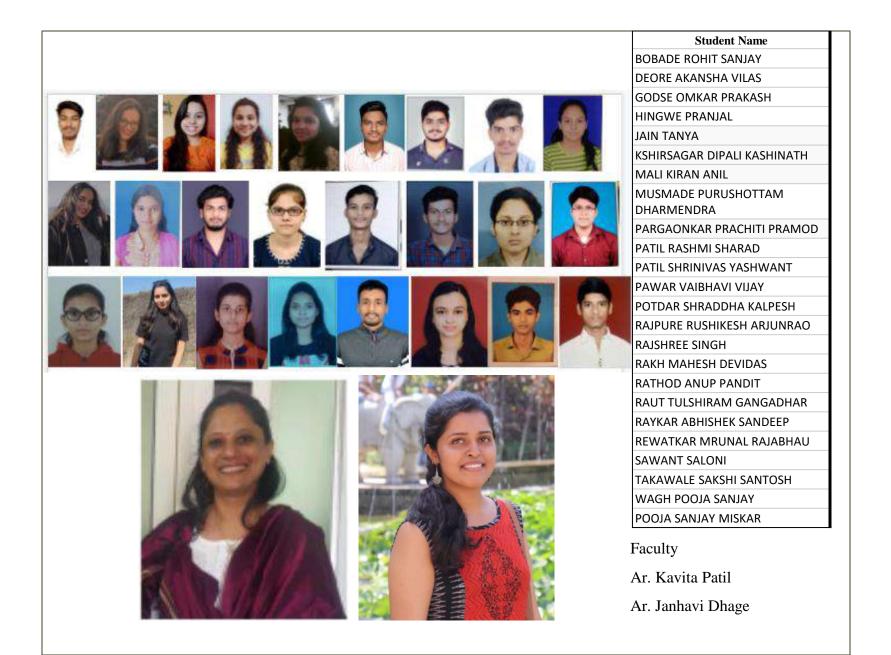
Be able to negotiate various scales in drawings and models.

Be equipped to resolve structural systems of various construction techniques and services.

MINOR PROJECT- Information Centre at Gwalior

Time bound project will be taken for minor project.

				SINIEAD TECHNICAL IDUC SINIEGAD COLLEGE OF A	RCHITECTURE			
	Sectional marks					Academic year 28	21-22	
	Third Your Division C Subject name- AD V					Faculty-Ar. Kavita Patil, As		
_								
RAM:	BUSINESS HOTEL							
	Requirements	Capacity (person)	No of units	Carpet Area (per unit)	Area under walls 15%	Area under circulation 15N	Total Built up area 15%	Remarks
1	INTRANCE LOBBY	-		-				According to the design
	Reception-waiting area	30	1	200	30	30	260	
		25	2	40	6	6	104	
	doak room	25	2	40	0	6		
_	Vallet Parking							According to the design
							364	
2	ADMIN BLOCK							
	Management Office (Accountant, enquiny) with Manager's cabin	4	1	55	8.25	8.25	71.5	one unit for management work
	Director's cabin + Toilet	1	1	30	4.5		39	
		1		20	3		26	
-	Business Development Manager Cabin	8		20	3		20	
_	Meeting Room							
	conference rooms	15	1	30	4.5		39	
	Maintenance Room		2	20	3			
	Staff Working Station	10	1	25	3.75	3.75	32.5	
	Raff Chraging room + Locker + Dining + Pantry	40	1	100	15	15	130	Different changing room for male and female
			1	100	1.6	1.5	13	
	Rone-naoms or Record Room	3		10	1.5		20.8	
_	Ticket booking Agent'scabin				1.2			
	ATM	1	2	4		0.6	9.2	
	Toilets				0	0	0	As Par design
		TOTAL	AREA				459	
3	BUSSINESS CENTRE							
	Help Desk	7	1	15	2.25	2.25	19.5	
_	Telephane boath	3		10	1.5		13	
	Workstation/ Public lounge	50		100	15			
	Meeting room	12	7	30	4.5	4.5	273	
-	Conference hall	50	4	75	11.25	11.25	390	
	Seminar Hall	300		600	90		1560	
		300		15	2.25		19.5	
	pantry		1	15	2.25	2.25		
	Discussion area					-		Semi covered/open
	Souvenir Shop		1	12	1.8	1.8	15.6	
	Toilets							As par Design
		TOT	TAL AREA				2420.6	in the second is
-		10	AL AREA				2420.0	
4	RDOMS							
	Single Occupancy	1		15	2.25	2.25	780	
	Double Occupancy	2	34	25	3.75	3.75	1105	
	Suites	2	10	50	7.5	7.5	650	
	Dermitory	5		30	4.5	4.5	390	
-			TAL AREA				2925	
-		10	AL AREA				2920	
	RECREATIONAL AREA							
	Restaurant							
	- Kitchen		2	30	4.5	4.5	78	
	Storage-dry,wet,utensil,crockery		2	15	2.25	2.25	39	
	Utility+staff changing toilet		1	18	2.7	2.7	23.4	
	- Dining Area	120	2	240	36	36	624	
-	- Washbasin + Toilet	120		240		30	024	As par design
								ins par design
	cari							
	Pantry+Store		1	20	3	3	26	
	Seatings	60	1	85	12.75	12.75	110.5	
	BAR-CAFE							
	Bar counter		2	12	1.8	1.8	31.2	
-	Seating area	70		90	13.5	13.5	117	
-		70			13.5	13.5	117	
_	Performing area		1	30	4.5	4.5	39	
	SWIMMING POOL							
	Shower and Chnaging area							As par design
_								
	SPA AREA							One unit for Male and one for female
			2	22	3.3	3.3	57.2	
	Reception + waiting	10					26	
_		10		10	1.5			
_	Locker room		2	10	1.5		104	
_	Locker room Massage room	6	2	40	6	6		One room wit compartments
	Locker room Massage room Steam + sauna	5	2 2 2 2	40 40	6	6	104	
	Lockerroom Massageroom Steam + sauna Pedicure and medicure	5 5 7	2 2 2 2 2	40 40 40	6 6 6	6 6 6	104	
	Locker room Massage room Steam + sauna	5	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	40 40	6	6 6 6	104	
	Locker room Massage room Steam + sauna Pedicure and medicure Salon	5 5 7 4	2 2 2 2 2	40 40 40 15	6 6 2.25	6 6 2.25	104 104 19.5	
	Locker room Massage room Steam + sauna Pedicure and medicure Salon Locker room, changing room, small dining for staff	5 5 7	2 2 2 2 2	40 40 40	6 6 6	6 6 6	104 104 19.5 19.5	
	Locker room Massage room Steam + sauna Pedicure and medicure Salon Locker room, changing room, small dining for staff	5 5 7 4	2 2 2 2 2	40 40 40 15	6 6 2.25	6 6 2.25 2.25	104 104 19.5 19.5	
	Locker room Massage room Skam + sauna Pedicure and medicure Salon Locker room, changing room, smail dining for staff Locker room, changing room, smail dining for staff	5 5 7 4 6	2 2 2 2 1 1	40 40 15 15	6 6 2.25 2.25	6 6 2.25 2.25	104 104 19.5 19.5	As par desig
	Locker room Message room Steam + asuna Pedicure and medicure Salon Locker room, changing room, small dining for stall Common Tolet GYM	5 5 7 4 6	2 2 2 2 1 1 -	40 40 15 15 - 250	6 6 2.25 2.25	6 6 2.25 2.25 37.5	104 104 19.5	As par desig
	Locker room Message room Steam + surva Pedicure and medicure Salon Locker room, sinetig room, small dring for stat! Common Toilett GYM GYM Tanier Room	5 5 7 4 6	2 2 2 2 1 1	40 40 15 15	6 6 2.25 2.25	6 6 2.25 2.25 37.5	104 104 19.5 19.5	As par desig
	Locker room Message room Steam + asuna Pedicure and medicure Salon Locker room, changing room, small dining for stall Common Tolet GYM	5 5 7 4 6 40 2	2 2 2 1 1	40 40 15 15 - 250	6 6 2.25 2.25	6 6 2.25 2.25 37.5	104 104 19.5	As par desig As par design
	Locker room Message room Steam + surva Pedicure and medicure Salon Locker room, sinetig room, small dring for stat! Common Toilett GYM GYM Tanier Room	5 5 7 4 6 40 2	2 2 2 2 1 1 -	40 40 15 15 - 250	6 6 2.25 2.25	6 6 2.25 2.25 37.5	104 104 19.5 19.5	As par desig As par design
	Locker room Message room Steam + suma Pericure and medicure Salon Locker room, changing room, small dining for saall Common Tolet TVI Tahref Room Changing and Tolet	5 5 7 4 6 40 2	2 2 2 1 1	40 40 15 15 - 250	6 6 2.25 2.25	6 6 2.25 2.25 37.5	104 104 19.5	As par desig As par design
	Locker room Message room Steam + suma Pericure and medicure Salon Locker room, changing room, small dining for saall Common Tolet TVI Tahref Room Changing and Tolet	5 5 7 4 6 40 2	2 2 2 1 1	40 40 15 15 - 250	6 6 2.25 2.25	6 6 2.25 2.25 37.5	104 104 19.5	As par desig As par design
	Loder room Massage room Steam + suna Pectoure and indecure Salon Commo Tolet Commo Tolet Changing and Tolet SERVICE AREA	5 5 7 4 6 40 2	2 2 2 1 1	40 40 40 15 250 8	6 6 225 225 37.5 1.2	6 6 225 225 37.5 1.2	104 104 19.5 19.5	As par design As par design Provide on each floor
	Locker room Massage room Steam + sama Bekon and medioure Salon Counting and any angle of the sale Counting of the sale Counting and Table Tameet Room Changing and Table Service Antes	5 5 7 4 6 40 2	2 2 2 1 1	40 40 15 - 250 8 - 8	6 6 2.25	6 6 225	104 104 19.5 19.5 20.8 - - 1868.1	As par desig As par design Provide on each floor
	Locker room Locker room Steam + surva Peckoure and rind-coure Salon Commo Toilet Oranging and Toilet Ster Room Store Room	5 5 7 4 6 40 2	2 2 2 1 1	40 40 40 15 - 250 8 - 8 - 8 10	6 6 225 225 37.5 1.2	6 6 225 225 37.5 1.2	104 104 19.5 19.5 20.8	As par desig As par design Previde on each floor for each floor
	Locker room Locker room Steam + sama Sekon + sama Sekon and medicure Sakon Locker room, changing room, small diving for saal Comping and Talek Ser Koom Disanging and Talek Sere Room Exects Room Exects Room	5 5 7 4 6 40 2	2 2 2 2 1 1	40 40 15 - 220 8 - 8 - 10 10 10	6 6 2 25	6 6 225 - - - - - - - - - - - - - - - - - -	104 104 19.5	As par desig As par design Provide on each floor for each floor for each floor
	Locker room Locker room Steam + sama Sekon + sama Sekon and medicure Sakon Locker room, changing room, small diving for saal Comping and Talek Ser Koom Disanging and Talek Sere Room Exects Room Exects Room	5 5 7 4 6 40 2	2 2 2 1 1	40 40 15 - 220 8 - 8 - 10 10 10	6 6 2 25	6 6 225 - - - - - - - - - - - - - - - - - -	104 104 19.5	As par desig As par design Provide on each floor for each floor for each floor
	Locker room Locker room Steam + suna Pectoure and indecure Salon Commo Toleie Commo Toleie Service Ancea Service Ancea Service Ancea Escris Room Linean Store Generator Room	5 5 7 4 6 40 2	2 2 2 2 1 1	40 40 40 15	6 6 225 225 375 12	6 6 225 225 37.5 12 12 1.5 1.5 1.5	104 104 19.5 20.8	As par desig As par design Provides on each floor for each floor for each floor
	Locker room Locker room Steam + sama Sekon + sama Sekon and medicure Sakon Locker room, changing room, small diving for saal Comping and Talek Ser Koom Disanging and Talek Sere Room Exects Room Exects Room	5 5 7 4 6 2 2 TOT	2 2 2 2 1 1 1	40 40 15 - 220 8 - 8 - 10 10 10	6 6 225 225 375 12	6 6 225 225 37.5 12 12 1.5 1.5 1.5	104 104 19.5 20.8	As par desig As par design Provide on each floor for each floor for each floor
	Locker room Locker room Steam + suna Pectoure and indecure Salon Commo Toleie Commo Toleie Service Ancea Service Ancea Service Ancea Escris Room Linean Store Generator Room	5 5 7 4 6 40 2	2 2 2 2 1 1	40 40 40 15	6 6 225 225 375 12	6 6 225 225 37.5 12 12 1.5 1.5 1.5	104 104 19.5 20.8	As par desig As par design Provides on each floor for each floor for each floor



SINHGAD TECHNICAL EDUCATION SOCIETY'S SINHGAD COLLEGE OF ARCHITECTURE, PUNE

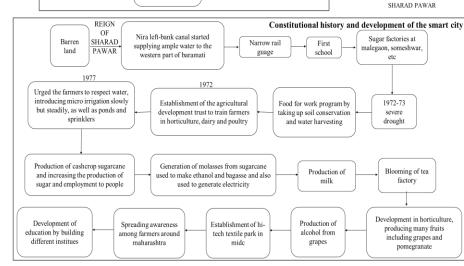
VIRTUAL STUDY TOUR REPORT 2020-21 (B. Arch. III Year D)

HISTORY OF BARAMATI



Baramati- one of the well known historical places in Maharashtra- is situated at the banks of the river Karha. The town has a historical significance because of shri. Babuji naik. The town is also famous in Maharashtra because of the popular poet Moropant, the great legendary poet laureate.









SOME TEMPLES WHICH ARE FROM BARAMATI

ANCIENT TEMPLES

- The town has two old temples which are built around 750 AD.
- · One of them is of shri kashivishweshwar- based on the west bank of the river,
- · The other is of shri siddheshwar, located on the east bank of the river.
- · Siddheshwar temple is a master piece of architecture.
- The temple is located near babuji naik's mansion.
- In this temple we find the gigantic idol of 'nandi'.
- · It is simply the superb piece of sculpture.
- We find the references of both these temples in the great epic "shiv lilamrut" by another famous poet shridhar swami.







Kad Siddheswar Temple

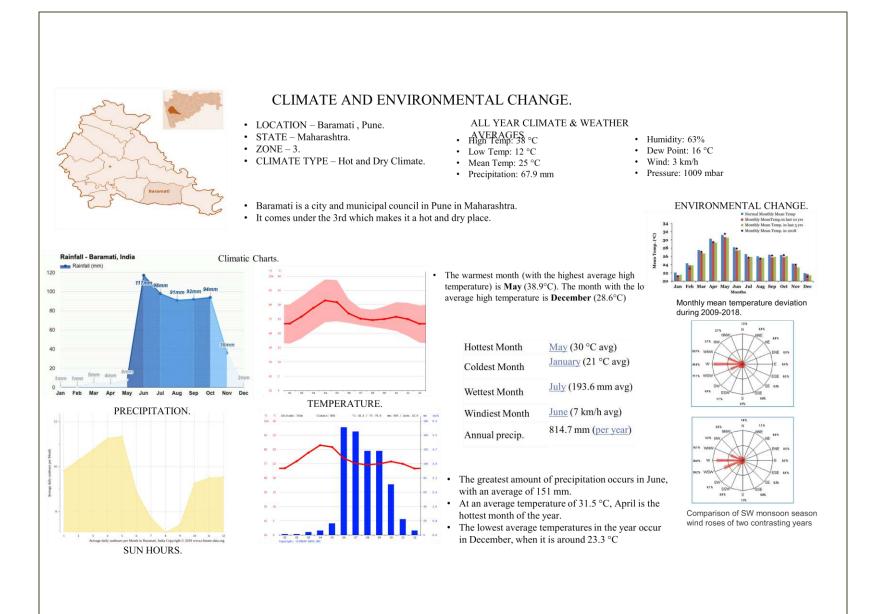
CHHATRAPATI SHIVAJI MAHARAJ

Babuji Naik's Mansion

ANALYSIS

Siddheswar Temple

- The Temples were developed on the banks of the rivers, Karha and Nira which were of cultural significance, and this particular part of the city led to development.
- The maratha rule led to the development of the forts and further development was under the reign on Peshwas, which can be seen in the Architectural History.
- Baramati was a barren land until the reign of Sharad Pawar. His goal was to develop Baramati as a Smart City by 2020. Many projects were developed by Sharad Pawar like Railway development, Institutes, Factories, Agriculture and Horticulture Development, etc. Ajit Pawar is following his steps towards the smart city development,.



SOCIO CULTURE

- Baramati is famous for **its sugarcane plantations**.
- The two best hotels to put up at in Baramati are the Taj and Amardeep which features a more modest. Siddheshwar mandir, built around 750sqm.
- Baramati is a well known historical place in Maharashtra. It is situated on the banks of the river Karha.
- Baramati is known for its Gold, sugarcane, temples, and so on. In fact, Grapes and Sugar are exported from Baramati.
- Main occupation of people in Baramati is Agriculture. And have importance of Politics.
 - Baramati possesses Maharashtrian social culture in all aspect like festivals, foods, etc.

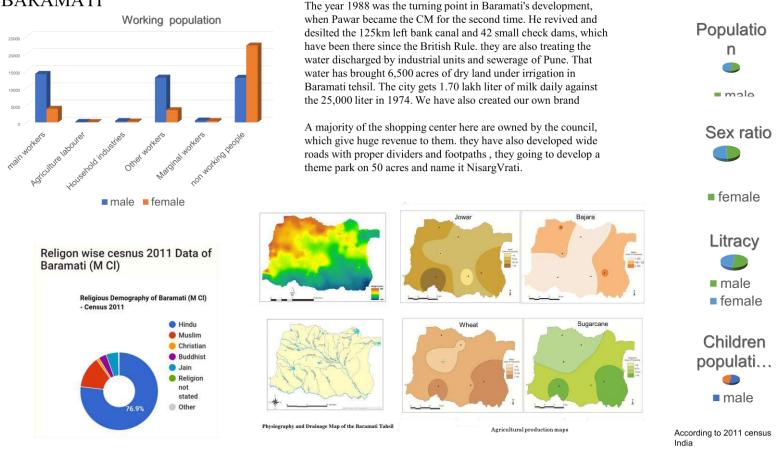


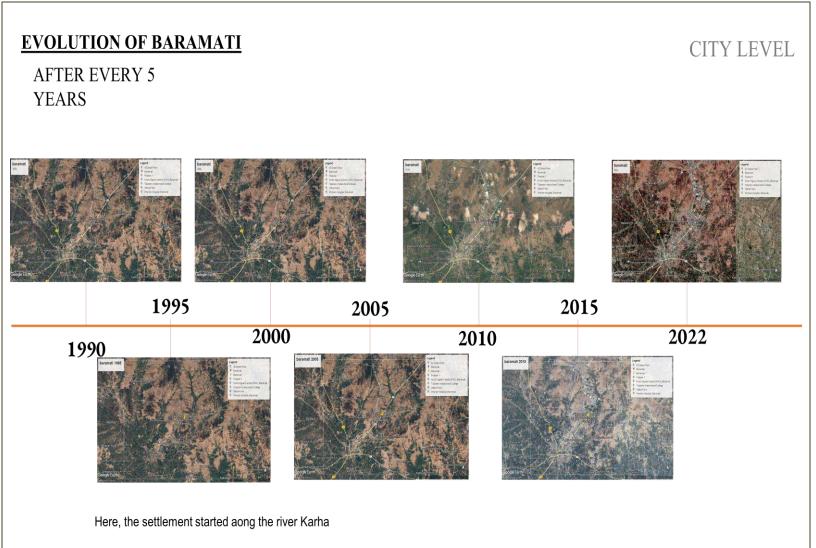




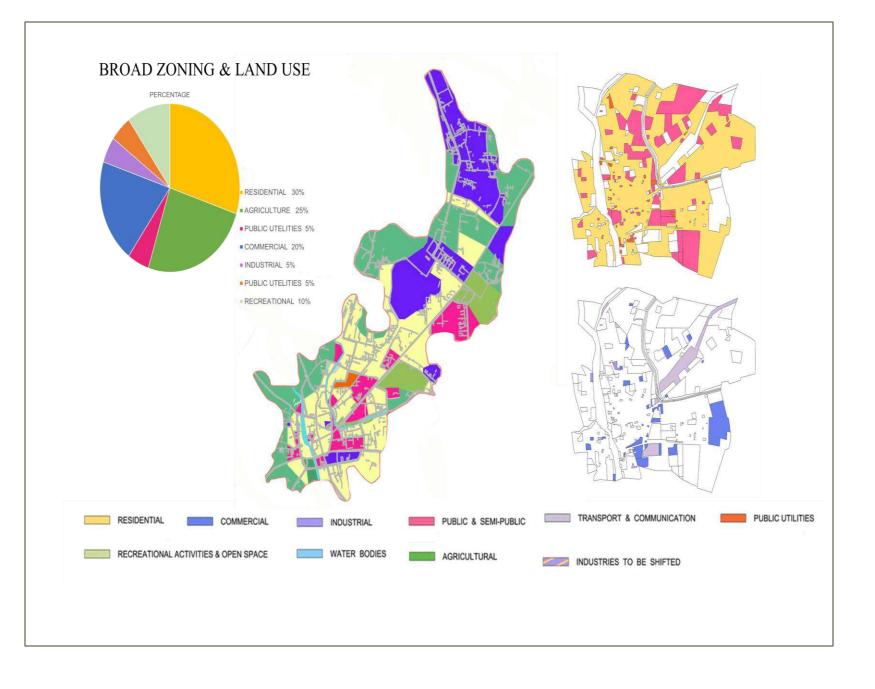


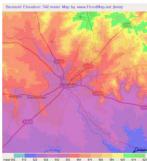
ECONOMY, DEMOGRAPHIC DATA AND GOVERNANCE OF THE BARAMATI The year 1988 was the turning point in Baramati's devel





Then it gradually spread as seen in the timeline





ELEVATION PROFILES.





MAJOR AGRICULTURAL PROCES OF THE REGION



- · The Baramati Tehsil is an eastern belt of Pune district with a rolling topography and the low hills sinking slowly in to the plains with relatively broader valleys.
- Therefore, the physiography of the tahsil has given rise to two major characteristic land forms namely; (1) the plateau and (2) the plains.

SOIL.

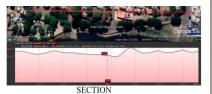
- · The soil of the study area is mainly derived from the Deccan basalts.
- · They are generally fertile except in hilly region.
- · The main types of soil found in study area are black, brownish and gray or white.
- · The soil along the Nira River area is black in color, fine texture and fertile. The main crop in the Nira River side area is sugarcane.
- · As we approach towards the plateau area the soil graded into coarse textured gravish to white colored calcrete rich soil. The Tahsil area underlain by the basaltic lava flows of upper Cretaceous to lower Eocene age. Basaltic lava occupies more than 95 %.

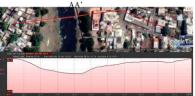
FLORA AND FAUNA

- · Mayureswar Wildlife Sanctuary is located in Tehsil Baramati in Pune district in Maharashtra, India
- The area was declared as a sanctuary from 1919 as per the Wildlife Institute of India.
- · Furthermore, the flora of Bramati constitutes a total of 994 taxa belonging to 938 species with 42 varieties and 14 subspecies, 577 genera and 136 families of flowering plants recorded and described.
- · It is also home to a variety of birds including: Indian roller, black-winged kite, Eurasian collared dove, ashy-crowned sparrow lark, blue-cheeked bee-eater, Gray Francolin, Yellow-wattled Lapwing, Common Hawk-Cuckoo, Short-Toed Snake Eagle, Bonelli's Eagle, Rufous-fronted Prinia, Indian Bush-Lark, Bay-backed Shrike, Southern Gray Shrike.
- · Migratory species like European Roller and Montagu's harrier can be seen in Winter season
- · The main animal species found in the refuge are the Indian Gazelle (Chinkara), Striped Hyena, Indian gray wolf, Indian Jackal, Indian fox and Indian Hare (black-naped hare).
- · Baramati and surrounding areas mostly depend on agriculture as the main source of income. The land in the region is moderately irrigated because of the Nira Left Canal irrigation from the Veer Dam. Nira River and Karha River also provide direct irrigation water to the farms.
- Main crops include Sugarcane, Grapes, Jowar, Cotton and Wheat. Grapes and Sugar are exported from here. There is a huge marketplace for cotton and food grains in the city.



FAUNA OF THE MAYURESWAR WILDLIFE SANCTURY

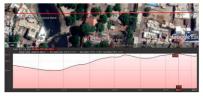




SECTION BB'



SECTION CC'.



SECTION DD'.

INFERENCE:

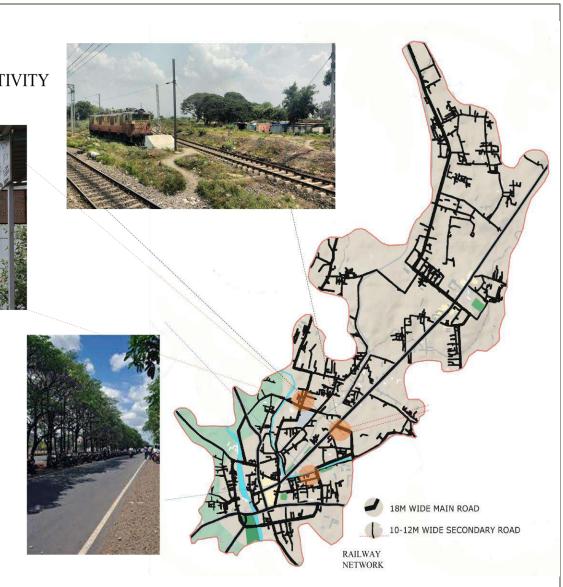
- · The elevation profile of Baramati ranges between 530 - 580 m.
- · As it comes under plain and plateau type of region the soil here are very fertile.
- · Due to fertile soil, this region yields good agricultural produce of a variety of crops.
- · The canal and Karha river also plays a major role in the agriculture of the region.

BUILD AND OPEN SPACE : Baramati Hitech Textile Baramati Bolts and Bearings Shrinath Fitness Baramati Park Ltd House ACPL CARGO FERRO INDIA PVT'. PIAGGIO VEHICLES DECCAN CHEMICAL RAVIRAJ AGRO PVT LTD RTO OFFICE CNG PUMP Women Hospital Vidya Pratishthan's Arts, VITTAL TEMPLE Science & Commerce College LEGENDS : Tuljiram Chatuchand College OPEN / UNCOVERED SPACE BUILD SPACE - INDUSTRIAL Train Station BARAMATI CITY MAP 1 BULD SPACE - RESIDENTIAL Ν BUILD SPACE - COMMERCIAL **ANALYSIS :** 1. MOST OF THE AREA ARE WELL BUILD AND DEVELOPED 2. THE OPEN AREA ARE MAINLY USED FOR ARGRICULTURE. CARGO PARKING , GROUNDS 3. THE BUILD SPACES ARE WELL DESIGNED Dr. Babasaheb Maruti Arena ISKON Baramati Ambedkar Stadium

ROAD NETWORK & CONNECTIVITY



- RAILWAY LINE CONNECTED FROM PUNE- DAUND- BARAMATI.
- 18M WIDE ROAD CONNECTED THROUGH MAIN CITY TO DIFFERENT ZONES.
- 10 M WIDE ROAD AS SECONDARY ROAD NETWORK .





SELECTED STUDY **AREA- LAND USE**

NEIGHBOURHOOD LEVEL



OBSERVATION:

There is lake in left side so the land near to it is very fertile that's why in left side there is more plantation.

As per zoning it can be seen that their is more residential area as it is still on development. THIS ARE THE UPCOMING PROJECTS IN THE AREA

- · New Railway tracks and bridges are proposed to be built.
- New factories, solar photovoltaic power projects, residences, etc have also been proposed.
- Rapid development for the "Slum free" project.Work on digital Baramati Umbrella app and Agro- tourism.

NEIGHBORHOOD (STUDY AREA) EVOLUTION :









karha river

- Bhuikot fort is 5.4 km from Baramati taluka.
- · There is a karha river on the one side of the fort.
- · Bhuikot fort was built in peshwa era, in peshwa era four gadhi has been built in Baramati and Bhuikot is one of them. In Baramati taluka this kind of historical remains can be seen.
- · It is the strong huge structure of Bhuikot has a main entrance door. There are strong walls around this fort made up of stone. After entering the door there are stone steps from both side. One substitute door is available on the right side of this fort.

- · From 1992 to 2008, the operational area for KVK (Krushi-Vidnyan Kendra) was whole Pune District but, After the establishment of another KVK in Pune District, that is in Baramati, the operational Area is reduced to 7 Tahsils of Pune District.
- Due to this, KVK the knowledge centre of Agriculture technology uplifted the Farmer Community.



Neighborhood in 2011

SHRI SIDDHESHWAR TEMPLE

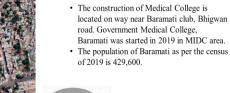


- · Year of construction-Shri. Siddheshwar temple was also build around 750 A.D. Shri. Siddheshwar Temple is situated on the eastern bank of river Karha.
- · Sidheshwar Temple is considered an architectural masterpiece. The temple is located near Babuji Naik's Mansion, which houses a gigantic idol of Nandi ..



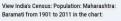
Neighborhood in 2016

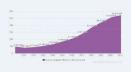
- From 2006 to 2014, 518 persons were trained out of KVK of which, 208 started different typed of businesses like Argo-Service Centre, Dairy Farming, Goat Farming, etc.
- · The city has a 100 year old high school run by the Maharashtra Education Society (M.E.S.). The school celebrated its 100-year completion in 2011





Neighborhood in 2021



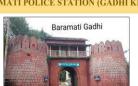


ANALYSIS

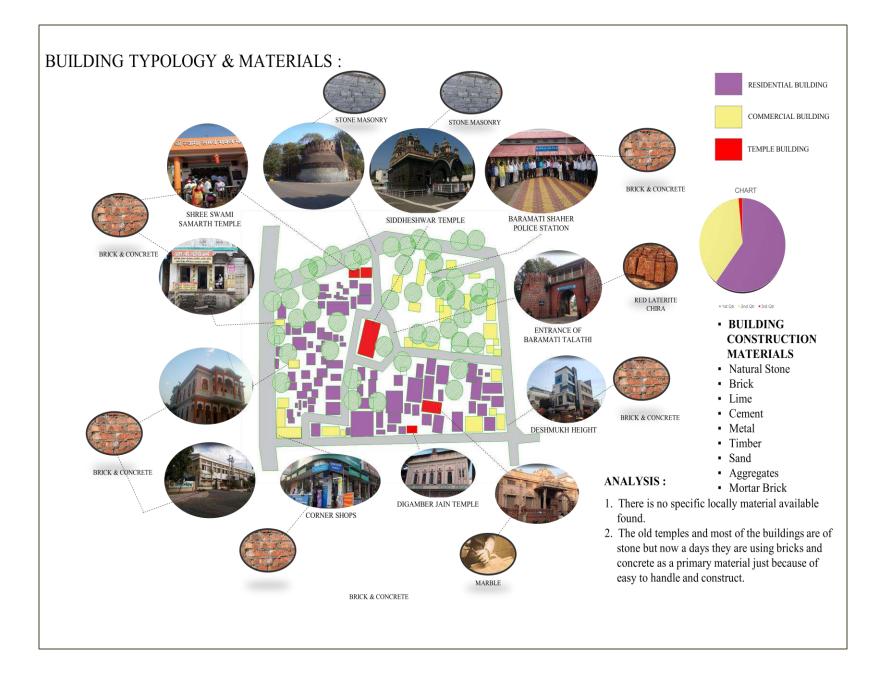
- · After the upliftment of the farmer's community, the people about to shift to Pune stayed in Baramati itself.
- · Development of various Agriculture-related projects were seen during 2006 to 2014.
- Increase in population was around 15% from 2001 to 2019.
- · Historical places like Bhuikot fort, Shri Siddheshwar temple and Gadhi killa are conserved till date and taken care of.



BARAMATI POLICE STATION (GADHI KILLA): Baramati Gadhi



- Baramati city police station
- · Now this place is known as Police station & Tahasildar kacheri Prant office.
- · Built in Peshwa era.
- · Materials used are Red Sandstone for the Entrance gate and Local stone for rest of the construction.



SERVICES- (STUDY

AREA)

LOCATION - BARAMATI, PUNE. STATE - MAHARASHTRA. ZONE - 3

TRANSPORTATION –



 RAILWAY JUNCTION IS LOCATED ABOUT 1.3KM AWAY FROM THE AREA.



BARAMATI RAILWAY STATION IS A RAILWAY STATION IN PUNE DISTRICT. ITS CODE IS BRMT. IT SERVES BARAMATI CITY. THE STATION CONSISTS OF TWO PLATFORMS. IT COMES UNDER CENTRAL RAILWAYS DIVISION OF INDIAN RAILWAYS.



· BUS STAND IS LOCATED ABOUT 0.64KM AWAY FROM THE AREA.

ELECTRICITY-220/132/33 KV MSETCL BARAMATI SUBSTATION



WATER SUPPLY SYSTEM -**UJJANI DAM**

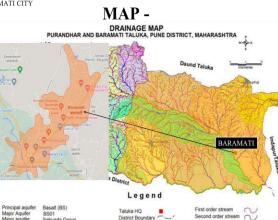


- IT IS THE SUB STATION LOCATED IN BARAMATI CITY. · THE SUB STATION IS 5.4 KM AWAY
- FROM THE AREA . FROM THE AREA .
 PROVIDES ELECTRICITY SUPPLY TO CITY LEVEL DRAINGE

BARAMATI CITY



KARHA RIVER IS THE MAIN TRIBUTARY OF THE NIRA RIVER, ORIGINATES IN THE NORTH-WESTERN PART OF THE AREA, NEAR GARADE VILLAGE IN PURANDHAR TALUKA, FLOWS THROUGH THE CITIES OF BARAMATI, SASWAD AND JEJURI, WHICH LIE ON THE BANKS OF THIS RIVER AND CONFLUENCES WITH NIRA RIVER AT THE SOUTH-EASTERN POINT OF THE AREA, NEAR THE VILLAGE SONGAON IN BARAMATI TALUKA.



or of Agriculture	Bardaringo }	District	XI	27/2
		Legen	d	~~
	Basalt (BS) BS01 Sahyadri Group phaiChikhali Purander/Buldhan/ twor. Two Pune Purandhar and Baramati 225 nos	Taluka HQ District Boundary Taluka boundary Area Watershed Watershed DRAINA	2466 sq km	First order strea Second order s Third order strea Fourth order Strea Sixth order Strea Seventh order Strea



- · UJJANI DAM, ALSO KNOWN AS BHIMA DAM.
- IT IS LOCATED ABOUT 63 KM AWAY FROM BRAMATI CITY.
- THE PROJECT PROVIDES MULTIPURPOSE BENEFITS OF IRRIGATION, HYDROELECTRIC POWER, DRINKING, AND INDUSTRIAL WATER SUPPLY AND FISHERIES DEVELOPMENT. IT IS THE ONLY DAM PROVIDES WATER
- TO BARAMATI CITY.

PROPOSED DESIGN PROGRAM: NEIGHBOURHOOD LIBRARY

SITE SELECTION:

Baramati is a city and a municipal council in Pune district in the state of Maharashtra, India. It belongs to Paschim Maharashtra region and Pune Division. Surrounding areas mostly depend on agriculture as the main source of income.



DESIGN PROGRAM:

ADMINISTRATION READING AREA STACKING AREA DIGITAL LIBRARY CANTEEN/ DINNING **TOTAL BUILTUP AREA: 1000sq.m.**

- It has created a niche for itself in the field of education. Last decade has seen growth of Baramati as a Prominent Education Center with Colleges and Schools ranging from Engineering to Biotechnology to Law and Medical college.
- Surrounded area has three major places which have become well known education centers. <u>Vidya Pratishthan</u>, <u>Vidyanagari</u> and <u>Tuljaram Chaturchand College</u>. Industrial areas (MIDC), Jejuri, Bhigvan & Kurkumbh near city are developing fast & needs skilled manpower.
- This institute can fulfill the requirements of skilled manpower of local establishments and boost the education and learning urge of the population.
- Students are expected to design a library in Baramati, which more like a community center, town hall, can connect their communities in a way that benefits everyone.
- They should pool local resources from educational offerings to job training and put them all under one welcoming roof for everyone to share. The Ambiance can be informal guiding population to relate with the environment and get well acquainted with the knowledge gaining process.









• LIST OF DESIGN FACULTIES -

1 AR PRIYANKA CHAVAN MA'AM 2 AR ANITA KAWATHAKAR MA'AM 3 AR VAISHNAVI MA'AM

LIST OF STUDENTS -

I CHANDEKAR SONIYA SOMESHWAR 2 KUNDU TANUSHRI SAMIR 3 PATIL APURVA SUNIL 4 PATIL JAYESH ARUN 5 PATIL SHIVAM KAILAS 6 SALUNKE RUSHIKESH RAJENDRA 7 SHINDE NIRANTARI SHASHIKANT 8 SHIRKE MRUNAL BHARAT 9 SHIRSAT ABHISHEK SANJAYKUMAR 10 SHIRSE POOJA MOHANRAO 11 SHIVADE PRONAV BHAIDAS 12 SHIVANSH AGRAWAL 13 SHRUTI PANDEY 14 SIDDHANT JAISWAL 15 SOMANI NETAL RAHUL 16 SONTAKKE AKSHAY ANAND 17 SURATE PRAJAKTA RAJENDRA 18 SUTAR ANIKET MAHADEV 19 TANVADE SOURABH MALLINATH 20 TOPALE MANASWI RAHUL 21 UBALE SANJANA RAMESHWAR 22 VARAT SOHAM TUKARAM 23 WAKCHAURE TANISHKA SATISH 24 WANKAR PRATIKSHA PREMCHAND 25 YERAWAR JANHAVI UMESH 26 CHELSEA GABRIEL SILVERA 27 SONUNE ADAVAIT JAYANT 28 KATKAR PRATIKSHA VIJAYKUMAR 29 SAKSHI SWAMI

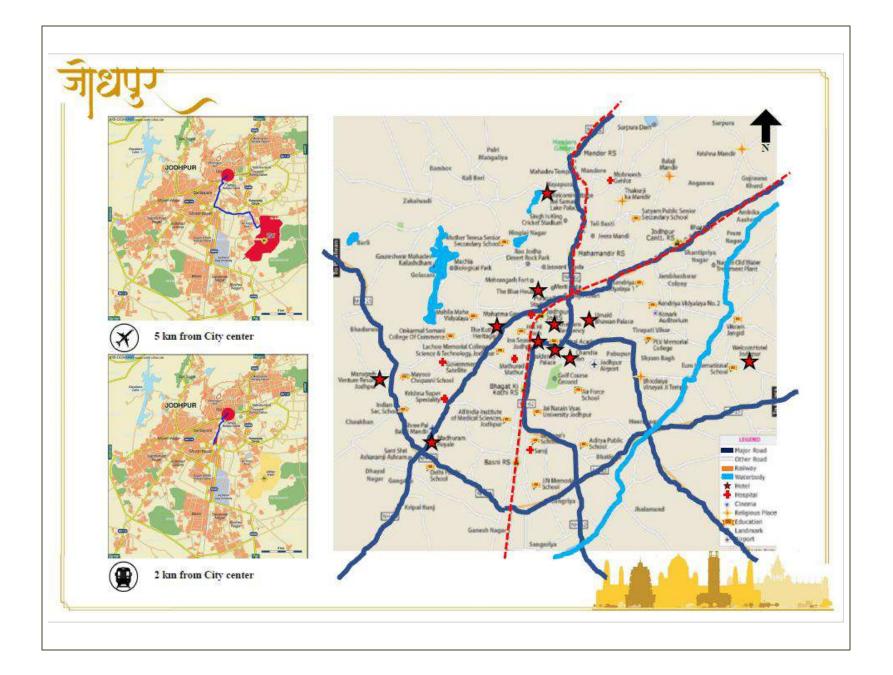
SINHGAD TECHNICAL EDUCATION SOCIETY'S SINHGAD COLLEGE OF ARCHITECTURE, PUNE

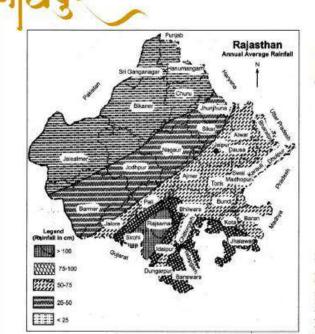
VIRTUAL STUDY TOUR REPORT 2020-21 (B. Arch. IV Year B)



- Located towards the western side of the capital biggest city of Jaipur, this city is the 2nd biggest city in the state of Rajasthan .
- Positioned in the Thar Desert's stark landscape, Jodhpur experiences a bright and sunny weather all through the year. For this, the city is called the "Sun City".
- · Jodhpur is a major district in the state of Rajasthan in India.
- Formerly a princely state, Jodhpur is located in the Marwar region and is a well-known tourist destination and a major commercial zone.
- Jodhpur is surrounded by the districts of Nagaur, Ajmer, Pali, Barmer and Jaisalmer. The headquarter of the district is located in the city
 of Jodhpur.
- It shares common border with five districte viz., Bikaner, Jaisalmer in N- NW, Banner and Palli in SW- SE and Nagaur in E-NE.
- The district has a geographical area of 22850 sq. Km which is 6.60% of the total area of the state and 11.6% of total arid zone of Rajasthan.

REGIONAL SETTING OF JODHPUR





- · Hot and semi arid climate
- Characteristics : extreme hot in summer and extreme cold in winter .
- The temperature varies 49 degree c in summer and 1 degree c in winter.
- Average rainfall is 362 mm
- 80% of annual rainfall is received is received in southwest monsoon from july to septemper.

STUDY OF ROCKS : LITHOLOGY LNCORNS.LDATED Abrviant: Stat Gravity, Pethology SEME Const Const

STUDY OF SOIL :

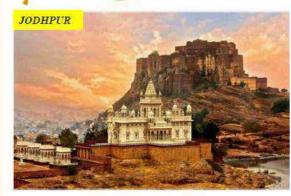
Red desertic soils: this type of soils are predominant in central, eastern and southern parts of the district. These are pale brown to reddish brown soils, loose and well drained and texture varies from sandy loam to sandy clay loam. **Desert soils**: desert soils occupy a considerable area covering northern and western parts of the district. These are mainly wind blown sand and soils of interdunal depressions.

Sand dunes: sand dunes occupy a small part in northern and north-western margin of the district. These are sandy to loamy sand, loose, structure less and well drained.

Lithosols and regosols of hills: these types of soils are found in hills and hill slopes of central and western parts of the district. These are shallow, light textured, fairly drained and reddish brown to grayish brown in colour.

REGIONAL SETTING OF JODHPUR

'The more you know about the past, the better prepared you are for the future.' - Theodore Roosevelt



Jodhpur City View

The contemporary city

- Jodhpur is a major regional road and rail junction and a trade centre for agricultural crops, wool, cattle, salt, and hides.
- An airport handles domestic flights.
- The city has engineering and railway workshops.
- Jodhpur is famous for its handicraft products, which include ivory goods, glass bangles, cutlery, dyed cloth, lacquerwork, felt and leather products, marble stonework, and carpets.
- Tourism is an important component of the city's economy.

HISTORY OF JODHPUR

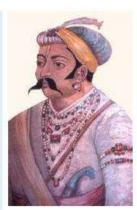
History Of Jodhpur City-

- Jodhpur history revolves around the Rathore Clan.
- Rao Jodha, the chief of the Rathore clan, is credited with the origin of Jodhpur in India.
- He founded Jodhpur in 1459.
- The city is named after him only. It was previously known as Marwar.
- Initially, Mandore served as their capital, but, by 1459, Rathores felt a need for a secure capital.
- This lead to the formation of Jodhpur, the Sun City, by Rao Jodha.
- Under the region of Maharaja Umed Singh, Jodhpur grew into a fine modern city.
- · Jodhpur prospered under the British Raj.
- In 1947 India became independent and the state merged into the union of India.
- · Jodhpur became the second city of Rajasthan.





The city is also famous by the name of Sun City, owing to fact that it boasts of bright sunny weather all year round.



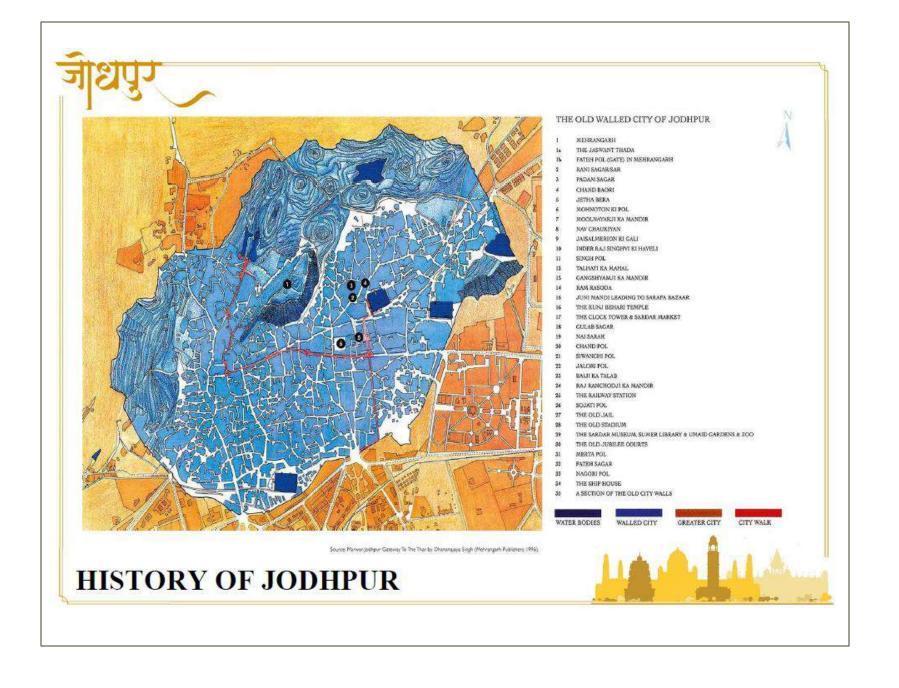
Sourcehttps://upload.wikimedia.org/wikipedia/com mons/3/36/Rao_Jodha.jpg

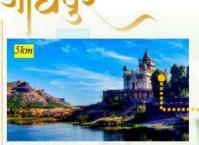




image by Klaus-Michael Schneider







Balsamand Lake The lake was created in 1159 AD by the Gurjara-Pratihara rulers to save the city of Jodhpur from droughts.





Machia Biological Park

Conceptualised in 1983, the park serves as a satellite zoo for the Jodhpur Zoo, established by Maharaja Umaid Singh in 1935.



Masuriya Hill Garden



100

Mehrangarh Fort It was built by Rao Jodha in 1459 in Jodhpur, is one of the largest forts in the country. The Fort was named as Mehrangarh Fort since the chief deity of Rathores was the Sun and the meaning of 'Mehran' is the sun.



Khejarla fort

Khejarla Fort in Jodhpur is an ancient monument that has since been converted into a heritage hotel. Originally built in the 17th century by the Maharaja of Jodhpur, the 400-year old edifice has since been turned into a hotel.



it is a very big temple with he fantastically carved 84 pillars which are a sight to behold.

Hanwant Palace is a five-star luxury hotel that provides a royal dining experience to its guests. Originally considered to be the hunting palace of the Rajas.

-0 -00-0

Spread across the top of the Masuriya hills is the beautiful Masuriya Hill Garden, a delightful location providing travellers with a 360-degree panoramic view of the city of Jodhpur. Inside, one can find a statue of Veer Durgadas Rathore, a prominent hero amongst the Marwari community.



WHY IS INDIA'S JODHPUR CALLED THE Jodhpur 'Blue City' 'BLUE CITY'?

- While everyone knows Jodhpur is nicknamed the Blue City, there is no definitive explanation for how or why the sobriquet came to be.
- Mehrangarh Fort has buildings mainly painted in blue hues.
- Legend has it that the color blue is associated with Lord Shiva , who during the time of Samudra Manthan (also, known as Churning of the Ocean Milk) gulped down vicious poison called Halahala, in order to save the planet.
- This venom turned his body blue, and since then, his followers consider it to be a sacred color.
- · Owing to its sacredness, many of his followers who were settled in the region daubed their houses in blue hues, thus the town received the moniker, Blue City,





Blue defines the Social Status

According to the local lore, the Brahmin community (the priestly caste of India) painted their houses blue in order to differentiate themselves from the lower-caste communities, and since that time, blue is linked with the Brahmins.





Source: http://www.indiamarks.com/jodhpur-india-the-blue-city To keep termites away

- Blue color help deter termites.
- According to this idea, termites damaged many historic structures and buildings in the city.
- So, in order to keep their property safe from these unwelcoming pests, the residents painted their houses with blue paint.

To keep the houses cool

Some locals believe that the color blue is a good reflector of sun rays, so painting the house like this will keep their house cool in warmer months.

Easy availability of Limestone & Copper Sulphate in Jodhpur



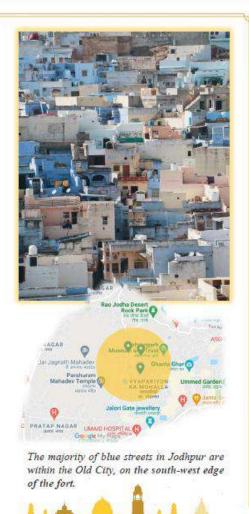
Blue denotes Jodhpur's glory

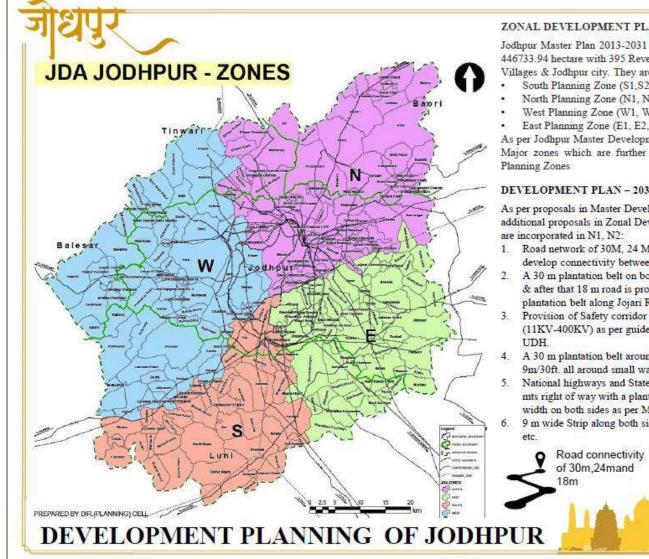


Maintaining the tradition from generation after generation



- Limestone and Copper Sulphate is easily available in Jodhpur and nearby the surrounding of the Jodhpur city.
- Blue paint is produced as a mixture of copper sulphate and limestone.
- This mixture is used to paint the houses in blue color and it's also a very budgetfriendly way of doing so.
- Thus making Jodhpur the "Blue City of India."
- From the very ancient days, the blue color had been used to paint the houses.
- This can be seen in the old part of the city.
- As a part, blue color denotes Jodhpur's glory and makes it stand out from the other Indian cities.
- This could also be a possible reason for painting the houses in blue thus making it the "Blue City of India".
- People have been painting their houses in blue from very old days during the reigns of the Maharajas.
- This made the painting of the houses in blue color a part of Jodhpur's tradition and culture.
- At present, people still maintain this tradition from generation after generation.





ZONAL DEVELOPMENT PLAN

Jodhpur Master Plan 2013-2031 is proposed for an area of 446733.94 hectare with 395 Revenue

Villages & Jodhpur city. They are as below:

- South Planning Zone (S1,S2,S3,S4)
- North Planning Zone (N1, N2, N3, N4)
- West Planning Zone (W1, W2, W3, W4)
- East Planning Zone (E1, E2, E3, E4)

As per Jodhpur Master Development Plan 2031, there are 4 Major zones which are further subdivided into 18 zones

DEVELOPMENT PLAN - 2031

As per proposals in Master Development Plan 2031 and some additional proposals in Zonal Development Plan following are incorporated in N1, N2:

- 1. Road network of 30M, 24 M and 18M are proposed to develop connectivity between Master plan roads.
- 2. A 30 m plantation belt on both sides along Jojari River & after that 18 m road is proposed on both sides of plantation belt along Jojari River.

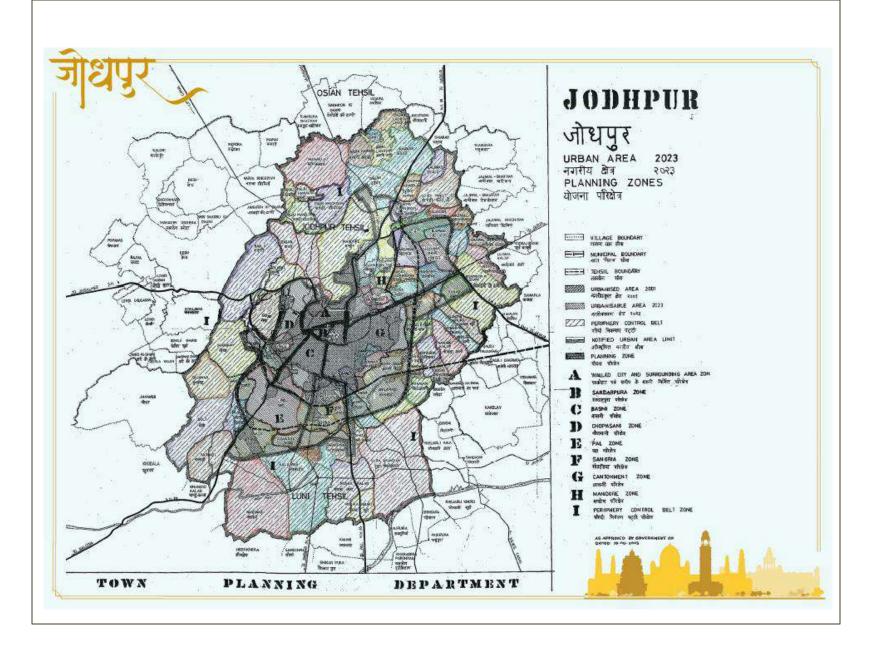
3. Provision of Safety corridor along High tension lines (11KV-400KV) as per guidelines/circular issued by

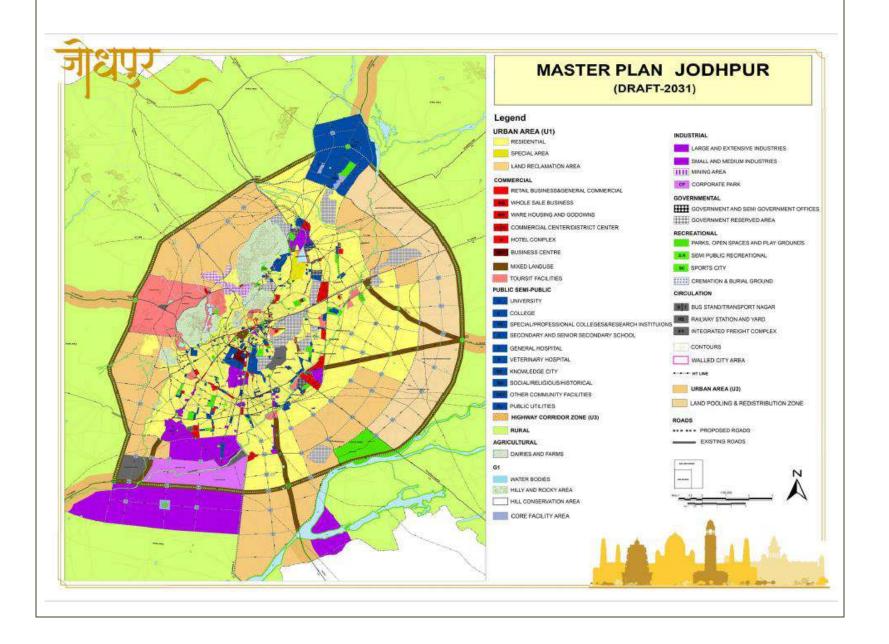
- 4. A 30 m plantation belt around large water bodies and 9m/30ft. all around small water bodies.
- 5. National highways and State Highways shall have 60 mts right of way with a plantation corridor of 30 mtrs width on both sides as per Master plan provisions.
- 9 m wide Strip along both sides of large nallas, drains,

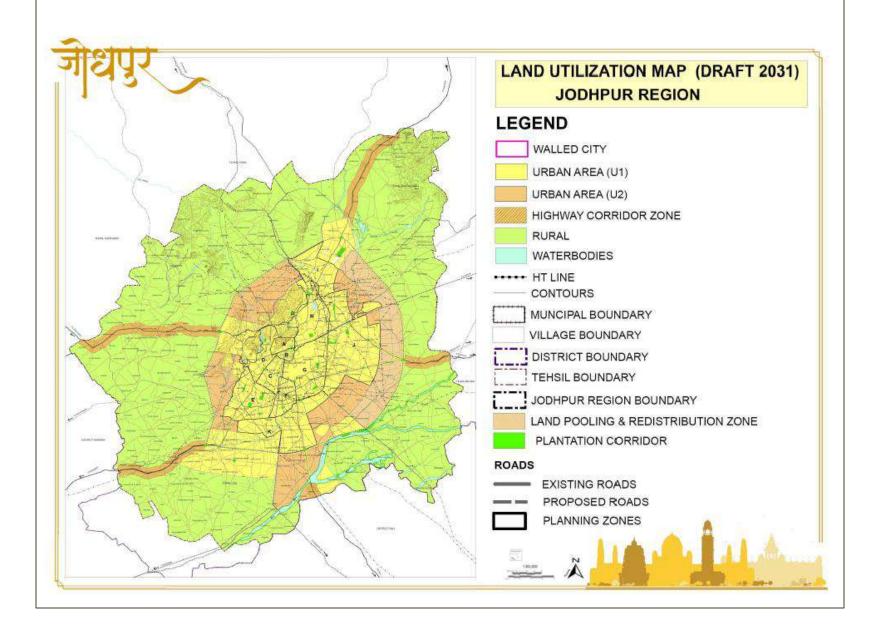
30 m plantation

of Jojari river

belt on both sides







DEVELOPMENT STRATEGY

Development strategy is the process of formulating a strategy for bridging the gap between where the city is and where it wishes to go which depends entirely on the context and initiative of each city. It consists of -

- · Planning strategies and
- Development policies

The most important step for development is the provision of urban infrastructure, initially physical infrastructure.

Connectivity in the form of road network, provision of water supply, electricity triggers growth in any area. Road network would lead to development of economic activities further leading to development of settlements.

To enable easy development of upcoming areas, accessible and cheap public transportation plays an important role.

ZONAL PLANS:

The Zonal Plan is a comprehensive plan conceived within the framework of current Master Plan, showing therein the existing and the proposed location and general layout of:

- Residential areas
- Commercial areas
- Industrial areas
- · Public parks, playgrounds and other recreational facilities
- Public and semi-public uses
- Transportation Network
- · Other land uses which are necessary

CONNECTIVITY







Residential area



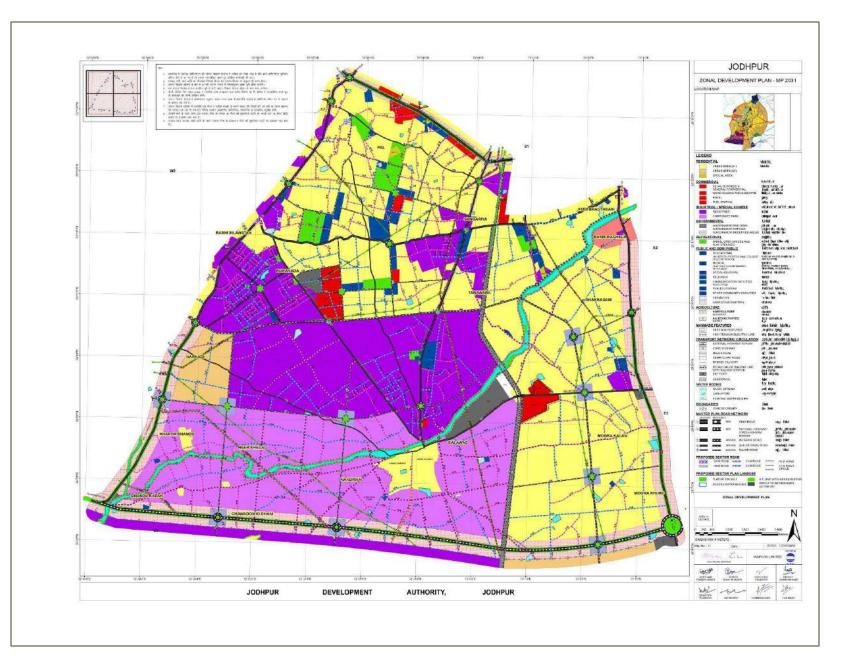
Public parks



Industries in jodhpur

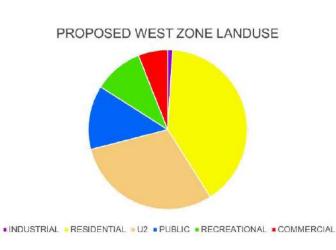


Shopping places in jodhpur



S.No.		Area	Percentage of
	Land Use	(In Ha.)	Developed Area
1	Residential(U1+U2)	6192.31	39.23%
2	Commercial	250.83	1.59%
3	Industrial	3019.31	19.13%
4	Government/Semi- Government		0%
5	Recreational	192.47	1.22%
6	Tourist Facility	64.85	0.41%
7	Public & Semi- Public	307.15	1.95%
8	Circulation	1157.66	7.34%
9	Mixed Land use	1038.81	6.58%
10	Core Facility	148.01	0.94%
11	Water Bodies	168.46	1.07%
12	Corporate Park	2918.63	18,49%
13	Circle	57.63	0.37%
14	Forest and Plantation	264.65	1.68%
De	veloped Area	15780.77	100.00%

Table 2.1: Analysis of Proposed Land Use as per Master Development Plan - 2031 of South Zone (S-2)



- PUBLIC

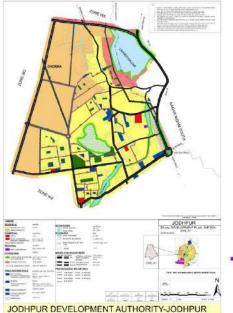
PROPOSED SOUTH ZONE-2 LANDUSE

- U2

RESIDENTIAL

RECREATIONAL = GOVERNMENTAL = COMMERCIAL

INDUSTRIAL



RULES AND REGULATIONS

BYE-LAWS:

Building Bye laws were prepared under Jodhpur Municipal Act, 1943 and came into force with effect from 1.11. 1945 for regulating the building construction in Jodhpur City. Till 15.7.1997, the U.I.T. Followed the Municipal Building Bye laws prepared under the Municipal Act, 1943 and which came into force on 1.11.1945 for Jodhpur City. The U1T prepared its own Building Byelaws and resolution for those, was passed in Trust meeting on 15. 7.1997. The UIT Jodhpur Building Bye-laws 2001, based on Model Building Bye laws, were notified in the Gazette on 4.1.2002. The Nagar Nigam adopted the prevailing Building Bye laws of UIT, Jodhpur. Presently, the U.I.T Jodhpur Building Bye laws, 2001 as notified in the Gazette in January, 2002, are applicable to the Nagar Nigam as well as the U.I.T (Urban Improvement Trust)

SN NO	SIZE OF THE PLOT (sqmtr)	Front setback(mtr)	Side Setback (mtr)	Side Setback(mtr)	Back Setback (mtr)	Max. Height	FAR and Permissible unit
01	Upto 50.0	1.5	205 1	-	2	8m	FAR:NO LIMIT 1 UNIT/FLOOP
02	51 TO 100	3.0	-		1.5	8M	FAR:NO LIMIT
03	100 to 162	3.0	27		2.0	12m,ground +2floor	FAR:NO LIMIT Total 3 UNIT
04	162 to 225	4.5			2.5	12m,ground +2floor	FAR:NO LIMIT Total 5 UNIT
05	225 to 350	4.5	3.0		3.0	12m,ground +2floor	FAR:NO LIMIT Total 6 UNIT
06	350 to 500	6.0	3.0	÷.	3.0	14m,ground +2floor	FAR:NO LIMIT Total 12 UNIT
07	500 to 750	7.5	3.0	3.0	3.0	14M	FAR:1.2 Total 12 UNIT
08	750 to 1500	9.0	4.5	4.5	4.5	14M	FAR:1.2
09	1500 to 2500	12.0	6.0	6.0	6.0	14M	FAR:1.2

Ground Coverage, FAR and Setbacks in Residential Plots

Ground Coverage, FAR and Setbacks in Residential Plots

1. For plots of size upto 2500 sqm there is no limit on ground coverage.

2. Parking provision shall be made if more than 3 units are proposed in a plot. If More than 14m height is proposed, group housing rules shall apply.

3. 25% of unit area or 100 sqm (whichever is less) can be used for office use for professionals such as advocate, Engineer, Doctor, Architect, Chartered accountant, Media professional, Town Planner or similar occupations.

4. Occupations such as retail shop, wholesale shop, repair shop, service center, godown / storage, or any other occupations which may be hazardous for occupants of building as decided by Authority.

5. In Planned plotted developments, setback, Ground coverage etc shall apply as per plotting approval.

6. Stilt parking (free from height limitation) shall be allowed for plot sizes more than 162 sqm, and plots which are situated on 9m or wider road.

Ground coverage/ FAR Exemptions:

• Garden, rockery, well, open waterpool, swimming pool and related constructions upto height of 2.1 m from road level. Fire-escape staircase, tree platform, tank, fountain, bench, open platform or similar constructions.

- Open ramp
- Balcony upto 1.2m or less than 1/3rd of setback, whichever is less.
- For plot sizes above 500 sqm, 6.25 sqm guard room at all entrance gates.

• Facilities such as transformer, generator room, pump room, electric panel room, switch room, PBX or HVAC installations, guard room, gas bank, swimming pool changing room, upto 7% of total FAR shall not be counted towards ground coverage and allowed in setback area.

• Ramp in setback area for basement or other floors after leaving 3.6m from front boundary.

Height limitations and exemptions (combined with maximum limitations for various plot sizes):

- For plots on road width less than 12m, Building height of 12m (without stilt) or 15m (with stilt) is permissible.
- For plots on road width more than 12m but less than 18m, Building height of 15m (with or without stilt) is permissible.
- In case of basements and stilts used for parking, for plinth height upto 1.2m from road level and stilt beam bottom upto 2.8m from plinth level, the combined heights of basement and stilt shall be exempted from building height.
- Exemptions in height: Water tank and related structure upto 3.0m height, if water tank is constructed on mumty roof, then combined height of 5.0m, HVAC equipment, lift room, open staircase upto 3.0m height, lift machine room upto 7.75m height, architectural elements upto height of 4.5m and solar energy installations.

Basement:

- Basement is allowed after leaving required building setbacks on all sides, irrespective of building envelope.
- For plot sizes 1250 sqm or more, 2 basements are allowed with at least one used for parking.
- For plot sizes 2000 sqm or more, maximum 3 basements are allowed with at least two used for parking.
- If basement is used for any purposes other than parking or services, its area shall be counted in FAR.

Allowed Porch:

• Porch on columns in setback is allowed in front setback if front setback is 6.0m or more and is allowed in side setback if side setback is 3.0m or more.

- No construction allowed over porch.
- Normally only one porch per plot is allowed, however, in larger constructions 2 porches may be allowed by authority.
- Maximum porch area shall be 18 sqm and width 3.0m.

Allowed Projection and parking::

Projection:

- Chajja upto 0.6m width but less than 1/3rd of setback and minimum height of 2.1m from floor level.
- Staircase landing upto 1m width but less than 1/3rd of setback and minimum height of 2.4m from floor which can be covered by jaali or grill. This is exempted from ground coverage and FAR.
- Almirah for each habitable room of 2.0m length x 0.6m width and minimum 3.5 m height from plinth level.

Parking:

- No compulsion of parking provision for plots under 500 sqm, however, if more than 3 units are proposed,
- parking provision shall be done.
- For plots bigger than 500 sqm, for every 150 sqm of FAR area one car shall be provisioned.

The parking space, as required under section 38-B, shall be as under: -

(a)	in every building other than the commercial building, cinemas, theatre or multiplex cinema	one Equivalent Car Unit for every 75 square meters of built up area considered for calculation of floor area ratio of the building or part thereof.
(b)	in every commercial building	one Equivalent Car Unit for every 50 square meters of built up area considered for calculation of floor area ratio of the building or part thereof.
(c)	in cinema or theater for every 10 seats or part thereof	one Equivalent Car Unit
(d)	in multiplex cinema	one Equivalent Car Unit for every 10 seats or part thereof and additional parking space for remaining commercial area as provided in clause (b).

(a)	in case of parking provided in open area	25 square meters
(b)	in case of parking provided in covered floor	30 square meters
(c)	in case of parking provided in basement	35 square meters

Out of the total parking space:-

(a) 75% area for cars,

- (b) 20% area for scooters, and
- (c) 5% area for bicycles shall be kept reserved.

In commercial complexes, theaters, multiplex cinemas, Government/semi-Government offices, hospitals and public utility buildings, parking space for at least two cars with minimum width of 3.6 meters each, shall be provided within thirty meters distance from entry gate for disabled persons.

The standard level set for the right of way of various roads.

S. No.	Category	Minimum Right of Way (m)	
	National Highway and State	60m and 30m ,Plantation Corridor on both side of	
1,	Highway	ROW	
2	Arterial Road	30-36	
3	Sub Arterial Road	24-30	
4	Major /Collector Road	18-24	
5	Local Street / Road	12-18	
6	Internal Road	09-12	

Table 3.1: Norms for Road as per category and ROW

Educational Facilities

S.No.	Category	Population Per unit	Area (in sqm)
1	Primary/ Middle School	4000-5000	2000-3000
2	Secondary/ Senior Secondary School	7500- 10000	4000- 8000
3	School for Specially Abled	As per Requirement	2000-4000

Table 3.2: Norms for Educational Facilities

Health Facilities

S. No.	Category	No. of Beds	Population Per unit	Area (in sqm)
1	Large Hospitals	above 51	15000	8000
2	Dispensary / Small Hospitals/ Nursing Homes / Health Centre / Veterinary / Rehabilitation Centre	25- 50	5000- 15000	500- <mark>4</mark> 500

Table 3.3: Norms for Healthcare Facilities

Police, Fire Safety

S. No.	Category	Population Per unit	Area (in sqm)
1	Police Chawki	50000 as per URDPFI	500
2	Police Station	90000 as per URDPFI	2000
3	Traffic / Police Control Centre	As per Requirement	As per Requirement
4	Fire Station / Fire Post / Control Centre	1 in every 2-4 km Radius	Till 0.6 Hectares

Table 3.6: Norms for Police Facilities and Fire Safety Facilities

Socio- cultural Facilities

S. No.	Category	Population Per unit	Area (in sqm)
1	Anganwadi / Creche	As per Requirement	200-300
2	Community Hall	5000	1000
3	Community Hall ,Barat Ghar,Library	15000	2000
4	Religious Place (Temple, Devm, Ashram, Mosque)	As per Requirement	400
5	Cremation / Burial Grounds	As per Requirement	4000

Table 3.4: Norms for Socio-cultural and Religious Facilities

Recreational Facilities

S. No.	Category	Population Per unit	Area (in sqm)
1	Proposed Park per zone	10000-15000	Till 10000
2	Proposed Playground per zone	10000-15000	Till 10000

Table 3.5: Norms for Recreational Place

Permitted activities in commercial zone of proposed area plan- retail trade, informal shopping, commercial office, cinema, hotel, guest house, bank, ATM, nursing home, auditorium, library, weekly market, Local government and non- government office, electric substation, Post office, Sub-fire station, police station, shopping center.

Norms for Incidental Trade

S. No.	Use Zone/Use Premises	No. of Informal Shops /Units
1	Retail Trade Centre	3 to 4 units per 10 formal shops
2	Government and Commercial Offices	5 to 6 units per 1000 employees
3	Wholesale trade and Freight Complexes	3 to 4 units per 10 formal shops
4	Hospital	3 to 4 units per 100 beds
5	Bus Terminal	1 unit for two bus
6	School: Primary	3-4 units
	Secondary/Senior Secondary	5- 6 units
7	Parks	2-3 units
8	Residential Area	1 unit/10 plots
9	Industrial Area	5- 6 units per 1000 employees
10	Railway Station	As per Situation

Table 3.9: Norms for Informal Shops / units for Urban Street Vendors

जोधपुर महानगर बनने की ओर अग्रसर जोधपुर विकास प्राधिकरण का योगदान हर कदम पर।

विनोबा भावे नगर आवासीय योजना के मुख्य आकर्षण -67-21-

- 🚓 जैसलमेर बाईपास पर स्थित है।
- 🞄 राजीव गाँधी नगर आवासीय योजना, रामराज नगर आवासीय योजना के समीप ।
- 🗱 मुख्यमंत्री जन आवास योजना (अफोर्डेवल) के समीप

वित्रवस्तरीय जैक्षणिक संस्थाओं की स्थापना

- 🗱 भारतीय प्रौद्योगिकी संस्थान
- 🗱 अखिल गारतीय आयुर्विज्ञान संस्थान
- 🕸 राष्ट्रीय केशन तकनीकी संस्थान
- 🕸 राष्ट्रीय विधि विषयविद्यालय
- 🗱 फुटवियर डिजाइन व डवलपमेन्ट इंस्टीट्यूट
- 🕸 संन्द्रल एरिड जोन रिसर्च इंस्टीट्यूट
- # डेजर्ट मेडिसिन रिसर्च इंस्टीट्यूट
- 🏶 आयुर्वेद विश्वविद्यालय
- 🕸 उपक्षेत्रीय विज्ञान केन्द्र
- 🔅 भारतीय अन्तरिक्ष अनुसंधान केन्द्र
- 🗱 शुष्क यन अनुसंधान केन्द्र

प्राधिकरण की परियोजनाएँ

- 🖀 विश्वान नगर आवासीय योजना
- 🎄 मण्डलनाथ आवासीय योजना
- 🔆 ई-आंवरान लागू
- 4 GIS मेपिंग व्यवस्था
- क्ष विवित्तया मेरूजी मल्टीलेवल ओवरविज
- 🚓 सारण नगर आर.ओ.बी. निर्माण
- क्ष फाईल मॉनिटरिंग व्यवस्था लागू
- 🚓 अरणा विहार आवासीय योजना
- 🚓 डारणा विहार आवासीय योजना
- क्ष मुख्यमंत्री जनआवास योजना

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जोधपुर महानगर बनने की ओर अग्रसर जोधपुर विकास प्राधिकरण का योगदान हर कदम पर। महात्मा गांधी नगर आवासीय योजना के मुख्य आकर्षण

- 🗱 नागौर बाईपास लिंक रोड़ पर स्थित है।
- 🗱 दिल्ली वर्ल्ड पब्लिक स्कूल, आंगणवा से 0.5 किमी. दूरी पर स्थित।
- 🗱 प्राधिकरण की अन्य योजनाओं ट्रांसपोर्ट नगर एवं ऑटोमोबाईल नगर 🗟 1 किमी. की दूरी पर स्थित।
- 🗱 भाता का थान , नागौर बाईपास से महज 5 किमी की दूरी पर स्थित।
- 🗱 सुंदरसिंह भण्डारी योजना, अफोर्डेबल हाउसिंग पॉलिसी अंतर्गत फ्लैटस के सामने स्थित।
- 🗱 जोधपुर मुख्य रेलवे स्टेशन से 13 किमी. दूरी पर स्थित।

विकासकीय कैसलिक चोपाली की प्रकारत

- * भारतीय ग्रोद्योगिकी संस्थान
- 🏶 अखिल भारतीय आयुर्विज्ञान संस्थान
- 🍀 राष्ट्रीय कंशन तकनीकी संस्थान
- 🗱 राष्ट्रीय विचि विष्टवविद्यालय
- 🗱 फुटवियर डिजाइन व डवलपमेन्ट इंस्टीटयूट
- * सेन्द्रल एषिड जोन रिसर्च इंस्टीटयुट
- 🗱 डेजर्ट मेडिसिन रिसर्च इंस्टीट्यूट
- 🛠 आयुर्वेव विषयविद्यालय
- 🏶 उपक्षेत्रीय विज्ञान केन्द्र
- 🇱 भारतीय अन्तरिक्ष अनुसंधान केन्द्र
- 🏶 शुष्क बन अनुसंधान केन्द्र

राजिकरूप की परिवेत्यनाई

- 🚜 विज्ञान नगर आवासीय योजना
- 🗱 मण्डलनाथ आवासीय योजना
- 🚓 ई--औवधन लाग्
- # GIS मेपिंग व्यवस्था
- 🎂 रिवितया मेरूजी मल्टीलेवल ओवरब्रिज (कार्य प्रगति पर)
- # सारण नगर आर.ओ.वी. निर्माण
- 🚓 फाईल मॉनिटरिंग व्यवस्था लागू
- 🚓 अरणा विहार आवासीय योजना
- 🚓 झरणा विहार आवासीय योजना
- 👍 मुख्यमंत्री जनआवास योजना

Educational Facilities

No.	Category	Population Per unit	Area (in sqm)
1	Primary/ Middle School	4000- 5000	2000-3000
2	Secondary/ Senior Secondary School	7500-10000	4000- 8000
3	School for Specially Abled	As per Requirement	2000-4000

Table 2: Norms for Educational Facilities

Health Facilities

S. No.	Category	No. of Beds	Population Per unit	Area (in sqm)
1	Large Hospitals	above 51	15000	8000
2	Dispensary / Small Hospitals/ Nursing Homes / Health Centre / Veterinary / Rehabilitation Centre	25-50	5000-15000	500-4500

Table 3: Norms for Healthcare Facilities

Socio- cultural Facilities

S. No.	Category	Population Per unit	Area (in sqm)
1	Anganwadi / Creche	As per Requirement	200-300
2	Community Hall	5000	1000
3	Community Hall ,Barat Ghar,Library	15000	2000
4	Religious Place (Temple, Devra, Ashram, Mosque)	As per Requirement	400
5	Cremation / Burial Grounds	As per Requirement	4000

Table 4:Norms for Socio-cultural and Religious Facilities

Recreational Facilities

S. No.	Category	Population Per unit	Area (in sqm)
1	Proposed Park per zone	10000-15000	Till 10000
2	Proposed Playground per zone	10000-15000	Till 10000

Police, Fire Safety

Table 5:Norms for Recreational Place

S. No.	Category	Population Per unit	Area (in sqm)
1	Police Chawki	50000 as per URDPFI	500
2	Police Station	90000 as per URDPFI	2000
3	Traffic / Police Control Centre	As per Requirement	As per Requirement
4	Fire Station / Fire Post / Control Centre	1 in every 2-4 km Radius	Till 0.6 Hectares

Table 6: Norms for Police Facilities and Fire Safety Facilities

Distribution Services

Petrol Diesel/CNG Filling stations will be permissible in the Zonal Development Plan as per rules in the following areas (except restricted area)

- a) Community/ commercial center (Filling Station only)
- b) Residential and Industrial Area
- c) National and State highway
- d) Developed Rural Area
- e) Freight Complex
- f) Major roads

Other Distribution Services

Category	Population	Gas Storage Capacity (in kg)	Area of Plot (Sq.m.)
LPG / Cooking Gas Godown	As per requirement excluding	2000-10000	1000
	Residential Areas	10000-12000	1200
		12000-15000	1500
		15000-20000	2000
		20000 above	2500

Table 7: Norms for Other Distribution Services

Other Facilities

Provision for other facilities like special educational facility, specific market, transport related facilities, parking, grid sub- station, water supply point, sewag pumping station, etc., to be kept as per the requirement of area.

Guidelines for fire Station and other firefighting facilities:

- a) It is necessary to have a fire station located in an area so that fire service can reach site within a maximum time of 3-4 minutes
- b) Fire stations may be located on the corner plot and main road and it is necessary to have two

exit gates.

- c) Provision should be made for proposal of underground pipeline for fire hydrant in newly developed area
- d) In areas where it is not possible to set up a fire station (extreme dense area) necessary provision of fire hydrant and water pipelines should be made in the underground or on the site.
- e) It will be necessary to get approval from the fire office before the fire agency makes fire provisions.

3 SOCIO- ECONOMIC FACILITIES

Commercial /Professional Structure

S.No.	Category	Area (Ha.)	Population	No. of Shops
1	Local Market 0.15 5000	0.15	5000	1 no. per100
		5000	persons	
2	Local Market, Service	0.46	15,000	1 no. per 200
	Centre, etc.	0.40	15,000	persons
3	Weekly Market	0.40	1 or 2 Place	As per
			per 1 Lakh	requirement
4	Informal Spaces / Vending	As per	On the basis	1 per 10 plots
	Zone	requirement	of survey	
5	Milk distribution centre /	As per	As per	As per
	Dairy Booth	requirement	requirement	requirement

Table 8: Hierarchy and Norms for Commercial Centers

Infrastructure Planning:

- a) Parking and other open spaces in commercial center shall be proposed in such a way that weekly market can be established there at other times.
- b) Solid waste management and other public facilities should also be proposed along with the informal sector.

Permitted activities in commercial zone of proposed area plan- retail trade, informal shopping, commercial office, cinema, hotel, guest house, bank, ATM, nursing home, auditorium, library, weekly market, Local government and non- government office, electric sub-station, Post office, Sub-fire station, police station, shopping center.

Norms for Incidental Trade

S. No.	Use Zone/Use Premises	No. of Informal Shops /Units
1	Retail Trade Centre	3 to 4 units per 10 formal shops
2	Government and Commercial Offices	5 to 6 units per 1000 employees
3	Wholesale trade and Freight Complexes	3 to 4 units per 10 formal shops
4	Hospital	3 to 4 units per 100 beds
5	Bus Terminal	1 unit for two bus
6	School: Primary	3-4 units
	Secondary/Senior Secondary	5- 6 units
7	Parks	2-3 units
8	Residential Area	1 unit/10 plots
9	Industrial Area	5- 6 units per 1000 employees
10	Railway Station	As per Situation

Table 9: Norms for Informal Shops / units for Urban Street Vendors

Demarcation of Vending Zones

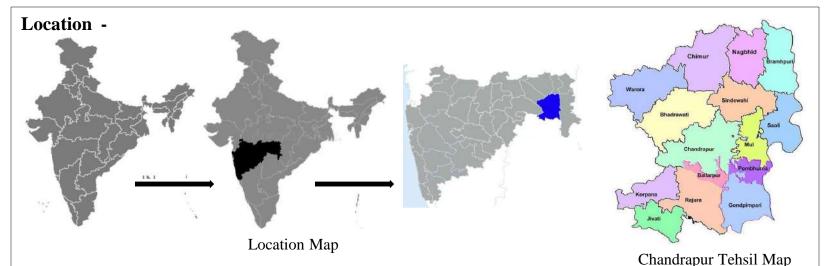
Zonal Development plan will have to mandatorily determine the boundaries of Vending zone, restricted vending zone and Non-restricted vending zone

4. PARKS & OPEN SPACES

- a) Formulation of work plan to ensure development of 15% (minimum) green cover in cities.
- b) The development of the park located in the urban area by the each urban local body to ensure dense plantation with public support at open sites. Reserved land for Parks/ open space proposed in Master Plan to be demarcated and developed on PPP model or other suitable methods and ensure dense plantation.
- c) In urban areas, dense plantation along major roads and in median to be ensured.
- d) Minimum one Children Park to be developed each year in every city.
- e) Major Park situated in urban area to be developed as Central Park. Facilities for children and senior citizens should be ensured in the central park.
- f) The parks available in schemes of urban areas to be listed and in each scheme at least on park per year should be developed for children and senior citizens with necessary facilities.

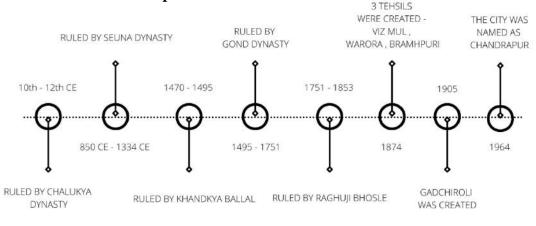
SINHGAD TECHNICAL EDUCATION SOCIETY'S SINHGAD COLLEGE OF ARCHITECTURE, PUNE

VIRTUAL STUDY TOUR REPORT 2020-21 (B. Arch. IV Year C)



Chandrapur is a city and a municipal corporation in Chandrapur district, Maharashtra state, India. It is the district headquarters of Chandrapur district. Chandrapur is a fort city founded by Khandkya Ballal Sah, a Gond king of the 13th century. The city sits at the confluence of the Erai river and Zarpat river. The area around the city is rich in coal seams. Hence, Chandrapur is also known as the "black gold city"

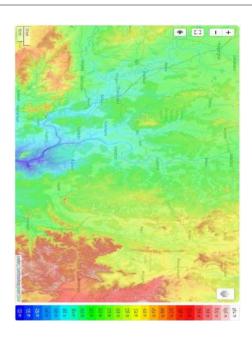
Evolution of Chandrapur District -





Road Connectivity

Elevation: 188 m (617 ft) Temperature: Avg. 27.7 deg. Celcius Area rank: East Vidarbha: 2nd District: 1st



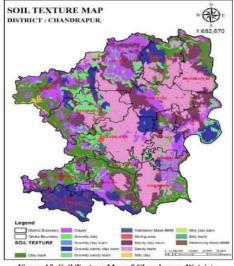


Figure 15: Soil Texture Map of Chandrapur District

Geography of Chandrapur-

- Chandrapur is located in central India in the eastern part of Maharashtra state at 19.60°N latitude and 79.20°E longitude.
- The area of the city is about 162.5 km2, While The total area of the district is 11,500 Km2.
- River Wainganga, Andhari, Uma, Wardha and Painganga are the major river of Chandrapur district.
- The Chandrapur city is Geographically surrounded by districts of Nagpur, Bhandara & Gondia to the North, Yawatmal to the West, Gadchiroli district to the East and Adilabad districts of Telangana to the south towards South.
- The nearest major city is Nagpur, 100 kilometers to the north.
- The Chandrapur forest reserve and the Sundarnagar ranges are towards the east of district.
- The district is divided into 15 Tehsils with district head quarter at Chandrapur.

Topography & soil -

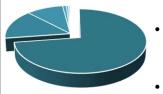
- The southwest part of the district is mountainous, while the rest of the district has an undulating terrain, with gentle slopes.
- The topography of the district consists of alteration of low lying river plains at elevations of less than 300 metres and a series of hill ranges about 300 to 600 metres high in elevation.
- The soil of the district is well defined. The soil conditions along Wardha-Painganga valleys are rich with black regur loams and clay loams along the river bed.

Flaura & fauna -

- Tadoba andhari tiger reserve in tadoba is a predominantly southern tropical dry forest with dense woodlands comprising about 87 percent of the protected area.
- Tadoba National Park is a popular tiger reserve known as 'The Land of Tigers' as large number of tigers are found here.
- Aside from the keystone species, the Bengal tiger, Tadoba Tiger Reserve is home to other mammals. Tadoba lake sustains the marsh crocodile.
- 195 species of birds have been recorded, including three endangered species.
- 74 species of Butterflies have been recorded Including the Pansies, Monarch, Mormons and Swordtails.



The most popular species of the trees are teak and bamboo. **Religion -**



- 72 % -Hindu
- 15 % Buddhist
- 10 % Muslims
- 01 % Christians
- 0.60 % Jainism 0.04 % - Sikhs

Axlewood is a fire-resistant species growing here



Palas of the forest adds vibrant colour to the forest.



The climber kach kujali foundhere is a medicinal plant.

Dance form -



Aadivasi

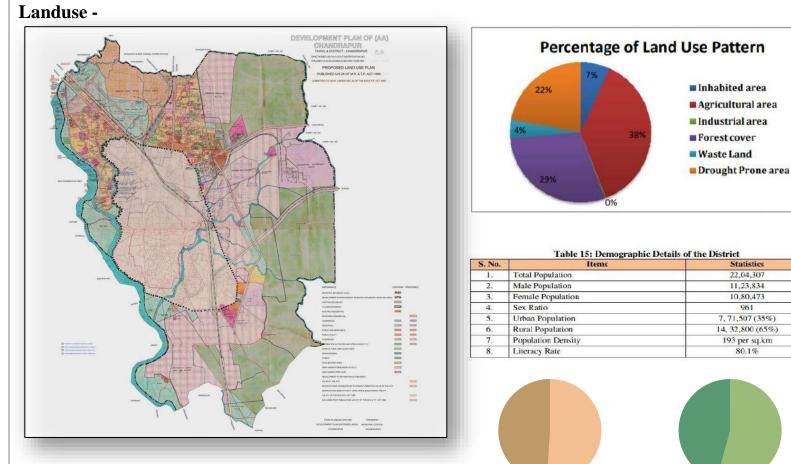


Gondhal

- **Food -**People in Chandrapur are particularly fond of their hot and spicy gravies and curries, which they relish in almost every meal.
- Chakli, makai chiwda, aalu vadi and kodhimbir vadi are some of the most famous snacks served in Chandrapur.

Festivals -

Ganesh Utsav, Dusshera, Diwali and Makar Sankranti are widely celebrated festivals in Chandrapur.



Demography -

Out of the total population of Chandrapur, 22,04,307 in the district, 775,378 are in an urban area and 1,428,929 are in rural areas. 180,458 households are in urban, 356,228 are in rural areas. 616,221 literate people are in urban, 962,394 are in rural areas.

FEMALE 45.7% MALE 54.3% MALE 51% Population of 2,204,307 as per The overall literacy rate is growth rate being 80.01% amongst which , 6.43% considering population of male being 86.79% & 20,71,101 as per census 2001. female being 72.97%.

LITERACY

POPULATION

FEMALE 49%

census 2011

Connectivity network of chandrapur -

By Road :

The district of Chandrapur is well served by a network of roads.

There is a state highway connecting Nagpur, Yavatmal & Gadchiroli.

NH-930, NH-353E, SH-233, SH-9, SH-264 and SH-230 are major roads passed through Chandrapur district.

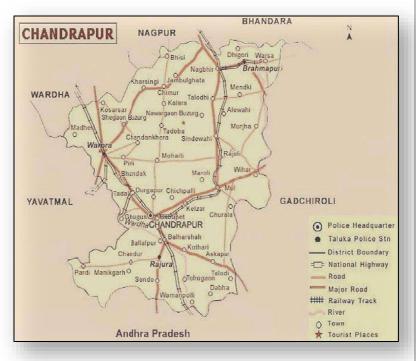
By Rail :

The biggest railway station near Chandrapur is Chandrapur Railway Station which is connected to Nagpur, Mumbai, Bangalore, and Hyderabad by direct trains.

The Delhi-Chennai rail route runs through Chandrapur district. Chandrapur, Ballarpur, Warora and Manjri are the main railway stations on this route.

By Air :

Nagpur is the nearest Airport from Chandrapur.

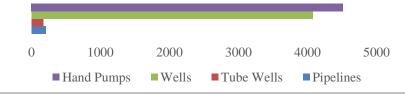


Road Infrastructure -

- The on going road widening of the double-lane network into four-lane under Mancherial -Chandrapur highway expansion project is affecting roadside business establishments in Chandrapur.
- With High traffic volume, the Road Pattern and Transportation System of city is still the same & The space for proper parking is also not provided.
- And there is no proper Transportation System in Chandrapur such as PMPML, Metro Railways, etc

Water Supply System -

- Wardha, Wainganga and Penganga are the important rivers nearby district and regular supply of drinking water is done from Irai river dam.
- The drinking water supply includes 203 pipeline, 171 tube wells, 4078 wells and 4514 Bore well/ Hand pumps in the entire district.





Sewage And Sanitation -

- Erai River and Zarpat River is deteriorated due to rural / urban settlements near river basin.
- Contribution of domestic effluent pollution load i.e. discharge of untreated sewage into Zarpat River is 97.7% and remaining 2.3% contribution from industrial effluent.

Electricity Supply -

- Maharashtra State Power Generation Co. Ltd.
- Chandrapur Super Thermal Power Station.

Economy -

- The economic activity of the district is primarily dependent on agriculture, which is supported by the fact that the cultivators (33 %) and agricultural labourers (36 %) together constitute 69 % of the total workers of the district as against the state average of 60 %.
- Only 09 % of workers are in other services and repairs and 06 % are engaged in other household industries.
- Chandrapur Super Thermal Power Station is a 3500 MW power station complex which is owned by the Maharashtra State Power Generation Company Limited, occupies an area of 125 km2 which is about 6 km away from the city.
- It employs approximately 3,500 people and supplies more than 25 percent of the state's electricity.
- A masonry dam on the Erai river, 15 km from the station provide water to the station and to Chandrapur.
- Pottery making is another significant business in the towns of Chandrapur.

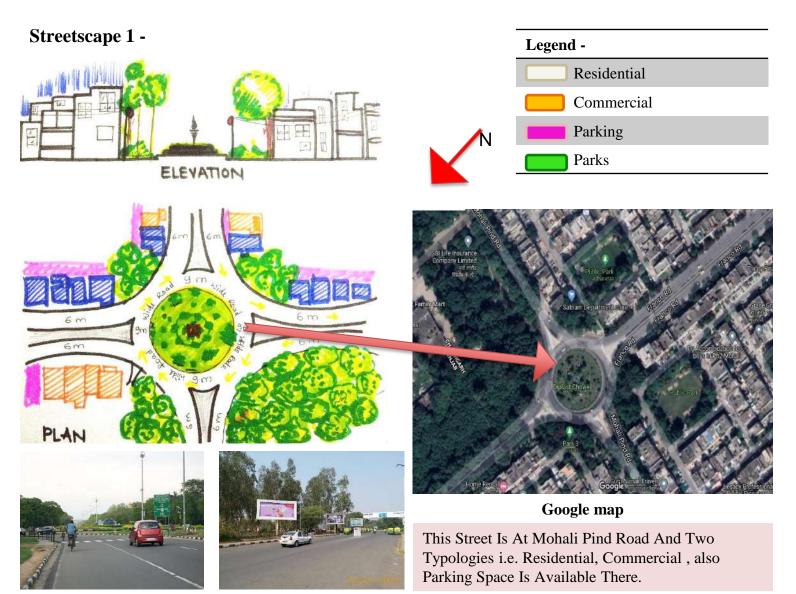
Primary crop_Rice

- Ranks fourth in rice production within the state
- Rice mills provide employment to many across the district.

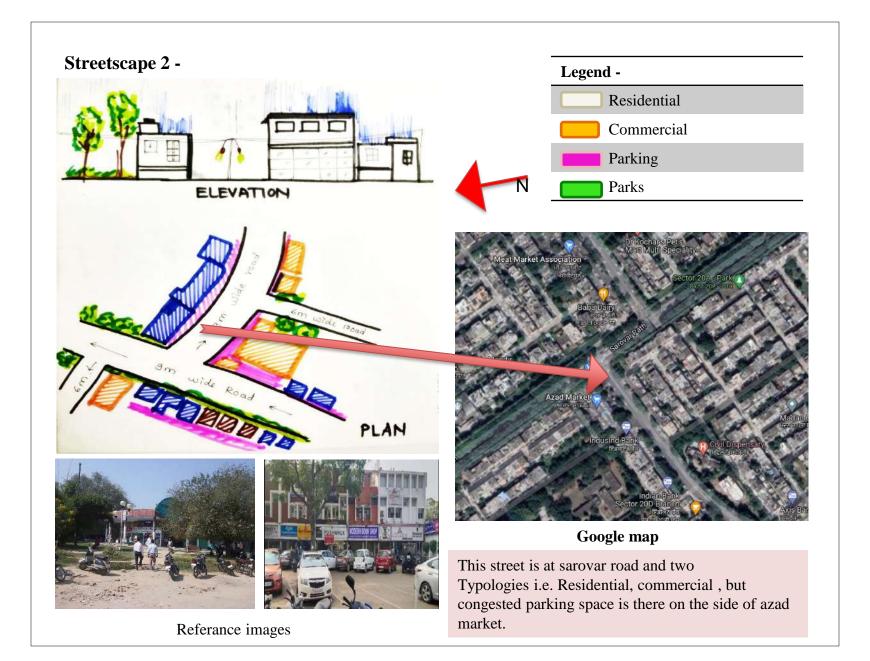
Chandrapur Super Thermal Power Station (CSTPS).

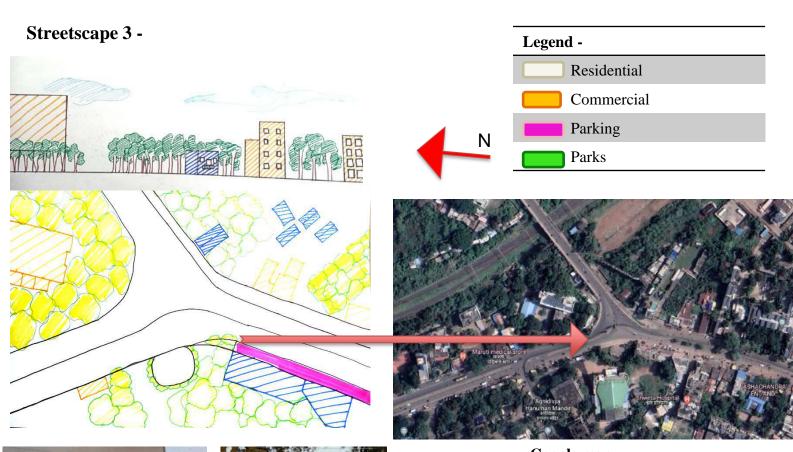
- Largest power station in the country
- Capacity to produce 3340 MW 25% of the state's power





Referance images





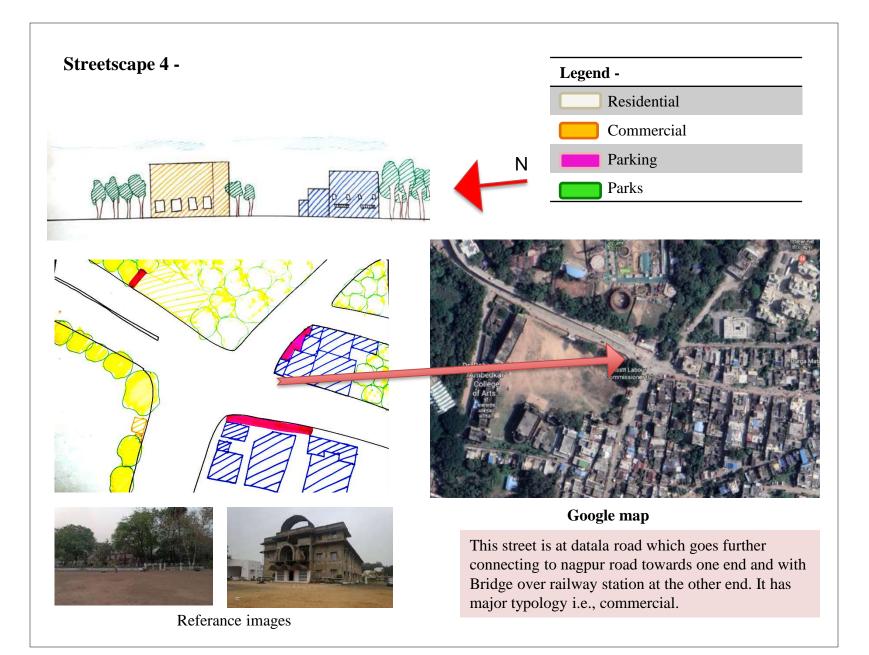


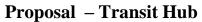


Google map

This street is at nagpur road and two Typologies i.e. Residential, commercial with good amount of green patch throughout the street.

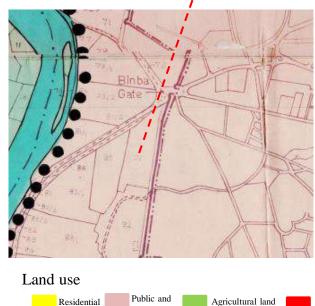
Referance images











semi- public

Need for Transit Hub

- To reduce the traffic problems.
- Decline in public transport over a period of time

Transport

- Railway station 3.2 km.
- Airport 12.9 km
- STPS(power plant)-10.6 km

As we know the population of Chandrapur city has increased so far in this years and with that has increased the vehicles causing high traffic volume & rise in pollution. But the transportation system in Chandrapur city is still the same. To reduce the traffic volume & pollution, we have to study & design the new transportation system in Chandrapur city.

commercial

Brief-

The Transit Hub will be a multi-modal facility to accommodate local and regional traffic (pedestrians, cyclists, drivers, taxis, buses) as well as intra-regional traffic (buses and taxis).

The facilities in and around the hub make the area a destination itself and generates new revenue streams and boosts wider prosperity. Mobility enables people, goods and ideas to move in, out and within our cities.

Justification at Local

• Tourist Management

• Increase in moving

• Area flourishment

transport

Level-

Justification at National Level-

- MSH6.
- City connectivity
- National Highway covers north part of city

Justification at Regional Level-

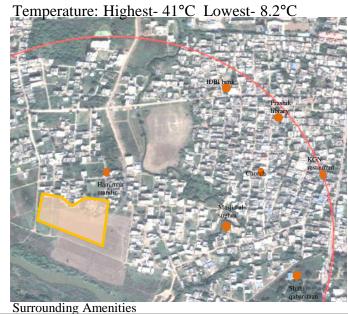
- Faster and linear transportation
- Intercity Transportation
- Creates job opportunities

1	Sr. No.	Descriptio n	Area allotted	Justification
	Α	Waiting area	500sq m	Ac/non-ac as per ticket
	В	Administrati on area	As per design requirem ent	Admin room, cloak room, ticket counters, inquiry station
	С	Commercia I zone	As per design requirem ent	Retail shops, food arena, banking
	D	Bus stand/platfo rm	As per design	Arrival/departure, waiting platform, bus drop-off/pickup, ticket verification (long haul route)
	E	Taxi rentals/auto rickshaw	As per design	Rental cars, self-driven cars, taxi hub, drop-off/pickup, resting area with services, admin
	F	Lounges	500 sq.m.	Internal restro/bar, waiting area, washrooms, viewport, admin
	G	Food court	As per pax	Restaurant, kitchen, eating area(standing/sitting), food chains, restroom
	н	Accommod ation	As per design	Deluxe ac/non-ac rooms, dormitory(ac/non-ac), cloak room, admin, restroom, bus driver/staff accommodation
	I	Services	As per design	Ac plant, electrical room, plumbing, solar plant, server room, generator
	J	Security	As per design	Police station, security, check post, luggage checking
	к	Sanitation	50 sq.M	Sanitation walk thru, sanitizer points, cleaning room
	L	Workshop	200sq.M	Bus service depot and workshop
	М	Gas points	As per need	Lpg/cng, diesel

Proposal – **Institute of Mineralogy**



Location on google map Location: 19°57'20.0"N 79°16'54.1"E Ram Nagar, Chandrapur city



Wind Direction Sun Path Site Area - 4.3 acres ↓ N Road Residential Zone Green Zone Industrial Zone Water Zone Rith Development Plan

Brief –

Since Chandrapur is known as the city of black gold, it has a strong character of industrial setup and minerals. Coal, Iron, Limestone, Copper, granite, Sandstone, Jambha are abundant in Chandrapur. A study institute of mineralogy gives a chance to explore the land of chandrapur in a much deeper extent, helping in its research.

Justification at National level

- Creates an identity of the city in country.
- Quality of education facilty with enhanced ideas.
- Increase the research on an industrial level

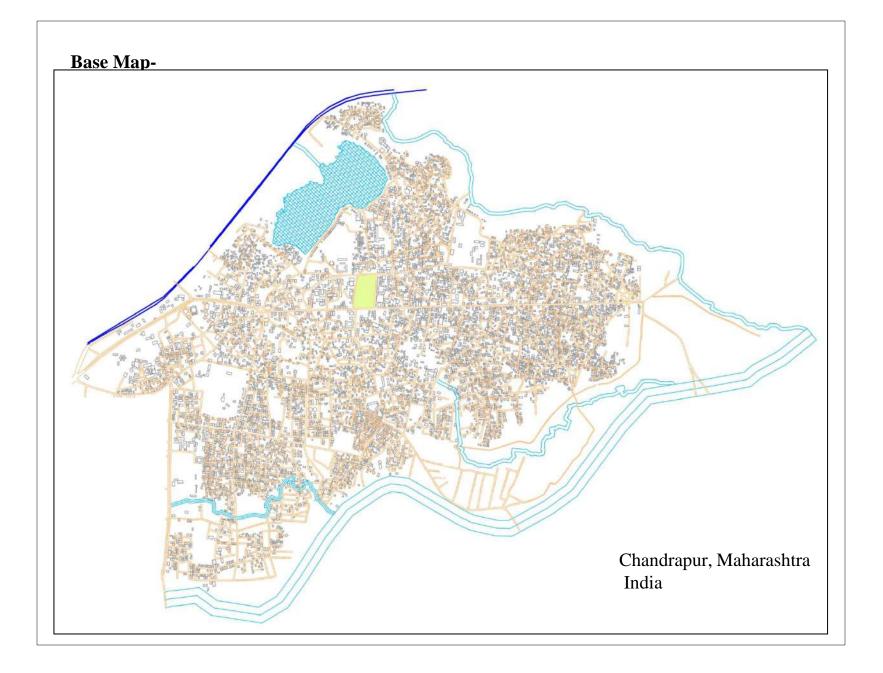
Justification at Region level -

- First of it's kind institute.
- Develops the infrastructure of the city.
- Promoting awareness of mining activities to general public

Justification at Local level

- Increases local employment.
- Introducing public space open to all.

Spaces	Areas	Justification
Studios Classroom Lab	100 sq.m 130 sq.m	For Daily student activities
Exhibition Gallery Shop Seminar Hall Auditorium	250 sq.m 25 sq.m 200 sq.m 750 sq.m	For showcasing know hows to public
Langer Hall Dining Kitchen Toilet Utility Storage	200 sq.m As per required As per required As per required As per required	Refreshments and food court space
Admin Department Reception Desk Admin office Security room Principal Room Faculty Room Medical Room Meeting Room Toilet Pantry	As per required 25 sq.m 12 sq.m 15 sq.m 30 sq.m 20 sq.m 25 sq.m As per required 10 sq.m	Management and maintenance purposes
Hostel Admin office Mess	35 sq.m 20 sq.m 200 sq.m	For student stay and security



Fourth Year - C div – 2020-21





Ar. Meenal Rohankar Ar. Natasha Senapati Ar. Ankoor Sakhare

List of students

Roll No Name of the students

- 1 Chaudhari Pratik Vitthal
- 2 Karpe Rohit Kundalik
- 3 Kothari Sakshi Satish
- 4 Kulkarni Rasika Ramesh
- 5 Kulkarni Savri Prashant
- 6 Kumbhakarna Gauri Sunil
- 7 Kunapuli Lakshmi Vaishnavi
- Mahajan Shubham Pramod
- 9 Malkhede Kunal Ramesh
- 10 Mandhare Prajwal Dilip
- 11 Mankar Rutuja Suresh
- 12 Mate Sudhanshu Rajendra
- 13 Mhaske Pratik Madhukar
- 14 Mote Aniket Subhash
- 15 Mundada Aniket Jagdish
- 16 Murarka Nisha Rajkumar 38
- 17 Nagare Sourabh Gorakh
- 18 Nikalje Sumakar
- Rajendra
- 19 Paknikar Vedita Sanjay
- 20 Pampana Vamshi
- ²⁰ Krishna

List of design faculties: Ar. Anuja Inamdar

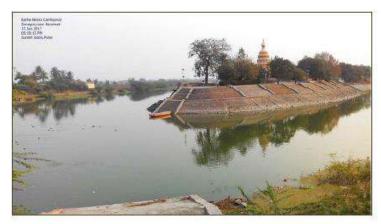
- Ar. Meenal Rohankar
- Ar. Ankoor Sakhare
- Ar. Natasha Senapati

- 21 Panwar Arpit Alok
- 22 Parande Swati Jagannath
- 23 Patel Gaushal Hasmukh
- 24 Patil Avishkar Vijay
- 25 Patil Mayuri Vikas
- 26 Patil Prabhat Dilip
- 27 Patil Simran Sampatrao
- 28 Pawane Mayur Balanath
- 29 Pawar Neha
- Chandrakant
- 30 Pawar Jahnavi Narayan
- 31 Pawar Saloni Pravin
- 32 Pawar Shivani Nandkishor
- 33 Pilley Atharva Gajanan
- 34 Pisal Amruta
- Ramchandra
- 35 Potdar Amruta Arvind
- 36 Uke Rasika Sanjay
- 37 Nirgude Vaishnavi Rajesh
 - Payaghan Saurabh
- Shahaji
- 39 Patil Shruti Atul
- 40 Shreenidhi kulkarni
- 41 Saloni Kulkarni
- 42 Akshta pote
- 43 Yash Kolhtkar
- 44 Mayur pawar

SINHGAD TECHNICAL EDUCATION SOCIETY'S SINHGAD COLLEGE OF ARCHITECTURE, PUNE

VIRTUAL STUDY TOUR REPORT 2020-21 (B. Arch. IV Year D)





River Karha-Neera confluence

Introduction

- Baramati Tehsil belongs to western part of Maharashtra.
- It belongs to Pune division. It is located 100 km towards east from district headquarters Pune. 240 km from state capital Mumbai towards east.
- Baramati tehsil has its headquarter that is Baramati town.
- Baramati tehsil lies between 18°04' to 18°32' north latitudes and 74° 26' to 74° 69' east longitudes. It is located at altitude of 550 meters above means sea level.

Geographical context

- Baramati tahsil may be divided into two physiographic regions according to altitude as follows.
- 1. the hilly track above the 650 meters altitude observed at northwest corner of the tahsil.
- 2.the gently sloping belt along Nira and its tributary Karha.
- There are two water divides;
- one divides the Nira and the Karha basin while the other runs from west to east between Karha and Bhima.



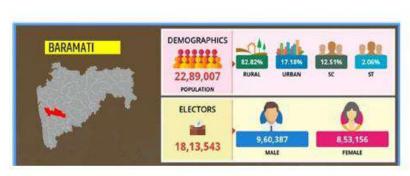


HISTORY OF BARAMATI

- 1960 First Percolation Tank
- 1971 Foundation Of Trust.
- 1980 Mobile Dispensary.
- 1990 Shardabai Pawar College Of Education
- 1991 SHARDABAI PAWAR Mahila Mahavidyalaya
- 1991 Shardabai Pawar Vidya Mandir & Vidya Niketan
- 1992 Krishi Vigyan Kendra
- 1993 Shardabai Pawar Mahila Kalaniketan
- 2003 College Of Agriculture
- 2015 Appasaheb Pawar Auditorium

ARCHITECTURE

- 750 AD Kashiveshweshwar temple, Baramati.
- 1237 AD Shri Shiddheshwar temple, Baramati.
- 1911 MES Late Gajananrao Bhibrao Deshpande Vidyalaya, High School.
- 1992 Krishi Vigyan Kendra, Baramati.





BARAMATI POPULATION FACTS

1.	Number of households	90912
2.	Population	429600
3.	Male population	221094
4.	Female population	208506
5.	Children population	47668
6.	Population density/Km2	313
7.	Sex-ratio	943
8.	Literacy	73.14 %
9.	Male literacy	78.41%
10.	Female literacy	67.55%
11.	Scheduled Tribes (ST)	0.92%

FLORA AND FAUNA

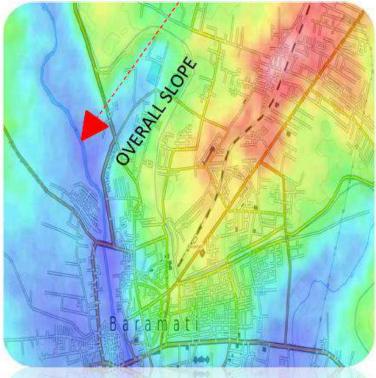
- Mayureshwar Wildlife Sanctuary campus is surrounded by lush green hillocks ,natural lakes and the sugarcane farms .
- The diversity of butterflies in Mayureshwar sanctuary exert a significant influence.

<u>Name</u>	<u>District</u>	A 11 M IS IN THE REAL PROPERTY OF THE REAL PROPERTY OF	Population Census 2001	<u>Population</u> Census 2011	Population Census 2016
Baramati	Pune	44,515	51,334	54,415	1,24000

Hydrology

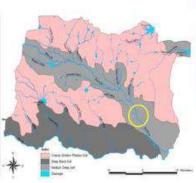


Topography



Soil

- They are generally fertile except in hilly region.
- The main types of soil found in study area are black, brownish and gray or white.
- The soil along the Nira River area is black in colour, ... fine texture and fertile.



Karha riverfront is a multifunctional with

used as:

Residential,
 Commercial,
 Industrial.

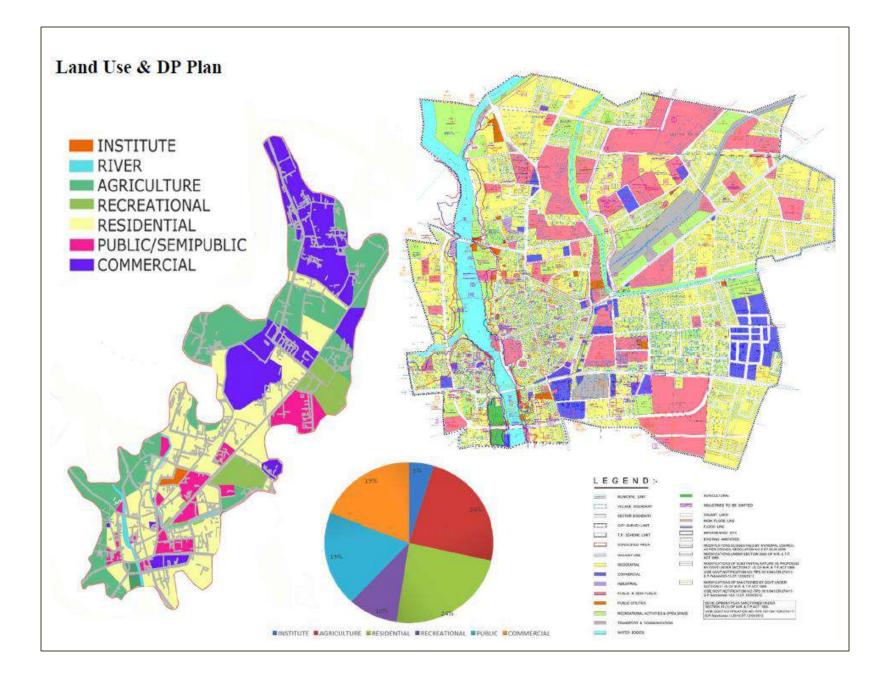
drying clothes.

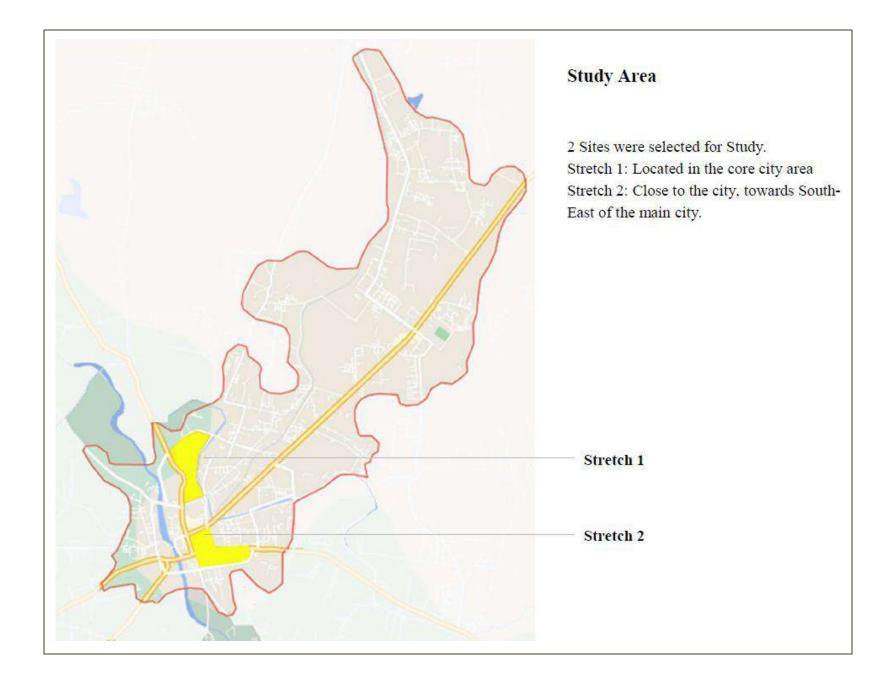
majority of premises being

Recreational purposes,
 Place for washing and

6. Irrigation Facilities.

Name: Baramati topographic map, elevation, relief. Coordinates: 18.04420 74.21084 18.39318 74.71424 Minimum elevation: 494 m Maximum elevation: 1,041 m Average elevation: 585 m

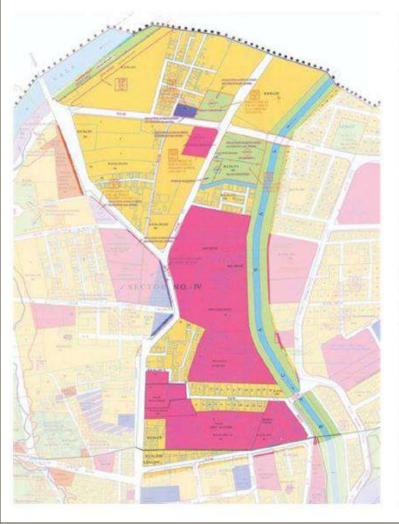




Stretch 1:

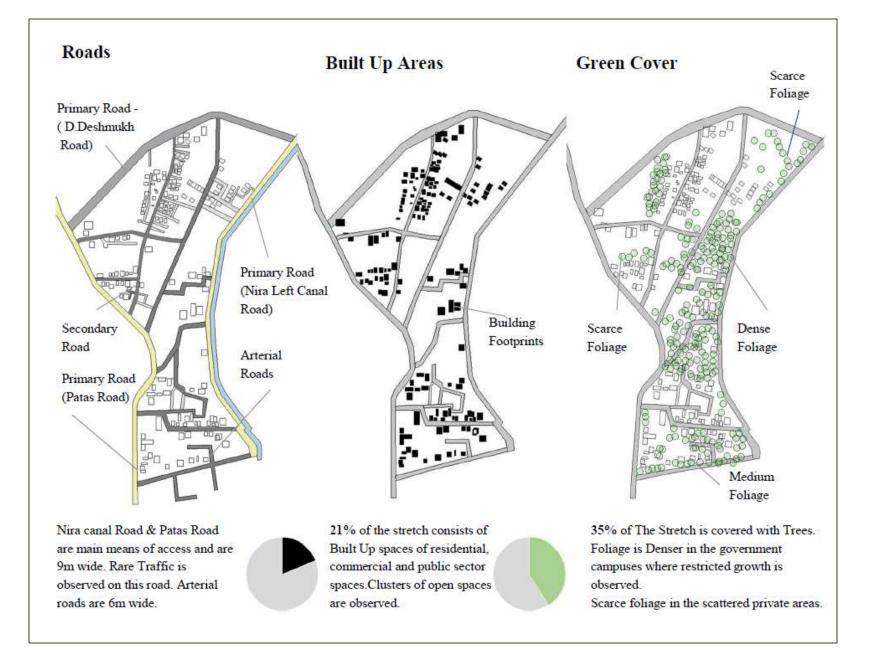
1.2 km Long, Area of 42,000 sqm

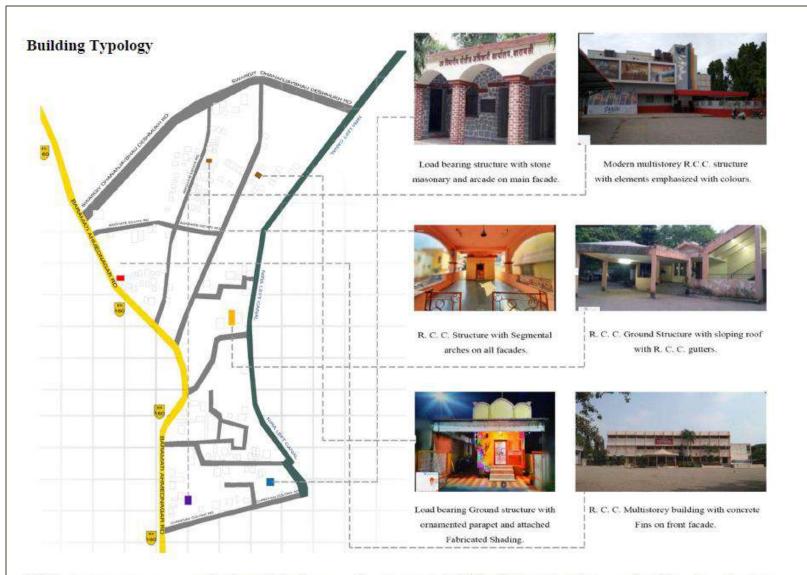
Development Plan



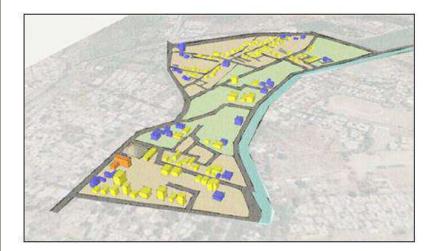
Satellite Imagery

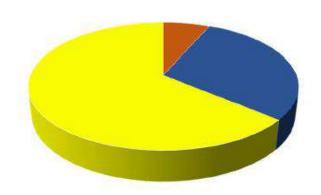






RCC structures are seen predominantly in the area. Government & Old religious structures are load bearing structures. Most of the structures have rcc fins and arcades on the main facade as an prominent element





3d view showing Scarce development with respect to surrounding areas.

Multi-Storey (G+2) structures are located mainly along the periphery.

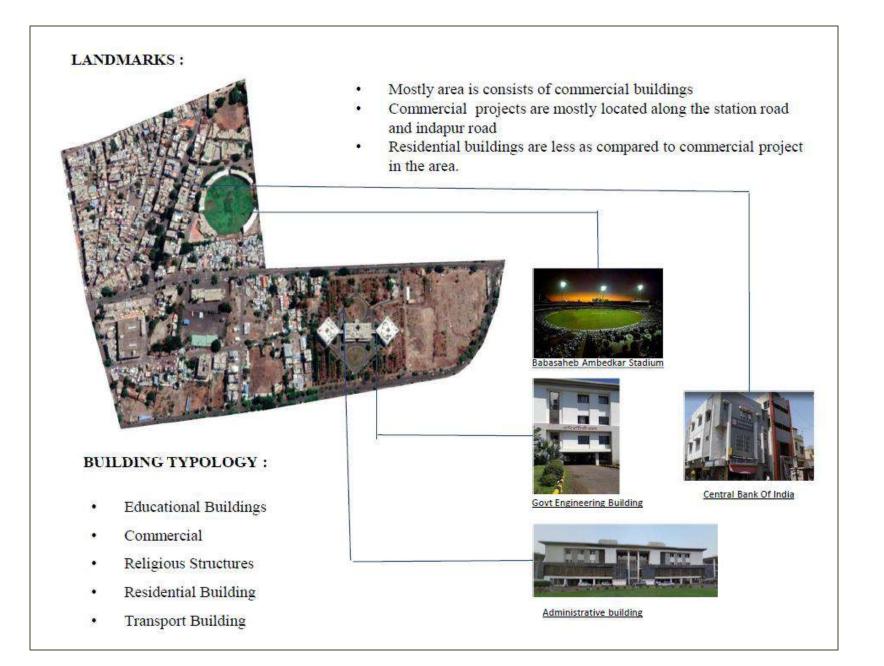
Residential areas in the core are ground structures.

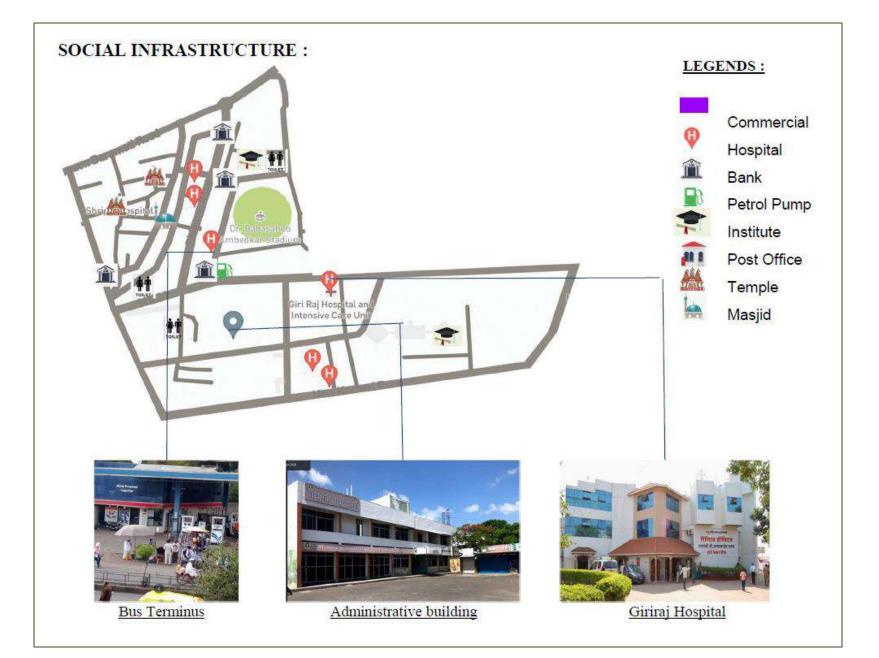
Residential: 67% Commercial: 28% Institutional & Religious: 5%

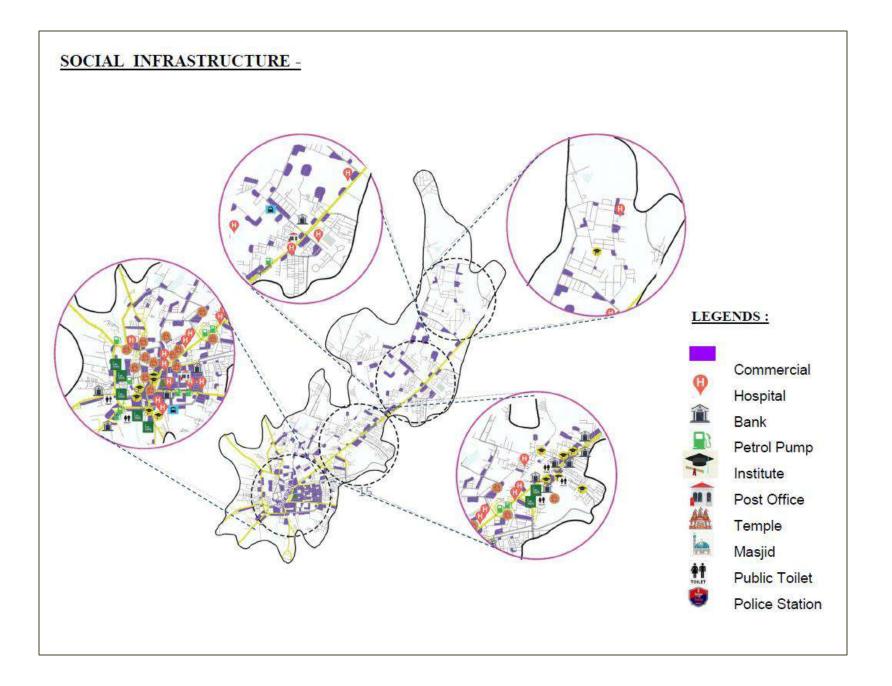
ANALYSIS :

The stretch is located in close proximity to the core city, with all services and transit systems in 5m walking radius. Scattered development is observed here with mainly native houses on ground and few shops and commercial buildings around the periphery of the stretch. It is marked by the Nira Canal on the East and agriculture area expanding towards the North.Government campuses of PWD and Irrigation Department are located centrally, and are surrounded by dense foliage of trees.









DESIGN BRIEF

SINHGAD TECHNICAL EDUCATION SOCIETY'S SINHGAD COLLEGE OF ARCHITECTURE, PUNE FOURTH YEAR B. ARCH. (D Div) TERM II 2021-22 SUBJECT: ARCHITECTURAL DESIGN VIII (2015 Pattern) FACULTY: Ar. Ashish Sakat, Ar. Kirti Bajare, Ar. Avanti Bhogade

AIM To design a Convention Centre/ Recreation Centre at Baramati, Maharashtra. OBJECTIVES

- · To comprehend amalgamation of complex multifunction in a building.
- · To understand architectural implications of architectural design in urban context.
- To respond to physical features & site conditions in an eco-friendly manner.
- · To apply advanced building services into design.
- · To study the applicable development control regulations & apply it into design.
- To explore & integrate appropriate architectural response to the current pandemic scenario of COVID-19.

DESIGN BRIEF

Baramati city fulfils most of the criteria of the smart city. It has lot of potential to become a smart city by making minimum changes and modification in existing system. The present infrastructure can be fully procured and utilized optimum benefits from it. The soaring economy and lifestyle of all livings in the city are making Baramati economically and physically rich. The city is marching towards green city or eco-friendly city. Utilizing natural sources of energy and trying save nature with our overall development is the basic concept of the Smart City and Baramati has been fully following and utilising its natural sources of energy. Convention/ Recreation Centre serves as a gathering place for a growing city. In consideration of the recent growth in terms of infrastructure and socio-economic aspects in Baramati, it seems to be a fitting choice. A convention centre that hosts large gatherings, exhibition, museum and a variety of multipurpose halls turns out to be a feasible option given the demographics and potential. Similarly, Recreation Centre that hosts Multiplex, retail stretch space for exhibitions to be implemented. Online presence is a good situational alternative to physical presence but not a permanent one. Gradually people have realized the importance of meeting people both at personal level & professional level. With due consideration to the fact that people have begun to travel & establish the lost human touch, there is a need to have Convention/ Recreation Centre for both national & international delegates visiting Baramati, Maharashtra. The current available options are little far & thus having a Convention/ Recreation Centre at Baramati would be a feasible project.

DESIGN CONSTRAINTS

• Unified Development Control and Promotion Regulations (UDCPR) to be referred & followed for F.A.R., setbacks, building heights, spatial planning, Fire norms, parking requirements etc.

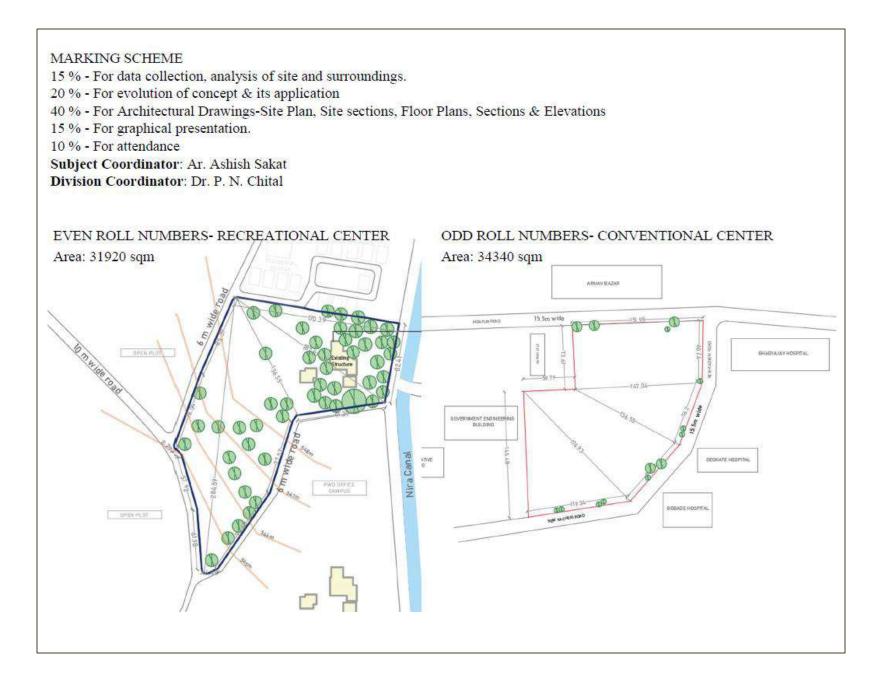
- Permissible building height 70 m F.S.I. to be considered as 1.2
- Permissible ground coverage upto 30 %.

DESIGN METHODOLOGY

- 1. To do book / web case study of a convention centre/ recreation centre
- 2. Study & documentation of relevant spaces & allied standards for reference. (Time savers , Neuferts)
- 3. To brief students on varied topics that would help them to design.
- 4. To find relevant development control rules & demonstrate its application into the design. (PCMC DC rules, NBC)
- 5. Site Analysis, Zoning & formulation of concept.
- 6. Generating Master Plan through volumetric analysis (F.S.I model)
- 7. Creating Architectural Drawing (Site Plan, Building Plans, Elevations, Sections etc.).
- 8. Demonstration & integration of services.
- 9. Preparation of presentation drawings with model.

ASSIGNMENT

- Compilation of the entire design process with contents as mentioned below:
- 1. Book / web / live case study of convention centre & recreation centre
- 2. Data Collection of Design Standards.
- 3. Site Analysis
- 4. Bubble Diagram & Zoning.
- 5. Concept, Design Principle & Design Response to Site Analysis.
- 6. Volumetric analysis (F.S.I model) photographic composition.
- 7. Site Plan Showing Roof & Overall Site Development & Landscape 1: 250 Scale.
- 8. Site Sections (Transverse & Longitudinal) 1: 250 Scale
- 9. Building Floor Plans 1:100 scale.
- 10. Enlarged floor plans with Furniture Layout, wherever necessary 1: 50 Scale
- 11. Building Sections explaining design (Minimum 3) 1: 100 Scale
- 12. Elevations covering all facades 1: 100 Scale
- 13. Bird's Eye View OR Smaller Multiple 3d Views Explaining Design.
- 14. Model showing the entire proposal with site development.





List of design faculties: Ar. Kirti Bajare Ar. Ashish Sakat Ar. Avanti Bhogade

List of students

1 Aryan Sharma 2 Deshpande Shivani 3 Huddar Prajwal 4 Karanjwane Saurabh 5 Kumbhar Vaishnavi 6 Pawar Dhanashree 7 Pinjari Nadeem 8 Rane Ravish 9 Raykar Vedant 10 Renake Mayur 11 Rishika Mahanta 12 Rupanwar Aishwarya 34 Vasantgadkar 13 Saho Nikhil 14 Sangle Aniket 15 Sathe Sharmishtha 16 Shaikh Gausuddin 17 Shaikh Yasmeen 18 Sharma Ankit 19 Shelke Prathmesh 20 Shendkar Varun 21 Shinde Pradnya 22 Siddiqui Mohd.

23 Singh Satyam 24 Somani Onkar 25 Sonawane Yash 26 Supekar Gautami 27 Suryawanshi Gajanan 28 Tandale Ankit 29 Tekale Shweta 30 Tembale Omkar 31 Thorat Prathmesh 32 Tupe Onkar 33 Udbatte Siddhi 35 Wagh Shubham 36 Wankhede Apeksha 37 Tushar Rangari 38 Shivani Rathod 39 Akshata Sinh 40 Sayali Tamhanekar 41 Kalpesh Tomar 42 Thomas Verghese 43 Wankhedekar Rounak 44 Shejwal Tejas

