

EXPLORING THE POSSIBILITIES AND APPROACH TOWARDS CONSERVING THE ARCHITECTURAL HERITAGE

"Palaces of Rai Bahadur Sundar Das Chopra Sundar Mahal"

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Original Article

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Abstract

This research paper represents the approach towards studying and analyzing the conservation strategy and plan for Rai Bahadur Sundar Das Chopra Mahals. These building fabrics act as a symbolically meticulous and serene depiction of heritage and its importance. Aging more than a century and having brick masonry as prime materials of execution with grandeur of historic flare. The building infrastructure was manifested as combination of classical architectural features and elemental systems such as arches, specially designed perforated bricks, parapet walls etc. Hydrated lime, brick surkhi and jute was convergently homogenized in such a way to formulate a strong durable and reliable mortar mixture. This could withstand environmental and climatological diversifications and impacts to a great extent. The original content of these bonding materials is utilized in the execution of these building fabrics, and the same were preferred in the repairing, maintenance and rehabilitation of the structures under discussion. This strategy helped enhance and overwhelmed, the reinforcing capability and aesthetics of the building structures. Utilizing the basic toolkit for architectural heritage conservation and preservation attempts are the engagements and usage of materials for construction, executional techniques and methodologies, finishing and garnishing of the facades and other important features in such a way that an aesthetically pleasing, structurally durable and functionally fluid spatial relationship and configuration is ensured to its excellence. Synergizing the plethora of multifaceted contextual derivatives and converging it to the funnel of targeted space program would explicitly evocate the "Genius Loci" portraying the historical layering processes for a physical fabric system.

Keywords: Historic flare, Plethora, Synergizing, Homogenized, Classical architectural features, symbolically meticulous, functionally fluid, spatial relationship, Genius Loci, historical layering, explicitly evocate, rehabilitation

INTRODUCTION

The city of Gujrat is located in Punjab province of Pakistan. It has been one of the oldest cities of the sub-continent and the 21st most populous city of the Islamic Republic of Pakistan. The city of Gujrat is famous for its enormous economic activities across Pakistan. This famous city is situated at the center of great ancient civilization where Alexander the great was defeated. In addition, the

city of Gujrat has the grandeur of possessing the glorious past along- with rich social, economic and cultural history and traditions.

Rai Bahadur Sundar Das Chopra was a contractor before the Indo-Pak partition. He has built the Sundar Mahal (Dinga), Ram Pyari Mahal (Gujrat) and Kidaar Nath Mahal (Gujarat). He was one and only contractor in the sub-continent who worked like an architect and built the master pieces in the district Gujrat. His buildings are preserved and being used and it produces a wonderful site that attracts every eye and presents a fascinating and scenic view for common people in general for the specialist in the discipline of Architecture in particular (Vakharia, & Bhagat, 2020). Khan Bahadur remained one of most esteemed and fearful personality in this area, and was a popularly known zamendar of gujrat.

SUNDAR MAHAL

It is in the south-west of in Dinga city. The construction of Mahal was started in 1914 and completed in 1918. After partition the mahal was assigned to Ret.Cpt. Ch Abdul Hameed. The Mahal comprises the area of 226000 sq.ft., which also constitutes a Summer Mahal and a guest house. The owner of the Mahal is Rao Sajid Jahangir now, the grandson of Chaudhary Abdul Hameed (Nevile, 2006).

RAM PYARI MAHAL

Ram Pyari Mahal (majestic building in Gujrat. The building was utilized as a hostel of Govt College for Women Gujrat and later, it was handed over to the Punjab Archaeology Department for renovation and converted into a museum.



Fig A: Ram Pyari Mahal

PALACES OF RAI BAHADUR SUNDAR DAS CHOPRA

Rai Bahadur Sundar das Chopra was a contractor before the Indo-Pak partition. He built Sundar mahal in district Dinga Punjab Pakistan and Ram Pyari mahal Gujrat in the same province and country. As there were two buildings as option but in this research, Sundar Mahal has been selected because the main object of this research is to explore the Sundar mahal's architecture.

SUNDAR MAHAL

LOCATION

It is in the south-west of Dinga city. The construction of mahal was started in 1914 and completed in 1918. After partition the mahal was assigned to Ret. Cpt. Chaudhary Abdul Hameed.



Fig B: Sundar Mahal

ARCHITECTURE

The Mahal comprises the area of 2, 26, 000 Sq.ft. This also constitutes a summer Mahal and a guest house. The owner of the Mahal is Rao Sajid Jahangir now, the grandson of Ch. Abdul Hameed. If we talk about the outlook of the Mahal, its heights are the main purpose of gaining the attention of the public. The height of this Mahal attracts people because these heights give a royal look. This is a thing of honor and an achievement that he worked on colonial architecture and golden ratio. When the Mahal was built it was comprising on 2,26,000 Sq. ft of area but later with the passage of time its neighbors illegally possessed some pieces of land of this Mahal which minimized the landscape area of the Mahal (Singh, 2011; Binoy, 2011).



Fig C: Main (West) Entrance of the Building

It is for seen in the architectural style of Sundar mahal that the palace is comprises of maleficent features of late colonial and bit glimpse of Mughal time period. The building has central monumental entrance. Point arches have been used at openings and massive foundation and columns have been used. We can also see Jaali work at its entrance and the on corridor above the entrance. The columns used in the buildings are neither ionic nor Doric in fact the constructor (Rai Bahadur) built self-designed

columns. He also designed the windows of the building which shows the influence of Mughal Architecture. The palace has four entrances which has enormously welcoming feelings. Out of these entrances east entrance has been shown above in the picture (Feilden, 2007; Powys, 981).



Fig D: The Entrance vault to the West

On the front of this vault the arch is semicircular, and the point arches are made on both sides. A podium is also made on this side entrance. The vault is covered by the gabled roof and clearly depicts the colonial style which was tailing the architectural style of late architect Andréa Palladio.

The entrance seemingly has the typical and traditional anatomy of late Mughal period. Use of precast concrete fabrics can also be seen in the parapet wall of balcony. Thin pillars are used here in the balcony. There is a significant difference in the lower parapet of lower balcony and upper terrace. The design of wall is also different, and columns are also thin. These things make this part different from all other parts of the building.



Fig F: Entrance to the North

Same as all other entrances this entrance also has been designed properly and whitewashed also. The entrance to the north has its own dramatic closure, which entertains the visitors with pleasure of joy and also give the owner a privacy stunt (Ayub, Ali, Shahzada, Nasee, & Shoaib, 2013).



Fig E: The entrance to the South

The palace is the home of abundant windows which are the major light source as well as a great aesthetic content. The square profile buttresses gave strength to the building and itself a beautiful architectural element. The steel grill on the windows gives the safety to the building and the grill design is also adopted from the colonial style. The windows are made up of the deodar (Borri, & Corradi, 2019).



Fig G: Windows detail

ARCHITECTURAL ELEMENTS

- Pointed arches
- Geometrical floral patterns
- Geometrical shapes for elevation
- Blind arches
- Cylindrical vertical access
- Small vents
- Precast concrete balusters
- Precast concrete fabric panels

MATERIALS

- Red bricks (Local material)
- Limestone
- Surkhi
- Jute
- Deodar wood
- Glass
- Steel

FEATURES

Fig H- Ornament by Sundar



Fig I- Blind Arch



Fig J- Geometrical Patterns



Fig K- Cylinder shape (stairs)

REHABILITATION OF HISTORIC BUILDINGS

The conservation as well as rehabilitation and restoration of famous heritage buildings remain a highly difficult and complex exercise. It usually requires a highly skilled and technical manpower with rich experience in the field of rehabilitating and restoring heritage buildings. It is a sensitive operation and small mistake or negligence in its implementation could result in endangering the buildings and create threats for human life. The restoration, conservation and rehabilitation of Sundar Mahal also require similar complex processes and delicacy. The primary objectives of conservation of this marvelous historical building were to preserve and reveal its aesthetic and historical worth of and to reinstate the original make-up and historical outlook of the building. The procedure of rehabilitation was based upon the rehabilitation and restoration principles of an ancient building as explained by (Dewi, 2017; Bidwell, 1977). For this purpose, a technical survey was first conducted to analyze the defects/weakness in the building and to recommend different strategies for the rehabilitation of this historical and classical building of British Era. During survey the following observations were made:

1. The seepage is on some walls.
2. The parapet walls were cracked and tilted causing potential instability to the structure.
3. The building is damaged to make a hole for window ac.
4. Paint on entrance hall is damaged
5. The old guest house of Mahal is being used in the form of electric shops.
6. Fencing along the landscape is not well maintained
7. Original landscape is demolished
8. The dome on the cylindrical staircase is cracked.

REHABILITATION

Conservation is a complex task and prior to its start the all the aspects of the process should be given proper consideration, such as photography of all elements, in order to preserve the sacredness and novelty of the building. Usually, photography has been used as a prominent technique for the conservation of historical and heritage buildings (Bidwell, 1977). This study found that these heritage buildings were originally constructed from bricks of baked nature, hydrated lime, Surkhi (local terminology of powder of baked brick) and Jute used mostly as a

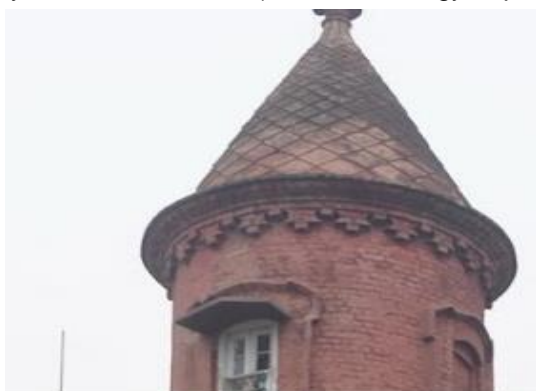


Fig L

connecting and bonding material. Further, it was revealed that lime (mortar) is used as old application for construction in heritage buildings. It was mostly utilized for bonding the different masonry units. In different parts around the world, lime mortar has been used because of its utility and efficiency (Knight, 1995). The deteriorated shape of dome on staircase is shown herewith in figure-12, which is a brilliant example of such architectural designs.

The photographic technique must be practiced in order restore/rehabilitate the original esthetical



Fig M

look/appearance of parapet walls. The tilted and cracked parapet walls must be removed with proper care so that the bricks may be reused. The same mortar mentioned in the above was also used in the construction of parapet walls in most heritage buildings across the world and particularly in the sub-continent. The conservation and restoration of parapet walls thus results in improving its overall strength. In this way, the conservation of heritage building like Sundar Mahal should be done with care as it is mentioned as one of the principle / methods by paper of Knight, J. "The repair of historic building

in Scotland: Advice on principles and methods, Section 4.7" (Knight J).

The building is also worsely damaged because of presence of rainwater drain through pipes directly on the ground right and front of main entrance. The consequences of such enormous soaking due to rainwater and massive amount of water being used for irrigating the grounds, flowers and bushes created several cracks in the building due to stress concentration in the arches and settlement of the foundations. The damaged part of building should be demolished with care so that the old bricks can be used again. The similar composition of mortar should prepare and used in the reconstruction of building to restore its originality (Crocì, 1998).



Figure N

For keeping the foundation of the building solid, dry, and sustainable a concrete capillary cut of wall all around the building should be constructed at 5 feet and at a depth of below foundation level. Thus, other parts of building rehabilitation should be carried on same method using old bricks and same material as building if possible.

CONCLUSION

The building design is the mixture of British colonial style and Mughal style architecture which is still giving the royal look to viewers and the thick brick walls are environmentally friendly and resist the sun heat in summer. Blind arches were constructed to balance the elevation of the mahal, and the heights are derived from the golden ratio. Use of the carved wood gives the traditional look to the building. The jaali work and the Precast fabrics are also having the unique look.

1. As is clear from the building pictures, the methodology of conservation based on photography, was the best approach for the conservation of different heritage buildings.
2. The technique used in this preservation work is cost effective since original bricks will be reused in restoration process.
3. The restoration and rehabilitation exercise will also expand the useful life of such buildings.
4. Besides creating an improvement in aesthetic outlook of the building, the conservation process has also strengthened the overall structure of this historical building.
5. Further, the construction and maintenance of concrete capillary cut of wall also helps in keeping the foundation of a building dry and thus resulting in prevention of soaking of foundation which is helpful for preventing further decline and deterioration.

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