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Towards Sustainable Tourism in Nepal: An Analysis of Key Opportunities and Challenges

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Abstract

Article History

Sustainable tourism is vital for preserving natural resources, enhancing cultural heritage, and promoting economic growth, especially in ecologically rich and culturally diverse countries like Nepal. Nestled in the Himalayas, Nepal is renowned for its stunning landscapes, rich biodiversity, and vibrant culture. However, rapid expansion of tourism has raised concerns about unequal economic benefits, environmental degradation, and cultural erosion. This paper analyses recent literature (since 2010) on sustainable tourism in Nepal using keywords such as "sustainable tourism," "ecotourism," "community-based tourism," and "responsible tourism" across Google Scholar and Scopus. Key themes include tourism development challenges and opportunities, stakeholder engagement, and policy frameworks. Successful initiatives such as Community Forestry and the "Leave No Trace" campaign demonstrate how tourism can support conservation, cultural preservation and local well-being. Despite persistent challenges, Nepal's focus on community participation and strategic planning shows promise. Nepal can enhance its sustainable tourism framework by fostering collaboration among government, communities, NGOs, and tourists, incorporating global best practices like Costa Rica's ecotourism model and Bhutan's high value tourism strategy.

Key words: challenges, Nepal, opportunities, sustainable tourism

INTRODUCTION

Sustainable tourism has emerged as a critical concept in the global travel and hospitality industry, reflecting the increasing awareness of the environmental, social, and economic impacts of tourism (Buckley, 2012; Roblek et al., 2021). As international travel continues to grow, the need for practices that minimise negative effects on ecosystems and local communities has become paramount (Baloch et al., 2023; Weaver & Lawton, 2015). Sustainable tourism seeks to balance the demands of tourists with the preservation of natural resources and cultural heritage, ensuring that future generations can enjoy the same experiences (Buckley, 2012; Chenavaz et al., 2022). This approach is not only vital for protecting destinations but also aligning with broader global initiatives such as the United Nations Sustainable Development Goals (SDGs), particularly Goal 12, which emphasises responsible consumption and production (Dolnicar, 2023).

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The principles of sustainable tourism encompass various strategies, including ecofriendly accommodations, community-based tourism initiatives, and conservation efforts that engage both tourists and residents (Wearing & Neil, 2013). For instance, eco-lodges often utilise renewable energy sources and promote local wildlife conservation efforts while providing educational experiences for visitors (Buckley, 2012). Moreover, community-based tourism empowers local populations by allowing them to share their culture and traditions, creating a more authentic experience for travellers while generating income for the community (Chen & Huang, 2021). Statistics indicate that sustainable tourism can lead to increased visitor satisfaction and loyalty, as travellers increasingly seek meaningful and responsible travel options (Chen & Huang, 2021; Wearing & Neil, 2013). Hence, sustainable tourism represents a holistic approach to travel that prioritises environmental stewardship, cultural integrity, and economic viability. As awareness grows among consumers about the impact of their travel choices. destinations are increasingly adopting sustainable practices to meet this demand (Fennell & Cooper, 2020; Wearing & Neil, 2013). By fostering collaboration among governments, businesses, and communities, sustainable tourism not only enhances visitors' experience but also contributes to the long-term resilience of destinations worldwide (Bramwell & Lane, 2011). The ongoing evolution of this field underscores its importance in addressing pressing global challenges such as climate change and biodiversity loss while promoting inclusive growth in tourism-dependent regions (Hall et al., 2015).

Sustainable tourism has emerged as a vital approach aimed at harmonising economic benefits with environmental stewardship and cultural preservation (K. C., 2017; Sharma, 2023). This strategy is particularly crucial in Nepal, a nation endowed with stunning natural landscapes, rich biodiversity, and a vibrant cultural heritage. Sustainable tourism in Nepal focuses on minimising adverse impacts while maximising benefits for local communities (Kadayat & Upadhyay, 2024: Nepal, 2022). In this context, Nepal serves as an important case study, showcasing various sustainable tourism initiatives that promote environmental conservation, enhance community welfare, and safeguard cultural heritage (Prasad, 2024; Sekhar, 2024; Sharma, 2023).

The integration of sustainable practices in tourism sector such as by prioritising environmentally friendly initiatives and responsible tourism, Nepal can ensure that its rich cultural heritage and stunning natural landscapes are preserved for future generations while continuing to thrive economically (Lawhon et al., 2013; Wall, 2020). Notable practices include Community-Based Tourism (CBT), which empowers local communities by allowing them to engage in tourism operations, as seen in Ghandruk Village (Sapkota, 2020). Here, homestays not only generate income but also facilitate cultural exchanges through local customs and activities. Additionally, eco-lodges like The Everest View Hotel exemplify environmentally conscious accommodations that utilise renewable energy and support local

economies by sourcing food locally and employing residents. Further examples of sustainable practices in Nepal encompass responsible trekking guidelines developed by the Nepal Trekking Association, wildlife conservation efforts in Chitwan National Park, and cultural preservation initiatives led by organisations such as the Nepal Heritage Recovery Campaign (Acharya, 2023; Dangi & Jamal, 2016; Kadayat & Upadhyay, 2024;).

Eco-trekking companies like Earthbound Expeditions advocate responsible trekking by implementing waste management practices and sourcing food locally, further enhancing environmental conservation efforts (Neupane et al., 2025; Whelan, 2022). Likewise, organisations such as The Mountain Institute strive to preserve traditional crafts through sustainable tourism initiatives that empower artisans and foster intergenerational skill transfer. The Annapurna Conservation Area Project (ACAP) showcases effective integration of conservation with community development by employing locals as guides and promoting eco-friendly tourist practices (Nepal et al., 2022; Whelan, 2022). However, challenges remain, such as managing tourist influx during peak seasons and ensuring equitable benefit distribution among marginalised communities (Badal & Kharel, 2019). Continued education on sustainability is essential for both tourists and service providers to maintain effective practices (Meschini et al., 2021).

Tourism is a cornerstone of Nepal's economy, significantly influencing its GDP and employment landscape. According to the World Travel and Tourism Council research report, Nepal's tourism sector generated NPR 327.9 billion (\$2.5 billion) in revenue and supported 1.19 million jobs in 2023 (Prasai, 2024). The jobs generated by the tourism sector are 15.2 percent of the total. However, this growth has not come without challenges; the rapid expansion of tourism has led to environmental degradation, cultural erosion, and social inequalities (Bhattarai & Conway, 2021). While tourism remains a vital economic driver for Nepal, the necessity for sustainable practices has never been more pressing. By fostering responsible travel behaviours and engaging local communities in the tourism process, Nepal can safeguard its extraordinary natural beauty and cultural richness for future generations (Kadayat & Upadhyay, 2024). As the sector continues to evolve, embracing sustainable tourism will not only mitigate the negative impacts of mass tourism but also enhance the overall experience for visitors and residents alike (Weaver, 2014).

This paper aims to investigate the multifaceted opportunities and challenges in the context of sustainable tourism development in Nepal. This includes a robust analysis of the scope of and constraints and strategies for sustainable tourism development in touristic destinations of the country to support the long-term viability of biodiversity conservation, cultural preservation and community wellbeing. It also offers practical applications for sustainable tourism supported by the latest literature.

RESEARCH METHODS

This study utilises thematic analysis to investigate sustainable tourism development in Nepal, providing a comprehensive framework for assessing its scope, opportunities and challenges for sustainability (Ren, 2023; Willis et al., 2016). By focusing on the recent and relevant literature the research aims to elucidate the intricate relationships between economic growth, environmental sustainability, and sociocultural integrity (Bramwell & Lane, 2011). The methodology involves a systematic review of scholarly research articles, reports, and case studies published since 2010, employing keywords such as "sustainable tourism," "ecotourism" "community-based tourism," "responsible tourism," and "indicators of sustainable tourism" sourced from Google Scholar and Scopus. Thematic analysis synthesises key themes, including opportunities and challenges, stakeholder engagement, and policy frameworks, identifying patterns and insights associated to the issue of sustainable tourism development in the context of Nepal. Rigor is ensured through independent reviews by multiple researchers, with regular discussions to validate findings against stringent inclusion and exclusion criteria. Ethical considerations are carefully maintained, including proper citation and data confidentiality (Pietilä et al., 2019). Overall, this approach delivers a robust analysis of sustainable tourism in Nepal, enhancing understanding and offering practical applications supported by the latest literature.

DATA AND DISCUSSIONS

Opportunities and Challenges for Sustainable Tourism in Nepal

This section delves into the multifaceted opportunities and challenges presented by sustainable tourism in Nepal: a nation celebrated for its stunning landscapes and vibrant cultural heritage. The potential benefits within this sector are significant, encompassing economic growth driven by eco-friendly initiatives, the creation of jobs for local communities, diversification of tourist products, and the preservation of both natural resources and cultural heritages (Kadayat & Upadhyay, 2024). However, the path to sustainable tourism is fraught with challenges. Issues such as environmental degradation, unregulated tourism practices, inadequate infrastructure, the impacts of climate change, and the commodification of local cultures pose substantial threats to the sustainability of tourism efforts (Baloch et al., 2023; Maharjan et al., 2023). Striking a balance between these opportunities and challenges is essential to ensure that tourism not only enhances Nepal's economy but also protects its unique ecological and cultural treasures for future generations (K. C., 2017). However, while sustainable tourism in Nepal holds great promise for development and conservation, it requires careful management and strategic planning to navigate the inherent challenges effectively.

Opportunities

The potential benefits of sustainable tourism in Nepal are that it offers an opportunity to preserve the country's rich natural resources. The implementation of eco-

friendly practices can help mitigate the negative impacts of tourism on fragile ecosystems (Molua et al., 2023). For instance, initiatives such as responsible trekking practices in areas like the Annapurna Conservation Area (ACA) have shown promise in reducing waste and protecting local wildlife (Biswakarma et al., 2023). Moreover, sustainable tourism can enhance cultural heritage preservation. The rise of community-based tourism initiatives has empowered local populations, allowing them to share their culture and traditions with visitors while benefiting economically from their engagement. For example, the Ghandruk village in the Annapurna region has successfully developed homestay programs that not only provide income for local families but also enrich visitors' experiences through authentic cultural exchanges (Tiwari et al. 2025). In Nepal, which is home to iconic sites like the Himalayas, UNESCO World Heritage sites, and rich biodiversity, adopting sustainable practices is vital for preserving its natural and cultural resources. Transitioning towards sustainable tourism not only preserves Nepal's invaluable resources but also enhances the livelihoods of its people, ensuring that future generations can continue to experience the country's unique heritage (Wall, 2020). The following section of this paper delineates the primary opportunities for advancing sustainable tourism in Nepal.

Economic Growth and Job Creation

Sustainable tourism can stimulate local economies by creating jobs and generating income for communities. In 2019, Nepal experienced a significant influx of tourism, with 940,200 visitors contributing to the economy through international tourism receipts amounting to USD 629.7 million. This sector represented 2.9 percent of the total employment in the country (World Travel & Tourism Council, 2019). In Nepal, sustainable tourism initiatives can significantly stimulate local economies by creating employment opportunities and generating income streams for communities that rely heavily on agriculture and traditional livelihoods (Thapa et al., 2018). According to the Nepal Tourism Board, the trekking industry alone contributes approximately 20% to the national GDP. This statistic underscores the sector's critical role as an economic driver. This influx of visitors in iconic trails such as the Annapurna Circuit and Everest Base Camp necessitates a range of services, from guides and porters to accommodations and restaurants, directly creating jobs for residents. Moreover, sustainable tourism encourages the development of local businesses by promoting eco-friendly lodges, organic farms, and artisan crafts. rather than prioritising the imported goods and services of international chains. For example, community-based tourism projects in regions like Ghandruk or, Bandipur empower locals by involving them in decision-making processes related to tourism development while also enhancing their economic resilience (Thapa et al., 2018).

Studies indicate that when tourists engage with local culture through homestays or guided tours led by community members, it fosters a deeper understanding and appreciation of the region while ensuring that a larger share of tourism revenue remains within the community (Nepal, 2022). Beyond direct economic benefits,

sustainable tourism in Nepal plays a crucial role in environmental conservation and cultural preservation (Sapkota, 2020). Initiatives that promote responsible travel practices help mitigate negative impacts such as pollution and resource depletion. For instance, many trekking companies are adopting Leave No Trace principles to educate tourists about minimising their environmental footprint (Lawhon et al., 2013). Additionally, programs aimed at preserving cultural heritage-such as festivals celebrating local traditions or workshops showcasing traditional craftsenhance the tourist experience while ensuring that local customs are maintained and respected (Wall, 2020). Furthermore, sustainable tourism can foster resilience against economic shocks by diversifying income sources for communities that may be vulnerable to fluctuations in agricultural markets or natural disasters (Bhattarai, 2022). The COVID-19 pandemic highlighted this vulnerability; however, areas that had embraced sustainable tourism were often better positioned to recover due to their diversified economic base (Aryal et al., 2022).

It demonstrates that sustainable tourism is an income and employment generating opportunity through community-driven tourism initiatives. It helps to diversify the rural income by reducing overreliance on agriculture, develop entrepreneurship by promoting local eco-businesses and artisan industries, and empowering community through inclusive tourism planning and decision-making that strengthens local capacity. Likewise, cultural and environmental gains help preserve traditions and natural assets that attract tourism, and the diversification of income from tourism initiatives enhances economic resilience strengthening recovering capacity.

Cultural Preservation

Sustainable tourism plays a crucial role in preserving local cultures and traditions, particularly in a diverse country like Nepal (Kadayat & Upadhyay, 2024). By facilitating authentic cultural experiences—such as homestays, traditional crafts, and local festivals, this approach not only promotes cultural heritage but also provides significant economic advantages to local communities (Thapa & Ghimire, 2018). Initiatives like the "Community-Based Tourism" program empower residents to actively share their cultural narratives with visitors, ensuring that financial benefits remain within the community (Sthapit & Björner, 2019). Key mechanisms driving this preservation include community engagement and empowerment, where local populations are involved in tourism planning and decision-making (Nepal, 2022). This involvement ensures that their interests are prioritised and fosters direct benefits from tourism activities. For instance, community-based tourism initiatives often equip locals with training in hospitality and guiding, thus enabling them to effectively communicate their cultural heritage to tourists (Semwal et al., 2024).

Moreover, sustainable tourism emphasises cultural education for tourists, promoting respect and appreciation for local customs and traditions. Programs such as homestays or cultural workshops allow visitors to engage meaningfully with Nepal's rich heritage, leading to a deeper understanding of its significance

(Regmi et al., 2023). Additionally, by supporting local artisans and traditional craftspeople, sustainable tourism not only provides economic support to the local communities but also help maintain cultural practices. (Suriyankietkaew et al., 2025). Furthermore, efforts to conserve historical sites vital to Nepal's identity, such as UNESCO World Heritage Sites like Bhaktapur Durbar Square, exemplify responsible tourism practices that generate funds for preservation while limiting visitor impact (Chaulagain, 2021). Lastly, showcasing local festivals through tourism enhances cultural pride among residents; events like Dashain or Tihar attract tourists while encouraging locals to uphold their traditions. This dual benefit integrates cultural practices into the tourism framework, ensuring their sustainability for future generations.

It indicates that the preservation of cultural resources through sustainable tourism is not only about protecting the past, but also about creating meaningful opportunities for local communities to work towards their resilient futures. Hence, sustainable tourism provides a framework for Nepal to protect its heritage while building inclusive development by integrating cultural identity with economic opportunity.

Environmental Conservation

Sustainable tourism in Nepal plays a crucial role in promoting environmental conservation by leveraging the country's rich biodiversity and UNESCO World Heritage Sites (Kadayat & Upadhyay, 2024; Thapa & Nepal, 2018). This approach not only protects natural resources but also enhances tourist awareness regarding conservation issues. A prime example is the Annapurna Conservation Area Project, which implements sustainable trekking practices to minimise ecological impact (Acharya, 2023; Pasa & Shrestha, 2024). Through carefully designed tourism initiatives, Nepal seeks to reduce visitors' ecological footprints while simultaneously improving the well-being of local communities (Baral & Rijal, 2022). Key strategies include conservation funding, wherein a portion of sustainable tourism revenues is reinvested into essential projects like habitat restoration and community development (Chan & Bhatta, 2013). The Annapurna Conservation Area Project exemplifies this by utilising funds from trekking permits to support environmental initiatives, thereby linking tourism revenue with environmental stewardship (Pasa & Shrestha, 2024).

Additionally, sustainable tourism encourages community engagement by involving local populations in resource management through initiatives such as homestays and guided treks led by residents (Regmi et al., 2023). These efforts not only yield economic benefits but also foster a sense of environmental responsibility among locals (Prasad, 2024). Moreover, many tour operators are adopting ecotourism principles to lessen environmental impacts by using biodegradable materials and advocating for responsible waste management (Khanal, 2015). Wildlife protection is also a critical component of sustainable tourism; national parks like Chitwan and Sagarmatha have implemented eco-friendly strategies to safeguard

endangered species (Acharya, 2023). This form of tourism further emphasises cultural preservation by maintaining traditional practices that align with ecological sustainability (Kadayat & Upadhyay, 2024). The Government of Nepal supports these initiatives through various policies, including the Tourism Policy 2067, which promotes responsible travel and environmental stewardship within the sector (Dangi et al., 2021).

This demonstrates that sustainable tourism is a multidimensional opportunity for both mitigating environmental impacts as well as enhancing ecological stewardship, economic development, and cultural preservation in Nepal.

Diversification of Tourist Offerings

Sustainable tourism represents a pivotal shift in the approach to tourist activities in Nepal, moving beyond the traditional focus on trekking and mountaineering (Khanal, 2025). This diversification encompasses a range of opportunities, including wildlife safaris, bird watching, cultural tours, and adventure sports, all designed to attract a broader audience while simultaneously promoting conservation efforts (Nepal, 2022; Shrestha et al., 2025). Notably, wildlife safaris in national parks such as Chitwan and Bardia allow visitors to observe endangered species like the Bengal tiger and the one-horned rhinoceros in their natural habitats (Aryal, 2023). The Department of National Parks and Wildlife Conservation (DNPWC) reports an increase in visitor numbers to these parks, underscoring the success of unique wildlife experiences in raising conservation awareness. Additionally, bird watching has gained traction with over 850 recorded species in Nepal, particularly in regions like Koshi Tappu Wildlife Reserve, which not only generates revenue but also enhances appreciation for biodiversity (Shrestha et al., 2025). Cultural tours in historic locales such as Bhaktapur and Lumbini provide immersive experiences into local traditions and festivals, further enriching the tourism landscape while contributing to economic development and cultural preservation (Acharya, 2023). Adventure sports like paragliding in Pokhara and white-water rafting on the Bhote Koshi River are also emerging as popular attractions, helping to distribute tourist traffic more evenly and reduce pressure on sensitive ecosystems (Chapagain & Joshi, 2022).

The alignment of diversified tourism activities with conservation goals is crucial for fostering sustainable practices. By creating alternative livelihoods through sustainable tourism, local communities are incentivised to protect their natural resources. Community-based ecotourism initiatives empower locals to manage their resources sustainably while benefiting economically from tourism revenues (Chan & Bhatta, 2013; Miller et al., 2023). Furthermore, engaging tourists through wildlife safaris or cultural tours raises awareness about critical conservation issues, with educational programs emphasising the importance of preserving both ecosystems and cultural heritage. Collaborative conservation efforts exemplified by projects like the Annapurna Conservation Area Project (ACAP) illustrate how partnerships

among government bodies, NGOs, and local communities can effectively integrate community development with environmental stewardship (Nepal et al., 2022; Pasa & Shrestha, 2024).

This indicates sustainable tourism as a dynamic opportunity for Nepal through which it can diversify tourism offerings, engage local communities, and promote educational and collaborative approaches that contribute to meeting the objectives of ecological preservation, cultural safeguarding, and socio-economic development of communities within the country.

Challenges

Despite these opportunities, several challenges hinder the full realisation of sustainable tourism in Nepal. One significant issue is the lack of adequate infrastructure to support eco-friendly practice. Many popular trekking routes suffer from inadequate waste management systems and insufficient facilities for tourists, leading to environmental degradation (Neupane, 2025). For example, the findings from a study by Adhikari et al. (2024) show that solid waste generated in Ghandruk within the Annapurna Conservation Area was dominated by organic fractions, which accounted for about 60% of the total waste. Like other studies on the issue of waste management they also identified that daily waste generated was 261.3 gm. per capita, equivalent to the waste generation rate in some cities of Nepal. Untreated waste in tourist areas reflects a broader systemic failure in managing the environmental impact of tourism both on local ecosystems and public health (Nepal, 2022). Additionally, there is often a disconnect between local communities and tourism stakeholders. Many rural areas do not receive equitable benefits from tourism revenue, leading to resentment among locals who feel marginalised by external interests (Sapkota, 2020). Engaging local populations in decision-making processes is critical for ensuring that sustainable tourism initiatives align with community needs and values (Prasad, 2024). Any disconnection to this mutuality can result in cultural erosion as communities may feel pressured to alter their traditions to cater to tourists' expectations (Dłużewska & Giampiccoli, 2021). The subsequent section of this paper outlines the key challenges associated with the advancement of sustainable tourism in Nepal.

Environmental Degradation

Despite its potential benefits, the rapid growth of tourism has led to significant environmental challenges in Nepal (Bhattarai, 2021). Issues such as waste management, deforestation, and pollution are exacerbated by an influx of tourists (Acharya, 2023). Hence, environmental degradation in Nepal's touristic destinations has been a pressing issue that intertwines the country's economic reliance on tourism with the sustainability of its natural resources threatening both the ecosystems and local communities dependent on these resources (Badal & Kharel, 2019; Nepal, 2022).

Further, environmental degradation has been exacerbated by the impact of climate change (Bhattarai, 2021). Deforestation is particularly acute in regions like the Annapurna Conservation Area and Sagarmatha National Park, where increased demand for land for infrastructure development-such as lodges, trails, and roads-has led to significant tree loss. An early report of World Bank indicated that Nepal had lost half its forest cover between 1951 and 1980 and that by 2000 no accessible forests would remain (World Bank, 1979). Likewise, the surge in tourist numbers has resulted in a dramatic increase in solid waste generation. In popular trekking routes such as the Everest Base Camp trek, it has been reported that over 1,000 kg of waste is produced daily during peak seasons (Chan & Bhatta, 2013). Local authorities have struggled to implement effective waste disposal systems, leading to littering and pollution that tarnish pristine landscapes. For instance, the "Clean Up Everest" campaign initiated by various organisations highlights how climbers leave behind an estimated 30 tons of garbage annually on Mount Everest alone (Shahi, 2022). Moreover, climate change poses a significant threat to Nepal's environment and tourism industry (Kattel, 2022). The rising temperatures have accelerated glacial melting in the Himalayas, creating glacial lakes that are at risk of outburst floods-a phenomenon that can devastate local communities and infrastructure (Ahmed et al., 2021). The Intergovernmental Panel on Climate Change (IPCC) projects that Nepal will experience a temperature rise of 1.5°C to 2°C by 2050 if current trends continue, severely impacting its unique ecosystems and biodiversity (IPCC, 2023).

While tourism significantly contributes to Nepal's economy, its rapid and unmanaged growth has resulted in severe environmental degradation leading to challenges for tourism sustainability in the country. Increased deforestation, pollution, poor waste management, climate change impacts as well as high volume of visitors particularly in the ecologically sensitive areas have intensified environmental pressures, overwhelming local infrastructure and natural resource capacities. These problems pose threat to Nepal's fragile ecosystems and the long-term viability of tourism sector.

Overtourism

Exponential growth of tourism in Nepal has caused the problem of overtourism. Popular destinations such as Kathmandu, Pokhara, and the Annapurna and Everest regions are experiencing significant overcrowding (Nepal, 2022). This influx of visitors not only strains local infrastructure but also places immense pressure on natural resources and ecosystems. As these areas become increasingly saturated with tourists, the quality of the visitor experience deteriorates.

Overcrowding can lead to long wait times at attractions, diminished access to pristine environments, and a general sense of chaos that detracts from the tranquillity that many travellers seek in these beautiful locales (K. C. et al., 2021). In regions like the Everest Base Camp trek, increased foot traffic has resulted in soil erosion, waste management challenges, and the degradation of fragile ecosystems (Neupane et al., 2025). The accumulation of litter and human waste along trekking routes

poses a significant threat to wildlife and plant life, disrupting local biodiversity. Moreover, local communities often bear the brunt of these changes; traditional ways of life can be undermined as local resources are diverted to cater to tourist needs rather than sustaining community livelihoods (Maharjan et al., 2023). The strain on water supply systems and energy resources is particularly pronounced in areas where tourism infrastructure has not kept pace with growth. In response to these challenges, stakeholders are beginning to explore sustainable tourism practices aimed at balancing visitor numbers with ecological preservation and community well-being (Shekhar, 2024).

Initiatives such as limiting daily permits for trekking routes, promoting off-peak travel seasons, and enhancing local capacity for waste management are critical steps toward mitigating the negative effects of over tourism (Ezenwa et al., 2025). Additionally, increasing awareness among travellers about responsible tourism practices can foster a more respectful relationship between visitors and host communities (Camilleri et al., 2023). Ultimately, addressing the issue of over tourism in Nepal requires a multifaceted approach that incorporates sustainable development principles while prioritising both visitor enjoyment and the preservation of local ecosystems and cultures (Neupane et al., 2025). By striking this balance, Nepal can continue to welcome travellers while ensuring that its natural beauty and cultural richness endure for future generations.

Over tourism in key destinations of Nepal is placing unsustainable pressure on infrastructure, ecosystems, and local communities leading to environmental degradation, biodiversity loss and the erosion of traditional livelihoods including a diminished tourist experience. Hence, strategies to help regulate visitor numbers, promote off-peak travel, and increase awareness of responsible tourism are required both to preserve ecological integrity and community well-being for meeting the goal of sustainable tourism in the country.

Infrastructure Deficiencies

Inadequate infrastructure poses a significant barrier to sustainable tourism development in Nepal, a nation celebrated for its breathtaking natural landscapes and rich cultural heritage (Bhattarai, 2021; Nepal, 2022). These challenges not only diminish the visitor experience but also threaten the environmental sustainability that is essential for the long-term viability of tourism in the region (Baloch et al., 2023). Key infrastructural challenges include the prevalent issue of poor roads, particularly in rural and remote areas where many tourist attractions are located (Upadhyay, 2016). This inadequate transportation infrastructure can lead to decreased visitor numbers and diminished economic benefits for local communities (Zhu et al., 2022). Limited access to clean water presents significant health risks for both tourists as well as residents. Unsafe drinking water could be one of the main reasons behind having health problems among travellers. A study conducted by Bhatta et al. (2023) reveals that 78.7% of travellers in Nepal favour mineral

water, citing safety concerns regarding drinking water. Additionally, it notes that the number of international travellers intending to stay in Nepal for 3-4 weeks in 2019 was less than those planning to visit for only 1-2 weeks, primarily due to apprehensions about unsafe water.

Although Nepal has committed to the Sustainable Development Goals (SDGs), with 2030 targets of 99% basic water supply coverage, 90% piped water access. and 95% improved household sanitation (NPC, 2017), many water systems remain unreliable, insufficient, and unsafe—undermining hygiene practices and the proper use of sanitation facilities (Sharma et al., 2021). These poorly functioning systems raise serious concerns about the effectiveness and sustainability of sanitation and hygiene efforts, further complicating the promotion of sustainable tourism practices such as responsible waste disposal and eco-friendly accommodations. Additionally, the rapid growth of tourism has led to increased waste generation, while many areas still lack adequate waste management infrastructure. To overcome these challenges, firstly significant investment is essential in the infrastructure sector. Both government and private sector stakeholders must prioritise upgrading transportation networks and enhancing public transport systems to improve accessibility to tourist destinations (Dangi et al., 2021; Pokharel & Acharya, 2015). Initiatives like the Kathmandu Valley Road Improvement Project exemplify efforts aimed at modernising key transport routes. Secondly, enhancing access to clean water through sustainable practices-such as rainwater harvesting and improved sanitation facilities-can greatly benefit both residents and tourists alike. Collaborations with NGOs focused on innovative water purification technologies could provide tailored solutions for local communities. Finally, developing comprehensive waste management solutions is imperative: this includes establishing recycling programs. promoting waste segregation at source, and increasing public awareness about responsible waste disposal practices (Hudayberganov et al., 2024). Successful case studies from countries like Bhutan demonstrate that effective waste management not only enhances environmental quality but also supports sustainable tourism development (Tshomo et al., 2019).

Inadequate infrastructure significantly hinders sustainable tourism development in Nepal, despite its natural and cultural richness. It deters not only long-term tourist stays and visitors' satisfaction but also poses serious threats to environmental sustainability and human health. Hence, to overcome these challenges, coordinated investments and policy reforms, including transport upgrades, clean water access, and integrated waste management systems are required. These help to support eco-friendly tourism and benefit both local communities and the environment.

Cultural Erosion

The commercialisation of culture presents a considerable threat to local traditions and customs, as communities increasingly adapt their cultural expressions to meet tourist expectations (McKercher & du Cros, 2012). This phenomenon, defined as

the transformation of cultural practices into commodities for sale, raises significant concerns regarding the preservation of authentic cultural identities (Rickly, 2022). In the pursuit of economic benefits from tourism, local communities often alter or simplify their cultural expressions, leading to a dilution of authenticity (Mahendra, 2024). This inquiry aims to explore the implications of cultural commercialisation on local cultures, supported by specific examples that illustrate these dynamics (McKercher & du Cros, 2012).

The interplay between tourism and local culture is evident in various regions worldwide. For instance, the Maasai people of Kenya and Tanzania have engaged with tourism in ways that provide economic benefits but also simplify their cultural expressions (Melubo & Carr, 2019). There the traditional dances and ceremonies are frequently performed for the purpose of tourists, often altered to fit within time constraints. This shift results in performances that prioritise entertainment over authenticity, transforming the Maasai culture into a mere spectacle rather than a living tradition (Becklake & Wynne-Hughes, 2024). Another compelling example is the Venice Carnival, which has evolved from a local celebration into a major tourist attraction drawing millions annually (Bennett, 2021). While this event retains its vibrancy, commercialisation has led many artisans to produce masks that prioritise marketability over intricate designs and cultural significance (Salerno, 2022).

Similarly, in Bali, Indonesia, traditional ceremonies have become tailored for tourists, focusing on visual appeal rather than spiritual authenticity (Mahendra, 2024). These changes can dilute the cultural essence of such performances and contribute to misunderstandings about local traditions among visitors (Alamineh et al., 2023; Zhang et al., 2024). The broader implications of this commercialisation extend beyond immediate economic gains; they can reshape community identity and social cohesion, prompting a growing movement towards sustainable tourism that emphasises authentic engagement with local cultures while supporting traditional practices.

It is important to note that commercialisation of culture in tourism often leads to the dilution and commodification of traditional practices, as communities alter their cultural expressions to align with tourist expectations and economic incentives. This transformation compromises cultural authenticity and risks reducing rich traditions to superficial performances, as mentioned above from the global examples. The approach of sustainable tourism prioritises genuine cultural preservation and respectful engagement, recognising that safeguarding cultural integrity is essential for long-term community identity and tourism sustainability.

Climate Change Vulnerability

Climate change represents a critical threat to Nepal's natural resources and the livelihoods of its tourism-dependent communities (Ahmed et al., 2021). The country, characterised by its diverse ecosystems and breathtaking landscapes-including the

iconic Himalayas-faces significant challenges as rising global temperatures lead to the accelerated melting of glaciers, erratic weather patterns, and an increase in natural disasters (Molden et al., 2022). According to the International Centre for Integrated Mountain Development (ICIMOD), Himalayan glaciers are retreating at an alarming rate of approximately 0.5 meters per year, jeopardising freshwater supplies and elevating the risk of glacial lake outburst floods (GLOFs) that could devastate infrastructure and ecosystems (ICIMOD, 2020). These environmental changes have profound implications for local populations who depend on consistent weather for agricultural activities, making them particularly vulnerable to food insecurity and economic instability (Bhattarai, 2022). The impact of climate change extends beyond natural resources to threaten Nepal's rich biodiversity (Kattel, 2022). The country is home to unique species such as the snow leopard and red panda, which face habitat loss due to shifting climates (ICIMOD, 2020). In has been predicted that under ongoing circumstances, up to 50% of Nepal's endemic species could face extinction by 2100 (Baral et al., 2023). This decline in biodiversity not only disrupts ecological balance but also diminishes the natural beauty that attracts tourists, thereby undermining the tourism sector that significantly contributes to Nepal's economy (Kadayat & Upadhyay, 2024).

The World Travel & Tourism Council highlighted that the downturn of Nepalese tourism due to climate impacts can lead to widespread economic distress among communities reliant on tourist income (World Travel & Tourism Council, 2019). To address these challenges, it is essential for Nepal to implement strategies that prioritise sustainable tourism development while fostering community resilience. Promoting ecotourism initiatives can create economic opportunities while simultaneously conserving natural habitats (Chan & Bhatta, 2013; K. C., 2017). Additionally, enhancing disaster preparedness and response strategies is crucial for protecting both communities and tourist infrastructure from climate-related events. Furthermore, developing robust policy frameworks aimed at reducing carbon emissions and promoting renewable energy can help mitigate climate change's effects while preserving the natural resources vital for tourism (Hall et al., 2015).

It is evident that climate change poses an urgent and multifaceted threat to Nepal's tourism sector, endangering the country's natural attractions, thereby risking economic decline in its tourism-dependent regions. To address this problem and build community resilience and preserve environmental and economic future, effective climate adaptation strategies and environmental policy reforms including ecotourism, disaster preparedness, and carbon reduction are required.

Sustainable Tourism Initiatives in Nepal

Sustainable tourism in Nepal is increasingly recognised as essential for environmental conservation and economic resilience, particularly considering recent challenges faced by the sector. The COVID-19 pandemic led to a drastic decline in international tourist arrivals, with numbers dropping by over 80% in 2020,

resulting in losses exceeding NRs. 50 billion for the tourism industry (Kunwar, 2021). This significant downturn underscored the vulnerability of the tourism sector and highlighted the urgent need for a transition to sustainable practices that can withstand global disruptions (Belias et al., 2022). Emphasising sustainability is not only an ethical imperative but also crucial for revitalising a sector that plays a vital role in Nepal's economy and cultural heritage (WTTC, 2021).

Recent studies indicate a shift in consumer preferences towards environmentally sustainable travel options (Vrontis et al., 2022). Tourists in Nepal are increasingly favouring sustainable travel alternatives, reflecting a growing demand for ecoconscious tourism experiences (Gurung, 2024). This trend aligns with global sustainability movements and provides an opportunity for Nepal to enhance its tourism offerings. The "Nepal Tourism Decade (2023-2032)" signifies a strategic policy shift aimed at promoting sustainable and eco-friendly tourism, with the objective of attracting 3.5 million foreign tourists by 2032 while focusing on regional attractions (Sharma & Poudel, 2024). However, challenges persist in achieving a balance between sustainable development, equitable benefit distribution, and effective policy implementation (K. C. et al., 2021; Nepal, 2022). Addressing these challenges is crucial for the sustainable growth of the sector. Currently, there are promising signs of recovery within Nepal's tourism sector and readiness for future expansion, contingent upon strategic policy implementation and overcoming emerging obstacles (Sharma & Poudel, 2024). To stimulate economic growth that positively impacts foreign tourism, government support for initiatives beneficial to the industry is essential. Policy efforts should concentrate on enhancing tourism infrastructure through effective management and technology integration (Baloch et al., 2023). By investing in eco-lodges, responsible trekking companies, and conservation-oriented activities, Nepal can attract environmentally conscious travellers while minimising the ecological footprint of tourism (K. C., 2017). These initiatives resonate with tourist preferences and promote responsible stewardship of natural resources (Liça et al., 2024; Streimikiene et al., 2021).

Furthermore, Community-Based Tourism (CBT) initiatives have proven effective in improving local livelihoods and has thus emerged as a transformative model for advancing the United Nations Sustainable Development Goals (SDGs), particularly SDG 1 (No Poverty) and SDG 8 (Decent Work and Economic Growth) (Scheyvens et al., 2021). Case studies from Nepal's Annapurna Conservation Area demonstrate that when residents have direct control over tourism-generated revenue, they prioritise investments in education, healthcare, and community infrastructure-resulting in broader social and economic benefits (Jackson, 2025). This decentralised governance model fosters local ownership and community trust while enhancing long-term resilience (Nepal, 2022). Projects such as the "Gurung Heritage Trail" illustrate how integrating local communities into tourism can generate economic opportunities while enriching cultural exchange (Acharya & Halpenny, 2013; Beazley, 2013). Additionally, successful ecotourism projects

and wildlife conservation efforts in regions like Chitwan National Park have shown that community engagement in sustainable practices increases support for wildlife conservation initiatives (Acharya, 2023). As Nepal moves forward, prioritising sustainable tourism practices will be critical for building a resilient economy that benefits both local communities and tourists alike (Kadayat & Upadhyay, 2024; K. C. et al., 2021).

This indicates the urgency of adopting sustainable tourism models for enhancing environmental conservation and economic resilience in Nepal. The increasing demand for eco-conscious travel offers Nepal a timely opportunity to reposition its tourism strategy. This approach is viable through sustainable infrastructure, community-based tourism, and policy initiatives. Empowering local communities through the initiatives of community-based tourism fosters inclusive growth, cultural preservation, and stronger local stewardship over natural resources.

CONCLUSION AND IMPLICATIONS

This study concludes that sustainable tourism offers a unique opportunity to aid economic growth and empower communities in Nepal, yet, it has common challenges of environmental degradation, cultural commercialization, and inadequate infrastructure. As discussed, community-based tourism and conservation programs, like the Annapurna Conservation Area and community forestry initiatives display the possibilities of sustainable and social equitable alternatives. However, strategic oversight growth prevents unrestrained growth that impacts cultural authenticity and ecological integrity. The study highlights the importance of adaptive governance, stakeholder engagement, and context-specific policy design as foundational pillars for a resilient tourism framework. It also critiques the blanket use of international frameworks, arguing that Nepal's socio-cultural and ecological diversity necessitates localized approaches. Furthermore, while education and awareness campaigns like "Leave No Trace" are have their value, they must be complemented by structural reforms and long-term investments.

Policymakers and tourism planners must prioritize integrated strategies that align environmental stewardship with economic development and cultural preservation. This includes supporting authentic local traditions, strengthening waste management infrastructure, and fostering inclusive decision-making processes that involve local communities at every stage. Cross-sectoral collaboration and long-term planning are essential to move beyond symbolic gestures and ensure the sustainability and equity of Nepal's tourism sector. Ultimately, this study provides practical, context-sensitive insights that can inform more effective and transformative sustainable tourism practices in Nepal and comparable regions.

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