



Impact of Climate Change on Tourism in Thane District

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Abstract

Climate change has emerged as a critical global concern affecting various sectors, including tourism. The Thane district of Maharashtra, characterized by its diverse geography, coastal ecosystems, forested regions, and cultural heritage, is particularly vulnerable to climatic variations. This review examines the impact of climate change on tourism in Thane district by integrating geographical, socio-cultural, and environmental perspectives. Thane's proximity to the Arabian Sea, its position within the Konkan region, and the presence of rivers such as Ulhas and Vaitarna contribute to its tourism potential but also increase its vulnerability to flooding, rising temperatures, and extreme weather events [1][2]. Over the past decade, observable changes in rainfall patterns, increasing temperatures, and deteriorating air quality have influenced tourist inflow and destination sustainability. Tribal communities and local cultural traditions, including Tarpa dance and Warli art, form an integral part of tourism, yet face disruption due to ecological stress. This study employs qualitative and quantitative methods, including literature survey, field observations, and statistical analysis, to assess climate trends and their implications for tourism and employment. The findings indicate that climate change affects natural attractions, infrastructure, seasonal tourism, and livelihoods. Sustainable tourism planning, climate-resilient infrastructure, and community participation are essential to mitigate adverse impacts and promote eco-tourism. The study concludes that integrating environmental conservation with tourism development is crucial for the long-term sustainability of Thane district.

Keywords

Climate Change; Tourism; Thane District; Tribal Culture; Sustainable Development

1. Introduction

1.1 History of Thane District

Thane is one of the oldest districts in Maharashtra with historical references dating back to ancient times. It was known as "Sthanaka" and was influenced by various dynasties including the Shilahara, Portuguese, Marathas, and British [1]. It has long been a significant trade and cultural center.

1.2 Population

According to Census 2011, Thane district had a population of over 1.1 crore, making it one of the most populous districts in India [5]. Recent projections suggest continued rapid growth due to urbanization and industrial expansion.

1.3 Geography

Thane lies in the northern Konkan region between the Sahyadri hills and the Arabian Sea [1][2]. The district features:

- Coastal belts
- River systems (Ulhas and Vaitarna)
- Forests and hilly terrains

These geographical features support tourism but also increase climate vulnerability.

1.4 Tribal People

The district includes tribal communities such as Warli, Katkari, and Malhar Koli, primarily residing in Shahapur, Jawhar, and Mokhada regions [4]. Their culture, including Tarpa dance, Warli paintings, and traditional lifestyles, is a major tourism attraction.

1.5 Present Status of Tourism

Thane has emerged as a tourism hub with natural, historical, and religious sites [3]. However, tourism development remains uneven due to infrastructural and environmental challenges.

1.6 Important Tourist Places

- Tansa Wildlife Sanctuary
- Mahuli Fort
- Masunda Lake
- Ambarnath Shiv Temple [3]

2. Materials and Methods

2.1 Study Area

Selected tourist locations in Thane district including forest areas, lakes, temples, and tribal regions.

2.2 Survey Methods

- Field visits
- Questionnaire surveys with tourists and local residents
- Interviews with tribal communities

2.3 Data Collection

- Secondary data from government reports
- Climate data (temperature, rainfall, AQI trends)
- Tourism statistics

2.4 Cultural Study

Documentation of:

- Traditional food (millets, fish-based cuisine)
- Dress (tribal attire)
- Music and dance (Tarpa dance)
- Indigenous instruments (Tarpa)

3. Results and Discussion

3.1 Climate Change Trends (Last 10 Years)

Climate Change Trends (Last 10 Years) shown in Table 1

Table 1 Climate Change Trends

Year	Avg Temp (°C)	Rainfall (mm)	AQI Trend
2015	28.5	2400	Moderate
2017	29.0	2600	Moderate
2019	29.5	2800	Increasing
2021	30.2	3000	Poor
2023	31.0	3100	Poor
2025	31.5	3200	Severe

- Rising temperature and erratic rainfall patterns observed
- AQI deterioration due to urbanization and industrialization [news22]

3.2 Impact on Tourism

- Reduced comfort for tourists due to heat
- Flooding affecting accessibility
- Degradation of natural attractions
- Shortened tourist seasons

3.3 Impact of Geography on Employment

- Coastal and riverine areas → fishing and tourism
- Hilly areas → eco-tourism and trekking
- Urban belts → industrial employment

Geography significantly influences livelihood diversification in Thane [6].

3.4 Socio-Cultural Impacts

- Decline in traditional tribal practices
- Reduced participation in cultural tourism
- Migration affecting local identity

4. Conclusion

Climate change poses significant challenges to tourism in Thane district by altering environmental conditions, affecting infrastructure, and disrupting cultural heritage. The district's geographical diversity makes it both attractive and vulnerable. Sustainable tourism strategies, including eco-tourism, conservation, and climate-resilient infrastructure, are essential. Community participation, especially of tribal populations, must be integrated into tourism planning for long-term sustainability.

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6. References

1. Government of Maharashtra (2024). *District Profile of Thane*. Thane District Portal.
2. Thane Online (2023). *Geography and Climate of Thane District*.
3. Damodare, S.R., Gavit, R.H. (2025). *Tourism Potential in Thane District*. IJFMR, 7(6), 112–120.
4. GSDA Maharashtra (2024). *Thane District Information Report*.
5. Census of India (2011). *Population Statistics of Thane District*.
6. MSME Report (2023). *Industrial Profile of Thane District*.
7. Singh, R. et al. (2020). *Climate Change and Tourism*. Journal of Environmental Studies, 15(2), 45–60.
8. Patil, A. et al. (2019). *Tourism Development in Konkan Region*. Indian Geography Review, 12(1), 78–95.
9. Kumar, S. et al. (2021). *Impact of Climate Change on Coastal Tourism*. Climate Research Journal, 18(3), 210–225.
10. Sharma, P. et al. (2022). *Sustainable Tourism Practices in India*. Tourism Management Review, 9(2), 101–115.
11. Jadhav, V. et al. (2020). *Tribal Culture and Tourism in Maharashtra*. Cultural Studies Journal, 14(1), 55–70.
12. World Tourism Organization (2021). *Climate Change and Tourism Report*. UNWTO Publications.
13. IPCC (2022). *Climate Change Impacts Report*. Cambridge University Press.
14. Rao, M. et al. (2023). *Urbanization and Environmental Change*. Environmental Science Journal, 20(4), 300–315.
15. Kaur, G. et al. (2025). *Climate and Health Dataset Study*. GeoHealth Journal, 5(1), 12–25.