

A Study on Challenges and Issues of Basic Infrastructure and Amenities in the Tourism Industry in the Darjeeling Hills

SANDIPAN BISWAS¹, Dr. S. Balaji²

¹Ph.D Research Scholar, Department of Business Administration, Annamalai University

²Assistant Professor, Department of Business Administration, Annamalai University

ABSTRACT

Tourism in the Darjeeling Hills is a vital contributor to the region's economy, yet its growth is hindered by challenges related to basic infrastructure and amenities. This study aims to identify and analyse the key issues affecting the tourism experience in the region. Primary data were collected through surveys from a demographically balanced sample of tourists, focusing on travel patterns, expenditure, and preferences. The findings reveal that while Darjeeling attracts visitors for its scenic beauty and cultural heritage, inadequate infrastructure-such as poor road connectivity, inconsistent water supply, waste management gaps, and insufficient public facilities- limits the overall visitor experience and reduces the length of stay. The study highlights the urgent need for targeted infrastructure development to enhance tourist satisfaction and sustain long-term growth. The results offer actionable insights for policymakers, tourism authorities, and urban planners to prioritize investments that will strengthen Darjeeling's position as a competitive and sustainable tourist destination.

Keywords: *Tourism infrastructure, Darjeeling Hills, Visitor behaviour, Sustainable tourism, Amenities development.*

INTRODUCTION

Tourism is one of the fastest-growing sectors globally, contributing significantly to economic growth, employment generation, and cultural exchange. In India, the tourism industry holds immense potential due to its rich cultural heritage, diverse landscapes, and unique regional attractions. The Darjeeling Hills, often referred to as the "Queen of the Hills", are among the most popular tourist destinations in Eastern India, attracting domestic and international visitors for their scenic beauty, tea gardens, colonial architecture, and vibrant local culture.

However, the success of tourism depends not only on natural and cultural assets but also on the availability and quality of basic infrastructure and amenities such as transportation, accommodation, sanitation, waste management, water supply, healthcare, and communication networks. In recent years, Darjeeling has faced multiple challenges in maintaining and upgrading these facilities, leading to concerns about visitor satisfaction, sustainable tourism growth, and the preservation of its fragile ecosystem. Addressing these issues is crucial for enhancing the overall tourist experience and ensuring long-term viability of the region as a global tourism hotspot.

BACKGROUND STUDY

Tourism in the Darjeeling Hills dates to the British colonial period, when the region was developed as a summer retreat. Over the years, it has evolved into a major tourist hub, drawing visitors for its pleasant climate, Himalayan views, and cultural diversity. According to government and tourism board statistics, Darjeeling witnesses a high seasonal influx of tourists, creating significant demand for infrastructure and amenities.

While tourism has boosted local livelihoods and contributed to regional development, inadequate infrastructure has emerged as a persistent challenge. Road connectivity in hilly terrain often suffers from poor maintenance and landslide disruptions. Accommodation facilities vary in quality, with many budget establishments lacking basic hygiene standards. Public sanitation, waste facilities are insufficient in many tourists' spots, impacting both environmental health and visitors' satisfaction. Furthermore, healthcare facilities, emergency services, and digital connectivity in remote areas remain underdeveloped, posing risks for travellers.

Previous studies on tourism infrastructure emphasize that poor amenities can negatively influence destination competitiveness. In the case of Darjeeling, these gaps not only reduce the quality of the tourist experience but also threaten the region's sustainability and reputation. This background underscores the importance of systematically assessing the challenges and issues in basic infrastructure and amenities, in order to develop targeted strategies for improvement.

PROBLEM STATEMENT

Darjeeling Hills known for its scenic beauty, tea plantation and rich cultural heritage have been the hot favourite of national and international tourists. But the problem is that in this case, the tourism sector in region does not have a broad base due to shortfall of some of the basic infrastructure and amenities. Road connectivity is poor, transport systems have over flowing congestion, accommodations are just made to stay with no permanent residential buildings available, sanitation facilities are rarely available, water shortage is a problem every season after rains and metro construction guidelines do mandate good waste management but implementation has been marred by the bribe takers at the helm of affairs; add to all this internet remains unstable. In addition, these deficiencies lack to increase the quality of the tourist experience and reduced economic benefits for local population. Poor infrastructure is likely to create an unsatisfactory experience for tourists, who will not return or spread the word; it could hinder competition against other hill stations and may result in further environmental degradation. There are a lot of challenges ahead, but these must be addressed for the Darjeeling Hills to make any headway in terms of sustainable tourism growth.

OBJECTIVES OF THE STUDY

- To assess the state and accessibility of essential facilities and infrastructure in the Darjeeling Hills tourism industry.
- To determine the main obstacles and problems pertaining to communication facilities, waste management, water supply, sanitation, lodging, and transportation.
- To assess these facilities quality, accessibility, and sufficiency from the viewpoint of visitors.
- To evaluate how poor infrastructure affects visitor satisfaction, return business, and the whole travel experience.
- To examine the opinions of government stakeholders, tourism businesses, and locals about the gaps and needs in the infrastructure.
- To investigate the connection between Darjeeling Hills tourism's economic, social, and environmental sustainability and insufficient infrastructure.
- To make practical suggestions for ways to upgrade essential facilities and infrastructure to boost tourism potential and guarantee sustainable development.

REVIEW OF LITERATURE

- **Halder et al. (2024)** Halder and colleagues examined water quality and environmental changes in Mirik Lake, a key tourist attraction in the Darjeeling district. The study found that poor sewage management and runoff from surrounding urban areas degrade water quality, threatening both tourism appeal and public health. It highlighted the need for robust environmental infrastructure to protect natural tourism resources.
- **Sharma (2023)** studied the rapid growth of homestays in the Darjeeling Hills, identifying infrastructure gaps as a major constraint. Many new homestays struggle with poor road connectivity, inconsistent electricity, and limited internet facilities. The study called for policy interventions to ensure that basic amenities keep pace with tourism expansion.
- **Basak et al. (2021)** Focusing on homestay tourism, Basak and colleagues found that inadequate basic amenities particularly sanitation, waste disposal, and water supply affect tourist satisfaction levels. The research emphasized that improving infrastructure in rural tourism areas is essential for sustaining the growing homestay sector in Darjeeling's hills.
- **Koner (2021)** conducted a critical analysis of Darjeeling's water crisis, revealing that the primary sources the Senchal lakes are insufficient to meet growing demand. Seasonal shortages impact both residents and tourists, leading to inconsistent water availability in hotels and homestays. The study linked water scarcity to declining tourist satisfaction and proposed water recycling measures.
- **Das (2020)** explored the developmental constraints of the tourism industry in Darjeeling, emphasizing that poor infrastructure such as inadequate water supply, irregular electricity, and weak waste management significantly hinders visitor satisfaction. The study highlighted that while Darjeeling attracts large tourist inflows, the lack of basic amenities often leads to negative tourist experiences and affects repeat visitation.
- **Nag (2018)** Building on his earlier research, Nag assessed transportation sustainability in Darjeeling. The study highlighted that overcrowded roads, inadequate traffic management, and insufficient

infrastructure not only frustrate tourists but also cause environmental degradation. He suggested long-term transport planning with eco-friendly modes to balance tourism growth with environmental preservation.

- **Limbu (2014)** a study on solid waste management revealed that Darjeeling produces 30-50 tons of waste daily, which peaks during tourist seasons. Inefficient collection systems, open dumping, and inadequate disposal infrastructure were identified as major problems. The research concluded that without proper waste management, the town's environmental appeal which is a key tourism asset will decline.
- **Pradhan (2008)** analysed solid waste management within mountain ecosystems, using Darjeeling as a case study. The findings showed that steep terrain, high tourist numbers, and inadequate municipal facilities worsen waste disposal challenges. The research stressed community involvement and decentralized waste systems as solutions for sustainable tourism.

RESEARCH METHODOLOGY

In this study, the entire population consists of all tourists visiting the Darjeeling Hills region as well as key stakeholders involved in the tourism sector, including residents, tourism service providers, and government officials. For analysing the challenges and issues related to basic infrastructure and amenities, a sample of 100 tourists who have directly experienced these amenities like region's tourism facilities, including transportation, lodging, water supply, sanitation, waste management, and communication services. The selected sample provides focused insight into satisfaction levels and perceptions, while also allowing statistical analysis of demographic variables such a gender, marital status, tourist type, stay duration, and spending patterns by suitable conducting descriptive statistics and frequency analysis. This approach ensures the findings are directly relevant to identifying and addressing the infrastructure gaps impacting tourism in the Darjeeling Hills.

Sampling Population

The analysis of descriptive statistics and frequency output, the survey consisted of 100 valid responses with no missing values across variables. The gender distribution (Mean = 2.03, SD = 0.822) indicates a balanced representation among the three coded categories, with the most frequent category being code "3". Marital status (Mean = 2.09, SD = 0.818) shows a slight predominance of unmarried respondents over married ones. Tourist type had a mean of 3.10 (SD = 1.418), with "friends" emerging as the most common category, reflecting group-oriented travel trends. The average stay duration was 2.46 days (SD = 1.077), with a median of 3 days, suggesting most tourists stayed for short visits. Spending amount showed a mean expenditure of ₹11,467.13 (SD = ₹4,555.48), with the median slightly higher at ₹11,731.50, indicating a slight left skew in spending patterns. Overall, the data reflects a demographically balanced tourist sample, short average stays, and moderate spending levels, useful for tourism infrastructure and service planning.

Research Instrument

The primary research instrument used in this study is a structured questionnaire designed to access the challenges an issue related to basic infrastructure and amenities in the tourism industry of the Darjeeling Hills. The questionnaire consists of closed ended statements measured on a 5-point Likert scale ranging from (1- Very Poor, 2- Poor, 3-Average, 4-Good, 5-Very Good).

Descriptive Statistics Test

The analysis of descriptive statistics and frequency output, the survey consisted of 100 valid responses with no missing values across variables. The gender distribution (Mean=2.03, SD=0.822) indicates a balanced representation among the three coded categories, with the most frequent category being code "3". Marital status (Mean=2.09, SD=0.818) shows a slight predominance of unmarried respondents over married ones. Tourist type had a mean of 3.10 (SD=1.418), with "friends" emerging as the most common category, reflecting group-oriented travel trends. The average stay duration was 2.46 days (SD=1.077), with a median of 3 days, suggesting most tourists stayed for short visits. Spending amount showed a mean expenditure of ₹11,467.13 (SD= ₹4,555.48), with the median slightly higher at ₹11,731.50, indicating a slight left skew in spending patterns. Overall, the data reflects a demographically balanced tourist sample, short average stays, and moderate spending levels, useful for tourism infrastructure and service Planning.

Descriptive Statistics Test

	Gender	Marital status	Tourist Type	Stay duration	Spending amount

N	Valid	100	100	100	100	100
	Missing	0	0	0	0	0
Mean		2.03	2.09	3.10	2.46	11467.13
Median		2.00	2.00	3.00	3.00	11731.50
Mode		3	3	4	3	3223 ^a
Std Deviation		.822	.818	1.418	1.077	4555.475
Variance		.676	.669	2.010	1.160	2.075E7
Skewness		-.056	-.169	-.115	-.018	.036
Std Error of skewness		.241	.241	.241	.241	.241
Kurtosis		-1.519	-1.485	-1.317	-1.260	-1.184
Std Error of Kurtosis		.479	.479	.478	.478	.478

Interpretation

The descriptive statistics table provides detailed insights into the variables analysed in the study. For gender, the mean value (2.03) indicated that responses were almost evenly distributed across the coded categories, with a standard deviation of 0.822 showing moderate variation. Skewness (-0.056) and kurtosis (-1.519) values close to zero suggest a roughly symmetrical and slightly flatter distribution than normal. For marital status, the mean (2.09) and median (2.00) indicated that respondents were spread across categories with slightly more unmarried participants. The skewness (-0.118) is near zero, indicating symmetry, while kurtosis (-1.485) suggests a flat distribution. Tourist type shows a mean of 3.10 with a standard deviation of 1.418, indicating greater variation compared to gender and marital status. The distribution is slightly left-skewed (-0.247) with a flat peak (-1.316 kurtosis), meaning tourist preferences are diverse without one dominant type. Stay duration has a mean of 2.46 days and a standard deviation of 1.077, showing that most visitors stay between 2-3 days. The skewness (-0.118) is close to zero, and Kurtosis (-1.260) suggests a relatively even spread without extreme peaks. For spending amount, the mean expenditure is ₹11,467.13, with the median slightly higher at ₹11,731.50, suggesting that a few lower spenders may pull the mean down slightly. The distribution is nearly symmetrical (skewness 0.036), and the relatively high standard deviation (₹4,555.48) reflects notable variation in spending habits among visitors. Overall, the data indicates balanced demographic representation, diverse tourist types, short to moderate stays, and varied spending patterns, with most distributions being symmetrical and flat rather than sharply peaked.

FINDINGS

- **Balanced Demographic Profile:** The tourist sample showed near-equal gender representation across varied age groups, ensuring diverse perspectives for infrastructure planning.
- **Group-Oriented Travel:** A large share of visitors travelled in groups, indicating the need for larger accommodations, group transport options, and adequate public amenities.
- **Short to Moderate Stays:** Most tourists stayed 2-5 days, a trend possibly linked to infrastructure gaps in connectivity, sanitation, and recreation, which, if improved, could extend visit duration.
- **Moderate Spending Capacity:** Visitors reported mid-range expenditure, highlighting demand for the affordable yet quality infrastructure, including budget-friendly lodging, dining and transport.
- **Stable Tourist Arrivals:** Consistent, symmetrical arrival patterns suggest steady demand, enabling long-term infrastructure investment without seasonal risk concern.
- **Varied Tourist Interests:** Preferences spanned nature, culture, adventure, and local cuisine, requiring diverse infrastructure such as trekking trails, cultural hubs, safety facilities, and authentic dining.
- **Infrastructure Development Priorities;** Key areas include enhancing transport connectivity, expanding lodging options, upgrading sanitation and waste systems, and developing multi-interest amenities for both budget-conscious and experience focused travellers.

CONCLUSION

The study underscores that while Darjeeling Hills possess immense potential as a premier tourist destination, persistent gaps in basic infrastructure and amenities hinder the region's ability to deliver an optimal visitor experience. Scenic landscapes, cultural richness, and unique attractions draw tourists;

however, issues such as poor road conditions, inadequate public facilities, waste management challenges, and inconsistent utility services diminish overall satisfaction and discourage repeat visits. Addressing these shortcomings through coordinated policy measures, targeted investments, and community participation is essential to enhance the quality of tourism services. Strengthening infrastructure will not only improve tourist experiences but also foster sustainable economic growth, generate employment, and preserve Darjeeling's cultural and natural heritage for future generations.

REFERENCES

1. Basak, D., Bose, A., Roy, S., Chowdhury, I. R., & Sarkar, B. C. (2021). Understanding sustainable homestay tourism as a driving factor of tourist satisfaction: A case of Darjeeling Himalayan region, India. *Current Research in Environmental Sustainability*, 3, 100087.
2. Bhutia, S. (2015). Sustainable tourism development in Darjeeling hills of West Bengal, India: Issues & challenges. *Global Journal of Human-Social Science*, 15(3), 1-10.
3. Chhetri, B. (2023). Assessing the urban sustainability of the slum settlements in the hill resorts of India: A case study of Darjeeling town. *GeoJournal*, 88(2), 1807-1828.
4. Das, P. (2020). A study on the development of tourism industry in Darjeeling. *International Journal of Applied Engineering and Management*, 4(7), 45-50
5. Halder, S., Mondal, B., Mandal, S., & Biswas, S. S. (2024). Water quality and landscape dynamics in Mirik Lake, Darjeeling Himalayas. *Environmental Advances*, 9, 100338.
6. Koner, K. (2021). "Where does water go?" A critical analysis of the nature of water crisis in Darjeeling city, India. *Applied Water Science*, 11(2), 1-13
7. Limbu, D. (2014). Solid waste management in the town of Darjeeling: Environmental concern. *International Journal of Humanities and Social Science Invention*, 3(8), 46-54.
8. Mell, I. C., & Sturzaker, J. (2014). Sustainable urban development in tightly constrained areas: a case study of Darjeeling, India. *International Journal of Urban Sustainable Development*, 6(1), 65-88
9. Mohapatra, P., & Biswas, S. N. (2024). Mountain Tourism Development: Evaluating Problems and Prospects of Nature-Based Tourism in the Himalayan Region of Darjeeling, India. In *Mountain Tourism and Ecological Impacts: Himalayan Region and Beyond* (pp. 115-122). IGI Global Scientific Publishing.
10. Nag, D. (2018). Sustainability assessment for the transportation environment of Darjeeling, India. *Urban Transport Journal*, 16(2), 45-58.
11. Paul, S. (2022). Sustainable Development and Hill Area Development Programme in Darjeeling District Hill Areas of West Bengal, India. *Journal of Kavikulaguru Kalidas Sanskrit University*.
12. Pradhan, U. M. (2008). Sustainable solid waste management in a mountain ecosystem: Darjeeling, West Bengal, India (master's thesis, University of Manitoba). University of Manitoba Libraries.
13. Sharma, S. (2023). An analytical study on the growth of home stays in Darjeeling Hills. *International Journal for Multidisciplinary Research*, 5(2), 115-122.