



Research Article

British-Period Heritage and Its Role in Eco-Tourism Development: A Case Study of the Galiyat Region, Abbottabad, Pakistan

Article History

Received: June 09, 2025

Revised: August 11, 2025

Accepted: August 23, 2025

Published: August 30, 2025

Tunveer Qureshi ^{1,*}, Shakir Ullah ², Abdul Samad ³, Ruth L. Young ⁴

¹ PhD Scholar, Department of Archaeology, Hazara University, 21300 Mansehra, Pakistan

² Professor, Department of Archaeology, Hazara University, 21300 Mansehra, Pakistan

³ Director General, Directorate of Archaeology and Museums, 21300 Khyber

Pakhtunkhwa, Pakistan

⁴ Professor, Department of Archaeology and Ancient History, University of Leicester, United Kingdom

© The Author(s) 2025.

This is an open-access article under the CC BY license (<http://creativecommons.org/licenses/by/4.0/>).

*Corresponding Email:

etdip1@gmail.com

<https://doi.org/10.70843/ijass.2025.05212>

Abstract

The Galiyat region of northern Pakistan preserves one of South Asia's most intact ensembles of British-period hill-station architecture, including churches, rest houses, and civic buildings embedded within Himalayan forests. Despite its exceptional cultural and ecological value, this heritage remains largely absent from formal tourism and conservation planning. This study investigates how Galiyat's colonial-era architecture can serve as a catalyst for eco-tourism that integrates cultural preservation, environmental stewardship, and community participation. Extensive fieldwork was conducted across thirty-two British-period heritage sites, incorporating interviews with 150 stakeholders, including tourists, residents, and tour operators. Data were analysed using Braun and Clarke's (2006) thematic framework, revealing that Galiyat's heritage functions as a living landscape where architectural authenticity, adaptive reuse, community identity, and ecological interdependence converge. However, governance fragmentation and weak interpretation continue to constrain its sustainable development. In response, the research proposes the Eco-Heritage Development Model for the Galiyat Region (EHDM-G) a four-stage cyclical framework encompassing resource identification, community capacity building, eco-heritage product development, and policy integration. Anchored in environmental, cultural, and socio-economic dimensions, the model aligns with Sustainable Development Goals 8 (Decent Work and Economic Growth), 11 (Sustainable Cities and Communities), and 15 (Life on Land). The study contributes a replicable framework for heritage-based eco-tourism planning in mountain regions, demonstrating how postcolonial landscapes can evolve into models of sustainable identity, community empowerment, and integrated heritage governance.

Keywords: Eco-heritage tourism, British-period architecture, Sustainable mountain tourism, Galiyat region, SDGs, Living heritage.

Introduction

The Galiyat region, located in the Abbottabad District of Khyber Pakhtunkhwa, Pakistan, represents one of the most distinctive high-altitude cultural landscapes of the western Himalayas. Developed as a chain of British hill stations in the nineteenth and early twentieth centuries, settlements such as Thandiani, Nathia Gali, Dunga Gali, Ayubia, Khanispur, Bara Gali, and Changla Gali served as seasonal retreats for colonial administrators seeking respite from the summer heat of the plains (Metcalf, 1989; King, 2019). The architectural legacy of this period expressed through stone churches, timber bungalows, forest rest houses, and civic buildings remains remarkably intact despite climatic pressures. These monuments exemplify how

European architectural forms were localized through the use of indigenous materials such as deodar timber and stone, steep roofs, and wide verandas adapted to the Himalayan monsoon ecology (Hosagrahar, 2012; Trupp & Dolezal, 2020) (Plate I).

Today, Galiyat functions as a major domestic tourism corridor, renowned for its pine forests, moderate climate, and scenic viewpoints (Rehman et al., 2020). Yet, its cultural dimension remains marginal in national tourism narratives that prioritize leisure and landscape over heritage. The colonial-era structures though visually dominant are seldom integrated into tourism or conservation frameworks (Qureshi et al., 2023). Consequently, while heritage buildings deteriorate due to neglect, the surrounding ecosystems face growing stress from unregulated visitation, vehicular congestion, and unchecked urban expansion (Ilyas & Khan, 2020; Khan & Khalid, 2022).

This study contends that Galiyat's British-period heritage can serve as a foundation for an eco-tourism model that unites environmental sustainability, cultural preservation, and community participation. The fusion of colonial-era architecture with forest ecology presents a unique opportunity for eco-heritage tourism, enabling visitors to engage with both history and nature through interpretive, low-impact experiences (UNESCO, 2012; IUCN, 2019; Timothy & Boyd, 2015). Key monuments such as St. Mathew's Church (Nathia Gali), St. John's Church (Dunga Gali), Mary Catholic Church (Ayubia), Bara Gali Campus (University of Peshawar), and the Dagri Forest Rest House embody a climate-responsive design ethos that harmonizes European aesthetics with local craftsmanship (Metcalf, 1989; Hosagrahar, 2012). Many continue to serve social or religious functions, representing living heritage that sustains community identity while maintaining historical authenticity (Poulios, 2014; UNESCO, 2017).

Galiyat's built heritage is embedded within dense deodar forests, bird habitats, and ridgeline settlements that naturally support eco-tourism integration (Rehman et al., 2021). International precedents demonstrate that such landscapes can effectively link cultural identity with environmental conservation (UNESCO, 2012; IUCN, 2019). In Pakistan, however, this synergy remains underexplored (Malik & Hussain, 2020; Rehman et al., 2020). Addressing this gap, the present study examines how Galiyat's colonial-period architecture can function not merely as remnants of empire but as catalysts for sustainable tourism and community empowerment.

Despite containing one of Pakistan's densest clusters of colonial-era buildings, Galiyat's heritage remains undocumented and underutilized in policy and tourism planning (Qureshi et al., 2023). Several sites such as the Dagri Bungalow, Civil Hospital Ayubia, and Khaira Gali Community Hall are deteriorating and excluded from interpretive or conservation programs. Institutional fragmentation among the Tourism, Archaeology, and Forest departments further limits coordinated preservation (Rehman et al., 2021). Without integrated management, these resources risk irreversible decay and the loss of valuable assets for sustainable mountain tourism. This paper forms part of a broader research effort examining British-period heritage within the Galiyat region through both site-specific and regional perspectives. Earlier field investigations focused on individual colonial-era buildings to understand their architectural integrity, community relevance, and adaptive reuse potential. Building upon those preliminary insights, the present study expands the scope to a regional scale encompassing thirty-four heritage sites. It develops an integrated Eco-Heritage Development Model (EHDM-G) that links conservation, community participation, and sustainable tourism within a unified framework tailored to mountain ecosystems.

Research Objectives

1. To document and analyze the major categories of British-period heritage within the Galiyat region;
2. To examine stakeholder perceptions tourists, tour operators, and residents regarding the cultural and ecological value of this heritage;
3. To identify how colonial-era architecture contributes to eco-tourism through authenticity, adaptive reuse, and environmental harmony; and
4. To propose an Eco-Heritage Development Model for Galiyat aligned with the Sustainable Development Goals (SDG 8: Decent Work and Economic Growth; SDG 11: Sustainable Cities and

Communities; SDG 15: Life on Land) (UN, 2015; UNWTO, 2020).

By addressing these aims, the study bridges academic and policy perspectives, contributing to eco-heritage discourse in South Asian mountain contexts (Timothy & Boyd, 2015; Saarinen, 2020). It offers practical guidance for institutions such as the Galiyat Development Authority (GDA) and the KP Directorate of Archaeology to design community-inclusive, conservation-oriented tourism strategies. Ultimately, the research repositions Galiyat's British-period architecture as a living eco-cultural resource balancing heritage preservation with sustainable tourism growth in alignment with the United Nations 2030 Agenda (UN, 2015; UNESCO, 2021).

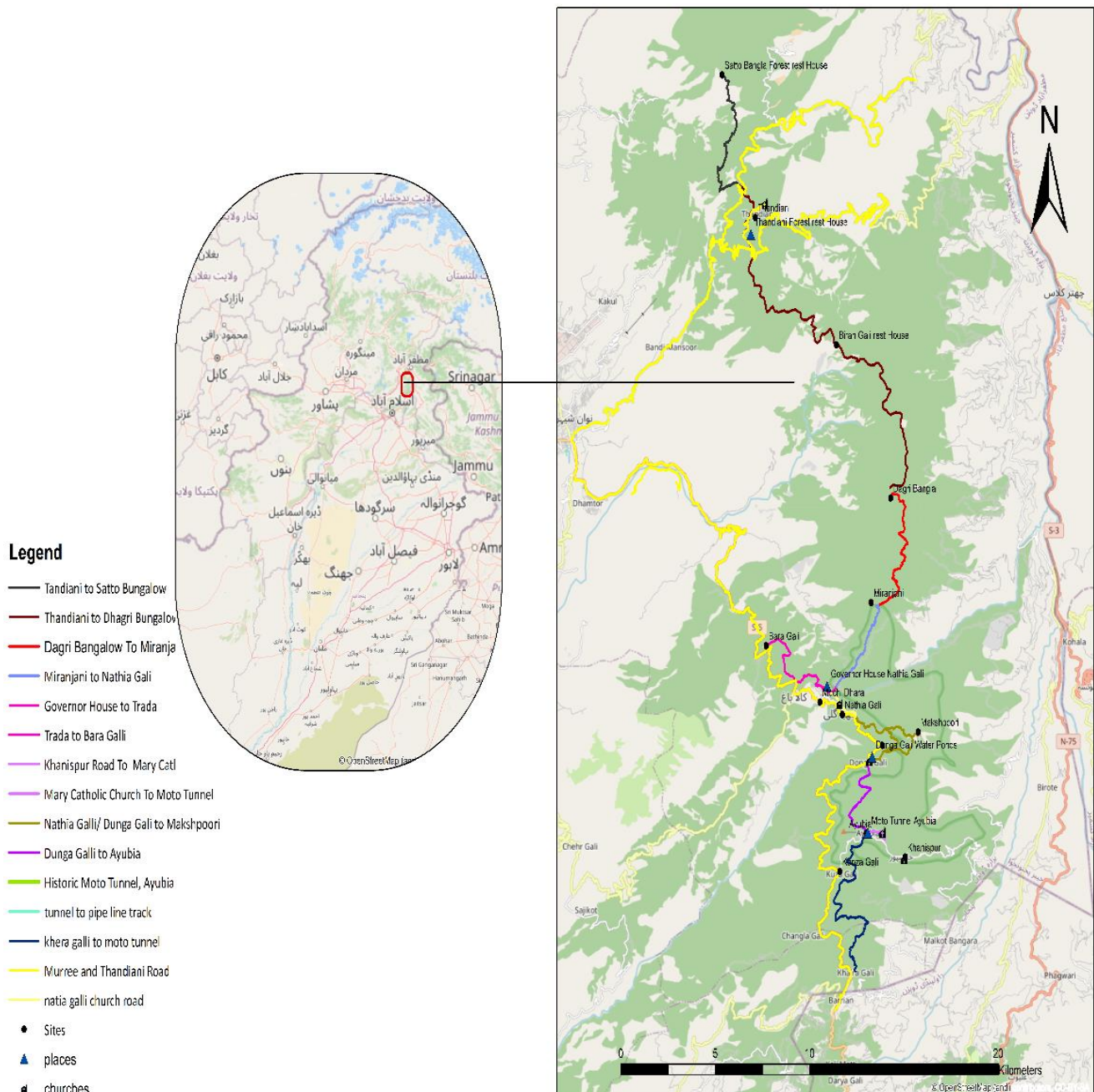


Figure 1. Map of the Galiyat Region Showing Key British-Period Heritage Sites.

The mapping of British-period cultural monuments in the Galiyat region showed where they were located along colonial communication lines and hill station settlements. Figure 1, shows that most of the sites, including as churches, rest houses, and bungalows, are grouped together along the Murree to Thandiani and Ayubia to Nathia Gali axes. This shows how important these routes were for both government and leisure

during the British Raj. This spatial mapping offers a contextual framework for comprehending trends in heritage development and the current prospects for cohesive eco-heritage tourism planning.

Literature Review

The literature on heritage and sustainable tourism establishes how colonial-era architecture can contribute to eco-tourism in mountain regions. This review situates Galiyat's British-period heritage within global and national contexts, drawing on frameworks such as the UNESCO World Heritage Convention (1972), ICOMOS Cultural Tourism Charter (1999), and IUCN Nature Culture Journey (2019). It highlights how adaptive reuse of colonial architecture fosters conservation and community development, while Pakistani studies reveal challenges of environmental stress, weak governance, and limited heritage integration in tourism policy.

International Frameworks and Global Insights

Eco-heritage tourism integrates environmental conservation, cultural preservation, and community well-being (Timothy & Boyd, 2015; UNESCO, 2012). The UNESCO World Heritage Convention (1972) and the ICOMOS Cultural Tourism Charter (1999) emphasize managing heritage as "living landscapes" where cultural and natural values coexist (Mitchell et al., 2009; ICOMOS, 2019). The IUCN's *Nature–Culture Journey* initiative (2019) similarly advocates cross-sectoral collaboration between cultural and environmental agencies.

British colonial hill stations such as Shimla (India), Nuwara Eliya (Sri Lanka), Maymyo (Myanmar), and Cameron Highlands (Malaysia) illustrate how imported architectural typologies were adapted to tropical mountain ecologies through steep roofs, wide verandas, and locally sourced stone and timber (Metcalf, 1989; King, 2019; Hosagrahar, 2012; Trupp & Dolezal, 2020). These architectural hybrids now represent models of environmental adaptation and cultural resilience rather than symbols of colonial dominance. The *Living Heritage Approach* (UNESCO, 2017; Poullos, 2014) further emphasizes continuity of use and community stewardship. Global case studies demonstrate that adaptive reuse of colonial heritage as eco-lodges supports both conservation and local livelihoods (Marschall, 2019; Trupp & Dolezal, 2020). Collectively, these frameworks guide the contextual evaluation of Pakistan's British-period heritage as potential eco-tourism assets.

Tourism and Environment in Pakistan

Mountain tourism in Pakistan has expanded rapidly but often at the expense of fragile ecosystems (Ilyas & Khan, 2020; Khan & Khalid, 2022). National instruments such as the Pakistan Tourism Development Corporation, 2020 and the *KP Tourism Act 2019* recognize sustainability principles but inadequately address heritage integration (Pakistan Tourism Development Corporation, 2020, Rehman et al., 2020). In the Galiyat corridor, unregulated construction, vehicular pressure, and poor waste management have already exceeded ecological carrying capacities (Rehman et al., 2021; Qureshi et al., 2023).

While the KP Directorate of Archaeology has documented several colonial-era churches and rest houses, conservation remains minimal due to limited resources and institutional fragmentation (Malik & Hussain, 2020). Tourism promotion continues to emphasize scenic and adventure-based activities rather than heritage interpretation (Rasool et al., 2021). Evidence from Swat and Gilgit-Baltistan shows that integrating heritage into tourism extends visitor stays, enhances community participation, and diversifies local economies (Armughan, 2023; Shah & Ali, 2022). Incorporating Galiyat's British-period architecture within eco-tourism planning could therefore strengthen both environmental conservation and socio-economic development.

Heritage and the Sustainable Development Goals (SDGs)

The UN 2030 Agenda positions culture and nature as mutually reinforcing pillars of sustainability (UN, 2015; UNWTO, 2020). SDG 8 promotes inclusive economic growth through sustainable tourism, SDG 11 advocates protection of cultural and natural heritage, and SDG 15 emphasizes terrestrial ecosystem conservation. According to UNESCO (2021) and ICOMOS (2019), heritage-led tourism fosters biodiversity protection and social cohesion when managed participatorily.

Examples from the Himalayas and East Africa demonstrate that the adaptive reuse of colonial and missionary buildings as eco-lodges generates local employment and preserves regional identity (Jain, 2021; Su et al., 2022; Muganda et al., 2013). In the Galiyat context, restoring rest houses aligns with SDG 8, conserving churches under community management supports SDG 11, and maintaining forest–heritage linkages contributes to SDG 15 (Saarinen, 2020). Thus, eco-heritage tourism provides a strategic framework for achieving sustainability goals in mountain regions.

Research Gaps

Despite growing global attention to eco-heritage integration, Pakistan's scholarship remains limited. Environmental management and cultural heritage are typically addressed in isolation, leaving their interdependence underexplored (Rehman et al., 2020; Ilyas & Khan, 2020). While comparative South Asian studies such as those on Shimla and Nuwara Eliya have examined postcolonial reinterpretation (Hosagrahar, 2012; King, 2019), Galiyat's living colonial architecture has received minimal academic and policy attention.

Governance fragmentation among tourism, archaeology, and forestry departments has further constrained coherent management (Qureshi et al., 2023). Pakistan lacks a unified eco-heritage framework for adaptive reuse, interpretation, and community participation. Moreover, limited research exists on how local communities perceive heritage as an economic or cultural resource (Malik & Hussain, 2020). This study addresses these gaps by combining field-based thematic analysis with global eco-heritage models to propose a context-specific *Eco-Heritage Development Model (EHDM-G)* that integrates authenticity, environmental balance, and community inclusion.

Data Analysis

Data were analyzed using Braun and Clarke's (2006) six-phase framework for thematic analysis. Interview transcripts and field notes were coded both manually and with NVivo software to identify recurrent patterns across stakeholder groups. Codes were refined through iterative comparison between participant perspectives and field observations, resulting in coherent categories aligned with the research objectives.

Methodological rigor was maintained following Lincoln and Guba's (1985) criteria of credibility, transferability, dependability, and confirmability. Credibility was enhanced through prolonged engagement and respondent validation; transferability through thick description of context; and dependability via systematic triangulation. Ethical protocols followed BERA (2018) and UNESCO (2015) guidelines, ensuring informed consent, confidentiality, and institutional approval from the Department of Tourism and Hospitality Management, Hazara University Mansehra.

Despite seasonal access challenges during the monsoon months, this interpretive approach provided a robust analytical foundation for understanding the interconnections between heritage conservation, community perception, and eco-tourism planning in the Galiyat region.

Results and Discussion

The findings are based on fieldwork conducted across thirty-four British-period heritage sites in the Galiyat region. Data were analysed through Braun and Clarke's (2006) thematic framework, revealing six core themes: (1) architectural authenticity and material integrity, (2) adaptive reuse and living heritage, (3) accessibility and interpretation challenges, (4) community identity and ownership, (5) nature–heritage interconnection, and (6) governance and sustainability gaps. Collectively, these themes reflect the shared perceptions of tourists (T), residents (L), and tour operators (O), illustrating how colonial-era architecture contributes to eco-tourism development within a sensitive mountain ecosystem.

Architectural Authenticity and Material Integrity

Respondents across sites such as St. Mathew's Church (Nathia Gali), St. John's Church (Dunga Gali), and Dagri Forest Rest House valued the authenticity of stone masonry and deodar timber. Tourists (T8, T14) described these sites as "living museums," appreciating their harmony with surrounding forests. Tour operators (O2, O6)

emphasized climate-responsive design features pitched roofs, wide verandas, and locally quarried stone while residents (L4, L7) saw these buildings as “part of the forest’s rhythm.” Such insights portray heritage as ecologically embedded rather than isolated relics (Plate II-III).

The enduring materials and craftsmanship make these structures models for sustainable design. Architecture students visiting Bara Gali Campus and Punjab University Guest House (Khanisapur) noted passive ventilation and local sourcing techniques that predate modern sustainability standards (Metcalf, 1989; King, 2019). Thus, authenticity in Galiyat embodies both material continuity and ecological adaptation central to eco-tourism principles (Timothy & Boyd, 2015; UNESCO, 2017).

Adaptive Reuse and Living Heritage

Many colonial-era buildings remain functionally active, illustrating continuity of use and cultural resilience. Mary Catholic Church (Ayubia) and St. Mathew’s Church retain their religious function, while structures like the Green Retreat Hotel (Nathia Gali) and Bara Gali Campus have been successfully adapted for hospitality and education. (Plate IV-V) Tour operators (O3, O5) described this as “sustainable revival,” echoing UNESCO’s *Living Heritage* framework (Poulios, 2014).

Tourists (T10, T12) expressed a preference for “living places rather than empty monuments,” underscoring the appeal of immersive heritage experiences. However, residents (L5, L9) criticized insensitive renovations involving concrete and modern materials, warning that such interventions “erase the soul” of the buildings. These observations align with global concerns about modernization undermining architectural coherence (Hosagrahar, 2012; Marschall, 2019). Adaptive reuse in Galiyat thus strengthens both local livelihoods and cultural identity an approach consistent with sustainable tourism practice (Trupp & Dolezal, 2020; Jain, 2021).

Accessibility and Interpretation Challenges

Limited accessibility and weak interpretation emerged as major barriers to heritage engagement. Many sites remain locked or unmarked, and tourists frequently described them as “beautiful but silent.” Tour operators (O1, O3) reported excluding locations such as St. John’s Church and NCCP Church (Khanisapur) from itineraries due to inconsistent access permissions. These challenges mirror global findings that emphasize interpretation as vital to meaningful heritage experience (Su et al., 2022).

Respondents proposed feasible solutions: bilingual signage, QR-based digital storytelling, and training local guides to communicate site narratives similar to Sri Lanka’s Heritage Trails model (Saarinen, 2020). Improved mapping and signage would also aid navigation to remote sites such as Dagri Rest House and Satto Bungalow. Such initiatives could convert passive sightseeing into participatory learning while linking heritage appreciation with environmental education.

Community Identity and Heritage Ownership

Residents in Thandiani, Ayubia, and Khanisapur expressed pride in claiming colonial-era buildings as “ours now,” demonstrating postcolonial re-signification where imperial remnants are reinterpreted as local heritage (Hosagrahar, 2012). Tour operators observed residents voluntarily clearing pathways and sharing stories with visitors forms of informal stewardship aligned with UNESCO’s (2017) community-based management principles.

Nevertheless, exclusion from planning processes remains a recurring concern. As one respondent (L8) stated, “They renovate for tourists but forget the people who live here.” Sustainable conservation must therefore ensure visible community benefits. Comparative studies from Pakistan’s northern valleys affirm that local participation enhances authenticity and social equity (Armughan, 2023; Jain, 2021). Communities in Galiyat have shown readiness to serve as guides, interpreters, and entrepreneurs key agents of inclusive eco-tourism and SDG 8 implementation.

Nature Heritage Interconnection

Participants repeatedly emphasized the intrinsic harmony between architecture and environment. Tourists

described approaching Mary Catholic Church through the forest as “a spiritual journey,” while hikers to Satto Bungalow characterized it as “history emerging from nature.” Guides (O₂, O₅) identified this bond as Galiyat’s defining feature, resonating with IUCN’s (2019) Nature Culture Journey concept (Plate VI).

Residents linked heritage survival to ecological preservation, noting that “if the trees go, the walls will fall.” This awareness reflects an understanding that forest conservation underpins architectural longevity a key tenet of SDG 15 (Life on Land). Such synergy opens opportunities for innovative tourism products heritage forest walks, bird-watching near churches, or photography workshops at rest houses merging cultural engagement with environmental awareness. Galiyat thus emerges as a living eco-heritage corridor where architectural and natural conservation reinforce one another.

Governance and Sustainability Gaps

Institutional fragmentation remains the most critical obstacle. The Galiyat Development Authority manages tourism infrastructure, the Directorate of Archaeology oversees heritage, and the Forest Department controls surrounding land described by respondents as “three wheels pulling separately.” Tour operators (O₃, O₆) cited inconsistent restoration and visitation policies, while residents lamented that “roads are built, but the old houses decay.” These findings reflect broader national challenges in reactive and compartmentalized heritage governance (Rehman et al., 2020); Qureshi et al., 2023).

Nonetheless, emerging initiatives such as selective restoration by the KP Directorate of Archaeology and adaptive reuse projects like the Green Retreat Hotel signal growing institutional awareness. Respondents advocated for an *Eco-Heritage Steering Committee* integrating tourism, archaeology, and forestry agencies under a unified framework. This recommendation aligns with ICOMOS (2019) and UNESCO (2021) principles of culture–nature integration.

Public private partnerships were also viewed as essential for sustainable financing, particularly for sites like Dagri Bungalow and Civil Dispensary Ayubia. Such collaborations could enhance visitor facilities, generate employment, and ensure regular maintenance advancing SDGs 8 and 11 while embedding heritage within regional development plans.

Thematic Synthesis and SDG Alignment

The synthesis of findings reveals that Galiyat’s British-period heritage functions as an interconnected system where authenticity, adaptive reuse, community participation, and ecological interdependence converge. However, weak institutional coordination and interpretive gaps limit its transformation into a structured eco-tourism framework.

Mapping these outcomes against the Sustainable Development Goals underscores their relevance:

SDG 8 (Decent Work and Economic Growth): Adaptive reuse of heritage buildings supports local entrepreneurship and sustainable livelihoods.

SDG 11 (Sustainable Cities and Communities): Integrated conservation enhances cultural continuity and community resilience.

SDG 15 (Life on Land): Forest-linked architecture exemplifies eco-system stewardship and biodiversity protection through tourism education.

Galiyat thus represents a living eco-heritage landscape where preservation and development can coexist. Realizing this potential requires coordinated governance, improved interpretation, and participatory management to convert colonial-era assets into globally relevant examples of sustainable mountain tourism.

These integrated findings form the empirical foundation for the Eco-Heritage Development Model (EHDM-G) presented in the subsequent section.

Model / Framework Development

Building upon the empirical findings and thematic analysis, this section presents the conceptual framework that translates research insights into an actionable eco-heritage development strategy for the Galiyat region.

The model integrates principles of heritage conservation, environmental stewardship, and community participation, aligning with international sustainability standards and the Sustainable Development Goals (SDGs). It aims to provide a context-specific yet adaptable approach for managing colonial-period heritage as a driver of sustainable mountain tourism.

Rationale for Model Creation

The findings of this study demonstrate that the British-period heritage of the Galiyat region its churches, rest houses, bungalows, and civic structures possesses multidimensional value bridging culture, ecology, and community livelihood. However, fragmented governance, limited interpretation, and weak community engagement continue to impede its integration into sustainable tourism frameworks.

To address these challenges, the Eco-Heritage Development Model for the Galiyat Region (EHDM-G) is proposed as a context-specific yet adaptable framework grounded in field evidence and informed by global eco-tourism and heritage management practices (UNWTO, 2020; Poullos, 2014; IUCN, 2019). The model aligns conservation with economic opportunity, providing a replicable structure for other mountain destinations.

The EHDM-G rests on three interdependent pillars:

1. Environmental stewardship – conserving forests and ecosystems;
 2. Cultural continuity – safeguarding architectural authenticity and local identity; and
 3. Socio-economic inclusion – ensuring equitable community participation and livelihood generation.
- Together, these dimensions operationalize the principles of the UN 2030 Agenda, advancing SDGs 8 (Decent Work and Economic Growth), 11 (Sustainable Cities and Communities), and 15 (Life on Land).

Stages of the Proposed Model (EHDM-G)

The EHDM-G unfolds through four iterative and interlinked stages, integrating conservation, community empowerment, product innovation, and policy coherence.

Stage I – Resource Identification and Conservation

This stage prioritizes evidence-based documentation and assessment of heritage and natural assets. Fieldwork revealed that several colonial-period sites such as Dagri Forest Rest House and Satto Bungalow remain undocumented. A geo-referenced heritage inventory using GIS mapping would enable coordinated planning among the Galiyat Development Authority (GDA), Directorate of Archaeology, and Forest Department. Activities include architectural condition surveys, restoration prioritization, and integration of heritage data into spatial planning. This aligns with UNESCO's *World Heritage and Sustainable Tourism Programme* (2012), emphasizing protection before commercialization (Mitchell et al., 2009; UNESCO, 2015).

Stage II – Community Participation and Capacity Building

This stage embeds local communities as active custodians through the establishment of *Heritage Steward Groups* in settlements such as Ayubia and Nathia Gali. Training in eco-guiding, interpretation, and waste management enables residents to manage and promote heritage sustainably (Rehman et al., 2021). Restored sites can function as hubs for micro-enterprises and guided experiences, while community representation in management committees ensures participatory governance (UNESCO, 2017). This phase advances SDG 8.9 by fostering sustainable tourism employment and gender inclusion.

Stage III – Eco-Heritage Product Development

This phase translates conservation into economic and educational opportunities through low-impact, interpretive products. Proposed initiatives include a *Galiyat Heritage Trails Network*, adaptive reuse of rest houses as eco-lodges, and a *Heritage Interpretation Center* integrating architectural and forest ecology themes. Partnerships with universities could facilitate field schools and volunteer programs (Trupp & Dolezal, 2020, Creswell & Poth, 2018). These initiatives activate heritage assets while minimizing ecological footprints and

reinforcing authenticity.

Stage IV – Sustainable Management and Policy Integration

The final stage establishes a *Galiyat Eco-Heritage Council (GEHC)* comprising representatives from tourism, archaeology, forestry, and municipal sectors. The council would coordinate joint management plans, zoning regulations, and public-private partnership models for adaptive reuse (ICOMOS, 2019). Monitoring and evaluation guided by UNESCO's *Culture | 2030 Indicators* (2021) would ensure accountability and continuous improvement. This institutional framework anchors long-term sustainability and positions Galiyat as a national model for eco-heritage tourism governance.

Conceptual Representation

Figure 2 conceptually illustrates the Eco-Heritage Development Model (EHDM-G) as a four-stage cyclical framework progressing from documentation to participation, product innovation, and policy integration. These stages are interdependent, forming a continuous adaptive cycle where outcomes from each phase inform the next.

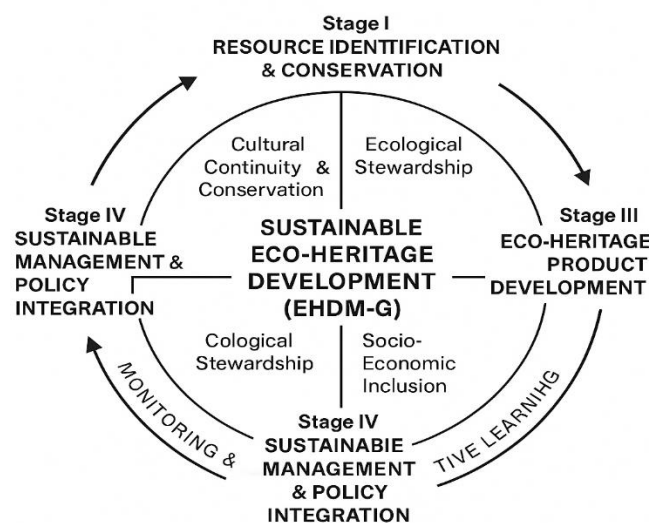


Figure 2. Conceptual Representation of the Eco-Heritage Model.

Three vertical dimensions cultural integrity and conservation, ecological stewardship, and socio-economic equity intersect across all stages, ensuring that heritage protection, forest conservation, and community livelihoods remain mutually reinforcing. A feedback mechanism links Stage IV (Policy Integration) back to Stage I (Conservation), creating a loop of monitoring, learning, and adaptation. This structure embodies a *triple-helix relationship* among heritage resources, communities, and institutions balancing cultural, ecological, and governance imperatives essential for sustainable eco-heritage tourism in Galiyat.

Policy and Research Implications

Effective eco-heritage development in Galiyat requires integrated, evidence-based governance. Establishing the Galiyat Eco-Heritage Council (GEHC) would institutionalize collaboration among the GDA, Directorate of Archaeology, Forest Department, and local communities. A Heritage Sustainability Fund, supported by visitor fees and eco-tourism revenues, could finance conservation, community micro-grants, and training programs. A regulatory framework should guide adaptive reuse and conservation standards to protect architectural integrity while encouraging environmentally responsible design. Embedding *eco-heritage education modules* within tourism and hospitality curricula can nurture future custodians of natural and cultural assets. Furthermore, a digital GIS-based heritage atlas integrating ecological and historical data would promote responsible visitation and facilitate decision-making (UNESCO, 2021).

The EHDM-G offers multiple avenues for interdisciplinary research. Comparative studies with other colonial hill stations such as Shimla, Darjeeling, and Murree can assess its transferability within South Asia. Behavioural studies could evaluate visitor learning outcomes from eco-heritage interpretation, while climate-oriented research might examine material resilience and adaptive conservation under changing environmental conditions. GIS-based monitoring could also support predictive modelling of land-use change and its implications for conservation planning.

These research pathways highlight the need for collaboration across tourism, architecture, and environmental sciences. Advancing such cross-sectoral inquiry will refine eco-heritage frameworks and enhance Pakistan's contribution to global sustainable heritage management.

Linkage with Sustainable Development Goals (SDGs)

The EHDM-G aligns comprehensively with the United Nations 2030 Agenda by embedding sustainability principles within cultural-landscape management.

Table 1. Stages of the Eco-Heritage Development Model (EHDM-G) and their corresponding Sustainable Development Goals (SDGs).

Model Stage	Strategic Outcome	Corresponding SDGs
Stage I – Resource Identification & Conservation	Documentation & protection of architectural heritage; integration with environmental planning	SDG 11.4 – Protect World Heritage Sites • SDG 15.1 – Conserve Terrestrial Ecosystems
Stage II – Community Participation & Capacity Building	Local employment, skills development, and gender inclusion	SDG 8.9 – Sustainable Tourism for Jobs • SDG 11.3 – Inclusive Community Planning
Stage III – Eco-Heritage Product Development	Low-impact tourism products and education programs	SDG 8.3 – Entrepreneurship • SDG 11.7 – Access to Green Spaces
Stage IV – Sustainable Management & Policy Integration	Long-term institutional framework and climate-resilient planning	SDG 13.2 – Integrate Climate Action • SDG 17.17 – Partnerships for Sustainability

By translating empirical insights into a structured model, this study contributes a context-sensitive framework adaptable to other heritage-rich mountain regions of Pakistan and beyond. The EHDM-G encapsulates the essence of eco-heritage integration: conserve the past, empower the present, and sustain the future.

Conclusion and Recommendations

This study examined the British-period heritage of the Galiyat region through an eco-tourism lens, revealing that its colonial-era architecture churches, rest houses, and civic buildings forms a living cultural landscape where history, ecology, and community converge. Fieldwork confirmed that these structures are not relics of empire but enduring assets supporting religious, educational, and social functions. Sites such as St. Mathew's Church (Nathia Gali), Mary Catholic Church (Ayubia), and Dagri Forest Rest House exemplify climate-responsive design using indigenous materials in harmony with the Himalayan ecosystem. The thematic analysis produced six interrelated themes reflecting architectural authenticity, adaptive reuse, community participation, and governance challenges. Collectively, these findings demonstrate that Galiyat's tangible and intangible heritage can sustain an inclusive, self-reinforcing eco-tourism model when managed collaboratively and interpreted responsibly. The proposed Eco-Heritage Development Model for Galiyat (EHDM-G) bridges global sustainability principles with local realities through a cyclical process encompassing resource documentation, community engagement, product innovation, and policy integration. Anchored in environmental stewardship, cultural continuity, and socio-economic inclusion, it offers a replicable framework

for other mountain regions aiming to balance tourism growth and conservation in line with SDGs 8, 11, and 15. Recommendations emphasize practical, community-driven measures. The Galiyat Development Authority, Directorate of Archaeology, and allied departments should initiate GIS-based documentation and selective restoration of key sites, converting suitable rest houses into eco-lodges through public-private partnerships. Low-cost interpretive tools bilingual signage, QR-coded trails, and small visitor centres can enhance engagement and extend visitor stays. Training programs for youth and women in eco-guiding, conservation, and sustainable hospitality would strengthen local participation and stewardship. Integrating heritage and environmental education into academic curricula can foster long-term awareness and responsibility.

Future research should expand digital documentation via 3D scanning and GIS mapping, conduct comparative analyses with other South Asian hill stations, and assess visitor behaviour, material resilience, and long-term conservation impacts amid climate variability.

In essence, the British-period heritage of Galiyat provides a blueprint for sustainable mountain tourism where cultural preservation reinforces ecological responsibility and community empowerment. With coherent governance and inclusive participation, Galiyat can evolve into a leading model of eco-heritage development in Pakistan and the broader Himalayan region.

References

- Armughan, M. (2023). The impact of tourism on the environment, socio-culture and local communities of Gilgit-Baltistan, Pakistan (PIDE Working Paper No. 2023:4). Pakistan Institute of Development Economics (PIDE). <https://file.pide.org.pk/uploads/wp-0233-the-impact-of-tourism-on-the-environment-socio-culture-and-local-communities-of-gilgit-baltistan-pakistan.pdf>.
- BERA. (2018). Ethical guidelines for educational research (4th ed.). British Educational Research Association.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101.
- Creswell, J. W., & Poth, C. N. (2018). *Qualitative inquiry and research design: Choosing among five approaches* (4th ed.). SAGE.
- Hosagrahar, J. (2012). Cultural sustainability in the age of globalization: A case study of urban heritage in India. *Journal of Cultural Heritage Management and Sustainable Development*, 2(1), 57–68.
- ICOMOS. (2019). *Cultural heritage and the Sustainable Development Goals: Guidance for heritage practitioners*. Paris: ICOMOS.
- Ilyas, N., & Khan, S. (2020). Environmental challenges of mass tourism in mountain ecosystems: A case of Galiyat, Pakistan. *Pakistan Geographical Review*, 75(1), 23–41.
- International Council on Monuments and Sites (ICOMOS). (1999). *International Cultural Tourism Charter: Managing tourism at places of heritage significance*. Paris: ICOMOS. Retrieved from <https://openarchive.icomos.org/id/eprint/2905/>.
- IUCN. (2019). *Connecting practice: Nature–Culture Journey*. Gland: International Union for Conservation of Nature.
- Jain, R. (2021). Heritage-based tourism and sustainable livelihoods in Himalayan hill stations. *Asian Journal of Tourism Research*, 6(1), 34–52.
- Khan, A., & Khalid, M. (2022). Assessing carrying capacity for sustainable tourism in Galiyat. *Mountain Research and Development*, 42(2), 118–128.
- King, A. (2019). *Colonial urban development: Culture, social power, and environment*. Routledge.
- Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. SAGE.
- Malik, S., & Hussain, H. (2020). Community perceptions of tourism impacts in mountain regions of Pakistan. *Journal of Mountain Area Research*, 5(2), 71–84.

- Marschall, S. (2019). Community heritage and tourism in Africa. *Journal of Heritage Tourism*, 14(3), 191–205.
- Metcalf, T. R. (1989). *An imperial vision: Indian architecture and Britain's Raj*. University of California Press.
- Mitchell, N., Rössler, M., & Tricaud, P.-M. (2009). *World Heritage cultural landscapes: A handbook for conservation and management* (World Heritage Paper No. 26). UNESCO World Heritage Centre. https://whc.unesco.org/documents/publi_wh_papers_26_en.pdf.
- Pakistan Tourism Development Corporation. (2020). *Pakistan National Tourism Action Plan 2020-2025*. Ministry of Inter-Provincial Coordination. <https://pub-mediabox-storage.rxweb-prd.com/exhibitor/products/exh-16f60858-fc3b-460b-8447-8e7d8045dfe8/product-documents/pro-52e20292-0026-4aa3-b8b0-7b0821a155aa/6c5f910a-01d3-4816-864f-5ceb3a517fc6.pdf>.
- Poulios, I. (2014). *The past in the present: A living heritage approach*. Ubiquity Press.
- Qureshi, T., Khan, I., & Anjum, S. (2023). Colonial heritage management in Khyber Pakhtunkhwa: Challenges and prospects. *Heritage and Society*, 16(1), 49–66.
- Rasool, H., Rana, A., & Ali, K. (2021). Ecotourism and environmental pressures in northern Pakistan. *Environment & Tourism Review*, 9(1), 1–15.
- Rehman, A., Ali, M., & Sarfraz, M. (2021). Integrating heritage and eco-tourism for sustainable mountain development in Pakistan. *Environmental Management and Tourism Review*, 8(3), 207–220.
- Rehman, A., Ma, H., Irfan, M., Ahmad, M., & Traore, O. (2020). Investigating the Influence of International Tourism in Pakistan and Its Linkage to Economic Growth: Evidence From ARDL Approach. *SAGE Open*, 10(2). DOI: 10.1177/2158244020932525.
- Saarinen, J. (Ed.). (2020). *Tourism and sustainable development goals: Research on sustainable tourism geographies*. Routledge. <https://www.taylorfrancis.com/books/9781032091204>.
- Shah, Z., & Ali, S. (2022). Cultural tourism as a diversification strategy in Swat Valley. *Tourism Review International*, 26(2), 145–160.
- Su, M. M., Wall, G., & Wang, Y. (2022). Cultural heritage and sustainable tourism: A review of recent developments. *Journal of Heritage Tourism*, 17(5), 489–507.
- Timothy, D. J., & Boyd, S. W. (2015). *Heritage tourism* (2nd ed.). Routledge.
- Trupp, A., & Dolezal, C. (2020). Tourism and the Sustainable Development Goals: Evidence from Southeast Asia. *Austrian Journal of South-East Asian Studies*, 13(1), 47–68 . <https://aseas.univie.ac.at/index.php/aseas/article/view/3821>.
- UN (2015). *Transforming our world: The 2030 Agenda for Sustainable Development* (A/RES/70/1). New York: United Nations. Retrieved from: <https://sustainabledevelopment.un.org/content/documents/21252030%20Agenda%20for%20Sustainable%20Development%20web.pdf>.
- UNESCO (2012). *World Heritage and Sustainable Tourism Programme* (Brochure). Paris: United Nations Educational, Scientific and Cultural Organization (UNESCO) World Heritage Centre.. Retrieved from <https://whc.unesco.org/uploads/activities/documents/activity-669-7.pdf>.
- UNESCO (2015). *Policy document for the integration of a sustainable development perspective into the processes of the World Heritage Convention* (WHC-15/20.GA/INF.13). Paris: United Nations Educational, Scientific and Cultural Organization. Retrieved from: <https://whc.unesco.org/document/139146>.
- UNESCO (2017). *Operational Guidelines for the Implementation of the World Heritage Convention* (WHC.17/01). Paris: United Nations Educational, Scientific and Cultural Organization. Retrieved from <https://whc.unesco.org/en/guidelines/>.
- UNESCO. (2019). *Culture|2030 Indicators: Thematic Indicators for Culture in the 2030 Agenda* (English ed.). Paris: United Nations Educational, Scientific and Cultural Organization. Retrieved from:

<https://unesdoc.unesco.org/ark:/48223/pf00000371562>.

UNESCO. (2021). World Heritage and Sustainable Development Policy. Paris: United Nations Educational, Scientific and Cultural Organization. Retrieved from: <https://whc.unesco.org/en/sustainabledevelopment>.

UNWTO. (2020). Tourism and the Sustainable Development Goals: Journey to 2030. Madrid: United Nations World Tourism Organization. Retrieved from <https://www.unwto.org/global/publication/tourism-and-sustainable-development-goals-journey-2030>.

Appendix



Plate I. Mary Catholic Church, Showing European Style Architecture.



Plate II. St. Mathews Church, Colonial Architectural Style.



Plate III: Dagri Bungalow, Colonial Bungalow Architecture at High Altitude



Plate IV. Green Retreat, Heritage Block.



Plate V. Bara Gali, Peshawar University Campus.



Plate VI. Pipe Line Trek, Trails Heading Towards to Heritage Sites.