**Sustainable Environment and the built Space: Integrating Ecology, Planning and Human Well-being**
Proceedings of the 6th International Conference (FESCON 2026) at Chukwuemeka Odumegwu Ojukwu University, Uli Campus, Uli, Nigeria
18 - 19 June 2026

# EMOTIONAL ARCHITECTURE AND SUSTAINABLE CULTURAL HERITAGE DESIGN IN BADAGRY, NIGERIA

**Shaibu, O. M.[1], Sani O. S.[2], Haruna, F. A. [3] Michael Attah Onugba[4]**
*[1]Department of Architectural Technology, Federal Polytechnic Idah*
*[2]Department of Surveying and Geo-informatics, Federal Polytechnic Idah*
*[3]Department of Quantity Surveying, Federal Polytechnic Idah*
*[4]Department of Civil Engineering, Federal Polytechnic Idah*

Email: mmocheje2day@gmail.com

**Abstract**

*The integration of cultural heritage within the built environment is essential for advancing sustainable development and improving human experience, particularly in historically significant locations such as Badagry, Nigeria. As a major site within the transatlantic slave trade, Badagry possesses rich cultural heritage resources. However, many heritage facilities continue to rely primarily on artefact preservation and historical narration, often limiting opportunities for deeper emotional engagement and experiential learning. This study investigates the role of emotional architecture as a sustainable design strategy for enhancing cultural heritage interpretation within the built environment. Through a qualitative review of literature and comparative analysis of selected slave trade museums and memorial institutions, the research examines how architectural elements including spatial sequencing, symbolism, material expression, lighting, sensory stimulation, landscape integration, and the relationship between indoor and outdoor environments influence visitor perception and emotional response. The findings indicate that emotionally responsive environments significantly enhance historical understanding, empathy, memory retention, and visitor satisfaction while simultaneously strengthening cultural identity and heritage conservation awareness. Furthermore, carefully designed spatial transitions, including confined interior spaces that convey historical intensity and open outdoor areas that support contemplation, can strengthen both emotional impact and environmental performance. The paper argues that integrating emotional architectural principles with sustainable design approaches such as natural ventilation, daylight utilisation, climate-responsive planning, and ecological landscaping contributes to environmental stewardship, social inclusion, heritage tourism, and community well-being. A conceptual framework is proposed to guide the development of emotionally engaging and environmentally responsive heritage spaces in Badagry. The study concludes that architectural design which responds to human emotion, when thoughtfully combined with ecological sensitivity and sustainable planning, can create meaningful built environments that preserve collective memory while improving quality of experience. It recommends the adoption of integrated design approaches that connect architecture, ecology, and planning in the development of cultural heritage spaces in Nigeria and similar contexts.*

**Keywords**: Badagry, built environment, emotional architecture, museum design, sustainable heritage design

## 1. INTRODUCTION

Architecture has historically served as a medium through which societies express identity, communicate values, and preserve collective memory. Beyond its functional role of providing shelter and facilitating human activities, architecture possesses the capacity to evoke emotions, shape perceptions, influence behaviour, and create meaningful experiences. The increasing recognition of the relationship between human emotions and spatial environments has contributed to the emergence of emotional architecture as a significant area of contemporary architectural discourse. Emotional architecture refers to the deliberate use of architectural elements to stimulate psychological and emotional responses, thereby creating spaces that resonate deeply with users and foster meaningful interactions with place (Pallasmaa, 2012).

The significance of emotional architecture becomes particularly evident within cultural heritage environments. Heritage sites embody collective memory, cultural identity, and historical narratives that connect communities with their past. Museums, memorials, monuments, and historic landscapes are not merely repositories of historical information but are spaces where visitors engage intellectually and emotionally with stories of human experiences, achievements, suffering, and resilience (MacLeod, 2005). Consequently, the effectiveness of heritage interpretation depends not only on the accuracy of historical information presented but also on the capacity of the built environment to facilitate emotional engagement and reflective understanding.

Badagry, located along the Atlantic coast of Lagos State, Nigeria, represents one of the most significant historical landscapes associated with the transatlantic slave trade in West Africa. Between the sixteenth and nineteenth centuries, the town functioned as a major slave port through which thousands of enslaved Africans were transported across the Atlantic Ocean to Europe and the Americas (Law, 1992). Today, Badagry hosts several heritage attractions, including the Point of No Return, the Badagry Heritage Museum, the Seriki Abass Slave Museum, Mobee Slave Relics Museum, and various historical routes associated with the slave trade. These sites collectively constitute an important cultural heritage corridor that attracts local and international visitors seeking to understand the history and legacy of slavery.

Despite the historical significance of these heritage resources, many existing facilities continue to rely heavily on conventional exhibition approaches characterized by artifact display, textual narration, and static interpretation. While such methods remain important for historical documentation and preservation, they may not adequately facilitate emotional immersion, empathy, and experiential learning among visitors. Contemporary museum practice increasingly advocates experiential environments that engage multiple senses and encourage deeper emotional connections with historical narratives (Falk & Dierking, 2018). Emotional architecture therefore offers opportunities to transform heritage environments from passive educational settings into immersive spaces capable of fostering reflection, remembrance, and social consciousness.

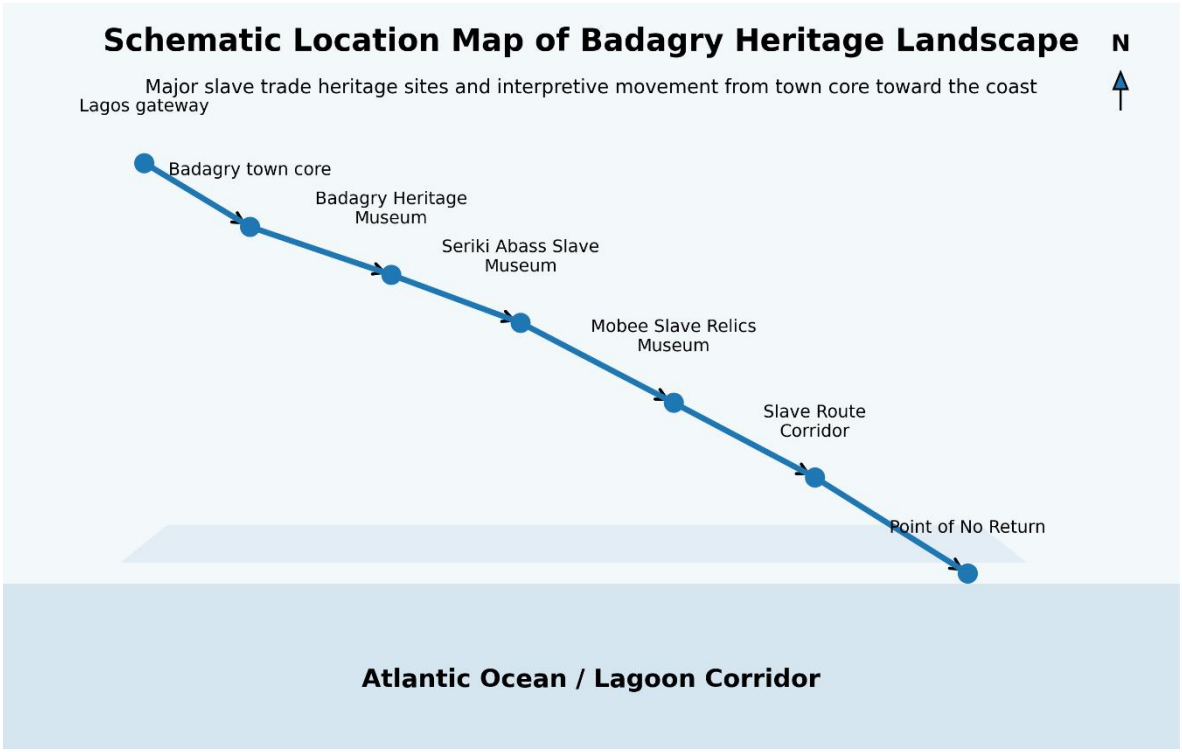
Simultaneously, contemporary discussions surrounding sustainable development increasingly acknowledge culture and heritage as essential dimensions of sustainability. Sustainable development extends beyond environmental protection to include cultural continuity, social well-being, economic resilience, and responsible stewardship of heritage resources (UNESCO, 2021). Cultural heritage sites contribute significantly to sustainable development through tourism generation, community identity formation, educational opportunities, and social cohesion. Consequently, heritage conservation and sustainable design are increasingly viewed as complementary rather than competing objectives.

Within this context, the integration of emotional architecture and sustainable heritage design presents a valuable framework for heritage development in Badagry. Emotional engagement can strengthen public appreciation of cultural resources, encourage conservation awareness, enhance visitor experiences, and contribute to long-term heritage sustainability. At the same time, environmentally responsive design strategies can improve user comfort, reduce ecological impact, and support broader sustainability objectives.

This paper therefore examines the relationship between emotional architecture and sustainable cultural heritage design in Badagry, Nigeria. Specifically, the study seeks to:

1. Examine the theoretical foundations of emotional architecture and sustainable cultural heritage design.
2. Analyse architectural strategies employed in selected slave trade museums and memorial institutions to foster emotional engagement.
3. Evaluate the contribution of emotional architectural experiences to heritage sustainability and visitor well-being.
4. Propose a conceptual framework for integrating emotional architecture and sustainable heritage development within the Badagry heritage landscape.

**Figure1: Location Map of Badagry Showing Major Slave Trade Heritage Sites]**




The study contributes to ongoing discourse on heritage conservation, museum architecture, environmental sustainability, and human-centred design by demonstrating how emotionally responsive environments can support cultural preservation and sustainable development objectives.

## 2. LITERATURE REVIEW AND THEORETICAL FRAMEWORK

### 2.1 Understanding Emotional Architecture

The concept of emotional architecture emerged from broader discussions concerning the experiential qualities of space and the relationship between architecture and human perception. While traditional architectural discourse often focused on aesthetics, functionality, and structural performance, contemporary scholarship increasingly emphasizes human experience as a fundamental component of architectural quality. According to Pallasmaa (2012), architecture is experienced through the entire body rather than solely through visual perception. Human encounters with architectural spaces involve multiple sensory dimensions, including touch, sound, texture, smell, temperature, movement, and memory. These sensory experiences collectively contribute to emotional responses and influence how individuals perceive and interpret their surroundings.

Similarly, Zumthor (2006) argues that atmosphere constitutes one of the most important qualities of architecture. Architectural atmosphere emerges from the interaction of materials, light, sound, proportion, and spatial relationships, producing emotional effects that often transcend verbal explanation. Spaces may evoke feelings of comfort, anxiety, serenity, melancholy, awe, intimacy, or reflection depending on how these elements are orchestrated. Consequently, architecture possesses the capacity to communicate meanings and emotions without relying on written or spoken language.

Environmental psychology further supports the relationship between built environments and emotional responses. Research demonstrates that spatial configurations, lighting conditions, colour schemes, material textures, and environmental stimuli significantly influence human mood, behaviour, cognitive performance, and psychological welfare (Mallgrave, 2013). Architecture therefore functions not merely as a physical setting for human activity but as an active participant in shaping emotional and behavioural outcomes.

The application of emotional architecture is particularly relevant within environments associated with collective memory and historical trauma. Museums, memorials, and commemorative landscapes frequently employ architectural strategies designed to evoke empathy, contemplation, remembrance, and social awareness. Such environments utilise symbolism, sensory engagement, and spatial narratives to create meaningful experiences that deepen visitors' understanding of historical events and their contemporary implications (Robinson & Pallasmaa, 2015).

Emotional architecture within heritage settings often operates through five principal mechanisms:

*Spatial Narrative*

Spatial narrative refers to the organisation of spaces in a sequential manner that guides visitors through a particular story or experiential journey. Rather than presenting information as isolated fragments, narrative architecture structures movement through space to reinforce thematic progression and emotional development (Tzortzi, 2015).

*Symbolism*

Architectural symbolism employs forms, materials, spatial arrangements, and visual references to communicate cultural meanings and historical narratives. Symbolic design elements enable visitors to engage with abstract concepts through tangible spatial experiences (Pérez-Gómez, 2016).

*Materiality*

Material selection significantly influences emotional perception. Natural materials, weathered surfaces, exposed structures, and textured finishes often evoke authenticity, memory, permanence, and connection to place. Material expression therefore contributes to the atmosphere and emotional character of heritage environments (Zumthor, 2006).

*Light and Shadow*

Lighting remains one of the most powerful tools available to architects. Natural and artificial lighting can be manipulated to create feelings of hope, solemnity, anticipation, reverence, or introspection. The contrast between darkness and illumination is particularly effective in communicating narratives associated with oppression, liberation, and transformation (Pallasmaa, 2012).

*Sensory and Atmospheric Experience*

Beyond visual qualities, architecture engages hearing, touch, smell, and bodily movement. Sensory experiences contribute significantly to memory formation and emotional engagement. Heritage environments that stimulate multiple senses often generate stronger and more enduring visitor experiences than those relying solely on visual displays (Mallgrave, 2013).

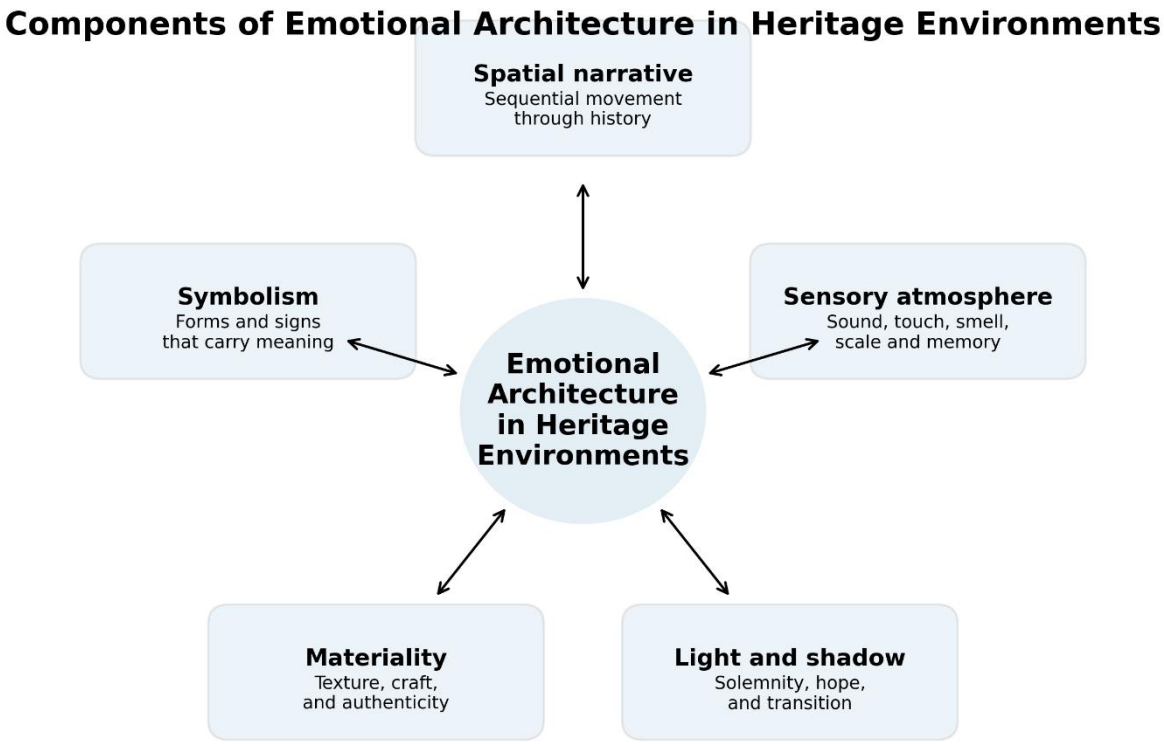



**Figure 2: Components of Emotional Architecture in Heritage Environments**

The growing recognition of these emotional dimensions has influenced contemporary museum and memorial design worldwide, leading to increased emphasis on experiential interpretation and immersive heritage environments.

### 2.2 Sustainable Cultural Heritage Design

Sustainability has evolved from a predominantly environmental concept to a multidimensional framework encompassing environmental, social, cultural, and economic considerations. Within the built environment, sustainable design seeks to balance present needs with the capacity of future generations to meet their own needs while maintaining ecological integrity and societal well-being (United Nations, 2015). In recent years, scholars and heritage practitioners have increasingly recognised culture as a fundamental pillar of sustainability, alongside environmental, economic, and social dimensions (UNESCO, 2021).

Cultural heritage represents the accumulated values, traditions, memories, knowledge systems, and physical artefacts inherited from previous generations. Heritage sites provide tangible links between past and present societies while reinforcing community identity and collective memory (Smith, 2006). Consequently, preserving heritage resources contributes significantly to sustainable development by supporting education, tourism, social cohesion, and cultural continuity.

Sustainable cultural heritage design extends beyond the conservation of historic buildings and artefacts. It encompasses the creation of adaptive, resilient, and meaningful environments that preserve cultural significance while responding to contemporary environmental and social challenges (ICOMOS, 2019).

Such an approach integrates conservation objectives with sustainable planning, environmental stewardship, and community engagement.

The environmental dimension of sustainable heritage design emphasises climate-responsive architecture, renewable energy utilisation, water conservation, sustainable material selection, and ecological landscape management. These strategies minimise environmental impacts while enhancing occupant comfort and operational efficiency (Vale & Vale, 2014).

Social sustainability focuses on inclusivity, accessibility, public participation, education, and community well-being. Heritage environments that encourage interaction, reflection, and cultural dialogue contribute positively to social development and collective identity (Jones, 2017).

Economic sustainability is achieved through the promotion of heritage tourism, cultural industries, local employment opportunities, and community-based development initiatives. Well-managed heritage destinations often function as catalysts for regional economic growth while maintaining cultural authenticity (Timothy & Boyd, 2015).

Cultural sustainability remains central to heritage conservation. It seeks to ensure that cultural values, traditions, historical narratives, and collective memories remain relevant and accessible to future generations. Architecture plays a crucial role in this process by creating spaces that facilitate cultural transmission, interpretation, and engagement (Pendlebury, 2013).

In the context of Badagry, sustainable heritage design must address both environmental considerations associated with its coastal setting and cultural responsibilities related to preserving the memory of the transatlantic slave trade. The integration of emotional architecture within this framework offers opportunities to strengthen heritage interpretation while promoting broader sustainability objectives.

### 2.3 Theoretical Framework

This study is anchored on three complementary theoretical perspectives: Phenomenology of Architecture Theory, Place Attachment Theory, and Sustainable Heritage Theory.

#### 2.3.1 Phenomenology of Architecture

Phenomenology in architecture emphasises human experience as the foundation of architectural meaning. Rather than viewing buildings as physical objects alone, phenomenological approaches focus on how people perceive, inhabit, and emotionally experience space (Norberg-Schulz, 1980).

According to Pallasmaa (2012), architecture engages all human senses and shapes existential experiences through atmosphere, materiality, light, sound, and spatial relationships. Architectural meaning emerges through bodily interaction with the environment rather than purely visual observation. Similarly, Zumthor (2006) argues that architectural atmosphere influences emotional responses by creating sensory and psychological experiences that remain embedded in memory.

Within heritage environments, phenomenology provides a useful framework for understanding how architectural design can evoke empathy, remembrance, contemplation, and emotional connection. Heritage sites associated with traumatic histories particularly benefit from phenomenological design approaches because they facilitate embodied engagement with historical narratives.

*2.3.2 Place Attachment Theory*

Place attachment theory examines the emotional bonds individuals develop with specific environments. According to Relph (1976), meaningful places contribute significantly to personal identity, social belonging, and cultural continuity. Strong emotional attachment enhances individuals' appreciation, protection, and stewardship of cultural resources.

Place attachment emerges through repeated interaction, shared memories, cultural significance, and emotional experiences associated with particular locations (Scannell & Gifford, 2010). Heritage sites frequently function as places of collective attachment because they embody historical narratives and cultural values shared by communities.

In Badagry, emotional architecture can strengthen place attachment by enabling visitors to connect emotionally with historical experiences and cultural narratives. Such connections contribute to heritage appreciation, cultural identity, and conservation awareness.

*2.3.3 Sustainable Heritage Theory*

Sustainable heritage theory emphasises the integration of conservation objectives with contemporary social, environmental, and economic needs. Heritage resources are viewed not merely as remnants of the past but as active contributors to sustainable development (Smith, 2006).

This perspective recognises heritage sites as cultural assets capable of supporting education, tourism, social inclusion, environmental awareness, and community resilience. Sustainable heritage management therefore seeks to preserve historical authenticity while ensuring continued relevance and accessibility (UNESCO, 2021).

The theory provides an appropriate framework for understanding how emotionally engaging heritage environments can simultaneously support cultural preservation, environmental sustainability, and human well-being.

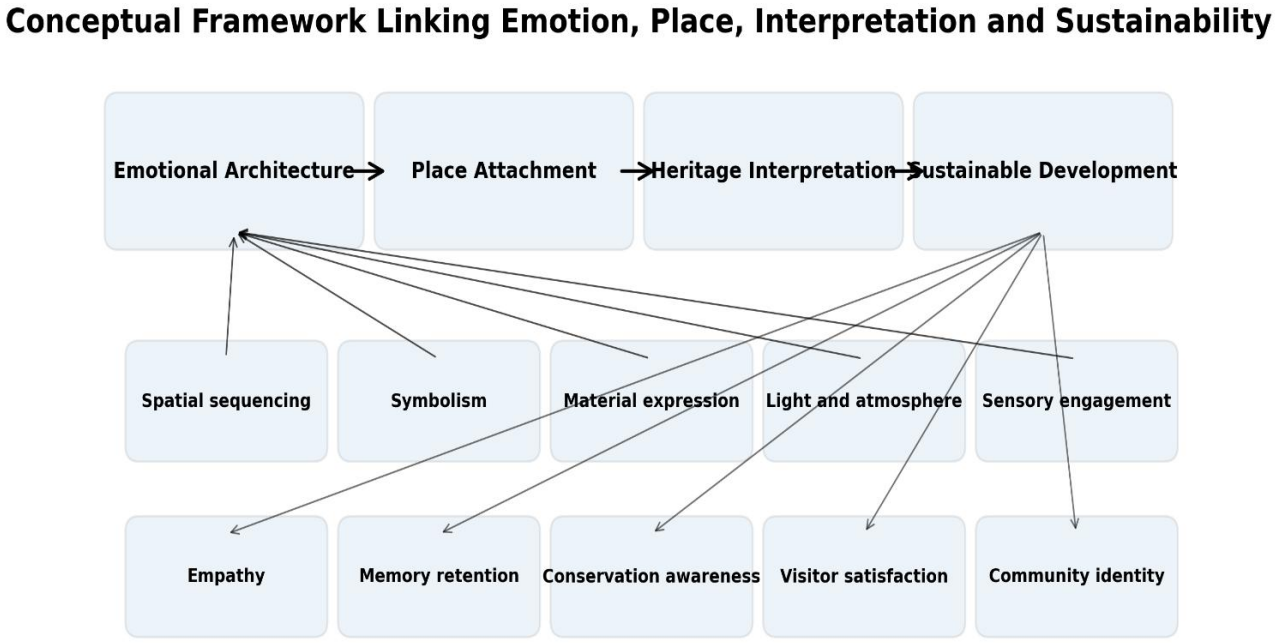



**Figure 3: Conceptual Framework Linking Emotional Architecture, Place Attachment, Heritage Interpretation and Sustainable Development**

## 3. METHODOLOGY

This study adopted a qualitative research methodology involving documentary review and comparative case study analysis. Qualitative approaches are particularly appropriate for investigating experiential and interpretive dimensions of architecture because they facilitate detailed exploration of meanings, perceptions, and contextual relationships (Creswell & Creswell, 2018).

Secondary data were obtained from scholarly journals, books, conference proceedings, museum publications, heritage conservation reports, and institutional documents relating to emotional architecture, museum studies, cultural heritage management, sustainable development, and environmental psychology.

Four heritage institutions associated with slavery and African heritage were selected for comparative analysis:

1. International Slavery Museum, Liverpool, United Kingdom.
2. Badagry Heritage Museum, Nigeria.
3. Smithsonian National Museum of African American History and Culture, United States.
4. National Underground Railroad Freedom Center, United States.

The selected institutions were chosen based on their historical relevance, architectural significance, visitor engagement strategies, and recognition within heritage studies literature.

Data analysis employed thematic analysis to identify recurring architectural characteristics associated with emotional engagement and sustainable heritage interpretation. Themes examined included:

i. Spatial narrative.

ii. Symbolism.

iii. Materiality.

iv. Lighting strategies.

v. Sensory experience.

vi. Visitor interaction.

vii. Environmental integration.

viii. Sustainability measures.

The findings were synthesised to develop recommendations applicable to heritage development in Badagry.

## 4. RESULTS AND DISCUSSION

### 4.1 Comparative Assessment of Selected Heritage Museums

Analysis of the selected case studies revealed several common architectural strategies that contribute to emotional engagement and heritage interpretation.

**Table 1: Comparative Analysis of Selected Slave Heritage Museums**

**Suggested Table Structure**

| Museum | Emotional Design Strategy | Sustainable Feature | Visitor Experience Outcome | Key Lesson |
|---|---|---|---|---|
| International Slavery Museum | Narrative progression | Adaptive reuse | Empathy and reflection | Storytelling through space |
| Badagry Heritage Museum | Historical sequencing | Cultural preservation | Historical awareness | Local contextual relevance |
| NMAAHC | Symbolic architecture | Daylighting strategy | Emotional immersion | Symbolic form and journey |
| Freedom Center | Interactive interpretation | Flexible exhibition design | Participatory learning | Engagement through interaction |

### 4.2 Spatial Narrative and Emotional Experience

One of the most significant findings concerns the role of spatial sequencing in shaping visitor emotions. Rather than functioning as isolated exhibition spaces, successful heritage museums organise circulation routes to create immersive journeys that mirror historical narratives.

The Smithsonian National Museum of African American History and Culture provides a notable example. Visitors begin their experience within subterranean galleries that address slavery and racial oppression before gradually ascending toward galleries celebrating achievement, resilience, and cultural contributions (Adjaye, 2017). This upward movement operates symbolically as a transition from suffering to hope.

Similarly, the International Slavery Museum in Liverpool guides visitors through pre-slavery African life, enslavement, resistance, abolition, and contemporary social justice issues. The resulting spatial progression facilitates emotional continuity and deeper understanding of historical events.

These examples demonstrate that architecture can function as a storytelling medium capable of transforming historical information into meaningful experiences.

### 4.3 Symbolism and Cultural Meaning

Symbolism emerged as another important design strategy. Architectural symbolism enables visitors to engage emotionally with abstract concepts such as freedom, displacement, resilience, suffering, and remembrance.

Observed symbolic elements include:

i. Constricted passageways representing captivity.

ii. Memorial walls commemorating victims.

iii. Water features symbolising transatlantic journeys.

iv. Fragmented forms expressing cultural disruption.

v. Open courtyards signifying liberation and hope.

In the context of Badagry, symbolic references to slave routes, traditional Yoruba cultural motifs, maritime heritage, and ancestral memory could enhance heritage interpretation while strengthening cultural identity.

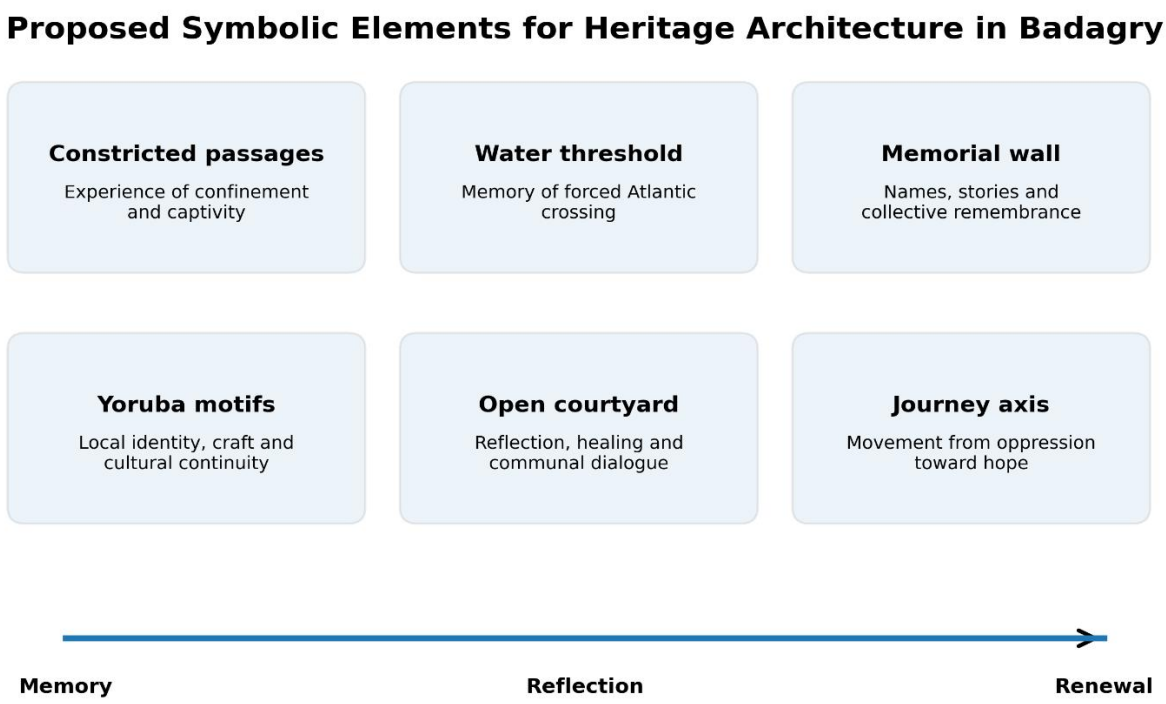



**Figure 4: Proposed Symbolic Elements for Heritage Architecture in Badagry**

### 4.4 Materiality, Light and Atmosphere

Material expression and lighting significantly influence emotional perception. Natural materials such as timber, stone, clay, and textured concrete frequently communicate authenticity, permanence, and connection to place.

Lighting strategies also contribute substantially to atmospheric quality. Dimly lit spaces evoke solemnity and introspection, while naturally illuminated spaces promote feelings of hope, openness, and renewal (Zumthor, 2006).

The interaction of materials, lighting, acoustics, and environmental conditions generates atmospheric experiences that shape visitor interpretation and emotional engagement.

### 4.5 Sustainability and Human Well-Being

The findings indicate a strong relationship between emotional engagement and sustainable heritage outcomes. Visitors who develop emotional connections with heritage sites are more likely to value conservation efforts and support heritage preservation initiatives (Jones, 2017).

Furthermore, emotionally engaging environments contribute positively to psychological well-being by facilitating reflection, learning, empathy, and cultural belonging. Such benefits align closely with contemporary understandings of sustainable development that emphasise quality of life and human-centred design.

Environmental sustainability can be enhanced through strategies such as:

i. Passive cooling systems.

ii. Natural ventilation.

iii. Solar shading devices.

iv. Rainwater harvesting.

v. Renewable energy integration.

vi. Indigenous landscaping.

vii. Climate-responsive building orientation.

These measures are particularly relevant to Badagry's tropical coastal environment.

## 5. PROPOSED FRAMEWORK FOR SUSTAINABLE HERITAGE DEVELOPMENT IN BADAGRY

Based on the findings, this study proposes a framework that integrates emotional architecture with sustainable heritage development.

The framework consists of five interconnected components:

### Historical Storytelling

Architecture should communicate historical narratives through spatial progression, symbolic forms, and interpretive environments.

### Emotional Engagement

Design should encourage empathy, remembrance, reflection, and personal connection through sensory and atmospheric experiences.

### Environmental Responsiveness

Buildings should incorporate passive environmental strategies, renewable energy technologies, sustainable materials, and ecological landscape design.

### Cultural Continuity

Architectural interventions should celebrate indigenous identity, local traditions, and community memory while preserving historical authenticity.

### Community Well-Being

Heritage spaces should promote education, inclusivity, social interaction, tourism development, and cultural participation.

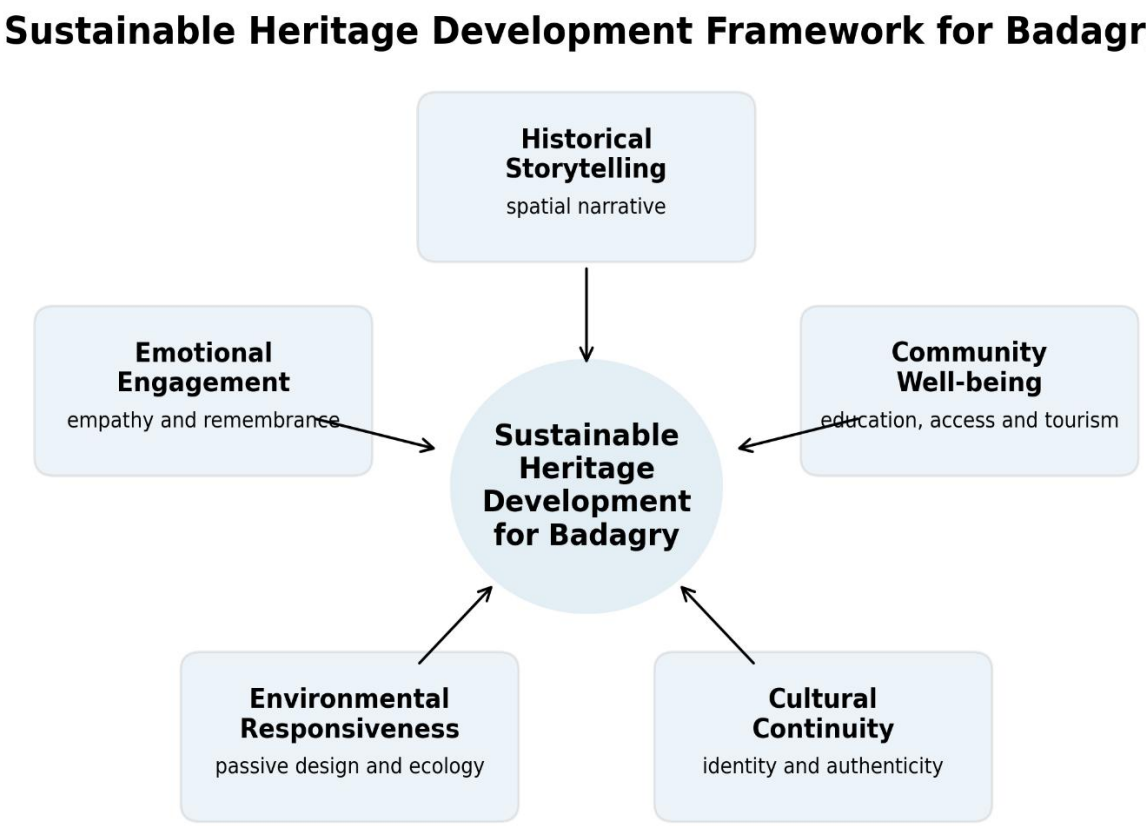



**Figure 5: Sustainable Heritage Development Framework for Badagry**

The integration of these components can transform heritage sites into meaningful spaces that preserve history while supporting sustainable development objectives.

## 6. CONCLUSION

This study examined the role of emotional architecture in sustainable cultural heritage design within the context of Badagry, Nigeria. The findings demonstrate that emotional engagement represents a critical dimension of effective heritage interpretation and visitor experience. Through the strategic use of spatial narrative, symbolism, materiality, lighting, sensory stimulation, and environmental integration, architecture can foster empathy, reflection, remembrance, and cultural understanding.

The study further reveals that emotional architecture contributes positively to heritage sustainability by strengthening public appreciation of cultural resources, enhancing educational outcomes, encouraging conservation awareness, and supporting heritage tourism development. When combined with environmentally responsive design strategies, emotionally engaging heritage environments contribute to

broader sustainability goals relating to cultural continuity, environmental stewardship, social inclusion, and human well-being.

Given Badagry's historical significance within the transatlantic slave trade, the integration of emotional architecture and sustainable heritage design provides an opportunity to create meaningful spaces that preserve collective memory while supporting contemporary development aspirations. Such environments can function not only as repositories of history but also as catalysts for education, reconciliation, cultural resilience, and sustainable community development.

## REFERENCES


Adjaye, D. (2017). *Smithsonian National Museum of African American History and Culture.* Smithsonian Books.

Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). Sage.

Falk, J. H., & Dierking, L. D. (2018). *The museum experience revisited*. Routledge.

ICOM. (2022). *Museum definition, prospects and potentials*. International Council of Museums.

ICOMOS. (2019). The future of our pasts: Engaging cultural heritage in climate action. *International Council on Monuments and Sites*.

Jones, S. (2017). Wrestling with the social value of heritage: Problems, dilemmas and opportunities. *Journal of Community Archaeology & Heritage, 4*(1), 21–37.

Law, R. (1992). *The Oyo Empire, c.1600–c.1836: A West African imperialism in the era of the Atlantic slave trade*. Clarendon Press.

Lynch, K. (1960). *The image of the city*. MIT Press.

MacLeod, S. (2005). *Reshaping museum space: Architecture, design and exhibitions.* Routledge.

Mallgrave, H. F. (2013). *Architecture and embodiment: The implications of the new sciences and humanities for design*. Routledge.

Norberg-Schulz, C. (1980). *Genius loci: Towards a phenomenology of architecture*. Rizzoli.

Pallasmaa, J. (2012). *The eyes of the skin: Architecture and the senses* (3rd ed.). Wiley.

Pendlebury, J. (2013). Conservation values, the authorised heritage discourse and the conservation-planning assemblage. *International Journal of Heritage Studies, 19*(7), 709–727.

Pérez-Gómez, A. (2016). *Attunement: Architectural meaning after the crisis of modern science*. MIT Press.

Relph, E. (1976). *Place and placelessness*. Pion.

Robinson, S., & Pallasmaa, J. (Eds.). (2015). *Mind in architecture: Neuroscience, embodiment, and the future of design*. MIT Press.

Scannell, L., & Gifford, R. (2010). Defining place attachment: A tripartite organizing framework. *Journal of Environmental Psychology, 30*(1), 1–10.

Smith, L. (2006). *Uses of heritage*. Routledge.

Timothy, D. J., & Boyd, S. W. (2015). *Heritage tourism* (2nd ed.). Routledge.

UNESCO. (2021). *Culture|2030 indicators*. UNESCO Publishing.

United Nations. (2015). *Transforming our world: The 2030 agenda for sustainable development*. United Nations.

Vale, B., & Vale, R. (2014). *Designing for a sustainable future*. Thames & Hudson.

Zumthor, P. (2006). *Atmospheres: Architectural environments, surrounding objects*. Birkhäuser.