

## ROLE OF BRITISH-PERIOD TREKS FOR THE DEVELOPMENT OF ECO-TOURISM IN THE GALIYAT REGION

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**Abstract**

The Galiyat region of northern Pakistan represents a distinctive intersection of colonial heritage and mountain ecology, where a network of British-period trekking routes continues to shape mobility, identity, and tourism. While previous research has emphasized architectural heritage, limited attention has been paid to these treks as living eco-heritage corridors. This study examines the role of British-period treks in fostering eco-tourism development across thirteen historical routes, extending from Thandiani to Khaira Gali. Using a qualitative interpretive approach, the research integrates Butler's Tourism Area Life Cycle (TALC) and Interpretive Phenomenological Analysis (IPA) frameworks to assess developmental stages and stakeholder experiences. Data were collected through field surveys, GPS-based mapping, and 95 semi-structured interviews with tourists, tour operators, and local residents.

Findings reveal six interrelated themes: colonial foundations of eco-tourism, ecological immersion, community interface, infrastructure and safety, climate vulnerability, and policy integration. Most treks remain in the exploration or early involvement stages of TALC, reflecting high experiential potential but inadequate institutional support. The results highlight that these routes function as living eco-heritage landscapes, blending biodiversity, historical continuity, and community livelihoods. The study concludes that revitalizing these treks through inclusive governance, minimal-impact infrastructure, and climate-sensitive management can transform Galiyat into a regional model of sustainable mountain tourism. Policy recommendations align with SDGs 11, 15, and 8, emphasizing cross-sectoral collaboration, community empowerment, and eco-restoration. The research advances methodological and theoretical understanding of eco-tourism in postcolonial mountain contexts, reframing colonial mobility as a pathway toward environmental stewardship and inclusive growth.

**INTRODUCTION**

Nestled within the lower Himalayan ranges of northern Pakistan, the Galiyat region stretches across the administrative boundaries of Abbottabad District

and forms a unique ecological and historical landscape. Characterized by temperate pine and deodar forests, rich biodiversity, and elevations

ranging between 5,000 to 9,000 feet, Galiyat has long served as a climatic refuge for travellers and administrators. The area's geography steep ridges, narrow valleys, and panoramic viewpoints offered both strategic advantage and aesthetic allure during the British colonial period. Today, these same features underpin its tourism potential, as visitors from across Pakistan seek relief from the plains and explore the region's scenic and cultural assets. The intersection of natural ecology, colonial legacy, and community livelihood makes Galiyat a microcosm of sustainable mountain tourism challenges in South Asia.

During the British Raj (mid-19th to early 20th century), the region emerged as part of the colonial hill station circuit that linked Abbottabad, Nathia Gali, Ayubia, Khaira Gali, and Murree through a series of bridle paths and trekking routes. These trails constructed initially for administrative mobility, troop movement, and leisure excursions connected rest houses, churches, and forest bungalows that were strategically placed at regular intervals. The British design emphasized functionality within nature: shaded tracks following ridgelines, stone culverts protecting against monsoon erosion, and forest clearings near springs for halts. Over a century later, these routes continue to exist, though largely unnoticed within the dense forest canopy. They now serve not as imperial pathways but as potential eco-tourism corridors, where visitors can experience a blend of biodiversity, adventure, and historical resonance.

While the heritage value of colonial architecture in Galiyat including bungalows, churches, and tunnels has received considerable scholarly and media attention, the trekking network that historically bound these sites together remains largely undocumented. Earlier research, including the author's doctoral work on *British-period heritage and development of eco-tourism in Galiyat*, focused primarily on built structures and their conservation potential. However, this focus left an important spatial dimension unexplored: the routes themselves. These treks represent dynamic cultural landscapes where history, environment, and community interact continuously. Their neglect in academic literature and tourism planning has limited understanding of how colonial mobility infrastructure can contribute to contemporary eco-tourism development. The absence

of systematic mapping, thematic analysis, and policy integration underscores a critical research gap that this study aims to address.

The rationale for this research lies in recognizing British-period treks as living eco-heritage corridors that embody both ecological and cultural continuity. Each trail offers a unique intersection of natural beauty, local livelihood, and historical memory. For tourists, these routes provide opportunities for low-impact exploration and environmental learning. For local communities, they represent avenues for livelihood generation through guiding, hospitality, and eco-friendly entrepreneurship. In an era of increasing domestic tourism and environmental stress, Galiyat's trekking network can serve as a model for sustainable mountain tourism that balances conservation with economic growth. However, achieving this balance requires structured planning, stakeholder participation, and data-driven management elements that remain underdeveloped in Pakistan's current tourism frameworks.

This paper therefore sets out three research objectives. First, to document and interpret the network of British-period treks across the Galiyat region through fieldwork and stakeholder engagement. Second, to evaluate their current eco-tourism potential using Butler's (1980) *Tourism Area Life Cycle* (TALC) model, which allows assessment of each trail's stage of development from exploration to consolidation. Third, to analyse stakeholder experiences and perceptions including those of tourists, local residents, and tour operators through *Interpretive Phenomenological Analysis* (IPA), thereby capturing the lived experiences that shape the sustainability of these routes. Together, these objectives provide a framework for understanding how colonial legacies can evolve into contemporary eco-tourism resources. The significance of this study lies in its dual contribution to scholarship and practice. Conceptually, it extends the discourse of British-period heritage from static architectural remains to dynamic spatial systems that integrate ecology and community. Empirically, it provides baseline data and stakeholder insights that can inform the Khyber Pakhtunkhwa Tourism Department (KP-TD) and the Galiyat Development Authority (GDA) in designing eco-tourism management strategies. By linking heritage continuity with environmental sustainability,

this paper contributes to the realization of Sustainable Development Goals (SDG 11: Sustainable Cities and Communities; SDG 15: Life on Land; and SDG 8: Decent Work and Economic Growth). Beyond academic value, the research aims to guide policy towards inclusive, environmentally responsible, and culturally rooted tourism planning.

The remainder of this paper is organized as follows. Section 2 reviews relevant literature on colonial mobility, heritage landscape transformation, and eco-tourism development in mountain regions. Section 3 outlines the methodological framework, integrating the *Tourism Area Life Cycle (TALC)* and *Interpretive Phenomenological Analysis (IPA)* approaches. Section 4 presents empirical results derived from 13 documented treks in the Galiyat region, synthesizing stakeholder narratives into six developmental themes. Section 5 discusses these findings in light of eco-tourism planning and sustainability models, while Section 6 concludes with recommendations for policy integration, community participation, and environmental resilience. Together, these sections demonstrate that the role of British-period treks in eco-tourism development extends far beyond heritage nostalgia representing instead a tangible pathway toward sustainable mountain development and inclusive conservation in northern Pakistan.

## 2. Literature Review

The literature on eco-tourism, heritage conservation, and mountain sustainability provides a multidimensional foundation for understanding how historical landscapes can be repositioned as engines of sustainable development. Previous research highlights the evolution of tourism from mass recreation toward forms that integrate environmental stewardship, cultural preservation, and community participation, thereby aligning with global sustainability goals.

### 2.1 Colonial Mobility and the Emergence of Hill Tourism

The British colonial engagement with the Himalayan foothills of South Asia produced a distinct cultural and spatial phenomenon the **hill station** which combined administrative strategy, climatic refuge, and recreational retreat (Kennedy, 1996; Glover, 2007). The establishment of bridle paths and rest houses was central to this network, enabling mobility across

rugged terrain and ensuring logistical connectivity between cantonments, churches, and sanatoria. In the north-western frontier regions, including present-day Galiyat, these mobility corridors reflected a pragmatic adaptation of European engineering to Himalayan ecology (Metcalf, 1995). They were constructed using local materials such as deodar timber and dressed stone, following ridgelines to avoid monsoon drainage and landslides. While their immediate function was administrative, these routes evolved into **leisure pathways** a form of early recreational tourism promoted among British officers and their families. Colonial travel writings and gazetteer records depict the Galiyat trails as “forest promenades” and “cool-weather escapes,” positioning them as precursors to modern eco-tourism experiences (Norris, 2018). The embeddedness of these routes within forest landscapes made them more than infrastructural works; they became **spatial archives of human nature interaction**. This historical mobility system now serves as the tangible foundation upon which present-day eco-tourism in Galiyat is emerging.

### 2.2 Post-Colonial Reinterpretation of Mountain Landscapes

Following independence, many colonial-era hill stations in Pakistan underwent significant demographic and functional transformations. Institutional buildings became government rest houses, while trails and bungalows fell into disrepair or informal reuse. Yet, in recent decades, these landscapes have acquired renewed significance within the discourse of eco-heritage tourism, which promotes heritage conservation in conjunction with ecological awareness (Timothy & Boyd, 2003). The reinterpretation of British-period routes as eco-tourism corridors parallels global trends in post-colonial heritage reclamation, where trails are repositioned as cultural connectors rather than colonial remnants (Bhattacharya, 2020). Scholars argue that such reinterpretation reflects an important shift in heritage epistemology from monumental preservation to living landscapes (Smith, 2006). In the context of Galiyat, treks such as Mushkpuri, Miranjani, and Dagri exemplify this transition: they are no longer associated solely with colonial administration but are reimagined as sustainable recreational spaces for domestic and international

tourists. This conceptual shift aligns with contemporary frameworks of cultural landscape conservation, as advocated by UNESCO (2013), which recognize the continuity of natural and human processes in shaping heritage value.

### 2.3 Eco-Tourism Development and Sustainable Mountain Tourism

Eco-tourism, as defined by the International Ecotourism Society (TIES, 2015), emphasizes responsible travel to natural areas that conserves the environment and improves the well-being of local people. Within mountain contexts, eco-tourism has been increasingly recognized as a strategy for **sustainable livelihood diversification** and **ecosystem preservation** (Nepal, 2002). Global case studies from Nepal's Annapurna Conservation Area to Bhutan's community trekking routes illustrate how trail-based tourism can generate conservation awareness, reduce poverty, and strengthen environmental stewardship (Nyaupane & Thapa, 2004; Rasool et al., 2020).

In Pakistan, however, eco-tourism development remains at an embryonic stage, constrained by fragmented policy frameworks and inadequate infrastructure (Shah, Bano, & Hussain, 2020). The **Galiyat Development Authority (GDA)** has initiated certain interventions such as waste management drives and heritage site restoration but trail planning remains largely absent from formal tourism strategies. Given that eco-tourism inherently depends on **accessibility through natural pathways**, the British-period treks of Galiyat constitute an untapped foundation for sustainable mountain tourism. Their ecological diversity, coupled with historical continuity, provides an opportunity to operationalize eco-tourism principles within a tangible cultural landscape.

### 2.4 Tourism Area Life Cycle (TALC) Model

To conceptualize tourism development in heritage and natural settings, Butler's (1980) **Tourism Area Life Cycle (TALC)** model offers an effective analytical lens. The model delineates six stages exploration, involvement, development, consolidation, stagnation, and rejuvenation through which destinations evolve over time. Each stage reflects changes in tourist volume, infrastructure, and local engagement. In the context of eco-tourism, the TALC model assists in

assessing whether natural and heritage resources are being managed sustainably or are at risk of overuse (Agarwal, 2006). For the Galiyat treks, this framework allows comparative categorization: remote trails such as Ayubia-Khaira Gali remain in the **exploration phase**, while highly visited routes like the Dunga Gali Pipeline and Mushkpuri treks have entered the **development or consolidation stage**. Applying the TALC model thus helps identify spatial and managerial priorities where eco-tourism policies should either prevent degradation or stimulate rejuvenation. Moreover, integrating TALC with heritage interpretation enables a holistic understanding of how **colonial infrastructures transition into contemporary tourism economies**, sustaining ecological balance and local livelihoods simultaneously.

### 2.5 Interpretive Phenomenological Analysis (IPA)

While TALC captures structural evolution, the **Interpretive Phenomenological Analysis (IPA)** framework focuses on the subjective dimensions of tourism experience. Rooted in phenomenology, IPA emphasizes how individuals interpret and make sense of their lived experiences (Smith, Flowers, & Larkin, 2009). In tourism studies, this approach allows researchers to move beyond descriptive accounts of places and explore emotional, cultural, and sensory encounters (Cohen, 2013). Applying IPA to the Galiyat treks provides an avenue to understand how **tourists, locals, and tour operators** perceive the same trail through different lenses adventure, livelihood, heritage, and spirituality. Such perspectives reveal the multi-layered meanings embedded within colonial routes. For instance, while a visitor may describe the Moto Tunnel as "a walk through living history," a local might regard it as part of daily life or functional heritage. By capturing these phenomenological insights, IPA enriches the analysis with **human-centered interpretations** that complement structural frameworks like TALC. This methodological synergy ensures that the study reflects both developmental progression and experiential authenticity qualities essential for eco-tourism scholarship.

### 2.6 Identified Research Gap

Despite growing attention to sustainable tourism in Pakistan, existing scholarship remains heavily focused

on destination-based or architectural heritage rather than route-based eco-tourism systems. Studies by Ali (2019), Shah et al. (2022), and Nawab et al. (2024) emphasize eco-heritage potential but rarely examine trail networks as integrated socio-ecological systems. Likewise, national tourism policies acknowledge the importance of trekking yet lack spatial mapping or heritage interpretation frameworks. Consequently, the British-period treks of Galiyat remain understudied and underutilized despite their exceptional potential to link biodiversity conservation, community livelihood, and cultural memory. Addressing this research gap, the present study adopts a dual analytical model combining TALC to map stages of eco-tourism development and IPA to interpret stakeholder experiences. Through analysis of 13 colonial-era treks, it examines how inherited mobility infrastructures can be repositioned as sustainable eco-tourism assets, bridging historical continuity with environmental stewardship. By contextualizing colonial pathways within contemporary sustainable development frameworks, this study contributes new insights to the regional discourse on eco-tourism planning and heritage-based conservation in mountain environments.

### 3. Methodology

Building upon the conceptual insights drawn from the reviewed literature, the study adopts a qualitative, interpretive methodology designed to explore the British-period treks of the Galiyat region as evolving eco-heritage systems. The methodological framework integrates spatial, historical, and phenomenological dimensions to capture both the developmental trajectory of these routes and the lived experiences of their users.

#### 3.1 Research Design and Philosophical Orientation

This research adopts a qualitative interpretivist design combining phenomenological inquiry and spatial evaluation to explore how British-period trekking routes in the Galiyat region contribute to eco-tourism development. The study is grounded in the belief that reality is socially and contextually constructed, and that meanings surrounding heritage, nature, and tourism emerge through lived experience rather than objective measurement (Creswell & Poth, 2018). This epistemological position supports an interpretivist

ontology, emphasizing multiplicity of perspectives across different stakeholder groups: tourists, local residents, and tour operators.

A multi-case study approach (Yin, 2018) was used to capture the spatial and cultural diversity of thirteen treks, each representing a distinct ecological and historical typology. The approach enabled a comparative analysis across cases, revealing both shared and localized patterns of eco-tourism potential. The integration of spatial mapping with phenomenological interpretation positions this research as a contextually embedded qualitative inquiry, typical of contemporary eco-tourism and heritage landscape studies (Timothy & Boyd, 2015). The design aligns with the core principles of sustainable mountain tourism research, which prioritize environmental integrity, socio-cultural inclusion, and adaptive management (Nepal, 2002). The focus was not merely on quantifying visitation trends, but on interpreting meaning systems—how individuals perceive, experience, and engage with British-period treks as living eco-heritage corridors.

#### 3.2 Study Area and Site Selection

The Galiyat region lies in the Abbottabad District of Khyber Pakhtunkhwa (KP), Pakistan, extending around 50 kilometers from Thandiani to Khaira Gali (Figure 1), at altitudes ranging between 1,800 and 2,900 meters. The region comprises dense deodar and blue pine forests, rich avifauna, and a moderate climate conducive to both biodiversity and year-round tourism. Administratively governed by the Galiyat Development Authority (GDA), the area overlaps with Ayubia National Park, a declared IUCN Category V protected landscape.

Thirteen British-period treks were purposively selected for analysis, representing the spatial and functional diversity of colonial mobility systems. These include Thandiani-Satto Bungalow, Thandiani-Dagri Bungalow, Thandiani-Berin Gali, Nathia Gali-Dagri Bungalow, Nathia Gali-Miranjani, Trada-Governor House, Bara Gali-Trada, Nathia Gali-Mushkpuri, Dunga Gali-Mushkpuri, Pipeline (Dunga Gali-Ayubia), Moto Tunnel Ayubia, Mary Catholic Church routes (R1 and R2), and Ayubia-Khaira Gali. Site selection was based on three criteria:

- Historical provenance (documented in colonial gazetteers or maps);
- Current accessibility to tourists and local communities;
- Representation of varying ecological gradients and tourism maturity within the region.

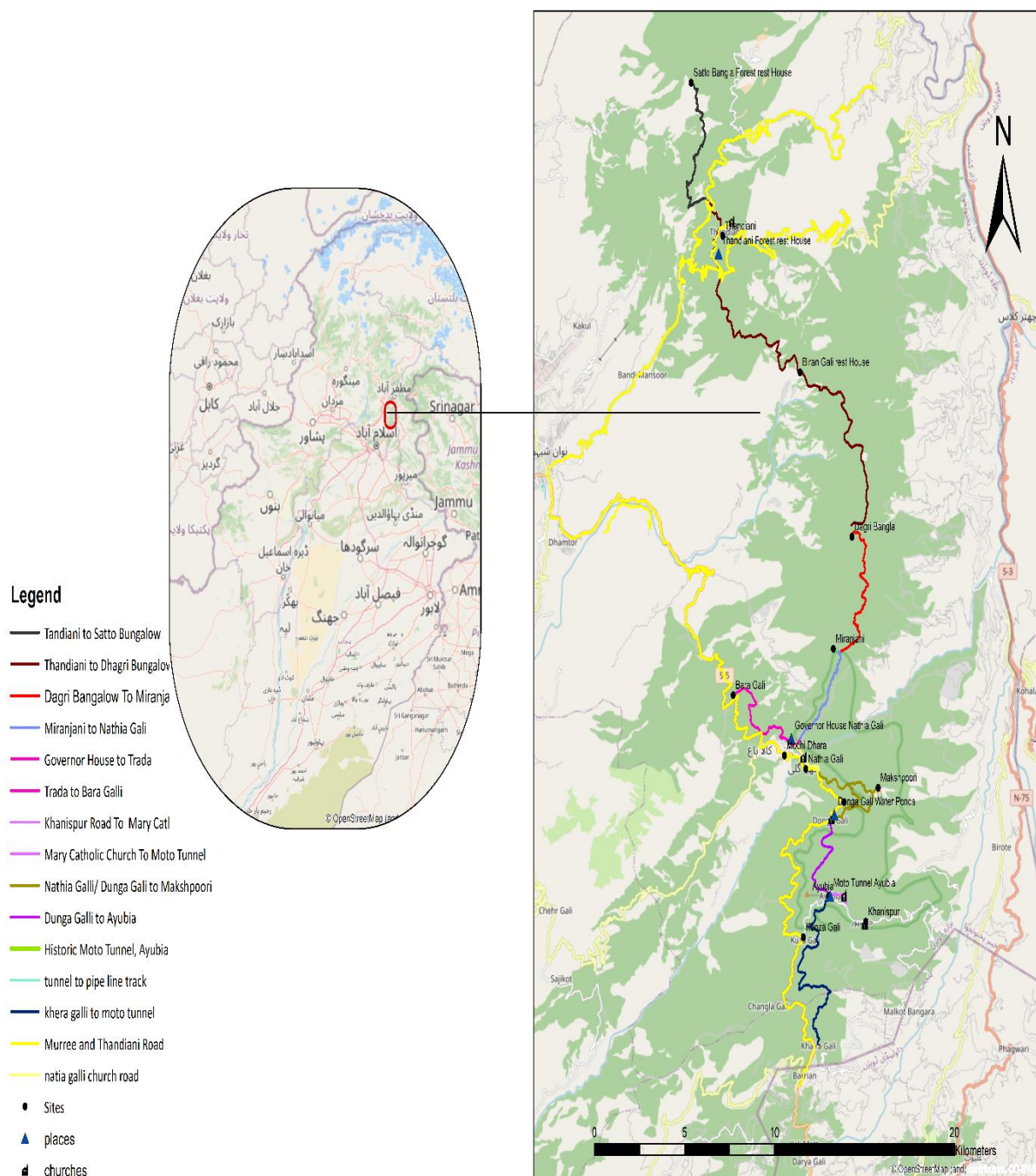


Figure 1: Trekking map of Galiyat Region, stretch from Satto to Khaira gali

Each trek thus functions as a case within a broader system of colonial-era routes that now form the foundation for eco-tourism planning.

### 3.3 Data Sources and Collection Procedures

Data collection occurred between July 2023 and June 2024, combining field observation, semi-structured interviews, and policy document analysis.

Primary data comprised 95 stakeholder interviews divided accordingly among tourists (n=50), tour operators/guides (n=15), and local residents (n=30). A purposive and maximum variation sampling strategy (Patton, 2015) ensured diversity in age, gender, occupation, and engagement level with tourism activities. Each trek was visited at least twice once during the pre-monsoon (May–June) and once post-monsoon (September–October) season to record variations in accessibility, forest cover, and visitor volume.

Field surveys included GPS-based route mapping, photographic documentation, and observation logs noting trail conditions, slope gradients, and presence of colonial remnants such as culverts, rest houses, or signage. Semi-structured interview guides explored five thematic areas: (1) perceptions of natural beauty and biodiversity, (2) knowledge of historical context, (3) eco-tourism opportunities and constraints, (4) local livelihood impacts, and (5) infrastructure and safety needs.

Secondary data were drawn from institutional archives and recent publications, including GDA reports (2018–2023), KP-Tourism master plans, forest management documents, and previous academic studies on mountain tourism and British heritage in northern Pakistan. These sources provided contextual depth and policy relevance to the primary findings.

### 3.4 Analytical Framework and Data Processing

The study employed a dual-framework analytical model, combining Butler's Tourism Area Life Cycle (TALC) and Interpretive Phenomenological Analysis (IPA) to achieve complementary insights developmental and experiential.

- **Tourism Area Life Cycle (TALC)**

TALC (Butler, 1980) conceptualizes the evolution of tourist destinations through six stages: exploration, involvement, development, consolidation, stagnation,

and rejuvenation. Each trek was evaluated against these indicators using field observations, visitor counts (estimated through guide records and local input), and infrastructure audits. The classification enabled comparative assessment of eco-tourism maturity and management needs. For instance, Dagri Bungalow and Ayubia–Khairia Gali emerged in the exploration stage, while Mushkpuri and Pipeline Trek reflected development-phase characteristics.

- **Interpretive Phenomenological Analysis (IPA)**

IPA (Smith, Flowers, & Larkin, 2009) was used to interpret the qualitative narratives of the three stakeholder groups. The process followed four iterative steps: Initial coding of transcripts for descriptive and emotional content; Development of meaning units through interpretive reflection; Formation of subordinate and superordinate themes; and

Cross-case synthesis to identify convergences and divergences in perceptions.

### Six overarching themes emerged:

- (1) Colonial foundations of eco-tourism,
- (2) Ecological immersion and biodiversity awareness,
- (3) Community interface and livelihood linkages,
- (4) Infrastructure and safety challenges,
- (5) Climate vulnerability and resource depletion, and
- (6) Policy and institutional integration.

NVivo 14 software supported the coding and thematic clustering, allowing traceability and transparency of analytical steps. The integration of TALC and IPA ensured both macro-level destination assessment and micro-level meaning interpretation, fulfilling the multi-scalar analytical requirements of eco-heritage tourism research.

### 3.5 Validity, Reliability, and Triangulation

To ensure analytical robustness, multiple strategies were employed. Data triangulation combined observational data, stakeholder interviews, and secondary documents to validate findings. Investigator triangulation was achieved through peer debriefing sessions with academic supervisors and regional tourism experts from Hazara University. Temporal triangulation ensured seasonal variation in field visits, strengthening ecological validity. Reliability was enhanced through audit trails

documenting data collection protocols and coding decisions. Inter-coder reliability was tested on 20% of transcripts, yielding 0.87 Cohen's Kappa indicating high consistency.

Construct validity was further strengthened by member checking, where preliminary results were shared with local stakeholders to confirm interpretive accuracy. Reflexive journaling by the researcher minimized positional bias and enhanced transparency.

### 3.6 Ethical Protocols

All research procedures adhered to the ethical standards of the Department of Tourism and Hospitality, Hazara University, and followed UNWTO (2021) guidelines for responsible tourism research. Participants were informed about the purpose of the study, assured anonymity, and provided verbal consent prior to interviews. Data were anonymized through code identifiers (e.g., SBT T01, DBT O02). No photographs of individuals were used without consent, and culturally sensitive sites were documented respectfully. The research design also aligned with the principles of the Belmont Report (1979) respect for persons, beneficence, and justice.

### 3.7 Methodological Contribution

This study contributes methodologically by demonstrating how heritage-route analysis can be operationalized through an integrated TALC-IPA framework. The combination of developmental modelling and phenomenological interpretation offers a replicable approach for examining eco-heritage transitions in other post-colonial mountain

contexts. The inclusion of community voices and lived experiences addresses the ethical imperative of inclusivity in sustainable tourism research.

### 4. Results

The findings of this study reveal how British-period trekking routes in the Galiyat region function as evolving eco-heritage corridors where historical infrastructure, natural landscapes, and community livelihoods intersect. Data interpretation followed the dual analytical lens of the Tourism Area Life Cycle (TALC) and Interpretive Phenomenological Analysis (IPA), enabling both structural and experiential assessment. Within this framework, the TALC model identified each trek's developmental phase ranging from exploration to early development while IPA illuminated the lived meanings that tourists, operators, and residents attach to these trails. Collectively, the results illustrate that the colonial trekking network, though originally designed for administrative and leisure mobility, has transitioned into a dynamic socio-ecological system capable of supporting sustainable tourism.

The conceptual framework presented below (Figure 2) synthesizes these relationships, demonstrating how the physical legacy of colonial-era treks interacts with environmental, socio-cultural, and economic dimensions to generate eco-tourism outcomes aligned with sustainable development goals. This model guided the organization of results into six interlinked thematic categories, each reflecting a distinct but converging aspect of eco-tourism development in the Galiyat region.

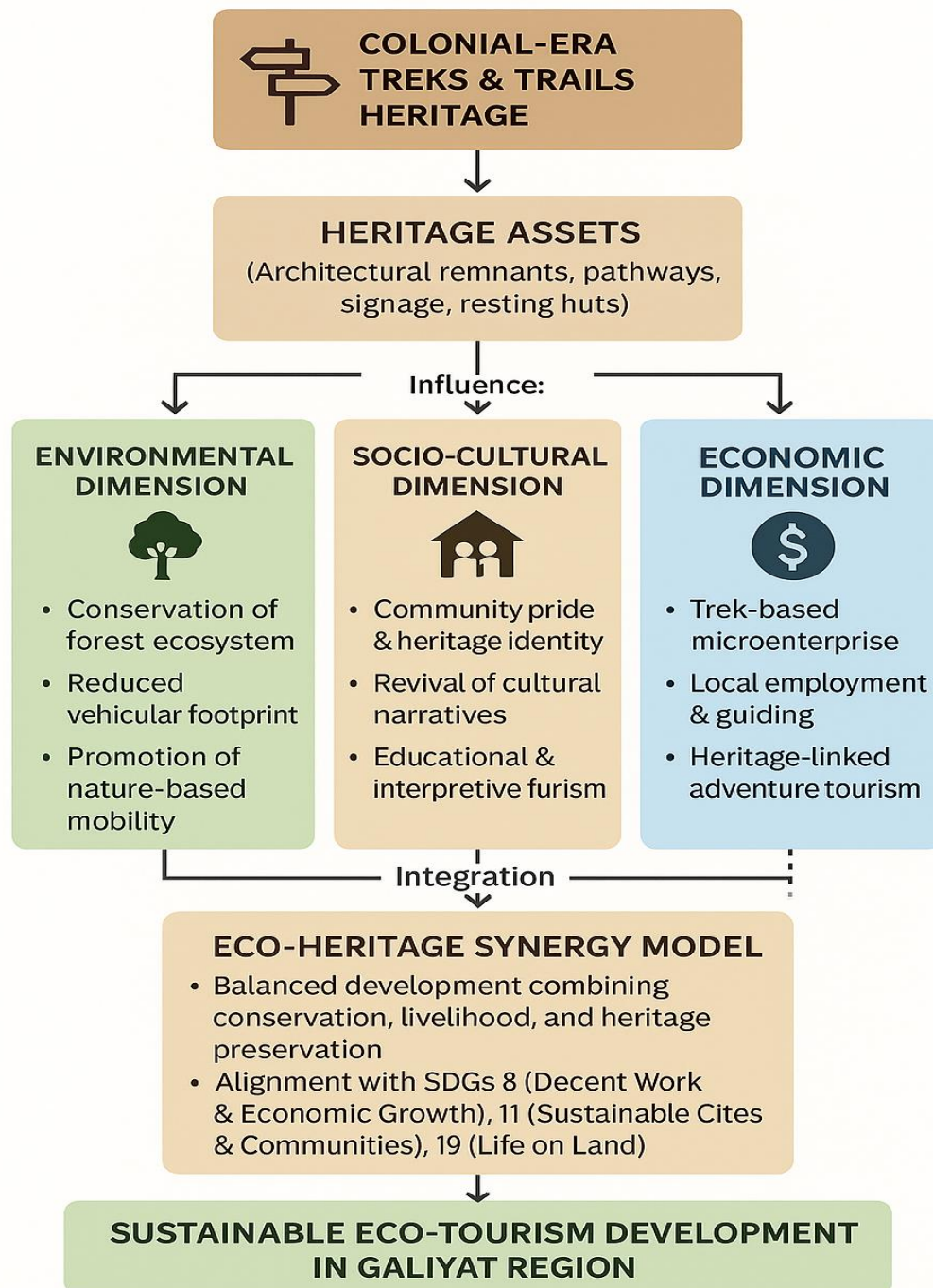


Figure 2. *Eco-Heritage Synergy Model for Sustainable Trek-Based Tourism in Galiyat Region.*

#### 4.1 Colonial Foundations and Heritage Continuity

Across all thirteen treks, respondents consistently recognized remnants of British-period infrastructure stone culverts, bridle paths, and rest houses as tangible

heritage markers shaping the region's trekking identity. Tourists described these features as "living history", noting that even eroded routes retained a sense of authenticity. Trails such as the Pipeline Trek,

Dagri Bungalow Route, and Mary Catholic Church Trail exemplified colonial spatial planning that harmonized with terrain contours. (Plate I,II,III)

Tour operators acknowledged that these routes were originally designed for administrative and leisure mobility between garrisons, hill stations, and forest bungalows, yet now serve as natural corridors for soft adventure and heritage interpretation. Locals emphasized emotional attachment to the trails, linking them to generational memories of movement, trade, and social interaction. Within the TALC framework, most heritage-based treks remained in the exploration stage, indicating untapped interpretive potential despite high symbolic value.

#### 4.2 Ecological Immersion and Biodiversity Experience

Stakeholders repeatedly identified biodiversity observation as the defining feature of the Galiyat trekking experience. Tourists reported encounters with Himalayan bulbuls, woodpeckers, and occasionally monals transforming treks into informal environmental classrooms. Particularly, the Thandiani, Dagri, Mushkpuri, and Miranjani routes offered strong perceptions of ecological immersion due to dense deodar and pine cover. (Plate IV-V)

Operators confirmed that eco-photography and bird-watching were emerging motivators, though they lacked organized promotion or guide training. Local residents expressed pride in the region's forest life but voiced concern over declining water springs and vegetation cover, attributing changes to deforestation and climate variability. From the TALC perspective, nature-dominant treks such as Ayubia-Khaira Gali and Dagri exhibit early-stage involvement, showing ecological richness but limited infrastructure to support sustained eco-tourism.

#### 4.3 Community Interface and Livelihood Linkages

The analysis revealed strong community-tourism interdependence along nearly all routes. Local respondents emphasized that traditional pathways once used for grazing, market access, and social visits have now become sources of seasonal livelihood through guiding, tea stalls, or snack kiosks. For example, villagers at Berin Gali and Dunga Gali noted small but steady income from trekkers purchasing refreshments.

Tourists valued these human encounters, describing them as adding “authentic warmth” to the trekking experience. Operators highlighted that engaging local youth as trained guides could convert passive hospitality into structured employment. Yet, many residents expressed apprehension over unregulated visitation and littering. Collectively, community narratives positioned eco-tourism as both economic opportunity and socio-cultural responsibility. Routes ending in inhabited settlements (e.g., Berin Gali, Trada) correspond to the involvement stage of TALC, where community participation begins to shape tourism identity. (Plate VI)

#### 4.4 Infrastructure, Safety, and Accessibility Challenges

Across stakeholder groups, a critical pattern emerged: inadequate infrastructure remains the most significant barrier to eco-tourism development. Tourists reported missing or confusing signboards on complex trails such as Dagri and Ayubia-Khaira Gali, resulting in navigational stress and occasional disorientation. Families and novice hikers expressed concern about steep slopes without fencing, uneven ground, and absence of resting shelters or potable water points.

Operators reinforced these observations, stressing that poor maintenance discourages repeat visitation and restricts international promotion. Local respondents added that lack of patrolling leads to safety risks (Plate VII), especially during monsoon or winter seasons. Within TALC classification, infrastructure-deficient treks remain in the exploration or early involvement phases, while Pipeline and Mushkpuri trails where minimal facilities exist show transition towards the development stage. The results underscore that physical safety and basic amenities are prerequisites for sustainable visitor growth.

#### 4.5 Climate Vulnerability and Environmental Change

Interview data revealed growing awareness of climate-induced changes within the trekking landscape. Older residents recalled perennial springs that have since weakened or dried, particularly along Thandiani-Dagri, Ayubia-Khaira Gali, and Berin Gali routes (Plate VIII). Tourists also noted reduced stream flow

and occasional erosion on steeper ridges. These perceptions align with scientific reports of declining precipitation and forest cover in northern Pakistan. Operators linked these changes to reduced trekking comfort and shorter tourism seasons, while locals highlighted impacts on agriculture and livestock. The emergent theme indicates that climate variability directly influences eco-tourism sustainability, altering both the physical experience and economic rhythm of mountain communities. Within the TALC perspective, such environmental stressors risk pushing several trails toward stagnation, unless adaptive conservation measures are implemented.

#### 4.6 Policy Integration and Institutional Coordination

Stakeholders consistently emphasized institutional gaps in managing and promoting trekking tourism. Tour operators pointed to fragmented responsibilities among the Galiyat Development Authority (GDA), Khyber Pakhtunkhwa Tourism Department (KPTD), and Wildlife Department, leading to absence of unified trail management or heritage interpretation strategy. Tourists observed that information dissemination is largely dependent on private guides or social media rather than official channels. Local communities expressed willingness to cooperate with authorities but cited lack of consultation and unclear benefit-sharing mechanisms. Analysis indicates that despite multiple initiatives such as eco-tourism branding and forest conservation projects policy integration remains limited to short-term events. Most routes thus hover between involvement and development stages, constrained by inconsistent governance and absence of monitoring frameworks. The findings highlight an urgent need for cross-sectoral collaboration, capacity-building, and community inclusion to transform historical treks into managed eco-heritage assets.

#### 4.7 Synthesis of Thematic Patterns

Integrating the six themes reveals a continuum where colonial heritage provides structural identity, ecology offers intrinsic appeal, communities ensure continuity, while infrastructure, climate, and policy factors determine sustainability. The treks collectively form a spatial mosaic of early-stage eco-tourism

development, characterized by rich experiential potential but uneven institutional support.

Under the TALC model, only two treks (Pipeline and Mushkpuri) approach the development phase, while most remain exploratory indicating vast untapped potential. The IPA results emphasize that stakeholders perceive these trails not merely as recreational spaces but as living eco-heritage corridors, linking past colonial mobility with present-day environmental consciousness.

### 5. Discussion

The findings reveal that the British-period treks of the Galiyat region constitute more than physical remnants of colonial mobility, they represent adaptive eco-heritage systems where history, ecology, and community converge. Interpreting these results through the integrated lens of the Tourism Area Life Cycle (TALC) and Interpretive Phenomenological Analysis (IPA) underscores a dual narrative: while the routes remain structurally embedded in the exploration and early involvement stages of TALC, stakeholders' lived experiences point toward an emerging eco-heritage identity. This indicates a transitional phase in which the symbolic and ecological value of colonial routes is being rediscovered within the broader context of sustainable mountain tourism. The discussion that follows situates these insights within global and regional scholarship on eco-tourism, heritage trails, and community-based tourism, highlighting both the developmental potential and governance challenges that shape the Galiyat trekking landscape.

#### 5.1 From Colonial Mobility to Eco-Heritage Corridors

The findings reveal that British-period trekking routes in the Galiyat region originally built as bridle paths for surveillance, forest management, and leisure have evolved into spatial anchors for eco-heritage tourism. Unlike colonial churches or bungalows, which symbolize static heritage, these treks represent dynamic heritage-in-motion, where the act of walking recreates historical movement through contemporary ecological space. This transformation aligns with what Timothy and Boyd (2015) describe as the heritage continuum, where cultural landscapes evolve through reinterpretation rather than preservation alone. In the

case of Galiyat, the physical remnants of colonial planning such as the Pipeline track or Dagri trail now serve as frameworks through which modern tourists encounter both nature and history simultaneously.

This process reflects the postcolonial repurposing of infrastructure discussed by Bhattacharya (2019), where colonial-era mobility routes in the Himalayas have been reimagined as pathways of environmental learning. The treks thus act as living narratives connecting British spatial organization with contemporary ecological stewardship. Their reinterpretation as eco-heritage assets signifies an important conceptual shift: from seeing colonial traces as relics of occupation to recognizing them as heritage conduits for sustainable tourism development.

### 5.2 Eco-Tourism as Experiential Ecology

Stakeholder responses demonstrated that biodiversity, forest immersion, and sensory engagement form the core of visitor experience. This confirms the argument of Fennell (2020) that eco-tourism functions not only as a mode of economic activity but as a process of ecological education and ethical awareness. Tourists' narratives of bird-watching, forest silence, and spring-water encounters reflect what Wearing and Neil (2009) describe as experiential authenticity, where visitors seek emotional and spiritual connection with natural landscapes rather than consumption-based recreation.

However, the study also exposes the fragility of this experiential ecology. As indicated by declining spring flows and forest degradation, ecological resilience is increasingly under stress. This situation mirrors global mountain regions such as Nepal's Annapurna Circuit where unregulated trekking has led to erosion and habitat disruption (Nepal & Chipeniuk, 2005). The Galiyat case demonstrates that eco-tourism cannot thrive without ecosystem health; biodiversity is not an optional attraction but the ecological foundation of the tourism product itself.

The results therefore reinforce the need for low-impact, interpretation-based tourism grounded in conservation ethics. Integrating interpretive signage, biodiversity monitoring, and guided environmental education could transform these treks into outdoor classrooms realizing the education-conservation-

recreation triad envisioned in the UNWTO (2021) guidelines for sustainable mountain tourism.

### 5.3 Community Participation and Inclusive Growth

Findings from residents' and operators' interviews reveal that local communities view eco-tourism simultaneously as livelihood opportunity and social obligation. This resonates with the concept of community-based tourism (CBT) articulated by Scheyvens (1999), which emphasizes empowerment through participation in tourism planning and benefit distribution.

In Galiyat, villagers along routes such as Berin Gali and Dunga Gali have organically engaged in micro-entrepreneurship selling refreshments, guiding hikers, or maintaining trails. These modest yet vital contributions reflect what Jamal and Stronza (2009) describe as "collaborative stewardship," where local agency enhances both conservation and hospitality.

However, the absence of structured capacity-building or formal partnerships limits their long-term benefits. Without inclusion in decision-making, communities risk remaining peripheral service providers rather than co-managers of heritage resources. The involvement-stage classification of most routes under TALC confirms this transitional status: community awareness is growing, but institutional frameworks for empowerment remain weak.

To achieve SDG 8 (Decent Work and Economic Growth) and SDG 11 (Sustainable Communities), policies should establish mechanisms such as Eco-Guide Certification Programs or Community Maintenance Cooperatives. Such participatory structures could formalize income flows while enhancing the custodianship role of locals transforming community interaction from passive hospitality into active stewardship.

### 5.4 Infrastructure, Safety, and Accessibility as Development Catalysts

Across all respondent categories, infrastructural inadequacy emerged as a central constraint. Missing signage, absence of shelters, and unsafe ridges indicate that eco-tourism in Galiyat remains largely in the exploration phase. This mirrors Butler's (1980) model

where destinations stagnate without strategic intervention.

Globally, mountain tourism success stories such as the Great Himalayan Trail in Nepal or the Swiss Alpine routes demonstrate that minimal but consistent infrastructure (signage, rest stops, waste management) significantly enhances safety without compromising ecological integrity. The Galiyat region's challenge lies in achieving functional minimalism: providing essential facilities that reduce risk while preserving wilderness character.

Tourists' and operators' emphasis on safety echoes the "comfort-risk equilibrium" model proposed by Pomfret (2019), which suggests that moderate infrastructure enhances perceived adventure while expanding market accessibility. Adopting this model in Galiyat would align the region's eco-tourism offering with global expectations for soft adventure tourism a rapidly growing segment among domestic travellers.

Infrastructure improvement also requires multi-agency collaboration under the Galiyat Development Authority (GDA). Establishing standardized trail grades, rest points, and emergency contacts could mark the transition from involvement to development stage in TALC terms, enabling scalability without ecological degradation.

### 5.5 Climate Resilience and Environmental Stewardship

The widespread perception of drying springs and changing vegetation signals an urgent environmental threshold. Mountain eco-tourism inherently depends on climate-sensitive ecosystems; thus, adaptation measures must be embedded within tourism management.

The pattern observed across multiple treks aligns with findings by Rasul and Molden (2019), who document declining hydrological reliability in the Hindu Kush-Himalayan range due to altered precipitation cycles. For Galiyat, this implies that tourism and climate resilience are inseparable agendas.

Adopting community-based watershed management and reforestation programs could restore natural springs while reinforcing tourism aesthetics. Integrating climate adaptation indicators into the GDA's monitoring framework such as spring discharge rates or vegetation density would link

environmental health directly to tourism performance. This approach operationalizes SDG 15 (Life on Land), ensuring that eco-tourism becomes a driver for ecosystem restoration rather than depletion. Furthermore, eco-tourism can play a communicative role in climate awareness. Guided interpretation focusing on visible climate impacts like erosion scars or dry stream beds can educate visitors and mobilize empathy for conservation. In this sense, British-period treks not only connect history and nature but also bridge human perception and environmental change.

### 5.6 Governance, Policy Integration, and the TALC Trajectory

A consistent theme emerging from all stakeholder groups is the fragmented governance structure within Galiyat's tourism management. Responsibilities overlap among the GDA, KP-Tourism, Forest, and Wildlife departments, leading to fragmented project execution. This mirrors issues identified by Gössling et al. (2021), who argue that policy incoherence is a major barrier to implementing sustainable tourism frameworks in developing contexts.

The lack of a unified management model prevents coherent branding, visitor monitoring, and heritage interpretation. Applying the TALC model, this institutional fragmentation explains why most treks remain at involvement stage their ecological and heritage potential acknowledged but structurally unsupported. To move toward development or consolidation, policy coordination is essential. Establishing a "Galiyat Trekking and Eco-Heritage Authority" or an integrated Trail Management Framework could harmonize roles between conservation and tourism sectors. Such institutional innovation would align with UNESCO's Landscape Approach (2011), promoting cross-sectoral governance for sustainable heritage landscapes.

Furthermore, embedding eco-tourism within KP's provincial tourism master plan can ensure budgetary continuity and climate adaptation integration. As the TALC model implies, destinations that evolve without management stagnate or decline; those that institutionalize innovation achieve rejuvenation. Galiyat stands poised at this critical juncture.

### 5.7 Reframing British-Period Treks as Future Eco-Tourism Assets

Synthesizing across the six themes, the study suggests that British-period treks in Galiyat represent multi-layered development corridors combining cultural memory, ecological value, and community livelihood. Their preservation and revitalization can catalyze a new phase of sustainable tourism that integrates heritage continuity with environmental resilience.

Unlike architectural monuments that demand static conservation, these trails exemplify active conservation through use a concept resonating with the Living Heritage Approach (UNESCO, 2017). Revitalizing them as eco-heritage trails would ensure that colonial legacies are recontextualized as tools for education, recreation, and community empowerment.

In theoretical terms, the integration of TALC and IPA in this research demonstrates that heritage development follows both structural evolution and experiential transformation. Structurally, most treks are advancing from exploration to development; experientially, they are already rich with meanings of identity, pride, and environmental awareness. Bridging these trajectories through inclusive policy and adaptive infrastructure could propel Galiyat toward becoming a regional model of sustainable mountain tourism in South Asia.

## 6. Conclusion

The study concludes that the British-period treks of the Galiyat region hold significant potential for the development of sustainable eco-tourism by integrating heritage conservation, community engagement, and environmental stewardship. By interpreting these historical routes through the combined lenses of TALC and IPA, the research demonstrates how colonial mobility infrastructure has evolved into living eco-heritage systems. Building on these findings, several policy recommendations are proposed to enhance institutional coordination, promote responsible visitation, and ensure the long-term conservation of both cultural and natural assets.

This study explored the role of British-period treks in the development of eco-tourism in the Galiyat region, situating them within the dual frameworks of Tourism Area Life Cycle (TALC) and Interpretive Phenomenological Analysis (IPA). Thirteen historical

routes—extending from Thandiani in the north to Khaira Gali in the south—were analysed as evolving socio-ecological systems that link colonial mobility heritage with contemporary sustainable tourism aspirations.

The findings confirm that these treks embody a form of living eco-heritage, integrating historical identity, biodiversity, and community livelihood. Tourists perceive them as immersive nature-culture experiences; operators recognize their market potential; and residents associate them with memory, access, and opportunity. Yet, despite this convergence of symbolic and practical value, most trails remain at the exploration or early involvement stages of the TALC model rich in potential but constrained by inadequate infrastructure, fragmented governance, and environmental stress.

The interpretive analysis revealed six cross-cutting themes: colonial foundations, ecological immersion, community interface, infrastructure and safety, climate vulnerability, and policy integration which together define the developmental trajectory of eco-tourism in Galiyat. These findings extend eco-heritage theory beyond static monuments toward mobility-based heritage landscapes, demonstrating that trekking routes function as active cultural and ecological corridors.

At a conceptual level, the research underscores that eco-tourism in postcolonial mountain regions must be both reflective and adaptive. Reflection involves reinterpreting colonial infrastructures as educational and environmental resources rather than symbols of dominance. Adaptation requires integrating community voices, conservation imperatives, and modern visitor expectations into a coherent policy framework. The Galiyat treks thus illustrate how colonial legacies, when reimagined responsibly, can serve as pathways of sustainability, identity, and inclusion.

Empirically, this paper contributes to the growing scholarship on South Asian mountain tourism by documenting underrepresented heritage landscapes and linking them to broader sustainability goals. The findings resonate with international experiences—from India's Kumaon trails to Sri Lanka's colonial hill circuits—where eco-tourism and heritage are increasingly intertwined. However, Galiyat's case is distinctive in its balance between accessibility and

wilderness, cultural continuity and natural fragility, historical depth and present-day livelihood relevance. The British-period treks of the Galiyat region stand as tangible links between past and future constructed for imperial mobility, yet today offering a pathway toward ecological consciousness and sustainable development. If managed inclusively and intelligently, these routes can transform from neglected relics into living laboratories of eco-heritage tourism, demonstrating how history, nature, and community can converge in pursuit of resilience. In doing so, Galiyat can serve not only as a model for Pakistan but as a regional exemplar of sustainable mountain tourism, where the footprints of the past guide the steps toward a greener, more inclusive tomorrow.

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Plates

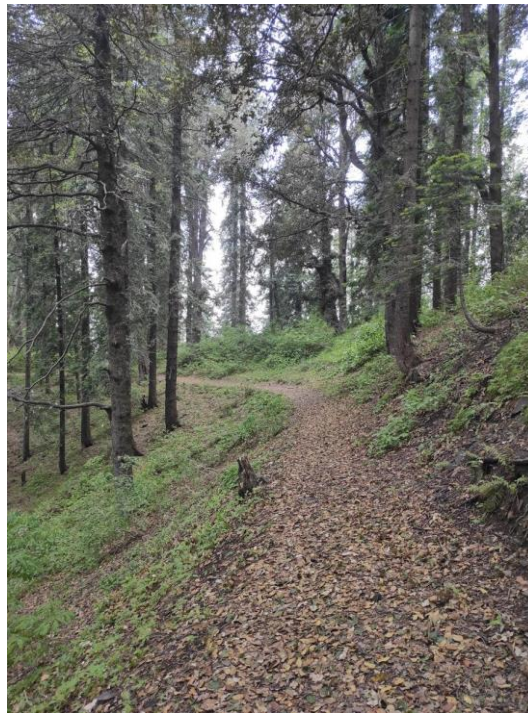


Plate I: Dense Forest Trail Heading Towards Biran Gali



Plate II: Mary Catholic Church Trail, Mostly Trails Heading Towards Heritage Sites



**Plate III: Trail Towards Dagri Bungalow**



**Plate IV: Trail Towards Miran Jani**



Plate V: Trail Towards Mushkpoori



Plate VI: Water spring on Trada to Nathia Gali Trek

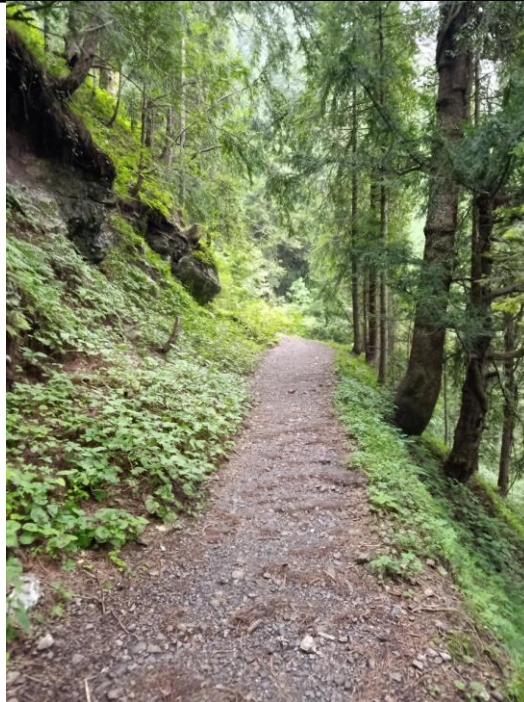


Plate VII: Narrow path and sliding area on way to Moto Tunnel from Mary Catholic Church



Plate VIII: Clearly Visible the Impact of Climate Change