



## **TOURISM POTENTIAL AND SUSTAINABILITY ANALYSIS OF SIRUMALAI HILLS, TAMIL NADU: AN STBT-BASED APPROACH**

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### **Abstract**

**T**ourism has become a key driver of economic growth, contributing significantly to employment generation, income creation, and regional development. This study examines the tourism potential and sustainability of Sirumalai Hills in Tamil Nadu, India, using the Sustainable Tourism Benchmarking Tool (STBT). Located in the Western Ghats, Sirumalai is endowed with rich biodiversity, scenic landscapes, a favourable climate, and cultural attractions, positioning it as an emerging hill tourism destination.

The study adopts a secondary databased approach, utilizing government reports, tourism statistics, and existing literature to analyse seven core dimensions of STBT: tourism assets, tourism activity, linkages, leakages, infrastructure, attractiveness, and environmental and social sustainability. The findings indicate that Sirumalai possesses considerable tourism potential, supported by natural attractions

such as forests, viewpoints, trekking trails, and cultural sites. Tourism activities in the region contribute to local economic development by generating employment and strengthening linkages with agriculture, transport, and small-scale enterprises.

However, the study also identifies significant challenges associated with increased tourist inflow, including environmental degradation, overuse of natural resources, unplanned infrastructure development, and economic leakages due to external intermediaries and non-local participation. These issues highlight the need for a balanced and sustainable approach to tourism development.

The study emphasizes the importance of strengthening local economic linkages, minimizing leakages, improving infrastructure, and promoting community participation. It also stresses the adoption of environmentally responsible practices such as waste management, conservation of biodiversity, and regulation of construction



activities. The findings suggest that sustainable tourism development in Sirumalai can be achieved by maintaining a balance between economic growth, environmental protection, and social well-being.

Overall, the study concludes that Sirumalai Hills have strong potential to emerge as a sustainable hill tourism destination, provided that appropriate planning, policy interventions, and community-based strategies are effectively implemented.

**Keywords:** Sustainable Tourism, Sirumalai Hills, Tourism Potential, STBT, Environmental Sustainability, Tourism Linkages, Tourism Leakages, Hill Tourism.

### Introduction:

Tourism is a rapidly expanding sector that plays a vital role in both global and national economic growth. This study explores the tourism potential and sustainability of Sirumalai Hills in Tamil Nadu, India, by examining its economic, environmental, and social aspects. Situated in the Western Ghats, Sirumalai is rich in biodiversity, scenic beauty, favourable climate, and cultural attractions, making it an emerging destination for hill tourism.

The study employs the **Sustainable Tourism Benchmarking Tool (STBT)** to analyse tourism performance across several dimensions, including tourism assets, activities, linkages, leakages, infrastructure, attractiveness, and overall sustainability.

The analysis is based on secondary data obtained from government publications, statistical records, and relevant research studies. The results show that Sirumalai possesses significant tourism potential and contributes to local development by generating employment, increasing income, and supporting related sectors such as agriculture and transport. However, the growing number of tourists has also led to challenges such as environmental degradation, overuse of natural resources, unplanned development, and economic leakages.

The study emphasizes the adoption of sustainable tourism strategies, including environmental protection, improved infrastructure, stronger local economic linkages, and increased community involvement. It highlights the importance of maintaining a balance between tourism growth and environmental conservation to ensure long-term sustainability and protect the region's natural and cultural resources.

Global tourism contributes approximately \$11.6 trillion to the global economy, representing 9.8% of global GDP. The sector continues to outperform overall economic growth, expanding at a rate of 4.1%, compared to the broader global growth rate of 2.8%. Travel and tourism support around 366 million jobs worldwide, accounting for 10.9% of total global employment. The industry remains a major driver of job creation, contributing to one in every three new jobs created globally.



At the regional level, the Asia-Pacific region leads growth, with an 8.1% increase in travel and tourism GDP, driven by rising incomes, expanding infrastructure, and strong travel demand.(WTTC2025). India's tourism sector plays a significant role in the country's economy, contributing substantially to its GDP through various channels such as employment generation, foreign exchange earnings, and infrastructure development. In 2024, the travel and tourism sector contributes around 9.1% to India's total GDP, amounting to over USD 11.1 trillion. During 2023-24, the sector contributes approximately INR 15.73 lakh crore, accounting for 5.22% of the total economy. In 2023, tourism represents about 1.8% of the global market, with India ranking 14th in global tourism receipts, reflecting its growing international presence. Earlier, in 2022, the tourism sector is estimated to contribute around 9.2% to the country's GDP, demonstrating resilience and recovery. Overall, these figures highlight the increasing importance of tourism as a key driver of India's economic growth and development. (WTTC, 2025)

## Origin, Growth and Evolution of Hill Stations

Hill stations in India were largely a British colonial innovation developed during the early 19th century (Mitchell, 1972). Established by the East India Company, these high-altitude settlements—typically located between **1200 m and 2250 m**—were situated in the Himalayan and peninsular hill regions.

Their primary purpose was to provide European-like climatic conditions for British officials and soldiers (Mitchell, 1972). Initially, hill stations were developed as sanatoria (health retreats) in the 1820s, enabling Europeans to recover from tropical diseases such as malaria (Mitchell, 1972). Over time, their function extended beyond healthcare. They gradually became summer resorts, offering relief from the intense heat of the Indian plains and serving as places for rest and recreation.

Following the Revolt of 1857, hill stations assumed greater importance as secure enclaves for the British population, providing safety and a familiar environment within a colonial setting (Mitchell, 1972). Consequently, they evolved into exclusive settlements with both social and administrative significance. After India's independence, these hill stations underwent transformation and developed into popular tourist destinations. Despite experiencing periods of stagnation—particularly during the 1920s, 1950s, and 1960s—they have witnessed renewed growth in recent decades and now form an integral part of India's settlement system (Mitchell, 1972).

A hill station is a type of hill town, mostly in colonial Asia, but also in colonial Africa, founded by European colonialists as a refuge from the summer heat. As historian, Dane Kennedy observes about the Indian context, "the hill station was seen as an exclusive British preserve: here it was possible to render the Indian into an outsider".

The term is still used in present day, particularly in India, which has the largest number of hill stations; most are situated at an altitude of approximately 1,000 to 2,500 metres (3,300 to 8,200 ft). (Kennedy & Dane, 1996).

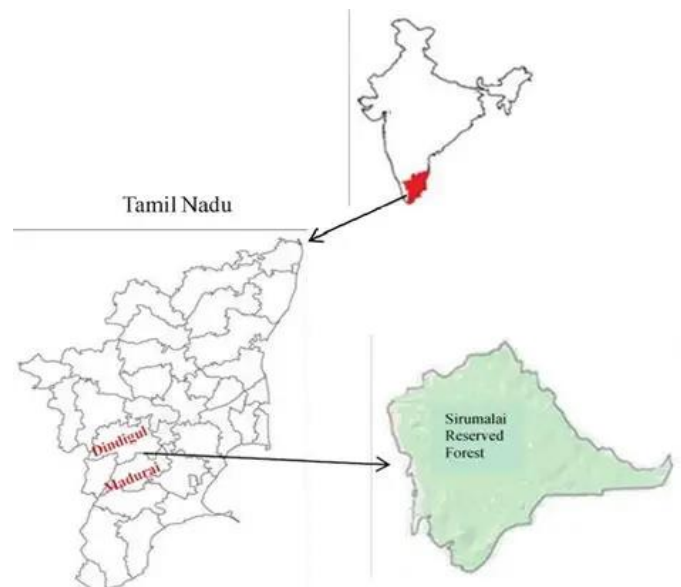
### Tourism policy and hill tourism

The Tourism Policy, 2022 highlights the adoption of Green Tourism as an important strategy for promoting sustainable hill tourism, especially in mountainous regions and hill towns. This approach aims to protect and preserve the delicate social, economic, cultural, and environmental balance of hill areas, while meeting the needs of tourists, the tourism industry, local communities, and the natural environment.

In the context of hill tourism, Green Tourism focuses on making tourism activities more energy-efficient, climate-sensitive, and resource-conscious, with reduced water usage and minimal waste generation. It promotes the conservation of fragile mountain ecosystems and biodiversity, along with the protection of local traditions, heritage, and lifestyles unique to hill communities. Furthermore, it encourages community participation, supports local livelihoods, and fosters cultural exchange and mutual respect between visitors and residents. By doing so, it aims to improve the quality of life in hill regions, reduce poverty, and ensure that tourism development remains sustainable and beneficial for future generations.

Green Tourism in hill areas aligns tourism development with the Sustainable Development Goals (SDGs) 2030, ensuring responsible use of natural resources while maintaining the ecological and cultural integrity of mountainous destinations.

**Study Area:** Sirumalai is the eastern -most outcrop or spur of the Western Ghats and an independent range, and the Sirumalai range stretches about 45 km on the Dindigul-Madurai road with its width being about 15 – 25 km. There is no independent range in Tamil Nadu, which is as big as with many comparable ranges in Tamil Nadu. The hill has a cool climate it is 1200 MSL meters high and spreads over 60,000 acres. On third of the area belongs private revenue land on which grows coffee, cardamom, black pepper, banana and lemon.



Source: Tamil Nadu Tourism Department



The detail of study area information shows that Sirumalai is a small hill and is located in Dindigul district, Tamil Nadu, India his between 10° 07' N longitude and 77° 55' E longitude. They are an isolated, compact group of hills stretching about 6.5 km south of Madurai city. The hills are rectangular in outline, having 19.3 km length towards north south and 12.8 km width east west, covering an area of 288.3sqkm. The maximum rainfall occurs during the monsoon months from April to September. (Mayavan and Sundaram, 2012)

### Importance of the Study

The study of hill areas and hill tourism is important because these regions possess rich natural resources, a healthy environment, varied ecosystems, and unique biodiversity, including diverse flora and fauna (Singh, 2015). Their pleasant climate, scenic beauty, green surroundings, and snow-covered mountains attract a large number of tourists, particularly from the hot plains, making these areas significant tourist destinations (Sharma, 2018).

Hill regions also represent important centres of cultural and natural heritage, with many religious sites, historical landmarks, and traditional settlements. These features contribute greatly to both domestic and international tourism in India (UNWTO, 2019). However, in the past few decades, the rise in tourism has led to population growth, unplanned urban expansion, and extensive construction activities in these regions (Reddy, 2017).

Such uncontrolled growth has increased demand for infrastructure, services, and resources, placing heavy pressure on the fragile hill environment and making it more susceptible to environmental damage (Kumar and Singh, 2020). Therefore, studying hill tourism is essential to understand the effects of tourism and urbanization and to emphasize the need for proper planning and sustainable development.

The study also promotes environmental protection, responsible tourism practices, and balanced development to safeguard these sensitive ecosystems for future generations (Verma, 2021).

### Potential of Hill Tourism

Hill tourism has the potential to significantly impact local economies and communities. It can provide employment opportunities, contribute to infrastructure development, and promote cultural exchange. However, to ensure sustainable development, it is essential to balance the benefits with the challenges of environmental conservation and community well-being. Sustainable tourism practices can help mitigate negative impacts and maximize the positive outcomes of hill tourism.

Hill tourism in Tamil Nadu has great potential, supported by strong statistical growth in visitor numbers and revenue. The state's famous hill stations such as Ooty (Nilgiris), Kodaikanal, Yercaud, and Yelagiri attract a large number of tourists due to their cool climate and scenic beauty.



According to The Times of India (2024), Tamil Nadu received 28.61 crore domestic tourists and 11.75 lakh foreign tourists in 2023, showing a sharp rise compared to previous years.

The growth continued in 2024 with around 30.68 crore total tourist visits, highlighting the expansion of the tourism sector (Tamil Nadu Tourism Department, 2024). Hill regions play a key role in this growth; for example, the Nilgiris district (including Ooty) alone recorded about 97 lakh (9.7 million) visitors (Tamil Nadu Tourism Report, 2024), and the Government Botanical Garden in Ooty received about \*28 lakh visitors in 2023 (The Hindu, 2024). During peak seasons, daily tourist arrivals in major hill stations like Ooty and Kodaikanal range from 39,000 to 1 lakh visitors (Times of India, 2024). In addition, the tourism sector contributes significantly to the economy, with Tamil Nadu Tourism Development Corporation (TTDC) revenue increasing from ₹49.11 crore in 2020-21 to ₹243.31 crore in 2023-24 (The Hindu, 2025).

The Sustainable Tourism Benchmarking Tool (STBT), proposed by Cernat and Gourdon (2012), is a comprehensive framework designed to evaluate tourism sustainability. It incorporates the three main pillars of sustainability – environmental, social, and economic – and can be applied at various spatial levels. In this study, STBT is used to assess tourism performance.

## Method : Sustainable Tourism Benchmarking Tool (STBT)

The tool is particularly suitable for the Indian context as it provides a detailed structure consisting of seven dimensions of sustainable tourism development. Each dimension is measured through clearly defined indicators, with flexibility to adapt sub indicators according to local conditions. Additionally, STBT enables comparisons across different destinations, which in this case are the wards within a city.

A key strength of the framework is its ability to identify issues within the tourism sector, allowing policymakers to address them through appropriate and well-informed interventions.

## The seven dimensions included in the STBT are:

1. Tourism Assets
2. Tourism Activity
3. Tourism-Related Linkages
4. Tourism-Related Leakages
5. Environmental and Social Sustainability
6. Infrastructure
7. Attractiveness

Secondary data for the study is collected through published government reports and research papers and unpublished sources such as from government offices and websites.

### Tourist Assets:

Tourism assets are the primary elements that attract visitors and often serve as the main reason for choosing a destination. These assets are broadly classified into two types:

- i) **Natural assets**, which are associated with the natural environment; and
- ii) **Cultural assets**, which include cultural heritage, museums, archaeological sites, architecture, traditional crafts, and major cultural or sporting events (Cernat & Gourdon, 2012).

A quantitative assessment of both natural and cultural assets is conducted using secondary data sources. Benchmarking is carried out with reference to the URDPFI Guidelines (2015). This analysis is further supported by a survey capturing tourists' perceptions regarding the quality of these assets.

**For purpose of evaluation athillstation the numerous tourist assets:**

#### 1. Sirumalai Viewpoints

Offers panoramic views of Dindigul town and surrounding valleys. Popular viewpoints include Observation Tower (17th hairpin bend) and Selvi Koil viewpoint.

#### 2. Annai Velankanni Church

A peaceful church located on the hilltop. Famous for its annual festival in September.

#### 3. Vellimalai Murugan Temple

Sacred temple dedicated to Lord Murugan. Requires about 45 minutes of trekking. A popular pilgrimage destination.

#### 4. Sirumalai Lake

A Man-made lake built in 2010, surrounded by greenery. Boating is available on weekends.

#### 5. Sirumalai Reserved Forest

Dense forest covering around 60,000 acres. Wildlife includes deer, sloth bear, jackal, and slender loris. Ideal for nature lovers and birdwatching.

#### 6. Kamaraj Memorial & Scenic Drive

Famous for 18 hairpin bends and a beautiful hill road journey. Popular photo stop.

#### 7. Sanjeevani Hills (Mythological Site)

Believed to be part of the hill carried by Lord Hanuman. Known for rare medicinal plants.

#### 8. Waterfalls Around Sirumalai

Includes seasonal waterfalls such as Sirumalai Falls and Vellimalai Falls. Best during the rainy season.

#### 9. Trekking & Nature Walks

Activities include forest trekking, bird watching, and exploring herbal plants. Trails range from easy to moderate.

## 10. Khandige Estate

A protected forest area known for biodiversity and coffee plantations.

### Tourism activity

This dimension of sustainable tourism involves tourist numbers and their character in terms of purpose of visit, place of origin, mode of transport, etc. These statistics determine both the quantity of arrivals and their quality. A destination benefits when the tourists visiting it are willing to pay for higher quality of goods and services as this generates more revenue (Cernat & Gourdon 2012).

### Tourist arrival 2011-2024

Year	Domestic	Foreign
2011	13,67,50,750	33,08,438
2012	18,41,36,840	35,61,740
2013	24,42,32,487	39,90,490
2014	32,75,55,233	46,57,630
2015	33,34,59,047	46,84,707
2016	34,38,12,413	47,21,978
2017	34,50,61,140	48,60,455
2018	38,59,09,376	60,73,345
2019	49,48,65,257	68,66,327
2020	14,06,51,241	12,28,323
2021	11,53,36,719	57,622

2022	21,85,84,846	4,07,139
2023	28,60,11,515	11,74,899
2024	30,68,42,014	11,61,302

Source: Tamil Nadu Tourism Department

Tourists visiting hill stations in Tamil Nadu such as Ooty, Kodaikanal, and Yercaud exhibit distinct spending patterns influenced by leisure travel and longer stays. A major share of their expenditure is on accommodation, including hotels, resorts, and cottages, accounting for nearly 30–40% of total spending (Ministry of Tourism, 2022). Food and beverages form another important expense, contributing around 15–20%, as tourists spend on restaurants, cafés, and local cuisine (UNWTO, 2021).

Transportation costs, including taxis, buses, and local travel within hilly areas, make up about 20–25%, as tourists frequently travel to viewpoints and attractions (Government of Tamil Nadu, 2023). Visitors also spend on recreational activities such as boating, trekking, and sightseeing, while shopping accounts for about 10–15%, with popular purchases including tea, spices, eucalyptus oil, and handicrafts (Tamil Nadu Tourism Department, 2023).

Domestic tourists usually stay for 2–4 days and spend around ₹2,000–₹5,000 per day, whereas foreign tourists stay longer and spend approximately ₹5,000–₹12,000 per day (Ministry of Tourism, 2022).



Overall, hill station tourism in Tamil Nadu leads to higher per day expenditure due to leisure activities and longer stays, making it an important contributor to local income and economic development. Tourism activity in Sirumalai can be understood through the duration of stay of tourists, which ranges from short one-day visits to longer stays of more than four days. The length of stay is important because it directly influences tourist spending and economic contribution to the local area. The perception of local residents about the increasing flow of tourists also plays a vital role in determining sustainable tourism development, as community support is essential for long-term growth (UNWTO, 2021).

One of the key ways to enhance the economic benefits of tourism is by building strong linkages between tourism and other sectors of the local economy such as agriculture, transport, and small-scale industries, as emphasized by Cernat and Gourdon (2012). In Sirumalai, tourist spending on accommodation, food, transportation, shopping, and activities generates income for local people and creates a multiplier effect. The quality of services such as hotels, restaurants, street food, transport facilities, and tourist information centres affects tourist satisfaction and their willingness to spend more.

According to IL&FS IDC (2006), tourism contributes significantly to local economies when it generates employment opportunities, and this can be measured through the proportion of local people

working in tourism-related activities. However, tourism development may not fully benefit the local economy due to the presence of leakages. As explained by Cernat and Gourdon (2012), leakages occur when tourism income flows out of the region instead of remaining within the local economy. Economic leakages can occur when tourists spend money on services operated by outsiders, while infrastructure leakages arise when facilities do not match tourist expectations. Leakages also happen due to external intermediaries such as travel agents and online booking platforms, as well as the employment of non-local workers. Additionally, uneven distribution of tourism assets may lead to unequal development across different areas of Sirumalai.

Sustainability in tourism requires a balance between economic growth, environmental protection, and social well-being. According to Cernat and Gourdon (2012), a destination is sustainable only when both the condition of the local population and the environment are improving. In Sirumalai, increasing tourist inflow may create pressure on natural resources through pollution, waste generation, and overuse of forests. Environmental sustainability can be assessed by observing factors such as air quality, traffic, and conservation efforts (Government of Tamil Nadu, 2023). Social sustainability is reflected in the ratio of tourists to the local population and in residents' opinions about the impact of tourism on culture, traditions, and employment opportunities.



Thus, tourism in Sirumalai has the potential to significantly contribute to economic development through tourist spending and employment generation. However, to ensure long-term benefits, it is important to strengthen local linkages, reduce leakages, improve service quality, and protect the environment. Following the approach suggested by Cernat and Gourdon (2012), sustainable tourism in Sirumalai can be achieved by ensuring that economic benefits remain within the local community while preserving natural and cultural resources.

### **Tourism-Related Linkages in Sirumalai (Rewritten)**

Improving the economic advantages of tourism depends on how well it is linked with the local economy, especially with sectors like agriculture, transportation, and small-scale businesses (Cernat & Gourdon, 2012). In Sirumalai, these connections can be seen through tourists' spending habits and their interest in the destination. Visitors spend money on lodging, food, travel, and local products, which supports local income and creates wider economic benefits.

The performance of tourism services is measured based on tourists' feedback on key facilities such as i) accommodation, ii) restaurants, iii) street food, iv) transportation, and v) tourist information centres. These aspects highlight both the service quality and the extent to which tourists are willing to use them, thereby strengthening economic linkages and boosting related activities.

Tourist satisfaction is another important factor in understanding these linkages. When tourists have a good experience, they are more likely to return and suggest the destination to others, which helps build loyalty and encourages future growth. Additionally, tourism creates job opportunities for local people in areas like hotels, guiding services, transport, and small businesses, improving their standard of living. However, tourism growth in Sirumalai should be properly controlled by considering the opinions of local communities. A high number of tourists can harm the environment and increase pressure on natural resources. Therefore, it is important to maintain a balance between economic benefits, quality services, and environmental protection to ensure sustainable tourism development.

### **Tourism Leakage in Sirumalai (Paraphrased)**

Cernat & Gourdon (2012) emphasize that the absence of strong connections between tourism and other sectors of the local economy reduces the overall development potential generated by tourism. They identify four key dimensions for assessing tourism leakage: economic leakage, infrastructure-related leakage, leakage through external intermediaries, and the spatial distribution of tourism assets.

Economic leakage mainly occurs through tourist expenditure. In this study, visitors are asked to report their average daily spending on i) accommodation, ii) travel, iii) food and beverages, iv) activities, and v) shopping.



This helps determine the extent to which tourist spending benefits the local economy or flows outside the region. Infrastructure-related leakage arises when there is a gap between the facilities provided and tourists' expectations. Accommodation is used as an important indicator in this regard. Tourists' preferences collected during the survey are compared with the available accommodation facilities in Sirumalai to identify mismatches that may affect their experience and spending.

Leakages also occur due to the involvement of external intermediaries, such as outside travel agents, online booking platforms, and non-local service providers. In addition, employment leakage is assessed by examining the proportion of local employees in comparison to non-local workers in the tourism sector. The survey includes questions about how tourists arrange their accommodation to better understand this aspect. The fourth measure of tourism leakage is the distribution of tourism assets across different areas. This involves comparing the availability of tourism facilities in various parts of Sirumalai. By analysing the spatial pattern of tourism development, it is possible to identify disparities between well-developed and less-developed areas.

## Environmental and Social Sustainability in Sirumalai

Cernat & Gourdon (2012) suggest that a tourism destination can be considered sustainable only when both the quality of life of local people and the condition of the

environment are maintained or show improvement. In Sirumalai, this can be achieved by strengthening connections between tourism and the local economy while reducing leakages, ensuring that tourism income benefits the community and supports environmental protection.

The environmental effects of tourism in Sirumalai can be assessed through efforts to conserve forests, biodiversity, and natural resources. The growth of tourism, including increased transport, construction, and accommodation facilities, may create pressure on the environment. Therefore, factors such as air quality, waste management, and the use of natural resources like water must be monitored to evaluate tourism-related impacts.

Social sustainability is measured by examining the ratio of tourists to the local population, which indicates the level of pressure placed on residents. A high number of visitors can strain infrastructure, resources, and the daily lives of local people. Hence, it is important to manage tourist numbers within the carrying capacity of the area.

Furthermore, the opinions of local residents are essential in understanding sustainability. Their views on how tourism affects the environment, cultural values, traditions, and employment opportunities provide useful insights into its overall impact. These perceptions help determine whether tourism development is positive or negative for the community.



Sustainable tourism in Sirumalai requires maintaining a proper balance between the well-being of local people and the protection of the natural environment. Tourism development should improve the income and living standards of local residents while also preserving forests, biodiversity, and the overall ecological system. This can be achieved by strengthening local economic linkages and reducing leakages so that more tourist spending remains within the region and benefits the community. At the same time, the environmental impact of tourism must be controlled by managing pollution, limiting deforestation, and regulating construction activities.

Increasing tourist arrivals can place pressure on local resources such as water, roads, and waste management systems, especially when the number of visitors exceeds the capacity of the local population. Therefore, it is important to monitor the ratio of tourists to residents to avoid overcrowding and environmental stress. The opinions of local people also play a crucial role in assessing sustainability, as their views reflect the impact of tourism on culture, traditions, employment, and quality of life. Thus, sustainable tourism in Sirumalai can be achieved by ensuring economic benefits for locals, protecting the environment, and maintaining social harmony for long-term development.

## Recommendation for Sustainable Tourism Development in Sirumalai

### 1. Environmental Conservation

- Implement strict regulations to control deforestation, waste disposal, and pollution.
- Introduce proper solid waste management systems and promote plastic-free tourism.
- Encourage eco-friendly practices such as rainwater harvesting and renewable energy use.

### 2. Infrastructure Development

- Improve road connectivity and public transport facilities for better accessibility.
- Develop basic amenities such as clean drinking water, toilets, parking, and signage.
- Promote eco-friendly accommodation like homestays and green hotels.

### 3. Strengthening Local Economy

- Encourage the use of local products (spices, handicrafts, farm products) by tourists.
- Promote community-based tourism to ensure income reaches local residents.
- Provide skill training programs for locals in hospitality, guiding, and tourism services.

#### 4. Reducing Tourism Leakages

- Support local entrepreneurs instead of external operators.
- Encourage tourists to book locally owned accommodations and services.
- Reduce dependency on outside intermediaries and promote direct local bookings.

#### 5. Sustainable Tourism Planning

- Prepare a proper tourism master plan considering carrying capacity.
- Regulate construction activities to prevent unplanned urbanization.
- Introduce zoning regulations to protect environmentally sensitive areas.

#### 6. Promotion and Awareness

- Promote Sirumalai as an eco-tourism destination through digital platforms.
- Conduct awareness programs for tourists on responsible tourism practices.
- Highlight unique attractions like biodiversity, trekking, and cultural heritage.

#### 7. Community Participation

- Involve local people in decision-making and tourism planning.
- Encourage participation in tourism-related businesses such as homestays, food services, and guiding.
- Ensure tourism development improves the quality of life of residents.

#### 8. Monitoring and Evaluation

- Regularly assess tourism impacts using tools like STBT.
- Monitor environmental indicators such as air quality, water usage, and waste generation.
- Collect feedback from both tourists and local communities.

#### 9. Cultural Preservation

- Protect local traditions, festivals, and heritage sites.
- Promote cultural tourism without disturbing local lifestyles.
- Encourage respectful interaction between tourists and residents.

#### 10. Disaster and Risk Management

- Develop plans to manage landslides, forest fires, and climate risks.
- Ensure safety measures for tourists, especially in trekking and forest areas.

#### Conclusion

Tourism has emerged as a major driver of global and national economic growth, with significant contributions to GDP, employment, and infrastructure development. In India, and particularly in Tamil Nadu, hill tourism plays a crucial role in attracting large numbers of visitors due to its pleasant climate, scenic landscapes, and rich biodiversity. Sirumalai, as a unique hill ecosystem, possesses considerable potential for tourism development through its natural attractions, cultural sites, and recreational opportunities.



The study highlights that tourism in Sirumalai contributes to local economic development by generating employment, supporting small-scale businesses, and improving living standards. At the same time, it strengthens linkages with sectors such as agriculture and transportation.

However, the increasing growth of tourism also brings challenges, including environmental degradation, pressure on natural resources, unplanned development, and economic leakages. These issues underline the need for a balanced and sustainable approach to tourism development. The application of the Sustainable Tourism Benchmarking Tool (STBT) provides a comprehensive framework to assess tourism performance across economic, environmental, and social dimensions. The findings suggest that sustainable tourism in Sirumalai depends on strengthening local participation, improving infrastructure, reducing leakages, and protecting ecological and cultural resources.

Sirumalai has strong potential to develop as a sustainable hill tourism destination. With proper planning, responsible tourism practices, and active involvement of the local community, tourism can serve as a powerful tool for long-term economic growth while preserving the natural and cultural heritage of the region for future generations.

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