

Role of Sustainable and Eco-Tourism in Enhancing the Tourism Potential of the Kumaun Region

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Abstract: *The Kumaun region of Uttarakhand possesses exceptional natural and cultural endowments—Himalayan landscapes, a nine-lake circuit, wildlife sanctuaries, and living traditions—yet its tourism trajectory remains caught between underutilisation and incipient overexploitation. This paper develops a research framework for examining whether sustainable and eco-tourism can function as a strategic lever for enhancing the region's tourism potential without replicating the degradation witnessed in other Himalayan destinations. Drawing on a review of policy documents, empirical studies, and emerging evidence from Kumaun's tourism corridors, the paper identifies a critical research gap: the absence of an integrated framework linking eco-tourism practices, community participation, and carrying-capacity management in the Kumaun context. The proposed research agenda combines stakeholder perception analysis, carrying-capacity assessment, and policy evaluation to determine under what conditions eco-tourism transitions from a niche alternative to a mainstream development pathway. The paper argues that Kumaun's tourism future hinges not on attracting more visitors, but on governing visitor flows, distributing benefits locally, and institutionalising ecological limits before irreversible thresholds are crossed.*

Keywords: eco-tourism, sustainable tourism, Kumaun, carrying capacity, community participation, tourism policy

I. INTRODUCTION

The Kumaun region occupies a paradoxical position in India's tourism geography. It is simultaneously one of the country's most celebrated mountain destinations and one of its most vulnerable. Nainital, the region's colonial-era jewel, attracts lakhs of visitors annually; Mukteshwar has become a favoured "workation" destination for metropolitan remote workers; and the broader Kumaun Himalaya encompasses wildlife sanctuaries, trekking corridors, and cultural landscapes of extraordinary richness. Yet this popularity has not translated into equitable or sustainable development. Hill districts lag behind the plains of Uttarakhand on most socio-economic indicators, out-migration persists, and the environmental costs of unplanned tourism—water scarcity, waste accumulation, land speculation—are mounting. The policy response has increasingly invoked "sustainable" and "eco" tourism as correctives. Uttarakhand's Tourism Policy 2023–2030 lists eco/rural tourism among its priority segments and offers fiscal incentives for tourism units in designated categories. The state has announced a Spiritual Economic Zone in Kumaun and a premium tourism city in Nainital district, both framed within a sustainability rhetoric. Community-based initiatives such as Village Ways in the Binsar Wildlife Sanctuary have demonstrated that low-impact, collectively managed tourism can generate livelihoods while preserving ecosystems. These developments raise a research question of both academic and policy significance: **under what conditions can sustainable and eco-tourism enhance the tourism potential of the Kumaun region rather than merely rebranding business-as-usual?**



This paper does not purport to answer that question definitively. Instead, it constructs a Ph.D.-level research framework: a synthesis of existing knowledge, identification of critical gaps, and a proposed methodology for investigating the relationship between eco-tourism interventions and tourism potential enhancement in Kumaun. The paper proceeds by establishing the regional context, reviewing the conceptual and empirical literature, articulating the research gap, and proposing a mixed-methods design.

II. THE KUMAUN REGION: TOURISM ASSETS AND DEVELOPMENTAL CONTRADICTIONS

2.1 Natural and Cultural Endowments

Kumaun comprises six districts—Almora, Bageshwar, Champawat, Nainital, Pithoragarh, and Udham Singh Nagar—though the hill districts are the primary tourism theatres. The region's assets are diverse and nationally significant. The Nainital lake district alone includes nine lakes—Nainital, Bhimtal, Sattal, Naukuchiatal, Khurpatal, and others—each with distinct ecological and recreational characteristics. Jim Corbett National Park, established in 1936 as India's first national park, anchors wildlife tourism in the region. The Binsar Wildlife Sanctuary protects broadleaf oak forests and supports community-based tourism ventures. Scenic destinations such as Kausani, Ranikhet, Chaukori, and Munsiyari offer panoramic Himalayan views and access to high-altitude trekking. Culturally, Kumaun maintains distinctive traditions, temple architectures, and handicraft practices that remain embedded in everyday life rather than staged for tourists.

2.2 Tourism Trajectory and Emerging Stress

The region's tourism has historically been dominated by Nainital and, more recently, by the "workation" phenomenon that transformed Mukteshwar and surrounding villages. This latter shift has produced ambivalent outcomes. On one hand, it has created income for homestay operators, taxi drivers, and local commerce; on the other, it has driven land prices beyond local reach, displaced apple orchards in favour of resorts, strained water supplies during peak months, and introduced urban noise into spaces historically valued for silence. Residents' testimony reported by *The Telegraph* captures the tension: "Tourism remains the mountain's economic lifeline," yet "development should take place in a controlled way".

Environmental stress is not anecdotal. Research on Nainital has documented overtourism-related pressures including waste accumulation, traffic congestion, and lake pollution, with authorities responding through measures such as lake wardens, plastic fines, and heavy-vehicle restrictions near the lake. A broader study of disaster vulnerability in the Uttarakhand Himalayas found that 74% of surveyed tourism stakeholders rated government policies as ineffective in ensuring safety and continuity, and 68% rated preparedness of hotels and homestays as poor. These findings suggest that the institutional scaffolding required for sustainable tourism remains weak.

2.3 Policy Environment

Uttarakhand's Tourism Policy 2023–2030 provides a framework that, on paper, aligns with sustainability principles. It identifies nature and adventure tourism—including eco/rural tourism—as a priority segment and offers capital subsidies, interest subvention, and waste-treatment incentives to eligible units. However, the policy's classification of areas for incentives places Nainital district in Category A (the most developed category), while the more remote and ecologically sensitive districts of Pithoragarh and Champawat fall into Category C. This structure may inadvertently reinforce the concentration of tourism infrastructure in already-saturated areas. Separately, the proposed Spiritual Economic Zone in Kumaun and the premium tourism city at Patwadangar signal a capital-intensive, infrastructure-led approach that is difficult to reconcile with the low-impact ethos of eco-tourism.

III. CONCEPTUAL FRAMEWORK: SUSTAINABLE TOURISM, ECO-TOURISM, AND TOURISM POTENTIAL

3.1 Defining the Terms

Sustainable tourism, following the UNWTO formulation, refers to tourism that takes full account of its current and future economic, social, and environmental impacts while addressing the needs of visitors, the industry, the



environment, and host communities. Eco-tourism is a narrower subset: responsible travel to natural areas that conserves the environment, sustains local well-being, and involves interpretation and education. The distinction matters for research design. Eco-tourism is a specific product category with identifiable practices (small-group travel, guiding, conservation contributions, community ownership); sustainable tourism is a governance principle applicable to all tourism forms, including mass tourism.

"Tourism potential" in this paper denotes not merely arrival numbers or revenue but the capacity of the tourism system to generate sustainable livelihoods, conserve natural and cultural assets, and maintain visitor satisfaction over time. This multidimensional definition is essential because the Kumaun problem is not a deficiency of raw attractions but a failure to convert attractions into durable, equitable, and ecologically bounded development.

3.2 Carrying Capacity as an Organising Concept

The concept of carrying capacity—ecological, infrastructural, social, and economic—offers a bridge between eco-tourism's normative commitments and empirical measurement. Recent scholarship on the Indian Himalayan Region has moved toward multidimensional frameworks that integrate environmental, demographic, economic, infrastructural, and institutional indicators. For Kumaun, carrying-capacity assessment is particularly urgent because the region's topography and climate impose hard limits: water availability, waste assimilation, road capacity, and slope stability are all finite and already stressed in peak seasons. A research framework that incorporates carrying-capacity thresholds can move the debate beyond the false binary of "development versus conservation" toward empirically grounded questions: how much tourism, of what kind, in which locations, under what management regimes?

IV. REVIEW OF EVIDENCE: WHAT WE KNOW AND WHAT WE DO NOT

4.1 Community-Based Eco-Tourism: Proof of Concept

The Village Ways initiative in Binsar Wildlife Sanctuary provides the most documented example of successful community-based eco-tourism in Kumaun. Launched in 2005, the model involves villagers collectively owning and operating guesthouses, with revenue distributed across roles from cleaning to guiding. By 2026, the initiative had hosted approximately 7,000 guests and involved 470 villagers in decision-making across six states. Its significance for research lies in demonstrating that eco-tourism in Kumaun is not merely theoretical: it can function at scale, generate pride alongside income, and create institutional structures for collective benefit. However, Village Ways remains a boutique operation with limited geographic reach and dependence on international visitor flows that declined after Covid. The question of scalability—whether such models can absorb significant visitor volumes without losing their community-controlled character—remains open.

4.2 Green Practices and Their Limits

Nainital's municipal and lake-development authorities have implemented a suite of green practices: door-to-door waste collection, plastic fines, lake wardens, and restrictions on heavy vehicles near the lake. A survey-based assessment of these practices found that while tourists and stakeholders recognise their existence, systematic evaluation of effectiveness is lacking, and a gap persists between policy adoption and measurable environmental outcomes. This finding is directly relevant to the proposed research: it suggests that eco-tourism practices in Kumaun are often implemented without baseline data, monitoring protocols, or mechanisms for adaptive management.

4.3 Policy Implementation Gaps

The disconnect between policy ambition and ground reality is a recurring theme. Uttarakhand was the first Indian state to create a Tourism Development Board by legislation and the first to declare itself an organic state, yet hill districts continue to experience out-migration and subsistence-level economies. The disaster-vulnerability study found that 72% of tourism stakeholders experienced severe income loss after disaster events, and coordination between tourism operators and disaster-management authorities was rated weak or absent by a quarter of respondents. For eco-tourism specifically, the policy incentives available under the 2023–2030 framework are oriented toward capital investment (accommodation, equipment) rather than the softer infrastructure of training, certification, and community institution-building that eco-tourism requires.



4.4 The Research Gap

The existing literature on Kumaun tourism can be characterised as follows: descriptive studies of destinations and attractions; isolated assessments of specific green practices; policy analyses of Uttarakhand's tourism framework; and case documentation of individual community initiatives. What is absent is an **integrated, empirically grounded framework that connects eco-tourism interventions to measurable changes in tourism potential at the regional scale**. Specifically, three gaps stand out:

1. **No systematic assessment of eco-tourism's contribution to tourism potential in Kumaun.** Existing studies examine either the supply side (destinations, policies) or specific interventions, but not the relationship between eco-tourism practices and the region's capacity to generate sustainable livelihoods, conserve assets, and maintain visitor satisfaction over time.
2. **No carrying-capacity framework adapted to Kumaun's ecological and social specificities.** The multidimensional carrying-capacity framework proposed for the Indian Himalayan Region has not been operationalised for Kumaun's lake districts, wildlife corridors, or workation hotspots.
3. **Limited understanding of stakeholder perspectives on the trade-offs inherent in eco-tourism.** Residents of Mukteshwar recognise both the economic necessity of tourism and its social costs ; tourists express preferences for "green" practices but may not translate them into willingness to pay or behavioural change . The preferences and constraints of these groups, and of the institutional actors who mediate between them, remain under-researched.

V. PROPOSED RESEARCH DESIGN

5.1 Research Questions

The study will address three interrelated questions:

RQ1: To what extent do existing sustainable and eco-tourism initiatives in the Kumaun region contribute to measurable improvements in tourism potential, defined across economic, environmental, and socio-cultural dimensions?

RQ2: What are the perceptions and preferences of tourists, local communities, and tourism operators regarding eco-tourism practices, and how do these vary across destinations with different tourism intensities (e.g., Nainital versus Binsar versus Mukteshwar)?

RQ3: What carrying-capacity thresholds—ecological, infrastructural, and social—can be identified for representative Kumaun destinations, and what governance mechanisms are required to operate within them?

5.2 Methodology

A mixed-methods design will be employed, combining quantitative and qualitative approaches across three phases.

Phase 1: Regional profiling and destination selection. Secondary data will be compiled on tourist arrivals, accommodation capacity, waste generation, water availability, and land-use change for all six Kumaun districts. Based on this profiling, three destinations will be selected to represent a gradient of tourism intensity: Nainital (high-intensity, mature), Mukteshwar (rapidly intensifying, workation-driven), and Binsar (low-intensity, community-based eco-tourism). This comparative design allows for analysis of how eco-tourism's potential varies with context.

Phase 2: Stakeholder surveys and carrying-capacity assessment. Structured surveys will be administered to three stakeholder groups: tourists (target $n = 400$, stratified by destination), local residents ($n = 300$), and tourism operators including homestay owners, guides, and transport providers ($n = 100$). The tourist survey will adapt validated instruments on green practice perception and willingness-to-pay; the resident survey will capture perceived impacts, participation in tourism decision-making, and attitudes toward further development; the operator survey will assess business characteristics, adoption of eco-practices, and constraints. Concurrently, carrying-capacity indicators will be assembled from secondary sources and key-informant interviews with municipal officials, forest department personnel, and water-resource managers. A composite index will be constructed following the multidimensional framework proposed for the Indian Himalayan Region , adapted to Kumaun's specific ecological and infrastructural parameters.



Phase 3: Qualitative case studies. Semi-structured interviews ($n = 30\text{--}40$) will be conducted with purposively selected participants: Village Ways committee members, homestay operators in Mukteshwar, hoteliers in Nainital, officials from the Tourism Development Board and Kumaon Mandal Vikas Nigam, and representatives of civil-society organisations engaged in conservation or community development. Interviews will explore the institutional, cultural, and economic factors that enable or constrain eco-tourism's contribution to tourism potential. Documentary analysis of policy documents, environmental impact assessments, and project reports will supplement interview data.

5.3 Analytical Strategy

Quantitative data will be analysed using descriptive statistics, ANOVA to compare perceptions across destinations and stakeholder groups, and regression to identify predictors of support for eco-tourism and willingness to pay for green practices. The carrying-capacity index will be computed using standardised indicators and assessed against thresholds derived from literature and expert consultation. Qualitative data will be analysed thematically, with attention to contradictions between stakeholder accounts and between stated policy and observed practice. Integration will occur at the interpretation stage, with quantitative patterns explained or challenged by qualitative findings.

5.4 Ethical Considerations

Research in Kumaun entails responsibilities beyond standard institutional review. The region's communities have experienced research extraction without reciprocal benefit; the study will therefore include dissemination of findings in accessible formats to participating villages and a commitment to involving local research assistants in data collection and interpretation. Informed consent will be obtained in Hindi or Kumaoni as appropriate, with attention to literacy and power dynamics.

VI. EXPECTED CONTRIBUTIONS

6.1 Theoretical Contributions

The study will contribute to the literature on sustainable tourism in mountain regions by testing the proposition that eco-tourism can enhance tourism potential under conditions of weak governance and infrastructure. Much eco-tourism scholarship assumes enabling conditions—effective institutions, secure land tenure, access to markets—that are absent or fragile in Kumaun. By examining how eco-tourism functions in a context of institutional gaps, the research will refine understanding of the boundary conditions under which eco-tourism delivers on its promises.

6.2 Methodological Contributions

The adaptation of a multidimensional carrying-capacity framework to a sub-regional scale in the Indian Himalaya represents a methodological advance. Existing frameworks operate at the scale of the entire IHR; operationalising them for Kumaun's heterogeneous destinations requires attention to local ecological and social specificities that larger-scale studies necessarily abstract away.

6.3 Policy Contributions

The research will generate evidence relevant to several live policy questions: whether the incentives under the Tourism Policy 2023–2030 are appropriately calibrated for eco-tourism; whether the Spiritual Economic Zone and premium tourism city projects are compatible with carrying-capacity constraints; and what institutional mechanisms—community tourism committees, destination management organisations, or co-management arrangements with the forest department—are most likely to succeed in Kumaun's specific political and ecological context.

VII. LIMITATIONS AND CAVEATS

Three limitations warrant acknowledgment. First, the study's cross-sectional design captures a snapshot rather than a trajectory; longitudinal follow-up would be required to assess whether eco-tourism interventions produce durable change. Second, the selection of three destinations, while justified by the comparative logic, cannot represent the full diversity of Kumaun's tourism landscapes—the high-altitude districts of Pithoragarh and Champawat, in particular, remain peripheral to the analysis. Third, the study's focus on stakeholder perceptions introduces subjectivity; while



triangulation with secondary data and observational evidence mitigates this, perceptions are not substitutes for biophysical measurement of environmental outcomes.

VIII. CONCLUSION

The Kumaun region stands at a juncture familiar across the Himalayan arc: the choice between a tourism future that extracts value from landscapes and communities until they are depleted, and one that treats ecological integrity and local well-being as preconditions rather than afterthoughts. The evidence reviewed in this paper suggests that eco-tourism in Kumaun has demonstrated proof of concept—Village Ways in Binsar, green practices in Nainital, the policy rhetoric of sustainability—but has not yet been tested as a regional development strategy. The research proposed here is designed to provide that test: not to advocate for eco-tourism as a panacea, but to specify the conditions under which it can meaningfully enhance tourism potential, and the conditions under which it cannot. For a region whose water, forests, and social fabric are already under strain, the stakes of getting this question right are considerable. The Ph.D. research outlined above is a modest contribution toward answering it.

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