



LANDSCAPE AS A TOOL FOR URBAN ASSEMBLAGE: TRANSFORMING PUBLIC SPACES IN MAHABALIPURAM

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ABSTRACT

This paper examines how landscape design can serve as a tool within urban assemblage theory to transform public spaces in Mahabalipuram. As a historic town, Mahabalipuram's placemaking involves balancing heritage conservation with the creation of public spaces that support modern tourism and local needs. The study explores how landscape strategies can contribute to sustainable tourism and community engagement while preserving the town's cultural integrity. The research draws on theoretical literature and case studies from Taj Ganj (Agra) and the Acropolis (Athens), focusing on heritage-led landscape interventions. These case studies provide insights into how landscape strategies can be applied to Mahabalipuram's public space development to ensure long-term sustainability and inclusivity. The findings highlight

that landscape design in Mahabalipuram can either stabilize the town's historical features or adapt to modern urbanization and tourism pressures. The interaction between preservation and transformation is key to creating public spaces that respect heritage while meeting contemporary demands. The study offers a framework for understanding how landscape design can be integrated with heritage conservation in complex urban environments like Mahabalipuram, emphasizing the importance of spatial planning, pedestrian-friendly zones, and community engagement in maintaining a dynamic yet historically sensitive urban landscape.

The research has certain limitations, particularly concerning the generalizability of findings beyond Mahabalipuram and similar heritage sites. However, it provides practical implications for policymakers, urban designers, and conservationists by offering strategies to enhance public spaces while supporting heritage conservation and sustainable urban development. This paper contributes to the broader discourse on urban assemblage, landscape-led heritage preservation, and the role of public spaces in fostering sustainable tourism economies in historic cities.

Keywords: Urban Assemblage, Landscape Design, Public Space Transformation, Heritage Conservation, Sustainable Tourism, Placemaking, Cultural Landscapes.

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1. Introduction

Cultural heritage sites hold significant sociocultural and socioeconomic value, allowing communities to connect with their history while reinforcing local identity and collective memory. In urban centers, pressures from urbanization, including population growth, tourism, and increased traffic, impact the authenticity and integrity of heritage sites (Hassler et al., 2002; ICOMOS, 2005; Van Oers, 2010; Aksoy & Enlil, 2012; Brombach et al., 2013).

Being a peri-urban town, Mahabalipuram, with its abundant natural and cultural heritage, faces several threats, including overcrowding, unsustainable tourism, insufficient maintenance, urbanization, natural disasters, and a lack of awareness (TTDC Inception Report). The absence of a holistic system for sustainable planning, conservation, and design—alongside limited

community engagement and inadequate urban landscape design tools—further threatens the sustainability of these heritage sites, affecting the quality of public life and spaces. Urban assemblage theory, with its focus on the dynamic interactions between heritage, community, and urban development, offers new strategies to address these challenges.

By emphasizing social sustainability, assemblage theory provides a framework to manage the transformation of heritage sites, focusing not only on physical conservation but also on fostering social cohesion, community participation, and identity continuity (CHCFE, 2015). In a heritage-rich town like Mahabalipuram, where the pressures of modern development and heritage preservation often conflict, landscape design based on this approach can create a balance. This would ensure that commercial growth and environmental sustainability are harmonized with the protection of the town's cultural and historical legacy.

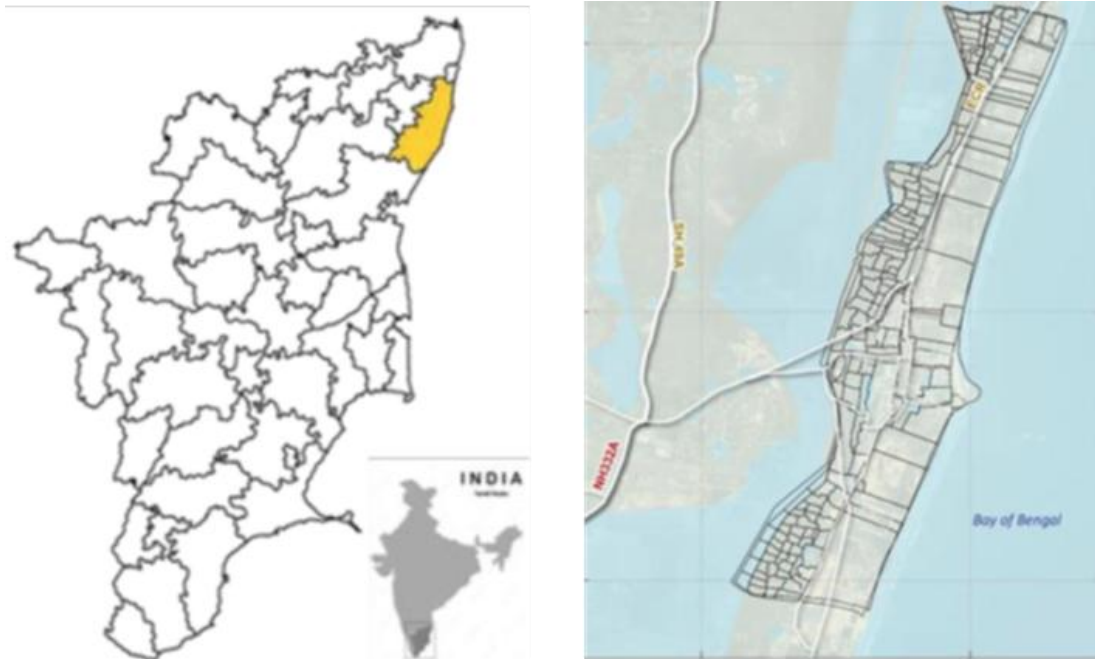


Figure 1.1 (left) Chengalpattu Map; Figure 1.2 (right) Map of Mahabalipuram

2. Methodology

This study employs urban assemblage theory to analyse how landscape design can transform public spaces in Mahabalipuram while balancing heritage conservation, tourism, and urban growth. The research is structured into three key components: (1) A historical study tracing Mahabalipuram's evolution from an ancient port town to a UNESCO World Heritage site, highlighting its cultural significance; (2) A detailed site analysis evaluating its physical, environmental, socio-economic, and visual conditions to assess the challenges posed by

urbanization and tourism; and (3) A policy and legal framework review, examining national and local conservation policies that influence urban development in heritage sites. The study also explores landscape design and conservation strategies, focusing on sustainable preservation and adaptive reuse models. Comparative case studies of Taj Ganj (Agra) and the Acropolis (Athens) provide insights into how heritage cities can integrate landscape interventions to enhance public spaces while maintaining their cultural integrity.

3. Literature Review

3.1. Heritage and Tourism

Heritage, as defined by Park (2010), serves as a symbolic representation of the past, ingrained in collective memory and traditions rather than simply glorifying historical epochs. It plays a crucial role in shaping cultural identity, serving as a bridge between historical narratives and contemporary society. One of the primary means through which heritage is experienced and valued is heritage tourism, which allows visitors to explore the traditions, civilizations, and built environments of past societies (Li & Lo, 2004). Over the years, heritage and tourism have become deeply interconnected, with heritage sites being repurposed as economic assets for tourism-driven urban economies.

Jamal and Kim (2005) emphasize that heritage tourism contributes significantly to local and national economies by attracting visitors, generating revenue, and fostering cultural exchange. However, while the economic and political advantages of heritage tourism are evident, it also presents challenges such as over-commercialization, the commodification of cultural sites, and difficulties in maintaining the authenticity of heritage spaces while accommodating the demands of a growing tourist industry. In Mahabalipuram, where the UNESCO-listed heritage monuments serve as the primary tourism drivers, balancing conservation and commercialization remains an ongoing challenge. The increased influx of tourist places pressure on infrastructure, public spaces, and the environment, necessitating an approach that integrates sustainable tourism with heritage conservation.



Figure 2.1: Map of Mamallapuram; source: TTDC

3.2. Urban Assemblage Theory in Mahabalipuram

Urban assemblage theory offers an analytical lens through which the evolving relationship between heritage, tourism, and urban development can be understood. The theory conceptualizes cities and urban environments as fluid, heterogeneous formations, where various human and non-human elements interact to shape public spaces (Durose et al., 2021). Applying this framework to Mahabalipuram's landscape involves recognizing how natural elements, cultural heritage, human activities, and governance structures co-exist and evolve in response to tourism growth, urbanization, and environmental change.

Assemblage urbanism further explores how power structures influence the organization of urban spaces (Kamalipour & Peimani, 2015). In Mahabalipuram, government-led interventions, including heritage site management, tourism infrastructure projects, and zoning regulations, significantly shape how urban landscapes are transformed. The Swadesh Darshan 2.0 Master Plan (2023) outlines strategies for tourism-led urban development, focusing on pedestrianization, green corridors, and improved public spaces to mitigate the adverse effects of urban congestion and environmental degradation. By applying assemblage theory, Mahabalipuram's landscape can be understood as a co-created space, where historical, environmental, and socio-political factors continually interact to shape its identity.

3.3. Landscape as a Mediator in Urban Assemblage

One of the key tenets of urban assemblage theory is its emphasis on relational interactions between different material and non-material components of the urban environment (Wang, 2019). Landscape plays a crucial role in mediating these interactions, as it acts as both a physical setting and a dynamic framework that accommodates historical preservation, public engagement, and tourism development. In Mahabalipuram, where the juxtaposition of ancient monuments, coastal environments, and modern tourism infrastructure defines the urban experience, landscape interventions serve as tools to negotiate between preservation and contemporary urban demands.

According to HRIDAY guidelines, heritage spaces should not be treated as isolated artifacts, but rather as integrated components of urban life, where cultural narratives, public accessibility, and environmental sustainability are woven together to create cohesive urban landscapes. For instance, open-air museum landscapes, pedestrian-friendly precincts, and eco-sensitive coastal promenades can enhance the experiential value of heritage sites while mitigating the negative effects of urbanization and mass tourism.

Durose et al. (2021) further emphasize that urban transformation is a process of continual adaptation, where landscapes evolve in response to shifting socio-economic and environmental pressures. In Mahabalipuram, climate change and coastal erosion pose serious risks to heritage preservation, necessitating landscape-based interventions such as sand dune stabilization, flood-resistant pathways, and green buffer zones to protect both natural and built heritage.

The intersection of heritage conservation, community participation, and landscape interventions is key to ensuring that the town remains both a cultural and ecological asset. Through a strategic combination of public space revitalization, community engagement, and sustainable tourism practices, Mahabalipuram can create an urban assemblage that honours its past while embracing its future.

4. Case Studies

4.1. Taj Ganj, Agra

Taj Ganj, a historic neighbourhood near the Taj Mahal, has evolved alongside the famous monument, reflecting the deep-rooted relationship between heritage and urban life. The Taj Ganj Redevelopment Project aimed to enhance public spaces, pedestrian accessibility, and local infrastructure while ensuring the conservation of historic elements. A key aspect of the project was the integration of landscape design, which facilitated the creation of pedestrian-friendly pathways, improved drainage systems, and open public spaces that catered to both tourists and local communities. This initiative not only preserved the historical architecture but also revitalized the urban fabric, making it more inclusive and sustainable (Fouseki et al., 2020; UNESCO, 2018).

By applying urban assemblage theory, Taj Ganj serves as an example of how historical preservation can coexist with urban modernization. The landscape-led regeneration of Taj Ganj emphasizes the interconnectedness of built heritage, public space, and socio-economic development, demonstrating that carefully planned landscape interventions can enhance both the cultural significance and functional value of historic urban environments.

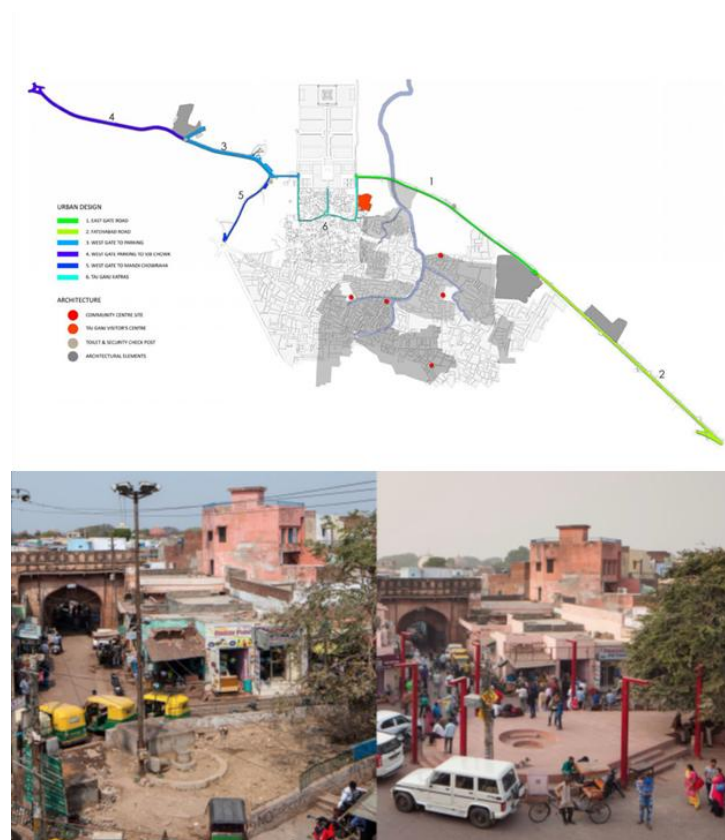


Figure 3.1 (Top) Map of Taj Ganj
(Below) A Before and After photo of the square



Figure 4.2 Elements Used (Top); Symbols and concept used (below)

4.2. The Acropolis, Athens

The Acropolis of Athens is one of the most iconic heritage sites in the world and serves as a global model for integrating heritage conservation with contemporary urban life. The Unification of Archaeological Sites Project, launched in 1997, aimed to create a cohesive cultural precinct that links multiple heritage sites through landscape-based interventions. This project emphasized pedestrian accessibility, the introduction of green spaces, and improved public engagement, ensuring that the Acropolis remains an integral part of the modern urban landscape (Fouseki, 2022).

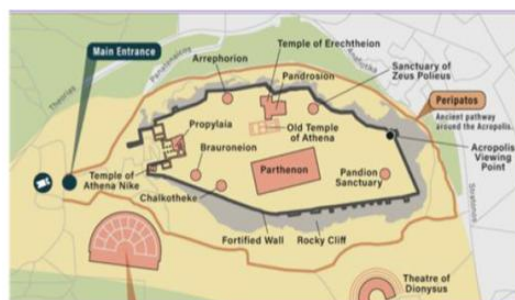


Figure 4.3 Athens, Acropolis map



Figure 4.4 Use of marble and clay shards

By employing urban assemblage theory, the Acropolis demonstrates how landscape design can mediate between preservation and adaptation, allowing for the coexistence of ancient monuments and contemporary urban infrastructure. The creation of pedestrian networks and green corridors not only enhanced accessibility but also improved the ecological sustainability of the site, ensuring its resilience against the pressures of urban expansion and tourism. The Acropolis exemplifies how landscape interventions can serve as tools for urban assemblage, fostering a harmonious relationship between cultural heritage and modern urban dynamics.

Discussion

Urban assemblage theory recognizes the complex interactions between historical, social, and environmental factors that shape heritage towns like Mahabalipuram. The case studies of Taj Ganj and the Acropolis demonstrate that landscape design can serve as a powerful tool in stabilizing historical features while accommodating modern urbanization. As Mahabalipuram experiences increased tourism and urban growth, integrating landscape-based strategies can help manage these changes while preserving the town's cultural identity. By creating pedestrian zones, Mahabalipuram can enhance accessibility while reducing vehicular congestion, similar to the Unification of Archaeological Sites Project in Athens. Introducing green spaces can improve environmental quality, mitigate heat island effects, and provide leisure spaces for both tourists and residents. Additionally, implementing sustainable water management systems,

such as those used in Taj Ganj, can address coastal erosion and drainage issues, ensuring long-term sustainability.

A crucial aspect of urban assemblage theory is community participation in placemaking. Public spaces are not static entities but co-created environments that evolve through the interactions of local residents, tourists, policymakers, and urban designers (Wang, 2019). Community engagement is critical to ensuring that landscape interventions reflect local cultural values and economic realities (Durose et al., 2021). By involving stakeholders in the decision-making process, Mahabalipuram can reinforce its cultural identity while fostering sustainable tourism and economic growth. This participatory approach can help prevent the over-commercialization of heritage spaces, ensuring that urban development aligns with both cultural preservation and contemporary needs. The application of landscape-led urban assemblage strategies can help Mahabalipuram navigate the tensions between heritage conservation and modernization, transforming its public spaces into dynamic, adaptive environments that respond to evolving socio-economic and environmental challenges.

5. Conclusion

The transformation of Mahabalipuram must be guided by a framework that integrates heritage conservation with contemporary urban needs. By applying urban assemblage theory, landscape design can be utilized to balance historical preservation with urban adaptation, ensuring that Mahabalipuram retains its cultural integrity while evolving as a sustainable urban space. The case studies of Taj Ganj and the Acropolis illustrate that heritage conservation and urban transformation are not mutually exclusive. Instead, landscape-led interventions can enhance public spaces, improve accessibility, and foster community engagement, leading to a more inclusive and resilient urban environment.

By prioritizing pedestrianization, sustainability, and community-driven planning, Mahabalipuram can serve as a model for heritage-driven urban development. Its rich cultural history, natural landscapes, and evolving urban context present a unique opportunity to create public spaces that celebrate the past while embracing the future. Through thoughtful landscape design, Mahabalipuram can preserve its heritage, strengthen local economies, and ensure a more liveable and engaging urban experience for both residents and visitors.

References

- [1] Anderson, B., & McFarlane, C. (2011). Assemblage and geography. *Area*, 43(2), 124-127.
- [2] Auriemma, R., & Solinas, E. (2009). Archaeological markers of relative sea-level change. *Quaternary International*, 206(1-2), 134-146.
- [3] Bilham, R. (2004). Earthquakes in India and the Himalaya: Tectonics, geodesy and history. *Annals of Geophysics*, 47(2-3), 839-858.
- [4] Brenner, N., Madden, D. J., & Wachsmuth, D. (2011). Assemblage urbanism and the challenges of critical urban theory. *City*, 15(2), 225-240.
- [5] Buchanan, I. (2020). Assemblage theory and its discontents. *Deleuze Studies*, 14(1), 3-18.
- [6] Cultural Heritage Counts for Europe (CHCFE). (2015). The Impact of Cultural Heritage on Economy and Society. Retrieved from https://www.encatc.org/media/2764-chcfe_full-report_v13.pdf
- [7] DeLanda, M. (2019). *A new philosophy of society: Assemblage theory and social complexity*. Bloomsbury.
- [8] Durose, C., Richardson, L., & Flinders, M. (2021). Working the urban assemblage: A transnational study of transforming practices. *Urban Studies*, 59(10), 2129-2146.
- [9] Fouseki, K. (2022). *Heritage dynamics: Understanding and adapting to change in diverse heritage contexts*. Routledge.
- [10] Gaur, A. S., & Vora, K. H. (1999). Archaeological remains on the southern coast of Saurashtra, India. *Man, and Environment*, 24(2), 55-64.
- [11] Government of India, Ministry of Urban Development. (2015). *Heritage City Development and Augmentation Yojana (HRIDAY) Guidelines*.
- [12] ICOMOS. (2005). *World Heritage and Tourism Report*. Paris: International Council on Monuments and Sites.
- [13] Jamal, T., & Kim, H. (2005). Bridging the interdisciplinary divide: Towards an integrated framework for heritage tourism research. *Tourism Management*, 26(1), 1-18.
- [14] Kamalipour, H., & Peimani, N. (2015). Assemblage urbanism: Concepts and practices. *Urban Design International*, 20(4), 406-415.
- [15] Kázmér, M., Prizomwala, S., & Gaidzik, K. (2022). 8th century coastal uplift in Peninsular India—The Shore Temple at Mahabalipuram, Tamil Nadu. *Quaternary International*, 638-639, 140-147.

- [16] Li, Y., & Lo, R. (2004). Heritage tourism: The challenges and opportunities of cultural conservation. *Tourism and Hospitality Research*, 5(3), 256-273.
- [17] McFarlane, C. (2011). Assemblage and critical urbanism. *City*, 15(2), 204-224.
- [18] Park, H. Y. (2010). Heritage tourism: Emotional journeys into nationhood. *Annals of Tourism Research*, 37(1), 116-135.
- [19] Placemaking Primer. (n.d.). Placemaking: What If We Built Our Cities Around Places? Retrieved from Project for Public Spaces.
- [20] Sneve Guttormsen, T., Skrede, J., Guzman, P., Fouseki, K., Bonacchi, C., & Pastor Pérez, A. (2023). Assemblage urbanism: The role of heritage in urban placemaking. *Journal of Cultural Heritage Management and Sustainable Development*. [https://doi.org/10.1108/JCHMSD-12-2022-0208​;contentReference\[oaicite:4\]{index=4}](https://doi.org/10.1108/JCHMSD-12-2022-0208​;contentReference[oaicite:4]{index=4}).
- [21] Swadesh Darshan 2.0 (2023). Destination Master Plan, Strategy, and Action Plan for Mamallapuram. Ministry of Tourism, Government of India.
- [22] UNESCO. (2018). Taj Ganj Redevelopment Project Report. United Nations Educational, Scientific and Cultural Organization.
- [23] Wang, J. (2019). Urban assemblage. *The Wiley-Blackwell Encyclopaedia of Urban and Regional Studies*. [https://doi.org/10.1002/9781118568446.eurs0011​;contentReference\[oaicite:6\]{index=6}](https://doi.org/10.1002/9781118568446.eurs0011​;contentReference[oaicite:6]{index=6}).

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