

INDIAN HERITAGE CITIES NETWORK FOR THE LIVING HERITAGE CITY OF UDAIPUR



Concept Paper

By IHCN and MMCF
in association with UNESCO New Delhi

For Udaipur Municipal Corporation, Udaipur
The Government of Rajasthan

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A Concept Paper



सुर्वन्शी न्यास का ये रथिण रथ चलता रहेगा।
पीढियों के रथ में इसका सुरक्षा चलता रहेगा।।
पीढी राष्ट्रकुल की कितने सिल से विरासत में मिली थी।
आँखों में वह दिया जलता रहा जलता रहेगा।।

BY IHCN and MMCF



United Nations
Educational, Scientific and
Cultural Organization

in association with UNESCO New Delhi

**For Udaipur Municipal Corporation, Udaipur
The Government of Rajasthan**

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Foreword

According to the study by UN-Habitat, between 1950 and 2010, the number of people living in urban areas has grown from 730 million to 3.5 billion. Since 2007, over half of the world population lives in urban areas and by 2050, this figure is expected to rise to 68 %. In India, the urban population increased from 17% in 1950 to 30 % in 2010; and by 2050, it will exceed 54%. Large cities have witnessed rapid growth and villages are rapidly growing into cities. Udaipur, with its heritage core expanding into a growing city with population exceeding 500000 people is no exception to this sweeping urban development.

Amid the pressure of infrastructure development and the requirement to respond to peoples immediate basic needs, it appeared nonetheless vital to step back and reflect whether we can build our future without respect to our heritage and if a development without its living heritage could really be sustainable. Udaipur city, a siege of Mewar culture, should definitively chose a path of heritage based development, if it wants to maintain its originality and appeal.

The present concept paper documents Udaipur's core heritage assets, both tangible and intangible, and explores a vision for a planned growth through the example of proposed Heritage Walk in the Bhattiyani Chowhatta. Such heritage walk, if implemented well, should serve as a model case to guide our reflection on a heritage based urban renewal. The paper was initially commissioned by UNESCO New Delhi under its Indian Heritage Cities Network programme in 2008 and now incorporates heritage initiatives and proposals prepared in collaborative workshops by IHCNF, MMCF, National School of Architecture of Strasbourg and various institutions such as BVCOA, Navi Mumbai and ENSAPLV, Paris.

On the occasion of the second edition of the World Living Heritage Festival in Udaipur in March 2014, we have decided to publish an updated version of this study. It will be our utmost pleasure if this publication contributes to the on-going debate on how a city should contribute to the promotion of its living heritage.



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Table of Contents

Forword	3
I. Indian Heritage Cities Network	7
a. Introduction and Approach	
b. Why a Heritage Walk?	
II. Udaipur: a History	10
a. Physical and Historical Context	
b. City and its Evolution	
c. Natural Heritage	
III. Typical Urban Forms, Architectural Typology and Identity	24
a. Lakefront	
b. Streetscapes and Chowks	
c. Gates and City Walls	
d. Forts and Palaces	
e. Temples	
f. Havelis, Houses and Clusters	
g. Water Structures	
h. Public Open Spaces and Gardens	
i. Public Buildings and Memorials	
j. Architectural Vocabulary	
k. Construction Materials and Techniques	
IV. Intangible Heritage	58
a. Building Arts and Crafts	
b. Painting	
c. Other Crafts	
d. Performing Arts	
e. Festivals and Sports	



V. Proposal for Heritage Walk: Bhattiyani Chowhatta	68
a. Proposed Itinerary	
b. Socio-Cultural Mapping	
c. Listing the Built Heritage	
d. Linking Natural Heritage	
VI. Challenges for Heritage Management	78
a. Managing the Natural Heritage Resources	
b. Heritage Awareness	
c. Managing the Built Heritage	
d. Sustaining Livelihoods of Craft Workers	
e. Water Supply	
f. Solid Waste Management	
g. Sewerage and Drainage	
h. Electrical Wiring and Services	
i. Fire Safety	
j. Transport Infrastructure, Traffic and Parking	
k. Tourism Facilities	
VII. Vision for Future	94
a. Unplanned Growth	
b. Planned Growth	
VIII. Recommendations for Action	104
a. Natural Heritage Based Tourism and Management	
b. Heritage Awareness	
c. Interpretation of Heritage Resources	
d. Legislative and Regulatory Framework for Heritage Conservation	
e. Incentive Mechanisms for Heritage Management	
f. Adaptive Reuse	
g. Need to Encourage Local Crafts and Integrate them into Mainstream Economy	
h. Community Participation and Public Private Partnerships	
i. Improved physical access to the Heritage Resources	
Sources and Credits.....	116

I. INDIAN HERITAGE CITIES NETWORK

a. Introduction and Approach

- Indian Heritage Cities Network, formerly “The Network of Indian Cities of Living Heritage”, was founded by UNESCO New Delhi at an international conference held in Jaipur in September 2006.
- Established with the endorsement of the Ministry of Urban Development, Government of India, the Network as of September 2008 signed Udaipur as its 1st member city among the current 21 members.
- By becoming member of the Network, the cities are expected to take the following actions: (i) incorporate a heritage cell within the municipality; (ii) elaborate the heritage bill; (iii) organize heritage festivals; and, (iv) develop a heritage walk itinerary within the city.
- The present document accordingly provides an analysis of the urban heritage of Udaipur, both tangible and intangible along with a proposal for a Heritage Walk through Bhattiyani Chowhatta, a historical segment of the city of Udaipur. Challenges for heritage-based urban development and recommendation for action are also provided.



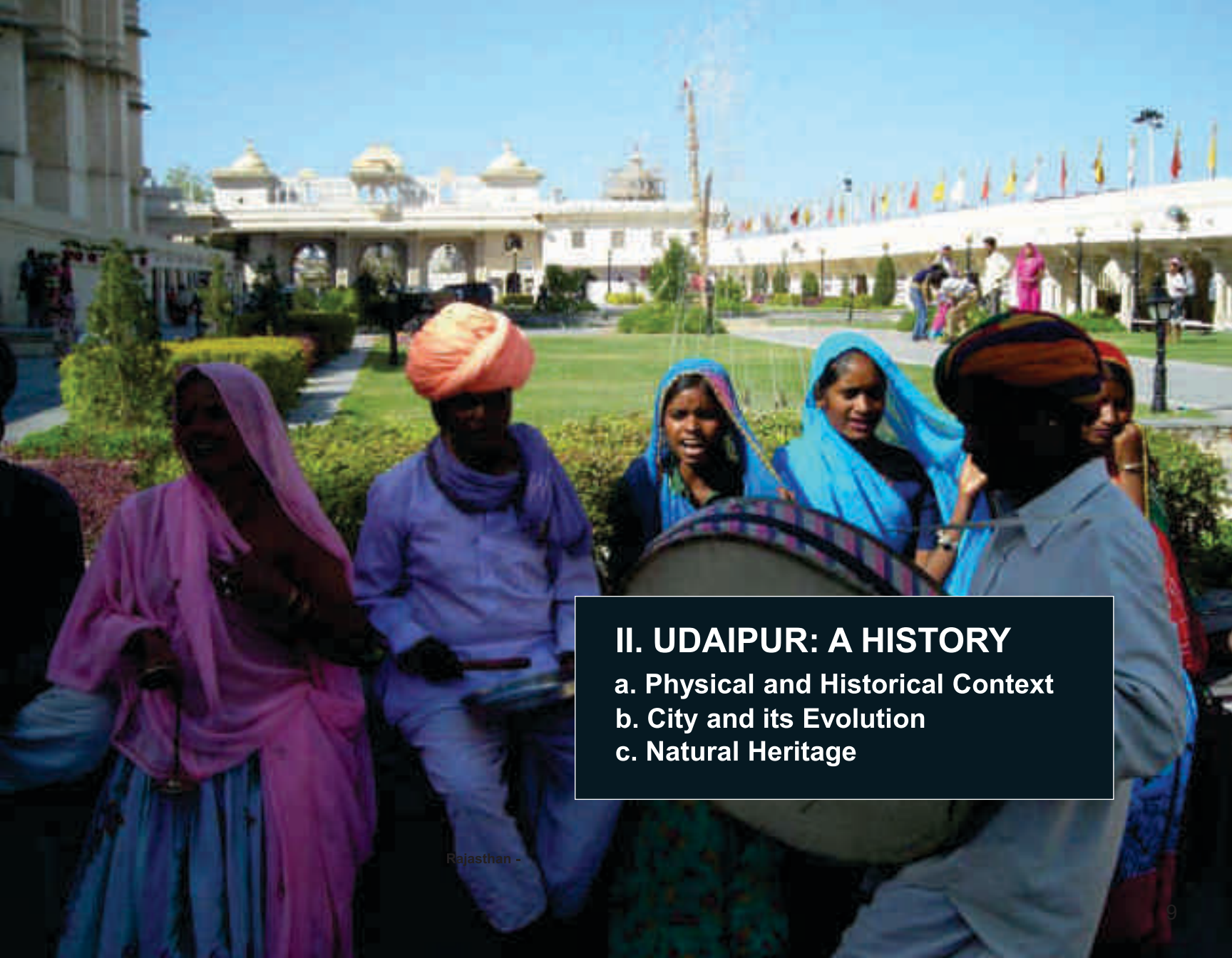
Aerial view of Udaipur city with Jagdish Mandir dominating the skyline

b. Why a Heritage Walk?

- A heritage walk through a select segment of a city aims at showcasing one of the most authentic representations of a city's historic, cultural and architectural heritage. It gives a holistic experience to the international and domestic tourists and rejuvenates a sense of pride amongst the residents, including school students and youth.
- A heritage walk is also an important tool for urban renewal of the city. By developing a tourist itinerary through a most representative historical fabric of a city, it is intended to incite a number of ancillary projects that support economic regeneration of the area and encourages the municipal authorities to address long term sustainability issues. These could include: improved conditions for the local craftsmen, local café's and bed and bath facilities for the tourists, developing a community area or even infrastructure projects for improved drainage, solid waste management or rain water harvesting, with participation of the residents along the walk.
- Thus, a heritage walk can be a micro project that addresses wider heritage conservation issues related to the city and serve as a role model for heritage conservation of the entire city.



A sketch view of a street in Udaipur



II. UDAIPUR: A HISTORY

- a. Physical and Historical Context**
- b. City and its Evolution**
- c. Natural Heritage**

II. UDAIPUR: A HISTORY

a. Physical and Historical Context



The eastern Rajasthan, lying to the east and south east of the Aravalli divide includes the modern administrative districts of – Udaipur, Chittorgarh, Rajsamand, Banswara, Dungarpur, Kota, Bundi, Baran, Jhalawar, Bhilwara, Ajmer, Jaipur, Tonk, Dausa, Dholpur, Karauli, Bharatpur and Alwar. The erstwhile Mewar state can be said to have included the Udaipur, Chittorgarh, Rajsamand and Bhilwara districts of today

- The city of Udaipur lies in Eastern Rajasthan, in Mewar region at the heart of the erstwhile Mewar State which includes the present districts of Udaipur, Chittorgarh, Rajsamand and Bhilwara.
- Mewar is located almost in the middle of the great Indian watershed that divides the fertile alluvial plains of the Eastern Rajasthan from the harsh arid desert on the Western Rajasthan. The city of Udaipur lies in Eastern Rajasthan, in Mewar region at the heart of the erstwhile Mewar State which includes the present districts of Udaipur, Chittorgarh, Rajsamand and Bhilwara.
- The general topography of the Aravali hills divides Western and Eastern Rajasthan in a manner that rainwater catchment is present at both ends, thus contributing to plenty of rainfall in the Mewar area too.
- The city of Udaipur is strategically located amidst a saucer shaped basin, surrounded by hills of Aravali Range on all sides, hence the entire city area serves as a good catchment that has facilitated the network of lakes in the city.

- The richest mineral resource in the area has been the Zawar mines located sixteen miles south of Udaipur. Discovered in the late 14th century, they have supplied vast quantities of lead and zinc that were essential for arms and ammunition to the earlier rulers. In addition these also yielded considerable proportions of silver that contributed a great deal to the economic prosperity of Mewar.
- Since 6th century, Mewar has constituted a distinct cultural zone of Eastern Rajasthan Region along with Dhoondhar, Mewat, and Hadauti.
- The first mention of Mewar in the history of India dates back to 586 AD when Guhil, who is said have descended from Lav, the elder son of Lord Rama, was granted Mewar as his first territory by a local Bhil Chieftain Mandalik.



Political map of Rajasthan in 1595 with Mewar maintaining its identity



19th century map showing the location of the walled city next to the Lake Pichola, set within the land called Girwa with surrounding Aravallis and the Ahar river flowing from north west to south east feeding the Udai Sagar Lake

- From Idar, the capital city established by Guhil, the centre of the Mewar territory moved to Bhomat under Raja Bhoj (r. 603 to 618 AD) and to Nagerdhara or Nagda under Nagditya (r. 626 to 646 AD). In 734 AD, Bappa Rawal was proclaimed ruler of Chittorgarh and between the 8th and 16th centuries, Chittor remained the capital of Mewar.
- The discovery of Zawar mines sixteen miles at the south of Udaipur under Maharana Lakha (r. 1328 to 1412 AD) established this area as a great resource for the entire kingdom and perhaps paved the way for the development of Udaipur as a city.
- Under Maharana Kumbha (r. 1433 to 1468) Mewar saw immense expansion in territory; thirty two fortresses with palaces and temples were established during his reign. Under Maharana Sanga (r. 1509 to 1527), Mewar reached the height of its glory and prosperity.



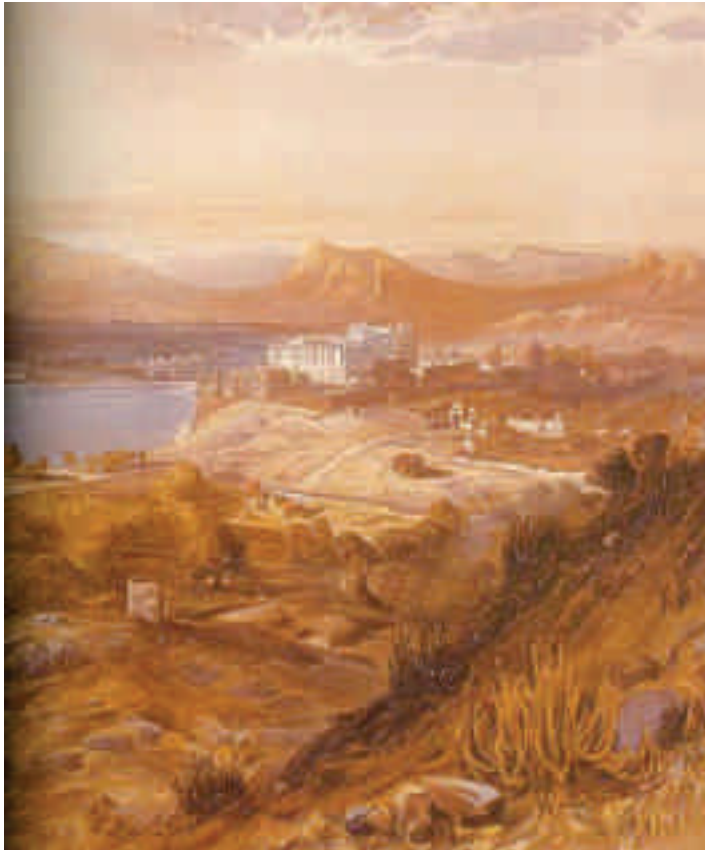
Sub regional demarcation on the basis of dialect and ruling town.



Political map of Rajasthan in 1931 as Rajputana agency under the British Rule.

- The capital of Mewar was shifted to Udaipur under Maharana Udai Singh II (r. 1537 to 1572 AD) as the result of the third and final sack of Chittor by Akbar in 1567.
- Mewar enjoyed its status as a prosperous and independent State, until it is merged with a united State of Rajasthan in 1948 during the time of Maharana Bhupal Singh (r. 1930 to 1955 AD).

b. City and its Evolution



19th century view of the city with the City Palace by the lake side and the walled city to its east

- The decision to establish a new capital at Udaipur was taken by Rana Udai Singh II (1537-1572 AD) with consideration to the vulnerable position of the earlier Mewar capital of Chittor, vis-à-vis attacks from the Delhi Sultanate, Gujarat, Malwa, and Marwar, during the 14th and 15th centuries.
- The City Palace marks the foundation of Udaipur city, as the capital of Mewar State under the Sisodia dynasty of Mewar. Strategically located on the crest of a ridge, the palace fortress overlooks Lake Pichola on the west, and the city on its eastern edge.
- The site selected for the City Palace was in conformity with the prescribed guidelines in Vastu texts such as Rjavallabha Mandana written in the 15th Century. These principles were also used in the construction of earlier forts of the Mewar dynasty such as Chittor and Kumbhalgarh.
- The city was formerly surrounded by a circular defence wall from all sides except at the western side which was bounded by lakes. Eleven gates guarded this walled city.
- The walled city follows an organic pattern, with the City Palace, the lakes and the Jagdish temple as important landmarks.

The evolution of the city can be categorized into five phases:

1. Mewar Mature Phase (1541 to 1620 AD)

- Establishment of the capital to Udaipur and the construction of the Lake Uda Sagar by Uda Singh II.
- Water from the lakes was used systematically to irrigate gardens and farm lands through a network of canals.
- Construction of several *ghats* on Lake Pichola for the benefit of the general public during the time of Amar Singh (r.1597-1620 AD). He also started the construction of water ditches (15-20 mt wide and 5 mt deep) along the periphery of the city wall as a defense mechanism.
- Architecture of this period was inspired by that of Chittorgarh and Kumbhalgarh.

Ghats on the bank of Lake Pichola



Gol Mahal at Jagmandir built in the early 17th century

4. Mewar British Phase (1778 to 1955 AD)

- The plumbing network, pumps and fountain nozzles exhibit the knowledge of hydraulic engineering that was available during this period.
- Installation of a private power house near Ghas ghr to generate electricity to the Palace Complex in early 20th century ensured power supply (required for operating electric pumps for fountains).
- Piped water supply to the Palace Complex and water storage tank on BadiMahal (47,000 litres) ensured the water supply required for fountains.
- Architecture clearly depicts British Influence.

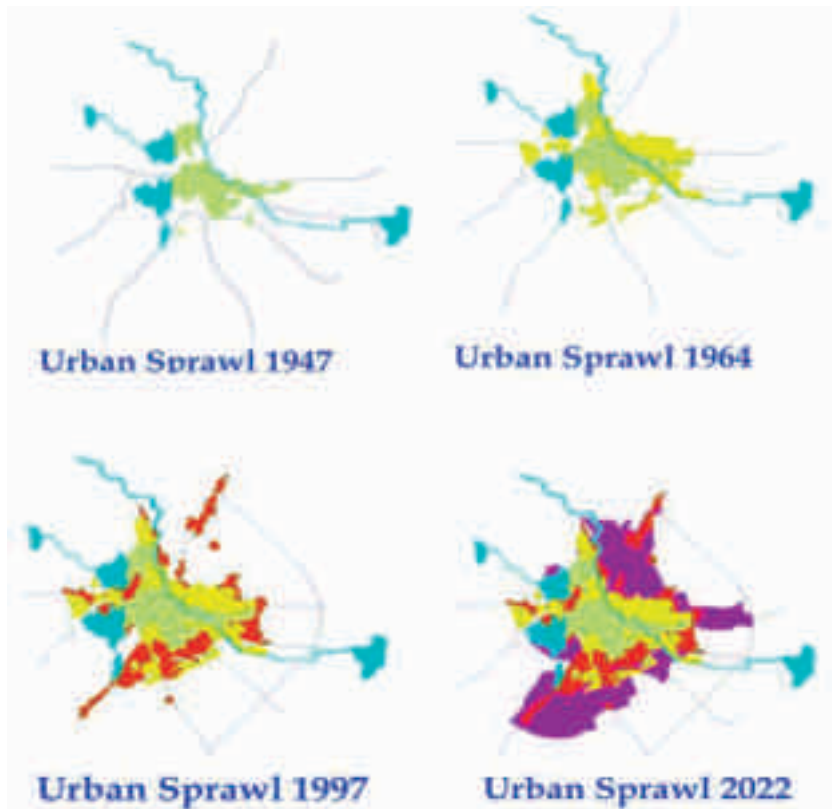


1934 map of the city with the Lake Pichola seen connecting to the Swaroop Sagar to the north and the defined areas of Brahmपुरi and Bara Bazaar, Bhattiyani Chauhatta, Ganesh Ghati etc. with organic pattern of development visible.

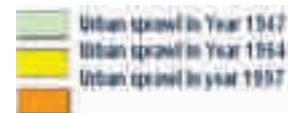
5. Post Independence Phase

(1947 Onwards)

- The Department of Water Supply started functioning in 1945 and since 1960 the water of lakes has been utilized to meet the drinking water demand of its inhabitants.
- Piped water supply for irrigation purpose aided in development of expansive gardens. Heritage tourism and Industries became the main source of income.
- Architecture - Restoration works after Independence
- Urban Growth Pattern shows:
 - Developments mainly towards the eastern part of the city.
 - Limited expansion in the western part due to physical constrains like mountains and lakes.
 - Major urban developments towards Ahmedabad, Nathdwara and towards Airport.



Urban growth since 1947, projected to 2022 in the Master Plan



c. Natural Heritage

Natural Heritage in Udaipur comprises of the 7 beautiful lakes (Lake Pichola, Rang Sagar, Swaroop Sagar, Fateh Sagar, Badi, Madar and Udai Sagar), large open green spaces and parks, hills and rivers. All the lakes of Udaipur form a chain in the saucer shaped Udaipur valley.

The inner Girwa plain of Udaipur is surrounded by western and central hills and its water is drained into the Ahar River. Important lakes of this basin are the Badi, Fateh Sagar, Pichola, Rang Sagar and Swaroop Sagar. The 14th century water body at village Picholi–Lake Pichola, fed by the seasonal stream - Sisarma, a tributary of the Kotra river was later (middle of 16th century) expanded to sustain the later settlement of Udaipur becoming the largest of the lakes of Udaipur.

Udaipur is best known and dependent on its lake system, which is directly, or indirectly the life source of the city in terms of surface water resources, tourism, and the ecosystem at large. In other terms **Lakes are the Heart & Soul of the city.**

The main river of Udaipur city is known as Bearach. Bearach River starts from hills north of Udaipur, and flows southeast into Udai Sagar. Its existence is linked to all 3 capitals of Mewar i.e. Nagda (capital of Aghatpur or Ahad - an ancient civilization dating 4500 years), Chittorgarh and Udaipur.



The city surrounded by Aravallis on all sides

- The eastern end of Lake Pichola fulfilled many important criteria for selection of a capital as well:
 - Lake Pichola and hills on the west offered a natural barrier making the area isolated and inaccessible, favoring its defense.
 - Expanse of sufficient land on the North East for settlement and cultivation.
 - Watch post on top of Machchla Magra for security.
 - Abundant supply of water, forests and minerals.
- The technique of building huge reservoirs adopted by the rulers of Mewar served two main objectives
 - Collection of maximum volume of water wherever water channels, natural drainage and gradient allowed them.
 - Thus stored, the water also helped in raising the underground water table maintaining supplies in wells and *baoris* near the lake shore.
 - The Aravalli range and the lakes of Udaipur are an important combination of natural and built heritage.
- Some of the important hills of Udaipur city with their location and heights are as follows:
 - Bankika Magra (SW - 849 mts)
 - Machla Magra (S 753 mts) (Eklingarh)
 - Hora Magra (SE)
 - Tiklia Magra/ Kala Magra (N)
 - Nimachmata hill
 - Thoria Magra (NW of Fateh Sagar)
 - Sajjangarh (W)



The Pichola Lake from the City Palace complex with surrounding hills



The lakes and the surrounding hills



View of the Machla Magra and Eklingarh, next to the City Palace Complex



View of the Lake Pichola with island palaces within and surrounding Aravalli Range

Existing Storm Water Drainage



The lake collects water from run off of the surrounding hill and residential areas

Interconnected Water Channels as Part of the Natural Heritage : Udaipur



Plan showing lake, river & linkages in the city

Source : Royal Mewar foundation

The hills surrounding the city on the western side form the natural watershed area feeding all the lakes of the city.

The Morvani River, which originates from Badi Talab feeds the Fateh Sagar Lake and the Lake Pichola is fed by Sisarma river. The entire basin finally drains into the Ahar river. Lake Pichola empties into river Ahar through RangSagar, Swaroop Sagar and Gumaniya Nala simultaneously. Similarly lake FatehSagar overflow goes through Gumaniya Lake to join river Ahar.

Other lakes like Govardhan Sagar lake drains through Satoliya nala to river Ahar.

There is a Chkalwas dam was constructed over river Ahar and feeds Fateh Sagar through specially built river link channel .

So all the water bodies of the Udaipur basin are interconnected through the lake linkage channels and form the storm water management of the city.

Unfortunately the present day urban pressures of urbanization and pollution have led to deterioration of the water quality in this whole lake system.

The background image shows a detailed view of a traditional Indian building facade. The structure is light-colored, possibly yellow or cream, and features intricate carvings and architectural details. A prominent feature is a central balcony with a decorative railing and a small shrine-like structure above it. The building has multiple levels and a complex arrangement of arches and windows. The overall style is characteristic of Rajasthani or Mughal architecture.

III. TYPICAL URBAN FORMS, ARCHITECTURAL TYPOLOGY AND IDENTITY

- a. Lakefront
- b. Streetscapes and *Chowks*
- c. Gates and City Walls
- d. Forts and Palaces
- e. Temples
- f. *Havelis*, Houses and Clusters
- g. Water Structures
- h. Public Open Spaces and Gardens
- i. Public Buildings and Memorials
- j. Architectural Vocabulary
- k. Construction Materials and Techniques

III. TYPICAL URBAN FORMS, ARCHITECTURAL TYPOLOGY AND IDENTITY

a. Lakefront

- Lakefronts are an important urban form and space for the city. Lake Pichola that lay to the west of the City Palace and the rest of the walled city was the precursor of the city development and its lake front is the most historic.
- The lakefront of Fateh Sagar Lake is more of an embankment forming a boulevard along the lake.
- The gardens of the city – Moti Magri, Saheliyon Ki Bari, Sajjan Niwas Bagh were all planned along or below embankments of the lakes.



Boulevard along embankment of Lake Fateh Sagar



Lakefront with a garden next to it



Lakefront of Pichola with the City Palace and the city extending further to the east

Lake Front in Fateh Sagar : Pal Area



Photo showing Pal & Lake area in the year 2010



Photo showing Pal & Lake area in the year 1910



Photo showing the Pal and Lake area in 2010

b. Streetscapes and *Chowks*



Bara Bazaar – Market street that has retained some of its character



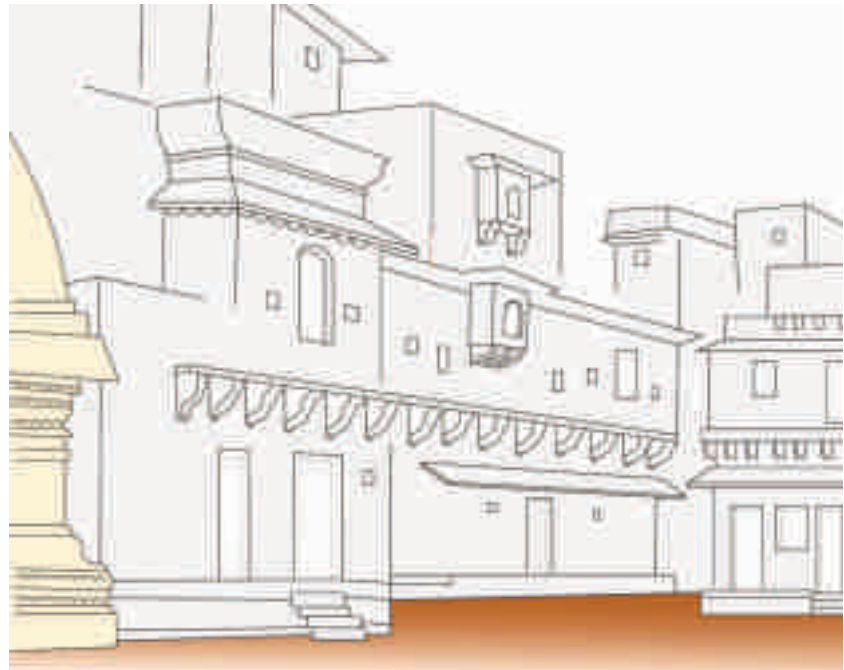
View of an internal street at Gangaur ghat with insertion of commercial activity transforming the character

- The term '*chowhatta*' refers to a bazaar street in Udaipur. The bazaar streets are characterized with mixed use.
- The inner residential streets address the streets through platforms for interaction within the community.
- The streets show an organic pattern and the streetscapes are marked by a juxtaposition of levels and forms.



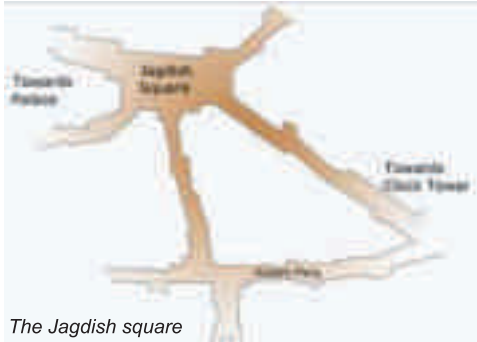
Platforms in front of houses in internal streets serving as venues of community interaction

- Projected balconies supported on carved brackets are typical elements of the buildings.



The havelis show an introverted street front with projected balconies on upper floors as interactive spaces, where as the smaller houses address the street more directly





The Jagdish square

- The *chowks* in the city show a clear hierarchy with city level squares such as Jagdish temple *chowk* and the clock tower, *chowks* in the residential districts that form urban clusters and the *chowks* that mark the junction of internal residential streets.
- The organic pattern of development is expressed in the meandering streets, as a natural response of the built form to the sloping terrain.



Temple square in a residential district, the square dominated by temple buildings



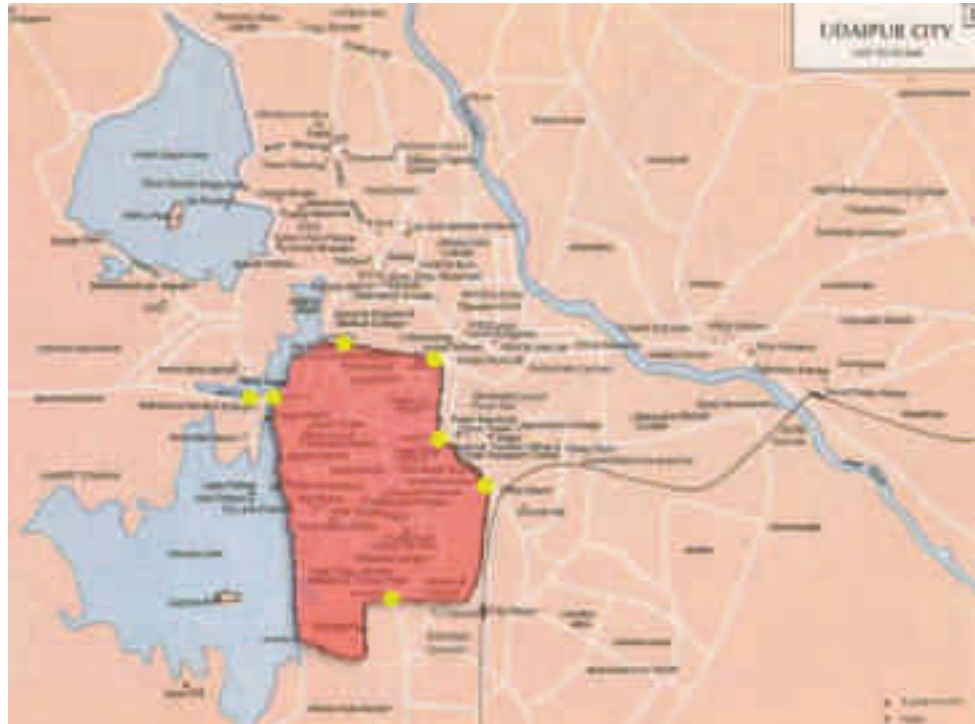
The clock tower as a focal point of the Ghanta Ghar chowk



The incidental spaces resulting from the organic street pattern are raised as platforms used as spaces for community interaction

c. Gates and City Walls

- Udaipur was envisioned as a walled city with the City Palace on the western edge next to the Lake Pichola and eleven city gates.
- Seven gates still exist –AmbaPol , Chand Pol, Hathi Pol, Delhi Darwaza, SurajPol , Udai Pol and Kishan Pol.



The walled city in dark pink with the seven existing gates marked as yellow dots.

Typology of Gates in Udaipur

Gates in city walls



Chand Pol

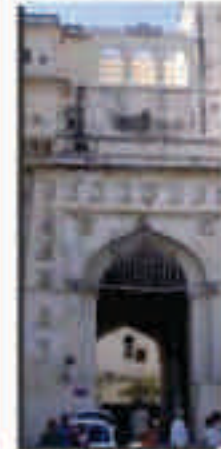


Jagan Pol

Gates within the palace complex



Bang Pol



Shani Pol

d. Forts and Palaces

- The earlier fort structures of Mewar such as Chittor and Kumbhalgarh were spread over a large hill tops and housed the palaces and the city within. Maharana Kumbha (r. 1433 to 1468 AD) was responsible for the construction of 32 of the 84 forts of Mewar as a defense strategy.



The Kumbhalgarh Fort sits on a hill top surrounded by 13 mountain peaks; was built between 1445 and 1458 by Maharana Kumbha with a 36 Kms long wall; covers an area of 12 sq Kms; has immense watch towers and seven gates. It was declared a World Heritage site in 2013.



The architecture of the Kumbhalgarh Fort from the period of Maharana Kumbha – formed the basis of architectural form of the City Palace Udaipur in its first phase.



Kumbha Palace at Kumbhalgarh



The City Palace Complex, Udaipur

- While the earlier forts of Chittorgarh and Kumbhalgarh were built for defense purpose, the City Palace at Udaipur differs from the earlier forts and is more like a palace fortress with decorative palatial spaces.



The hill fort of Chittorgarh

- The City Palace Complex is a unique example of a palace fortress type structure of Medieval Rajasthan. The fortress style of this palace complex is achieved by encasing the hill with a retaining wall on which the palaces stand so that it seems to rise to a monumental height and has a continuous fortress-like-facade along the hill. Despite the existence of several layers of architectural styles, the spatial planning of the Palace Complex shows a continuity of courtyard planning till the turn of the 19th century.
- The City Palace Complex of Udaipur was used by 22 rulers from the royal family of Mewar since its inception in the 16th century. It has several layers of historicity and architectural styles. These styles show influences of contemporary architectural trends, but also clearly reflect personal tastes of each ruler.



The Tripoliya Gate marking the entry point to the Palace complex. The first floor added in the 19th century reflects the stylistic juxtaposition that is common in the palace complex



The Toranas – carved gateway frames represent the ideological and hence stylistic deviation from Mughal influence towards the Mewari style



The Baadi Mahal garden has high significance being a unique Mughal garden set on the highest ridge of the City Palace



The structures around the Zenana courtyard reflect the changing built form in the Mewar British Phase



The City Palace Complex forming the skyline of the city along the Lake Pichola



Shiv Niwas Palace

The City Palace Complex with courtyard planning in the assembly, added upon during various phases of development from the 16th to the 19th century

- The Shambhu Niwas (A complete Palace to the south of Zenana Mahal by Maharana Shambhu Singh – 1861 to 1874) and Shiv Niwas reflect the integration of the planning principles from the British period where monumental forms with wide spans and experimental shapes (semicircular Shiv Niwas), high ceilings as in British Bungalows were created.



Shiv Niwas Palace entrance

- The Fateh Prakash Palace located on the north of the Zenana Mahal is a most representative example of a large span structure and contemporary construction technology of the 20th century.



An aerial view of the City Palace Complex with the crescent shaped Shiv Niwas defining the Southern end.

- Jag Mandir and Jag Niwas are two island palaces amidst the Pichola Lake. These two palaces show the introduction of the *bangladar* (curved roof form from Bengal region adapted locally) roof in their vocabulary, entirely absent in the Mewari style.
- Jag Mandir Island Palace was initiated by Rana Udai Singh II (r. 1537 – 72) as Damdama Mahal. Gol Mahal and the dome were added upon by Rana Karan Singh (r. 1620 – 28). The palace was completed during the reign of Rana Jagat Singh I (r. 1628 – 52) and named Jagmandir after the name of the maharana. The dome profile and the *bangaldar chhatris* reflect the political alliance with the Mughals with direct influence of contemporary Mughal style of the period. Further additions were made by Rana Sangram Singh II (r.1710 – 34).
- The Jag Niwas Palace was built by Maharana Jagat Singh II (r. 1734 – 51) in 1746. It served as a summer residence for the rulers and was later converted into a five star hotel – the Lake Palace Hotel. It reflects the Mewar Mughal Mature Phase of architectural evolution.



The Jag Niwas Palace – now the Lake Palace Hotel



The Jag Mandir Island Palace in Lake Pichola



The dome and the bangaldar roofs, Jag Mandir Palace

- Sajjangarh Fort and Palace - the 'Monsoon Palace' is located within a wild life sanctuary on one of the highest peaks in of Udaipur. The palace was built by Maharana Sajjan Singh between 1874 -84.



Sajjangarh Fort from the Mewar British phase of evolution shows juxtaposition of Mewari and British styles



Semicircular projected balconies and round arches, Sajjangarh Palace – Colonial influence evident



Column capital, Sajjangarh – 19th century European stylisation

e. Temples

- The temples of Mewar are typically of the *shikhara* style. The temple complex at Eklingji, Ranakpur, Delwara, and Nathdwara (established in 1672) and the temples within the fortresses of Kumbalgarh and Chittorgarh reflect the patronage of the rulers of Mewar to temple construction.
- Unlike the forts, palaces and havelis of Mewar that show minimal ornamentation, the temples have exquisite stone carvings.



A 14th century stone temple located within the fort walls of Kumbalgarh



The Eklingji temple complex of 108 temples within a fortified wall was established with the construction of the Eklingji temple by Bappa Rawal in 8th century, though the present structure dates from the period of Maharana Raimal (1473 to 1509)



Temple set on a street



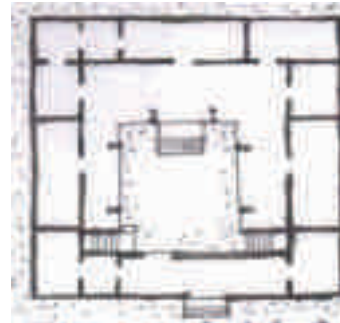
Small niche as temple in Bhattiyani Chauhatta

The Jagdish Temple - built on a 25 ft. high. rectangular podium decorated by sculptured bands. Four small temples surround the main temple viz. Lord Ganesha, Surya, Mataji, and Lord Shiva.

- The Jagdish temple is the most important landmark temple within the walled city of Udaipur. The temple dedicated to Lord Vishnu was built by Maharana Jagat Singh in 1651. Built in the Indo-Aryan style, it has a pillared porch (*mandapa*), an intermediate *anthrala* and the inner *garbhagriha*, covered by a *shikhara*.

f. *Havelis*, Houses and Clusters

- The *Haveli* forms the most important urban typology that acts as the basic unit and defines the character of the towns in the region.
- The *havelis* in Mewar were mansions belonging to *thakurs*, Rajput estate owners of the *thikanas* estates, *Marwaris*, the affluent Hindu traders, ministers, *hakims*, the royal doctors or a few Brahmin royal priests called *rajpurohits* and other officials who managed the royal departments as *Kotharis* (treasury incharge) *Dhabhais* (nurse to the royal family) and *Bhandharis* (store incharge) etc.
- The *haveli* in Mewar primarily developed in the 16th century by Rajput *thakurs* and *jagirdars* (noblemen / estate owners) to demarcate their dwellings from the common man and to associate their power with the ruler. The '*haveli*' as a dwelling had different meaning for different caste and profession. The change in the location and form of the *havelis* was based on the caste and occupation of the owner.
- Mewar being the most authentic Rajput zone, the *haveli* façades strictly conform to the asymmetrical, fortress kind with minimal façade elements or ornamentation.
- Mewar painting style is often found on *haveli* walls in Udaipur as seen in Dhabhai *haveli*, Udaipur.
- Few Marwari style *havelis* found in the nearby areas such as the Sharda *Haveli*, in Nimbahera, show later development (1850 AD) and exceptions to the Mewar style. The façade of this *haveli* shows Marwari patterns and colonial influences.



Courtyard plan of *Haveli* in Salumbher



Stylized cusped arch in Salumbher *Haveli*



Simple single courtyard plan - Bassi *Haveli*



Elevation - Bassi *Haveli*

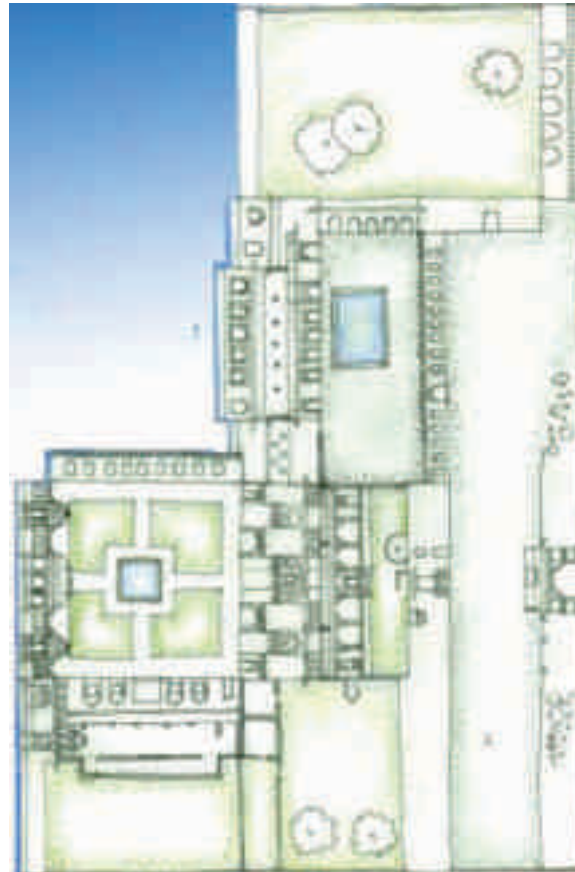
- In the Mewar region, the *havelis* of Udaipur city are built on large sprawled out plots. Other surrounding towns and thikanas had smaller plots. Udaipur *havelis* have the least Mughal influence and retain the unstructured amorphousness of the earlier Rajput palaces.
- Amet *haveli* in Udaipur is a unique example of spatial planning and façade composition. The *haveli* overlooks Lake Pichola and the main façade faces the lake. The entrance is from the opposite side. The location of entrance, centre of *zenana* court, centre of *mardana* court and the location of central *jharokha* and *chhatris* in the façade all fall in one line.
- *Panera* was the space for keeping water, *prasada* from temples and even alcohol when located in the Mardana section of the Rajput *havelis*.
- A number of *havelis* like *Bohera Haveli*, and *Bagor Haveli* in Udaipur, had a well within the *haveli* complex.



Panera— water space in a *Haveli*



Temple and well area in Bohera Haveli



Sketch plan and elevation - Amet Haveli

Typology of Havelis in Udaipur

Single courtyard haveli



Shri Nath Haveli

Double courtyard haveli

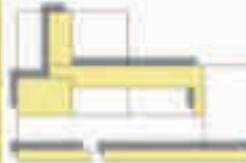


Chhatra Haveli



Shri Nath Haveli

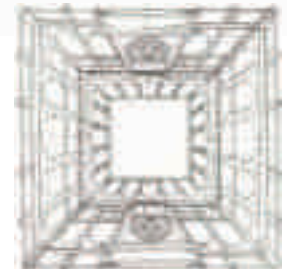
Multi-courtyard haveli



Shri Nath Haveli



Shri Nath Haveli



The court as the centre of the haveli - reflected in the concentric articulation

- It was a rule in Udaipur, that no *haveli* could be higher than the palace. However, the domed roof form of Purohit's *Haveli* (a royal priest) are the only ones that are allowed to be at the same height as the palace, reflecting the high social status of royal Brahmins.
- The havelis in Udaipur can be categorized as per their caste ownership as each caste – Brahmin, Rajput and Marwari had a distinct way of using and planning the haveli. The use was linked to their profession .



The Purohit Haveli, a Brahmin haveli that has a high dome signifying the status of a royal priest



Bagore Ki Haveli, a large sprawled out haveli of a Rajput noble with big outer court for the servants and inner male and female courtyards



Kothari Haveli, belonging to a Marawari noble, the trader caste who would have a separate seating called baithak at the entrance to conduct business.

h. Water Structures – *Ghats*, Wells and *Baoris*

- Water being scarce in the region, indigenous methods for effective water collection have been evolved and practiced across Rajasthan, due to which, a vast number of reservoirs, artificial lakes, tanks, *kunds*, step-wells or *baoris*, wells, ponds etc, have been built and renovated over the centuries.
- The original small Pichola Lake was dug deeper and wider, guarded with *bunds* or *pals* (local term for embankment) to capture run-off and to ensure access for irrigation. The banks and shores along the Palace and rest of the city were developed into attractive *ghats* (embankments) - providing space for recreation and religious ceremonies.
- *Ghats* were constructed along the lake system of the city – Udai Sagar, Fateh Sagar, Swaroop Sagar, Dudh Talai throughout different periods of the city.
- Other important water structures are *kunds* (religious tanks), *baoris* (step wells) and wells, along the lakes in most cases, to tap the recharging of water table due to the water harvesting by the lakes and an otherwise hard rock strata in the region.













Gangaur Ghat



Lal Ghat

Typology of Water Bodies in Udaipur

<p>River Ahar</p>		<p>Swaroop Sagar</p>	
<p>Lake Pichola Lake</p>	 	<p>Udai Sagar Ghats</p>	 
<p>Fateh Sagar</p>	 	<p>Stepped well (Baori)</p>	 



Dudhtalai



Ghats along Lake Pichola



Ghats at DudhTalai



FatehSar Ki Pal – embankment with Chhatris



Lakefront facades

There are 7 beautiful lakes in Udaipur, which are as follows

Lake Pichola,
Rang Sagar
Swaroop Sagar
Fateh Sagar
Badi
Madar
Udai Sagar

Important lakes of this basin are the Badi, Fateh Sagar, Pichola, Rang Sagar and Swaroop Sagar.



Fateh Sagar

The Lake is situated in the north of Udaipur city, as a part of the western lake frontage. The lake was constructed in the year 1678 A.D. and then renovated in 1889 A.D. by Maharana Fateh Singh. The dam of this reservoir is 720m in length and about 100m in breadth. The lake has a catchment area of 53.66km. The greatest depth of the Lake lies near the middle of the dam i.e. 13.4 m. The total spread is 4.0 sq. kms.



Pichola

A Banjara chieftain initially constructed the lake in the 14th century. Rana Udai Singh further raised its embankment in 1560 A.D. The water spread of the lake is 6.96 kms. And has a maximum depth of 10.5 m towards the west where the Kotra River drains into the lake. The lake forms the main source of drinking water for the city. The river Sisarma, a tributary of the Kotra is the chief source of water to the lake.



Rang Sagar

Rang Sagar Lake was constructed by Amar Singh Badava and is also called 'Amarkund' after him. Constructed in 1668, this lake has a length of 1030m, width of 245m and a maximum depth of 7 meters. It is one of the smallest lakes (water spread of 0.136sq.km.) along the western waterfront of Udaipur, providing watery connection between Pichola and Swaroop Sagar.



Swaroop Sagar

Swaroop Sagar Lake is located southwards to the Rang Sagar and is the ultimate part of Lake Pichola. The Lake provides a combined water weir for Pichola and Rang Sagar. Moreover the lake also links Pichola and Rang Sagar with adjoining Fateh Sagar Lake through a canal. This canal is sometimes employed to draw water in the Fateh Sagar during the Monsoon when Pichola Maintains a high water level.



i. Public Open Spaces and Gardens

- The gardens in the city were built below or along embankments of the lakes – such as Saheliyon Ki Bari (18th century Mughal garden) situated below the embankment of the Fateh Sagar Lake and the Sajjan Niwas Garden or Gulab Baugh (19th century British garden) situated immediately below the embankments of the Pichola Lake.
- The Moti Magri is a steep hill garden near the southern end of the embankment of the Fateh Sagar Lake the focal point of which is the statue of Maharana Pratap. Other important gardens of the city are Dudh Talai Gardens, Sukhadia Circle, Manikya Lal Verma Gardens, Pandit Deendayal Upadhyay Gardens and the Nehru Island Park (within the Fateh Sagar Lake).



Sajjan Niwas Bagh, Gulab Bagh or Sajjan Niwas gardens situated immediately below the embankments of the Pichola Lake cover an area of about 100 acres. The garden were laid out by Maharana Sajjan Singh (1874- 1884) and contain a small zoo, spacious lawns and the Victoria Hall. The Viceroy, Lord Lansdowne, to commemorate the 1887 Jubilee of Queen Victoria, opened this building, which houses a reading room and a library, in 1890.



Moti Magri Near the southern end of the embankment of the Fateh Sagar Lake is a steep hill garden known as the Moti Magri. He garden contains a bronze alloy statue of Maharana Pratap riding on his faithful horse, Chetak. The present Maharana erected his. Nearby are the remains of the old palace, known as Moti Mahal, which was occupied by Maharana Udai Singh.





Baadi Mahal Garden

- The Baadi Mahal garden within the City Palace has high significance being an 18th century formal Mughal pattern garden on the highest ridge of the City Palace.



The Saheliyon Ki Bari or the gardens of the maids of honour is situated below the embankment of the Fateh Sagar Lake. The original gardens that were constructed by Maharana Sangram Singh II in the first half of the 18th century were damaged when a breach occurred in the embankment and Maharana Fateh Singh reconstructed the gardens in their present form. The Gardens contain ornamental lotus pools, one with finely sculptured Chattries of soft black stone surrounded on all sides by fountains, and another guarded by four huge elephants

PARKS IN UDAIPUR

1. Saheliyon ki bari
2. Gulab Bagh/Sajjan Niwas
3. Moti magri
4. Sukhadia Fountain
5. Guru Govind singh Rock garden

Sukhadia Fountain

Situated in the front of Railway raining School, this huge circle has been converted into a pond having a fountain in the center. He pond is about 200 ft in diameter and it has a 42 ft high fountain unique in the country. There are boating services in this pond. Alongside the pond are small gardens/lawns with other entertainment activities like horse riding, eateries etc.

Guru Govind Singh Rock Garden:

On the serpentine drive of the Fateh Sagar is a rock garden over a rugged rock. One can have a beautiful view of the lake from here. The garden is known for its location to witness the beautiful sunset across the lake.



Sukhadia Circle Fountain



Photograph showing a park near Doodh Talai

Other Parks listed under the Udaipur Municipal Corporation:

- | | | | |
|--------------------------------|------------------------------|-----------------------------|------------------------------------|
| 1. Manikyalal Verma Garden | 10. Sardarpura Park | 20. Verma Choraha Park | 30. Shaktinagar Nala Park |
| 2. Gulab Garden near DudhTalai | 11. Residency Park | 21. Math Park | 31. Shastri Circle Fountain |
| 3. Patel Circle Park | 12. Alipura Park | 22. Nehru Bal Udyan Park | 32. Shiv Mandir Park |
| 4. Meera Park | 13. Suraj Pole Fountain | 23. Dholi Bavdi Park | 33. Ambamata Teacher's colony Park |
| 5. Amal Ka Kata Park | 14. Ayurved Square Park | 24. Vermaji ki Samadhi Park | 34. Sukhadia Circle nursery |
| 6. Chandpole Park | 15. Jawahar Park Pratapnagar | 25. Hanuman Park | 35. Aravali Vatika nursery |
| 7. Aravali Vatika Park | 16. Ravindra Naga Park | 26. Boharwadi Park | 36. DudhTalai nursery |
| 8. Gurugovind Park | 17. Shivam Park | 27. Sukhadiya Circle Park | |
| 9. Panchvati Park | 18. Ekling Park | 28. Fatehvatika Park | |
| | 19. Court Choraha Park | 29. Shaktinagar Corner Park | |

Source : CDP, Udaipur

j. Public Buildings and Memorials

- Public buildings in Udaipur comprise of the Cenotaphs of the royal family, the British period structures of schools, colleges and hospitals and more recently developed cultural centres
- The conversion of the City Palace complex, Karan Vilas and the Bagoreki Haveli and to Museums has given result to public complexes in the erstwhile royal properties.
- The Mahasati royal cenotaphs at Ahar are memorials of the rulers and their family members, the first one being that of Rana Amar Singh (1620) and the last one of Maharana Swaroop Singh in 1861, typically colonnaded pavilions on a high plinth, topped by domes.
- The colonial period buildings include a number of institutions such as schools and colleges, Structures such as the royal garage which is now a heritage hotel in the middle of the city provide interesting examples
- A contemporary public complex in Udaipur is Shilp Gram that consists of an agglomeration of structures in the rural vernacular building style of Rajasthan.



The royal cenotaphs at Ahar



Shilp Gram – a contemporary public complex that gives a platform to the rural crafts of the region

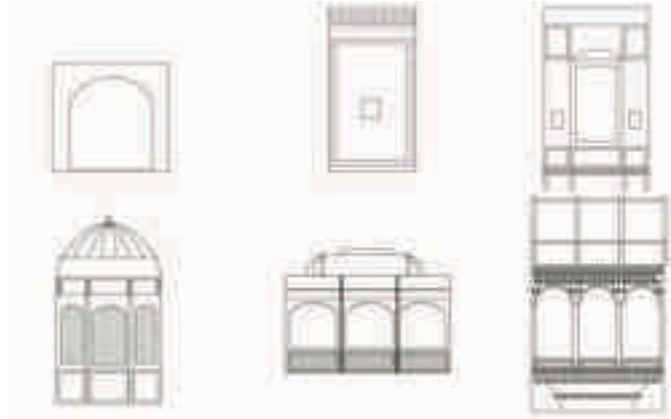
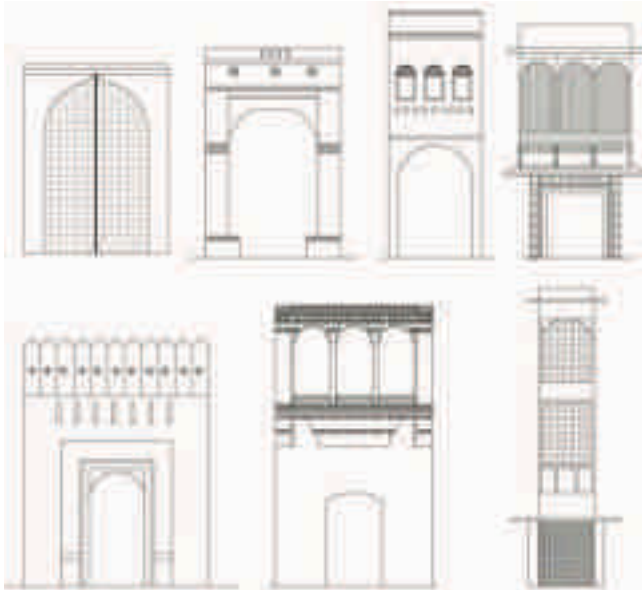


The Garden Hotel – showcasing the royal vintage car collection was the earlier garage space with a petrol pump from the early 20th century

k. Architectural Vocabulary



The City Palace Complex showcases the architectural vocabulary used in Udaipur from the period of its foundation – 16th up to the 21st century, with five architectural phases identified within.



Architectural vocabulary – Opening styles in façades of Mewar region



Typical Mewar Mughal Mature Style dome of Mewar region



Projected balconies with carved stone brackets and stone sunshades

- The façade elements are either on wall surface or projected on brackets with rectangular or *chhatri* framing. But the *bangaldar* roof, so prominent in other areas of Rajasthan is not found in the Mewar region.

I. Construction Materials and Techniques

- The Mewar region had availability of stone as well as timber. White marble was available at Makrana, Kankroli and Udaipur.
- In *havelis* of Begun area, masonry in small sized bricks with thick lime mortar is observed.
- Stone spans upto 4-5m are achieved in this region by corbelling with stone beams.
- Stone walls in random rubble are thicker at the base about 0.6 -1.2m and gradually decrease on the ground floor to .5m.
- In some areas like Salumbher, the roof is sloping, with wooden battens and *saagwan* timber on top.
- Pure lime and *jhinki* (marble powder) is used in stucco work.



Haveli at Salumbher with use of timber as structural members.



Seven foot wide stone sunshade supported by carved stone brackets and columns, City Palace, Udaipur.

- Nathdwara has large deposits of sandstone and limestone which are used for walls and floors or the houses have random rubble masonry using sandstone.
- In Salumbher and Udaipur, timber columns are found in some *havelis* but, predominantly stone columns are used in this area. Intricate marble *jaalis*, glass inlay work and marble inlay work are distinct crafts of the region.



Ornately carved timber bracket from Haveli at Salumbher.



Typical stone column base with *araish* (slaked lime smooth finish) finish, City Palace, Udaipur



Corbelled vault in Amar Mahal, City Palace, Udaipur



The elongated dome over chhatri, Mukut Mandir, City Palace, Udaipur



Mor Chowk, City Palace, Udaipur



IV. INTANGIBLE HERITAGE

- a. Building Arts and Crafts**
- b. Painting**
- c. Other Crafts**
- d. Performing Arts**
- e. Festivals and Sports**

IV. INTANGIBLE HERITAGE

a. Building Arts and Crafts

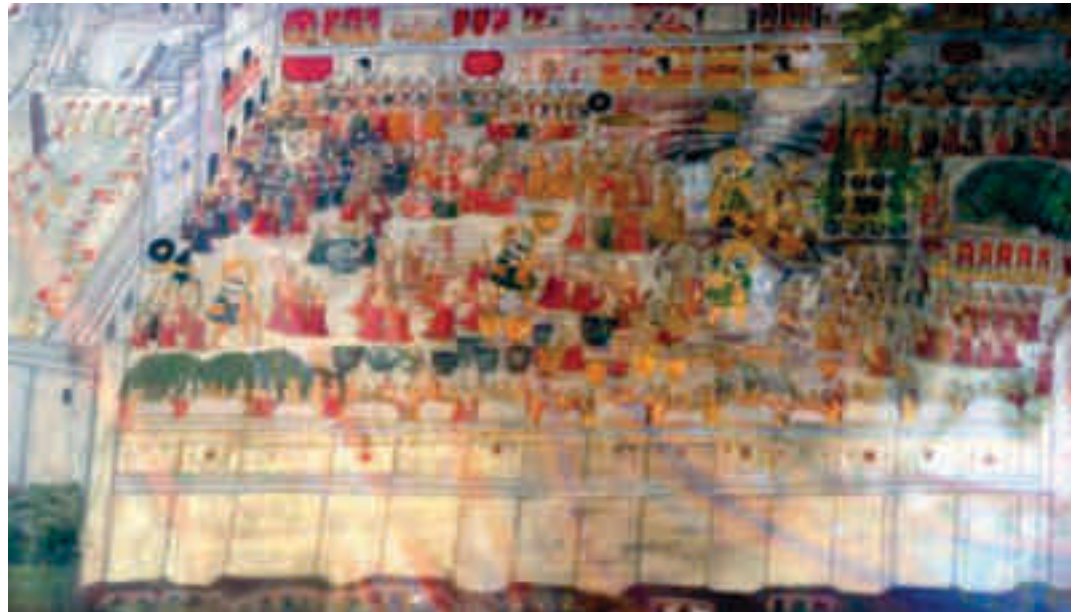
- The various building arts and crafts of the region are exhibited in the City Palace Complex in their most refined forms from the 16th to the 19th century.
- These include – stone carved columns, brackets, latticed screens (*jaalis*), paintings on surfaces such as ceilings, walls and doors, decorative *araish* (smooth lime finish) plaster, glass inlay work, use of stained glass in *jaalis*, and china tiles.



Stone carved members in the City Palace Complex, with *araish* plaster



Stone carved lattice screens - City Palace Complex, Udaipur



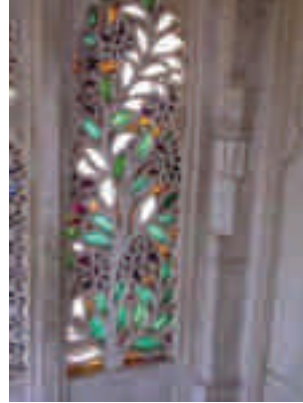
Wall painting in Chitram ki Burj – City Palace, depicting Maharana Sangram Singh II playing Holi in the Zenana Mahal



Paintings in the Chitram ki burj, City Palace, Udaipur



Mirror inlay in Kanch Ki Burj, City Palace Udaipur



Stained glass set in jaali, Rang Mahal, City Palace Udaipur



Glass inlay, stained glass, china tiles set in lime mortar, City Palace, Udaipur



Stained glass set in jaali, Khush Mahal, Udaipur



Mirror inlay in Manek Mahal, City Palace, Udaipur



Glass inlay in Mor Chowk, City Palace, Udaipur



Pichwai style painting on ceiling, City Palace, Udaipur



The continuity of stone crafts till date with use of traditional knowledge systems

b. Painting

- Painting in Mewar developed from the 13th century. Mewar School of painting is one of the most important schools of Indian miniature painting of the 1600s and 1700s, in the Rajasthani style developed in Mewar. With this style, artists used a single hair from the throat or tail of a squirrel to execute the finely detailed work of these exquisite paintings.
- The large number of Mewar paintings, more than in any other Rajasthani school, featured emotional appeal through simple bright colors. The earliest dated examples of these are a series painted in 1605 at Chavand during the reign of Rana Amar Singh I (1597-1620). This vigorous and expressive style continued, with variations, through the reigns of Rana Jagat Singh I (1628-1652), and Rana Jai Singh (1680-1698). After this, Mughal influence became more evident. The Mewar School continued through the 1700s and into the 1800s, the output being quite prolific. Although religious themes continued to be popular, more and more paintings concentrated on portraiture and the life of the ruler. During the reign of Maharana Sajjan Singh, European influence and entry of photography started to challenge the traditional art works which eventually became secondary as visual documentary records.
- Today, Udaipur has an extraordinary number of accomplished artists in pokey ateliers scattered throughout the city, meeting the tourist demand for exquisite originals and reproductions of Mewar's famous miniatures. The annual Maharana Mewar Annual Awards recognizes outstanding artists with the Maharana Sajjan Singh Award, which honours, in part, the work of permanent value to society through the medium of painting.



Painting of Maharana Fateh Singh (1884-1930) in the Mor Chowk in the City Palace (Source: City Palace Museum)



Painting from 1939, depicting Maharana Bhupal Singh inspecting the royal horses at Dusshera, (Source: City Palace Museum)

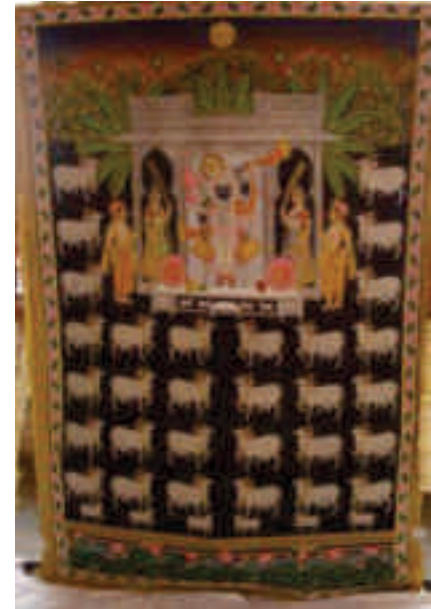


Phad work

- The Nathdwara Pichwai style of painting, that originated during the period of Maharana Raj Singh is seen in the form of wall and ceiling paintings in the built fabric of Udaipur and its surrounding areas and is a living tradition, with a number of artists continuing the renowned style .



A contemporary artist continuing the traditional style of painting in Nathdwara pichwai style.



Nathdwara Pichwai style painting on cloth depicting the Lord Krishna in the form that is worshipped in Nathdwara

c. Other Crafts

- The City Palace with its festive celebrations that involve craft bazaars gives a platform to the crafts of the region. The handicrafts that Udaipur is known for are – wooden toys, *mojaris* (light leather shoes), carved decorated furniture, and printed tie and dye sarees.
- Molela (near Haldighati) is known for terracotta panels and toys.
- The Gadholia *Johars* are nomadic blacksmiths of the region pursuing the metal craft.



The various crafts of the region and of the state (block printing) get a platform in exhibitions/ craft bazaars in the City Palace.



The terracotta panels from Molela

d. Performing Arts

- The performing arts of the region include – puppet (*Kathputli*) shows, Bhil gheirdance, Bhawai dance, and Ghoomar.
- Mand is a famous Mewari music form sung by traditional artists during festivities.



*Local artists at the Holi festivities
in the City Palace*

e. Festivals and Sports

- All the annual festivals were celebrated at the city level and involved elaborate processions of the Maharana from the palace into the city or Chaugan (public arena in the city). There is a description of 54 days of festive celebrations and fairs in the year in the City Palace and the city in the historic text – Vir Vinod (1883).
- The festivals of Holi, Gangaur, Raksh Bandhan, Dussehra (with performance of Ashwa Poojan or horse worship), Diwali, Hariyali Amavasya fair, Janmashtmi (huge celebrations in Nathdwara), Makar Sankranti, Basant Panchami, Sheetala Ashtami, Dashmata are important fairs and festivals for the city today.
- Today, celebrations such as the Maharana Mewar Annual Awards Function, Ashwa Poojan, Holi, are held in the Palace complex, with craft fairs and exhibitions incorporated for the visitors. Participation of the locals and nobles in annual festive rituals at the palace grounds from sixteenth century till today signifies a unique continuity of Mewari traditions.



Maharana Mewar Annual Awards function, in Manek Chowk, City Palace, Udaipur, March 2004.



Current initiatives - exhibition for Ashwa Poojan, celebration of World Tourism day and revival of tradition of beating of nagadas at the City Palace, Udaipur.

Ashwa Poojan Ceremony in Manek Chowk, City Palace, Udaipur

- The Sisodia Rajputs were expert warriors and had cultivated a number of sports such as hunting, wrestling (*jethi* wrestlers), animal fights involving elephants, horses, camels and hare races etc. They also had other entertainment sports such as acrobat performances.
- Though some sports such as hunting expeditions were organized in the outside forest areas of the city, and others involving city dwellers as audience were performed in the city public arena called the Chaugan; a large number of sports and entertainment event were organized in the main public courtyard of the City Palace complex i.e. the Manek Chowk. This was the venue for all public performances watched by the ruler with his nobles from one of the *darikhana*s facing the Manek Chowk.
- The sports also involved innovations with changing times in the later period when even Polo (a British sport) game is observed in the Manek Chowk.



A game of Polo being played at Manek Chowk, photographed in 20th century

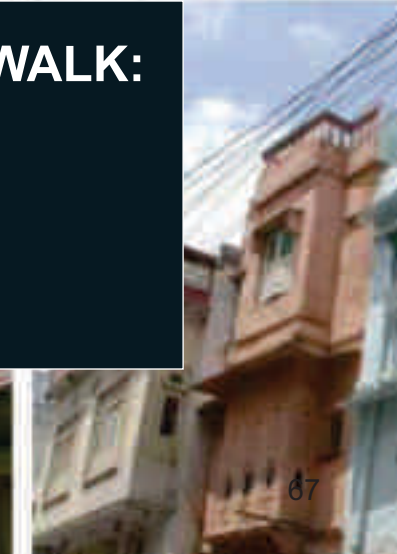


Painting of elephant fight at Hathi ki Agad



V. PROPOSAL FOR HERITAGE WALK: Bhattiyani Chowhatta

- Proposed Itinerary
- Socio-Cultural Mapping
- Listing of Built Heritage
- Linking Natural Heritage



V. PROPOSAL FOR HERITAGE WALK: Bhattiyani Chowhatta

a. Proposed Itinerary

- The main street of Bhattiyani Chowhatta is proposed for the heritage walk route. This was built as a market street – Bhattiyani Bazaar, by Princess Kika Bai – daughter of Maharana Udai Singh, in honour of her mother Dheer Bai of the Bhati clan who had been the Maharana's favourite queen. It is one of the major streets leading to the City Palace Complex, which remains one of the most visited places by the tourists in Udaipur.
- Starting from the Jagdish Chowk, the street runs parallel to the City Palace wall and ends at Gulab Bagh.
- The building line defining the street is undulating with the receding parts creating community spaces along the street. The built fabric is very dense, making these spaces important along with the internal courts.



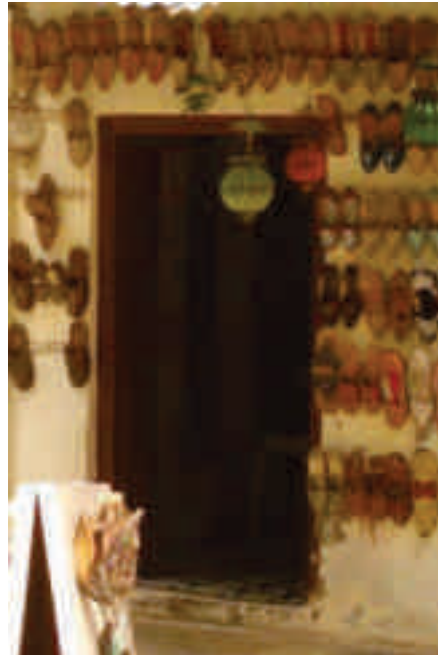
Views of the dense walk area.

b. Socio-Cultural Mapping

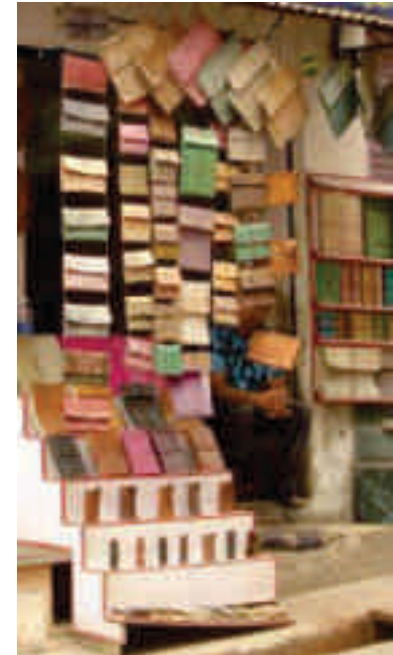
- The street conceived as a bazaar street continues to fulfill its commercial function, in particular with its art and craft shops catering to the national and international tourists.
- Focus towards tourism as an income generator is amply clear on the main street with a number of handicraft shops, shops of *mojri* (traditional leather shoes), wooden toys and silver ware.



A handicraft shop on the main street



The use of a residence for commercial activity – selling the locally made leather shoes – mojris – without altering the facade



Handicraft shop incorporated in the ground floor of a residence on the main street



The street has its culturally enlivened sections that have religious and commercial activity, catering to the local community and the tourists respectively.

- There is an Art school and a number of art galleries and art emporia on the street; facilities, such as money transfer. Moneychangers etc. are available all along for the tourists.
- Residents in walk area, as in the rest of the inner core of the city, have closely knitted community structures that have maintained community values and traditions such as the significance of the temples within the area.

c. Listing of Built Heritage

- The built components on the walk route are *havelis*, houses and temples. The area covered in the heritage walk is comprised of 140 structures.
- The structures are mostly two to three floors with shops on the ground floor and residences on the upper floors.
- Havelis like the Raj Palace have been converted to hotels and small residences are being used as coffee shops.
- The row houses address the street with projected balconies with a system of three openings, forming a typical street façade.
- The *havelis* have an introverted street front with the projected balconies looking in to the internal courtyards.



Typical street façade of row houses, with residential use maintained and second floors seen as later additions



Variation in the ground floor due to addition of commercial activity.



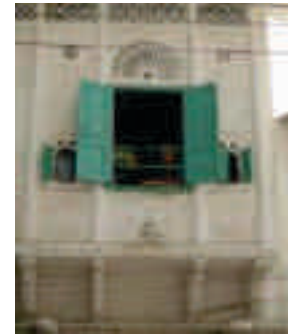
The street with built components



Entrance to a haveli



The projected balconies within the haveli looking in to the haveli courtyard



View of a projected balcony with elements from Mewar British phase with a semi circular arched opening in the center with use of stained glass.

Raj Palace – claimed to be a more than 300 years old haveli, the residence of Raj Rana of Jhadol (An erstwhile Ruler of the Jagir) that has been converted to a hotel. The facade is entirely new with an extroverted character, though elements like the entrance gateway may have been retained.



Typical door detail of a house accessed from the street. The wall painting around the door frame and on the sides are common feature till date with the traditional styles of painting thriving.



The platform of a Banyan tree at junction of streets with religious value



The Charbhuj temple at a high plinth



Temple of Vishnu and Lakshmi set within an enclosure



A religious structure and community well on a street



A niche in the wall as temple on the street that becomes a hub of religious activity at specific times of the day

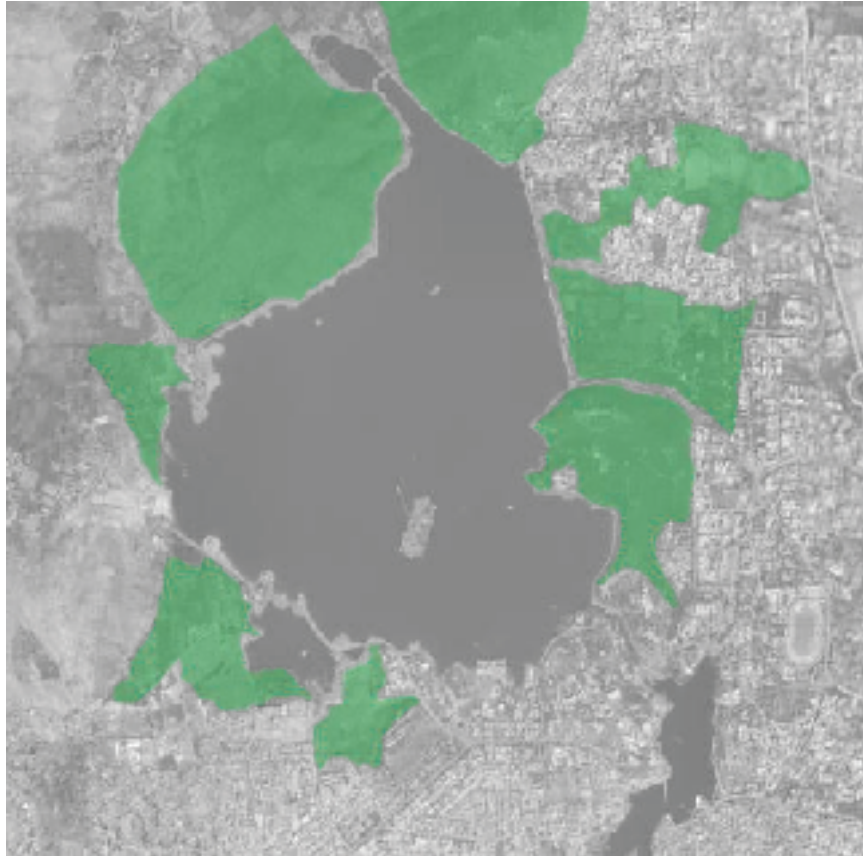
- The common spaces – streets and *chowks* usually house structures of religious significance and the community well.
- There are 13 temples in the walk area. The temples are attached to *havelis*, set in *chowks*, or are landmarks on the street, besides the Jagdish temple which is a city landmark.

d. Linking Natural Heritage

The lake system of Udaipur which is part of natural heritage is intrinsically linked with its built and cultural heritage and the proposed heritage walk should include the lake side promenade & the Pal at Lake FatehSagar .

Recommendations:-

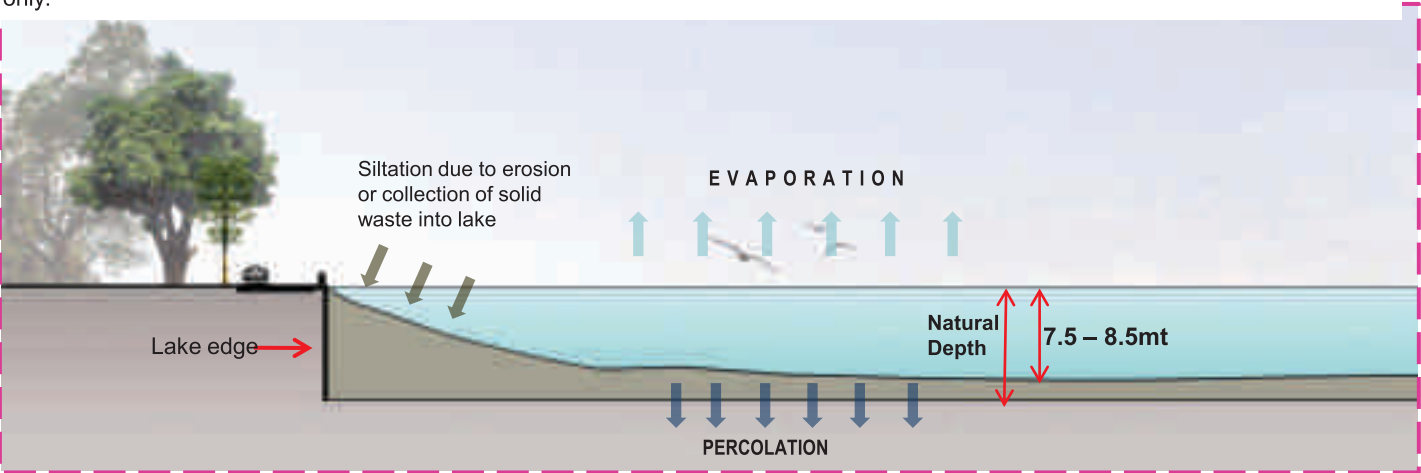
- Connect neighborhoods to the lake
- Provide for a continuous pedestrian promenade with attractive and comfortable seating options around the lake edge. The promenade should also link to plazas and gardens wherever possible on the lakeside
- Establish a buffer area adjacent to lake that shall act as a natural bio-filter to decrease the pollution entering the lake.



Existing Depth of Lake

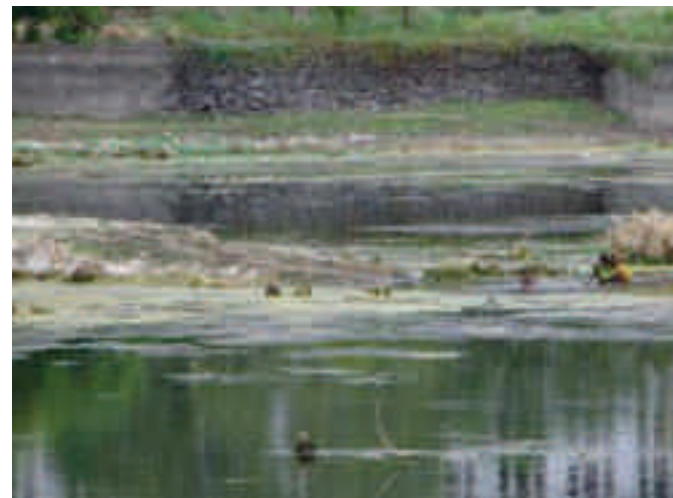


As the water content decreases due to siltation and continuous evaporation & percolation process happens, the lake fills in monsoon only.





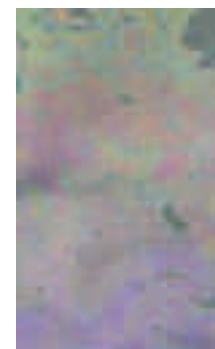
The Dudh Talai with stagnating water



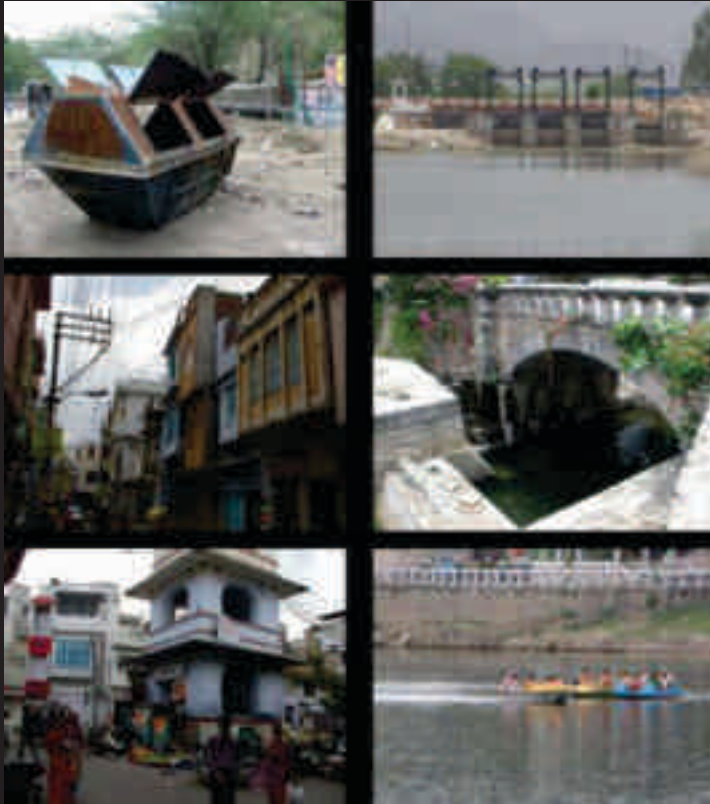
Silted parts of the Fateh Sagar Lake with stagnant and contaminated water



The drying up of the lakes is an important issue for the city with impact on tourism and environment



Oil spills in the lakes by motor boats



VI. CHALLENGES FOR HERITAGE MANAGEMENT

- a. Managing the Natural Heritage Resources**
- b. Heritage Awareness**
- c. Managing the Built Heritage**
- d. Sustaining Livelihood of Craft Workers**
- e. Water Supply**
- f. Solid Waste Management**
- g. Sewerage and Drainage**
- h. Electrical Wiring and Services**
- i. Fire Safety**
- j. Transport Infrastructure, Traffic and Parking**
- k. Tourism Facilities**

VI. CHALLENGES FOR HERITAGE MANAGEMENT

a. Managing the Natural Heritage Resources

- The Aravalli hills have suffered heavy deforestation due to mining causing soil erosion on hill slopes that has impacted the lake system with heavy siltation in the lakes, reducing their depth to a quarter of what it used to be 40 years ago. Growth of the city is adversely affecting the eco-system of the lakes and there is fear of lakes becoming eutrophic.
- Tourism is dependent on lakes and hill in addition to architectural heritage. The prolonged drought situation two years ago, which dried up Lake Pichola and other water bodies impacted the visitor numbers and local economy.
- Besides, the lakes face a number of issues:
 - Untreated Sewage being released into the lakes(45 drain spots).
 - Ghats (73nos.) being used for washing and bathing purposes.
 - Boating activity has spread an oil layer in the waters near Navghat, Piplighat of Pichola and boat booth of Fateh Sagar
 - Total solid waste being dumped annually = approx. 500 tons.
 - Hotel and restaurant (53 hotels) waste being dumped in lakes.
 - Heavy sedimentation in the lakes due to construction waste being dumped into lakes.



The ghats of Swaroop Sagar being used for bathing and washing of clothes and for dumping of solid waste and sewage causing contamination of the water



Lake Fateh Sagar, Original Stone Banshi being replaced by new replica of the same.



Lake Fateh Sagar, boating jetty area during dry season.



Lake Fateh Sagar, Dried up bed of the lake



Lake Fateh Sagar, showing silted slopes.



Photo showing Vegetation & tree cover within the lake in the year 1910



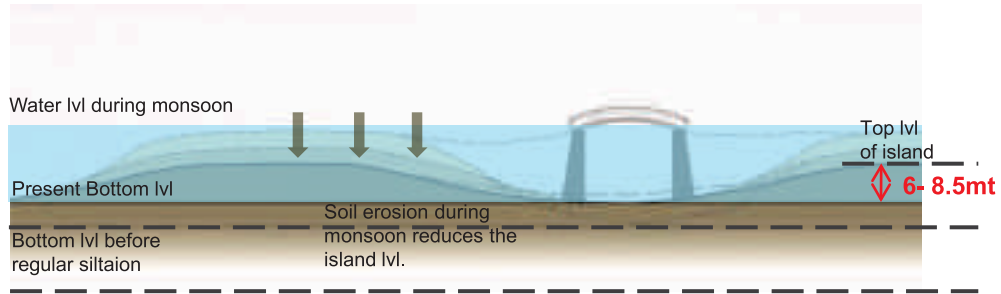
Photo showing barren land after continuous siltation within the lake in the year 2010

The barren hills from all the sides pour tons of eroded soil in the lakes each year. (source; CDP, Udaipur. 8.2-Udaipur Lakes system)

The loss of vegetation on the hills surrounding the Udaipur lakes has increased the level of erosion of the hill slopes leading to increased silt deposits on the base of the lakes. The increased siltation is causing the depths of the lakes to diminish and so the water holding capacity of the lakes is also decreased. The reduced depth of water and over-exploitation of water by ever increasing population leads the lake to remain dry for longer periods of time through the year.

The green cover of the hills help moderate higher temperatures from the urban heat island effect through shading and evapotranspiration.

The lack of green cover also leads to alteration of local atmospheric composition which in turn shall lead to local precipitation anomalies and decreased rainfall. Thus, the green cover on the hills plays a crucial role in ensuring better rain, better soil stabilization and therefore better quality of water in the lakes. The increased green cover shall also help attract more birds and provide shade for the visitors.



Need for slope stabilization to prevent soil erosion



Degradation of Rangasagar Island



Ancient bridge and surrounding eroded landscapes of Rangasagar Island

b. Awareness towards Heritage

- Lack of interests and awareness of the people towards heritage conservation has led to deteriorating condition of the heritage buildings.
- A number of historic structures are poorly maintained. Violation of rules and regulations for the conservation of heritage buildings and their surroundings is a common phenomenon.
- Absence of easy availability of know how and technical resources in an organized manner for conservation is causing repairs, renovations and reconstruction in new materials instead of traditional ones, resulting in a built fabric with poor authenticity in terms of material and form.



A disintegrating dome in a haveli in Bhattiyani Chowhatta , reflecting lack of awareness towards the significance of the historic built fabric



A view of the Mammayon ki Haveli – the interventions can be seen as added projected block on the third floor, alteration of original openings and repairs in cement and brick infill, reflecting lack of awareness towards heritage conservation

c. Managing the Built Heritage

- There are multiple reasons for poor implementation of the bye laws, such as insufficient data base on heritage buildings, lack of specific legislative and regulatory measures according to each street or typology that requires detailed studies and analysis of the existing fabric of the city; and lack of clarity of division of responsibilities in the implementing agencies.
- Illegal constructions and encroachments are a major issue as house owners expand dwelling units violating building byelaws.
- It is estimated that almost 25% of houses within inner city area are more than 100 years old, which require urgent renewal. As per census 2001, 1,093 houses in Udaipur are dilapidated.
- Many of the traditional houses in the old core of the city were demolished by their owners in the 1970's – 80's and replaced by new ones. This process still continues with inability of the owners to maintain the properties or lack of understanding of the heritage significance of the built fabric resulting in a loss of character.



view of dilapidating historic fabric in residential street at Kanji Ghata

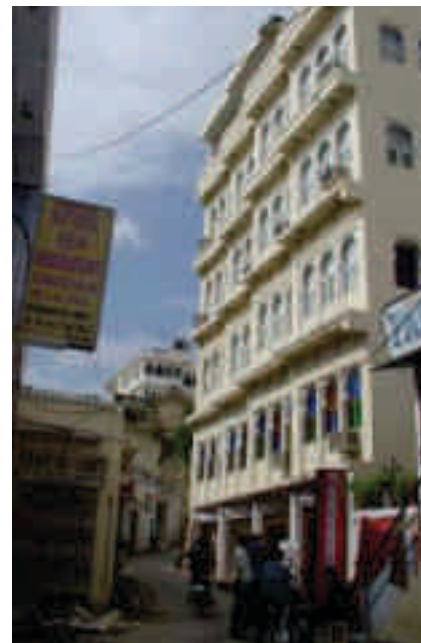


view of commercial street from Tripoliya gate of the City Palace to the Jagdish temple Chowk shows a dilapidating historic gateway and new construction of a framed structure in reinforced cement concrete being carried out

- The city has a focus towards commercialization due to tourism, and this has resulted in replacement of the built fabric in the walled city to incorporate tourism infrastructure, in turn reducing the heritage tourism potential.
- The approach of treating heritage buildings only as commercial spots with no emphasis on conservation and protection is seen in established heritage tourism destinations.
- Excessive display of advertisements due to commercialization impacts the urban ambience on main streets and *chowks* as well as the inner lanes.
- Many of the palaces and monuments in the outskirts of the city, (like Sajjangarh and Ahar Archeological site) under Government ownership are not maintained well. Also, adaptive reuse of historic structures has not been made sensitively.



Conversion of the Udai Pol to the office of the Deputy Superintendent of Traffic Police – not sensitive to the original use, with the gate having become an island



New construction at Lal Ghat with emulation of the traditional architectural vocabulary, resulting in loss of authenticity of fabric

d. Sustaining Livelihood of Craft Workers

- Currently, there is no provision of direct access for the rural artist/craftsmen into the market system, due to which, many traditional artists/craftsmen are migrating to other urban areas in search of alternative jobs.
- Certain crafts survive thanks to the demand by tourists such as puppet making, block printing, stone inlay works, miniature painting and pichwai painting. However many other arts and crafts, such as molela (local crafts in clay), kavad (a local crafts of storytelling) and phad (painting style) are under the threat of the loss of traditional know-how .



Making of kavad



Nathdwara Pichwai style painting



Stone inlay

e. Water Supply

- Historically, wells and *baories* (step wells) constructed next to the lakes formed water collection and storage systems for drinking water, with their water being recharged by the lake system. However, along with the loss of these traditional water systems, water supply has become one of the most important infrastructural issue for the city.
- The Department of Water Supply started functioning in 1945 and since 1960 the water of lakes has been utilized to meet the drinking water demand of its inhabitants. Over 70% of daily water supply is drawn from the lake system, which is highly polluted by anthropogenic activities. The human interference in the lake ecology has greatly enhanced the risk of water borne diseases.
- There is a water deficit of 30% with only half the population having access to piped supply. The frequency of supply is only 1-2 hrs every alternate day. Ground water table is depleting and contaminated due to absence of septic tanks and leakages and overflowing of sewerage pipelines. Deficit between demand and supply has further widened due to gradual closing down of *baories* and reduction in supply from lakes, mainly due to low rainfall, silting and pollution.
- Along with the paucity of source, there are recurrent problems of water treatment and distribution system; inadequate distribution infrastructure; worn out pipes; irregular power transmission system and need for rejuvenation of assets.



A view of Lake Fateh Sagar from the lakefront

f. Solid Waste Management

- Solid waste management, which is part of the responsibilities of Municipal Council of Udaipur, has multiple issues causing problems of health, sanitation and environmental degradation.
- Only 0.5 percent of the total population is served by house-to-house collection carried out by NGO's - Astha and Swatch Samiti. The dumping of solid waste in the streets is a major cause of blocking of open drains and pollution of the lakes and the River Ahar.
- There is no segregation of degradable and non degradable waste, and medical waste is also dumped on to the streets.
- The transport system for solid waste is very poor and disposal of the waste at the city level is unplanned with no processing of the waste being carried out. There is an urgent need for capacity building, legislation for industrial and medical waste and community involvement to deal with the solid waste management issue for the city.



Solid waste accumulation in Swaroop Sagar



*Accumulation of solid waste on streets –
Maldas street*



*Poor system of solid waste collection,
transportation and disposal*

g. Sewerage and Drainage

- Udaipur city is not fully covered by an integrated underground sewerage system. At present, the city has a skeleton existing sewerage system, which covers the high density populated area of the walled city. Only about 3600 odd sewer connections exist in the entire city as against 75000 households as per MCU surveys of houses year 2001.
- The city does not have any sewage treatment facility, hence, the sewerage conveyed by the underground system is ultimately released in to the Ahar River through an outfall sewer at Manwa Kheda village.
- The damaged, leaking and overflowing sewerage lines contaminate the ground water.
- Due to improper sewerage system, open drains carry runoff, sewage and sillage, released in to the Ahar River through agricultural land or the lakes, in turn polluting them.
- The existing major drains are insufficient in cross section, mostly irregular and unlined and blocked due to growth of weeds, encroachment by unauthorized construction, solid waste accumulation and silt, causing flooding of adjacent roads and colonies during storms.
- The new areas being developed do not have any integrated drainage network, adding to the existing drainage issues.



Open drains along streets in the walled city carry storm water, sewage and sillage in the absence of an efficient underground sewerage system.



Over flow and logging of sewerage and run off on to streets due to inefficient and over burdened system of open drains

h. Electrical Wiring and Services

- The overhead wires and cables for electrical supply, telephone wiring and television cables in the walled city area not only cause an aesthetic issue for the built heritage as they are loose and unorganized obscuring the building facades, but are possible sources of electric and fire hazard. Another threat is main transformers situated in dense areas without sufficient setback from the street – creating a fire and safety hazard.
- Electrical poles at irregular frequency blocking heritage facades; street lights, High Tension cables, transformers and distribution boxes and air conditioning and desert cooler ducting affixed to the exterior walls of the heritage structures are insensitive interventions that create visual clutter and are a threat to the built fabric at times.



Electrical transformer located adjacent to the gateway – Kishan Pol that houses a Police station



The clutter of overhead wires and cables at Bhattiyani Chowhatta street

i. Fire Safety

- The existing capacity and infrastructure of the Fire Department is grossly inadequate to serve the population of the city, the only Fire Station is improperly located with poor access.
- The unorganized electrical infrastructure is a threat to the dense historic fabric of the walled city and access in to the dense areas is an issue.
- Due to congestion on roads, lack of public awareness and civic sense, a fire tender is able to reach the location of emergency in double the time that it should.



Electrical cables extending in to the Clock Tower/ GhantaGhar – a threat to the historic structure with regards to fire safety



The inner lanes with unorganised electrical cables wires and fittings and narrow width make them high risk with regards to fire safety

j. Transport Infrastructure, Traffic and Parking

- Lack of facilities at aerodrome area, frequency of flights and international connectivity are some of the main issues of air transport.
- Poor railway infrastructure needs to be addressed – Udaipur is not equipped with broad gauge and its connected only with Jaipur and Chittorgarh. The two railway stations of the city are much below the international and poor infrastructure, much below the international and national standards.
- The organic pattern of the inner city results in narrow curvilinear roads, congested due to increased vehicular traffic, unregulated traffic movement with location of wholesale markets within the walled city drawing trucks inside. It is important to note that road widening is not an option for the heritage rich walled city.
- Haphazard street parking in major markets reduces the traffic carrying capacity of roads emphasizing the lack of well – organized off- street parking facility as an issue. Conversion of residential streets to commercial streets has been a cause of traffic congestion due to increase in parking demand. Other causes are – encroachment on to parking lots, roads and footpaths by formal and informal commercial activity; unorganized traffic junctions; lack of organized mass transport system and organized parking around tourist and institutional areas and solid waste dumping in streets and parking lots.
- There is an absence of a safe and comprehensive system of pathways exposing pedestrians to risks. It also creates pedestrian-vehicular conflict zones in almost all stretches of major arterial and sub-arterial roads of the city. Light poles, transformers, hand-pumps, and trees on the footpaths also create a major hindrance for pedestrians. Bare live wires are a persistent risk for pedestrians along these roads.
- Stray cattle, dogs etc. cause regular nuisance and traffic obstruction in addition to soiling street surfaces. They are also a major cause of traffic hazards.



Traffic congestion around the city gates, that have become traffic islands

k. Tourism facilities

- The Tourism sector is the largest contributor to Udaipur's economy. The city needs to evolve a comprehensive urban infrastructure and ensure tourism interventions to facilitate the development process and capitalize this economic base.
- Most of the *havelis* in Udaipur getting transformed into heritage hotels to cater to the tourist demand. The Amet Haveli and Bohera Haveli in Udaipur have extended to create heritage hotels within their annexe areas while the smaller ones are accommodating tourists in their limited precincts.
- However, the city does not have the required number of tourist information facilities at areas like railway stations, major bus stands etc. The city also lacks marketing of its existing tourist facilities. Very limited numbers of restrooms are made available to the tourists.
- A number of hotels, restaurants, guesthouses and lodges have sprung up to cater to the demand for tourist accommodation, but there are no regulations governing their service delivery.
- In spite of the large number of lakes and mountain ranges in and around the city, the natural landscape and ecological diversity of the region is not sufficiently promoted under the current tourism strategy of Udaipur.
- The transportation facilities for access to tourism destinations and the traffic situation in the city are unorganized affecting the tourist experience.



A view of the Jagmandir complex now serving as a tourist retreat

Protect the local living

Clever control of the expansion of touristic building

Protect and valorise heritage

LIVING CITY | TOURISM DEVELOPMENT

City a few years ago

Building city since 8 years

- Living city shops
 - Offices
 - Hotels
 - Living city apartments
 - Residential

- Hotels
 - Touristic shops
 - Living city shops
 - Living city apartments

- New living city
 - Living city apartments
 - New touristic shops

VII. VISION FOR FUTURE

- a. Unplanned Growth
- b. Planned Growth

VII. VISION FOR FUTURE

a. Unplanned Growth



Due to lack of awareness and lack of implementation of regulatory and legislative frameworks, loss of architectural character is a common feature with new structures replacing old ones

b. Planned Growth



Poorly maintained though intact structure before restoration



The structure after restoration – no incongruous additions in terms of form or material



The Charbhuj Temple of Vishnu and Lakshmi Ji in 2004, with surfaces painted on and incongruous additions such as on the railing.



Initiatives in the right direction, current condition of the Charbhuj Temple (2008), Bhattiyani Chauhatta – later interventions removed, but poor signage added.



Proposal for better signage that does not obscure the façade of the temple.

Public transport should be strengthened – and as all people travelling on public transportation need to walk some part of their journey trips on foot, the pedestrian infrastructure should be proper.

All tourist need to move around the city and explore the city at their own pace and the road network should be pedestrian friendly cycling in the city should also be encouraged, and proper NMT routes should be created.

Given the challenge of vehicular growth in the city – developing a robust alternative system of mobility is the only way forward, focusing on movement of people rather than movement of cars.

Good streetscape design can combing sustainability issues, ecological and transportation issues to ensure equitable distribution of the road space – allowing for safe segregated walking and cycling trails.



Scope of eco mobility route in the city

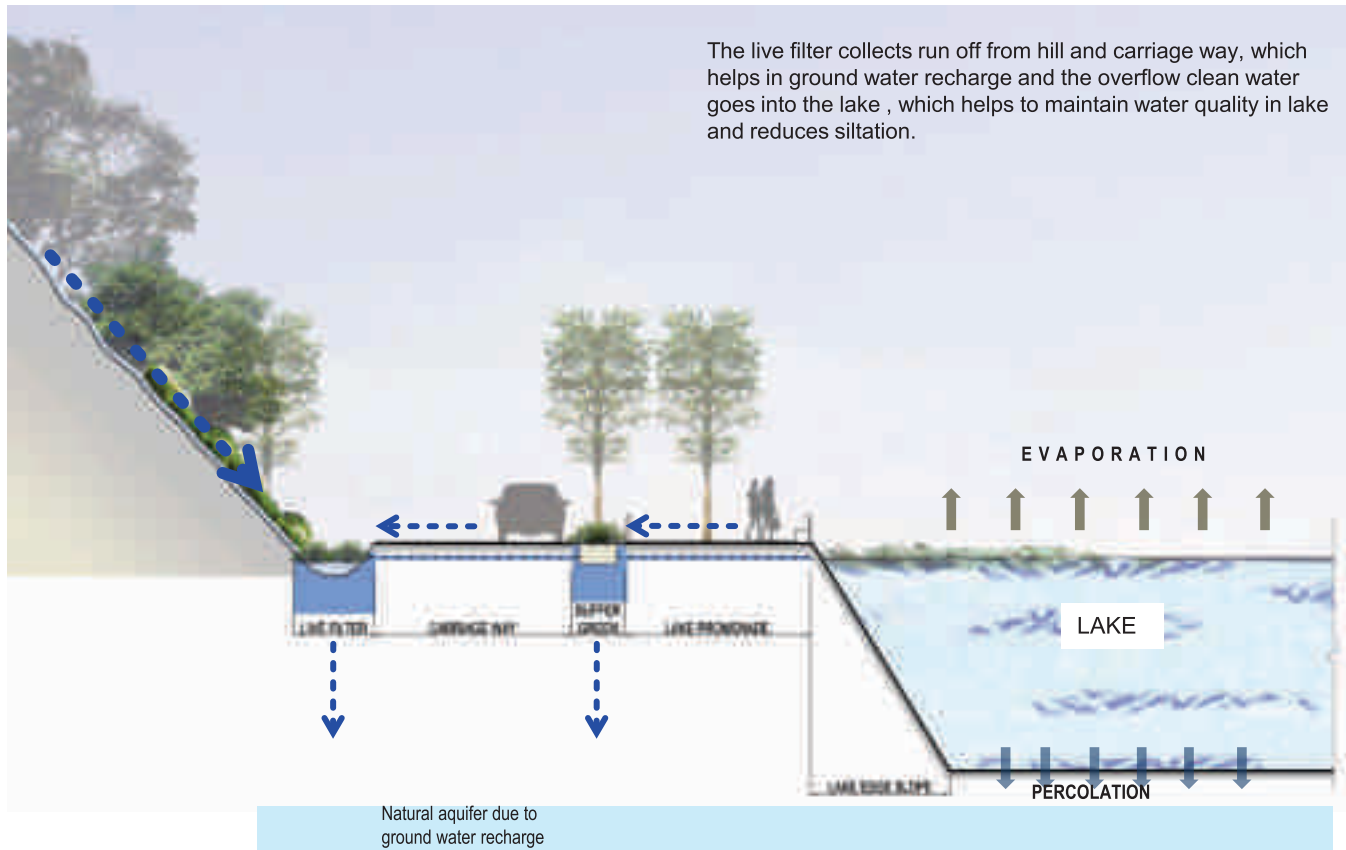
Vision for the Future - Bio Drainage



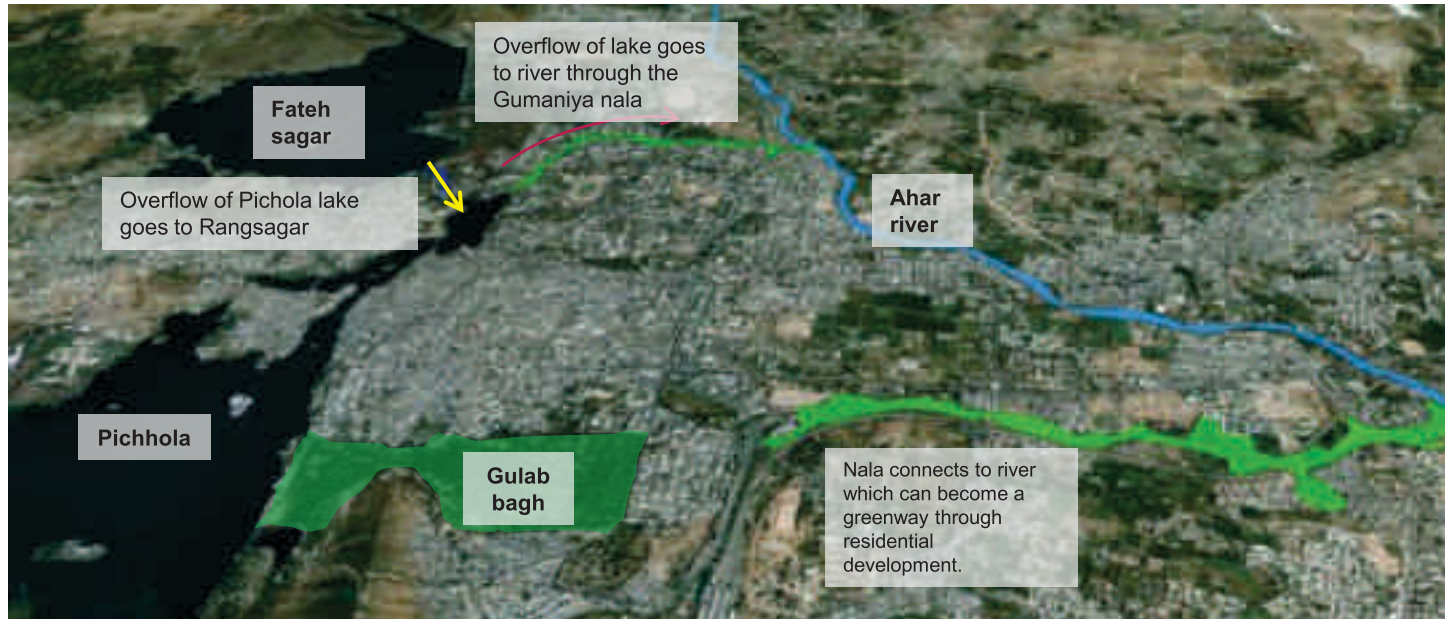
Instead of having RCC box section drains on the lake side, bio drainage and live filters shall help in filtering out the pollutants in the water that enters the lake and also allow for ground water recharge.

The buffer filter strip can then also house a row of trees that shall give shade to the lake side promenade for people to enjoy, even during the non-evening hours

Bio Drainage



Connection of Lake to River



Google map showing lake, river & linkages in the city

The drains also offer the city a unique opportunity to form eco-corridors to link with the lake side and to the river. These drainage channels could be designed as the new eco-mobility corridors in the city – exclusively for pedestrians, cyclist and non-motorized usage.

These eco-mobility corridors shall help make the lakes and the riverfront more accessible to a large section of the population and shall also help in linking with the other destinations in the city, including the new public transit hubs

Planned Growth in Natural Heritage System



The present condition of nala



The proposed NMT corridor on the nala after landscape intervention – a continuous eco-mobility corridor

River Front Development

The River Ahar is an important part of the City's natural heritage of Udaipur City and is linked to all the other waterbodies of the city

Unfortunately the river today has been reduced to a sewage carrying stream. Untreated sewage and industrial pollutants are dumped directly into the river – which needs to be stopped and then the river can become a clean water channel with immense potential to being developed as a good recreational and an ecological park, with river front promenade and tourist spots

The landscape and ecological potential of River Ahar needs to be explored, and this can be achieved by

- Regulating pollution control
- Formulating building control regulations to free the river from any encroachments

- Imposing pollution control measures for all the drains connected to the river.

The river can provide the city with fantastic recreational open public space and can be developed as an eco-park showcasing the various ecological services that are provided by natural green areas in the city.





VIII. RECOMMENDATIONS FOR ACTION

- a. Natural Heritage Based Tourism and Management**
- b. Heritage Awareness**
- c. Interpretation of the Heritage Resources**
- d. Legislative and Regulatory Framework for Heritage Conservation**
- e. Incentive Mechanisms for Heritage Management**
- f. Adaptive Reuse**
- g. Need to Encourage Local Crafts and Integrate them in to Mainstream Economy**
- h. Community Participation and Public Private Partnerships**
- i. Improved Physical Access to the Heritage Resources**

VIII. RECOMMENDATIONS FOR ACTION

a. Natural Heritage Based Tourism and Management

- Engineering techniques and planning of the entire lake system itself is a marvel and has immense potential to be developed into a major tourist attraction with proper signage and interpretation.
- Natural Heritage areas need to be clearly demarcated and protected – the accessibility and type of activities must be limited depending on their threat level and vulnerability towards human encroachment e.g. lake shores, catchments and hill slopes, forested areas and natural drains.
- The various means of revitalizing lake as tourist destination include:
 - Regulating pollution control guidelines in and around the premises of lakes.
 - Formulating building control regulations in the premises around lakes.
 - Imposing pollution control requirements to hotels/guest houses alongside lakes.
 - Prohibition of bathing and washing in lakes and *ghat* areas.
 - Providing dustbins and solid waste collection facilities around lakes.
 - Cleaning up of Ahar River. Developing the riverside for entertainment and recreational facilities.
 - Propagating water sports, boating and other entertainment facilities in lakes.
 - Arranging adventure tours to nearby mountain ranges, lakes etc.



*Boating facilities at
Lake Fateh Sagar*

b. Heritage Awareness

- Heritage awareness programmes that give an opportunity to the local community to be a part of the heritage movement and get a feeling of pride for their heritage need to be encouraged.
- More publications and use of audio visual and print media for heritage awareness to be brought out in innovative ways to enable reaching out to the city resident, heritage property user and owner.
- Publishing and distributing manuals that define the do's and don'ts for repairs in historic structures.
- Heritage education to be made part of the school curriculum to inculcate awareness towards heritage in the up coming generations.
- Documentation, branding and awareness drives of the heritage through mass media, Internet, video films, slides and literature.



Udaipur Field Workshop: Strategy for Heritage-Based Urban and Territorial Development



Workshops involving specialist input can culminate in to publications relevant for the residents of the city with regards to heritage awareness and maintenance.

c. Interpretation of Heritage Resources

- Interpretation of the Heritage resources through heritage walks and trails with different themes – such as natural heritage, with adventure and nature trails around the city; historical phases, water systems, religious association, association with specific personalities, crafts, architectural styles; catering to various age groups and visitor types need to be developed to address the multiple facets of the city.
- Different sections of the city contain groups of attractions, cultural/ heritage, scenic, religious, commercial. The preferred organization of heritage attraction within a heritage trail is as groups of places each of which is within easy walking distance.
- Visitors can then move between grouped attractions at their own pace and in accordance with their interests. The Heritage attractions of Udaipur fall into three categories.
 - Headline places - Palace, Museum, Lake views.
 - Secondary places – Gangaur Ghat, Jagadish Temple, Gardens, Parks, “Milk Tank”.
 - The city itself – Streets, Markets, Community Places, Schools, Exhibitions, Restaurants, Shops, Cafes, Bridges, etc.
 - Cultural mapping by a NGO is a good and useful technique in this regard. In determining which aspects of the city to promote and interpret as a “heritage trail”. The city needs to recognize the different tourist markets have different needs/ interests as per visitor type
 - International visitors – Independent travellers, young and older, escorted tour groups, etc.
 - Indian domestic visitors - Independent travellers and family groups, escorted/ educational tours, pilgrimage tourism.

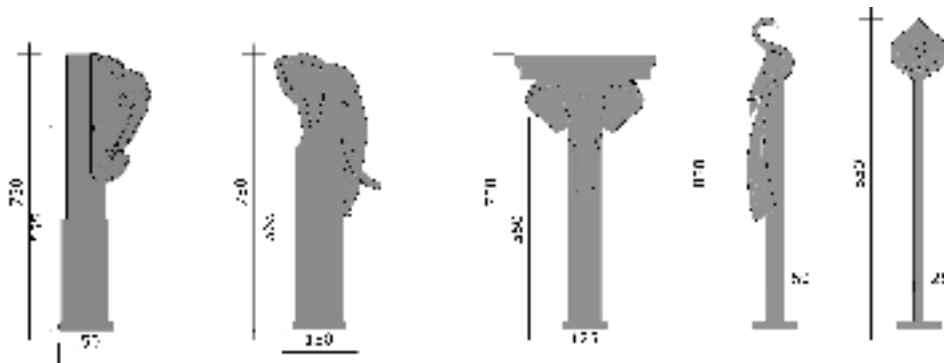


The interpretation and promotion of the intangible heritage of the city can be enhanced further, addressing the cultural traditions of the royalty as well as the local community.



A new photography gallery in the City Palace Museum with Interpretive signage in the lobby

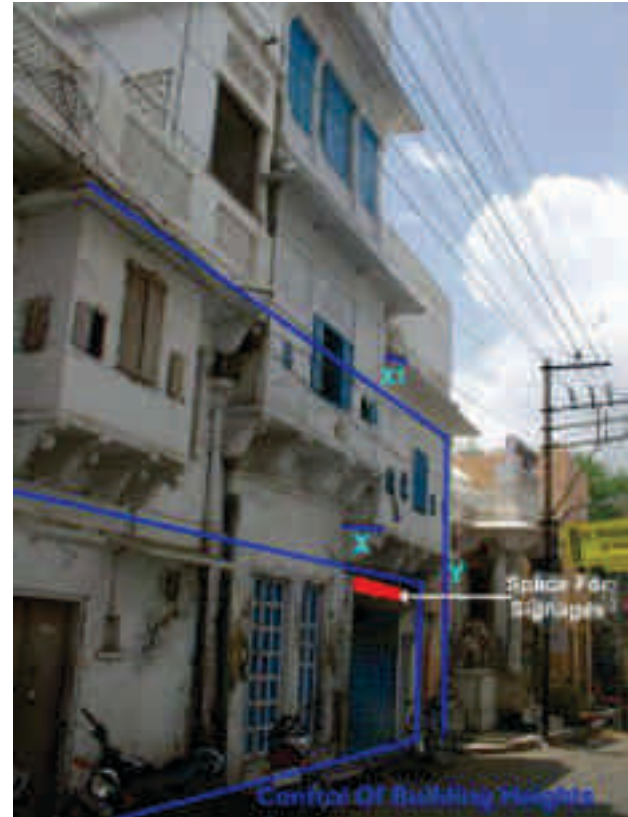
- Interpretation centres at various access points in to the city – city gates, railway station, airport, bus terminals, hotels and the major tourist destinations need to be set up.
- Proper signage and interpretation plaques are required for identification of heritage structures and cultural associations. Fixing tourist information placards banners etc and propagating and branding of tourism in the city through mass media, Internet, brochures etc are required.
- Re planning of museums with more communication and interpretation can turn them in to Heritage Resource centres.
- Training and registration of tourist guides in the city can give a strong positive impact to the interpretation of the heritage resources of the city.



Bollard patterns in elephant and peacock motifs, typical of Mewar

d. Legislative and Regulatory Framework for Heritage Conservation

- The city of Udaipur is ill equipped to ensure positive heritage management currently. The steps towards Heritage Management and enhancement of Heritage Tourism through regulatory and legislative means are:
 - Preparation of a comprehensive listing of Heritage components in the city.
 - Formulation of building bye laws for the walled city and the heritage structures on the basis of the surveys and analysis of the entire historic core of the city, that specifically cover aspects such as planning and architectural typologies, street facades and land use (to prevent over commercialization).
 - Street furniture, hoardings, signage all to be controlled by design guidelines and regulations.
 - Developing regulations for specified Heritage Zones/ Precincts and Control Zones around heritage structures to restrict and control building activity in the same.
 - Develop exhaustive database, with use of Geographical Information Systems (GIS) to be used for implementation of the bye laws and regulations.
 - Provision of legislation for Transfer of Development Rights (TDR) for heritage areas.



- Capacity building through formulation of a Heritage Cell under the Udaipur Municipal Corporation for Management of heritage building/sites; avoiding overlapping of duties and responsibilities among various departments with clearly defined responsibilities.
- Developing a legislative framework to ensure that the heritage sites and structures are maintained and stabilized (and not allowed to be left to disintegrate) by the owners as per approvals from the Heritage Cell and provision of financial as well as technical assistance from the same.
- Permissions to be taken from the Heritage cell to ensure proper adaptive reuse of the heritage structures.
- Areas outside the walled city that are proposed to be tapped as heritage resources to undergo detailed surveys (built and social), impact assessment studies first, to develop byelaws for controlled development in a planned and sustainable manner.



Panels displayed at the recently inaugurated Heritage House in the walled city



The structures on Moti Magri in need of attention

e. Incentive Mechanisms for Heritage Management

- Provision of financial as well as technical assistance to owners of heritage buildings for maintenance/repair and conservation of these buildings.
- Easy availability of loans for restoration of historic structures to enable the middle and low income groups to invest on the maintenance of the historic fabric.
- Tax deductions for expenditure on heritage properties to target the service class and high income groups.



f. Adaptive Reuse

- **Adaptive Reuse can be used as means for sustaining the heritage resources and improving Tourism Infrastructure in Udaipur.**
- Use of the heritage structures such as the city gates as information kiosks, and others as interpretation centres, accommodation of basic amenities for visitors (such as rest rooms) in the heritage destinations (including temples where pilgrims are the target group) in a planned manner.
- The current use of heritage structures such as the gates being used as offices by the Police Department need to be analyzed and reworked out so that they cater to heritage tourism with proper interpretation rather than inaccessible islands.
- The adaptive reuse of the houses and *havelis* should encourage only concepts such as the bed and bath, bed and breakfast and personalized displays to ensure that the residents continue to reside in the walled city and the walled city does not become a gentrified commercial asset losing its social fabric.
- Underused public structures present opportunities for reuse for tourist infrastructure and interpretation, conference and exhibition purposes.
- Adaptive reuse of *thikana* forts and *havelis* can generate good tourism revenue as heritage hotels, resulting in enhanced tourism revenue for the surrounding villages.
- Old wells and *baoris* should be listed and integrated in the current water supply/ harvesting schemes, enabling their efficient re use in the present day context.



g. Need to Encourage Local Crafts and Integrate them in to Mainstream Economy

- A heritage cell can keep records all the traditional craftsmen/ A heritage cell can keep records of all the traditional craftsmen/ artists, etc.
- The crafts such as need to be integrated in to the main stream with exhibitions, and workshops that interpret the crafts better and create a dialogue between the craftsmen and other sectors such as industrial designers to revalidate the crafts in the present day context.
- Stone crafts and other building crafts to be organized as a resource to ensure the access of the craftsmen, their crafts and traditional knowledge systems to on going restoration works.
- Strengthening of the concept of craft villages/ destinations to encourage the maintenance of the traditional knowledge systems with tourism encouraging their economies, with integration of the crafts and cultural resources of the tribal villages around – Bhil Meena settlements.
- Providing a market for the rural artists and craftsmen by provision of craft complexes (Haat Bazaars) and *melas*.



Silver ware – a craft that can get input from contemporary designers and develop further as an industry

h. Community Participation and Public Private Partnerships

- The urgent need for improved Infrastructure and living conditions in Udaipur can only be met by using community participation and Public Private Partnerships (PPPs) as tools.
- The recharging of the ground water through revitalization of the lakes and the Ahar River, and the traditional water systems of rain water harvesting, wells, *baoris*, are one such area.
- Community Participation to be used for proper solid waste management at community level. The role of the informal sector – *Kabadis* and rag pickers also needs to be addressed as they are existing means of recycling of waste.
- PPPs to be tapped as funding resources for the major investments that infrastructure reorganization required – such as underground cables and wiring, sewages network and treatment plants, drainage and water supply, and city level management of solid waste, especially around heritage monuments premises.
- Fire safety measures require community participation as well as PPPs with indigenous systems to be devised to suit the inner historic fabric of the walled city.
- Improving of tourism infrastructure also requires partnerships between public and private segment and community involvement –with adaptive re use of heritage structures to accommodate tourist amenities; provision of better transport facilities and a clean and safe environment.



Consultation processes and community involvement are the key to possible transformations in the urban infrastructure situation

i. Improved Physical Access to the Heritage Resources

- Traffic and Transport needs to be reworked with parking pools and pedestrianized stretches to achieve a pedestrian friendly environment inside the Walled City, enriching the tourist experience through heritage walks without the interference of vehicular traffic.
- A comprehensive plan for public transport, parking and junction improvement needs to be developed that address the cultural heritage aspects of the city and its streets.
- Heavy vehicles to be diverted from tourist areas, repairing of roads to be undertaken and special bus services for tourists to be organized. Construction of bypasses to the National/State highways in order to relieve the city of through traffic.
- Efficient mass transportation system to be developed with organized movement that helps the parking situation in and outside the walled city. Other sustainable modes of transport for the walled city such as solar rickshaws should also be considered. One way movement of traffic on congested roads to be planned such as the Bapu Bazaar road and Town Hall road and the walled city. Provision of signage system on roads, junctions and parking places and street lighting.
- Judicious use of public areas might partially help in resolving the parking problem of the walled city area, such as off street parking at Gulab Bagh, Saheliyon Ki Bari, Hathi Pol (Meat market), Tonga stand and behind Udai Pole (Suraj pole). Provision of parking around tourist destinations needs to be organized and parking requirements attached to commercial activity needs to be addressed. Development control norms regarding the parking as per traffic master plan should be taken in to consideration for future development.



The Mewar Solar Cell with its solar rickshaws as an example of alternate modes of transport use of technology to find sustainable solutions to issues

- Regulation of the activity pattern within the walled city to relieve the parking stress can be done by:
 - Staggering of market days inside the walled city
 - Shifting of whole sale markets out side the inner city
 - Allowing the delivery of goods at off peak (for tourist and commercial activity) periods only
 - Managing the time gap between the movie shows for the various cinema halls inside the walled city.
- Cultural tourism (with emporia, craft bazaars and amphitheatres), Adventure tourism (with camel routes and forest trails), Religious tourism and Ecotourism (with focus on natural heritage) to be encouraged integrating areas outside the walled city as major activity hubs, enhancing the tourism potential further.
- The cenotaphs at Ahar are excellent historic and architectural masterpieces telling tales of the royal rulers that can be developed as interpretation parks telling tales of social lifestyle of historic rulers with enhanced tourist facilities, to be integrated with the Dhulkotexcavations.
- The various circuits for tourism that can be developed as day trips from Udaipur with possibility of night halt to be explored to enable better interpretation of the heritage resources of the surrounding areas:
 - Rajsamand
 - Jaisamand – Chavand – Haldighati – BandoliVillage – Molela (association with Bhil culture and legend of Rana Pratap)
 - Kumbhalgarh Fort and sanctuary - Ranakpur
 - Chittorgarh
 - Delwara (Devigarh Palace Hotel) and Eklingji
 - Nagda
 - Nathdwara
 - UdaiSagar
- The destinations on these circuits from the Udaipur city can help dispersing the pressures on tourism infrastructure in the walled city if they are marketed as night halt destinations, away from the main city yet easily accessible from the same.

Sources and Credits

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