



“Conservation and reinforcement of Malik Mughith Mosque”

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Abstract: -

Preserving the built heritage and conserving the local traditional and cultural values of communities for upcoming generations present a huge challenge for developers, architects, and professional education programs which are responsible for preparing the courses concentrated on heritage conservation aspects, learning respectful aware design with cultural context, and educate graduates in planning, design, and implementation of conservation projects. Archaeological sites and monuments, by their nature, don't permit major interventions to their structure, so as to get rid of the obstacles that create them inaccessible.



Any interventions ought to be created sensitively and thoroughly, thus as to not alter the monument's character or harm it, either visually or structurally. This research project “Techniques and ways to preserve age long monuments” centred on making a technique for facing monuments accessibility and physical property issues and testing its application in the leader Mughith house of prayer.

This research work deals with the reinforcement techniques to provide the strength and maintain the Archaeological existence of the Malik Mughis Masjid an age long monument situated in Mandu or Mandavgad which is an attraction point of tourists in present-day located in Mandav area of the Dhar district in Madhya Pradesh. It comes in the Malwa region of western Madhya Pradesh, India, which is at 35 km from the Dhar city.

The research work have been made under the guidance of various government and technical bodies to have the precise results in the maintenance of the deformed condition of Malik mughith masjid and to resist the upcoming deformation for various years. This monument comes under Archaeological survey of India which is a government body working under cultural ministry for the researches on ancient monument and Archaeological locations to conserve and protect the cultural heritage of the country so the study is carried out under the surveillance and guidance of Archaeological survey of India officials.

Keywords: -*Monuments, Culture, Environment, Pollution.*

Introduction

The history of archaeology in India started in the early sixteenth century and this history involves three groups of people, namely Portuguese residents of Goa, European sailors and occasional travellers. Principally, two categories of monuments are coped with during this phase: the rock-cut caves of west India and the south Indian temples. The formal beginning of Indian archaeology started in middle of the eighteenth century, when academic interest in the Indian antiquities began.



India has a rich culture and heritage which constitutes as repository in archaeological treasures and incredible monuments. This cultural history belonging to India has witnessed of heritage monuments stem and root from an ancient past of unique civilization. The Taj Mahal, Agra Fort and the Konark Sun Temple, Fatehpur Sikri in Agra, Mahabalipuram Monuments, Khajuraho Temples, Thanjavur, as well as the caves of Elephanta, Ellora and Ajanta are some of the monuments which are officially declared as World Heritage Monuments. These monuments enable us to be the part of ancient history by going through their literatures and creativity they have with them. An architectural monument demonstrates the culture and heritage of the nation which belongs to it from the past years making us uniquely different from the other countries of the world.

In India each state has its own tourism and archaeological department which looks after the monuments and tourism promotional activities. The monuments present in India are a great source of income to the country as they attract foreign peoples and domestic peoples to visit and see the culture of India. Most of the foreigners visit India to study the culture and heritage of India. In India Archaeological survey of India is a government body which looks after the preservation of monuments present in state region. Some of the monuments in India are under continuous deteriorating stage which requires maintenance and preservation.

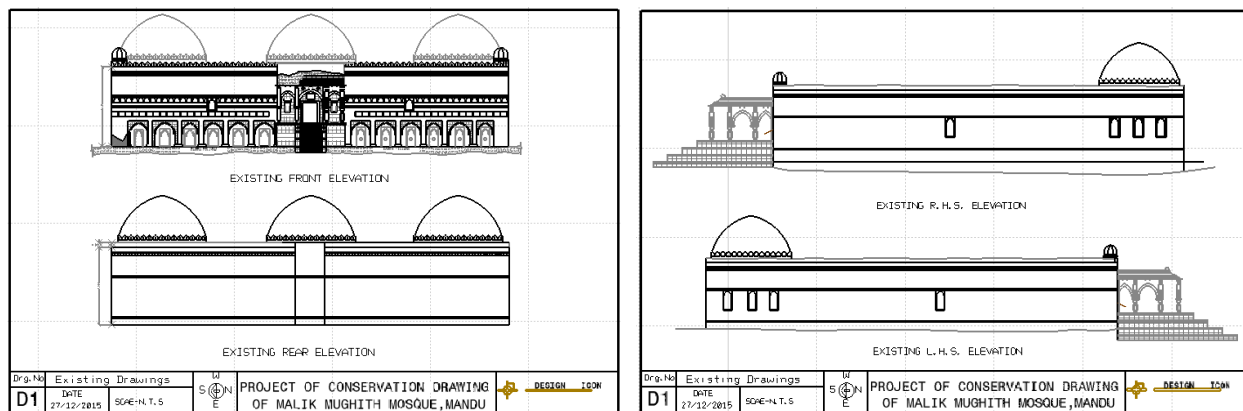


Fig. 1 Drawing of Existing Elevation and Side Views

Methodology

During the visit of the site, it was that the conservation work will start as early as can after the essential Macro Survey of the Standing Structures Drawing and the Photo documentation along with the its general techniques. Every structural member needs to be treated before the work commenced. It will be propped effectively for the transmission of the structure's superimposed load and extra consideration will give towards the scaffolding and Formwork, etc. There is a need to perform following tasks at the monument, depending on the Principles, Methods and Ethics of Monuments and Site Conservation consisting Conservation on Monuments & Sites and Historical Archaeological Research.

1. Till date, there is no such initiative such as monument's structural stability test have been conducted for investigation of the monuments and its stability that consists of some different studies may have been conducted as the Mandav Monument are built



- from the stone masonry. It is extremely necessary to conduct sound assessment and diagnosis of structural behaviour in Lime Mortar before any permanent intervention.
2. To determine the conservation of monuments, the detailed drawing and photo documentation of the monuments according to the departments.
 3. The cracks and fissures have defaced the surface of the majority of the columns. As a result of which, it was decided the same with Epoxy Resin having lengthy initial setting time ex. Sikadur 51 or any of the other product having power to penetrate up to the stone's core or the crack's depth. It will be followed by the stone surface strengthening by inserting some extra stone pieces who matches the original one with the help of same fabric consisting uses of Stainless steel fastener.
 4. The big majority of the beams have cracks and even, some of them have numerous ones. At the state period, the conservators have offered mild steel equal angles at the bottom of the bottoms due to which the structure didn't fall down. However, these angles have cloven from the beam's edges at the bottom corners stated to see the dangerous conditions of the beams. For that reason, it was decided that it will be conserved in situ with the minimal intervention with the help of the methodology of reinforcing the beams by the Stainless steel bars or the already stressed wire ropes that uses the proper mixture of ex. Sika Epoxy sealant or any other brand, that can be used for joint.
 5. The entire live and dead loads of the building are carried by the columns. At the present time, it can be seen that the majority of the columns doesn't look like they will be able to bear the monument's entire load. These columns have transferred to the foundation/floor so that it will lead to build up the columns same as the beams with the use of correct mixture Sika Epoxy sealant any other brand that can be used for the joints by the same technique. After a detailed drawing and structural design, it is decided to use 24 mm Stainless Steel threaded rod for the reinforcement of the columns.
 6. The conservation of the column capitals located in situ is an another biting issue and it was determined that to use the same module as implemented at the beams and columns or by the capitals mending
 7. During the site visit, it was reported that a massive thrust is given to all the Structural members connected in X-Y direction due to lack of arrangement in the North South direction and the central portion's roof slab sudden fall. This issue will be kept in view when the first phase work gets completed.
 8. There will be requirement of some special tools and equipment's to complete the monument's special repair work. The provisions for that have been included in the estimate.
 9. Various Detailed Drawings were prepared in order to get the exact idea of the condition of the monument.
 10. Various Equipments and Skilled Labour were employed for the completion of the task.
 11. Structural Engineers are also appointed to help the working people with structural reinforcement knowledge and to carry out the task in the better way.
 12. Pictures of the Schematic Work were captured to maintain the record of work and estimation of the work.

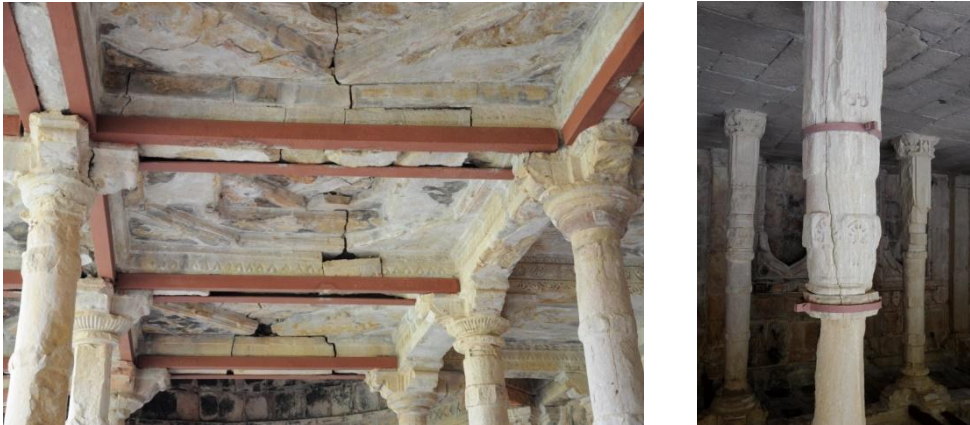


Fig. 2 Existing Condition of the roof and Columns before Reinforcement

Schematic Images of the reinforcement work Carried out to conserve the Malik Mughith Mosque Monument are shown below:



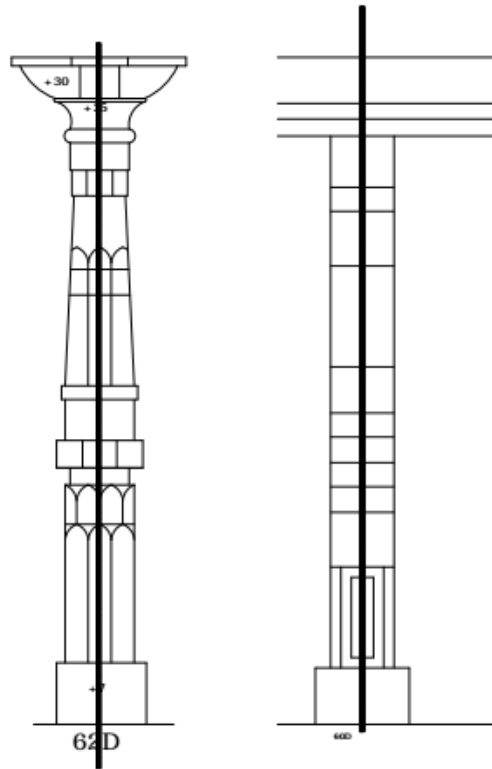


Fig.3 Representation of the threaded rod from the centre of the pillar to bear the live and dead load of the building

Conclusion

From The above preservation and reinforcing techniques it is very clear that the condition monument of the monument is restored for hundreds of years as the whole process was done after studying various literatures of monuments and the techniques used was experimentally and analytically checked to have the suitable outcome. For the Reinforcement of the column after the structural study 24mm rod is found to be suitable for sustaining the Live and Dead load of the monument.

The whole project was conducted under the surveillance and invigilation of Archaeological survey of India. The monument Malik Mughith mosque comes under the conservation program of Archaeological survey of India and it is a punishable crime if someone tries to damage the condition of the monument. Such Studies to preserve the ancient monuments can maintain the age long rich and ancient heritage of India. All the members involved in this played the important role to prevent the deteriorating condition of Malik Mughith mosque.

Hence an environment friendly and pollution free technique is used in the conservation of Malik Mughith Mosque Monument.



Reference

1. Kamalakar G. and SreelathaRao (1996), 'Mechanisms of Weathering by Lime Wash on Granite Surfaces – A In-Depth Study', Conservation of Cultural Property in India, IASC, New Delhi, Vol.29, pp.237-241.
2. Kasthurba A.K. (2006), 'Characteristics and Weathering Mechanisms of Laterite for Building Purposes from Malabar Region, Kerala, India'- Published thesis, pp.130-135.
3. Kumar V. Anuradha (2001), 'Conservation of Building Stones', INTACH, Indian Council of Conservation Institutes, Lucknow and Sundeeep Prakashan, New Delhi.
4. Lal B.B. (1985), 'Weathering and Disintegration of Stone Monuments', V International Congress on Deterioration and Conservation of Stone, Lausanne, pp.213-222.
5. Agarwal O.P. (1986), 'Background Note on Effect of Atmospheric Pollution on Monuments', Effect of Atmospheric Pollution on Monuments, Agarwal O.P. (ed.), Lucknow, pp.5-9.
6. Fielden M. Bernard (1982), 'Conservation of Historic Buildings', Butterworth Scientific, London, pp.4-15.
7. Mishra A.K., Jain K. Kamal and Nair M.V. (1991), 'Bio-Analytical Methods for Stone Conservators', Conservation of Cultural Property in India, IASC, New Delhi, Silver Jubilee Volume, pp.53-68.
8. Tandon B.N. (1989), 'Bio-Deterioration of Khajuraho Group of Temples – A Scientific Study on and the Remedial Measures', Bio-Deterioration of Cultural Property, Agarwal O.P. and Dhawan S.(eds.), pp.259-272.
9. Sharma R.K. (1996), 'Metasomatic Action of Ammonium Oxalate on Marble Surface', Conservation of Cultural Property in India, Vol.29, pp.39-45.
10. Sharma R.K., Gupta H.O. and Maiti S. (1997), 'Conservation Problems of Stone in Indian Monuments as a Function of Building Designs and Functional Environment', Conservation of Cultural Property in India, IASC, New Delhi, Vol.30, pp.85-93.
11. Singh, Jain K. Kamal and Tej Singh (1995), 'Evaluation of Organosilanes for the Consolidation of Stone', Conservation, Preservation and Restoration Traditions, Trends and Techniques, Kamalakar G. and Pandit Rao V. (eds.), Birla Archaeological and Cultural Research Institute, Hyderabad, pp.213-216.
12. Srinivasan C.R. (1979), 'Kanchipuram Through the Ages', Agam Kala Prakashan, Delhi, pp.59-79.
13. Srinivasan K.R. (1964), 'Cave Temples of the Pallavas', Architectural Survey of Temples-No.1, Published by Director General of Archaeology in India, New Delhi, pp.5-112.
14. Srinivasan K.R. (1971), 'Temples of South India', National Book Trust, New Delhi, pp.35-105.
15. Srinivasan K.R. (1975), 'Temples of Later Pallavas - Studies in Indian Temple Architecture', American Institute of Indian Studies, New Delhi, pp.199-237.



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