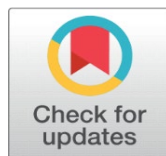
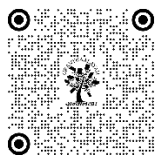


ADAPTIVE REUSE OF HERITAGE ARCHITECTURE AS A SUSTAINABLE DEVELOPMENT TOOL: OPPORTUNITIES AND CHALLENGES

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ABSTRACT

History plays an important role in defining our present and future. Architectural heritage is the symbol of our cultural identities, acting as remnants from the past. Respect and values of the architecture heritage affect the identity and vision of the culture. The existence of architecture is defined in both time and space, therefore the need for historical monuments to be adapted and reused suited for current time while satisfying the historical context and cultural values, is the present-day demand to bring people together who are otherwise separated by certain boundaries. With the current technological advancement, the 21st century skyline places focus on glass and metal facades that lack personality, hence there is a need for more effort to conserve and readapt heritage sites that stem from our cultures and our values. The purpose of the study is to create awareness towards a more sustainable approach for heritage conservation by adaptive reuse and understand the influence it has on the various sectors of a society and its residents. Based on a qualitative methodology, with a case study approach, this paper uses observation, in-depth interviews, and textual analysis to explore possibilities of sustainable transformation of architectural heritage in present and transferring the culture and values to future. This research paper will open further opportunities in this field to understand the factors behind the influence of these intangible and tangible variables and can be utilized to raise a country to an international standard of competition in terms of economy and societal norms.

Keywords: Conservation, Adaptation, Economy, Society, Historic Relevance, Sustainable Transformation

1. INTRODUCTION

Heritage in architecture refers to buildings and structures that have a significant cultural and historical value and act as learning places to understand our past and how we came to be. Conservation in heritage design is the process of maintaining the material, historical and durability of a heritage asset, heritage interior and ensuring the prolongment of the state of the heritage asset against

natural conditions. Adaptation in heritage design is the ability and process of converting a heritage asset into a place that blends well with the landscape and generates growth for the economy while still maintaining its identity. [Matero \(2013\)](#)

The heritage of a city is not just old buildings and patina, it is also a reflection of the struggle and the advancement of the world. These structures represent a past era characterized by rapid and unparalleled technological and socio-economic development. There has been a growing demand for the preservation and the adaptive reuse opportunities available for heritage monuments and interiors. Countries and international organizations such as UNESCO strive to restore our cultural and historical monuments and readapt them into the high rise, glass façade skylines that seem to dominate the world landscape. This is done to create an effective methodology to link heritage and socioeconomical gains by bringing a unique perspective to the forefront.

2. ADAPTIVE REUSE IN HERITAGE ARCHITECTURE

Conserving and Adapting Heritage architecture are generally placed into a large framework that not only considers the architectural aspects of the process but also the philosophical side that links our cultural values and identities. According to the modern philosophy of restoration developed in the 19th century by John Ruskin, there is a debate between the terminology of restoration and repair. To be more precise, "restoration" refers to the greatest amount of destruction a structure can endure, including destruction from which nothing can be recovered and destruction that is accompanied by a misleading description of the object that was destroyed [Burman \(1995\)](#). This stems from the idea that during the process of restoration, the original work is replaced by an exact replica and even though both pieces might look the same, the historic significance reduces as it is no longer the original creator's work but a copy. So, part of this debate is undoubtedly about 'value', existing value, past value, and future value in terms of historical and cultural identity. [Viejo-Rose \(2011\)](#). By the repair and conservation process and ensuring proper maintenance of the heritage site, we eliminate the need for restoration thereby keeping the value and identity intact.

The importance of adaptive reuse of Architecture heritage can be better understood by its impact on the various factors including cultural values, economy of the country and urban fabric of the surroundings. It can contribute to revitalization of urban fabric and strengthen the community's attachment to the property.

Table 1

Table 1 Impact of Architecture Heritage and Adaptive Reuse on Various Socio-Economic Factors		
Factors involved	Impact of Architecture Heritage	How adaptive reuse can help
Cultural value	A depiction of existing and past values and learning for future in terms of historical and cultural identity.	Adapting them in such a way that they do not lose this identity but are able to bring awareness to the people around them regarding their past stories.
Economy	Offer a way to travel back to the past which generates human interest in the tourism industry, especially if the heritage site has more of a cultural or religion-based value and identity.	Adapting heritage buildings into hotels and luxury resorts encourages more people to visit and interest people to stay in them as they offer a once-in-a-lifetime experience of living in the same way our ancestors did in the past.
Surroundings and urban fabric	Heritage act as symbolism and meaning to the community surroundings and skyline of the country or locality	By ensure that the meaning, experience, and overall look of the heritage remains intact after Adaptive reuse.

Sustainability	Minimizing the use and waste of scarce resources associated with demolition and redevelopment and helping to achieve sustainable growth.	The need for conservation and adaptation is necessary to help prolong the life of the heritage structure as these buildings cannot withstand the problems of the modern day and age with special impact on the climate change aspect.
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There is sometimes a misperception that conservation is about defending the past and focusing on the past, which is far from reality. Some of the most inventive and imaginative regeneration and economic growth schemes may be built around conserving the past. When we talk about adapting and restoring a particular heritage site into the 21st century landscape, emphasis is placed on the fact that the heritage site should not lose its identity at the same time it should not be an eye sore or an out of place focal point among the glass and metal façade of the modern high rise building architecture and design.

3. INTERNATIONAL AND GOVERNMENT BODIES PARTICIPATION

There is a need to establish a link between the community and local/federal governments to advance conservation projects and encourage appropriate policies and strategies for conservation. Various heritage led schemes have been implemented by the government to encourage owners of heritage sites to conserve and adapt their properties for overall benefits of everyone since the cost of conservation and adaptation is too high due to specialized material and labor. It is well-known that the quality of the built environment is directly related to an area's ability to attract investment and achieve economic development. There are various rules and regulations on set up by International and government bodies on the process of conserving and adapting heritage interiors and sites due to their influences of various aspects of an economy and society.

A preparatory list of buildings of outstanding architectural or historic interest is known as a listing of buildings. It is not possible to demolish, extend, or change a listed structure without specific approval from the planning authority. The listed buildings are graded based on their architectural and historic significance. The heritage buildings are divided into three categories: Grade I, Grade II, and Grade III. The parameters for grading buildings are used, and the heritage buildings are graded according to the criteria outlined in the table below. [Shankar & Swamy \(2015\)](#)

Table 2

Table 2 Grading of Heritage Buildings as per Mysore Guidelines. [Shankar & Swamy \(2015\)](#)

Grade I	Grade II	Grade III
<ul style="list-style-type: none"> Structures and areas of significant national or historical significance. Outstanding achievements in architectural aesthetics, planning, and innovation. 	<ul style="list-style-type: none"> Structures and areas with regional or local significance. 	<ul style="list-style-type: none"> Consists of structures and areas significant to the overall town environment.
<ul style="list-style-type: none"> Linked to significant historical occurrences, prominent figures, movements, or organizations. 	<ul style="list-style-type: none"> Exceptional architectural or aesthetic qualities. 	<ul style="list-style-type: none"> Architectural, aesthetic, or sociological appeal, albeit not to the extent found in heritage Grade-II.
<ul style="list-style-type: none"> Prime landmarks of the region. 	<ul style="list-style-type: none"> Cultural or historical importance, albeit at a lower level within the heritage context Grade I. 	<ul style="list-style-type: none"> These elements play a role in defining the unique appearance of the facade and maintaining




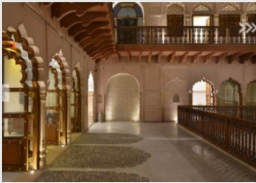


uniformity in terms of height, width, and scale.

- Natural sites
- Regional landmarks that enhance the image and identity of the area.

4. INTERNATIONAL AND GOVERNMENT BODIES PARTICIPATION

Table 3

Table 3 Case Studies Illustration. (Author generated)

	Case Study 1: Adaptation & Restoration Case Haveli Dharmapuri, Delhi	Case Study 2: Alembic Industrial Heritage development, Vadodara	Case Study 3: Sri Ranganathaswamy Temple, Tamil Nadu
About	Historic mansion located in the old city of Delhi, India.	The oldest Alembic Industrial building is in Vadodara.	Restoration of a Temple located in Tamil Nadu.
	Restored from an abandoned residence to the Haveli for contemporary use.	Renovated in 2018 as a museum with spaces dedicated to art studios, exhibitions, and display.	Reviving the existing Dravidian architecture while maintaining its religion and cultural significance. Suresh (n.d.)
Typology	Residential	Commercial	Religious Complex
Before Picture			
After Picture			
	Image source: Narayan (2016)	Image source: Grover & Kumar (2020)	Image source: Suresh (n.d.)
Key element/ Focus	Culture sharing and community gathering to promote local economy.	Revive the building as a sculpture and maintain the true spirit in terms of materials and physical space.	The focus was to reveal the forgotten and unused temple complexes and bring them back to their former glory.
	Building history and cultural significance are not lost.	The roof is preserved to keep intact the conventional appearance of industrial buildings.	Not much changes in original building materials.

Source Case study inferences derived from multiple sources: [Pritam \(2021\)](#), [Karthik \(2017\)](#), [Pintos \(n.d.\)](#)

5. DISCUSSION

The results that have been observed through this paper show that the conservation and adaptation of heritage interiors play a major impact on overall development of the country, as they encourage more tourism and hence more spending in the region which raises the economy of the region. The research conducted via case studies and various secondary research methods shows us that through the whole process of conservation and adaptation, jobs are created thus improving the livelihood of the people living in the community of the region and the

cultural and historical significance of the heritage sight is maintained and restored for future generations to come and society can maintain its identity.

The major findings from the case study are as follows:

1) **Cultural values:**

- **Preservation of Cultural Heritage:** By restoring the building to its former glory and adapting it for contemporary use, these projects help to ensure that the building's history and cultural significance are not lost.
- **Respect for Traditional Building Techniques:** When the restoration process respects and utilizes traditional building techniques and materials it helps to preserve the historic fabric of the building.
- **Promoting Cultural Exchange:** Restoration projects aim to preserve and restore cultural heritage sites and artifacts, which can help promote cultural exchange by allowing people from different cultures to learn about and appreciate each other's history and traditions.
- **Community Engagement:** Restoration projects often involve the participation of local communities, who contribute to the restoration process by sharing their knowledge and traditions. This involvement promotes cultural exchange and understanding between the local community and visitors from other cultures.

2) **Economy:**

- **Tourism:** Restored heritage sites and cultural landmarks can attract tourists, who may be interested in learning about the history and culture of the area. This can create employment opportunities in the tourism industry, including tour guides, hotel staff, and transportation services.
- **Job creation:** Restoration projects often require the skills of architects, engineers, and craftsmen, among other professionals. This can create job opportunities in the construction industry and other related fields.
- **Increased Property Value:** Restoring and preserving historic buildings can prevent them from falling into disrepair or being demolished, which can contribute to the revitalization of urban areas. This can lead to increased property values and stimulate economic activity in the surrounding area.
- **Cultural events:** Restored heritage sites and cultural landmarks can be used to host cultural events and festivals, which can attract visitors and generate revenue for local businesses.

3) **Surroundings and urban fabric:**

Adaptive Reuse and restoration projects can have both positive as well as negative impacts on the surrounding environment and urban fabric. It is important to carefully consider the potential consequences of these projects and work to mitigate any negative effects while maximizing the positive benefits.

Some of the positive impacts include:

- **Revitalization of the area:** Restoration projects can help to revitalize neglected or underutilized areas, bringing new life to the surrounding community.

- **Preservation of historic buildings and landmarks:** Restoring and preserving historic buildings and landmarks can help to maintain the character and charm of an area, while also preserving its cultural and architectural heritage.
- **Improved quality of life:** Restoration projects can create more liveable and enjoyable public spaces, enhancing the quality of life for residents and visitors.
- **Economic benefits:** Restoration projects can generate economic benefits, such as increased tourism and job creation.

Whereas some of the negative impacts may include:

Disruption and inconvenience: Restoration projects can cause disruption and inconvenience to residents and businesses, such as road closures and noise pollution.

Gentrification: Restoration projects can lead to gentrification, which can displace long-time residents and change the character of the area.

Environmental impact: Restoration projects may have an environmental impact, such as increased traffic congestion, pollution, and carbon emissions.

Table 4

Table 4 Case Studies Matrix Illustration. (Author generated)												
	Cultural Value				Economy				Surroundings and urban fabric			
	a	b	c	d	a	b	c	d	a	b	c	d
Case Study I	●		●	●	●	●	●		●	●		●
Case Study II	●	●		●	●	●		●	●	●	●	●
Case Study III	●	●		●				●	●	●	●	●

The case study matrix clearly indicates the potential of developing adaptive reuse of heritage building as a sustainable development tool. The primary purpose of the study was to examine the influence of conserving and adapting heritage sites on the economy, society and community of the region associated with the heritage site.

The limitations of the paper in terms of the research conducted is mainly the geographical location. The paper focuses on the case studies of heritage sites located in India, a country in the southern eastern part of Asia, hence the results might vary with change in the geographical location.

6. CONCLUSION

Due to globalization and by the global capital becoming fluid and/or urban space being re-constructed, the need to conserve or adapt our heritage sites and interiors have become necessary to maintain identity among the growing glass and metal facades of the high-rise buildings in the architectural landscape of a region. Since human expansion and a rise in population, there has become less and less space to grow hence by readapting and reusing heritage structures, we can not only maintain the cultural and historical significance but can also add on several functions to the site. By conservation and restoring heritage sites, there is growth in terms of livelihood for the people of the region and the growth of the economy while ensuring that our history is not lost. Heritage and culture are the things that help us differentiate ourselves from others and encourage inclusivity which is one of the

binding philosophies of our species. Thus, it has become important to ensure that our past stories of how we came to be and how we evolved throughout the centuries get passed on to future generations to come through our heritage sites. This research paper thus focused on adding more insight to how and exactly what are the influences that the heritage site when it is conserved or adapted has on the country in terms of economy, society, community, cultural identity, and historical significance. The paper positions adaptive reuse of heritage architecture not merely as a nostalgic nod to the past but as a vital tool in shaping sustainable resilient and culturally vibrant futures the findings of this research form a strong basis and have broad implications for policymakers, architects, planners, and community stakeholders in rethinking sustainable development strategies which can involve architectural reuse as a strong strategic development tool. The case study matrix clearly indicates the potential of developing adaptive reuse of heritage buildings as a sustainable development tool.

CONFLICT OF INTERESTS

None.

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