

# Mitigating Overtourism in Sikkim: A Review Base Analysis for Research

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## Abstract

Sikkim, renowned globally for its beautifully designed picturesque landscapes, including towering snow-capped peaks, pristine lakes, Buddhist monasteries and rich cultural heritage, is poised to become a significant player in the global tourism industry. The Civil Aviation and Tourism Department of Sikkim projects a record of 1.2 million visitors in 2024, highlighting both the potential and the challenges of managing such high tourist volumes. This study aims to address the pressing issue of overtourism by formulating strategies to manage visitor numbers and mitigate associated impacts. The rapid influx of tourists has stressed Sikkim's infrastructure, leading to environmental degradation, cultural erosion, and resource depletion. Specific destinations such as Gangtok, Tsomgo Lake, and Yumthang Valley are particularly affected by traffic congestion, unregulated trekking, waste accumulation, and vehicle pollution, revealing significant management deficiencies. The present study shall examine stakeholder roles in traffic congestion management, and the preservation of Sikkim's unique cultural heritage, notably its Buddhist monasteries, which face disruptions due to increased visitor numbers. Despite the economic benefits of tourism, they are unevenly distributed, with many rural communities missing out on the growth while grappling with inflation problem especially the rapid rising of living costs. This study advocates for a balanced approach to tourism that enhances the destinations' aesthetic appeal and manages growth sustainably. It emphasizes the adoption of sustainable tourism practices, including regulating tourist numbers, strategies to control traffic congestion, promoting eco-friendly accommodations, and improving waste management. Although the state has implemented measures like banning single-use plastics and encouraging organic farming, more comprehensive strategies are required for long-term sustainability. The study will focus on developing policies to address overtourism, explore untapped destinations, and improve stakeholder competency.

**Keywords:** Mitigating Factor, Overtourism, Strategies, Sustainability

## 1. Introduction

Sikkim, a small state in northeast India, is situated in the Eastern Himalayas, covering an area of 7,096 square kilometers. Despite its modest size, the state is known for its stunning natural landscape, rich

cultural heritage, and unique climate. As of 2019, Sikkim's population stood at approximately 619,000. What truly sets Sikkim apart is its remarkable biodiversity, it harbors 26 percent of India's flowering plants (Mishra et al., 2012), making it an ecological treasure trove. The state's scenic beauty, coupled with its rich flora and fauna, has made it an attractive destination for both domestic and international tourists. Sikkim's inhabitants comprise diverse ethnic groups, predominantly the Bhutias, Lepchas, and Nepalese, who each contribute to the state's rich cultural heritage. These communities have maintained their distinct traditions, particularly in handloom and handicrafts, which have become a vital part of the local tourism experience (Sharma & Borthakur, 2010). Tourists are particularly drawn to these artisanal products, which reflect the deep-rooted heritage of the region. Sikkim's capital city, Gangtok, is a hub for tourists, offering enthralling views of Kanchenjunga, the third-highest mountain in the world. The city itself is a blend of traditional and modern, where ancient monasteries stand alongside bustling urban streets. Among the key attractions in Gangtok is the 200-year-old Enchey Monastery, a site of great spiritual significance, especially for followers of Buddhism. The pedestrian-friendly MG Marg, lined with cafes and shops, provides a bustling urban experience while maintaining an inviting charm. Not far from Gangtok are two of Sikkim's most visited natural sites—Tsomgo Lake and Nathula Pass. Tsomgo Lake, situated at a high altitude, is known for its breathtaking beauty, with crystal-clear waters reflecting the surrounding mountains. Nathula Pass, part of the ancient Silk Route, connects India with Tibet and offers majestic views of the snow-clad Himalayan peaks. These destinations, known for their serene and pristine environments, attract thousands of visitors annually, seeking to experience the region's natural beauty and historical significance. In West Sikkim, the town of Pelling is another major attraction for its panoramic views of the Himalayas. The town is home to the ancient Pemayangtse Monastery, one of the oldest monasteries in the state, and the Rabdentse Ruins, which offer a glimpse into Sikkim's royal past. These ruins were once the site of the capital of the Sikkimese kingdom and are now a popular tourist spot, combining history, culture, and spirituality. Further enriching the state's offerings is the Kanchenjunga National Park, a UNESCO World Heritage Site, which is a haven for nature lovers and trekkers. The park is home to diverse wildlife, including endangered species such as the red panda and the elusive snow leopard. This area, with its dense forests, alpine meadows, and high-altitude lakes, offers a unique blend of natural beauty and wildlife, making it one of the top trekking destinations in the country. The town of Yuksom in West Sikkim holds special historical and cultural significance, as it was the first capital of the Kingdom of Sikkim. It is also the starting point for the challenging Goecha La trek, which offers trekkers awe-inspiring views of Mount Kanchenjunga. Yuksom is home to the Dubdi Monastery, adding a layer of spiritual appeal to the already historically rich region. In North Sikkim, two towns stand out for their proximity to some of the most stunning landscapes in the state. Lachung is the gateway to the beautiful Yumthang Valley, often referred to as the "Valley of Flowers" for its colorful array of alpine blossoms. Lachen, another high-altitude village, serves as the base for trips to Gurudongmar Lake, one of the highest lakes in the world, renowned for its pristine, tranquil beauty. South Sikkim has its own attractions, most notably the town of Namchi, known for its religious sites such as Samdruptse Hill and Char Dham, which blend Hindu and Buddhist traditions. Nearby, the Temi Tea Garden is another popular spot, offering visitors the chance to experience the tranquil beauty of the region's rolling tea plantations. Ravangla, a charming hill station in the south, is home to the peaceful

Buddha Park and Maenam Wildlife Sanctuary, which provide opportunities for meditation, birdwatching, and peaceful nature walks.

Despite its natural beauty and cultural richness, Sikkim faces significant environmental challenges, especially with the rising tide of tourism. Human activities and climate change (Banerjee et al., 2019; Bhasin et al., 1984) are putting pressure on the state's fragile ecosystems. Recent years have seen a rapid increase in tourist demand, with visitor numbers spiking due to Sikkim's growing popularity. In 2024, the Civil Aviation and Tourism Department of Sikkim projected that the state would welcome a record 1.2 million tourists, posing both opportunities and challenges for the region. Popular tourist destinations like Gangtok, Tsomgo Lake, Nathula Pass, Pelling, and the Yumthang Valley are experiencing the pressures of overtourism. The fragile Himalayan ecosystem is particularly vulnerable to the impacts of mass tourism. Ecologically sensitive areas, such as the Kanchenjunga National Park and high-altitude lakes like Gurudongmar, are facing issues like littering, deforestation, and a strain on local resources such as water. Furthermore, the influx of vehicles has led to traffic congestion and increased air pollution, exacerbating the region's environmental problems. The socio-cultural fabric of Sikkim is also under strain. Local communities, particularly in rural and ecologically fragile areas, face challenges like the rising cost of living, loss of traditional lifestyles, and cultural commodification due to commercialization. Tourism has undoubtedly contributed to the state's economy and the livelihood of its people, but without proper management, the adverse effects could outweigh the benefits. To address these issues, the state needs to introduce effective and efficient sustainable tourism practices. This includes encouraging eco-friendly accommodations, setting visitor caps in sensitive areas, and implementing awareness programs aiming to educate tourists about the importance of preserving Sikkim's natural and cultural heritage. These initiatives can be crucial to ensuring that the state's beauty, biodiversity, and culture remain intact for future generations. It is also important to recognize that overtourism in Sikkim is still at an early stage, and proactive measures could prevent the situation from worsening.

## 2. Aims and Scope of the Study

As one of the key tourist destinations in the region, Sikkim's tourism sector plays a vital role in sustaining economic growth and serves as a promising avenue for enhancing the socio-economic well-being of local communities. This manuscript aims to provide a detailed review of overtourism in Sikkim, identifying the key factors contributing to its rise. Additionally, it presents and analyzes trends in tourist arrivals over the past 13 years, offering insights into tourism growth and management challenges. Despite the availability of numerous well-researched papers on tourism, it is evident that limited studies have thoroughly examined the mitigating factors contributing to overtourism. Most existing research primarily focuses on highlighting the challenges, issues, and future prospects of the tourism industry in Sikkim. The core objective of this paper is to move beyond merely identifying the problems associated with overtourism. A conscious and scholarly approach is essential to deeply analyze and understand the overtourism scenario, addressing it with greater seriousness and strategic solutions. It is evident that no research has thoroughly examined or brought into the academic domain the critical issue of how targeted research can be effectively calibrated to help the tourism industry overcome the challenges of

overtourism. Addressing this gap is essential for developing sustainable and practical solutions for the sector.

### 3. Literature Review

#### A. Overview of Overtourism

The term overtourism gained exorcence in recent years, but the concept it represents has been studied for decades. Research on overtourism has primarily focused on urban areas and socio-cultural sustainability, while earlier studies concentrated on environmental sustainability in protected areas (Hoegh-Guldberg et al., 2021). While the hashtag overtourism first appeared on twitter in 2012 (Dhiraj & Kumar, 2021), concerns about excessive tourism and its impacts date back to the 1970s (Capocchi et al., 2020). The concept of overtourism has gained prominence, highlighting the negative impacts of excessive tourism on destinations (Koens et al., 2018). Overtourism can be understood from two perspectives: the negative experiences of residents and visitors, and the exceeded carrying capacity of destinations (Nilsson, 2020). The phenomenon of overtourism refers to an unacceptable decline in quality of life due to excessive tourist numbers (Dhiraj & Kumar, 2021). Overtourism has sparked anti-tourism movements and policy discussions (Dhiraj & Kumar, 2021). It has affected various destinations globally, including Barcelona, Venice, and Hong Kong (Milano et al., 2021). While providing short-term economic benefits, it can negatively impact local communities and heritage sites (Lajoinie et al., 2021). This concentration of tourists negatively impacts local communities and territories (Capocchi et al., 2019). Early researches examined tourism saturation, sustainable practices, and host-tourist relationships (Lajoinie et al., 2021). The COVID-19 pandemic has further highlighted the vulnerabilities of tourism-dependent economies (Milano et al., 2021). It is a multidimensional and complex issue that encompasses social, political, economic, environmental, and marketing aspects. To address overtourism, researchers propose adopting a holistic approach that considers the dynamics of urban tourism growth and its driving forces. Additionally, conceptualizing overtourism within a sustainability framework that incorporates socio-psychological and socio-political capacities may assist in monitoring, diagnosing, and mitigating unsustainable tourism situations (Mihalic, 2020).

#### B. Tourism Leading to Overtourism

The growth of tourism, facilitated by new technologies and low-cost airlines, has led to increased visitor numbers in popular cities (Zemla, 2020; Dodds & Butler, 2019). Popular vacations destinations are increasingly suffering from cases of overload, including, over-crowded places, queue-line for services, incessant traffic jams, inflation etc., are few of the effects of overtourism that both guests and locals have to faced. Contributing factors include the growing number of tourists, advancements in information technology, cheap flights, and a shift from 3S (sea, sun, sand) to 3E (education, experience, entertainment) tourism (Zemla, 2020). Overtourism is a relatively new concept describing destinations where there is a perception of too many tourists, negatively impacting residents' quality of life and visitor experiences (Eliasson & Velasco, 2018; Santos-Rojo et al., 2023). It occurs when tourism's costs exceed its benefits, making development unsustainable and necessitating interventions (Santos-Rojo et al., 2023). Strategies to address overtourism include redirecting tourism consumption, targeting sustainable segments, and involving stakeholders in tourism development (Eliasson & Velasco, 2018).

Overtourism in India is driven by multiple factors, including communication gaps, lack of stakeholder participation, and absence of tourism development plans (Barbhuiya, 2020). The issue is not solely about excess visitors but also involves long-term changes to destinations' economic and spatial structures, affecting residents' quality of life. Studies in Shimla reveal that overtourism has led to environmental degradation, increased water consumption, waste management issues, and socio-economic challenges like rising prices and housing shortages (Gupta & Chomplay, 2021). Social media and the internet play crucial roles in implementing these strategies and facilitating communication between stakeholders and authorities (Eliasson & Velasco, 2018). The COVID-19 pandemic has significantly impacted all aspects of the tourism sector (Milano et al., 2021). The phenomenon is not entirely new, as concerns about excessive visitation have been discussed for decades (Milano et al., 2021). Overtourism affects various urban, rural, and coastal spaces globally, including cities like Barcelona, Venice, and Hong Kong (Milano et al., 2021). Addressing overtourism requires sustainable strategies focusing on resource efficiency, resident quality of life, and visitor experience quality, rather than just revenue generation. Future research should aim to fill knowledge gaps and develop effective urban tourism management tools (Zemla, 2020).

### C. Mitigating Factors of Overtourism

Despite various mitigation attempts, efforts to address overtourism have largely failed due to a lack of willingness to reduce tourist numbers and ineffective management at all levels (Butler & Dodds, 2022). To cope with overtourism, strategies involving social media and the internet have been proposed, including targeting sustainable segments, informational place demarketing, and redirecting tourism consumption to less-known areas (Eliasson & Velasco, 2018). Addressing overtourism requires a holistic approach that considers the dynamics of urban tourism growth, involves stakeholders in the development process, and implements effective management and control measures (Nilsson, 2020; Eliasson & Velasco, 2018). Overtourism has emerged as a significant challenge for popular destinations, causing negative impacts on local communities, the environment, and tourist experiences (Mohanty et al., 2021; Zemla, 2020). The issue affects urban life, leading to overcrowding, strain on city services, and social and economic concerns (Hristov et al., 2021). To address these challenges, destinations are exploring innovative solutions, including the use of Information and Communication Technology (ICT) tools for better destination management (Mohanty et al., 2021). The metaverse and associated digital technologies like virtual and augmented reality show potential in mitigating overtourism by offering alternative experiences. However, further research is needed to evaluate the effectiveness of these technologies and their potential unintended consequences in addressing overtourism (Kouroupi & Metaxas, 2023). To address this issue, sustainable visitor management strategies are crucial, involving various stakeholders such as destination organizations, governments, and residents. The concept of tourism carrying capacity, though potentially significant, has been relatively neglected in recent decades (Butler, 2019). Alternative strategies to mitigate overtourism include monitoring tourist influx, providing free Wi-Fi, and developing mobile apps for gamification, as implemented in Gandia, Spain (Temes-Cordovez et al., 2020). These approaches align with UNWTO recommendations and aim to disperse tourist loads, enhancing local sustainable tourism development (Temes-Cordovez et al., 2020).



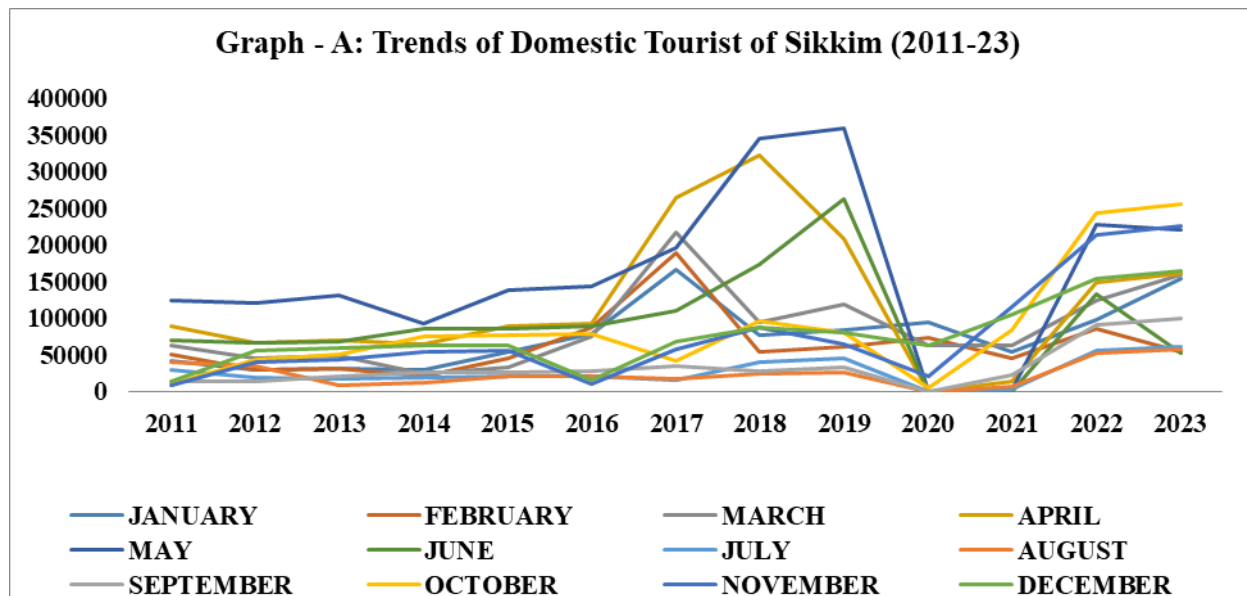
#### **4. Objectives**

1. To examine and analyze the challenges of overtourism through existing literature and identify the key factors contributing to overtourism in Sikkim, along with potential mitigation measures.
2. To evaluate the trends of tourist's arrivals and propose effective strategies for managing overtourism in Sikkim.

#### **5. Methodology**

Owing to the limitation of literatures and research contribution on overtourism in Sikkim, A descriptive methodology appears to be the most suitable approach for this study. By obtaining crucial data from the Civil Aviation and Tourism Department of Sikkim, this study will rely on a comprehensive and reliable dataset covering tourist arrivals from 2011 to 2023. The collected information will include statistics on both domestic and foreign visitors, providing valuable insights into tourism trends and patterns over the years. Considering the availability of data and aligning with the study's objectives, the monthly tourist arrival data will be further categorized into distinct seasonal patterns. These seasons include Winter (November, December & January), Spring (February, March & April), Summer (May, June & July), and Autumn (August, September and October), allowing for a detailed analysis of seasonal tourism. To derive meaningful findings and recommendations, this study incorporates secondary data from a wide range of sources. These include academic journals, books, government and industry reports, and credible websites, ensuring a comprehensive and well-rounded analysis of tourism trends and overtourism management strategies in Sikkim.

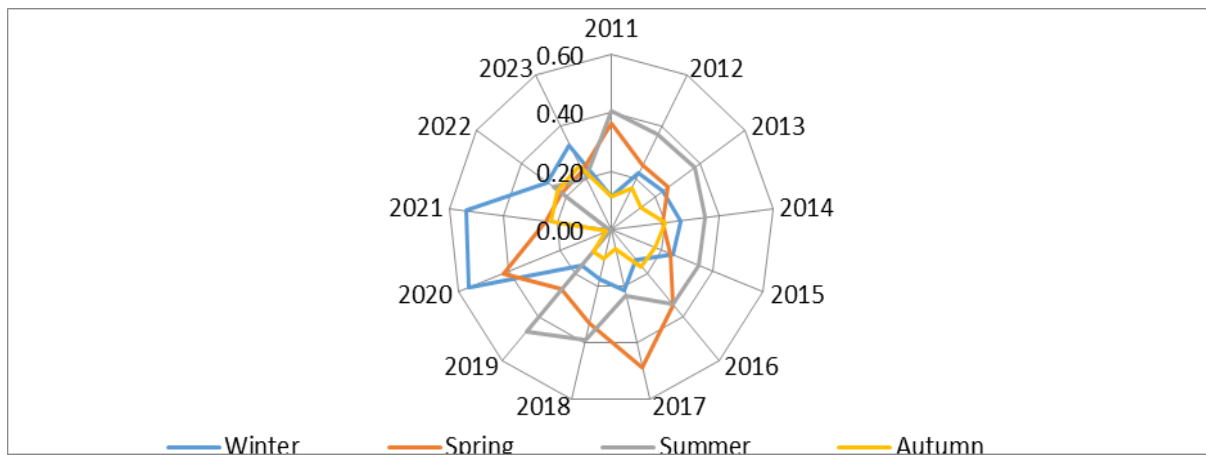
#### **6. Current Status of Tourism in Sikkim**



**Source:** Civil Aviation and Tourism Department of Sikkim (2023)

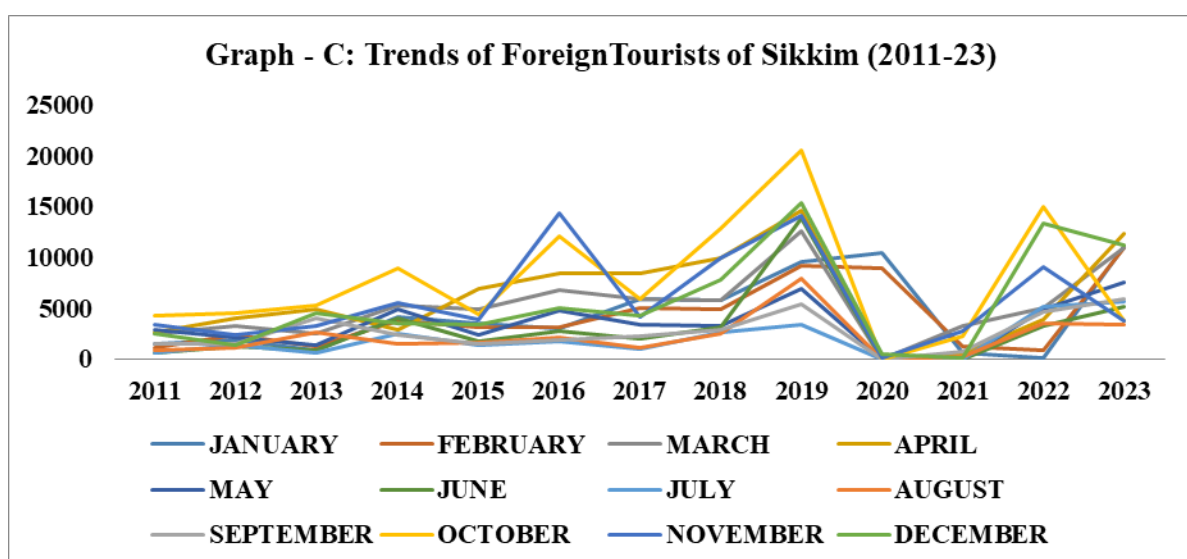
The above graph represents the annual and monthly trends of tourist's arrivals in Sikkim from 2011 to 2023. It illustrates fluctuations in visitor numbers, highlighting periods of growth, seasonal peaks, and disruptions, particularly due to the COVID-19 pandemic. It can be inferred that tourism in Sikkim has undergone significant changes over the years, with a strong recovery post-pandemic. From 2011 to 2019, there is a clear upward trend in the number of tourists visiting Sikkim. The total number of tourist arrivals in 2011 was 552,453, which gradually increased each year, reaching 1,421,823 by 2019. This suggests that tourism was steadily growing, likely due to a combination of factors such as the development of infrastructure, promotion of Sikkim as a tourist destination, and the increasing popularity of eco-tourism and Buddhist heritage. Notably, between 2016 and 2017, there was a significant jump in tourist arrivals, from 740,763 in 2016 to 1,375,854 in 2017. This could indicate the launch of new tourism campaigns or the opening of new attractions. The growth continued in 2018 and 2019, indicating a boom period for tourism in the state, as it became a more prominent destination for both domestic and international travelers. The years 2020 and 2021 reflect the devastating impact of the COVID-19 pandemic on tourism in Sikkim, as in many other parts of the world. In 2020, tourist arrivals dropped drastically to 316,408, and certain months (April to September) recorded nil entries, indicating no tourist activity. The pandemic led to widespread lockdowns, travel restrictions, and a complete halt in tourism operations. In 2021, there was a slight recovery with 511,489 visitors, but it was still far below pre-pandemic levels. Tourism in Sikkim rebounded significantly in 2022 and 2023, with total tourist arrivals reaching 1,625,573 in 2022 and 1,663,643 in 2023, surpassing pre-pandemic levels. This rapid recovery reflects the pent-up demand for travel, as well as the reopening of borders and the return to normalcy in the tourism industry. Months like March 2023 (159,934 visitors) and October 2023 (255,437 visitors) saw particularly high numbers, suggesting that tourists were eager to return to Sikkim.

#### **Graph - B: Seasonal Patterns of Arrivals of Domestic Tourist in Sikkim**



**Source:** Civil Aviation and Tourism Department of Sikkim (2023)

The above radar graph clearly shows that certain month's experience much higher tourist arrivals than others, suggesting strong seasonal patterns. Winter and Spring consistently record higher numbers of tourists across all years. For instance, May saw 124,323 visitors in 2011, increasing to 359,203 by 2019. Similarly, October, another peak season, saw an increase from 9,682 in 2011 to 80,262 in 2019. These seasons likely coincide with favorable weather, local festivals, and holidays that attract more tourists. On the other hand, Summer and Autumn tend to have the lowest number of tourist arrivals. For example, July recorded just 29,540 visitors in 2011 and 44,625 in 2019, while August recorded 38,964 in 2011 and 26,478 in 2019. These months correspond to the monsoon season in Sikkim, which typically deters tourists due to heavy rains and potential road closures. Again, it shows a sharp decline during the pandemic, and a strong recovery in 2022 and 2023. Seasonal peaks are evident, with winter and spring consistently attracting the most visitors.

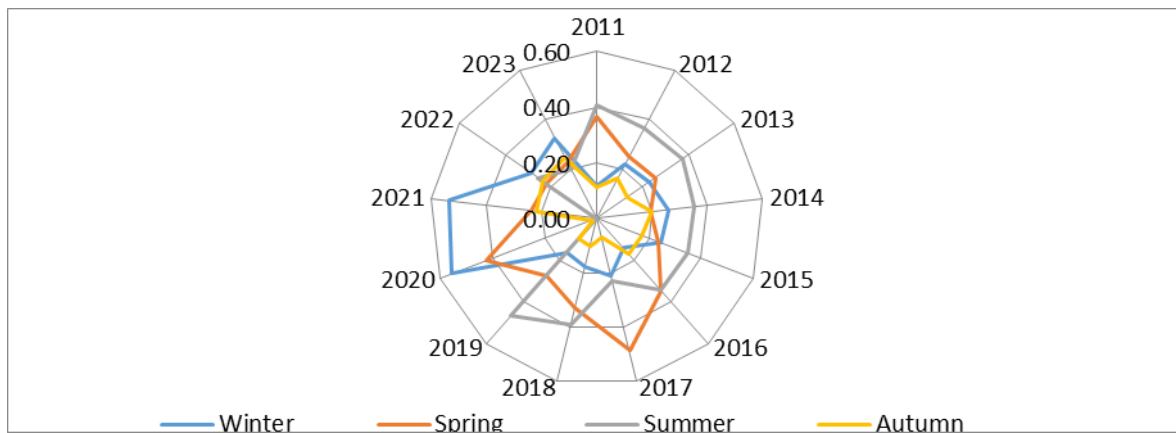


**Source:** Civil Aviation and Tourism Department of Sikkim (2023)



The graph showcases the number of foreign tourists visiting Sikkim annually and monthly from 2011 to 2023. It illustrates fluctuations in foreign tourist arrivals, revealing growth patterns, seasonal trends, and significant impacts due to the COVID-19 pandemic. This data helps analyze how foreign tourism has evolved in Sikkim over the years. The initial years, 2011 to 2013, show relatively modest figures in foreign tourist arrivals, ranging from 23,945 in 2011 to 31,698 in 2013. This indicates a slow but steady growth, suggesting that Sikkim was beginning to gain traction as a destination for international travelers. However, there was a sharp increase in 2014, with arrivals jumping to 49,175, reflecting nearly a 55 percent growth compared to the previous year. This significant rise may indicate enhanced international marketing efforts, improvements in infrastructure, or new policy initiatives promoting Sikkim as a global destination. After the notable increase in 2014, there was a drop in foreign arrivals in 2015 to 38,399, which might have been due to regional geopolitical factors or global economic changes. However, this decline was temporary, as 2016 saw a rebound with 66,012 foreign tourists, marking an upward trend again. The following years, 2017 and 2018, continued to experience stable growth, with 49,111 and 71,172 foreign tourists, respectively. By 2019, Sikkim had reached its peak of 133,388 foreign visitors, a remarkable figure indicating the state's increasing popularity on the global tourism map. The tourism industry worldwide experienced a massive setback during the COVID-19 pandemic, and Sikkim was no exception. Foreign tourist arrivals plummeted in 2020 to just 19,935 compared to the pre-pandemic high of 133,388 in 2019. This drastic decline reflects the global travel bans, lockdowns, and overall fear of the pandemic, which severely restricted foreign travel. In 2021, foreign tourist numbers dwindled further to 11,508, as travel restrictions remained in place for much of the year. Several months, like March, May, July, and August of 2020, saw zero arrivals, indicating that Sikkim was either entirely closed to foreign tourists or that no foreign tourists arrived during those months. As travel restrictions eased and international tourism began to recover, Sikkim saw a resurgence in foreign tourist arrivals. In 2022, the total foreign tourist count rose to 68,645, nearly six times higher than in 2021. The recovery accelerated in 2023, with 76,529 foreign visitors, showing signs of a robust bounce back. Certain months like March (with 10,905 tourists), April (with 12,385), and October (with 3,744) indicate that the peak seasons for foreign tourism were again seeing strong activity. However, foreign tourist numbers in 2023 were still lower than the pre-pandemic highs of 2019, suggesting that while recovery is underway, it may take a few more years for Sikkim to return to its peak foreign tourist levels.

#### **Graph - D: Seasonal Patterns of Arrivals of Foreign Tourist in Sikkim**



**Source:** Civil Aviation and Tourism Department of Sikkim (2023)

The graph shows that foreign tourists follow distinct seasonal patterns, similar to domestic tourists, though with some variations. The seasons of Winter and Spring consistently attract the highest numbers of foreign visitors. For instance, in 2017, October had 5,892 foreign tourists, and this number significantly increased to 20,583 in 2019. Similarly, April saw strong numbers in 2018 with 9,885 foreign arrivals, rising to 14,583 in 2019. December also saw an upward raise, with foreign visitors growing from 2,438 in 2011 to 15,332 in 2019. On the contrary, the Winter and Spring seasons usually see a dip in foreign arrivals. This suggests that foreign tourists, like domestic travelers, prefer to avoid the rainy season, which can be inconvenient due to road blockages and landslides in the hilly terrain of Sikkim. The foreign tourist data from 2011 to 2023 reveals significant growth in the pre-pandemic years, a severe contraction during the pandemic, and a rapid recovery in the post-pandemic period. The peak season months for foreign tourists, particularly April, October, and December, have shown consistent popularity, while the rests of months remain less attractive. The rebound in foreign tourist numbers in 2022 and 2023 suggests that Sikkim's tourism sector is on the path to recovery, though it still faces challenges in reaching pre-pandemic levels.

## 7. Discussion & Suggestion

Over the years, the state's tourism sector has witnessed substantial growth, positioning it as a prominent destination for both domestic and international travelers in the region. However, sudden surge of tourist's inflows has created great concerns related to overtourism, prompting the need for sustainable tourism practices to preserve Sikkim's unique environment and culture. Tourist arrivals in Sikkim have escalated notably over the past decade. In 2017, the state welcomed approximately 1.4 million visitors, a significant increase from 550,000 in 2011. This upward trend continued, with projections estimating around 1.2 million visitors by the end of 2024. Sikkim, with its unique geographical and cultural heritage, has experienced a surge in tourism over the last decade, especially in destinations such as Gangtok, Tsomgo Lake, and Yumthang Valley. While tourism has bolstered the local economy, it has also raised concerns about overtourism, which can lead to environmental degradation, strain on local resources, and disruptions to the socio-cultural fabric of communities. Particularly, ecological threats to sensitive areas like Kanchenjunga National Park and high-altitude lakes such as Gurudongmar Lake. Issues like littering, deforestation, and water scarcity, compounded by the influx of vehicles causing

traffic congestion and air pollution, illustrate the environmental costs of unchecked tourism. The socio-cultural impacts of overtourism, pointing out how rising living costs and the commodification of local traditions are altering the traditional lifestyles of Sikkim's indigenous communities, particularly the Lepchas, Bhutias, and Nepalese. To address these challenges, the researcher suggests the need for sustainable tourism practices. These include measures such as setting visitor caps in ecologically sensitive zones, promoting eco-friendly accommodations, and increasing awareness programs to educate tourists and locals on the importance of conservation. While the study rightly identifies the overtourism problem, it also recognizes that policy responses are still in their infancy. As overtourism is a relatively recent issue, especially in developing tourism economies like Sikkim, there is a need for a more proactive approach by local authorities, tourism boards, and stakeholders.

The global context provides links Sikkim's challenges with those faced by other destinations worldwide, such as Barcelona and Venice. This comparison is useful in showing that overtourism is not limited to any particular type of location but affects urban, rural, and protected natural areas alike. The discussion around technological interventions, such as the use of information and communication technology (ICT) tools to manage visitor flows and alternative digital experiences like the metaverse, is forward-thinking and relevant to current discussions in tourism management. However, as the study notes, these technologies are still in the experimental phase and require further research to assess their effectiveness in mitigating overtourism in places like Sikkim. One suggestion for improvement in the study would be to delve deeper into the role of community participation in managing overtourism. Engaging local communities, especially indigenous groups, in tourism planning and decision-making could provide more sustainable and culturally amiable solutions. Moreover, the study could explore case studies from similar mountainous regions, such as Bhutan's success in managing tourism through its "high value, low volume" strategy, to provide concrete examples of how Sikkim might address its overtourism issues. Furthermore, the study presents a strong overview of the overtourism problem in Sikkim and provides valuable insights into its environmental, social, and cultural impacts. manuscript Sustainable tourism practices and stakeholder engagement are essential to preserving the state's natural and cultural heritage while allowing tourism to continue contributing to the local economy is need of the hour.

## 8. Conclusion

Sikkim, a small yet ecologically diverse state in the Eastern Himalayas, has experienced significant tourism growth, driven by its natural beauty, rich cultural heritage, and spiritual attractions. Over the past decade, tourist arrivals have steadily increased, peaking in 2019 before being disrupted by the COVID-19 pandemic. Despite this setback, Sikkim's tourism sector has shown resilience, with visitor numbers surpassing pre-pandemic levels by 2023. However, this growth has also brought challenges, particularly in the form of overtourism. The increasing influx of both domestic and foreign tourists has put immense pressure on Sikkim's fragile environment, straining local resources and threatening its biodiversity. Moreover, the rise in tourism has impacted local communities, risked cultural commodification and altered traditional ways of life. Efforts to promote sustainable tourism are essential to balance economic benefits with the preservation of Sikkim's natural and cultural heritage. By implementing eco-friendly practices, visitor caps in sensitive areas, and community-based tourism initiatives, Sikkim can mitigate the negative effects of overtourism. As tourism recovers, a focus on

sustainability will be key to ensuring that the region's beauty and ecological integrity are preserved for future generations.

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