

Challenges and Issues with Historic Building Conservation

Ar.Sridevi.K – II Year, M. Arch.,
PMIST, Thanjavur.

*Department of architecture faculty of
architecture and planning
Periyar maniammai institute of science &
technology, vallam, thanjavur
Thanjavur, India
email : srid06@gmail.com*

Ar. Kavitha.V.S. – Associate professor,
PMIST, Thanjavur.

*Department of architecture faculty of
architecture and planning
Periyar maniammai institute of science &
technology, vallam, thanjavur
Thanjavur, India
email : kavitha@pmu.edu*

Abstract— The process of conservation for historic buildings is frequently complicated by number of issues. This research examines the issues and challenges that historic buildings face. The research lays out small case studies that were carried out in Thanjavur to determine the serious issues faced by conservators during the execution of conservation techniques. A survey of the literature and a case study of few structures are done to identify the issues. Some of the identified issues include environmental, financial, lack of priority, and human issues. According to the research conclusions, the biggest obstacles to conservation initiatives are financial issues, environmental issues, and a lack of attention paid to historic structures.

Keywords - *Conservation, Challenges in conservation, Historic building conservation, Conservation issues.*

I. INTRODUCTION

The only true connection one may make to history is through a few buildings from the past that are now referred to as "Heritage Buildings. With historical records going back at least three thousand years, the temples and historic building are at the very heart of Tamil culture and tradition.

The Archaeological Survey of India only took up the conservation of a small number of the structures that the government had designated as being of national importance, leaving the majority "unprotected." is that heritage buildings have a significant potential to create income, despite the fact that it is debatable whether it is feasible to conserve every structure erected in the past.

II. CONSERVATION

A. Conservation

The act or process of conserving, preserving or restoring from loss, damage, or neglect. The careful utilization of a resource in order to prevent depletion, also an act or process by which the durability is prolonged. Architectural conservation describes the process through which the material, historical, and design integrity of any built heritage are prolonged through carefully planned interventions. It is the act of conserving or keeping from change, loss, injury, etc. It explores the background and current status of the efforts undertaken to ensure the survival of rich architectural legacy. The individual engaged in the pursuit of conservation is known as an architectural conservator – restorer. [1]

B. Preservation

It means and includes maintaining the fabric of a place in its existing state and retarding deterioration. It is recognized that all places and their elements change over time at varying rates. [2]

C. Restoration

It means and includes returning the existing fabric of a place to a known earlier state by removing accretions or by reassembling existing components without introducing new materials. [3]



Fig 1 : Restoration

Source: https://sist.sathyabama.ac.in/sist_coursematerial

It means and includes returning a place as nearly as possible to a known earlier state and distinguished by the introduction of materials (new or old) into the fabric. New material may include recycled material salvaged from other places. This should not be to the detriment of any place of cultural significance. This shall not include either recreation or conjectural reconstruction. [4]



*Fig 2 : The reconstructed Jamestown Church, Jamestown,
Source: https://sist.sathyabama.ac.in/sist_coursematerial*

D. Revitalization

A process of economic, social and cultural redevelopment of a civic area or neighbourhood. Heritage area revitalization concentrates on historic buildings and other heritage resources to achieve economic, social and cultural objectives. [5]

E. Rehabilitation

It is usually carried out in order to extend a building's life and/or its economic viability. It may involve more adaptation than conservation, but will still preserve most of the building's original features. It may involve upgrading, some modification, remodelling, rebuilding or retrofitting, and some repairs. [6]

F. Renovation

Renovation is refurbishing and/or adding to the appearance of an original building or elements of a building in an attempt to "renew" its appearance in keeping with contemporary tastes and perceptions of conservation. Renovation means also to improve by repair, to revive, and thereby enhance the usefulness and appearance of the building. The basic character and significant features are respected and preserved, but some alterations may take place which are generally reversible. [7]



Fig 3 : Renovation of Palace

Source: https://sist.sathyabama.ac.in/sist_coursematerial

G. Adaptation

It means changing a place to suit the existing use or a proposed use [8]

III. CONSIDERATIONS FOR CASE STUDIES

The buildings that were conserved were historically significant and exhibited certain historical characteristics.

A. Methodologies For Case Study

- Questionnaire from conservators.
- Observed data from the case study.

To understand the methods and techniques followed by conservation and the issues faced by conservators.

B. Case Studies

- Case 1 – Old Collector Office, Thanjavur
- Case 2 –Brihadeeswarar Temple, Thanjavur
- Case 3 – Ranee’s Tower, Thanjavur

1. Old Collector Office, Thanjavur, Tamilnadu.

- Location: Thanjavur, Tamil Nadu.
- Year: Completed - 1896.
- Architectural Style: Indo-Saracenic architecture.



Fig 4 : Old Collector Office(Author)

Architecture significance:

- An impressive colonial building that was built in Indo-Saracenic architecture.
- This style was widely popularized by the British architect Robert Chisholm.
- Who had built a number of structures blending Indian elements with European features in Madras (Chennai)? The Senate building, Univ. of Madras, Presidency College, Chepauk Palace, etc.

Building condition and problem:

- Vegetation growth, dampness due to seepage from toilet blocks, new additions of masonry walls were some of the issues observed on site.
- Ageing is the primary cause. Previously many telecommunications were housed on the terrace and above the domes, The rods got eventually rusted and minor damages were caused when these were removed during the initial stages of conservation work.
- There were minor cracks caused due to vegetation. Biological growth of algae and fungi were also observed at some places.
- Dampness and lack of maintenance were the major cause for vegetation growth.



Fig 5 : Old Collector Office(Author)

The process of conservation:

- Granite flooring was installed immediately over the original stone flooring.
- The existing stone flooring covered with granites.

- For further expansions of bathrooms, storage rooms, etc., cement mortar was employed during the earlier renovation procedure.
- Thus the reason the government asked the conservators to continue the same cement in restoration work.
- The entire wall has now been insensitively painted with red emulsion and it's the decision of the collector and government.
- Additions such as toilet, partition, and masonry walls as a part of additional work.

Issues and challenges:

- Lack of Financial Support.
- Lack of Priority.
- Lack of Technical Knowledge.

Lack of financial support:

- As a part of the smart city project initiated by Thanjavur Corporation in 2014, the conservation work of Old Collectorate building, Ranee's Tower, Raja's Hospital, Palace complex was planned and executed.
- A budget of 42 crores was originally proposed and sanctioned but was later reduced to 9 crores.
- Due to the unpredictable nature of conservation work, the final cost of conservation projects is often difficult to ascertain.
- It is almost impossible to predict a correct market price for a product that is not built, with labour force not yet recruited, on a site for which there is incomplete information.

Lack of priority:

- The Administrative building is given little priority.
- The conservators confined all major repair and restoration operations due to a tight budget.

Threats:

- Society is not keen on conservation.
- Majority are driven towards new development.
- New developments have superseded the old.

Solutions:

- Elaborate on public awareness.

CASE STUDY -2

2. Brihadeeswarar Temple, Thanjavur, Tamilnadu.

- Location: Thanjavur, Tamil Nadu.
- Year: Completed - 1010

- Architectural Style: Dravidian Architecture



Fig 6 : Brihadeeswarar Temple (Author)

Architectural significance:

- The king Raja Raja Cholan built the temple after his visit to Sri Lanka.
- The king was inspired after witnessing the Vedic structures built by the Hindu kings.
- The temple tower is the tallest one in the world which is 216 feet high [66m].
- The temple has Fortified walls that were probably added in the 16th century.
- Vimana is the structure over the garbhagriha or inner sanctum in the Hindu temples. [Temple tower] 66 m high with 14 storey.
- Temple built by interlocking stone and not by binding them.
- The kumbam (bulbous structure on the top) of the temple is carved out of a single rock and weighs around 80 tons.

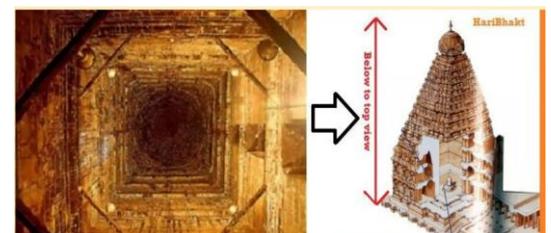


Fig 7 : Brihadeeswarar Temple (Author)

Source: <https://funalive.com/articlesbrihadeeshwara-temple->

Conservation processed by ASI:

- The main Vimana, Keralanthagan Gopuram and other smaller Vimanas of this great temple affected by microbiological growth, bird droppings, dust, dirt and soot etc. have been taken up for scientific conservation measures.
- The exterior surfaces of some of these structures have been subjected to mechanical and chemical cleaning, using a mixture of ammonia solution and

non-ionic liquid detergent solution (3:1) in water, followed by the application of sodium pentachlorophenate solution (2%) in water as fungicide.

- All repairs have been carried out using only traditional materials and techniques.
- The Archaeological Survey of India has conducted routine inspections and simultaneously corrected the problems.

Issues and challenges:



Fig 8 : Brihadeeswarar Temple fortified wall (Author)

Environmental pressure:

- The outer fortification and the moat of the Sivaganga Little Fort is presently with the Thanjavur Municipality.
- The rank vegetation growth is seen all over the fortification wall and the walls have fallen in some areas.
- This adversely affects the ancient ambience of the temple complex.
- The heavy vehicular movements around the temple cause vibration and also air pollution which in course of time will affect the property.
- Impact of urbanization/illegal construction, increase in vehicular movement in general may affect the property.
- The advisory board will be approached for diverting the vehicular traffic around the property.

CASE STUDY -3

3. Ranee’s Tower in Thanjavur, Tamil Nadu.

- Location: Thanjavur, Tamil Nadu.
Year: Completed – 1833
- Architectural Style: Indo- European Style



Fig 9 : Ranee’s Tower (Author)

Architectural Significance:

- The heritage building, Ranee’s (Rani’s) clock tower a red painted slender octagonal brick building roughly as tall as a 8 story structure
- Adjacent to old bus stand at the busy intersection of Gandhi Road and Hospital road is a valuable heritage.
- Its green coloured wooden ornate projecting balconies with a nice roof on all four sides overlooking the roads.
- There is a spiral stairway with railing inside the tower through which those balconies could be accessed.
- The entrance doorway is on the east side at the base of the tower abetting the Gandhiji road. In particular, those wooden balconies perching close to the top need immediate attention.

The process of conservation:

- The entire wall has now painted with red emulsion and it’s the decision of the collector and government.
- The Entire conservation work done with cement mortar instead of lime mortar.
- Existing structure used lime mortar.
- All around, the four wooden balconies are painted with white emulsion paint and its decision with collector and government.
- At present red emulsion paint has been used to paint the exteriors over the cement plastered walls. Issues of capillary action and rising dampness shall pose threats to the structure in future.

Issues and Challenges:

- Lack of Financial Support.
- Lack of Priority.
- Lack of Technical Knowledge.

Lack of financial support:

- Insufficient resources to fully redevelop the building into an appropriate new use left the building to remain vacant.

Lack of Technical Knowledge:

- Blurred boundaries between what is conservation, preservation, restoration, maintenance and refurbishment. Lack of awareness in conservation knowledge.

Lack of Priority:

- The Ranee's Tower is given little priority.
- The conservators confined all major repair and restoration operations due to a tight budget.

IV. FINDINGS AND ANALYSIS.

- The study's findings indicated that lack of finance, a shortage of supplies, and a lack of priority for the project were the main financial barriers to conservation.
- Second to that came environmental concerns, rising urban centre development demand, shifting social well-being requirements, and building placement in high-risk regions.
- Poor financial support and expensive and constrictive work were considered to be significant financial difficulties.
- This is the most common issues in conservation practice were due to poor governmental support and poor knowledge available.
- This kind of poor knowledge leads to a dead end for conservation projects.

V. CONCLUSION:

- The results of the study indicated that issues and challenges in building conservation work, which mentioned above are due to the poor availability of conservation knowledge.
- That has direct linkage to the insufficiency of support from government support.
- However, building conservation is a multidisciplinary field, which involves professional such as architects, engineers, historians, archaeologists, chemists, and environmentalists.
- In order to achieve higher efficiency in conservation, more efforts should be educate the public about heritage conservation.
- Need Elaborate on public awareness.
- Especially institutions which are more effective in impacting the following generation.
- Awareness campaign should be held constantly such as educative tour to visit heritage buildings helps cultivate passion and importance on building conservation.
- Public petitions with signature collection on heritage registration will help to designate heritage buildings as landmark and prevent demolition.
- Need to encourage the nongovernmental organization like INTACH to carry out the conservation projects.

VI. REFERENCES

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