



Adventure Tourism and Sustainability: Descriptive Study of Lahaul-Spiti, Himachal Pradesh

Anuj Kumar^{1*}, Dr. Ashish Nag²

¹Department of Tourism and Travel Management, Central University of Himachal Pradesh, Dharamshala, Himachal Pradesh. ORCID: (<https://orcid.org/0009-0000-4032-8690>)

²Professor/Head of the Department of Tourism and Travel Management, Central University of Himachal Pradesh, Dharamshala, Himachal Pradesh

DOI : <https://doi.org/10.55248/gengpi.5.1224.0208>

ABSTRACT

Adventure tourism can boost economic growth through job creation and local business support. Himachal Pradesh has huge potential for adventure tourism. The Lahaul and Spiti of Himachal Pradesh are renowned for their magnificent landscapes, which are perfect for adventure tourism. A comprehensive literature review has examined the concept of sustainable tourism in Lahaul Spiti. Findings highlight the present status of tourism in Lahaul Spiti through economic benefits, environmental impact, and socio-cultural changes that resulted from increased tourist activity. It provides various factors that influence growth, such as Infrastructure development, community participation, and government initiatives. It highlights the significance of sustainable practices to reduce the negative impact on the ecosystem and local communities. The study intends to provide valuable insights to stakeholders, policymakers, and tourism operators in the development of a sustainable tourism model that safeguards the natural and cultural heritage of the Lahaul Spiti region of Himachal Pradesh. It provides a new perspective on eco-friendly adventure activities and the socio-economic benefits of sustainable practices, and the study underscores the need to integrate environmental conservation with tourism development. It encourages a balanced approach that supports both the local community and the natural heritage of Lahaul-Spiti.

Keywords: Adventure Tourism, Sustainability, Sustainable Tourism, Environmental Degradation, Tourism Industry

1. Introduction

Numerous ancillary opportunities, including job openings, infrastructural development, and economic growth for marginalized areas, are presented by the tourist industry's expansion [1], [2]. Youth travelers interested in adventure and the environment are more interested in learning about the Lahaul Spiti area, a well-liked hangout for bikers and backpackers. These travelers' curiosity has grown due to social media posts and shared experiences, prompting them to look for things to do [3]. However, issues like environmental deterioration plague the environmentally delicate Lahaul Spiti Valley. An environmental impact assessment of the areas is suggested as a solution to these problems in order to guarantee a sustainable industry [4]. An experienced understanding of the high-altitude environment is becoming necessary as adventure sports gain prominence and adventure tourism grows in popularity. Adventure tourism encourages environmental protection and is seen as a low-impact usage of natural resources [5].

Adventure tourism has become a significant component of the economy of many countries worldwide, and the tourism sector is widening its activity in the state. Lahaul Spiti, located on the most difficult terrains of Himachal beside the Leh-Manali highway, attracts a large number of adventure tourists from India and abroad [6]. The cold desert region of Himachal Pradesh, India, is gaining popularity for adventure tourism, particularly winter sports like skiing, ice skating, and white-water river rafting. Lahaul Spiti, the highest district of India, has evolved from a tourist site to a traveler's hot spot due to its stunning beauty, high summer temperatures, snow-laden winds, and varying weather conditions [7]. The region has tremendous potential to develop sustainable adventure tourism due to its towering mountains, picturesque landscape, architectural villages, glacier banks, blooming green alpine meadows, and hills fringed with dense cedar and pine forests. To develop the area's potential for adventure tourism in the future, planners, developers, and entrepreneurs need to understand the traditional beliefs, norms, and unwritten customs of the area [8].

2. Review of literature

Brundtland Commission 1987 defined Sustainable development for the first time as the ability to meet present needs without compromising future needs. The inception of sustainable tourism demands a delicate and precise understanding of the concepts involved, cutting across all disciplines. Sustainable tourism is a multidimensional concept, embracing numerous sector-specific qualities and corresponding indicators, as well as qualitative issues. According to UNWTO, sustainable tourism is defined as "respecting the socio-cultural authenticity of host communities; ensuring sustainable, long-term economic operations that benefit all stakeholders' socio-economically; mandates the informed participation of everyone involved and

maintains a high level of tourist satisfaction. The United Nations organizations, including the UNWTO, primarily supported the three-pillar environmental, socio-cultural, and economic concept of sustainable tourism.

Sustainable adventure tourism maintains a balance in the environmental, social, and economic impacts of adventure activities to ensure long-term sustainability. Prioritising 'Planet, People, and Prosperity' through an awareness of ethics, encouraging good effects, and assisting host communities is the focus of sustainable adventure tourism [9]. [10] emphasize the need for adventure tourism to adopt sustainable practices in order to manage issues including the use of water, biodiversity loss, and carbon emissions. [11] studied adventure tourism and its effects on sustainability in three main areas: the economic, social, and environmental, particularly focused on sustainable practices during crises like COVID-19. According to [2], adventure tourism plays a significant role in promoting development; however, to attain sustainable outcomes, it is imperative to maintain a balance between expansion, environmental preservation, and community welfare. [12] analyses the relationship between Gen Z and sustainable tourism and highlights the necessity of reevaluating the ideas in light of present scenarios. Engaging in outdoor activities can strengthen pro-environmental beliefs and actions. Wellbeing, mental health, and sustainability can all be enhanced by outdoor adventure travel [13]. Sustainable development seeks to achieve economic growth while conserving natural resources [14].

Tourism development often overlooks the social, psychological, physical, and ecological impacts of fast travel in rapidly developing areas [15]. The relationship between ecological problems and tourism is complex, but the importance of the environment in combination with tourism is understandable [8]. Attempts to make tourism grow towards established life will fail. Trip activities offer tourists the opportunity to understand the natural and physical environment, and two-way communication can help achieve this understanding.

3. Methodology

This research paper assessed Sustainable Adventure Tourism as a descriptive review of the Himalayan State Himachal Pradesh's special references to Lahaul Spiti tourist destinations. The exploratory research approach is used to gain a comprehensive understanding of the factors influencing the sustainable growth of tourism in Himachal Pradesh as well as sustainable adventure tourism practices. All the information has been collected from secondary sources, including the Internet, government official websites, research papers, books, journals, and the university library.

4. Adventure Tourism in Himachal Pradesh

Himachal Pradesh, a northern Indian state, attracts tourists annually due to its diverse ranges, valleys, and attractions. It boasts 5 National Parks, 30 wildlife sanctuaries, 3 Ramsar Sites, Pong Dam, Renuka Lake, and 46 Ice Stupas [16]. Cultural tourism, adventure activities, and agriculture contribute to the state's economy. Adventure tourism is a popular travel hobby among young people worldwide, offering adrenaline-pumping experiences and deeply connected to landscapes [17]. The Himalayas, particularly the Indian Himalayas, are known for their natural grandeur and numerous adventure opportunities [3]. Himachal Pradesh, located in the western Himalayas, is a major gateway to the Indian market from East and Central Asian countries. The state offers favorable climates, dense forests, meandering rivers, snow-clad mountains, and other natural resources that support biodiversity. Tourism has become a significant part of the economy [18], with the state government focusing on environmentally sustainable adventure tourism products.

Himachal Pradesh has followed a sustainable Himalayan model of growth, focusing on its natural and cultural heritage, adventure sports, spiritual values, and environmental sustainability. [19] stated that the government has made efforts to boost the tourism sector and maintain its ecological balance. Himachal Pradesh has been a leader in adventure sports since its inception. The Himachal Tourism Development Corporation (HTTDC) conducts winter sports activities from time to time. The Indian mountaineers' performance in Himachal has been commendable. Since 2004, the Department of Tourism and Civil Aviation has established the National Zone of Mountaineering at McLeod Ganj [20]. Himachal Pradesh is the epitome of adventure tourism, offering activities like rock climbing, trekking, skiing, motor biking, cycling, mountain biking, ice skating, paragliding, and more. Some of the rivers in Himachal are considered the best in the world for riverine adventure [3].

5. Overview of Lahaul Spiti as a Potential Destination

Current Status of Adventure Tourism Activities related to adventure tourism are carried out above 10,000 feet, usually in the delicate Alpine habitat of Lahaul and Spiti [21], [22]. Its animals and plants are vulnerable to several factors, such as building, solid waste disposal, and overgrazing. More fresh air, soil preservation, rainwater collection, and other aspects of the delicate Himalayan ecology depend on reforestation [26]. The uncontrolled proliferation of adventure tourism activities will destroy the delicate environment. Skiing is a winter activity that depends on pollutants [23].

The fundamental conditions for skiing snowfall of five months, a cooling factor of no less than -8°C, and the availability and kind of slope should be taken advantage of in order to preserve the delicate Alpine environment in Lahaul and Spiti [22], [24].

5.1 Geographical Features:

They form an integral part of the western Himalayas and are situated in the rain shadow of the Pir Panjal Range, resulting in low precipitation [25]. The district's rugged terrain and topographic barriers discourage widespread water dispersion, leading to inconspicuous landscapes [22],[26]. The rising

summer temperatures increase the melting of snow and glaciers, causing migration of people, animals, and cattle to graze and cattle for pastures at altitudes of 4000 and 4500 meters. Lahaul and Spiti are connected by roads passing through high mountain passes, such as Kunzom Pass and Rohtang Pass, which separate the valleys from the Kullu Valley [27]. The Rohtang Pass highway, which connects Lahaul and Rohtang, has been a jeepable road since 1947. However, the motorboat bridge near Tandi village, scheduled for 1996, has not been installed. The Leh-Manali highway is closed for six months annually due to heavy snowfall and harsh weather in Rohtang [28]. The Koksar hydroelectricity project has raised public consciousness about the region's ecological fragility. Lahaul Spiti, surrounded by high peaks and ancient civilizations, has a rich natural heritage with glacial snows, rapid streams, and medicinal herbs [29]. The region's harsh climate and harsh climate have pushed wildlife to survive in this remote corner of the global ecosystem [21], [28].

5.2 Cultural Significance:

Traditional art and architectural structures are crucial for tourism research, as they relate to tourist thoughts and behavior [30]. The Cultural Appraisal of Monasteries highlights the importance of monasteries in maintaining cultural legacy and preserving them [31].

The Spiti Gompas, a treasure trove of cultural entities and events, is a testament to their cultural and ecological significance [32], [3]. Most studies on Spiti focus on monasteries, Tibetology, socio-economic development, tourism marketing, wildlife, environment, religion, architectural types, and sculpture, neglecting the complexities between built heritage and surrounding landscape [33], [22].

6. Factors Influencing Growth

Adventure tourism in Himachal Pradesh attracts many foreign tourists every year to its high-altitude locations [3]. Peace, security, international support, and environmental concerns are influential elements in the rise of adventure tourism [34]. The growth of adventure tourism is always influenced by various factors such as peace and security, international and governmental, and business support, as well as concepts of environmental concern. The nature and extent of supporting factors contribute to a civilization in which individual and institutional resources are committed to realizing economic advantage from such activity [35]. Himachal Pradesh, has an initial image that needs critical input, business community cooperation, and a continuing dedication to quality to survive uniform tourism growth [18].

6.1 Government Initiatives:

Himachal Pradesh saw the emergence of eco-friendly tourism in 1983 [36], while Lahaul and Spiti saw the opening of this valley to visitors in 1986 [41]. The Tourism Department created the arduous path from Rohtang to the valley in 1988–1989, and 400 visitors were registered with the Excise Department in 1997 [37]. Economic, ecological, and social harm might result from an unchecked increase in tourism, both in terms of volume and kind of visitors [8].

6.2 Infrastructure Development:

Sustainable adventure tourism relies on infrastructure [38]. The upgrades to the infrastructure best show the consequences of the increased tourism activity [39]. The infrastructure is a basic need to accommodate the needs of tourists, such as clean bathrooms, sanitary hotels, well-connected highways, and marketplaces with easily available commodities [40]. We may refer to the goal of destination marketing as the development of adventure tourism in Lahaul-Spiti, a tiny area in Himachal Pradesh. The local population's aspirations and susceptibility are the key factors involved. Given the lower literacy rate of the local people, the creation of ecotourism in Lahaul-Spiti is considered favorable when compared to the entire state of Himachal Pradesh. Local youth involvement might extend beyond serving visitors to include significant stakeholders.

6.3 Community Participation:

The provision of operational services by local communities that are either directly or indirectly involved in adventure tourism is the primary factor that determines the success of any site that caters to adventure tourism [42], [43].

7. Recommendations for Sustainable Adventure Growth

Sustainable tourism practices aim to improve capacity and quality while maximizing the benefits for the community without compromising the appeal of tourist sites [44]. Adventure tourism is a highly sustainable kind of tourism that actively contributes to the development of rural areas, the overall growth of local communities, the enhancement of infrastructure, the promotion of conservation awareness, and the generation of diverse employment prospects [3], [45]. Adventure tourism, which entails enticing tourists to a specific location through daring activities that involve risk, has immense potential to serve as a powerful means of generating local income due to the region's abundant natural and cultural resources, as well as its indigenous tribal population [46]. Additionally, adventure tourism makes a significant contribution to export earnings. Himachal Pradesh is a place of varied landforms, stunning natural beauty, a unique culture, and ancient Buddhism [47]. Numerous social, economic, environmental, political, and climatic issues that have a significant impact on human life are its defining characteristics [34], [48]. Sustainable tourism may have a lot of beneficial effects

with wise investment [3]. Intending to provide some comprehensive insights into the development of tourism in the Himalayan cold desert region. The study moves the conversation, definition, and analysis of sustainable adventure tourism closer to sustainable tourism in Himachal Pradesh.

7.1 Policy Recommendations:

Environmentalists are concerned about the negative impact of large tourist inflows on the tribal belt and the degradation of the valley's ecology [49], [50]. To mitigate this, the government should impose heavy taxes on tourists and restrict the number of trips to the valley [51]. It reduces the number of tourists while preserving the valley's beauty and generating income for local entrepreneurs. Furthermore, imposing additional permit taxes for every vehicle trip to the valley can help prevent humiliation caused by tourists' visits [52]. This approach will help protect the environment and local economies from the negative effects of tourism.

7.2 Stakeholder Engagement:

It is essential for the growth of sustainable adventure tourism. The community works for the conservation of nature, life, and cultural activities, which is essential for sustainable adventure activity [33], [38]. Some of the factors limiting community engagement are the low literacy level, the lower local community not being too comfortable speaking in front of people, the low level of technical skills that work for the local community for their occupational-related factors, and the community's own traditional life [48]. The local community occupies Himachal Pradesh. The local community in Lahaul and Spiti mostly engages in activities, and the house fees are ranked based on the community. The fees can be generated from the house wages and can be generated from the fee. Most of the fees are from tourists and foreign countries.

The inclinations and involvement capacities of stakeholders pose significant obstacles to the expansion of adventure tourism [53]. There is not much time for them because of the weather and seasonal restrictions. Certain stakeholders, such as the local government, tourism, and community, are always relevant [54]. The local community is divided into many "Community Development Society" sections, each of which represents a particular occupational hazard. These include agriculture, animal husbandry, family budgeting, foreground employment for a second employer, artisan activities, and tourism. Getting impoverished stakeholders involved in tourism is the hardest problem in developing nations. However, adventure tourism provides visitors with the advantage of supporting the local community. The possibilities for adventure activities are endless and stem from the local community that is involved. Environmental awareness is required by environmental legislation.

7.3 Capacity Building:

The capacity of local people to provide services significantly impacts visitor satisfaction and future tourism growth [53], [55]. However, there is a significant gap in public sector capacity, with local government staff lacking the necessary education, experience, training, and technical skills [56]. The Town & Country Planning Department plays a crucial role in planning tourism destinations. However, there is a neglected condition in urban and regional planning, rural area planning, and university course structure development [56], [57]. Capacity building in rural areas can lead to increased local participation in tourism sustainability through better policies, infrastructure development, and efficient marketing.

Without the community's support, sustainability is impossible to be achieved. Increasing the abilities of locals at all levels will pique their interest in tourist sustainability [34]. It is recommended that locals participate in both the policy-making process and the tourist development initiatives to prevent the detrimental effects of Adventure Tourism on the area. Offering frequent training on marketing techniques, the tourist industry, and sustainability is crucial. Their involvement in the company will generate additional earnings directly, and their smart marketing abilities will also indirectly result in higher income generation within the community.

8. Conclusion

Adventure travelers in Lahaul, Spiti, worry that the region's adventures will continue to favor the wealthy, therefore excluding a significant portion of the local population. A comprehensive and inclusive strategy is required, including investments, policy, and regulatory adjustments to guarantee that the primary adventure destinations benefit the local community. These adjustments not only make adventure activities more sustainable but also boost local support for conservation and preservation initiatives and deter local intolerance towards them. A sustainable approach to adventure development is made possible by letting communities gain directly from adventure tourism. It is recommended that tour operators provide education to neighboring communities and community-based tourism businesses, lead group hikes and ecotourism activities, establish local radio stations and engage the local population as key success factors in promoting development, prosperity, conservation, and protection. Researchers have found that governments that combine an inclusive approach to tourism, closely collaborate with partners to safeguard natural resources, and guarantee the political, economic, and social demands of the populace are those where adventure tourism has flourished.

The growth of the Lahaul Spiti area might be significantly impacted by sustainable adventure tourism. This study has aided in the creation of baseline data on adventure tourism and focused attention on the comprehensive analysis of the Lahaul Spiti area. Given its potential for adventure, Lahaul Spiti, a rural region of Himachal Pradesh, has the potential to become a leader in sustainable tourism. This year's most popular adventure locations will be Lahaul and Spiti.

It provides access to a previously inaccessible location, potentially leading to sustainable tourism and contributing to the region's long-term prosperity, but would also provide additional job possibilities and eliminate unemployment in the area.

Reference

- [1] L. Marcuta, A. Marcuta, A. Popescu, C. Tindeche, V. Tudor, and D. Smedescu, "STUDY ON THE DEVELOPMENT OF ADVENTURE TOURISM IN ROMANIA," vol. 20, no. 4, 2020.
- [2] L. Dwyer, "Tourism development and sustainable well-being: a *Beyond GDP* perspective," *Journal of Sustainable Tourism*, vol. 31, no. 10, pp. 2399–2416, Oct. 2023, doi: 10.1080/09669582.2020.1825457.
- [3] A. Kumar, "A Study of Adventure Tourism in India," *International Research Journal of Management Sociology & Humanity*, vol. 11, no. 1, pp. 196–205, 2020.
- [4] K. J. Shah *et al.*, "Green transportation for sustainability: Review of current barriers, strategies, and innovative technologies," *Journal of Cleaner Production*, vol. 326, p. 129392, Dec. 2021, doi: 10.1016/j.jclepro.2021.129392.
- [5] I. Janowski, S. Gardiner, and A. Kwek, "Dimensions of adventure tourism," *Tourism Management Perspectives*, vol. 37, p. 100776, Jan. 2021, doi: 10.1016/j.tmp.2020.100776.
- [6] R. Jangra, S. P. Kaushik, and S. S. Saini, "An analysis of tourist's perceptions toward tourism development: Study of cold desert destination, India," *Geography and Sustainability*, vol. 2, no. 1, pp. 48–58, Mar. 2021, doi: 10.1016/j.geosus.2021.02.004.
- [7] V. Kamal and D. S. Khan, "SPORTS TOURISM : A ROAD FOR FUTURE TOURISM DEVELOPMENT IN HIMACHAL PRADESH," vol. 10, no. 40, 2020.
- [8] A. Nag, V. Kumar, V. Choudhary, A. Kumar and R. Sharma, "Nurturing Nature and Local Well-Being in the Hills of Himachal Pradesh: Transformation Through Eco and Sustainable Tourism Practices," *Managing Tourism and Hospitality Sectors for Sustainable Global Transformation*, pp. 157-168, 2024.
- [9] S. Carnicelli-Filho, "THE EMOTIONAL LIFE OF ADVENTURE GUIDES," *Annals of Tourism Research*, vol. 43, pp. 192–209, Oct. 2013, doi: 10.1016/j.annals.2013.05.003.
- [10] D. T. Nguyen, K.-C. Kuo, W.-M. Lu, and D. T. Nhan, "How Sustainable Are Tourist Destinations Worldwide? An Environmental, Economic, and Social Analysis," *Journal of Hospitality & Tourism Research*, vol. 48, no. 4, pp. 698–711, May 2024, doi: 10.1177/10963480231168286.
- [11] T. Grizane, "SUSTAINABILITY OF TOURISM AND THE ENVIRONMENT," *ETR*, vol. 1, pp. 70–73, Jun. 2023, doi: 10.17770/etr2023vol1.7302.
- [12] C. Çalışkan, "Sustainable tourism: Gen Z?," *Journal of Multidisciplinary Academic Tourism*, vol. 6, no. 2, pp. 107–115, Dec. 2021, doi: 10.31822/jomat.2021-6-2-107.
- [13] P. Hanna, S. Wijesinghe, I. Paliatsos, C. Walker, M. Adams, and A. Kimbu, "Active engagement with nature: outdoor adventure tourism, sustainability and wellbeing," *Journal of Sustainable Tourism*, vol. 27, no. 9, pp. 1355–1373, Sep. 2019, doi: 10.1080/09669582.2019.1621883.
- [14] A. S. S. Zimik and A. Barman, "Sustainable Tourism through Novel Approach," vol. 11, no. 5, 2024.
- [15] H. Ramkissoon, "Perceived social impacts of tourism and quality-of-life: a new conceptual model," *Journal of Sustainable Tourism*, vol. 31, no. 2, pp. 442–459, Feb. 2023, doi: 10.1080/09669582.2020.1858091.
- [16] Krishnanand and V. A. V. Raman, "GEOGRAPHICAL ANALYSIS OF GEOTOURISM BASED SEASONAL ECONOMY IN LAHAUL AND SPITI, HIMACHAL PRADESH (INDIA)," *GTG*, vol. 24, no. 1, pp. 118–132, Jan. 2019, doi: 10.30892/gtg.24110-347.
- [17] U. P. Kamble, "Overview on adventure sports tourism in India," *Int. J. Physiol. Nutr. Phys. Educ.*, vol. 4, no. 2, pp. 155–158, 2019.
- [18] A. Kumar, A. Yadav, and S. Raj, "Impact of Tourism on the Economy: A Case Study of Indian Tourism Industry," vol. 9, no. 4, pp. 3241–3253, 2020.
- [19] "NITI_Aayog_WGII.pdf."
- [20] J. S. Parmar, "Tourism Development in Himachal Pradesh: Emerging Dimensions.," *International Journal of Hospitality and Tourism Systems*, 2012, Accessed: May 20, 2024. [Online]. Available: <https://www.semanticscholar.org/paper/Tourism-Development-in-Himachal-Pradesh%3A-Emerging-Parmar/d928f5872aab00fc7097d3d19b3395d649e8ae6d>
- [21] P. Kumar, S. Mishra, S. Thakur, D. Kumar, and V. A. V. Raman, "Vulnerability of Tribal Communities to Climate Variability in Lahaul and Spiti, Himachal Pradesh, India," *Journal of Geography*, 2024.

- [22] N. Singh, S. N. Yadav, and S. Lyngdoh, "Identifying conservation values: a case study in trans-Himalayan region of Thanpattan, Lahaul-Spiti, Himachal Pradesh," *Parks*, no. 29.2, pp. 31–40, Nov. 2023, doi: 10.2305/IHYA2043.
- [23] A. Atalay, "Can Voluntary Insurance Be A New Product In Bank-Led E-Banking: Statistical Analysis Of Customers' Preferences In Bangladesh-Economy?," *JCGIRM*, vol. 9, no. 1, pp. 229–242, Aug. 2022, doi: 10.51410/jcgirm.9.1.15.
- [24] Md. A. Husain, P. Kumar, and B. Gonencgil, "Assessment of Spatio-Temporal Land Use/Cover Change and Its Effect on Land Surface Temperature in Lahaul and Spiti, India," *Land*, vol. 12, no. 7, p. 1294, Jun. 2023, doi: 10.3390/land12071294.
- [25] B. R. Pant and R. Chand, "A Geographical Study of the Himalayan Towns of India," vol. 7, no. 2, pp. 1–18, 2021.
- [26] S. Rathore and S. Shashni, "Indigenous Knowledge System and Livelihood Option of Natives of Lahaul and Spiti District, Himachal Pradesh," in *Climate Change Adaptation, Risk Management and Sustainable Practices in the Himalaya*, S. Sharma, J. C. Kuniyal, P. Chand, and P. Singh, Eds., Cham: Springer International Publishing, 2023, pp. 213–235. doi: 10.1007/978-3-031-24659-3_10.
- [27] A. Kumar, A. Sharma, R. Sharma, P. Srivastva, and A. Choudhary, "Exploration of wheat wild relative diversity from Lahaul valley: a cold arid desert of Indian Himalayas," *CEREAL RESEARCH COMMUNICATIONS*, vol. 50, no. 2, pp. 305–320, Jun. 2022, doi: 10.1007/s42976-021-00166-w.
- [28] V. K. Pandey and A. Mishra, "Investigating the Impact of Climate Change on Precipitation Pattern in Kinnaur District, Himachal Pradesh, India," *Emerging Challenges in Environment and Earth Science Vol. 1*, pp. 119–126, Nov. 2021, doi: 10.9734/bpi/ecees/v1/1618A.
- [29] R. Minocha, "Gender, Environment and Social Transformation: A Study of Selected Villages in Himachal Pradesh," *Indian Journal of Gender Studies*, vol. 22, no. 3, pp. 335–357, Oct. 2015, doi: 10.1177/0971521515594274.
- [30] A. Kumar and S. Kapoor, "IMPACT OF SOCIAL MEDIA ON PRE-TRAVEL PLANNING AND DECISION MAKING OF TOURISTS," vol. 10, no. 40, pp. 40–44, 2020.
- [31] H. E. Silva and F. M. A. Henriques, "The impact of tourism on the conservation and IAQ of cultural heritage: The case of the Monastery of Jerónimos (Portugal)," *Building and Environment*, vol. 190, p. 107536, Mar. 2021, doi: 10.1016/j.buildenv.2020.107536.
- [32] B. Dhammajoti, "An Introduction to The Buddhist Cultural Values and Social Life of Himachali People in India," *Jnl. Soc. Sci. Hum. Rev.*, vol. 7, no. 1, pp. 1–11, Aug. 2022, doi: 10.4038/jsshr.v7i1.103.
- [33] K. Singh, "Air Based Adventure Tourism in Himachal Pradesh," vol. 9, no. 10, 2022.
- [34] A. M. Khalid, "Developmental Success and the Sustainability Challenge in a Mountain Region: Case of Himachal Pradesh in India," *IJRD*, vol. 9, no. 1, p. 47, May 2022, doi: 10.5296/ijrd.v9i1.19518.
- [35] S. Takuli, Y. S. Rawal, and S. S. Takuli, "A Review on Effect of Sustainable Tourism on Host Community," in *Research in Tourism and Hospitality Management*, Y. S. Rawal and H. Soni, Eds., AIJR Publisher, 2022, pp. 45–53. doi: 10.21467/books.134.6.
- [36] H. Goodwin, "In pursuit of ecotourism," *Biodivers Conserv*, vol. 5, no. 3, pp. 277–291, Mar. 1996, doi: 10.1007/BF00051774.
- [37] K. Singh, "Tourism in Manali: a Quest for Sustainability Evaluating 2005 Tourism Policy of Himachal Pradesh," Master thesis, The Hague, The Netherlands, 2015.
- [38] V. Verma, R. Ahlawat, M. Ghai, and S. Bansal, "Rural tourism in Himachal Pradesh in transition: Challenges for regional sustainability," *Multidiscip. Rev.*, vol. 7, no. 1, p. 2024010, Nov. 2023, doi: 10.31893/multirev.2024010.
- [39] K. Gul and S. Morande, "Factors Influencing Sustainability of Non-Governmental Organizations in the developing world," *SBR*, vol. 3, no. 1, pp. 1–21, Mar. 2023, doi: 10.33215/sbr.v3i1.885.
- [40] F. Kalantari, O. M. Tahir, R. A. Joni, and E. Fatemi, "Opportunities and Challenges in Sustainability of Vertical Farming: A Review," *Journal of Landscape Ecology*, vol. 11, no. 1, pp. 35–60, Jan. 2018, doi: 10.1515/jlecol-2017-0016.
- [41] S.M. Gill, *Himalayan Wonderland: Travels in Lahul Spiti*, Pengu Books India, 2010.
- [42] R. H. Narvekar and M. S. Dayanand, "Perceived value in adventure tourism - a study of trekkers in Himachal Pradesh with respect to satisfaction and future intentions!," *Journal of Tourism & Development*, vol. 34, no. 34, pp. 21–38, 2020.
- [43] N. Vyas, B. Kumari, and P. Sharma, "Adventure Tourism in Bilaspur: A Framework for Assessment and Strategic Development," *International Journal of Innovative Science and Research Technology (IJISRT)*, pp. 168–181, Mar. 2024, doi: 10.38124/ijisrt/IJISRT24MAR225.
- [44] G. Moscardo and L. Murphy, "There Is No Such Thing as Sustainable Tourism: Re-Conceptualizing Tourism as a Tool for Sustainability," *Sustainability*, vol. 6, no. 5, pp. 2538–2561, Apr. 2014, doi: 10.3390/su6052538.
- [45] G. Pomfret, M. Sand, and C. May, "Conceptualising the power of outdoor adventure activities for subjective well-being: A systematic literature review," *Journal of Outdoor Recreation and Tourism*, vol. 42, p. 100641, Jun. 2023, doi: 10.1016/j.jort.2023.100641.

-
- [46] I. B. Bacos and M. R. Gabor, "Consumers' Preferences of Winter Tourist Packages in Romania: A Quantitative Case Study," *EAI*, vol. 26, no. 3, pp. 157–164, Dec. 2020, doi: 10.35219/eai15840409150.
- [47] A. Kumar and I. Singh, "A Review Paper on Buddhist Tourism in India: A Study on Role of Government, Technology and Types of Circuit," *SSRN Journal*, 2019, doi: 10.2139/ssrn.3386541.
- [48] P. Gupta, A. Chanjta, and Y. Mehta, "Reflections on Ecological Sustainability: Assessing Development through Sustainable initiatives of Government and Non-Government Organizations in Himachal Pradesh, India.," *International Journal of Environmental Sciences*, vol. 12, no. 4, pp. 53–65, 2023.
- [49] M. K. Anser *et al.*, "The mediating role of ICTs in the relationship between international tourism and environmental degradation: fit as a fiddle," *Environ Sci Pollut Res*, vol. 28, no. 45, pp. 63769–63783, Dec. 2021, doi: 10.1007/s11356-020-10954-2.
- [50] A. Khan, S. Bibi, L. Ardito, J. Lyu, H. Hayat, and A. Arif, "Revisiting the Dynamics of Tourism, Economic Growth, and Environmental Pollutants in the Emerging Economies—Sustainable Tourism Policy Implications," *Sustainability*, vol. 12, no. 6, p. 2533, Mar. 2020, doi: 10.3390/su12062533.
- [51] R. Nepal and S. K. Nepal, "Managing overtourism through economic taxation: policy lessons from five countries," *Tourism Geographies*, vol. 23, no. 5–6, pp. 1094–1115, Nov. 2021, doi: 10.1080/14616688.2019.1669070.
- [52] F. F. Adedoyin, N. Seetaram, M. Disegna, and G. Filis, "The Effect of Tourism Taxation on International Arrivals to a Small Tourism-Dependent Economy," *Journal of Travel Research*, vol. 62, no. 1, pp. 135–153, Jan. 2023, doi: 10.1177/00472875211053658.
- [53] O. Lyulyov, O. Chygryn, T. Pimonenko, and A. Kwilinski, "Stakeholders' Engagement in the Company's Management as a Driver of Green Competitiveness within Sustainable Development," *Sustainability*, vol. 15, no. 9, p. 7249, Apr. 2023, doi: 10.3390/su15097249.
- [54] I. Spadaro, F. Pirlone, F. Bruno, G. Saba, B. Poggio, and S. Bruzzone, "Stakeholder Participation in Planning of a Sustainable and Competitive Tourism Destination: The Genoa Integrated Action Plan," *Sustainability*, vol. 15, no. 6, p. 5005, Mar. 2023, doi: 10.3390/su15065005.
- [55] N. H. Tien, P. Q. Viet, N. M. Duc, and V. T. Tam, "Sustainability of tourism development in Vietnam's coastal provinces," *WREMSD*, vol. 17, no. 5, p. 579, 2021, doi: 10.1504/WREMSD.2021.117443.
- [56] F. M. Y. Roxas, J. P. R. Rivera, and E. L. M. Gutierrez, "Mapping stakeholders' roles in governing sustainable tourism destinations," *Journal of Hospitality and Tourism Management*, vol. 45, pp. 387–398, Dec. 2020, doi: 10.1016/j.jhtm.2020.09.005.
- [57] K. Pasanchay and C. Schott, "Community-based tourism homestays' capacity to advance the Sustainable Development Goals: A holistic sustainable livelihood perspective," *Tourism Management Perspectives*, vol. 37, p. 100784, Jan. 2021, doi: 10.1016/j.tmp.2020.100784.