

<https://doi.org/10.33472/AFJBS.6.6.2024.2495-2502>



African Journal of Biological Sciences

Journal homepage: <http://www.afjbs.com>



Research Paper

Open Access

## Transforming Tamil Nadu's Royal Heritage Buildings into Sustainable Green Ventures.

\*Mrs. Shaistha Shabnum B. Sc., M.A., M. Phil., \*\*Dr. Anish Sharmila,

\*Research Scholar, Department of Fashion, Design and Arts, Hindustan Institute of Technology & Science, Padur, Chennai.

\*\*Assistant Professor, Department of Fashion, Design and Arts, Hindustan Institute of Technology & Science, Padur, Chennai.

### Article Info

Volume 6, Issue 6, June 2024

Received: 09 April 2024

Accepted: 15 May 2024

Published: 10 June 2024

doi: [10.33472/AFJBS.6.6.2024.2495-2502](https://doi.org/10.33472/AFJBS.6.6.2024.2495-2502)

### ABSTRACT:

This research article delves into the transformative potential of repurposing royal heritage buildings into sustainable green ventures. As the demand for environmentally conscious initiatives grows, the adaptation of historic structures provides a unique opportunity to blend cultural preservation with modern green entrepreneurship. The article explores case studies, innovative strategies, and the broader implications of such initiatives on sustainability, local economies, and heritage conservation. The case studies included in this research are mainly from Tamil Nadu adapting the vernacular method of Dravidian construction techniques. It is also an overview of the global shift towards sustainable practices, Heritage Preservation and Cultural significance in entrepreneurship. Exploration of various green entrepreneurship models applicable to historic structures showcasing the sustainable design principles applicable to heritage building renovations. Examination of cutting-edge technologies enhancing energy efficiency and environmental performance. Recommendations for best practices in balancing heritage preservation and green entrepreneurship. This research article aims to provide a comprehensive overview of the intersection between heritage preservation, green entrepreneurship, and sustainable development, offering insights for scholars, practitioners, and policymakers interested in this evolving field.

**Keywords:** Heritage Buildings, Sustainable Construction, vernacular materials, Energy efficiency and Entrepreneurship.

© 2024 Mrs. Shaistha Shabnum, This is an open access article under the CC BY license (<https://creativecommons.org/licenses/by/4.0/>), which permits unrestricted use, distribution, and reproduction in any medium, provided you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license, and indicate if changes were made

## **1. Introduction**

India is rich in cultural authenticity and heritage with 40 sites listed under UNESCO. However, only UNESCO is designated to safeguard valuable heritage structures and restorations of World Heritage sites. In Tamil Nadu, only one percent of the total number of built heritages is given priority. This research article delves into the transformative potential of repurposing royal heritage buildings into sustainable green ventures. As the demand for environmentally conscious initiatives grows, the adaptation of historic structures provides a unique opportunity to blend cultural preservation with modern green entrepreneurship. The article explores case studies, innovative strategies, and the broader implications of such initiatives on sustainability, local economies, and heritage conservation. The case studies included in this research are mainly from Tamil Nadu adapting the vernacular method of Dravidian construction techniques. It is also an overview of the global shift towards sustainable practices, Heritage Preservation, and Cultural significance in entrepreneurship. Beyond the conventional realms of historical preservation, this initiative seeks to integrate innovative and eco-friendly practices, aligning these architectural marvels with the principles of green entrepreneurship. By delving into the intersection of heritage conservation, economic viability, and environmental responsibility, this study aims to unravel the intricate tapestry of possibilities that arise when the past converges with the imperatives of a sustainable future. As Tamil Nadu stands at the crossroads of tradition and progress, the journey of transforming its royal heritage buildings into sustainable green ventures promises not only to revive the splendour of the past but also to chart a course towards a more resilient, socially inclusive, and environmentally conscious tomorrow.

### **Scope of Study**

Heritage tourism along with the social and economic development of a region has a multifaceted impact. The development of a location for heritage tourism not only draws an increased number of visitors but also sets off a chain of interconnected advantages. As tourist footfall rises, the necessity for food, lodging, and accommodation becomes apparent, leading to the establishment of hotels and lodges that cater specifically to tourists. This, in turn, generates revenue for the local economy. The surge in tourism also results in improved transportation facilities, transforming the location into an ideal holiday destination. Recognizing the economic value of heritage is crucial for its sustained relevance to society. Therefore, a comprehensive study is essential to explore the potential of converting Tamil Nadu's rich heritage structures into sustainable green ventures. Such an initiative not only preserves the cultural legacy of the region but also fosters economic growth, community engagement, and environmental sustainability.

## **2. Review of Literature**

Kiruthiga's research article captures the paradoxical nature of urbanization – a phenomenon marked by both progress and potential loss. The rapid pace of urban development poses a significant threat to historical areas with intrinsic heritage value. The juxtaposition of progress against the potential loss of historical sites highlights a critical concern for communities and societies. The delicate balance between modernization and the preservation of cultural heritage becomes a focal point for policymakers, urban planners, and preservationists. (Kiruthiga & Thirumaran, 2019).

The research paper underscores the comprehensive nature of conservation, conceptualizing it as a term that encompasses a diverse array of concerns falling within three primary categories: socio-physical, socio-cultural, and environmental. Within this conceptual framework,

conservation is portrayed as a dynamic and evolutionary process that extends beyond mere preservation. It involves an approach that includes preserving, restoring, and adapting old structures while incorporating new elements, all while maintaining a deep respect for the continuity of history and tradition. This perspective emphasizes that urban conservation is not a static or one-time event but an ongoing, controlled series of interventions in the environment. By recognizing conservation as a multi-faceted and evolving process, the research underscores the need for a holistic and adaptive approach to urban development that respects the unique cultural aspirations and needs of inhabitants while safeguarding the broader historical and environmental context (Elnokaly & Elseragy, 2013).

Arumugam and their team delve into the rising trend where destinations with cultural significance are gaining widespread popularity among tourists spanning various age groups. Notably, the concept of World Heritage Sites, although relatively recent, is rapidly gaining favour among tourists. UNESCO's designation of specific locations as World Heritage Sites has bestowed upon them a unique brand identity, symbolizing the collective natural and cultural heritage of the entire world. This recognition not only enhances the appeal of these sites but also underscores their global significance, making them sought-after destinations for travellers seeking enriching experiences rooted in the richness of cultural and historical legacies. (Arumugam et al., 2023)

This destructive trend is fueled by a lucrative trade wherein architectural elements from these houses are exported to Western countries and subsequently sold on the antiquities market. This phenomenon not only poses a threat to the physical structures that embody the region's architectural heritage but also signifies a potential loss of cultural identity. The commercialization of these architectural elements raises ethical questions about the preservation of cultural heritage and the responsible management of historical artifacts. Rajiv and Kesava's findings shed light on the delicate balance that must be struck between economic interests and the preservation of architectural and cultural legacies in regions like Chettinad. (Rajiv kumar & Kesava perumal, 2018).

Hancock's analysis brings to light a significant transformation in the constructions of locality and history, particularly observable during the anticolonial struggle in the first half of the 20<sup>th</sup> century. The visible narratives that emerged during this period are now encountering challenges from alternative formulations as heritage evolves into a marketable commodity. The act of consumption, particularly in the form of engaging with heritage, is emerging as a means of political participation. This transformation underscores the evolving nature of identity and collective memory, where heritage is not just a repository of the past but a dynamic element subject to market forces and cultural reinterpretation (Hancock, 2002).

The study by Liudmila and Balkiz underscores a noteworthy convergence between recent sustainable development initiatives and heritage conservation efforts. Both endeavors share common goals of improving the relationship between people and their built environments. The collaboration between sustainable development and heritage conservation has become particularly pronounced in the realm of sustainable Built Heritage conservation. This collaboration reflects a growing curiosity in the research of Built Heritage, where a life cycle approach is employed in conservation efforts (Liudmila & Balkiz, 2019).

The author of another article on heritage tourism, Ashok Kumar emphasizes that tourism is a multifaceted force with the potential to drive economic growth, instigate positive socio-cultural changes, and contribute to community development. The interplay between tourists and local communities creates opportunities for mutual enrichment, understanding, and appreciation. When managed sustainably and responsibly, tourism can be a force for positive transformation and development. (Ashok Kumar, 2016).

### 3. Methodology

Tamil Nadu, a land rich in history and cultural heritage, boasts a collection of royal architectural gems that stand as testaments to the region's glorious past. In the face of contemporary challenges, there is an increasing recognition of the need to not only preserve these royal heritage buildings but also to reimagine their role in a sustainable and environmentally conscious future. The case study of this research are the major heritage & cultural centre of Tamil Nadu that have great potential to be converted into Green ventures and centres for Tamil Nadus heritage tourism development with sustainable practices as the major criteria for the environmental sustenance. Below are the names of a few of the potential spaces to be converted for Heritage tourism in Tamil Nadu.

- Queen Victoria Palace – Chennai.
- Palatial mansions of Chetnadu & Karaikudi.
- Palatial mansions of Sivagangai.
- Palace at Uttukuli.
- Palace at Devakottai.
- Palace at Eraniel.
- Palace at Singampatti.
- Palace at Ettayapuram.
- Palace at Urkad.

**Heritage Buildings:** Characteristics of heritage buildings may include unique architectural features, historical associations, cultural importance, or connections to significant events or people. Governments, preservation organizations, and communities often work together to safeguard and maintain these structures, ensuring that they are not lost to decay, neglect, or redevelopment. Preserving heritage buildings involves various efforts, such as restoration, conservation, adaptive reuse, and education. Many countries have designated regulatory frameworks and organizations responsible for identifying, protecting, and maintaining heritage buildings. These efforts contribute to the cultural richness and diversity of a region, offering a connection to the past and a sense of continuity for future generations.

**Sustainable Construction:** To adapt modern green building construction materials that include recycled steel, bamboo, engineered wood, and sustainable concrete alternatives. Green buildings techniques to incorporate energy-efficient technologies like solar panels, energy efficient HVAC systems, and smart building designs to minimize energy consumption. Sustainable water management like rainwater harvesting, greywater recycling, and efficient plumbing systems to minimize water wastage. Green building design also considers the site's natural features, maximizing natural light, and incorporating landscaping for energy efficiency and aesthetic appeal. Green construction focuses on reducing, reusing, and recycling materials.

**Vernacular Materials:** In the context of renovating heritage buildings in India, the use of indigenous or vernacular materials holds paramount significance. Embracing materials intrinsic to the region not only honours the historical authenticity of the structure but also ensures a sustainable and contextually relevant approach to conservation. Traditional materials like locally sourced stone, clay, wood, and lime have been integral to Indian vernacular architecture for centuries. These materials not only exhibit remarkable durability but also possess thermal properties well-suited to the country's diverse climates. Incorporating these vernacular materials in the renovation process contributes to the preservation of cultural identity, respects the original craftsmanship, and mitigates the environmental impact associated

with modern construction materials. Furthermore, the utilization of Indian vernacular materials fosters a sense of continuity with the past, enhancing the aesthetic and experiential value of the renovated heritage buildings.

**Energy Efficiency:** Indian heritage buildings, with their timeless architectural elegance, also hold untapped potential for energy efficiency. Many of these structures, dating back centuries, were ingeniously designed to adapt to the local climate, showcasing features like intricate latticework, courtyards, and thick walls that regulate temperature naturally. Integrating modern energy-efficient technologies into these heritage buildings can further enhance their sustainability. Implementing solar panels, energy-efficient lighting, and insulation techniques can significantly reduce their carbon footprint. The adaptive reuse of these structures, incorporating contemporary energy-efficient solutions while preserving their historical integrity, not only addresses environmental concerns but also ensures the longevity and relevance of these architectural gems in the face of evolving energy standards. This harmonious blend of tradition and innovation showcases the potential for Indian heritage buildings to become beacons of sustainable living and showcases the timeless wisdom embedded in their design.

**Entrepreneurship:** The utilization of branding as a strategy for promoting and highlighting heritage sites has become increasingly popular. Attributes linked to history and heritage play a crucial role in shaping the marketing efforts for destinations. Branding not only enhances the visibility, reputation, and financial performance of heritage sites but also attracts new audiences, builds a positive image, and increases visitor traffic. The financial gains from effective branding can be instrumental in safeguarding and preserving the heritage destination. Heritage sites not only instil a sense of pride and identity but also contribute to economic activity by creating jobs and attracting both domestic and foreign tourists. The promotion and marketing of cultural heritage sites often reflect the potential of a nation's cultural heritage as a powerful tool for enhancing its national identity. The strategic use of branding not only attracts visitors but also plays a crucial role in sustaining and celebrating a nation's rich cultural legacy.

#### **4. Results and Discussion**

Conversion of heritage buildings into tourism potential structures is an exploration of various green entrepreneurship models applicable to historic structures showcasing the sustainable design principles of renovation. This will lead to enhancing energy efficiency and environmental performance of such structures. It is also a recommendation for best practices in balancing heritage preservation and green entrepreneurship. This research article thus provide a comprehensive overview of the intersection between heritage preservation, green entrepreneurship, and sustainable development, offering insights for scholars, practitioners, and policymakers interested in this evolving field.

The transformation of Tamil Nadu's royal heritage buildings into sustainable green ventures signifies a ground breaking process that harmonizes the preservation of historical treasures with the imperatives of environmental sustainability and economic vitality. This discussion encapsulates key aspects, challenges, and opportunities inherent in such a transformative initiative. The improvement of service quality across accommodation, travel, dining, entertainment, and other essential elements for an enjoyable stay enhances the overall tourist experience.

**Cultural and Economic Significance:** The royal heritage buildings in Tamil Nadu are not merely architectural wonders; they are repositories of the region's cultural and historical

richness. Transforming them into sustainable green ventures presents an opportunity to breathe new life into these structures, making them relevant to contemporary society. Beyond cultural preservation, the initiative holds immense economic promise. By integrating green entrepreneurship, these heritage sites can become catalysts for local economic development, fostering tourism, creating employment opportunities, and contributing to the overall prosperity of the region.

**Challenges in Balancing Preservation and Innovation:** One of the critical challenges in this transformation lies in striking a delicate balance between heritage preservation and innovative green initiatives. The integration of modern technologies and sustainable design practices must be executed with utmost care to ensure that the historical integrity and authenticity of these buildings remain intact. The challenge is to seamlessly weave sustainability into the fabric of the heritage structures without compromising their unique character and charm.

**Community Engagement and Stakeholder Collaboration:** The success of the transformation hinges on robust community engagement and collaboration with stakeholders. Involving local communities in the decision-making process, garnering their support, and incorporating their insights are paramount. Collaborating with architects, environmental experts, entrepreneurs, and heritage preservation authorities is crucial for the holistic development of sustainable green ventures. The initiative should be a collective effort that aligns with the aspirations and needs of the communities surrounding these heritage sites.

**Environmental Impact and Sustainable Practices:** The discussion must also address the environmental impact of the transformation. While the goal is to create sustainable green ventures, it is imperative to rigorously evaluate the environmental footprint of the proposed changes. Incorporating energy-efficient systems, utilizing eco-friendly materials, and adopting waste reduction strategies are essential components of ensuring that the transformation contributes positively to environmental sustainability.

**Policy Framework and Regulatory Support:** The success of such a transformative initiative is closely tied to the regulatory environment. Policies that encourage and incentivize sustainable practices in heritage preservation and green entrepreneurship will play a pivotal role. The discussion should delve into the existing policy landscape, identify gaps, and propose recommendations for creating an enabling environment for the successful transformation of royal heritage buildings.

**Long-Term Vision and Legacy:** Lastly, the discussion should encompass the long-term vision for these transformed sites. Beyond immediate economic gains, the initiative should aim to create a lasting legacy that benefits future generations. This involves envisioning these sites as sustainable hubs that not only attract tourists but also serve as educational centers, cultural hubs, and models of responsible development.

This discussion lays the groundwork for a holistic approach, recognizing the complexities involved and emphasizing the need for a collaborative, community-driven, and environmentally conscious transformation that befits the historical significance of these architectural marvels.

## 5. Conclusion

The research aims to broaden the understanding of the significance of heritage buildings by including environmental value in the discourse. Heritage buildings, by their nature, exhibit

durability, utilizing materials that are renewable, repairable, and recyclable. Moreover, they tend to have lower embodied energy compared to newer constructions. The judicious management and life cycle extension of heritage buildings, achieved through adaptation and preservation efforts, contribute significant environmental benefits to society. By opting for sustainability in the treatment of heritage structures, not only is cultural legacy preserved, but also a positive impact on the environment is realized through reduced resource consumption and environmental footprint. This approach aligns with the broader goal of sustainable development, where economic progress is harmonized with environmental conservation and cultural preservation. The endeavour to transform Tamil Nadu's royal heritage buildings into sustainable green ventures represents a profound commitment to preserving the cultural legacy of the region while embracing contemporary environmental consciousness.

As Tamil Nadu's royal heritage buildings undergo this transformative journey, the prospect of sustainable green ventures not only ensures the longevity of these historical landmarks but also establishes them as beacons of innovation, resilience, and cultural continuity in the modern era.

## 6. References

1. Arum gam, A., Nakkeeran, S., & Subramaniam, R. (2023). Exploring the Factors Influencing Heritage Tourism Development: A Model Development. *Sustainability*, 15(15), 11986. <https://doi.org/10.3390/su151511986>
2. Ashok Kumar, A. (2016). Role of Tourism in Social Development-a Case Study of Mahabalipuram, Tamilnadu. *International Journal of Social Science and Economics Invention*, 2(9), 77–82.
3. Elnokaly, A., & Elseragy, A. (2013). Sustainable Heritage Development: Learning from Urban Conservation of Heritage Projects in Non Western Contexts. *European Journal of Sustainable Development*, 2(1). <https://doi.org/10.14207/ejsd.2013.v2n1p31>
4. Hancock, M. (2002). Subjects of Heritage in Urban Southern India. *Environment and Planning D: Society and Space*, 20(6), 693–717. <https://doi.org/10.1068/d343>
5. Kiruthiga, K., & Thirumaran, K. (2019). Effects of urbanization on historical heritage buildings in Kumbakonam, Tamilnadu, India. *Frontiers of Architectural Research*, 8(1), 94–105. <https://doi.org/10.1016/j.foar.2018.09.002>
6. Liudmila, C., & Balkiz, Y. (2019). Bridging Sustainable Construction Technologies and Heritage. In *Sustainable Construction Technologies* (pp. 395–442). Elsevier. <https://doi.org/10.1016/B978-0-12-811749-1.00011-0>
7. Rajivkumar, S., & Kesavaperumal, T. (2018). Investigating the residents' attitude towards the preservation of palatial houses built heritage in Chettinad region, Tamil Nadu. *Journal of Community Archaeology & Heritage*, 5(4), 250–265. <https://doi.org/10.1080/20518196.2018.1529549>

## Bibliography

Cave, C., & Negussie, E. (2017). *World Heritage conservation: The World Heritage Convention, linking culture and nature for sustainable development*. Routledge, Taylor & Francis Group.

Liudmila, C., & Balkiz, Y. (2019). Bridging Sustainable Construction Technologies and Heritage. In *Sustainable Construction Technologies* (pp. 395–442). Elsevier. <https://doi.org/10.1016/B978-0-12-811749-1.00011-0>

Pacelli, V., & Sica, E. (2021). *The economics and finance of cultural heritage: How to make tourist attractions a regional economic resource*. Routledge.

Yu, P.-L., Shen, C., & Smith, G. S. (Eds.). (2018). *Relevance and application of heritage in contemporary society*. Routledge. <https://doi.org/10.4324/9780203702277>

**WEBLIOGRAPHY**

<https://whc.unesco.org/>

<https://www.icomos.org/>

<https://igbc.in/>

<http://www.intach.org/>