



ARCHITECTURE OF BIKANER: DEVELOPMENT AND IMPACT OF DIFFERENT STYLE

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ABSTRACT

one of the most beautiful & interesting centers of later Indian art, Bikaner, is the place where one can see a number of monuments constructed during span of time. Bikaner was established in the year 1488 and was ruled by several rulers to be precise 22 rulers after the demise of Rao Bika, the founder of the state. Maharaja Rai Singh, Gaj Singh, Surat Singh, Ratan Singh, Dungar Singh & Ganga Sing were few other predominant rulers of Bikaner who played a key role in the development of architecture in the state. The rulers of Bikaner constructed Junagarh fort (Maharaja Rai Singh), gaudy temples, palaces such as Lalgarh palace (Maharaja Ganga Singh), chattries or cenotaphs etc. It would not be out of place to mention the fact that it was rich & affluent class of Bikaner who predominantly contributed towards construction of major temples and all the Havelis. Although Bikaner does not have any specialized form of architecture of its own but comprises of Rajput, Muslim, Indo-Islamic combination of architecture and also found are some impacts of regional style such as Gujrati, Bengali, Jain, Buddhist and British style of architecture. For construction purpose the materials mainly used was red stone along with yellow Jaisalmer stone, white marble and for plastering bajri, roda, pieces of stones, sweet lime stone and raw & baked bricks were used. The artists & masons of Bikaner were both Hindu & Muslim, therefore, for ambience we found the impact of both religious architectural features, ornamentation and motifs in major.

KEYWORDS: Brackets, Dome, Fresco or Ala-Gila, Indo-Islamic or Saracenic, Mihrab.



INTRODUCTION

Deep in the solace of the “Thar Desert” is situated the “Jangal Country” or “Jangal Desha” meaning a no man’s country being crossed by occasional caravans or half-wild nomads. This “Jangal Country” or “Jangal Desha” also got a reference in the great Indian epic “Mahabharata” (Bhisma Parva), contains in its ambit an endless series of beautiful waves of natural sand dunes and behind those waves of sand dunes lies one of the most beautiful interesting centre of later Indian art called “Bikaner”. The erstwhile state of Bikaner is situated in the north-west of present state of democratic India called Rajasthan and is spread over an area of 27,244 sq.kms bordering Churu, Nagore, Ganganagar and Jaisalmer.

AREA OF STUDY

Different monuments studied in this article are situated in Bikaner and mostly are existed in the old city of the town such as Hvelis, temples and water bodies. Rao Bika, the son of Rao Jodha of Marwar was the first ruler and also said to be the founder of the state of Bikaner. Bikaner was established in the year 1488 and was ruled by several rulers to be precise 22 rulers after the demise of Rao Bika. Maharaja Rai Singh, Gaj Singh, Surat Singh, Ratna Singh, Dungar Singh & Ganga Sing were few other predominant rulers of Bikaner. During the rule of the great Mughal king Akbar, Raja Kalyanmal (1539-71) father of Raja Rai Singh is said to be the pioneer in initiating the relation of the state with the central power. Consequent upon his death Rai Singh came to the throne and was raised to the top rank of imperial grandees as a Mansabdar of chaar hazaari (4000). Further, he had been raised to the rank of Raja & his Mansab to paanch hazaari (5000) the highest attainable by a noble. The drift in the relations with Mughals dates back to the era of Raja Karan Singh (1631-69) and it was he who challenged the authority of Mughal emperor Aurangzeb and attained & commanded the title of “Jai Jangal Dhar Badshah”.

In view of the aforesaid it can be safely concluded that the relation with Mughals was uneven and was full of ups & downs. The interference of British Empire in the governance of Bikaner

dates back to the era of Maharaja Surat Singh thereafter this tie got stronger during the course of rule of Maharaja Ganga Singhji. Although the state was free and Maharaja was allowed to have a control on internal matters concerning rules & regulations but on all major departments of governance was controlled by Britishers and thus we can say that Maharaja was ruling on the mercy of Britishers.

METHODOLOGY

The historical and observation methods were implemented in the present study. For historical evidences or information, plenty of primary and secondary sources are available in state library and state archival department. Various books, reports, articles, construction files and Bahis were examined to know the changes in the Architectural style of the city during different time period. Also an adequate field work has been done such as taking photographs, measurements and preparing maps.

Science as well as art of planning, designing and making of buildings (houses, palace, fort, garden, well, baoli, ghat, temple, masjid, tomb, chhatri etc.); Architecture must fulfill three basic conditions: -

- a) A building must be conveniently planned for its purpose;
- b) It must be soundly built of good and stable material; and
- c) It must give pleasure to the eye of a discriminating beholder; its aesthetic aspect is the most important.

Initial art of Indian architecture is very old and could be traced down to Indus valley civilization wherein traces of architecture were evident in their cities, houses / palaces, annagar (food storage warehouses), bathrooms etc. During the Vedic period the art of architecture was slow but it could be said that the construction & architecture of inner pillars & Chatrees of temples started from Vedic period. Architecture material used were grass, flowers & bamboos. Apart from the said Rig Veda has a reference on *pur or Kila (forts), Palaces or Hamarya & yagyavedica*.



The sequential progress of architecture finds its way to Buddha era (6th century B.C.) and is most commonly known as Buddha Art. Buddha art of architecture gave birth to Fresco painting (*Ala-Gila*), use of peepal leaves as motif, use of upside-down coconuts, mihrab architecture (Trefoil Architecture). We found the traces of said architectural features during Mughal period also. During the period of Great king Asoka, wood was used as one of the main materials of architecture. Initial stages of development of temple architecture dates back to Gupta era. The temple used to be constructed on a plinth and had flat ceilings. This was a typical Hindu style of architecture and is known as “Trabeated” style.

A valuable and unforgettable contribution to the contemporary Indian art of architecture was during Chola & Chalukya dynasty period. Chalukya-Hoyasala temples architecture is different and important than other temples. The main architectural feature lies in its *Garbh- Griha* which are instead of square or round shape were built like a star shape or polygonal or octagonal. That means the construction of Garbh- Griha features geometrical squares & angles. A look at the construction & architecture of these temples gives a visual effect of a pointed end at the top. Chola dynasty temples were very large in their construction and in their architecture. Tanjour’s Brihadeshwar temple or Raj Rajeshwar temple is very large and was constructed during Chola dynasty, its pyramid shaped tower is as high as 190 ft. Last decade of 12th century was the period when Turkish rule started in India and there, we find a shift in construction and architectural features of buildings, their shapes & sizes and they were typical in nature.

During this time, we found an impression of religious fundamentalism which was evident in the construction of buildings wherein Trabeated style was replaced by “Arcuate” style. Muslim artisans ignored and abandoned the old ancient Indian architecture and evolved an impression of fusion architecture. Initially it was known as “Saracenic” art but Percy Brown adopted different parameters to judge these architectures and gave it the name of Indo-Islamic art form. In Indo-Islamic architecture Gumbad (Dome), Ovoid and Arcuate style was widely used. By this time regional architecture got a chance to progress and got very popular such as Gujarat, Kashmir & Bengal.



At the beginning of Mughal era the northern India observed the growth and an evident impact on its architecture used for various constructions. The growth of Mughal architecture was twofold – one initial during Akbar wherein the buildings, forts & palaces were constructed widely using Red Sand Stone and fusion of Hindu & Muslim style of architecture were adopted. The second stage was during the rule of Shahjahan wherein very large and spacious buildings were constructed and white marble (sange marmar) came into use. The invasion of India by Britishers started the downfall of construction & architecture of buildings, now the public buildings were constructed without giving importance to beautiful architecture and ornamentation. The buildings were now constructed to suit the requirements of public administration.

ARCHITECTURE OF BIKANER: AN OVERVIEW

Originally the art and architecture of Bikaner developed during different rulers and got the patronage from monarchy as well as rich and affluent class. It would not be out of place to mention the fact that it was rich & affluent class of Bikaner who predominantly contributed towards construction of major temples and all the Havelis. Thus, we can divide the art & architecture of Bikaner into two main parts:

- a) Under Monarchy – Under this the main constructions were Junagarh Fort, Lalgarh Palace, Temples, Chatrees, ponds and few public buildings.
- b) Construction under general or affluent & rich class:

The rich class contributed a lot in the construction of Havelis in the downtown and these Havelies could be traced to every niche & corner of the city, apart from the construction of temples & ponds.

- c) These Havelies are made of red stone and their construction pattern is similar in most of the cases. Ornamentation is also similar wherein motifs, jalis & jharokhas and carvings thereon is almost same in all cases. An ordinary Haveli comprises of a Barsali



(Gallary), an open courtyard, a small temple, Saal (inside rooms), daankhana or diwankhana (living room or baithak), ghumariya (tekhana or basement). These Havelies are usually have 2 or 3 floors with beautifully ornamented inside. For internal ornamentation of these Havelies local & traditional art forms such as Matheran art, usta art and manobat work is used. These Havelis founds a change in their construction pattern with a change in time. Start of British era in India saw a clear impact of British pattern of construction on these Havelies.

- d) Old city of Bikaner is not only having Havelies but also consists of beautiful Jain Jinalaya (Jain temple) & Hindu temples. Amongst Jain temples the oldest one is Sri. Aadinath temple but in respect of art work and ambience, Bhandra Shah temple is the main.
- e) In these Jain temples the most important & outstanding architectural feature is their construction pattern based on Gujarati-Jain form of architecture. At some places we find an impact and combination of Hindu-Muslim form of architecture. For motifs Hindu symbols were used. In most of the Jain temples Gumbad or dome is used to portray the impact of Mughal architectural feature.

Maharaja Rai Singh built the Junagarh Fort. This fort was built on a flat piece of land covered by 30ft wide walls and 20 – 25 ft deep ditches on all sides. The total area of this fort is 1078 Gaj and is covered with strong ramparts & a deep ditch.

Junagarh fort's construction cannot be attributed to any one ruler's efforts rather various rulers contributed in its construction and modification to give Junagarh fort a new & beautiful look. Among various Mahals Anup Mahal, Karan Mahal, Chandra Mahal, Badal Mahal, Gaj Mandir & Vikram Vilas etc. Are included. In almost all the Mahal's local painting style, Usta Kala and Manobat kala has been done. Also, the Indo-Muslim architectural style is used. Lalgarh Palace built by Maharaja Ganga Singh Ji is a unique and beautiful example of Indo-Saracenic style. Fine Jali-Jharokas, open courtyards, Zenana Mahal gives a feel of combination of Hindu-Mughal style of architecture whereas billiard room, swimming pool and bathrooms etc. gives



an impression of Britishers. Chatrees of Bikaner occupies an important place in architecture as these were used as commemorates to various rulers. For construction purpose in almost all the Chatrees the red sand stones were used as key material though white marble was used for the canopy of Maharaja Ganga Singh Ji. A combination of Indo-Muslim architecture is visible in their construction. Floral designs were used to highlight the motifs. For beautification & ornamentation various Hindu deities, *barahmasa* & *raag Mala* were depicted on inner walls of the ceilings. It was a matter of great regret that under such a great monarchy and rulers all the major temples and ponds were constructed by rich & affluent class. Main temples like Ratan Bihari, Rasik Shiromani & Shiv Badi were constructed by the rulers. The planning of Ratan Bihari & Rasik Shiromani temples was almost the same and comprises off high plinths, gallery surrounded by open pillars, open square and courtyard surrounded by pillars, ceiling surrounded on four sides by small Chatrees with a square canopy at the center.

Shiv badi temple gives a look of small fort and has a high plinth with open courtyard surrounded by open pillars and *panch Mukhi* shiv Linga were important architectural features of Shiv Badi temple. It is made of red sand stones and is a very huge & beautiful temple. Contribution made by Maharaja Ganga Singh Ji in construction of a few public & government buildings cannot be ignored. The ground floor area of court is 73,200 sq. ft & the area of its 1st floor is 53,200 sq.ft. We get the information about their area & year of construction in file no. AEN PWD city sub DN III of year 1923 & 1933. It is a matter of great regret that these important buildings do not find a place in any documents in respect to their year of construction.

f) Construction under general or affluent & rich class:

The rich class contributed a lot in the construction of Havelis in the downtown and these Havelies could be traced to every niche & corner of the city, apart from the construction of temples & ponds. These Havelies are made of red stone and their construction pattern is similar in most of the cases. Ornamentation is also similar wherein motifs, jalis & jharokhas and carvings thereon is almost same in all cases. An ordinary Haveli comprises of a Barsali



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In these Jain temples the most important & outstanding architectural feature is their construction pattern based on Gujarati-Jain form of architecture. At some places we find an impact and combination of Hindu-Muslim form of architecture. For motifs Hindu symbols were used. In most of the Jain temples Gumbad or dome is used to portray the impact of Mughal architectural feature.

Hindu temples comprise mainly of Laxmi Narayan temple, Sri.Murunayak temple, Murli Manohar temple & Bade Gopal Ji temple. White marble & stones were widely used in these temple constructions as compared to Jain temples wherein red sand stone & Jaisalmer yellow stone were used in construction. These temples give a look of a huge Haveli with no special architectural features. Most of these temples consists of a large number of pillars. Also found is that the galleries are surrounded by pillars with an open courtyard and Mahrabi art structures to be the important architectural features of these temples.

The construction of most of the ponds in Bikaner is also done by the rich & affluent class. These ponds are fortified by permanent line of stones and the bathing area is also made of permanent stones fixed to the soil. The male & female bathing area has a depth of 10 to 12 ft and was measured by the help of bamboos. These ponds were decorated with beautiful artistic Chatrees. For construction purpose bajri, lime, stone & cement etc. were used.



ARCHITECTURAL STYLE & ORNAMENTAL MOTIFS USED IN ARCHITECTURE OF BIKANER

Unique & foresighted architects & constructors with specialized architecture techniques played a pivotal role in the establishment of Bikaner. Although Bikaner does not have any specialized form of architecture of its own but, comprises of Hindu, Buddhist, Muslim, Indo-Islamic combination of architecture and also found is some impact of British style of architecture. There is a uniformity which could be observed in its architecture used for construction whether it is temples or palaces.

The artists & masons of Bikaner were both Hindu & Muslim, hence we found the impact of both religious architectural features in the constructions of Hindu temples of Bikaner which were constructed like a huge Haveli with complexes & rooms built as per necessity. whereas, in case of Jain temples, regional styles such as Gujarati, Jain (especially in the inner ceilings) and Berman style of architecture (can be seen in Bhandashah temple) was predominant.

As Fort of Junagarh's construction started during Maharaja Rai Singh's tenure, hence it had an impact of Akbar's architectural features but as the time passed the construction of different palaces of Junagarh fort progressed saw a change in its style of architecture and construction, which is evident on the pillars of Anoop Mahal constructed during Shahjahan's period. Vikram Vilas hall is huge, beautiful & luxurious and bears an impact of British art and style of architecture.

On the other hand, Lalgah palace carries an impression of British & Indo-Saracenic art & style of architecture. Billiard room, indoor swimming pool, guest rooms were constructed in British style whereas, use of arches, brackets, carved jalis and small jharokas reminds an amalgamation of Hindu and Islamic style of architecture. Havelis of Bikaner had an impact of combination of Hindu-Muslim form of architecture but also British and Italian style of architecture is also found at a few Havelis as it was the need of the hour. For ornamentation purposes symbols were taken from ancient & traditional Hindu construction. Amongst them were Hamsa, Makara, Kirti Mukha, Mithun, Kamal bel, Manglik shubh chinha etc. Flora and



fauna designs & geometrical designs with minute artistic features were made on Jalis & Jharokhas.

DEVELOPMENT OF ARCHITECTURE IN BIKANER STATE

It is said that the architecture founds its place to Bikaner during the construction of Bhandashah Temple but "*A collection of Bikaner's Jain literature*" clearly specifies that the architecture was introduced much before the Bhandashah Temple, at the time of construction of deities of Sri Adinath Temple. Sri Adinath temple's construction started much later and therefore it could be said that it was the first phase of use of architecture in the constructions of Bikaner.

Before Rao Bika, the construction of Bhandashah temple started and this construction was said to be the pioneer in use of art and architecture in Bikaner with a phased progress over a period of time. The construction of Sri Laxmi Nath temple during the reign of Rao Lun Karan was another link to the growth of architecture in Bikaner. But the architecture of Bikaner has flourished under the rule of Maharaja Rai Singh, when on a mass scale the construction activities started. This was the time when Rajput & Mughal relations were at its best. The influence of Mughal was inevitable and this fact could be corroborated with the architecture initiated at Junagarh fort during Rai Singh. This was a city-based construction activity and was proposed and completed in 5 years. The construction was completed under the able leadership of Minister Karamchand Bacchawat. It was Karamchand who was entrusted to complete the construction work of "Bada Upasara" (meditation/worship place) for Jain followers/preists during Rai Singh.

Construction of Junagarh Fort could not be attributed to any one ruler rather it is a result of various contributions made by almost all the rulers, who contributed in their own way by constructing / making an addition to the Junagarh fort in order to make it stronger & more beautiful. As the construction took place in phases, hence the difference in style of architecture is visible. Unique & incomparable Vaishnav Temples such as Sri Raj ratan Bihari Ji temple built by Maharaja Ratan Singh & Rasik Shiromani temple built by Maharaja Sardar Singh ji



are good example of the phased progress of architecture in Bikaner. Pond Sur Sagar in front of Junagarh fort was built by Maharaja Sur Singhji adds another chapter of progress in the history of architecture. The phased progress of architecture continues and finds its place during the rule of Maharaja Dungar Singh wherein Shiv Bari temple is a good example of architecture. This temple was constructed to give a look of a small fort.

Rulers of Bikaner in order to remember their ancestors and to dedicate the monuments / temples & palaces, influenced by their religion & spiritualism left permanent mark in their constructions which are evident on the Chatrees and it gives a rich look to the architecture of Bikaner. These Chatrees were built of red stones and could be traced from far off place, that it is Bikaner.

Originally the architecture of Bikaner got utmost importance and motivation during the tenure of Maharaja Ganga Singhji and it would not be out of place to mention the fact that during his tenure only the most of the Bikaner's construction activities started. It was a common belief during his tenure that he uses to take a personal interest in all and every construction And because of this reason Bikaner is patronized with modern government buildings constructed during his tenure e.g. Prince Vijay Memorial palace is now converted into Veterinary College, Ervin Assembly Hall now known as Directorate of Education, Bikaner court and Prince George Memorial Hall which is now known as town hall.

Apart from the said Sri Ganga Singh ji also constructed Ganga Niwas Darbar hall & Vikram Vilas in Junagarh fort. Out of all the constructions initiated & completed by Sri Ganga Singh ji the most important was Lalgarh palace built in memory of his father Sri Lal Singh ji. Lalgarh Palace occupies a distinction in its architectural features, style and beautiful ornamentation which is incomparable with its contemporary.

Apart from the contribution from the monarchy in the construction of architectural master pieces a lot has been also contributed by the rich & affluent business community of Bikaner. They contributed by constructing havelis & temples and thus contributed in the architectural development of Bikaner. The business class constructed their homes in the style of huge and



artistic Havelis and these are mesmerizing. Construction of these Havelis gave a unique place to Bikaner in terms of its architecture. Likewise, the Jain Temples constructed by Jain business class adds another arm to its armor of rich & diverse architecture and made it more beautiful. Thus, we can safely conclude that the architecture of Bikaner progressed in phases starting from its various rulers and monarchy to the rich & affluent business class.

MUGHAL & OTHER IMPACT ON ARCHITECTURE OF BIKANER

Prior to 12th century the Rajput style of architecture was prevalent wherein the doors were plain & simple, ceilings were flat and pillars had the beautiful carvings and were made of small, sleek and square stones. The balconies were made as an extension attached to the buildings. Rooms were very large and spacious with a courtyard, but a shift from these architectural features is observed after 12th century wherein buildings have dome like structures attached to them, huge gates, high precincts, broad walls and strong arched terrace, arched doors and a basement in the lower part of the buildings and constructions. These said architectural features are also evident in Bikaner's constructions.

Karan Mahal & Anoop Mahal situated in Junagarh fort have pillars which bears the architectural features prevalent during Aurangzeb and also is found in Karan Mahal the impact of south architecture in its ornamentation as the construction of it is done by Muslims from south. Har Mandir situated in Junagarh fort has images of lotus, parrots, peacock etc. on Hindu pattern on one hand and stars & Mehrabi doors in Lahori style on the other hand. Devi Dwara's temple pillars have an impact of Mughal style. Laxmi Narayan temple's big round dome & entry door in sharp Mehrabi style clearly marks the Mughal style of architecture. As the most of the artisans & masons were Muslim, hence a clear impact of Muslim motifs used for ornamentation of Havelis is quite an evident.

With establishment of British rule architecture of Bikaner founds a new style in its constructions. Havelis & Lalgarh palace built during British rule bears the impact of British architect. Bhairondan Kothari's drawing room in his Haveli is constructed in Roman style. In this Haveli for ornamentation Gothic style arch is used. Bhanwar Lal Rampuriya's courtyard



situated in his Haveli is built in European style. Swimming pool, Billiards room & dining room situated in Lalgarh palace are built on British form of architecture.

CONCLUSION

Bikaner is not only imperative for its magnificent architecture but also significant for the development of different styles of architecture to interpret the profound knowledge of construction work, distinct masons, workers, artisans and of course construction officers. Though the architecture of Bikaner is mostly influenced by Hindu and Mughal architectural style but, it is also very predisposed by local style as majority of the workers were homegrown. The buildings of Bikaner are also eminent to understand the social and traditional customs of the contemporary period through the inscriptions affix on them. With the help of these inscriptions, we can find out the construction year of a particular building and also the owner of the building. Therefore, through the style and construction date we can understand the advancement of architecture in the city.

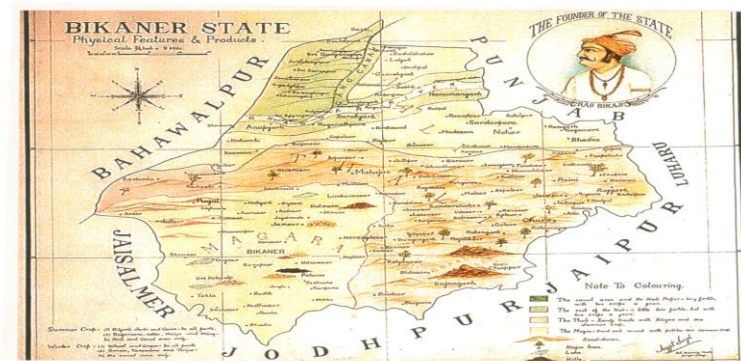


Fig 1 Map of Bikaner State

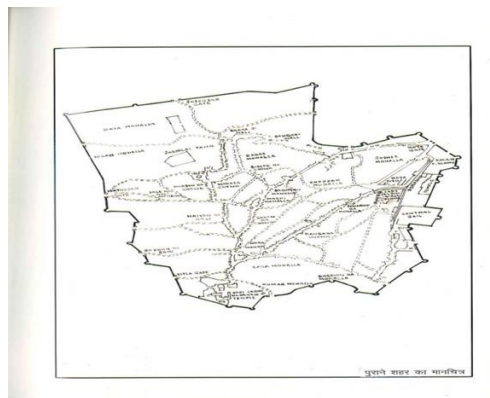


Fig 2 Map of Bikaner



Fig 3 Inner view Juna Garh Fort Jharokhas of Juna Garh Fort



Fig 4 Jharokhas of Juna Garh Fort

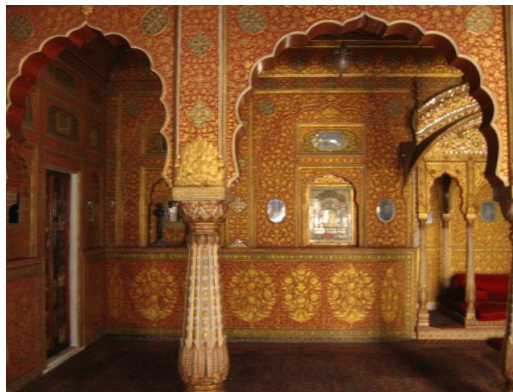


Fig 5 Anoop Mahal



Fig 6 Chhatrees of Bikaner

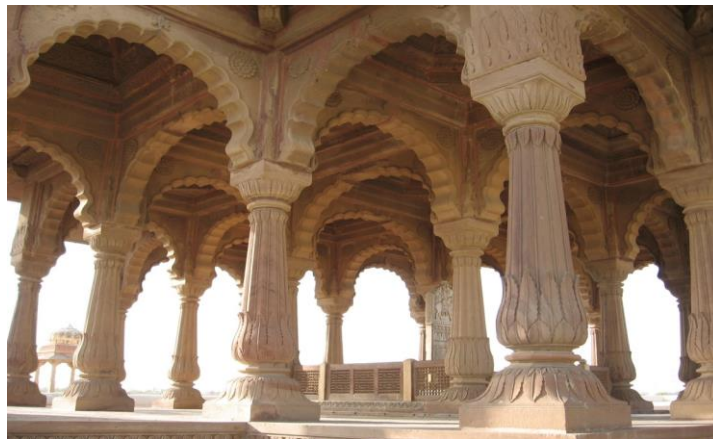


Fig 7 Inner View of Chatrees



Fig 8 Shri Rasik Shiromani Temple



Fig 9 Inner carvings of a chatri



Fig 10 Rampuria Haweli



Fig 11 Stone Carvings at Haveli



Fig 12 Combination of Fresco, Mosaic & Usta Art

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