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TRANSLATING SACRED TRADITIONS ACROSS CULTURES AND RELIGIONS

Silvia Mazzetto

Md Mizanur Rashid, Katharine Bartsch

Naniek Widayati Priyomarsono

Hasan Mahdi Al-Sallami

Suja Kartha, Binumol Tom

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Volume Editors:

Mark Gillem

Hesham Issa

Adnya Sarasmita

Feni Kurniati

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207 East 5th Avenue
Eugene, OR 97401

tel: 541 712 7832

e: coordinator@iaste.org; www.iaste.org



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Traditional Dwellings and Settlements

Working Paper Series

TRANSLATING THE MASHRABIYA: FROM ISLAMIC ARCHITECTURE TO CONTEMPORARY SAUDI DESIGN

Silvia Mazzetto

TRANSLATING THE MASHRABIYA: FROM ISLAMIC ARCHITECTURE TO CONTEMPORARY SAUDI DESIGN



Tradition is never static. The mashrabiya, a latticed and often projecting screen historically used to moderate climate, privacy, and visual expression, provides a strong example of the vibrant interaction between tradition and innovation in Islamic architecture. This paper analyzes how the mashrabiya has been translated across time and space, from its traditional role as a symbolic and environmental device in Islamic public architecture to its revival in contemporary Saudi architecture through digital fabrication, smart materials, and responsive façade technologies. The first part of the paper develops a comparative reading of eight historic examples in Egypt, Syria, Morocco, and India, including mosques, madrasas, bimaristans, and caravanserais. Through a typological and morphological lens, it evaluates position, material, lattice density, and symbolic patterns to show how regional conditions shaped the design and function of the mashrabiya. The second part discusses recent Saudi architectural practice, in which Salmani architecture and Vision 2030 have reframed traditional elements as tools for sustainable, culturally meaningful design. Riyadh case projects, including King Abdullah Petroleum Studies and Research Center (KAPSARC), King Fahad National Library, Salmani-style commercial mall 'Via Riyadh', and residential buildings in the Diplomatic Quarter, demonstrate how the mashrabiya is transformed into an intelligent façade system. By contrasting historic typologies with contemporary Saudi cases, the paper argues that the mashrabiya does not represent a fixed heritage object, but a translatable architectural principle. Its movement from wooden lattice to smart façade challenges the opposition between custom and modernity and reveals how technological innovation can support, rather than compromise, cultural identity.

1. INTRODUCTION

Saudi Arabian architecture has reached an important turning point in its long history, when a strong desire to maintain its cultural heritage and technological innovation intersected. The *mashrabiya*, an ancient architectural shading device well known for its decorative significance and climate-adaptive attributes, is at the core of this research. This study examines how the *mashrabiya* could evolve into an intelligent, useful feature that links the past and the future within the framework of Salmani architecture and the broader concept of humanized, sustainable cities.

Within the theme of Translating Traditions, the *mashrabiya* offers a precise architectural lens through which to study the translation of tradition across geography, time, material, and technology. Historically, the *mashrabiya* was not only a window screen. It mediated between interior and exterior, visibility and concealment, heat and shade, public life and private life. In contemporary design, the same mediating logic is increasingly reconceived through tensile screens, perforated concrete, parametric panels, photovoltaics, automated shading, and sensor-based façade systems. This transition does not simply modernize an old form; it changes the way tradition is understood as a living design process.

The paper, therefore, develops a double comparison. First, it revisits the *mashrabiya* in Islamic public architecture through eight historic cases drawn from mosques, Quranic schools, *bimaristans*, and caravanserais.

Second, it compares four contemporary Riyadh examples that reinterpret *mashrabiya* principles within the context of Saudi sustainable design and Salmani architecture. The aim is to show how the *mashrabiya* can be read as a durable cultural device and, at the same time, as an adaptive environmental system. The argument is not that contemporary buildings must reproduce traditional forms literally, but that the environmental, social, and symbolic principles embedded in those forms can be translated into new architectural languages.

2. LITERATURE REVIEW

The history, purposes, construction techniques, and changing usage of *mashrabiya* devices are covered in extensive literature. The *mashrabiya*, a traditional device of Islamic architecture, was originally used for evaporative cooling before being developed into a projecting screen for temperature and privacy control. Though *mashrabiya* is still the most often used term, it grew throughout the Arab world under various regional names. Early variants may have originated in pre-Islamic Egypt¹ and are etymologically related to the Arabic words *yashrab* ("to drink") and *mashrafīya* ("to overlook"), both of which are well known for the Egyptian artisans' woodworking expertise. As documented by Fathy the *mashrabiya* controlled air, light, temperature, and privacy.² However, their practical usefulness declined as electric lighting and artificial cooling became more prevalent during the Industrial Revolution. Its historical relevance and lasting relevance are attracting greater attention, particularly in Saudi Arabia, where most people advocate its revival. However, the need for skilled workers and high fabrication costs remain obstacles. Its reuse brings up crucial scientific questions: Can the *mashrabiya* be adapted to the recent adoption of smart technologies such as artificial intelligence, photovoltaics, and home automation? Will it still be suitable to call the device a *mashrabiya*, or will it evolve into an "intelligent" device? Furthermore, how can conventional craftsmanship be preserved for future adaptation, possibly with specific education programs? Given its historical and current use for various purposes, is it acceptable to talk about *mashrabiya*, or more accurately, "intelligent" sunscreen?

Recent works support this re-evaluation. Alazhari has created a digitized archive of *mashrabiya* typologies for potential use through three-dimensional printing technologies.³ Other recent studies have examined the mathematical variables and rules underlying *mashrabiya* patterns, adding to computational and morphological interpretations of the architectural element.⁴ Both approaches aim to support contemporary adaptations while preserving the cultural value of the *mashrabiya*.⁵ Several studies have also recorded its reinterpretation in contemporary buildings and smart architectural applications,⁶ including examples linked to home automation and digital fabrication.⁷ However, the integration of *mashrabiya* principles with advanced technologies⁸ remains insufficiently documented,⁹ especially in relation to Islamic and international sustainable architecture.¹⁰ The Heritage study expands this discussion by focusing on a less-examined field: the *mashrabiya* in Islamic public buildings. While residential applications are more frequently discussed, public structures such as mosques,

madrasas, *bimaristans*, and caravanserais also relied on screens to regulate light, airflow, privacy, and symbolic expression. In such buildings, the *mashrabiya* was connected to collective life: prayer, learning, healing, trade, and hospitality.¹¹ This broader reading is important because contemporary Saudi architecture also uses *mashrabiya*-inspired devices in public, civic, institutional, and urban contexts, not only in housing. Across these studies, the *mashrabiya* appears as a multi-layered architectural object. It is functional because it supports shading, ventilation, thermal moderation, and visual control. It is cultural because it represents ideas of modesty, protection, and controlled social exchange. It is symbolic because its geometry expresses continuity, abstraction, proportion, and the Islamic concept of oneness. Finally, it is technological because it can be fabricated, adjusted, and optimized through contemporary tools without losing its cultural reference. These overlapping dimensions make the *mashrabiya* particularly relevant to the debate on how traditions travel, change, and become meaningful again in new settings.

3. METHODOLOGY

The research uses a qualitative cross-case method based on archival records, architectural documentation, field observation where available, and comparative interpretation. The historical layer of the study uses typological and morphological methods to examine eight examples across four public building categories: mosques, madrasas, *bimaristans*, and caravanserais. These cases are Al-Azhar Mosque in Cairo and Sidi Saiyyed Mosque in Ahmedabad; Bou Inania Madrasa in Meknes and the Madrasa of Umm al-Sultan Sha'ban in Cairo; Nur al-Din Bimaristan in Damascus and Qalawun Hospital in Cairo; Wikala of Baazar'a in Cairo and Najjarin Funduq in Fez. The comparison considers position in the building, material, dimension, pattern, lattice density, and function.

Building on this historical and typological framework, the study then extends the analysis to four contemporary Saudi case studies to examine how the *mashrabiya* is no longer understood solely as a preserved architectural element, but also as a design principle capable of being reinterpreted in present-day architectural practice. The historical cases provide the analytical matrix through which the contemporary examples are assessed, using the same criteria of position, materiality, scale, pattern, lattice density, environmental function, and symbolic meaning. This methodological continuity allows the research to trace how traditional functions such as privacy, light filtration, ventilation, and cultural manifestation are translated into new architectural languages, materials, and technologies. In this sense, the contemporary case studies are not treated as direct imitations of the past, but rather as an analytical reinterpretation of inherited spatial and environmental values, which supports the later discussion of the translation of tradition in contemporary sustainable architecture.

The case studies were selected because of their location in Riyadh and their relevance to Salmani architecture and contemporary sustainable design. Climate responsiveness approaches, design evaluation, and architectural documentation were used to gather data. The cases are selected based on expression of heritage and cultural incorporation; environmental performance, including daylighting, ventilation, and shading; and technological modification, including smart materials and systems. A qualitative study was conducted to investigate case studies and design concepts highlighting contemporary *mashrabiya* applications. The comparisons and investigations also considered cultural identity, sustainability elements, and technology integration. To deeply evaluate *mashrabiya* reinterpretations in modern Saudi architecture, a cross-disciplinary approach that integrates sustainability, history, user experience, and technological innovation was adopted. In doing so, the following five criteria were chosen. In accordance with Salmani architecture and Vision 2030 principles, the criteria consider both traditional architectural functions and contemporary design challenges.

1. Functional Performance: *Mashrabiya's* original purpose was climate adaptation - passive cooling, shading, and ventilation. This parameter captures its relevance in contemporary environmentally responsive design.
2. Technology Implementation: With smart building systems gaining ground in Saudi design,¹² evaluating the extent of smart technology integration, including AI, sensors, automation, and BMS, is vital to correspond to innovation goals.¹³
3. Cultural and Visual Expression: As *mashrabiya* carries symbolic and artistic meaning, this parameter assesses how cultural character and local aesthetics are embedded in or reimagined in new designs.¹⁴
4. Material Advancement and Sustainability: This parameter assesses how innovative materials, including 3D-printed composites, GRC, and solar-integrated panels, improve sustainability, cost-efficiency, and local sourcing.
5. Socio-Spatial Impact: Inspired by Salmani's principles of human scale, continuity, and locality, this parameter captures the user experience, privacy, and inclusion into the urban context.¹⁵

This method allows the paper to evaluate translation rather than simple repetition. Historical cases reveal the stable principles of the *mashrabiya*, while contemporary Saudi cases show how those principles are reconfigured through new materials, technical systems, and urban expectations. The comparison, therefore, treats tradition as a set of transferable spatial, environmental, and symbolic logics.

4. RESULTS

4.1. Historical translations across Islamic public architecture

The comparative study of the eight historical case studies indicates that the *mashrabiya* in Islamic public buildings surpassed its functional aspects to assume symbolic meaning in Islamic culture. Over the centuries, it has been a significant and constant presence in Islamic public buildings. The choice of materials, mainly wood and stone, reflects geographical and technological influences; however, despite design variations, all cases refer to abstract geometric motifs central to Islamic decorative tradition. In mosques, the *mashrabiya* mediates between sacred interior space and controlled openness. At Al-Azhar Mosque, the wooden screen serves as a semi-permeable divider, providing privacy while allowing light and air to pass between the prayer area and the courtyard. At Sidi Saiyyed Mosque, the stone *jali* screens in Ahmedabad translate the same logic through a different material and craft tradition. The use of local yellow sandstone and highly refined carving produces a screen that is both climatic and devotional (Figure 1). Its geometry and vegetal abstraction transform the act of filtering light into a visual expression of faith.



Figure 1: Sidi Saiyyed Mosque, façade featuring *mashrabiya* (Source: Mazzetto and Noca, 2025).

In madrasas, the screen supports the relationship between study, contemplation, and controlled visibility. Bou Inania Madrasa in Meknes uses carved wooden screens overlooking the internal courtyard, supporting privacy for students while allowing observation and ventilation. The Madrasa of Umm al-Sultan Sha'ban in Cairo uses stone screens on its exterior façade, making the *mashrabiya* more visible in the urban scene. Here, the architectural function is not only environmental but also representational, because the detailed stonework reinforces the status of the building and its patron. In *bimaristans*, the *mashrabiya* is connected to comfort, healing, hygiene, and controlled light. The Nur al-Din Bimaristan in Damascus uses stone latticework above a courtyard-facing passage, allowing filtered ventilation and soft illumination. The Qalawun Hospital in Cairo features several stone screens at upper-level openings, supporting air circulation, light screening, and façade ornamentation. In these cases, privacy is present but less dominant than in residential contexts; the primary function is to create comfortable, protected, and dignified spaces for care. In caravanserais, the *mashrabiya* is more closely tied to mobility, trade, and social observation. At the Wikala of Baazar'a in Cairo, projecting wooden screens on the upper floors allow merchants and guests to observe the courtyard while maintaining privacy. At the Najjarin Funduq in Fez, the simpler wooden screens above ground-floor doors provide ventilation and security for storage and business spaces. These examples show that the *mashrabiya* was not a single fixed object. It was a flexible architectural instrument that adapted to worship, education, healing, hospitality, commerce, and urban life.

4.2. Contemporary Saudi reinterpretations

The selected contemporary case studies in Riyadh are the King Abdullah Petroleum Studies and Research Center (KAPSARC), the King Fahad National Library, the Salmani-inspired commercial mall 'Via Riyadh', and residential buildings in Riyadh's Diplomatic Quarter. Together, they represent four modes of translation: a high-tech environmental skin, an institutional shading layer, a commercial-cultural reinterpretation, and residential urban-climatic continuity. King Abdullah Petroleum Studies and Research Center is a contemporary, sustainable building designed by Zaha Hadid Architects in Riyadh. It incorporates smart shading devices inspired by Saudi traditions. The building, completed in 2017, reflects cutting-edge environmental and architectural innovation. The structure's façade reinterprets traditional Islamic architecture through a modern lens. Inspired by geometric patterns and microcellular structures, the design is a high-performance skin that improves natural ventilation, natural light, and shading performances. The contemporary interpretation draws

on the *mashrabiya* concept, providing privacy and solar protection while employing sustainable strategies designed for the desert climate. KAPSARC demonstrates how tradition and technology can merge in visionary architecture (Figure 2).



Figure 2: King Abdullah Petroleum Studies and Research Center, elevation showing the shading devices and reinterpreting the traditional mashrabiya in a contemporary, high-tech structure (Source: author).

King Fahad National Library, Riyadh, was originally constructed in 1983 in the Olaya district to serve as a cultural and intellectual center for preserving national cultural heritage and providing important research resources. It was recently renovated in 2014, combining traditional Saudi architectural vocabulary with innovative tensile *mashrabiya*-inspired façade elements. The library was renewed with an extensive restoration and expansion intervention by the German firm Gerber Architekten. The intervention adapted the building to the expanded audience through an external enlargement that hosted new activities. At the same time, the first library is preserved in its original identity inside the new expansion. The renovation introduced a striking modern envelope - a textile-like façade made of white tensile fabric - that improves thermal comfort and shading. The project has blended traditional architectural elements with contemporary styling, improving functionality, sustainability, and urban integration, and earning international architectural recognition (Figure 3).



Figure 3: King Fahad National Library, Riyadh: elevations showing the textile shading devices fusing traditional architecture with a reinterpretation of contemporary design (Source: author).

The Salmani-inspired commercial mall 'Via Riyadh' expresses a contemporary interpretation of traditional Najdi architecture, shaped by the principles of Salmani urbanism - a design approach anchored in heritage, sustainability, and modern livability, as championed under the vision of King Salman. The façades of the buildings surrounding the central plaza are carefully made to reinterpret traditional elements like mud-plastered walls, openings, and decorative geometric patterns in a contemporary architectural language. A key feature is the reinterpretation of the *mashrabiya*, traditionally used for privacy and climate control. In these commercial buildings, the *mashrabiya* is expressed as contemporary screens, with decorative projected lighting that creates an innovative atmosphere over the walls' elevations, inspired by *mashrabiya* patterns. The exterior walls feature inclined surfaces that provide filtered light and natural ventilation, while translating contemporary commercial needs and maintaining visual continuity with the Najdi architectural heritage. This fusion of heritage aesthetics and contemporary design maintains cultural identity while enhancing environmental performance, in line with the National Vision's goals for sustainable development in Riyadh (Figure 4).



Figure 4: Salmani-Inspired Commercial Mall 'Via Riyadh'. An example of blending heritage and smart technology, using programmable projection on the walls' elevation influenced by *mashrabiya* patterns (Source: author).

The residential buildings in Riyadh's Diplomatic Quarter exemplify a sensitive integration of contemporary design with traditional Najdi architectural concepts. Developed in the 1980s as part of a climate-responsive urban master plan, the DQ emphasizes cultural coherence, sustainability, and human-scaled design. A key feature is the reinterpretation of traditional elements in the façade, particularly the *mashrabiya* for privacy and ventilation, as in tradition. In the DQ, this concept is adapted through modern materials and geometric patterns to create shaded openings, screened balconies, and intriguing façades that allow for privacy, light, and airflow (Figure 5). The reinterpretation of *mashrabiya* enhances passive cooling and promotes pedestrian comfort while strengthening the neighborhood's visual and cultural identity. This approach links ancient traditions with contemporary metropolitan living, making the Diplomatic District area a representative example of sustainable architecture in hot-arid environments.



Figure 5: Residential Building in Diplomatic Quarter, Riyadh; the urban corridors are protected by a reinterpretation of traditional *mashrabiya* elements in concrete (Source: author).

Identified reinterpretations fall into two categories: aesthetic revivals and functional hybrids. The latter integrates smart systems for temperature and light regulation, delivering potential for performance-driven design. The findings also point to the need for preserving craft through digital archives and vocational education. A proposed model includes designing dedicated training programs aligned with the values of the Salmani architecture.

4.3. Discussion: Mashrabiya as translated tradition

To clarify how the contemporary Saudi examples reinterpret the *mashrabiya*, the following comparative table applies the selected analytical parameters to each case study. These parameters enable moving beyond a purely descriptive reading of the projects and assessing how each building translates traditional *mashrabiya* principles into contemporary design strategies. In particular, the comparison examines functional

performance, technology incorporation, cultural and visual expression, material advancement and sustainability, and socio-spatial impact. Through this structure, the table highlights how the *mashrabiya* is reinterpreted not only as a visual reference to Islamic and Saudi heritage but also as an environmental, technological, and urban design device adapted to current architectural needs.

Table 1 presents contemporary cases that examine the interpretation of *mashrabiya* as a process of translation. Each project illustrates a unique combination of function, identity, material knowledge, and environmental performance. In historical public buildings, the *mashrabiya* managed light and air while protecting privacy and reinforcing cultural values. In contemporary Riyadh, the same principles are reworked through dynamic façades, tensile shading layers, perforated panels, and smart environmental systems.

CASE STUDY	FUNCTIONAL PERFORMANCE	TECHNOLOGICAL INTEGRATION	CULTURAL AND AESTHETIC EXPRESSION	MATERIAL INNOVATION & SUSTAINABILITY	SOCIO-SPATIAL IMPACT
1. King Abdullah Petroleum Studies and Research Center (KAPSARC)	Dynamic façades with hexagonal modules optimize shading and airflow, achieving high performance in energy efficiency.	Passive and responsive shading integrated with digital environmental controls.	Abstract reference to traditional Islamic geometry; futuristic reinterpretation.	High-tech composite materials with low carbon impact. Emphasis on prefabrication.	Promotes comfort and visual identity. Public zones feature shaded paths and climate-responsive design.
2. King Fahad National Library	The tensile mashrabiya layer reduces glare and heat gain while allowing diffused daylight.	Fixed tensile elements; no automation. Integration with the Building Management System (BMS) for climate control.	Modern reinterpretation of traditional motifs using repetitive geometric mesh.	Lightweight used for tensile ETFE-like fabric skin (ethylene tetrafluoroethylene). Sustainable due to reduced material use.	Enhances internal ambiance and visibility while maintaining privacy. Lightweight used for tensile ETFE-like fabric skin
3. Commercial Mall Via Riyadh	Decorative lighting and projected patterns reinterpret mashrabiya geometries and contribute to the building's visual identity.	Contemporary lighting and façade treatment support the symbolic reinterpretation of traditional patterns.	Faithful to the <i>mashrabiya's</i> heritage, with reinterpreted patterns that combine vernacular references and contemporary architectural language.	Exterior walls acting as passive cooling. Local, low-impact sourcing.	Adaptation to contemporary commercial use. Enhances thermal comfort and reflects Salmani's human-scale design. Encourages user interaction.
4. Residential Building in Diplomatic Quarter	Perforated screens provide controlled shading, reduce cooling loads, and maintain privacy—passive ventilation through courtyard planning.	Passive façade screens and shaded openings; limited technological integration, with emphasis on climate-responsive design.	Harmonious blend of modern forms with Najdi-inspired Roshan details. Subtle patterning reflects local aesthetics.	Locally sourced stone, wood, and Glass Reinforced Concrete (GRC) mashrabiya panels. Designed for low maintenance and climate adaptability.	Its design prioritizes human scale and privacy and provides outdoor protected spaces. It supports the links between traditional areas and modern needs and reinforces the meaning of cultural continuity.

Table 1: Comparisons between the case studies adopting the selected analytical parameters (Source: author).

While the previous table compares the four contemporary Saudi case studies according to specific design and performance parameters, a wider interpretive synthesis is needed to connect these outcomes back to the

historical examples discussed earlier in the paper. Table 2, therefore, shifts from individual case analysis to a translation framework, showing how the *mashrabiya* moves from historic public architecture to contemporary Saudi design. This transition is important because it demonstrates that contemporary projects do not simply reproduce traditional forms; rather, they reinterpret inherited principles such as privacy, shading, ventilation, filtered light, cultural identity, and social mediation through new materials, technologies, and urban functions. In this way, the comparison between the two tables reinforces the paper's central argument: the *mashrabiya* should be understood as a translatable architectural principle capable of sustaining cultural continuity while responding to contemporary sustainability and design challenges.

TRANSLATION LAYER	REPRESENTATIVE CASES	DOMINANT MATERIAL/TECHNOLOGY	MAIN FUNCTION	CULTURAL MEANING
Historic sacred/educational	Al-Azhar Mosque; Sidi Saiyyed Mosque; Bou Inania Madrasa; Umm al-Sultan Sha'ban Madrasa	Wood and carved stone	Privacy, filtered light, airflow, contemplation	Modesty, learning, spiritual unity, public representation
Historic healing/hospitality	Nur al-Din Bimaristan; Qalawun Hospital; Wikala of Baazar'a; Najjarin Funduq	Stone screens and carved wooden lattices	Comfort, hygiene, observation, security, ventilation	Care, trade, hospitality, social mediation
Contemporary Saudi institutional	KAPSARC; King Fahad National Library	High-performance skins, tensile façade systems, environmental controls	Solar protection, daylight control, thermal comfort	Public identity, innovation, sustainable heritage
Contemporary Saudi commercial/residential	Via Riyadh commercial mall; Diplomatic Quarter housing	Perforated panels, GRC, local materials, lighting projection systems, and passive shading strategies	Privacy, public interaction, shading, and human-scaled outdoor comfort	Najdi continuity, Salmani design, Vision 2030 cultural identity

Table 2: Translating the *mashrabiya* from historic architecture to contemporary Saudi design (Source: author).

Each project - KAPSARC, the Via Riyadh commercial mall, the King Fahad National Library, and the Diplomatic Quarter Residential Building - illustrates a unique combination of contemporary design and heritage. Collectively, the selected case studies show different degrees of environmental responsiveness, from high-performance façade systems and tensile shading layers to passive screens, filtered openings, and culturally informed surface treatments. In addition to maximizing energy efficiency, KAPSARC's dynamic façades reinterpret Islamic geometry in a contemporary context. The King Fahad National Library has an innovative interpretation of ancient traditions using tensile *mashrabiya* to improve daylighting while preserving privacy. The tensile *mashrabiya* components let in diffused light while reducing glare.

The commercial mall 'Via Riyadh' adopts a contemporary visual and environmental approach that combines heritage references with commercial functionality. It features light projection panels as exterior walls for adaptive design, adapted to contemporary commercial needs while increasing thermal comfort. Finally, the

Residential Building in the Diplomatic Quarter integrates traditional Najdi features with modern materials, generating a well-integrated urban environment. The case integrates local materials and Najdi aesthetics, underscoring cultural identity and user comfort. All the selected case studies show how various design strategies to adapt the *mashrabiya* for contemporary needs have enhanced its importance in sustainable design and cultural relationships.

The historical cases clarify why this translation is meaningful. The *mashrabiya* was never only decorative. It encoded a relationship between body, climate, faith, craft, and public life. Its geometric repetition connected environmental filtering with the symbolic language of Islamic architecture. Its material variation, from wood to stone, showed that tradition was already regionally adaptive. Its typological variation, from mosque to madrasa and from hospital to caravanserai, showed that the same design principle could serve different social needs. Contemporary Saudi architecture, therefore, does not invent adaptation from nothing; it extends an existing capacity for transformation.

The *mashrabiya* can be a symbolic and functional element between tradition and societal innovation. By aligning its reuse and adaptations with human-centric, context-responsive design, future studies and research could meaningfully contribute to the methodology of Salmani architecture and the goals of Vision 2030. In this sense, the most important translation is not from past form to present image, but from inherited architectural intelligence to contemporary performance. The *mashrabiya* becomes a device through which climatic responsibility and cultural identity can be pursued together.

5. CONCLUSIONS

This research concludes that the *mashrabiya* remains a durable and culturally relevant architectural principle, rather than a fixed historical object. By comparing eight historical public buildings with four contemporary Saudi case studies, the paper has shown that its core functions—privacy, light control, ventilation, environmental moderation, and symbolic expression—continue to inform contemporary design. In Riyadh, these principles are reinterpreted through new materials, façade technologies, and sustainability agendas, producing continuity through adaptation rather than literal imitation. To preserve traditional knowledge while embracing current technology, future developments might center on developing educational programs that promote handicraft and digital design. Finally, the research reveals that establishing collaborative platforms between technologists, architects, and artisans can promote both architectural concepts and functional results by enhancing energy efficiency and cultural preservation. The *mashrabiya's* value could be further enhanced by conducting further research into integrating smart technologies such as AI and IoT, thereby establishing it as an essential element in creating human-centered, sustainable cities in line with Saudi Arabia's Vision 2030.

The *mashrabiya* demonstrates that tradition survives when it can move across space, time, material, and performance. Its transformation from wooden lattice to an intelligent façade is not a loss of authenticity but a renewed form of cultural agency. It shows that sustainable architecture in the twenty-first century can be both technically innovative and culturally grounded, especially when inherited forms are understood as living systems rather than static symbols.

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Working Paper Series

FROM MARREE TO MELBOURNE: TRANSLATING TRADITIONS IN THREE AUSTRALIAN MOSQUES

Md Mizanur Rashid, Katharine Bartsch

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The history of Islam in Australia can be traced to the earliest maps of the northern coastline prepared by Al-Khwarizmi in 820CE/204AH. Yet scholarly studies of Australian Muslim communities, which continue to undergo significant growth, are comparatively recent. In this context, the architecture of the masjid (mosque) has undergone significant transformation. This paper examines how this transformation is shaped by a complex history of migration and settlement and the formation of diverse communities who are united in their aspirations to build faith (literally and metaphorically) in Australia.

To examine the mosque in Australia, and various translations of “tradition”, this paper draws on the linguistic metaphor introduced by the eminent sociologist Jacques Berque. He suggested that Islamic architecture can be understood through the lens of language; thawābit (fixed morphological principles) provides consistent “order” and mutabawwilāt (variable rhetorical elements) reflects contextual adaptations. What is fixed in the Australian context, and what changes?

To address these questions, three mosques are examined in this paper. From the modest, ephemeral ‘bush’ mosque of Marree (c.1860), to the richly ornamented Auburn Gallipoli Mosque (Sydney, opened 1999), and the award-winning innovation of Newport Mosque (Melbourne, opened 2019), by Pritzker Prize winner Glenn Murcutt with Hakan Elevli, these structures embody the resilience and agility of their communities. The architecture of these mosques has continued to evolve in dynamic ways whereby the diverse and rich “traditions” of Islamic architecture are reinterpreted by generations of Muslim communities. Despite differences in size, style, and materials, Australian mosques share compositional principles that reflect a unified religious identity.

Placing these mosques in Australia’s secular, multicultural setting also raises larger questions about tradition: How can tradition be understood across different cultures, ethnicities and languages? The study shows that tradition is not simply a matter of repeating past forms. It is a balance between stability and change, shaped by history, community, and place. These Australian mosques demonstrate how tradition can be translated into new cultural contexts, offering insights into how the idea of “tradition”—like the Chinese term chuan tong—can be redefined in today’s global world.

1. INTRODUCTION

A pair of photographs from the 1890s held by the State Library of South Australia (SLSA-B38361; W. Bejah) depict European men and women in evening dress posing beside the Afghan mosque at Hergott Springs, now known as Marree. These images suggest that the two earth-walled mosques at Marree were viewed as exotic and picturesque structures within the context of late nineteenth-century colonial outback towns. They also indicate that, despite their modest and often temporary character, the earliest mosques in Australia attracted curiosity among the colonial population because of their unfamiliar architectural form.

Over the last 150 years, however, the Australian Islamic landscape has changed significantly. With increased migration and natural population growth, Islam has become one of the fastest-growing religions in Australia and the second largest religious affiliation after Christianity according to the Australian Bureau of Statistics Census 2021. Mosques are now common features not only in major metropolitan centers but also in regional

and remote towns. Halal food businesses are widely accessible, and Islamic festivals such as Ramadan and Eid al-Fitr are increasingly recognized within Australian society.



Figure 1: Images showing the European men and women visiting the 'exotic' mosque in Maree (Source: State Library of South Australia (B38361; W. Bejah).

At the same time, Australian Muslim communities have become more locally rooted. Second- and third-generation Muslims born and raised in Australia are increasingly engaged in wider civic and cultural life. In architecture, Muslim and non-Muslim architects, builders, and clients are collaborating in the design of mosques across the country. Yet the Muslim population in Australia remains highly heterogeneous, shaped by diverse linguistic, ethnic, geographic, and cultural backgrounds. Unlike many Muslim-majority nations, Australian Islam is not defined by a single tradition, but by multiple migrant communities that have brought varied social values, practices, and spatial expectations.

This diversity has made the search for a shared architectural language for mosques both complex and productive. Over time, however, these distinctions have gradually softened, contributing to the emergence of a more inclusive and distinctly Australian Muslim identity. This paper examines that historical transformation and investigates how changing Muslim identities have influenced mosque architecture in Australia over the past 150 years. It argues that Australian mosques reveal how Islamic traditions can be reinterpreted within new cultural settings, blending inherited forms with local conditions to create an evolving architectural language of the Australian mosque.

2. HISTORY OF ISLAM IN AUSTRALIA

The history of Islam in Australia extends far beyond recent migration narratives and can be traced to some of the earliest cartographic references to the continent's northern coastline, including maps prepared by Al-Khwarizmi in 820 CE/204 AH. Yet serious scholarly attention to Australian Muslim communities is

comparatively recent, despite the continued growth and diversification of these communities. Within this broader historical trajectory, the architecture of the mosques provides an important lens through which to examine processes of migration, settlement, identity formation, and cultural adaptation in Australia.

2.1. Early Islamic Contact

The history of Islam in Australia extends well before British colonization and modern migration. A growing body of scholarship suggests that Muslim engagement with the Australian continent began through maritime trade, exploration, and seasonal fishing networks across the northern coastline. Indigenous oral traditions, archaeological evidence, and linguistic traces indicate long-standing contact between Aboriginal communities and visitors from the Indonesian archipelago, Arabia, South Asia, and East Africa. Among the most widely documented were the Macassan trepang fishermen from Sulawesi, who regularly visited Arnhem Land and northern Australia from at least the seventeenth and eighteenth centuries, and possibly earlier. These exchanges involved trade, labor, technology transfer, and cultural interaction.^{1 2}

Some scholars also point to early Islamic cartography as evidence of Muslim geographical awareness of Australia. Maps prepared by Al-Khwarizmi (820 CE) and Al-Istakhri (934 CE) are often cited in discussions of early northern coastal knowledge³. While interpretations vary, these accounts challenge the assumption that Australia's history began solely with European discovery and place Muslim presence within a much longer transregional context.

2.2. Mid and Late 19th Centuries: The Camel Era

The most visible early Muslim communities emerged during the nineteenth century with the arrival of Afghan, Baluchi, Punjabi, and other Muslim cameleers who were collectively labelled “Afghans” in colonial records. From the 1860s onward, these cameleers were essential to inland exploration, transportation, pastoral expansion, mining settlements, and infrastructure projects such as the Overland Telegraph Line (1870–72). Camels were uniquely suited to Australia's arid interior, allowing access to remote regions where horses and bullocks were less effective.⁴

These communities also introduced some of Australia's first permanent Islamic institutions. Modest mosques and prayer spaces were established in towns such as Marree, Coolgardie, Broken Hill, and Adelaide. Many were simple earth, corrugated iron, or timber structures adapted to local materials and conditions. The Adelaide Mosque, completed in 1888, remains one of the oldest surviving mosques in Australia and stands as a symbol of early Muslim resilience and settlement.⁵ These mosques established the first visible Islamic architectural presence within the Australian landscape.

2.3. The White Australia Policy and Formation of Federation

The formation of the Australian Federation in 1901 introduced new immigration controls under the White Australia Policy and the Immigration Restriction Act. These measures were designed to limit non-European migration and had significant consequences for Muslim settlement. New arrivals declined, family reunification became difficult, and many early Muslim communities remained socially and geographically marginalized.

At the same time, technological change reduced the economic role of cameleers. The expansion of railways, roads, and motor vehicles in the early twentieth century made camel transport increasingly obsolete. Many cameleers returned to their homelands, while others remained and assimilated into broader society. As a result, several early inland mosques disappeared or fell into disuse, leaving only fragments of their material legacy.⁶ Nevertheless, surviving sites such as the Adelaide Mosque preserved continuity of Muslim religious life during a restrictive era.

2.4. Post WWII Migration (1950's-80s)

A major transformation occurred after World War II when Australia adopted large-scale migration to support economic development and population growth. Although early post-war programs favored Europeans, the gradual dismantling of the White Australia Policy during the 1960s and early 1970s opened migration pathways for people from the Middle East, South Asia, and Southeast Asia. Muslim migrants arrived from countries such as Lebanon, Turkey, Egypt, Bosnia and Herzegovina, Indonesia, and Malaysia.

By the 1980s, many Muslim families had settled permanently, established businesses, and raised Australian-born children. This period saw the rapid expansion of Islamic organizations, schools, welfare associations, and purpose-built mosques. New mosques were constructed particularly in suburban areas of Sydney and Melbourne, reflecting both religious needs and the cultural identities of migrant communities.^{7 8} Mosque architecture during this era often drew directly from homeland precedents, including domes, arches, and minarets.

2.5. Recent Phenomenon; Third Generation Migrants

In the twenty-first century, Islam has become the second-largest religion in Australia, representing a significant and growing component of the national population.⁹ Increasingly, Muslim identity is being shaped not only by migrants but also by second- and third-generation Australians who are born and educated locally. These communities often express a hybrid identity that is simultaneously Islamic and Australian, engaging confidently with civic institutions, education, politics, and professional life.

This generational shift has influenced mosque architecture. Contemporary mosques increasingly move beyond direct replication of overseas models toward designs that respond to local climate, planning regulations, neighborhood character, gender inclusion, and sustainability. Examples include the richly symbolic Auburn Gallipoli Mosque and the innovative Newport Mosque designed by Glenn Murcutt and Hakan Elevli. These projects demonstrate how mosque design in Australia now negotiates continuity of Islamic tradition with the realities of a secular, multicultural, and environmentally conscious society. Mosques today function not only as places of worship, but also as symbols of belonging, permanence, and intercultural dialogue within contemporary Australia.

3. THE THREE MOSQUES

3.1. Maree Mosque

The Marree Mosque (c.1884) emerged within the broader context of Afghan cameleer migration, when Muslim workers from present-day Afghanistan, Pakistan, and northern India were brought to Australia in the nineteenth century to support inland exploration, pastoral industries, and early transport networks. These cameleers, described in historical accounts as operating across “Australia’s vast desert interior”¹⁰, gradually formed dispersed but resilient Muslim communities in remote settlements such as Marree, a key camel and railway hub along the Ghan route between Adelaide and Darwin. Their presence marked one of the earliest sustained introductions of Islam into inland Australia, shaped by itinerant labor and frontier conditions.¹¹

The mosque itself developed from the practical needs of a mobile workforce who initially performed prayers in open desert or temporary bush shelters. This structure was also used as temporary shelter during the fasting months, when the cameleers did not work, according to their work agreement. As settlement patterns stabilized around camel yards and railway infrastructure, informal worship spaces gradually evolved into more defined structures. Built through communal effort, the mosque was constructed using readily available materials such as mud, timber offcuts, and corrugated iron, reflecting both economic constraints and the adaptive building practices of the outback environment. These modest structures represented an attempt to “concretize the sense of belonging” for a small and geographically isolated community.¹²

Architecturally, the Marree Mosque is a lightweight, pavilion-like form rather than a formalized mosque typology, reflecting a high degree of environmental and cultural adaptation. Its low mud perimeter walls and simple timber frame echo construction traditions from arid regions of South Asia, particularly northern India, Pakistan, and Afghanistan, while also responding directly to the harsh climatic conditions of inland Australia. At the same time, salvaged timber and packing materials illustrate common outback practices of reuse and

improvisation.



Fig. 2: Image of the first mosque in Australia in Hergot Spring (Marree), South Australia. (Source: State Library of South Australia, B 15341)

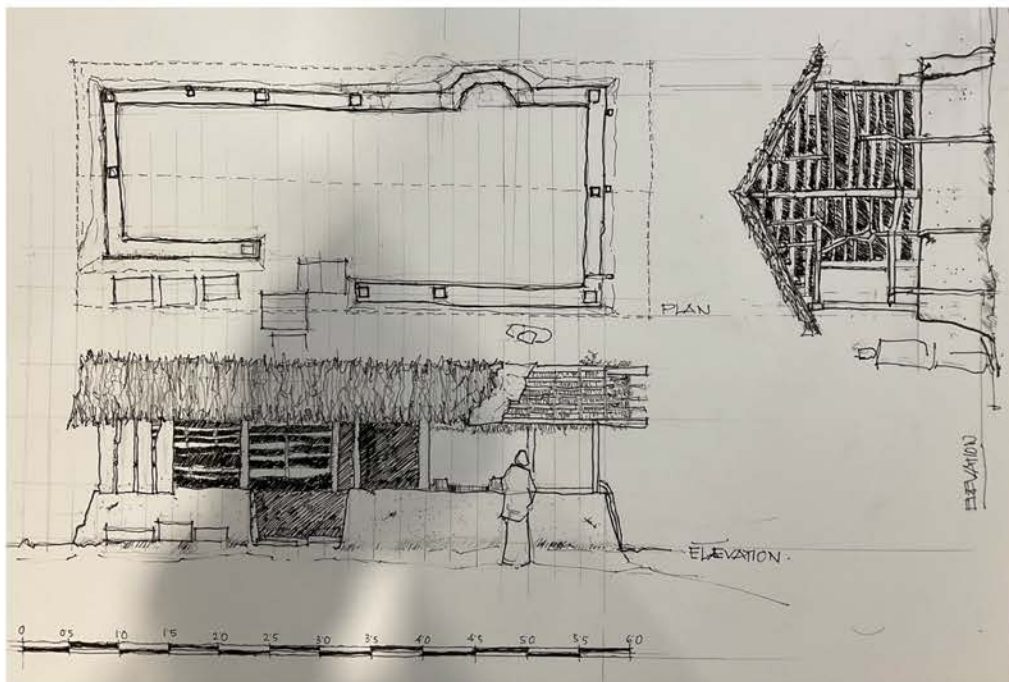


Fig. 3: Author's reconstruction of plan and elevations of the Marree mosque. (Source: Author)

Morphologically, the structure also shows notable influence from Indigenous Australian brush shelters, particularly in its lightweight roof form and responsiveness to mobility and climate, suggesting an exchange of practical knowledge between cameleers and Aboriginal communities. Early European observers, however, often perceived such structures as “exotic,” with archival descriptions and photographs indicating that the mosque was viewed less as a formal religious institution and more as an unusual or picturesque pavilion

within the colonial landscape (SLSA-B38361). Through this layered combination of homeland traditions, Indigenous influence, and frontier improvisation, the mosque represents an early and significant example of architectural hybridity and the visible emergence of Islam in Australia's remote interior.

3.2. The Auburn Gallipoli Mosque

After 1945, mosques became increasingly visible and permanent features of Australia's multicultural urban landscape, reflecting the growth of Muslim communities and shifting immigration patterns from countries such as Turkey, Lebanon, Bosnia, Pakistan, Afghanistan, and Indonesia. These post-war mosques demonstrate hybrid architectural forms that integrate Islamic design principles with Australian materials, construction techniques, and planning regulations, marking the transformation of Muslims from a small, often marginalized population into an established part of the nation's social and cultural fabric. As noted in the Auburn case study, mosques also function as community centers for education, social interaction, interfaith dialogue, and cultural events, extending their role well beyond worship.¹³



Fig. 4: Street view of Auburn Gallipoli Mosque, Sydney. (Source: Mosquepedia, Abdullah Al Fozan Awards, <https://mosqpedia.org/masajid/auburn-gallipoli-mosque/>)

Establishing congregational mosques was therefore a key expression of faith, identity, and long-term settlement, often achieved through volunteer labor, diaspora fundraising, and international support, reflecting strong collective commitment and resilience. Their architectural hybridity is evident in the adaptation of domes, minarets, arches, and calligraphy to Australian climatic conditions and regulatory frameworks, while maintaining symbolic continuity with Islamic traditions. Case studies, including Turkish, Afghan, Pakistani, Indian, Lebanese, and Albanian communities, demonstrate how mosque design and community life together articulate belonging within Australia's multicultural society. Despite stylistic variation, these mosques consistently function as visible and enduring symbols of cultural and religious pluralism.

The Auburn Gallipoli Mosque, located in western Sydney within a diverse residential and industrial district centered around Auburn railway station exemplifies this post-war mosque development. The mosque began in 1978 when Turkish Muslim migrants purchased a house as a temporary prayer space, reflecting early settlement patterns where worship occurred in adapted or informal settings.¹⁴ As the community expanded, construction of a permanent mosque commenced in 1986 through local fundraising and overseas contributions, including support from Turkey and Malaysia, alongside extensive community-driven financing. The project was supported by the Presidency of Religious Affairs (Diyanet), with architectural adaptation led by David G. Evans, structural engineering by Roger Fox, and later design refinement by Leyla Baydar Güven, ensuring Ottoman architectural principles were aligned with Australian standards.¹⁵

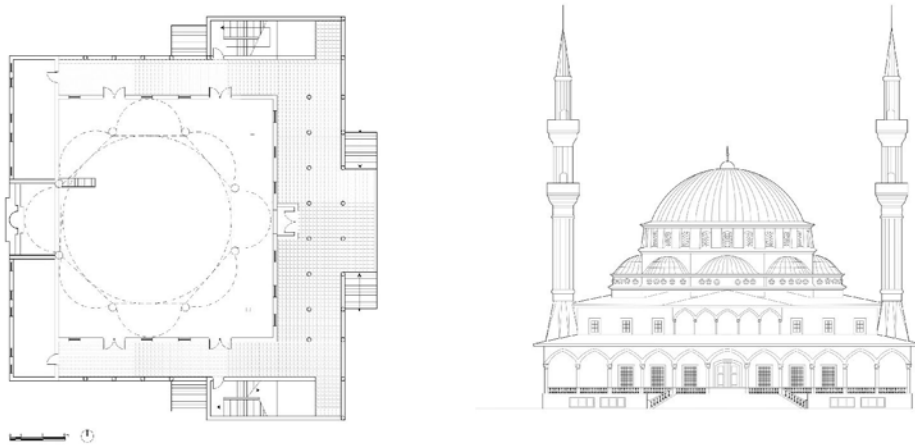


Fig. 5: Plan and elevation of Auburn Gallipoli Mosque. (Source: Drawn by Mr. Ahmad Tariq Hakimi after the Proposed Auburn Mosque Planning Drawings submitted by David Evans Associate Architect 1985)

Completed in 1999, the Auburn Gallipoli Mosque represents a major example of Ottoman-inspired architecture adapted to the Australian context. Its design features a dominant central dome surrounded by eight smaller domes and two 39-metre minarets, creating a strong urban landmark. The cascading dome composition and centralized spatial organization recall the morphology of Hagia Sophia and classical Ottoman imperial mosques, where hierarchical dome systems generate both monumentality and structural balance. Constructed in reinforced concrete and finished with imported marble and travertine, the building merges traditional Islamic architectural language with contemporary Australian construction methods.

The interior continues this synthesis through Arabic calligraphy, geometric and vegetal ornamentation, stained glass, and symmetrical compositions that enhance the spiritual atmosphere through filtered natural light. Painted arches incorporating *ablaq*-style banding reference historic Islamic decorative traditions,

particularly those associated with Mamluk and Ottoman architecture, where alternating color masonry has been traced to earlier Byzantine influences in the eastern Mediterranean.¹⁶ Through this layered architectural vocabulary, the mosque expresses cultural continuity, permanence, and belonging, while simultaneously asserting Muslim visibility within Australia's multicultural built environment.

3.3. Newport Islamic Centre

The Australian Islamic Centre in Newport, Melbourne, is widely regarded as one of the first contemporary mosque complexes in Australia to reinterpret Islamic architectural traditions within a modern suburban context. Designed by Pritzker Prize-winning architect Glenn Murcutt in collaboration with the local Muslim community, the project (2006–2016) reflects a shift in how mosques are conceived—not as closed monumental forms, but as open, civic-oriented spaces embedded within everyday Australian life. The initiative emerged in 1995 when the Islamic Society of Newport began searching for a permanent site, eventually acquiring land in 2005 after years of negotiation and planning, with the aim of creating a mosque that would be both architecturally contemporary and socially inclusive.

Murcutt's design responds to both Islamic spatial principles and Australian environmental and cultural conditions, drawing on fundamental mosque elements such as orientation towards Mecca (qibla), the mihrab, spaces for ablution, and the functional separation of prayer areas while reinterpreting them through a modernist architectural language. The building is organized as a sequence of interconnected civic and religious spaces, including a prayer hall, library, café, community facilities, and multipurpose halls, reflecting the mosque's role as both a spiritual and social hub. Instead of traditional domes or enclosed monumental forms, the design emphasizes transparency, lightness, and openness, using glass and layered spatial transitions to dissolve boundaries between interior and exterior space.



Fig. 6: Street view of Newport Islamic Centre. (Source: Mosquepedia, Abdullah Al Fozan Award, <https://mosqopedia.org/masajid/australian-islamic-centre-2/>)

Morphologically, the mosque departs from conventional typologies by reimagining key architectural symbols: the minaret is transformed into a linear wall defining the courtyard rather than a vertical tower, and the traditional domed roof is replaced with low, expansive forms that integrate with the suburban landscape. A large east-facing courtyard and verandah function as a contemporary interpretation of the traditional *sahn*, providing communal gathering space for major events such as Eid prayers, while also reinforcing the building's civic accessibility. Water elements, linear circulation paths, and visual continuity between exterior courtyards and the prayer hall create a spatial experience of openness and flow, with direct sightlines extending from the entrance through to the mihrab and qibla wall.



Fig. 7: Plan and interior view of Newport Islamic Centre. (Source: Mosquepedia, Abdullah Al Fozan Award, <https://mosquepedia.org/masajid/australian-islamic-centre-2/>)

Through this architectural strategy, the Australian Islamic Centre expresses a new phase in mosque design in Australia, where Islamic spatial traditions are not replicated in historical form but reinterpreted through transparency, inclusivity, and environmental responsiveness. It stands as a significant example of how contemporary mosque architecture negotiates identity, belonging, and visibility within a multicultural suburban context, redefining the mosque as both a place of worship and a shared civic landscape.

4. DISCUSSION

This study demonstrates that mosque architecture in Australia is best understood through the concept of hybridity, where Islamic tradition is neither preserved as a fixed form nor dissolved through adaptation, but continuously reassembled through migration, material conditions, and cultural negotiation. While Islam's historical presence is often symbolically extended to early cartographic references such as Al-Khwarizmi's mapping of the northern coastline (820CE/204AH), its architectural presence in Australia emerges much later as a layered hybrid spatial practice shaped by diverse migrant trajectories. Within this context, the mosque functions as a hybrid cultural instrument through which religious identity is constructed as memory, practice, and spatial belonging within a secular and multicultural environment. The three mosques examined in this study—the early mosque at Marree, the Auburn Gallipoli Mosque, and the Newport Mosque—collectively reveal the evolving nature of mosque architecture in Australia as it negotiates between tradition, context, and community. While each emerges from a distinct historical moment, together they illustrate how architectural responses are shaped by migration, material conditions, and shifting cultural identities.

The Marree mosque and the Newport Islamic Centre both demonstrate unconventional formal approaches that do not directly replicate established Islamic architectural vocabularies. In Marree, the cameleers relied on their own experiential knowledge of building traditions from their homelands, combined with local practices encountered in Australia. As non-professional builders, they produced a structure that departs from conventional mosque iconography. Simplicity, availability of materials, and practical skill guided the construction process, resulting in an architecture defined by restraint and adaptability rather than symbolic expression. In contrast, the Newport Mosque, designed by Glenn Murcutt and Hakan Eleveli, adopts a contemporary architectural language that deliberately avoids affiliation with any specific regional or national tradition. Its formal clarity and environmental responsiveness challenge popular expectations of mosque design while situating the building firmly within an Australian architectural discourse.

By comparison, the Auburn Gallipoli Mosque presents a different trajectory, expressing a conscious and intentional connection to the cultural heritage of Turkish migrants. Its architectural language draws on Ottoman precedents, reinforcing identity and continuity within a diasporic context. Considered together, these three mosques demonstrate that there is no singular model for mosque architecture in Australia; rather, they reflect a spectrum of positions ranging from cultural continuity to contextual reinterpretation.

Despite their formal differences, all three mosques function as multi-use community infrastructures. They embody a holistic approach to mosque design that extends beyond ritual prayer to include social, cultural, and educational activities. This reflects a broader understanding within Islamic jurisprudence, where the mosque is not limited to a sacred enclosure for daily and Friday prayers but is conceived as an institution serving multiple facets of Muslim life. As such, mosques contribute significantly to community identity, acting as centers for congregation, learning, social exchange, and even conflict resolution.

The comparative drawing in Figure 8 demonstrates that across the case studies, a shared morphological framework remains evident. Core spatial principles—orientation towards the qibla, provision of unobstructed prayer spaces, and accommodation of collective worship—are consistently maintained. At the same time, the architects and builders engage with contemporary Australian architectural practices, incorporating elements such as corrugated metal roofing, restrained material palettes, simple façades, and climate-responsive fenestration. The integration of ancillary functions further reinforces the mosque's role as a social and civic anchor. This synthesis of functional clarity and contextual adaptation reflects an approach that is both pragmatic and innovative.

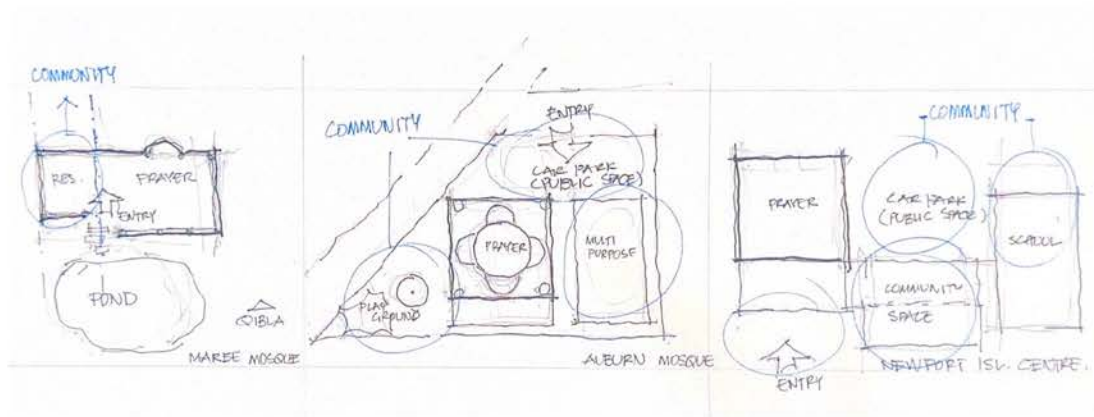


Fig. 8: Analytic diagram of the spatial layout of the three mosques . (Source: Author)

Drawing on Jacques Berque's linguistic model of *thawābit* (stable morphological principles) and *mutahawwilat* (contextual and rhetorical variation), hybridity operates as the mediating condition between continuity and change. As argued by Rashid and Rahim,¹⁷ architectural meaning in such contexts emerges from the integration of “cultural-historical contexts, regional styles, functional needs, and environmental possibilities,” rather than from fixed stylistic templates. In this sense, hybridity—understood as a condition of architectural production rather than an exception—is central to how meaning is generated across time and place.¹⁸ What remains consistent across the three Australian case studies—the Marree Mosque, the Auburn Gallipoli Mosque, and the Australian Islamic Centre—is the underlying Islamic spatial grammar of orientation, congregation, and communal gathering. However, this grammar is always materially hybridized, reassembled through local technologies, cultural encounters, and institutional frameworks rather than directly replicated from historical precedents.

The Marree Mosque represents an early vernacular hybrid shaped by necessity, where South Asian building traditions, Indigenous spatial knowledge, and frontier improvisation converge into a fragile but meaningful

architectural assemblage.¹⁹ Its mud walls, recycled timber, and brush-like roof structure demonstrate hybridity as survival practice, where Islamic spatial intent is sustained through extreme material and environmental adaptation. The Auburn Gallipoli Mosque, by contrast, expresses a diasporic and institutional form of hybridity, combining Ottoman imperial references, Australian regulatory frameworks, and transnational funding networks to produce a monumental suburban landmark (Auburn Gallipoli Mosque Booklet, 2015).²⁰ Here, hybridity operates through cultural layering, where Ottoman architectural memory is reinterpreted within Australian suburban visibility and migrant identity formation. The Australian Islamic Centre extends this trajectory into a civic-modernist hybridity, where Islamic spatial principles are reinterpreted through transparency, openness, and environmental responsiveness under Glenn Murcutt's architectural language, dissolving formal monumentality while retaining ritual orientation and communal function.

Across these cases, hybridity is not incidental but constitutive of Islamic architecture in Australia. It operates simultaneously at material, cultural, and conceptual levels: materially through construction techniques and resource negotiation; culturally through migrant identity formation; and conceptually through the translation of mosque typologies across time and place. As Berque²¹ suggests, Islamic architecture functions through the interplay of enduring morphology and contextual expression, but in the Australian diaspora this interplay becomes a sustained condition of hybrid formation rather than episodic adaptation. Hybridity here should be understood not as stylistic mixture but as an operative architectural condition through which form, function, and meaning are continuously generated.²²

This also challenges essentialist readings of Islamic architecture that privilege fixed stylistic authenticity. As Rashid et al.²³ emphasize, the character of Islamic architecture is shaped by the social, political, and cultural conditions of its emergence. In diaspora contexts such as Australia, hybridity becomes the primary mode of architectural production, as communities negotiate internal diversity while engaging external cultural and regulatory frameworks. The mosque thus emerges as a hybrid institution of continuity and translation, mediating between inherited traditions and contemporary realities.

Importantly, hybridity reframes tradition itself as an active and evolving process rather than a static inheritance. In Marree, it appears as pragmatic intercultural adaptation; in Auburn, as diasporic synthesis of Ottoman memory and Australian suburban modernity; and in Newport, as civic reinterpretation through transparency and environmental integration. In each case, hybridity ensures that tradition is not lost but continuously re-authored in relation to place.

Despite these differences, all three mosques function as multi-use community infrastructures. They embody a holistic understanding of the mosque as an institution that supports religious, social, and cultural life. This expanded role reinforces their importance as centers of identity formation, education, and community

cohesion. Architecturally, this is reflected in the integration of ancillary spaces and flexible programs that respond to the evolving needs of diverse Muslim communities.

Importantly, hybridity in these cases is not incidental but constitutive. It operates simultaneously at material, cultural, and conceptual levels: through construction techniques and available resources; through migrant identities and transnational connections; and through the translation of mosque typologies across contexts. This challenges essentialist readings of Islamic architecture that privilege fixed notions of authenticity. Instead, it positions architectural production as contingent, negotiated, and responsive to its socio-political environment.

The Australian context further amplifies this condition. As mosque design increasingly avoids exclusive references to singular cultural or ethnic traditions, it adopts a more inclusive and “diplomatic” architectural language. This reflects the heterogeneous nature of Muslim communities in Australia and their engagement within a secular, multicultural society. In this sense, mosques become sites of negotiation—mediating between internal diversity and external expectations, and between visibility and acceptance. As noted by Ganter, mosque architecture operates not only as religious infrastructure but also as a terrain of cultural and political engagement.

At a broader socio-political level, this hybridity positions mosques as spaces of cultural diplomacy within Australia’s secular multicultural society. As Ganter notes²⁴, mosque architecture is not only religious infrastructure but also a negotiated terrain of visibility, acceptance, and belonging. Hybridity thus becomes politically productive, enabling Muslim communities to articulate identity within national frameworks while maintaining transnational cultural connections.

Ultimately, the Australian case studies demonstrate that Islamic architecture should be understood as a hybrid system of spatial translation rather than a fixed typological tradition. Hybridity is not a deviation from authenticity but the very condition through which architectural meaning is produced and sustained. The Marree, Auburn Gallipoli, and Australian Islamic Centre collectively reveal that Islamic tradition endures precisely because it is continuously hybridized, absorbing new materials, meanings, and cultural logics while maintaining its core ethical and spatial foundations.

5. CONCLUSION

This study set out to examine how Islamic architectural tradition is transformed through migration and settlement in Australia, and how continuity is maintained within this transformation. The research demonstrates that mosque architecture in Australia is not a fixed transplantation of form, but a continuous process of cultural and spatial translation shaped by changing social, material, and political conditions.

Across the three case studies—the Marree Mosque, the Auburn Gallipoli Mosque, and the Australian Islamic Centre—what remains consistent is not architectural style, but an underlying spatial logic rooted in Islamic practice: orientation, congregation, and communal life. What changes is the mode of expression, ranging from vernacular improvisation in the outback, to diasporic monumentality in suburban Sydney, to civic-modernist transparency in Melbourne. This confirms that Islamic architectural tradition in Australia operates through continuity of principles and hybridity of form rather than replication of historical models.

The study also addressed the broader question raised in the abstract regarding how “tradition” should be understood across cultures and time. The findings suggest that tradition is not a static inheritance of forms, but an adaptive system of translation shaped by context, community, and place. In the Australian context, this translation is intensified by diaspora conditions, where diverse Muslim communities negotiate both internal plurality and external cultural integration. As a result, mosque architecture becomes a medium through which identity is continuously redefined rather than preserved in fixed terms.

From the earliest informal mosque in Marree to the institutionally supported Auburn Gallipoli Mosque and the contemporary Australian Islamic Centre, the trajectory reveals a clear transition from peripatetic and provisional spaces of worship to embedded civic and cultural institutions. These shifts reflect the broader transformation of Muslim presence in Australia—from itinerant labor to established community life—and the corresponding evolution of architectural expression from necessity, to permanence, to integration.

Ultimately, the study confirms that Australian mosques should be understood as hybrid architectural systems that mediate between Islamic spatial principles and local conditions. Rather than diminishing tradition, hybridity sustains it by enabling continuous adaptation across time and space. In doing so, these mosques demonstrate that Islamic architecture in Australia is not a peripheral or derivative phenomenon, but a dynamic and evolving field through which questions of belonging, identity, and cultural continuity are actively negotiated within a multicultural society.

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Traditional Dwellings and Settlements

Working Paper Series

TRADITION INFLUENCES CHANGES IN THE FUNCTION OF SACRED SPACE IN LAWEYAN SURAKARTA, CENTRAL JAVA

Naniek Widayati Priyomarsono

TRADITION INFLUENCES CHANGES IN THE FUNCTION OF SACRED SPACE IN LAWEYAN SURAKARTA, CENTRAL JAVA



This paper critiques a space known as the dalem, which exists in every house in Laweyan. This space is considered sacred. In traditional merchant houses in Laweyan, the dalem was originally used for important family events. For example, during a wedding, the bride and groom would be seated in the center of the dalem, in front of the petanen (also known elsewhere as krobongan but referred to as petanen in Laweyan). When a family member passed away, the body would be placed in the dalem—not in the center near the petanen, but to the right (west) side of it—before funeral prayers were performed and the body was taken to the burial site. Additionally, the dalem was used for important and highly private family meetings. Today, however, there has been a shift in the function of the dalem. What was once a sacred space has increasingly been transformed into a commercial area, such as a batik showroom, and in some cases even used as a storage space. This change is largely due to the adaptation of houses into batik shops. Intense market competition has led the traditional Laweyan community to overlook long-standing cultural norms in pursuit of greater economic profit. If this trend continues, it risks eroding the community's understanding of its local wisdom, as people become more driven by the currents of the global economy. There has been a shift in values, where "value" is increasingly equated with maximizing financial gain. This paper concludes with an appeal to contemporary batik entrepreneurs in Laweyan: in conducting business, they should continue to uphold local wisdom and traditional customs inherited from their ancestors—particularly by preserving the dalem as a sacred space, in accordance with ancestral agreements of the past.

1. INTRODUCTION

Laweyan, as a *perdikan* (tax-exempt autonomous area), is quite unique in that it forms a distinct enclave. Its southern boundary is marked by the Kabanaran River, while its northern boundary is defined by a main road that was formerly known as Laweyan Street and later renamed Dr. Radjiman Street. This change is somewhat unusual, as it no longer aligns with the original toponymy of the area. Ultimately, Dr. Radjiman Street became the longest road in Central Java, stretching from Pasar Klewer to Kartasura (Mlayadipura, Tumenggung, 1981, as cited in Widayati, Surya, 2021).

The Laweyan community is predominantly composed of batik merchants. Interestingly, these batik enterprises are largely managed by women (housewives), who are given the honorable title “*Mbok Mase*,” while the husbands serve as complements and as heads of the household. The husbands are referred to as “*Mas Nganten*” (Surya, Widayati, et al., 2021).



Figure 3: Prototype of *Mbok Mase* and *Mas Nganten* of Laweyan in the 1950s (Source: Surya, 2021).

During the height of their prosperity, these merchants competed to build grand houses that combined traditional Javanese spatial layouts with modern materials, inspired by the architectural style of Dutch residences. Laweyan became dominated by batik entrepreneurs’ houses in the Indies style; however, their spatial organization continued to follow the Javanese layout pattern, consisting of a terrace, *pendapa* (front pavilion), *dalem* (inner house), *sentong* (inner chambers), right and left *gandok* (side wings), right and left *lojen* (additional side spaces), and service areas including the kitchen, storage, and servants’ quarters. Nevertheless, there is one space that all merchants consistently possessed: the *dalem* (Widayati et al., 2025).

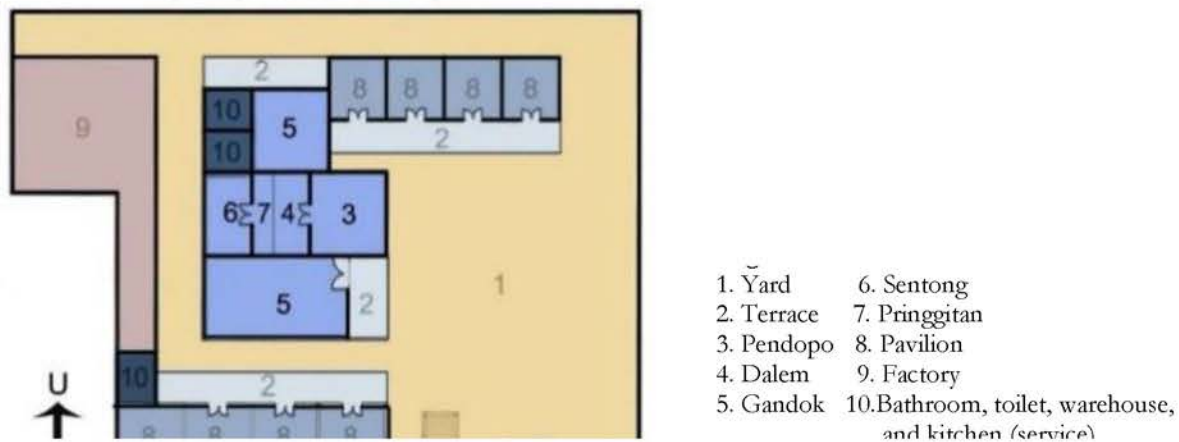


Figure 4: Example of the floor plan of a batik merchant house in Laweyan (Source: Siti, R., 2024).

From the description above, it is evident that the *dalem* space in every house in Laweyan is inherently sacred. The *dalem* was originally designated by the first owners of these houses for important family events. For example, during a wedding ceremony, the bride and groom were seated in the center of the *dalem*, in front of the *petanen* (also known as *krobongan* but referred to as *petanen* in Laweyan). When a family member passed away, the body was placed in the *dalem*—not in the central area near the *petanen*, but on its right (western) side—where funeral prayers were performed before the body was taken to the burial site (Widayati et al., 2025). In addition, the *dalem* was used for important and highly private family meetings. The primary livelihood of the Laweyan community as batik entrepreneurs experienced its peak from the royal era until around the 1980s. After that period, the batik industry declined; however, the community continued to uphold traditional values inherited from their ancestors. Subsequent generations have sought to preserve these traditions while also adapting to the demands of changing times. The evolving needs of society have driven social, cultural, and economic transformations, which have ultimately extended into the realm of tradition itself (Widayati & Surya, 2021).

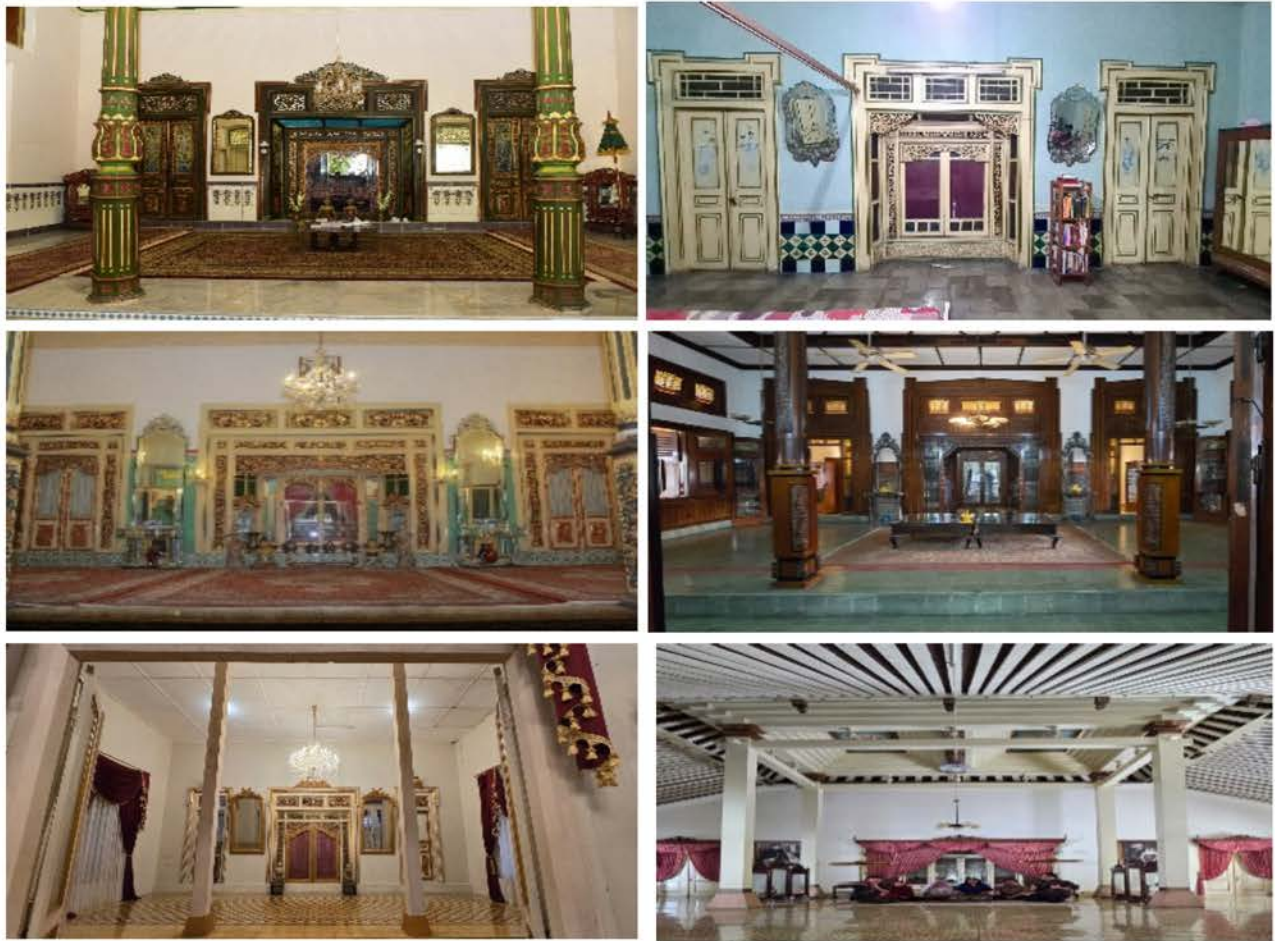


Figure 5: Various *ruang dalem* that are sacred to the original owners of merchant houses in Laweyan (Source: Nanick,W. (2024)).



Figure 6: A death ceremony layout (Source: Naniek,W. (2024)).

The issue that arises is the coexistence of continuity and change in Laweyan's responses to social, cultural, and economic developments, which in turn affect tradition and ultimately lead to a transformation in the function of the sacred *dalem* space. This study employs a naturalistic qualitative method with a grounded theory research strategy. The objective of the research is to formulate solutions that enable a balanced approach to the transformation of sacred spaces—particularly the *dalem*—resulting from social, cultural, and economic factors, while still accommodating and preserving the traditional values of Laweyan.



Figure 7: Family discussion in *ruang dalem* (Source: Naniek,W. (2024)).

2. PRESENT-DAY LAWEYAN

Laweyan has undergone significant changes in the present time, primarily because the original occupants—those who built the houses—have passed away. Ownership has been transferred to their children and subsequently to their grandchildren (Eksanti et al., 2022).

There are various forms of new ownership of merchant houses related to the conditions described above, including: (1) houses being sold to outsiders from outside Laweyan; (2) heirs, such as children or grandchildren, no longer continuing the batik merchant tradition due to occupational diversification, resulting in the houses being rented out to individuals who conduct business in Laweyan; and (3) heirs leasing the houses for a period of 30 years, after which the tenants convert them into homestays or non-batik commercial spaces, including other types of production facilities beyond batik, among other developments (Widayati, 2002).

Related to various contemporary factors, the *dalem* space, which was originally regarded as sacred by early batik merchants in Laweyan, is no longer given the same level of respect. In merchant houses that are rented out for furniture production, the *dalem* is used as a timber storage area, with wood materials arranged in ways that do not honor the *petanen*. There are also *dalem* spaces that are used as batik showrooms, allowing visitors to enter the *dalem* easily without any sense of hesitation, respect, or cultural propriety (Widayati et al., 2025).



Figure 8: *Ruang dalem* is used as a wood storage (Source: Nanick,W. (2024)).



Figure 9: *Ruang dalem* is used as a batik showroom (Source: Naniek,W. (2024)).

3. THE CONCEPT OF SACRED, SACRED SPACE AND RITUALS

The concept of *genius loci*, or the “spirit of a place,” explains that every place possesses an identity, meaning, and atmosphere that shape human experience of space. Sacred space is understood as a space that holds a special position within a culture, as it connects humans with spiritual, symbolic, and cosmological values that go beyond its physical function (Norberg-Schulz, 1980).

In the context of *genius loci*, sacred space is not only understood through its architectural form, but also through its ability to evoke human experience, existence, orientation, and meaning. This theory emphasizes the importance of spatial qualities that can create a sense of connection between humans, place, and the natural or spiritual order (Norberg-Schulz, 1980).

In its elaboration, this theory is divided into several key components: place identity, atmosphere and meaning, orientation and cosmic order, relationship with nature, and ritual structure. Through these principles, the theory of *genius loci* provides a conceptual framework for understanding how physical form can carry spiritual and symbolic meaning, as well as how architecture plays a role in maintaining sacred qualities through identity, atmosphere, relations with nature, and ritual structure.

The study of sacred space was discussed by Mircea Eliade in his book *The Sacred and the Profane* (1957) and later examined by Widayati (2004). It explains, among other things, that the sacred refers to something that possesses transcendent meaning, value, and power, whereas the profane refers to what is ordinary, everyday, and devoid of such transcendent meaning (Eliade, 1957; Widayati, 2002).

The transformation of value systems in the Laweyan community regarding the *dalem* space—from sacred to profane—can be analyzed through Anthony Giddens’ theory of structuration, as presented in his 1984 work. To understand social structural change in Laweyan within the framework of the sacred and the profane, Giddens’ sociological perspective of structuration is applied, which emphasizes ongoing social practices. As he argues, “the basic domain of study of the social sciences, according to structuration theory, is neither the experience of individual actors nor the existence of any form of societal totality, but social practices ordered across time and space.” Structuration theory highlights the importance of social practices in both action and the structure of social life. Structuration refers to the way social structures are produced, reproduced, and transformed through practices that occur across time and space, particularly in the relationship between agents (actors) and structures (Giddens, 1984).

The description of the analysis of social relations can be explained as follows: we must acknowledge the existence of a syntagmatic dimension, namely the creation of patterns of social relations in space and time that involve the reproduction of certain practices, and a paradigmatic dimension that involves the actual ordering of the “modes of structuring” that are continuously involved in such reproduction (Giddens, 2010: 26).

In addition, the way to describe the structuration of social change is as follows: in social analysis, structure refers to the set of structuring properties that enable the “binding” of time and space within social systems. These properties make it possible for similar social practices to exist across widely varying spans of time and space, while also giving those practices a “systemic” character (Giddens, 2010: 27).

From the above explanation, the core of Structuration Theory lies in three main concepts: structure, system, and the duality of structure.

The explanation is as follows: structure refers to rules and resources, or a set of transformational relations organized as properties of social systems, which shape the recurrence of social practices (Nashir, 2012).

Giddens identifies three clusters of structure. First, signification structures, which involve symbolic schemes, meaning, labeling, and discourse. For example, referring to an instructor as “teacher,” or turning on a vehicle’s left indicator light as a sign of intention to turn left. Second, domination structures, which refer to

the control over people and resources. For instance, depositing money in a bank represents a form of economic domination structure through control over money or assets. Third, legitimation structures, which involve normative rule systems expressed in legal order. For example, traffic police conducting checks on motorcyclists or drivers who do not carry a driving license (SIM—*Surat Izin Mengemudi*) (Giddens, 2010).

Meanwhile, a system refers to reproduced relations among actors or collectivities, organized as regular social practices. Structuration is the set of conditions governing the continuity or transformation of structures, and therefore the reproduction of social systems themselves. Social practices may take the form of habitual actions, such as in Javanese culture, where a male child is referred to as “*tole*” (Giddens, 2010).

Giddens shows that structures—such as traditions, institutions, moral codes, and other expectations that define how things are done—are generally relatively stable, but they can be changed, particularly through the unintended consequences of action. This occurs when people begin to neglect, replace, or reproduce these structures in different ways. In Laweyan, new merchants attract buyers in order to maximize profit by displaying their goods inside the *dalem*. Buyers are drawn to the spatial setting itself, which increases sales significantly. However, these shop owners often do not recognize or are not aware of the sacred value of the *dalem*, as they are newcomers and have not been informed about its cultural meaning. Even some fourth- or fifth-generation descendants of batik entrepreneurs no longer acknowledge the sacredness of the *dalem*; their main concern is that their goods are sold (Giddens, 2010; Nashir, 2012).

In Laweyan, Law No. 11 of 2010 concerning Cultural Heritage also applies, along with the Surakarta City Regional Regulation (Perda) No. 10 of 2013 on the Preservation of Cultural Heritage and Mayor Regulation (Perwali) No. 24.1 of 2021 on the Utilization of Cultural Heritage. These regulations govern the protection, utilization, and management of this historic area. The law stipulates that when an area is designated as cultural heritage, all contents within it—including buildings and the surrounding environment—must comply with existing legal regulations. Elements classified as *fixed* (sacred) must be preserved, while *semi-fixed* elements may be partially preserved and partially developed, depending on agreements reached in the Cultural Heritage Expert Council established by the local government. Meanwhile, *non-fixed* (general) elements may be developed. Previous studies have clearly established that the *dalem* is a sacred space. This means that, both physically (tangible) and non-physically (intangible), its spatial configuration and function must not be altered. Batik showrooms and commercial activities should instead occupy other available spaces within the house. This is closely related to Laweyan’s status as a *living monument*. The sacred value should be maintained, as it represents a unique cultural asset of the Laweyan community (Cultural Heritage Law, 2010; Widayati, 2025).

3.1. Research Method

The research method used in this study is a qualitative approach employing grounded theory research. In addition, focus group discussions (FGD) were conducted with the Laweyan community to obtain more accurate data (Strauss, 199-; Denzin, 2009; Karuntu, 2022; Arrahmat, 2025). Spatial data of buildings were classified into three categories: public spaces, semi-private spaces, and sacred spaces. Observations from selected representative samples were then coded and analyzed using preservation, conservation, and revitalization theories, and further compared with Law No. 11 of 2010 on Cultural Heritage. In the context of Laweyan, Surakarta City Regional Regulation No. 10 of 2013 on Cultural Heritage Preservation and Mayor Regulation No. 24.1 of 2021 on the Utilization of Cultural Heritage also apply. These regulations govern the protection, utilization, and management of this historic area (Pillai, 2020; Priyomarsono & Surya, 2022). The expected outcome of this study is to provide guidance for regulating the functions and activities within the *dalem* space so that its sacred value is preserved, while still allowing room for adaptation and development in the context of contemporary modernity.



Figure 10: Bloc

The novelty of this research lies in its approach to maintaining the *dalem* as a sacred space, ensuring its preservation and continuity, while simultaneously providing room for adaptive development in the context of contemporary modernity. This is achieved by allocating other spaces within the house for commercial activities, thereby balancing cultural preservation with economic functionality.

3.2. Result and Discussion

Socio-Cultural Conditions of the Community

The batik merchants of Laweyan occupy a unique position, as their economic strength and wealth have historically surpassed that of the nobility, although culturally they are not considered equal to the aristocratic *keraton* elite. In contrast to the patriarchal traditions commonly found in Javanese society, the Laweyan community upholds a form of gender parity, with women playing a dominant role in the economic sphere. Batik enterprises are managed by female proprietors known as *Mbok Mase*, while husbands, as household heads, are referred to as *Mas Nganten*. Although men have a limited role in business activities, they retain full authority as heads of the household in making important internal family decisions. This arrangement reflects a balance between economic functions and traditional domestic structures (Hunter, 1997).

Transformation and Development of the Laweyan Area

The Laweyan community is currently undergoing significant transformation following the passing of the older generation and the transfer of property ownership to heirs. This dynamic has led to three main patterns of change: houses being sold to outsiders, rented out due to the diversification of heirs' occupations, or leased long-term for up to 30 years. As a result, many buildings have been functionally converted into homestays, non-batik commercial spaces, other types of production facilities, and even star-rated hotels. Physically, these functional changes have also altered building façades, where structures that were originally single-story have now developed into multi-story buildings exceeding two floors (Pillai, J., 2020).



Figure 11: Solia Zigna Hotel at Jl. Radjiman, 4-star hotel with 10 floors and 130 rooms, constitutes a precedent (Source: <https://soliahotels.com/solia-zigna/gallery> (Accessed on 3rd January 2026)).

The consequences of these changes in land use extend to environmental facilities, including accessibility, the availability of parking spaces, transportation modes, and the overall transformation of the area's landscape. In addition to physical changes, there is also a degradation of the symbolic meaning of residential spaces, particularly the *dalem* area, which was formerly regarded as sacred.

Spaces that were previously used for sacred events such as weddings, funerals, and family meetings have now experienced a functional shift into timber storage areas or batik showrooms. Changes in lifestyle—such as the use of chairs in place of traditional floor seating (*lesehan*) during activities—have further diminished the sacred value of these spaces among the descendants of the merchants. Overall, the integration of historical values with modern needs continues to erode the authenticity of symbolic meanings within this heritage area (Pillai, J., 2020).



Figure 12: A chair is placed in front of the sacred *petanen* for sitting (Source: Naniek,W. (2025)).



Figure 13: The sacred *petanen* is used as a storage room (Source: Naniek,W. (2025)).



Figure 14: The sacred *petanen* is used as a batik showroom (Source: Naniek,W. (2025)).

4. CONCLUSION

There has been a transformation in the function of the sacred *dalem* space in Laweyan, Surakarta, Central Java, driven by changes in traditions that have evolved over time. This shift is rooted in differences in value systems between past and present Laweyan society. In the past, when Laweyan was still inhabited by batik entrepreneurs up to the third generation, the *dalem* was regarded as the most sacred space among all other rooms. This generation organized their batik businesses by occupying spaces such as the terrace, *pendapa*, *gandok*, and *lojen/pavilion*. Meanwhile, the *dalem* remained unchanged as a sacred space.

At present, as Laweyan is increasingly inhabited by people from outside the area (who reside in Laweyan as traders), all spaces—including the *dalem*—are being utilized as batik showrooms. In addition, some descendants have also transformed the sacred function of the *dalem* into a living room. The area in front of the *petanen*, which was formerly used for floor seating (*lesehan*), is now furnished with chairs for sitting and social activities. As a result, the sacred value of the *dalem* space has largely diminished.

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Traditional Dwellings and Settlements

Working Paper Series

THE IMPACT OF SUSTAINABLE-FOCUSED INTERVENTIONS ON AESTHETIC INTEGRITY IN ENGLISH CHURCHES: THE CASE OF ST OSWALD'S CHURCH, ASKRIGG

Hasan Mabdi Al-Sallami

THE IMPACT OF SUSTAINABLE-FOCUSED INTERVENTIONS ON AESTHETIC INTEGRITY IN ENGLISH CHURCHES: THE CASE OF ST OSWALD'S CHURCH, ASKRIGG



This paper investigates the impact of sustainability-focused interventions on the aesthetics of the medieval churches in Yorkshire. The implementation of such interventions, which are supposed to align with the sustainability goal, is, in reality, driven by other priorities. The reality of these implementations comes with challenges, such as financial limitations, the complex decision-making required for simple changes, and clashes between the requirements to reach a net-zero carbon-emission future and conservation principles. Still, new interventions will eventually be implemented. This research will investigate how interventions will affect the aesthetics, what kinds of changes and interpretations might arise during decision-making, and the lived experience afterwards. St Oswald's church in Askrigg was taken as a pilot study to seek answers to this question.

1. INTRODUCTION

English churches hold a unique status as they are not only religious and spiritual places but also tangible records of centuries of social, cultural, and architectural heritage; as Simon Jenkins described, English churches are like museums or art galleries dispersed across the country.¹ They are also 'living buildings at the heart of their communities,' serving as places of worship and community engagement.^{2,3} In England, there is a vast collection of exceptional architectural heritage assets. For example, the Church of England (CofE) comprises approximately 15,000 churches, of which 78% are officially listed. Around 45% of these churches are Grade I listed buildings, indicating significant conservation demand and a duty on the CofE to preserve this significant heritage.^{4,5}

In recent decades, climate change and sustainability discourse emerged as a legally binding commitment to reach net-zero goals. Various government and institutional policy frameworks have set ambitious targets to achieve carbon-reduction and energy-efficiency goals across the building sector. For example, the amended Climate Change Act 2008 requires the UK government to reach net-zero carbon emissions by 2050.^{6,7(p7)} On the ecclesiastical side, the Church of England has also committed to the same target of net-zero carbon by 2030.⁸ The initiative arose as a theological and missional responsibility to care for the environment.⁹ Furthermore, other ecclesiastical institutions, such as the Methodist Church, launched 'Action for Hope', a sustainability action plan called a Faith Plan, aiming to achieve net-zero carbon emissions by 2030 by implementing tailored technical improvements across its churches.¹⁰

The Royal Institute of British Architects (RIBA) has established a performance-oriented framework through 'The RIBA Sustainable Outcomes Guide',¹¹ which aims to deliver quantifiable sustainability targets in its three pillars: environmental, social, and economic, shifting theoretical design into actual building performance evaluation. Whilst from the heritage side, Historic England has also been promoting sustainability by

publishing new Advice Notes to help reduce carbon emissions in historic buildings, including Historic England Advice Note 18, which offers guidance on decarbonization strategies to help achieve a sustainable future for historic buildings.¹²

These policy frameworks show that sustainability has become, in recent years, a key topic, especially in the ecclesiastical context, as commitments to achieving the ambitious target have a significant impact on the conservation of historic churches. Moreover, the Church of England (CoE) has its own legal system of Ecclesiastical Exemption that manages the preservation of its properties through an internal 'Faculty Jurisdiction System', which replaces regular listed building consent with a judicial procedure supervised by the consistory court and diocesan advisory committees.¹³ Still, the CoE's system requires consultation with Historic England and local authorities when implementing significant changes to its listed buildings.¹³

In addition to the complexity of decision-making among multiple stakeholders, including clergy, congregation needs, architects, diocesan advisory committees (DACs), and heritage organizations, achieving sustainability-led interventions is a complex challenge in itself. In reality, what is being implemented is more inclined toward conservation, maintenance, or comfort-led interventions. As evidenced by the recent report of the National Churches Survey, which indicates that 41% of churches have implemented heating improvement measures by 2025; however, this kind of action has been mainly motivated by other factors, such as either general maintenance work or a sharp increase in energy costs, rather than a motivation for a long-term sustainability plan.¹⁴

Moreover, many church managers consider sustainable environmental measures a low priority, and there is a lack of conceptual understanding environmental sustainability, as a clash arises between conservation, which is itself a sustainable practice, and sustainability as the implementation of environmental measures to reduce costs or emissions.¹⁵ Churches sustain their buildings by 'quinquennial inspections', carried out every five years, by authorized architects to assess the church building condition, identify any necessary repairs, list them with priorities and conclude them in a report that ultimately supports the Parochial Church Council (PCC) in meeting its responsibilities to maintain a church.^{16,17}

Nonetheless, general maintenance work can be carried out without the need for a full faculty. For example, the Diocese of Exeter's updated regulations on church maintenance works were categorized into two lists.¹⁸ List A, which only requires recording the work on the online faculty system (without further approval) and proceeding with the work, whilst List B requires the Archdeacon's approval, as these steps are considered important to inform the Archdeacon (a senior cleric) and the Diocesan Advisory Committee of works undertaken, which in turn informs the quinquennial inspections later on. This can facilitate simple works, such as safety upgrades, EV charging point installations, the installation of solar panels on non-listed

buildings, or any change to modernize the building's conditions. Still, it is mandatory to have a full faculty if the works may affect the character of the historic building, any archaeological importance, or demolition work.^{18,19}

Quinquennial inspections are, in fact, a sustainable conservation approach, as English Heritage defined 'Sustainable Conservation' as "an integrated, long-term strategy that goes beyond obvious defects to address the risk factors that can lead to disrepair... working to reduce vulnerability and the causes of deterioration."^{20(p3)} Nevertheless, when a church conducts these measures, that does not necessarily mean it is implementing a sustainability-led intervention that follows explicit sustainable criteria or is motivated by a need to reach the net-zero carbon emissions target.

This research will focus on sustainability-led interventions implemented across different medieval churches in the Yorkshire region (Figure 1). When retrofit interventions are implemented, there will be visible and experiential design outcomes. As a consequence, there will be changes in thermal conditions, lighting, air circulation, or the installation of visible apparatus, thereby influencing the aesthetic value of the church as a sacred space. Therefore, St Oswald's church is selected as a pilot study for this research to assess this change.

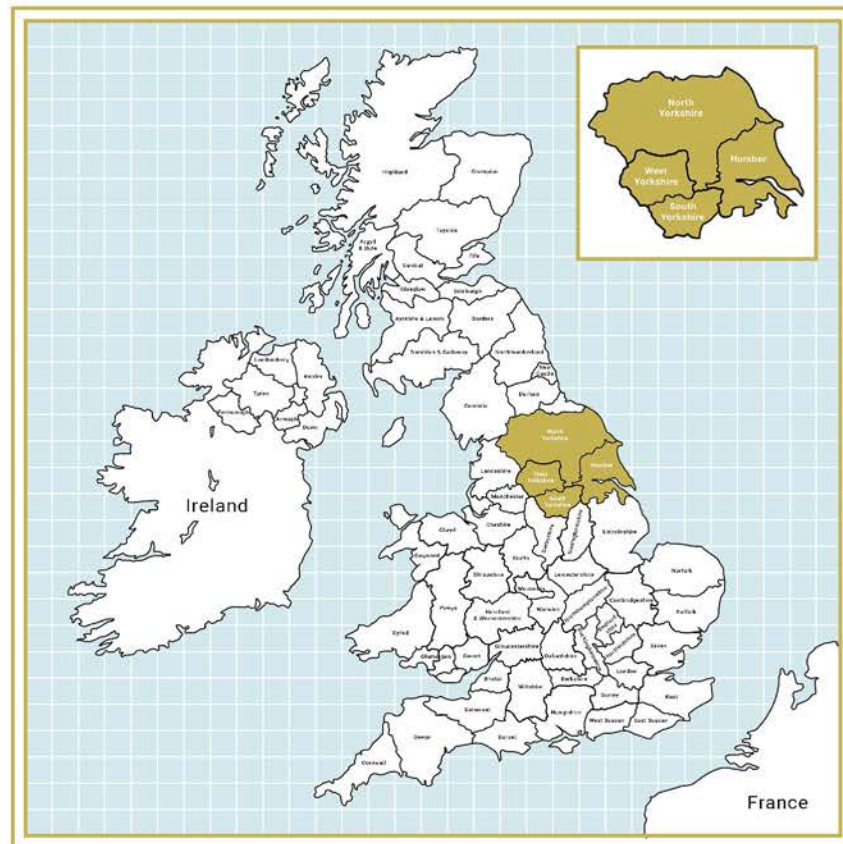


Figure 1: A map of the United Kingdom, showing the Yorkshire region (Source: Author, 2025).

2. THE IMPLEMENTATION OF SUSTAINABILITY-LED INTERVENTIONS

Church buildings are increasingly recognized as vital community assets and significant contributors to local identity, in addition to their role as places of worship. They are used for various secular activities, such as hosting food banks, musical events, and other community services, and this is an emerging trend driven by both religious motivations and financial necessity.^{21,22} A study by Historic England (2025) found that historic churches are more valued than modern ones. The study showed that both congregants and the wider community are interested in investing significantly more in the preservation and restoration of historic churches than in modern ones, due to their unique historic character.²²

Historic churches have begun to embrace “extended use” or “venuefication,” transforming them into major community centers.²¹ Research indicates that more than half of churches are regularly used by other organizations, delivering vital social services such as operating food banks, providing mental health support services, and aiding addiction rehabilitation. In addition to social care, churches often facilitate community meetings, youth meetups, and cultural events, hence calling for and supporting investment in basic amenities such as accessible restrooms and Wi-Fi.¹⁴

The venuefication approach can help the church with an additional income and strengthen its financial stability. According to Church of England data, congregational attendance has been steadily declining over the 10 years before 2017, attendance dropped by 11%.^{5(p11)} Hence, it directly and negatively affects the financial stability of churches, as a large share of their income comes from members’ contributions.⁵ Furthermore, maintaining and restoring large, historic, and highly listed buildings is very expensive, as repairs are the largest expenditure for parish churches. For example, the average maintenance cost for a major parish church could reach £500,000, and for some, exceed £1 million. Even minor maintenance may become major financial commitments due to the specialized expertise required, as well as the fabric’s complexity.²³

In addition to financial pressures, there is an increasing demand for historic churches to take action for the environment and reaching climate goals. In 2023, the energy used in the Church of England’s buildings is expected to have resulted in emissions of close to 343,325 tons of carbon dioxide equivalents (CO₂e).²⁴ Most of the energy consumption comes from heating (84%), then lighting (10%), and the rest from various other uses (6%).^{8(p22)} Therefore, current efforts are now seeking to reduce heat loss, upgrading existing systems or installing efficient solutions, and most importantly, moving away from heating large spaces that could harm the fabric due to dampness problems towards more focused heating in a comfort-led approach.⁸

Implementing new interventions can harm a historic building’s fabric and materials. For example, Induni (2015) claims that the different heating apparatus, whether convection-based radiators, warm-air systems, or

underfloor heating, all prioritize short-term thermal comfort over risks to the building's fabric.²⁵ The first results in stratification (heat rising in upper spaces), moisture imbalance, condensation, salt crystallization, and thermal shock, all of which have a significant impact on delicate materials such as wooden structures and joints.²⁵ Furthermore, direct damage can occur to historic fabric, as in the case of underfloor heating, which inevitably requires excavation. Whilst uneven heating devices like under-pew heaters result in discomfort (warm back and cold feet) and can sometimes pose a fire risk.²⁵

Sustainability can also be framed differently across the various institutional documents; however, its meaning differs notably. For example, sustainability for the UK government is associated with net-zero carbon emissions and the Sustainable Development Goals (SDGs). For instance, it can be narrowed to focus on carbon emissions and their management, which is governed by legally binding policy under the Climate Change Act 2008 and sectoral decarbonization plans.²⁶ On the other hand, a different report views sustainability holistically, integrating the three main pillars: social, economic, and environmental.²⁷ The first is based on a multidimensional, value-driven approach. In contrast, the latter is based on a quantifiable technical issue of carbon emissions and uses a metric-driven approach.

Even from a theological perspective, sustainability for the Church of England is mainly associated with the net-zero carbon emissions program.⁹ The Church of England has also introduced a practical approach to achieving the net-zero target, including an inside and outside list of criteria with interactive, illustrative diagrams on its website,²⁸ as well as its 'practical guideline to help your church reach net zero carbon'.¹⁹ The guide recommends quick, low-cost actions for the church, including fixing windows, installing LED lighting, moving to low-carbon energy suppliers, providing guidance on legal permissions (e.g., whether actions require faculty approval), and offering energy audits for long-term planning.

For heritage organizations such as Historic England, different reports associate 'sustainability' with climate change action, adaptation advice, the preservation of the historic fabric, maintenance and repair, and the net-zero target.¹² Whilst for English Heritage, sustainability was associated with conservation work, management, and financial aspects.²⁹ Similarly, the Society for the Protection of Ancient Buildings (SPAB) centers sustainability on the protection of the building fabric. SPAB states that its message of sustainability is about conservative repair, including materials selections that fit historic conditions, proven repair methods, skillful craftsmanship, and the passing on of conservation knowledge to later generations.³⁰

Sustainability for architects is mainly associated with sustainable practices and can also mean the technical integration of new systems within historic spaces. For example, an interview undertaken through this research discussed under-pew heaters, lime render, and discrete radiant heating systems. For a parish community,

sustainability is about reducing energy expenditures, biodiversity and enhancing comfort. Darlow also highlights the confusion about the understanding of sustainability between conservation work that is a ‘sustaining approach’ and the implementation of ‘green measures’ that are more associated with carbon emissions.¹⁵ For funding organizations like the Heritage Fund, sustainability is a measurable change that must be evidence-based, monitored, and reported.³¹ Therefore, sustainability has a flexible meaning and continues to evolve in response to institutional agendas, financial constraints, and distinctive building contexts.

3. THE AESTHETIC VALUE IN HERITAGE CONSERVATION

Aesthetics is an evolving value with different interpretations over time.³² Aesthetic value as an explicit definition which appeared in the 2008 Conservation Principles by Historic England as “the ways in which people draw sensory and intellectual stimulation from a place,”^{33(pp30-31)} and it adds further complexities and layers to the definition of the aesthetic value, which consists of two categories: the design value (intentional artistic composition), and the fortuitous value (the unplanned natural evolution of the building, like the patina of age).³³

The conceptual meaning of aesthetics remains unstable across heritage discourse, as it often has multiple aspects or is conflated with other values, such as architectural, artistic, design, and spiritual values. Aylin Orbaşlı introduced a values-based approach to conservation, listing 22 values. Aesthetics is absent from the list.³⁴ This may have been to create an objective framework and move away from its subjectivity, or that aesthetics can be seen as multiple overlapping values.

The multiplicity and overlapping nature of aesthetics are evidenced in the aforementioned duality definition by Historic England. In addition to that duality, Laenen defined aesthetic value through two distinct lenses³⁵: Firstly, as a historical value by viewing the heritage asset through the specific time of production, or secondly, a sensory experience by what the author described ‘to make the aesthetics accessible to contemporary perception’, meaning that, rather than viewing aesthetic value as purely historical object, aesthetics should be experienced through a contemporary lens, like sensory and emotional responses.

Another duality inherent to aesthetics is evident in the UNESCO World Heritage Convention, which also views aesthetics through two parallel lenses: first, a cultural aesthetic created mainly by humans “Criterion I: represent a masterpiece of human creative genius,” and second, a natural aesthetic found in natural landscapes and geological wonders “Criterion VII: contain superlative natural phenomena or areas of exceptional natural beauty and aesthetic importance.”^{36(p188)} The relationship between art and aesthetics seems

inseparable. Jokilehto defined aesthetics as “the branch of philosophy that examines the nature of art and the character of our experience of art and of the natural environment.”^{36(p184)}

In heritage discourse, Tomaszewski stated that there is a huge difference between “aesthetics” and authenticity,³⁷ as the author refers to “aesthetics” in the text as a way to show that it is merely used as beautification, or an artificial beauty that somewhat takes over the historical value of the place. For example, when it comes to a centuries-old historical church, should the conservation approach leave it untouched in its current fragmented condition, or restore it in a manner that it is clean, nicely lit, which, as seen by the author, as a superficial act, and visually pleasing to the public.³⁷

Architects follow a flexible aesthetic approach; they try to restore the beauty or the image of the historic building through recognizable modern additions to recreate whatever missing elements, whilst from an archaeologist’s perspective, they view the historic building as a document filled with historical data, and any added elements are seen as inauthentic and untrue to the historical material evidence.³⁸

An approach to aesthetics that often clashes with the historical or age value, and its authentic image can be seen in the concept of ‘Gestaltwert’, by Gottfried Kiesow, which means aesthetic as the “value of the image of a place” that can be achieved through imitation work, or the definition of the Czech preservationist Milena Radová who defines aesthetic as simply as a “visual appeal” different than ‘the value of emotional appeal’ or ‘creative and artistic value’ or ‘newness value’.³⁹ In contrast, Denyer defines aesthetics as a complex, overlapping relation among the visual aspect, cultural knowledge, and emotional response.⁴⁰ In other words, aesthetics can be shaped by a harmonious relationship among physical appearance (visual and intellectual), the environment, and lived experience. The overlapping relationship relies on a balance between visual appearance and the cultural dimension arising from evolving internal meanings of social, spiritual, and historical significance.

4. MIXED-METHODS APPROACH

The research paper employs five complementary qualitative methodologies to address the research question. The synthesis of the following multi-methods seeks to view the subject matter from various institutional documentations, materialistic (implementation), and aesthetic (lived experience) perspectives:

Regional Mapping and Data Shaping: A regional database of 100 medieval churches in Yorkshire has been compiled to define the comparative potential of the investigation. The mapping process covers the entire geographical area and supports a systematic search for case studies. Furthermore, to identify the distribution of churches and facilitate church visits across the region, the Yorkshire region was divided into

four smaller regions (West, East, South, and North, with York), as seen in (Figure 2). Then, a list of criteria was developed to select a case study, each with its own unique intervention.

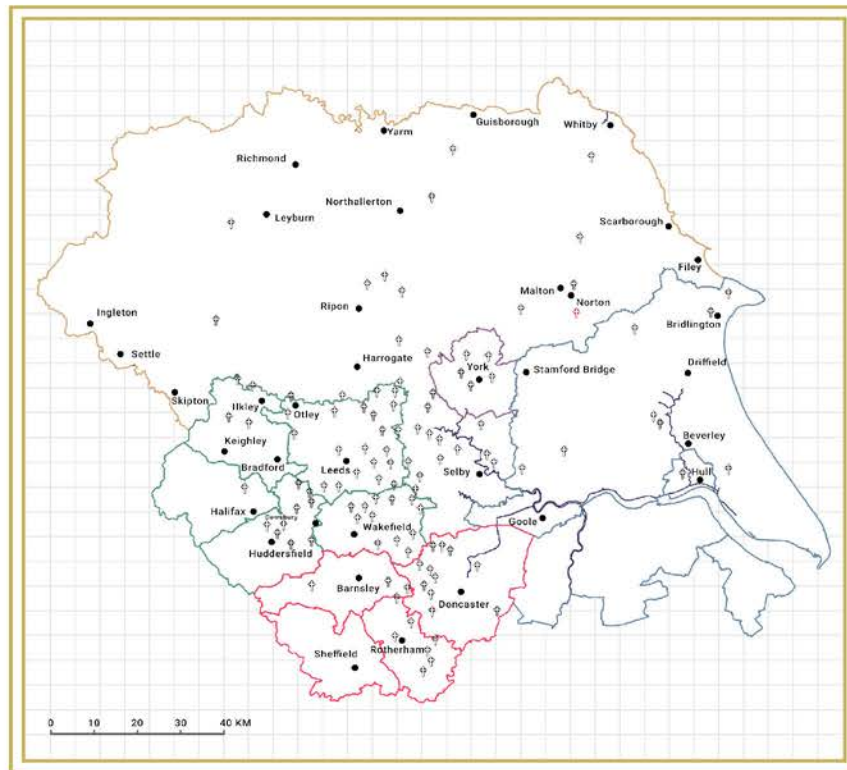


Figure 2: A map of the Yorkshire region with the distribution of medieval churches (Source: Author, 2025).

Desk-based Documentary Assessment: An analysis of what can be found from planning applications, ecclesiastical documents, DAC reports, quinquennial inspections, conservation statements, Historic England reports, policy documents, and associated materials was undertaken to assess the representation and foundation of sustainability and aesthetic aspects in official decision-making processes. This documentary analysis offers detailed information about institutional frameworks and communicative strategies.

Site-based Analysis: Site visits included visual documentation, spatial observations, and assessments of physical interventions and material changes. Fieldwork is an important method for collecting rich information on the subject matter, as Lucas Ray emphasized that the researcher should undertake thoughtful planning that includes background studies (historical, social, and architectural), assessing accessibility and ethical considerations, and selecting interviewees.^{41(p73)} Hence, site-based analysis is an indispensable method for investigating material changes, implementation methods, and potential effects on the church fabric and spiritual atmosphere. It also allows for contextual interpretation that cannot be fully conveyed through documentary sources alone.

Semi-structured Interviews with Professionals: Semi-structured interviews are conducted with decision-makers. Using this method provides a review of decision-making processes, institutional barriers, and experiential perspectives, while preserving enough flexibility to adapt to context-specific variations.

Site-based interviews with Church Attendees: The methodology used here transitions from institutional systems and professional views of the subject matter to the actual experiences of community members directly engaging within the church space. Interviews with clergy, architects, collaborators, and heritage bodies clarify the overall institutional framework and the implementation of retrofit interventions, while engaging with congregants offers detailed insight into perceptions and feelings towards the tangible embodiment of these interventions. This engagement is crucial to the research, as it provides a clear understanding of how physical changes result in experiential and atmospheric impacts within sacred space, ultimately collecting direct, qualitative information on the aesthetic aspects.

The interview questions are designed to ask church attendees, in particular, whether they are regular congregants or visitors, aged 20+, and are crafted to be experiential and informative rather than technical and assessment based. The questions are designed to avoid complex terms and are focused on (aesthetic) perception, comfort, ambience, and spirituality. Given the place's religious setting, the questions are presented with consideration yet indirectly touch upon both personal and communal meanings. They are highly focused on investigating aesthetic meaning through interpreting the context of lived experience.

5. THE CASE STUDY: ST OSWALD'S CHURCH, ASKRIGG

Askrigg is a small village in Wensleydale, in the Yorkshire Dales, North Yorkshire (Figure 3). The medieval church, St Oswald's Church, dominates the village as its primary landmark. The church is a Grade I listed building. Nikolaus Pevsner describes the church as the "biggest and stateliest" of its kind in Wensleydale, built in 1467 in the Late English & Perpendicular architectural styles.⁴² St Oswald's church (Figure 4) is built of rubble and has lead roofing; its plan includes a west tower, a five-bay nave and chancel, north and south aisles, and a south porch.⁴³ There is a difference in the pillars between the north and the south arcades, because the south aisle was rebuilt in 1770.⁴⁴ It witnessed extensive restoration efforts by the Victorians in the mid-19th century. The windows were modified, and the current furniture is from that period.

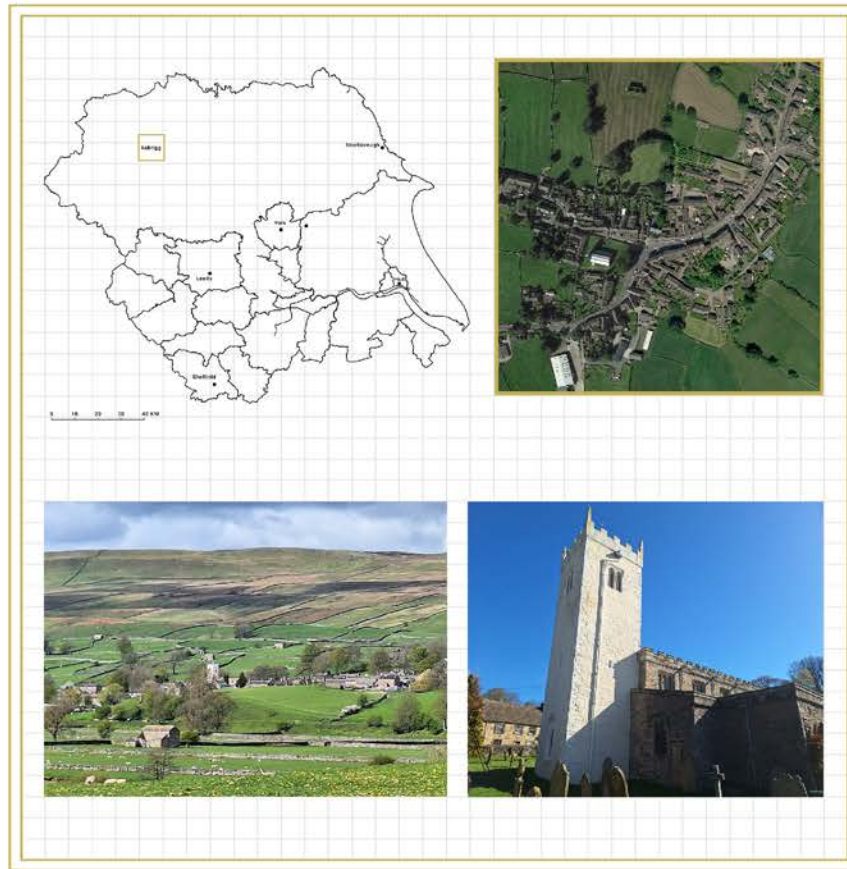


Figure 3: The location of Askirgg in Yorkshire, top-right: Askirgg village from Google Earth, and bottom photographs showing St Oswald church taken by the author on 19 April 2026 (Source: Author).



Figure 4: St Oswald's plan drawn by Ferrey & Mennim Architects, and interior photographs of the church (Source: Author).

In 2024, the church tower suffered water-related damage; the church tackled the issue with a traditional technique using breathable material, restoring the fabric to its pre-1850s condition by removing the cement mortar and rendering the tower with lime mortar and a white limewash finish.⁴⁵ However, the new bright-white makeover of the tower (Figure 5) sparked differing opinions among Askrigg residents showing different responses to the new change, for example one says: The new color is “perfect”, another says “And if I go for a walk, I’m not going to get lost,” and other person express their alternative opinion: “I think it looks a bit odd, if I’m perfectly honest - not quite in keeping.”⁴⁶

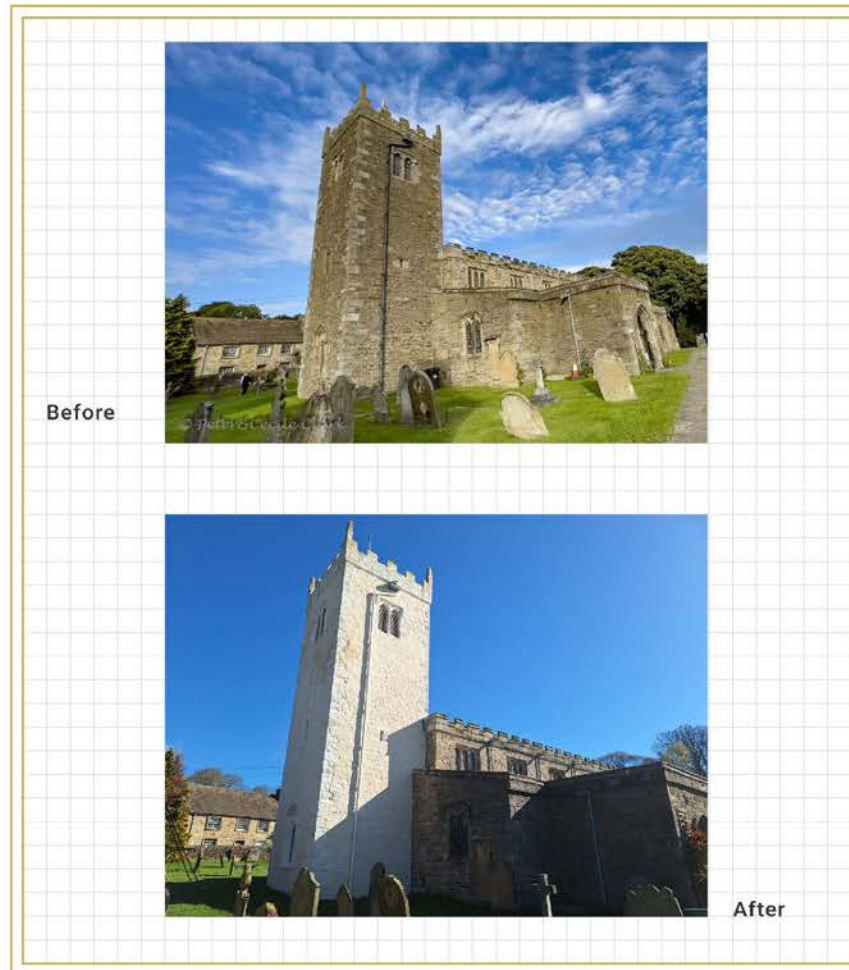


Figure 5: Tower transformation: (Top) The original state, photographed by Cécile Clark, March 6, 2023. (Bottom) The bright new color change, captured by the author on April 19, 2026.

The 2019 Heritage and Design statement identified aesthetic value as a key heritage value, although it is investigated as a concept influenced by evolving historical “fashion” rather than an unchangeable truth. The 19th-century decision to remove render to reveal stone is characterized as an aesthetic choice that eventually affected the building’s authenticity, introducing the notion that exposed stone represents the most authentic or ideal aesthetic. Rather, the church was originally intended to be rendered, and that whilst applying this finish may slightly alter its appearance, it safeguards the structure and perhaps enhances its aesthetic qualities when compared with damaged cement coatings. In this case, aesthetics are seen as significant but secondary to conservation requirements, best articulated in terms of historical truth and durable material performance.⁴⁷

St Oswald’s church represents an opportunity to test how sustainability-led interventions have impacted the aesthetics of medieval churches. Therefore, a small-scale pilot study (n=6) was conducted to assess the interpretive interview questions, investigate the aesthetic value, the sustainability framework, and the lived

experience within this church. However, it is important to note that this pilot research also uncovered significant methodological concerns. Access to the church and its participants is challenging due to the remote location. Finding worshippers to talk to is difficult, as they attend only during services on Sundays, and the numbers are few, as observed during my visit: just 12 attendees. To understand different views within the community, it is necessary to conduct further research to collect a comprehensive range of opinions. Hence, the pilot serves as both a preliminary source of subject-matter findings and a tool for enhancing the study design for subsequent interviews.

Throughout the interviews, conservation appears as the predominant and most persistent topic of discussion. The intervention for decision-makers was mostly driven by maintenance and repair needs due to deterioration, rather than by considerations of comfort, policy, or net-zero objectives. The tower was considered high risk, with the potential need to remove the bells and the church being unsafe. This conveys a profound sense of responsibility; for a mediaeval building to deteriorate “on our watch” was seen as intolerable, as the church is considered a significant heritage asset that must be preserved for future generations. Even individuals who never attend church still consider preservation important. St Oswald’s church is seen to have a significant status beyond its religious function; it is also regarded as a communal heritage asset and a symbol of local continuity.

The results indicate that sustainability is not understood consistently. During the interviews, I tried to test whether sustainability can primarily be understood through the lens of net-zero carbon emissions. Still, the majority of participants emphasized conservation, material durability, and long-term maintenance. From discussions, sustainability focuses more on conserving the building’s fabric, using suitable materials, mitigating moisture damage and ensuring the building’s ongoing functionality. Interviewees mentioned lime, sand, goat’s hair, local stone, local labor, and medieval techniques as indicators of sustainable practices. There was a clear emphasis that sustainability is mostly driven by conservation rather than a policy, whilst net-zero is acknowledged as a consequence of conservation-led work (unintentionally). The £250,000 cost of the tower rendering works significantly influenced the feasibility of options, making economic sustainability essential. When asked if economic sustainability is prioritized over environmental sustainability, interviewee’s replied: “Economic sustainability is not more important philosophically, but it is more important realistically.”

The aesthetic value appears in various ways throughout the interviews. For many participants, it is profoundly linked to historical significance: the church is aesthetically pleasing because it embodies centuries of worship, prayer, bells, stones, and communal presence. For others, aesthetics is primarily visual and material, associated with light, dimensions, color, the tower’s whiteness, the building’s physical presence, and its relationship to the landscape. Several individuals characterize the tower as more prominent post-rendering, transforming the

church into a beacon, a guide, or a landmark across the landscape. Whilst aesthetics was not the primary driver of the intervention, it was significant because community acceptance of the change's visual effect was necessary.

The interviews reveal that the church experience has both physical and spiritual dimensions. Participants define the church as peaceful, safe, warm, welcoming, caring, and spiritually meaningful. Many associate its ambience with the accumulated worship of previous generations, proposing that sanctity arises from memory, continuity, and extended use. Comfort is important; however, it is not always preferred above conservation. Some participants see the cold as an inherent aspect of the medieval church experience, whilst others observe that extreme cold affects concentration during worship. The intervention appears to have enhanced indoor environments by mitigating damp, mold, smell, and discomfort. Interviewees characterize the church as more inviting, drier, safer, and more operational. This indicates that physical upgrades may facilitate spiritually meaningful experiences, not by altering the church's spiritual significance directly, but by enabling individuals to worship without distractions from cold, dampness, or discomfort.

A significant point is that the church serves as both a historical landmark and a living religious space. Interviewee 3 discussed this subject further, noting that comfort may sometimes “take a back seat” to historical relevance, as the church is “not a monument.” It must remain suitable for its intended function for the community to continue practicing their religion there. This establishes a balance between conservation and functionality. Participants acknowledge that certain modern solutions, such as double glazing or simplified heating improvements, are unsuitable due to their potential clash with the medieval building's character and fabric. The results indicate that effective transformation of historic churches relies on balancing preservation, comfort, sustainability, affordability, and continued use.

Overall, the pilot findings indicate a hierarchy of values driven by conservation efforts. Conservation is the primary objective; cost is the practical barrier; aesthetic value is significant but subject to compromise; and sustainability is primarily seen in terms of longevity, suitable materials, and long-term use rather than solely in terms of carbon reduction. The intervention is mostly seen as improving the church experience as it makes the building drier, warmer, safer, more visible, and more secure for the future. The responses indicate that aesthetic and sustainability values are not distinct categories; they intersect through concepts of historical continuity, material authenticity, community identity, and long-term maintenance.

6. CONCLUSION

Medieval churches in the UK represent national identity and serve as repositories of significant heritage values, historical records, centuries of worship, unique architectural styles, cultural significance, social places, and aesthetic beauty. Still, they are now facing challenges in various areas, including financial pressures and declining numbers of worshippers, which, in turn, affect their volunteer services and donations. The cost of repairs and routine maintenance often exceeds the church's financial capacity. Moreover, the expectations and responsibilities to meet the environmental targets of net-zero carbon emissions, and the actions that accompany them, often conflict with the core principles of conservation practice, which emphasize careful, minimal interventions to preserve the historic built environment.

The line between sustainability-led and conservation-led interventions remains conceptually unclear, and both concepts are inconsistently framed and understood across institutions. Sustainability can be seen as dynamic in its framework, whether in its use in the Church of England, heritage organizations, and design professionals. Its use ranges from net-zero carbon emissions, energy efficiency, cost savings, and material preservation and longevity to the clash with conservation, as management of change, or 'to sustain' the historic built environment for future generations.

Therefore, sustainable conservation in the ecclesiastical context does not have a unified approach but rather a flexible one shaped by different goals and priorities. Eventually, interventions implemented in historic churches do not come from sustainability motivations (towards net-zero); in reality, they are driven by other priorities, mostly by proactive maintenance demands, reactive repair works, fulfilling comfort needs, and other conservation works, all of which respond to and are related to the church's financial capacity. St Oswald's church is an example of that reality: environmental sustainability is an important priority for decision-makers on the church management committee; however, the decision to render the tower was a reactive response to its condition, not for the sake of environmental change.

Even respondents from the pilot study at St Oswald's church show that sustainability cannot be seen solely as one of the three pillars (economic, environmental, and social), but rather as an interdependent system. Their priorities keep changing based on current risk and actual circumstances. For example, rendering St Oswald's tower, which the Church of England considers 'insulating renders', one of the sustainability criteria to reach net-zero, was in reality a response to dampness and risk of collapse. As a result of implementing that work, net-zero can be achieved because the building is drier and warmer, and because less oil is used, thereby emitting less carbon. Thus, net-zero is seen as the latest priority or a consequence.

When investigating how the sustainability-led intervention (breathable insulating render) in a bright white color impacted the aesthetics of St Oswald's church, there was a noticeable acceptance of the change, even among people who might not have initially accepted it. The reason behind this is that the change has already been historically justified, as seen across different responses, such as: "I love it because it's how churches were. They were markers in the environment," and "All the churches around here would have had white towers. So, it stands out." The aesthetics are reframed as a return to historical authenticity, not as a disruption of material or physical authenticity.

Interviews confirmed that aesthetics is not limited only to visual appearance. It has broader interpretations, such as historical value, spiritual and religious values (worship over centuries at the same place), and emotional responses. The new change did preserve the historic fabric, fulfilling conservation and sustainability needs; however, it transformed aesthetics in several aspects: visually (became like a visible landmark), sensory (increased warmth and does not smell like a moldy place), and socially (it brought visitors, attention to the village, and recalled the identity of how medieval churches used to be).

This research provided initial insights into how sustainability-led interventions can impact the aesthetics of a historic built environment, such as medieval churches. The pilot study of St Oswald is an important stage of the research, even though its findings are based on a limited number of respondents, because these insights will inform the next stages, which will expand on other case studies and involve multiple stakeholders to assess the lived experience of these sustainable interventions.

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Traditional Dwellings and Settlements

Working Paper Series

FROM INVISIBLE THREADS TO VIBRANT FORMS: HOW INTANGIBLE HERITAGE SHAPES TANGIBLE TREASURES – THE SPATIAL NARRATIVE OF ALPASSI AND PAINKUNNI FESTIVALS OF SREE PADMANABHASWAMY TEMPLE, SOUTH INDIA

Suja Kartha, Binumol Tom

FROM INVISIBLE THREADS TO VIBRANT FORMS: HOW INTANGIBLE HERITAGE SHAPES TANGIBLE TREASURES – THE SPATIAL NARRATIVE OF ALPASSI AND PAINKUNNI FESTIVALS OF SREE PADMANABHASWAMY TEMPLE, SOUTH INDIA.



The dynamic relationship between Tangible Heritage (physical sites and structures) and Intangible Cultural Heritage (ICH) (social practices, rituals, and festive events) is crucial for reinforcing cultural identity and ensuring heritage continuity. This paper investigates this interplay by focusing on the historic Sri Padmanabhaswamy Temple precinct in Thiruvananthapuram, the former capital of the 17th-century princely state of Travancore, Kerala, India. The research specifically examines how the highly significant built environment of the temple and its urban surroundings are physically and functionally adapted during the bi-annual Alpassi (Malayalam month of Thulam) and Painkunni (Malayalam month of Meenam) festivals. The core argument of this paper is that the temple's built environment is not merely a static setting, but an active catalyst that is spatially and functionally re-appropriated by the community during major rituals, demonstrating a reciprocal relationship between the physical and the practiced. The study utilizes a mixed methodology, combining spatial analysis of the temple precinct's reconfigured use during the processions and rituals, with field observation of the festivals, and archival research into the Travancore royal records detailing the historical and functional relationship between the state, the temple, and its ritual calendar. The findings demonstrate the mechanisms through which ICH, specifically the festivals, drives temporary physical transformations (e.g., processional routes, temporary structures, crowd management) that reinforce social cohesion and collective participation. This analysis reveals the potential of intangible heritage in empowering communities and ensuring the sustainable relevance of historic urban-religious complexes.

Keywords: Temple, Tangible and intangible heritage, festivals and adaptation

1. INTRODUCTION

1.1. Heritage Beyond Materiality

Cultural heritage is increasingly understood not as a passive inheritance of monumental artifacts but as a dynamic continuum of material forms, social practices, symbolic meanings, and collective memory. Earlier conservation paradigms, particularly those influenced by nineteenth- and twentieth-century European preservation models, largely privileged architecture, archaeological remains, monuments, and historically significant objects as the principal bearers of civilizational value. Within such frameworks, heritage was often equated with physical permanence. However, contemporary scholarship has challenged this reductionist perspective by emphasizing that heritage derives meaning not solely from built form but from the cultural practices that animate it.

The UNESCO Convention for the Safeguarding of the Intangible Cultural Heritage (2003) marked a critical shift by recognizing oral traditions, festive events, rituals, performing arts, and social practices as central to cultural continuity. This expanded understanding is particularly significant in South Asian contexts, where sacred landscapes are inseparable from ritual temporality. Temples, mosques, churches, shrines, and sacred

geographies function not merely as physical sites but as living cultural systems whose significance is periodically renewed through embodied practice.

In India, temple architecture has historically operated as a convergence point for religion, governance, economy, and social life. Temple towns such as Madurai, Kanchipuram, Puri, Guruvayur, and Thiruvananthapuram reveal that sacred structures are not isolated monuments but nodes within larger ritual ecosystems. Their streets, tanks, corridors, mandapas, and public spaces are designed for cyclical activation through festivals and ceremonies. In such contexts, tangible heritage cannot be adequately understood without examining the intangible practices that continually reproduce its significance.

The relationship between tangible and intangible heritage is therefore reciprocal rather than hierarchical. Built environments provide spatial frameworks for ritual enactment, while ritual practices preserve, reinterpret, and socially legitimize built environments. This paper situates itself within this broader discourse by examining Sree Padmanabhaswamy Temple as a living heritage complex in which architecture, monarchy, ritual, and urban life intersect.

1.2. Heritage in Kerala's Cultural Landscape

Kerala's cultural geography offers a uniquely layered context for studying this relationship. The region's temple traditions are deeply embedded within ecological adaptation, political history, caste structures, and localized ritual forms. Kerala temple architecture is distinguished by climatic responsiveness, wooden craftsmanship, laterite and granite use, mural traditions, and ritual precision. Yet the significance of these spaces extends beyond form. Temple-centered festivals such as Poorams, Aarattus, Pongala, Theyyams, and annual *utsavams* transform sacred precincts into expansive social landscapes. Kerala's festivals are particularly notable for their synthesis of ritual orthodoxy, public participation, and spatial adaptation. Unlike static heritage models, Kerala's sacred spaces often reveal heritage through cyclical transformation. Decorative illuminations, temporary pavilions, elephant processions, musical traditions, ritual performances, and public gatherings reconfigure temple architecture into performative environments. Within this context, Sree Padmanabhaswamy Temple occupies an exceptional place due to its dual identity as a religious institution and political center of the former Travancore kingdom. The temple is not only a sacred structure but a state-forming institution whose rituals historically shaped governance, territorial sovereignty, and urban development.

1.3. Research Context

Located in the fortified urban core of Thiruvananthapuram, Sree Padmanabhaswamy Temple represents one of the most significant sacred-political institutions in South India. Dedicated to Lord Vishnu in the Ananthasayanam posture, the temple's prominence intensified under Anizham Thirunal Marthanda Varma in the eighteenth century, particularly following the Thrippadidanam (dedication of the kingdom to the deity), which transformed Travancore into a divine trusteeship.

This historical shift established the deity as sovereign and the ruler as Padmanabhadasa, fundamentally integrating political legitimacy with ritual service. Consequently, the temple became the nucleus of administrative, ceremonial, and urban order. The annual and biannual festivals, especially Alpassi and Painkunni, thus extend beyond religious observance; they reproduce political memory, urban continuity, and civic participation.

These festivals involve ritual preparations, processions, symbolic hunts, ceremonial sea immersions, temporary infrastructures, and city-wide institutional adaptation. Roads are repurposed, schedules are altered, state agencies coordinate, and sacred geographies expand from temple precinct to sea. Such transformations make the site an ideal case for understanding heritage as a socio-spatial process.

1.4. Aim

To critically examine how the Alpassi and Painkunni festivals function as intangible cultural systems that activate, transform, and sustain the tangible heritage of Sree Padmanabhaswamy Temple and its urban precinct.

1.5. Objectives

- a. To establish a theoretical framework linking tangible and intangible cultural heritage.
- b. To document the ritual, social, and political dimensions of the Alpassi and Painkunni festivals.
- c. To analyze the adaptive transformation of temple and city spaces during festival cycles.
- d. To interpret the significance of festival urbanism in sustaining heritage continuity.
- e. To propose implications for integrated heritage conservation policy.

1.6. Research Questions

- a. How does the built environment of Sree Padmanabhaswamy Temple accommodate ritual temporality?

- b. In what ways do Alpassi and Painkunni festivals transform architecture into a living socio-spatial system?
- c. How do ritual events sustain collective identity, political memory, and urban continuity?
- d. What lessons does this case offer for contemporary heritage discourse?

2. LITERATURE REVIEW

2.1. Tangible and Intangible Heritage: Conceptual Foundations

The conceptual separation between tangible and intangible heritage is a relatively recent analytical distinction. Historically, cultural systems functioned holistically, with architecture, ritual, oral traditions, craftsmanship, and social values operating as interdependent dimensions of communal life. Modern conservation discourse, however, initially prioritized physical artifacts because of their perceived vulnerability to decay and destruction. UNESCO's 1972 World Heritage Convention emphasized monuments, sites, and natural heritage, while the 2003 Convention on Intangible Cultural Heritage expanded global heritage discourse by recognizing living traditions. This shift highlighted that communities preserve identity not only through structures but through knowledge systems, rituals, and performative continuity. Scholars such as Laurajane Smith critique the "Authorized Heritage Discourse" for privileging elite monumentalism while marginalizing lived cultural processes. Smith argues that heritage is fundamentally performative—a social act of meaning-making. Similarly, Barbara Kirshenblatt-Gimblett emphasizes that heritage is a mode of cultural production in the present rather than a static inheritance from the past. This perspective is essential when examining sacred architecture, where buildings derive significance through ritual repetition. Without festivals, processions, and social participation, temples risk becoming museological objects detached from lived meaning.

2.2. Space, Ritual, and Social Production

Kerala's temple-centered settlements can be understood not as static architectural compositions but as socially produced spatial systems in which ritual, cosmology, authority, and collective memory continuously shaped the built environment. Henri Lefebvre's spatial triad offers a crucial framework here: Tachusastra structured representations of space through codified geometry, orientation, and proportion; spatial practice emerged through everyday ritual movements such as festivals, processions, and cyclical occupation of sacred landscapes; and representational space was constituted through lived symbolic experience, myth, and communal participation. In this sense, Kerala's sacred settlements were not merely planned environments but ritualized socio-spatial orders. Victor Turner's concepts of liminality and *communitas* illuminate how temple festivals and processions transformed ordinary streets, tanks, and public grounds into temporary liminal

zones where sacred territory expanded and communal solidarity was periodically renewed. Catherine Bell's ritualization theory further clarifies that architecture itself through thresholds, enclosures, processional axes, and hierarchical spatial sequencing functioned as ritual technology, actively differentiating sacred from ordinary space and disciplining embodied experience. Tachusastra therefore operated as more than technical design; it was a ritual-spatial epistemology that encoded cosmological order into settlement morphology.

At the same time, Kerala's sacred geographies reveal architecture's entanglement with power, memory, and mobility. Michel Foucault's notion of spatial authority highlights how temple-centered landscapes regulated social hierarchies, access, and ritual privilege through spatial organization, embedding structures of caste and governance within sacred architecture. Pierre Nora's idea of memory landscapes similarly positions temples, sacred groves, tanks, and festival routes as living repositories of collective identity, where cyclical rituals continually reactivate cultural memory. These dynamics contribute to a model of sacred urbanism in which Kerala's settlement systems operated through cyclical urbanism—ritually intensified, temporally recurring, and territorially fluid rather than permanently centralized. Sacredness was mobile, extending beyond temple precincts through festivals, pilgrimage circuits, and processional networks that transformed roads, fields, and waterways into sacred infrastructures. Thus, architecture in Kerala functioned as ritual infrastructure: an integrated system organizing ecological adaptation, social production, symbolic order, and temporal continuity. This theoretical synthesis positions Tachusastra as an indigenous framework in which architecture was not simply shelter or monument, but a dynamic medium through which society continuously produced, remembered, and transformed space.

2.3. Kerala Temple Urbanism

Kerala's temple urbanism represents a distinctive model of sacred spatial organization in which religious institutions historically functioned not merely as devotional centers but as generators of political authority, social order, and urban morphology. Unlike many secular urban formations where civic infrastructure precedes symbolic meaning, Kerala's historic temple towns often emerged through temple-centered spatial logic, where sacred institutions structured settlement hierarchies, circulation systems, economic exchange, and cultural rhythms. Within this framework, the temple operated as a cosmological and administrative nucleus, organizing built environments through axial alignments, processional routes, temple tanks, palace complexes, market streets, and ritual corridors. Architectural historians have noted that Kerala's sacred urbanism was deeply responsive to ecological adaptation, climatic conditions, and localized socio-political structures, producing urban environments where ritual temporality shaped everyday spatiality. In the Travancore context, Sree Padmanabhaswamy Temple exemplifies this integration most powerfully, as Thiruvananthapuram's very identity, nomenclature, and urban evolution were intrinsically linked to the deity and temple precinct. The

fortified East Fort region, palace-temple connections, ceremonial roads, and Aarattu Veedhi/pathways collectively demonstrate how sacred architecture structured not only worship but the spatial logic of the capital itself. Travancore's political theology further intensified this temple-centered urbanism by institutionalizing ritual sovereignty through the eighteenth-century Thrippadidanam of Anizham Thirunal Marthanda Varma, wherein the kingdom was symbolically dedicated to Lord Padmanabha and the ruler assumed the role of Padmanabhadasa (servant of the deity). This act transformed sovereignty from dynastic kingship into divine trusteeship, embedding governance within ritual legitimacy. Scholars interpret this as a form of political theology in which state power was spatially and ceremonially enacted through temple institutions, festivals, and royal ritual participation. Ritual sovereignty in this context functioned through ceremonial performances such as Pallivetta and Aarattu, where divine kingship, territorial authority, and public order were periodically reaffirmed. Consequently, urban morphology in Travancore was not merely administrative but performative, shaped by sacred processions, ritual routes, and Temple-State spatial regimes. Temple-centered urban morphology thus reveals a reciprocal relationship between political authority and sacred geography, where the city itself became an extension of ritual order. This literature suggests that Kerala temple urbanism, particularly in Travancore, should be understood not simply as religious architecture but as a socio-spatial system in which ritual, governance, and urban planning were deeply intertwined.

2.4. Historical Context

The historical evolution of Sree Padmanabhaswamy Temple is deeply intertwined with the political, cultural, and ritual formation of Kerala's sacred geography. Located in Thiruvananthapuram, the temple is one of the most significant Vaishnavite shrines in South India, dedicated to Lord Vishnu in the Anantha Shayana posture. While the temple's sacred origins are embedded in mythology—particularly the legend of Divakara Muni and the divine revelation of Mahavishnu—its historical development reflects centuries of architectural expansion, royal patronage, and ritual codification. Early references indicate that the shrine existed as an important spiritual center long before the consolidation of Travancore, though its present monumental form largely emerged through successive renovations between the medieval and early modern periods. The temple's Dravidian-Kerala architectural synthesis, with its towering gopuram, expansive *prakaram*, ritual tanks, and layered enclosures, reveals the cumulative influence of indigenous building traditions and political authority. More than a place of worship, Sree Padmanabhaswamy became the spiritual nucleus around which Thiruvananthapuram evolved, shaping not only devotional practices but also the administrative and ceremonial identity of the region.

The rise of the Travancore state transformed the temple from a sacred institution into the ritual and political heart of sovereign governance. This shift reached its defining moment in 1750 when Maharaja Anizham

Thirunal Marthanda Varma performed the historic Thrippadidanam the ceremonial dedication of the kingdom to Sree Padmanabha. By symbolically surrendering political sovereignty to the deity and ruling thereafter as “Padmanabha Dasa” (servant of Padmanabha), Marthanda Varma established an extraordinary model of sacral kingship in which divine authority legitimized temporal governance. This act was not merely devotional; it restructured statecraft itself. The temple became central to Travancore’s political theology, treasury, ceremonial life, and public identity. Royal patronage ensured large-scale renovations, institutionalized rituals, land grants, and the formalization of festivals, embedding the monarchy within a sacred framework. Subsequent rulers continued this tradition, reinforcing a governance system where administrative power, ritual obligation, and architectural patronage were inseparable. The temple thus functioned simultaneously as spiritual sanctuary, royal chapel, and state institution, making Travancore one of the most distinctive examples of sacred monarchy in South Asia.

Festival traditions at Sree Padmanabhaswamy Temple evolved within this context of royal ritualization, expanding from temple-centered worship into broader socio-political spectacles. Major annual festivals such as Alpassi and Painkuni Utsavam became not only religious observances but state-sponsored performances of sacred sovereignty. These festivals incorporated Vedic rites, public processions, flag hoisting, ceremonial processions of deities, and the participation of royal representatives, thereby extending the deity’s symbolic presence into civic space. Over time, these celebrations became deeply embedded in public consciousness, drawing artisans, traders, devotees, and performers into temporary ritual economies. The festivals functioned as cyclical urban events that periodically reorganized the rhythms of the city, transforming streets into ceremonial corridors and public grounds into spaces of collective participation. Importantly, festival traditions were not static; they evolved through interactions between courtly patronage, local custom, regional artistic practices, and changing social structures. Music, temple arts, elephant processions, and ritual performances became integral components of this evolving sacred culture, reinforcing the temple’s role as both religious institution and social organizer.

The expansion of sacred routes from the temple into the surrounding city played a crucial role in shaping Thiruvananthapuram’s urban morphology. Ritual movement particularly processions associated with festivals extended sacredness beyond the temple walls, transforming roads, gateways, mandapas, and public spaces into components of a larger ritual infrastructure. The temple did not function as an isolated monument; rather, it generated an urban network through which sacred geography was continually activated. Processional routes linked the temple to palace complexes, water bodies, subsidiary shrines, and civic spaces, embedding ceremonial movement into the city’s physical planning. These sacred routes also structured patterns of settlement, commerce, and social congregation, contributing to the growth of bazaar streets, artisan quarters, and administrative precincts. In this way, Thiruvananthapuram developed as an urban extension of temple-

centered cosmology, where ritual pathways shaped spatial organization as profoundly as roads or markets. Sacred movement became a form of urban production, continually renewing the relationship between architecture, kingship, and civic life.

Thus, the historical context of Sree Padmanabhaswamy Temple is not limited to the chronology of a religious structure but encompasses the making of an entire sacred polity. Its evolution reflects the convergence of mythic origins, architectural growth, royal devotion, state formation, and ritual expansion. Through Travancore's patronage, festival traditions, and sacred urban routes, the temple became the organizing core of a distinctive socio-spatial order in which religion, governance, and urbanism were mutually reinforcing. Understanding this historical context is essential for recognizing how Sree Padmanabhaswamy Temple shaped not only spiritual practice but also the political imagination and urban identity of Kerala.

3. METHODOLOGY

This research employs a mixed-methods approach to examine Sree Padmanabhaswamy Temple not merely as a monumental structure, but as a living socio-spatial system shaped by ritual movement, governance, and cyclical urban transformation. Since the study investigates how sacred architecture extends beyond the temple into festival routes, public life, and city structure, it integrates spatial analysis, ethnographic observation, archival research, and comparative temporal mapping. Spatial mapping of major festivals such as Alpassi and Painkuni traces ceremonial routes, gathering nodes, temporary infrastructures, and connections between temple, palace, streets, and civic spaces. Through route tracing, measured drawings, and observational diagrams, this method reveals how ritual processions periodically transform ordinary urban spaces into sacred corridors, demonstrating that architecture and urbanism are activated through ritual occupation rather than static form alone. Ethnographic observation provides the experiential dimension of the study by documenting lived realities during both festival and non-festival periods. Fieldwork focuses on participant movement, crowd density, ritual pauses, social interactions, and temporary behavioral changes among devotees, vendors, pilgrims, and local residents. This allows the research to capture dimensions of sacred urbanism such as embodied devotion, temporary commerce, soundscapes, and symbolic thresholds that cannot be understood solely through plans or archival documents. Archival research further strengthens the study by examining Travancore administrative records, temple manuals, royal decrees, historical maps, and ritual prescriptions to reconstruct the historical evolution of festival structures, ceremonial routes, and sacred governance. Together, ethnography and archives connect contemporary ritual practice with deeper histories of state formation, sacred authority, and cultural continuity. The study employs behavioral mapping, ritual sequence analysis, and functional transformation mapping. These tools document user interaction, ritual chronology, and changing spatial functions, showing how marketplaces, streets, and civic spaces are periodically redefined through

sacred practice. Together, this layered methodology moves beyond conventional architectural documentation by positioning Sree Padmanabhaswamy Temple as an evolving ritual infrastructure where material form, social behavior, and sacred temporality collectively produce Kerala's distinctive model of living heritage.

4. CASE STUDY ANALYSIS

To understand how Sree Padmanabhaswamy Temple functions as a living system of ritual urbanism, this study examines two of its most significant annual festivals; Alpassi and Painkuni Utsavam as case studies of cyclical spatial transformation. These festivals are not merely religious events; they are recurring socio-spatial processes that reorganize the city, activate sacred routes, reshape public behavior, and reaffirm Travancore's historical ritual sovereignty. While both festivals are rooted in temple tradition and Vaishnavite devotion, each possesses distinct ritual rhythms, symbolic emphases, and urban effects. Together, they reveal how sacred architecture extends beyond temple walls to produce temporary yet powerful transformations in the civic landscape of Thiruvananthapuram.

4.1. Alpassi Festival

The Alpassi Festival, typically conducted during the Malayalam month of Thulam (October–November), is one of the major biannual festivals of Sree Padmanabhaswamy Temple and represents a significant ritual expansion of sacred life into the city. The festival unfolds through a carefully structured chronology beginning with Kodiyettu (flag hoisting), which marks the ceremonial commencement of the sacred cycle. This is followed by a sequence of daily rituals, processions, Vedic observances, and ceremonial gatherings that culminate in Aarattu, the ritual bathing procession of the deity. Each stage of the festival progressively intensifies sacred presence, moving from temple interiors outward into broader urban space. The temporal order of rituals is essential, as it reflects a carefully preserved cosmological structure in which sacred time is activated through ritual progression.

A defining feature of the Alpassi Festival is its processional pathway, particularly the Aarattu procession, in which the deity ceremonially travels from the temple through designated urban routes toward the seashore at Shanghumugham for ritual immersion. This movement transforms the city into a sacred corridor. Roads ordinarily used for commerce or transportation are temporarily redefined as ritual avenues, marked by ceremonial order, public reverence, and symbolic purification. These routes are historically significant, often connecting temple, palace, and public spaces, thereby reinforcing the integration of sacred, civic, and royal geographies. The processional path functions as a mobile extension of temple architecture, where sacred movement itself becomes a form of urban production.

Temporary infrastructures emerge as vital components of Alpassi's ritual landscape. Barricades, ceremonial arches, resting mandapas, lighting systems, security arrangements, temporary stalls, and ritual markers are installed to facilitate movement and participation. These structures demonstrate how urban infrastructure adapts to sacred temporality. Public spaces are reorganized not permanently but cyclically, revealing an urban logic responsive to ritual needs. The festival also generates temporary ritual economies through commerce, food distribution, and artisanal participation.

Public participation during Alpassi is broad and multi-layered. Devotees, local communities, temple authorities, traders, performers, and administrative bodies all contribute to the festival's execution. Participation extends beyond spectatorship; the public becomes part of the ritual field through attendance, movement, offering, and collective presence. Alpassi thus reinforces social cohesion by transforming civic space into a shared sacred experience, where ritual temporarily reorders ordinary urban hierarchies.

4.2. Painkuni Festival

The Painkuni Festival, celebrated during the Malayalam month of Meenam (March–April), is equally significant but possesses distinctive ritual and symbolic characteristics that differentiate it from Alpassi. While Painkuni also follows a structured ceremonial sequence beginning with flag hoisting and culminating in Aarattu, it is especially noted for its visual grandeur, elaborate processions, and iconic installation of Painkuni poles (Painkuni Kettu), which serve as powerful ritual markers within the temple complex. These monumental ceremonial elements emphasize the performative and symbolic scale of the festival, visually asserting sacred sovereignty.

Painkuni's spatial transformations are particularly dramatic. The festival generates intense ceremonial occupation of both temple precincts and urban extensions, often involving greater visual spectacle, larger congregation patterns, and stronger symbolic integration of temple and state traditions. Public routes become ceremonial landscapes, while temple spaces are architecturally re-signified through ritual installations, decorative structures, and processional choreography. The city experiences a heightened ritual density, where sacredness is expressed not only through movement but through visual and spatial intensification.

One of Painkuni's most important dimensions is its continued association with Travancore's royal-state symbolism. Historically, the Travancore royal family's ceremonial participation reinforced the deity's sovereignty over the kingdom, and Painkuni often foregrounded this relationship with particular intensity. The festival thereby becomes a performative reenactment of sacred kingship, where ritual affirms the historical bond between temple, monarchy, and governance. This symbolism is especially visible in

ceremonial protocols, royal representation, and processional traditions that preserve the memory of Travancore's political theology.

4.3. Comparative Analysis: Alpassi and Painkuni

Although both festivals share structural similarities as major biannual temple celebrations, their differences reveal the diverse ways sacred temporality shapes urban experience. Alpassi may be understood as emphasizing sacred procession and ritual continuity, while Painkuni foregrounds ceremonial spectacle, visual symbolism, and royal memory. Their comparison demonstrates that festival traditions are not repetitive duplicates but distinct ritual frameworks producing varied forms of spatial transformation.

Parameter	Alpassi Festival	Painkuni Festival
Ritual Duration	Multi-day cycle centered on ritual progression from flag hoisting to Aarattu; emphasizes continuity and devotional rhythm	Multi-day cycle with heightened ceremonial grandeur; often marked by visually prominent ritual installations and intensified symbolic display
Route Pattern	Strong emphasis on processional movement through sacred urban corridors linking temple to wider civic spaces, especially seashore ritual	Similar processional networks but often accompanied by stronger ceremonial occupation of temple-centered spaces and symbolic structures
Temporary Structures	Functional infrastructures such as arches, mandapas, barricades, stalls, and route management systems supporting public movement	More elaborate ceremonial installations including Painkuni poles, decorative ritual structures, and visually intensified sacred markers
Civic Participation	Broad devotional participation with strong public movement and community-based engagement	Extensive civic and ritual participation, often amplified by royal symbolism, ceremonial spectacle, and heightened visual-cultural identity

4.4. Analytical Interpretation

Together, Alpassi and Painkuni demonstrate how festival traditions at Sree Padmanabhaswamy Temple produce cyclical urbanism—an urban order activated through ritual recurrence rather than permanent physical change. Both festivals transform the city into sacred infrastructure, but they do so through different

ritual emphases: Alpassi through movement and sacred extension, Painkuni through symbolic intensification and royal performativity. These transformations illustrate that sacred architecture in Kerala is not confined to temple structures alone; rather, it operates through ritual sequences, mobile geographies, temporary infrastructures, and civic participation.

By examining these festivals comparatively, the case study reveals that Sree Padmanabhaswamy Temple functions as a dynamic center of socio-spatial production. Festivals become mechanisms through which sacred memory, political history, architectural form, and public life are periodically reassembled. This reinforces the broader argument of the research: Kerala's temple urbanism is fundamentally cyclical, performative, and infrastructural, where ritual is not an addition to architecture but one of its primary organizing principles.

5. DISCUSSIONS

The case of Sree Padmanabhaswamy Temple demonstrates that sacred architecture cannot be fully understood through its physical form alone. While monumental structures, enclosures, gateways, and processional streets provide the material framework of heritage, their cultural meaning is continuously produced through ritual activation. In this sense, built heritage operates as performative infrastructure a spatial system designed not merely for preservation or visual admiration, but for repeated occupation, movement, ceremony, and collective participation. The temple becomes architecturally complete only when ritual animates it. Festival routes, temporary mandapas, ceremonial thresholds, sacred tanks, and public corridors are not secondary additions to heritage; they are functional components of a larger ritual ecosystem. This perspective shifts heritage discourse away from static monumentality toward living systems, where architecture is understood as an active medium of social production. Sree Padmanabhaswamy Temple illustrates that sacred spaces are sustained not simply by stone, wood, or masonry, but by recurring patterns of use that continually renew their relevance.

This understanding also positions ritual as a powerful mechanism of adaptive reuse. In conventional architectural discourse, adaptive reuse often refers to repurposing old structures for contemporary functions. However, in living heritage contexts such as Padmanabhaswamy temple, rituals themselves perform adaptive reuse by periodically transforming spaces without erasing their original meaning. Streets become sacred corridors, civic grounds become ceremonial spaces, palace-temple relationships are symbolically renewed, and public infrastructure is ritually reconfigured. Rather than preserving heritage through isolation, ritual preserves it through active transformation. This cyclical adaptation ensures that historic environments remain socially embedded rather than becoming obsolete relics. Such a framework challenges preservation models

that prioritize material conservation while neglecting lived practice. It suggests that the sustainability of heritage lies not only in maintaining fabric, but in sustaining the cultural systems that keep that fabric meaningful.

Temporality emerges as a central category in this discussion. Heritage preservation is often imagined as a battle against time, focused on protecting physical structures from decay. Yet the Padmanabhaswamy model reveals a different paradigm: temporality itself can be a mode of preservation. Festivals, annual processions, and recurring ritual cycles create periodic reactivation of sacred landscapes, ensuring that spaces are remembered, used, and socially reproduced across generations. In this sense, time is not destructive but regenerative. Ritual calendars become preservation systems, and cyclical occupation becomes a form of heritage continuity. The temple survives not simply because it endures materially, but because it is repeatedly re-entered into cultural life. This insight is particularly important for understanding Kerala's sacred urbanism, where continuity depends as much on ritual repetition as on architectural maintenance.

Community agency is equally fundamental to this continuity. Although temple administration and historical royal patronage shape institutional frameworks, the long-term survival of living heritage depends on the participation of devotees, artisans, performers, vendors, local residents, and ritual specialists. Communities do not merely consume heritage; they actively reproduce it. Their embodied practices, economic participation, and intergenerational transmission sustain the operational life of sacred spaces. Festivals function as community-driven systems of heritage continuity, where public participation ensures that sacred geographies remain socially relevant. This agency is especially important in contexts of modernization, where heritage risks commodification or bureaucratic abstraction. Padmanabhaswamy's endurance demonstrates that living heritage survives most effectively when communities remain active custodians rather than passive observers.

From a broader urban perspective, festivals also function as socio-spatial resilience systems. They periodically reorganize urban infrastructure, mobilize administrative coordination, support local economies, reinforce social cohesion, and renew cultural memory. In times of rapid urban transformation, such cyclical systems provide continuity and adaptability, allowing historic cities to absorb change without losing identity. Festivals are therefore not interruptions to urban life but mechanisms through which cities recalibrate themselves culturally and spatially. They create resilience by linking memory, movement, economy, and governance. Thus, the core theoretical proposition of this study becomes clear: temple architecture becomes complete not through material permanence alone, but through cyclical ritual occupation. Architecture provides the frame; ritual provides life.

6. CONTEMPORARY RELEVANCE

The insights from Sree Padmanabhaswamy Temple have significant implications for contemporary heritage management, particularly in societies where sacred sites continue to function as living institutions. Modern conservation frameworks often privilege monument preservation, structural restoration, and tourism development while underestimating the role of ritual, community participation, and temporal use. This study argues that sustainable conservation must move beyond object-centered preservation toward integrated living heritage models. Protecting a temple solely as an architectural artifact risks severing it from the ritual systems that give it meaning. Effective heritage management must therefore preserve process as much as product: ritual routes, festival practices, temporary infrastructures, and social participation are as crucial as stone walls or carved pillars.

This perspective is especially relevant for policy formation. Heritage regulations should incorporate ritual calendars, festival logistics, community access, and intangible cultural systems into planning frameworks. Conservation strategies must recognize sacred routes, procession spaces, and ritual ecologies as heritage assets in their own right. Urban planning around living heritage sites should protect ceremonial corridors from disruptive infrastructural interventions while balancing accessibility, safety, and modernization. In rapidly urbanizing contexts, this requires coordination between heritage authorities, municipal planners, religious institutions, and local communities. Such an approach would shift policy from monument protection to heritage ecosystem management.

The tension between tourism and ritual authenticity also requires careful negotiation. Sacred sites like Sree Padmanabhaswamy temple attract visitors for religious, historical, and cultural reasons, but excessive commercialization can reduce living heritage into spectacle. Tourism economies can support preservation, yet they can also distort ritual priorities if visitor consumption overrides sacred purpose. Policy must therefore establish frameworks where tourism remains secondary to ritual integrity, ensuring that sacred practices are not commodified for external audiences. Authenticity in living heritage depends not on freezing tradition, but on safeguarding the community-led ritual logic that sustains it.

For urban planning, the temple's cyclical urbanism offers valuable lessons. Contemporary cities often struggle to integrate cultural continuity into development models. Padmanabhaswamy temple demonstrates that ritual movement, temporary infrastructures, and cyclical public occupation can coexist with urban functionality, suggesting alternative planning paradigms that prioritize flexibility, collective memory, and cultural resilience. Sacred cities can thus inform broader discussions on sustainable urbanism by showing how heritage, temporality, and public life may be harmonized rather than separated.

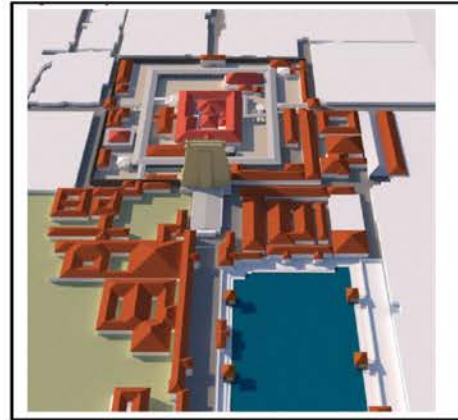
7. CONCLUSION

This study of Sree Padmanabhaswamy Temple and spaces where rituals rules demonstrates that intangible heritage is not supplementary to tangible heritage; rather, it is the force that activates, sustains, and continuously redefines it. Architecture alone does not preserve sacred environments. Instead, ritual practice through festivals, processions, seasonal occupation, and collective memory ensures that historic spaces remain socially meaningful and culturally alive. The temple's enduring significance lies not only in its monumental architecture or royal history, but in the cyclical practices that continually regenerate its sacred and urban relevance.

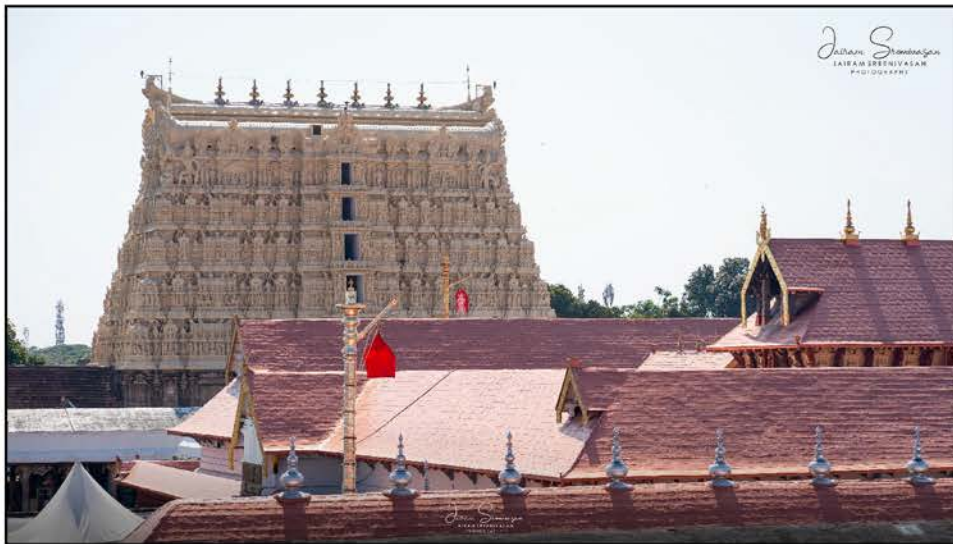
Sree Padmanabhaswamy temple therefore serves as a compelling model of living heritage, where built form, ritual temporality, political history, and community agency converge into a resilient socio-spatial system. Its example challenges conventional heritage frameworks that separate monument conservation from lived cultural practice. By demonstrating how rituals preserve, adapt, and reactivate historic environments, the temple offers an alternative paradigm in which continuity is achieved through occupation rather than static preservation alone.

Ultimately, this research argues for a more integrated heritage policy one that recognizes architecture, ritual, urbanism, and community participation as interdependent dimensions of preservation. Protecting living heritage sites requires safeguarding not only structures, but also the temporal cycles, sacred routes, and social practices that animate them. In this broader framework, Sree Padmanabhaswamy Temple stands not simply as a preserved monument of the past, but as a dynamic model for the future of sustainable heritage conservation. The case of the Sree Padmanabhaswamy Temple demonstrates that the resilience of heritage lies in its capacity to be enacted and experienced. By sustaining the reciprocal relationship between the tangible and intangible, heritage sites can remain relevant, meaningful, and embedded within the lived realities of contemporary society.

NOTES AND REFERENCES



Temple Plan (Source: Author)



Flag Hoisting-KODIYETU (Source: PC-Sreevas)



Installations in the foreground (Source: Internet)



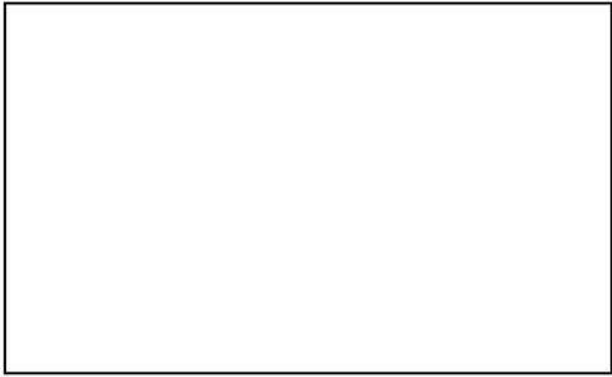
Ceremonial Procession & Community Participation (Source: Author)



Pallivetta & Rituals (Source Author /Internet)



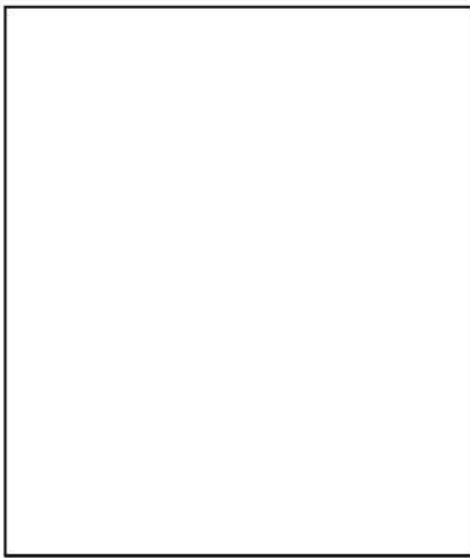
Alpassi Ārāt



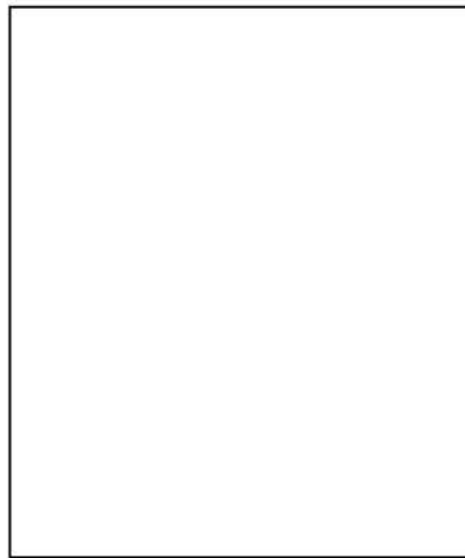
Velakali as part of the rituals (Source Author)



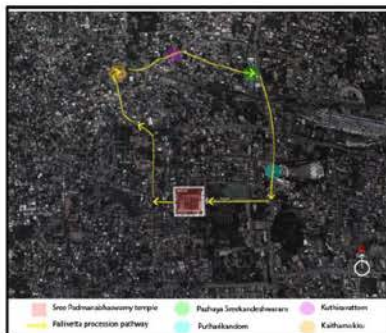
Temple precinct (Source Author)



Temple Procession (Source Author)

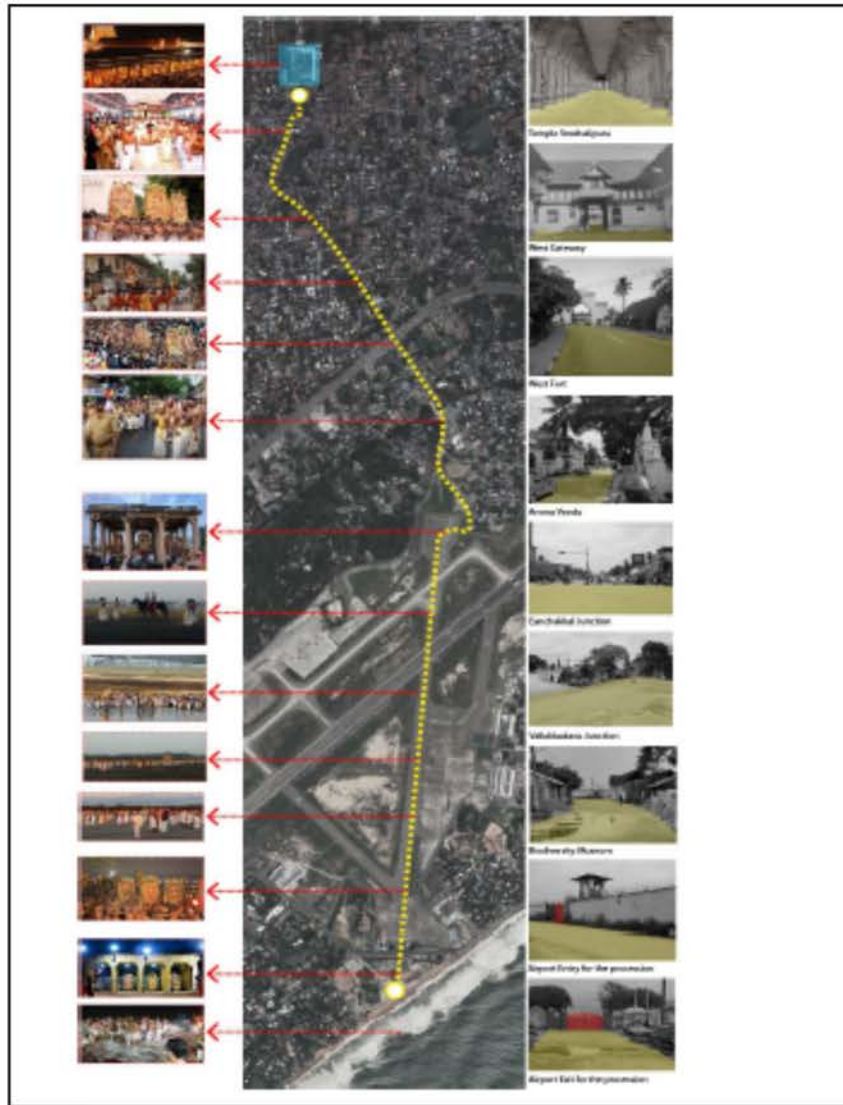


Travancore King leading the procession (Source Internet)



Ceremonial Pathway-(Source Author)





Aarattu procession and its street Source(Author)

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TRANSLATING SACRED TRADITIONS ACROSS CULTURES AND RELIGIONS

Silvia Mazzetto

Prince Sultan University, Saudi Arabia
smazzetto@psu.edu.sa

Md Mizanur Rashid,¹ Katharine Bartsch²

¹Deakin University, Australia; md.rashid@deakin.edu.au

²The University of Adelaide, Australia; katharine.bartsch@adelaide.edu.au

Naniek Widayati Priyomarsono

Universitas Tarumanegara, Indonesia
naniekw@ft.untar.ac.id

Hasan Mahdi Al-Sallami

University of York, U.K.
cbk515@york.ac.uk

Suja Kartha,¹ Binumol Tom²

¹ Marian College of Architecture & Planning, India; sukartha@gmail.com

² Rajeev Gandhi Institute of Technology, India; binumoltom.tom@rit.ac.in