



International Conference – Alternative and Renewable Energy Quest, AREQ 2017, 1-3 February 2017, Spain

# Rejuvenating a Space into World Class Environment through Potential Conservation and Energy Saving Techniques

Abhimanyu Sharma\*

*Assistant Professor, Department of Architecture & Landscape Design, Shri Mata Vaishno Devi University, Katra, J&K, India.*

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## Abstract

Cultural heritage is the gift of corporeal artifacts and insubstantial attributes of a group or society that are inherited from previous generations, sustained in the present and bestowed for the benefit of future generations. Jammu, the city of temples has a very strong history behind its origin. It is ruled by many leaders who had given their immense contributions in heritage and cultural monuments. The paper presents on one of the important heritage building of Jammu city i.e. Mubarak Mandi, which was the Royal Palace of Maharaja of J&K. The historical background, need of this case study, the Architectural characteristics, details and construction technology of buildings in this campus is enlightened. All effort is done for grading of heritage buildings by effective protection, conservation and energy saving techniques of this heritage monuments.

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Peer-review under responsibility of the organizing committee of AREQ 2017.

*Keywords:* Heritage Architecture; conservation; energy saving techniques; passive cooling; vernacularism.

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## 1. Introduction

The state of Jammu and Kashmir resides three regions: - Jammu, Kashmir Valley and Ladakh. Jammu, the winter capital of the state has a precious and splendid cultural heritage in the structures like palaces, temples and forts. In this regard, Mubarak Mandi complex, the Royal habitation of the Maharaja of Jammu and Kashmir has been considered as the crown of Jammu city. The Mubarak Mandi complex constructed in the past has marvelous Architectural, historical, political, social and economic values.

During 19<sup>th</sup> and 20<sup>th</sup> century, the Mubarak Mandi complex embrace of the Royal Palace and Secretariat of the Dogra Rulers. The whole campus was designed in an area of 12.5 acres and in today's time, the complex is in highly decrepit condition, needs proper and immediate restoration and conservation.

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\* Corresponding Author: Tel: +91-9796-0790-46  
Email Address: [abhimanyu.sharma@smvdu.ac.in](mailto:abhimanyu.sharma@smvdu.ac.in)

The Ruler of Jammu i.e. Maharaja Hari Singh shifted his residence from Mubarak Mandi to Hari Niwas Palace. After shifting, the complex was handed to Secretariat and Royal court by the Jammu King and after 1949 (after independence), it was further taken over by J&K Government for various departments and agencies.

The construction of Mubarak Mandi complex started in 1710 by Raja Dhruv Dev Singh (King of Jammu) on a hillock overseeing River Tawi on the eastern side. With the due course of time, the successive Maharajas started inculcating their own choice of design and features in the complex. As a result, whole complex took nearly 150 years to complete. The Architecture of the buildings in the complex includes the site planning, façade treatments and the construction details are mixture and merger of Rajasthani Architecture, European Baroque with Mughal styles. This 12.5 acres of Mubarak Mandi campus is further divided into different zones as shown in the site plan. Many courtyards were grouped around several buildings and palaces like Royal Court Building, The Pink Palace, Gol Ghar Complex, The Darbar Hall Complex, Hawa Mahal, Sheesh Mahal, Rani Charak Palace and Toshakhane Palace.



Fig. 1. (a) View of Mubarak Mandi Campus; (b) Front Façade of Army head Quarter

The Aesthetics and Architectural features of Mubarak Mandi is distinct from the cultural heritage of Ladakh and Kashmir region in the state. The complex is personification and epithet of Dogra Art and Architecture, needs to be highlighted at national regional level as it is having high and strong historical Architectural values.

Presently, the buildings of Mubarak Mandi complex are in the state of neglect as no attention is being given by the state government and even by Archeological department of India. The deteriorated condition of the buildings range from stable to highly unstable including the total collapse of structure at many places. The above stage of the complex is attained due to numerous reasons like neglect, lack of proper maintenance, insensitive and improper additions with due course of time, earthquake, wind storms etc., all the influences have resulted in the worsened condition of the buildings including its strength and stability.

## 2. Location

The Royal palace i.e. Mubarak Mandi complex is located on a hillock in the heart of Jammu city and on the bank of River Tawi. This 12.5 acres of heritage site is surrounded by old Jammu city from all sides except the eastern side i.e. the bank of River Tawi which invites immense light and ventilation to whole of the campus with the backdrop of Bahu Fort Mountain. Mubarak Mandi is located at a distance of 9 km from Jammu airport, 7 km from railway station and 4 km from Jammu bus stand. The campus is lying on longitude and latitude of 32°43'39.43" N and 74°51'24.61" respectively.

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