



Exploring tourist patterns: A comprehensive analysis of tourism flow in ranthambore tiger reserve

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Abstract

This study explores tourist patterns within Ranthambore Tiger Reserve (RTR), located in the Sawai Madhopur, district of Rajasthan, India, utilizing secondary data sourced from the Department of Forest, Rajasthan Government. RTR, spanning over 1,334 km², is renowned for its rich biodiversity, particularly its population of Bengal tigers, making it a prime destination for wildlife enthusiasts and tourists alike. Through a comprehensive analysis of tourism flow, this research aims to delineate the spatial distribution of visitor activities within the reserve. Secondary data obtained from the Department of Forest will be utilized to examine trends in tourist arrivals, visitor demographics, and seasonal variations in visitation patterns which would be helpful to map tourist hotspots, trails, and key points of interest within RTR. Furthermore, the study will assess the environmental impact of tourism on the reserve's ecosystem. This analysis will facilitate an understanding of the spatial-temporal dynamics of tourist impacts on the natural environment. By leveraging secondary data from the Department of Forest, this research seeks to provide valuable insights into the geographical dimensions of tourism flow in Ranthambore Tiger Reserve. The findings of this study are expected to inform conservation efforts, aid in the development of sustainable tourism strategies, and contribute to the effective management of RTR's natural resources. Through a geographical lens, this research endeavours to foster a deeper understanding of the interplay between tourism, ecology, and spatial dynamics within protected areas.

Keywords: Biodiversity, tourism flow, visitor demography, sustainable tourism

Introduction

The tourism sector has emerged as a pivotal catalyst for economic expansion, standing out as one of the most rapidly growing industries with profound effects on trade, job generation, investment, infrastructure enhancement, and social integration. Serving as a primary source of employment, tourism is characterized by its labour-intensive nature, fostering considerable employment opportunities across various associated sectors. Notably, tourism exhibits a notable proclivity for employing women and youth, surpassing many other industries in this regard. Furthermore, tourism holds the capacity to mobilize resources dedicated to the preservation of both cultural and natural heritage, presenting a substantial avenue for contributing positively to the pursuit of sustainable development objectives (*National Tourism Policy | Ministry of Tourism | Government of India*, n.d.). Wildlife tourism encompasses the observation and engagement with indigenous flora and fauna within their native environments (*UN Tourism | Bringing the World Closer*, n.d.). Ecotourism embodies a sustainable tourism approach conducted in natural or cultural heritage regions, emphasizing community involvement, the conservation and management of natural resources, preservation of culture, indigenous wisdom, environmental education, ethical practices, and economic advantages, all aimed at enhancing the well-being of host communities and fulfilling visitors' satisfaction (Forest Department, 2021). Tourism focused on tiger sightings contributes significantly to the environment and economy of the surrounding region, serving as a vital revenue stream within the forest ecosystem (Singh & Sen, 2022) ^[12]. Ecotourism has the potential to serve as a complementary element in the development of both rural and well-established urban-based tourism industries

(*INTERNATIONAL JOURNAL OF RESEARCH IN COMMERCE, ECONOMICS & MANAGEMENT*, n.d.). Protected areas offer immense cultural, ecological, spiritual, and scientific advantages to society. They play a crucial role in safeguarding global biodiversity and mitigating the threat of extinction. Presently, there are over 100,000 protected areas globally, covering approximately 12 percent of the Earth's surface (Janishevski *et al.*, n.d.). Wildlife tourism is on the rise, especially in developing nations like India. The perceived advantages of this surge in tourism include increased tourist engagement with and backing for conservation efforts (Karanth *et al.*, 2012) ^[7]. The expansion of tourism is attributable to rising disposable incomes, enhanced accessibility for urban dwellers, and heightened promotion of, as well as growing public fascination with, wilderness areas and iconic species such as tigers (*Panthera tigris*), rhinoceroses (*Rhinoceros unicornis*), and elephants (*Elephas maximus*) (Hannam, 2005; Hutton & Leader-Williams, 2003; Scheyvens, 1999) ^[2, 4, 11]. Wildlife and nature-oriented tourism give rise to intricate dynamics involving park managers, local communities, commercial tourist ventures, and tourists (Naidoo & Ricketts, 2006) ^[9]. Adverse effects of wildlife tourism encompass the commercialization of individuals and destinations, notably influencing established power dynamics within local communities, as well as causing physical harm to habitats (He *et al.*, 2008) ^[3]. The expansion of wildlife tourism has the potential to stimulate public interest in conservation, yet it introduces fresh hurdles within a context where conservation endeavours are already strained by infrastructure expansion, dense human populations reliant on park resources, and dwindling wildlife populations (Karanth *et al.*, 2008; Udaya Sekhar, 2003) ^[8, 13].

Study Area

This research focuses on Ranthambore Tiger Reserve (RTR). Situated in the Sawai Madhopur district of Rajasthan, India, RTR is renowned globally for its rich biodiversity, particularly its population of Bengal tigers (*Panthera tigris tigris*). Spanning over 1411.28 km². Latitude and longitude of the RTR's are 25°52' North to 26°33' North and 75°85' East to 77°02' East. The reserve encompasses a diverse range of habitats, including dry deciduous forests, rocky hills, and open grasslands, providing a conducive environment for a variety of flora and fauna. Ranthambore Tiger Reserve attracts a significant influx of tourists each year, drawn by the opportunity to witness wildlife in its natural habitat, particularly the majestic tigers that inhabit the area. The reserve is also home to other iconic species such as leopards, sloth bears, striped hyenas, and a diverse array of bird species. Within the reserve, tourist activities are primarily concentrated around designated safari zones and key attractions such as Ranthambore Fort, Padam Talao, and Rajbagh Talao. These areas serve as focal points for visitor engagement and wildlife observation. The surrounding region of Ranthambore Tiger Reserve comprises a mix of rural and semi-urban settlements, with local communities heavily reliant on the tourism industry for livelihoods and economic sustenance. Additionally, the reserve faces various environmental challenges, including habitat fragmentation, human-wildlife conflict, and pressures from developmental activities in the vicinity. This study will delve into the tourist patterns and environmental impact within Ranthambore Tiger Reserve, aiming to provide a comprehensive analysis of tourism flow, visitor behaviour, and their implications for the ecological integrity and socio-economic dynamics of the region.

Methodology

Source Identification: The primary data for this study was sourced from the Forest Report published by the Department of Forest, Government of Rajasthan. The report

provides comprehensive information on tourist visitation to the Ranthambore Tiger Reserve from 2010 to 2019, distinguishing between Indian and foreign tourists. The relevant data pertaining to tourist arrivals, both Indian and foreign, for each year within the specified time frame was extracted from the Forest Report. This data formed the basis for the analysis of tourist patterns in the Ranthambore Tiger Reserve. The extracted data was subjected to quantitative analysis to identify trends and patterns in tourist visitation over the ten-year period. This analysis involved calculating the total number of Indian and foreign tourists for each year, as well as computing annual growth rates. To visually represent the fluctuation in tourist flow over time, a line graph was constructed using appropriate software. The x-axis of the graph represents the years from 2010 to 2019, while the y-axis depicts the number of tourists. Separate lines were plotted for Indian and foreign tourists to illustrate their respective visitation patterns. A line graph was drawn using appropriate software, with the x-axis representing the years from 2010 to 2019 and the y-axis representing the number of tourists. Separate lines were plotted for Indian and foreign tourists to visually illustrate their visitation patterns over the specified time frame.

Table 1: Visitors Data and Tiger Population Data of RTR Between 2010-2019

S.No.	Year	No. of Indian Visitors	No. of Foreign Visitors	No. of Total Tourist	Tiger Population
1.	2010	69700	41400	111100	37
2.	2011	63800	50255	114055	34
3.	2012	65800	48535	114335	36
4.	2013	69200	52370	121570	43
5.	2014	77800	61495	139295	60
6.	2015	85200	67935	153135	58
7.	2016	106000	51085	157085	62
8.	2017	138927	55460	194387	63
9.	2018	132435	58667	157085	67
10.	2019	305000	126000	431000	71

Source: Forest Report, Department of Forest, Government of Rajasthan

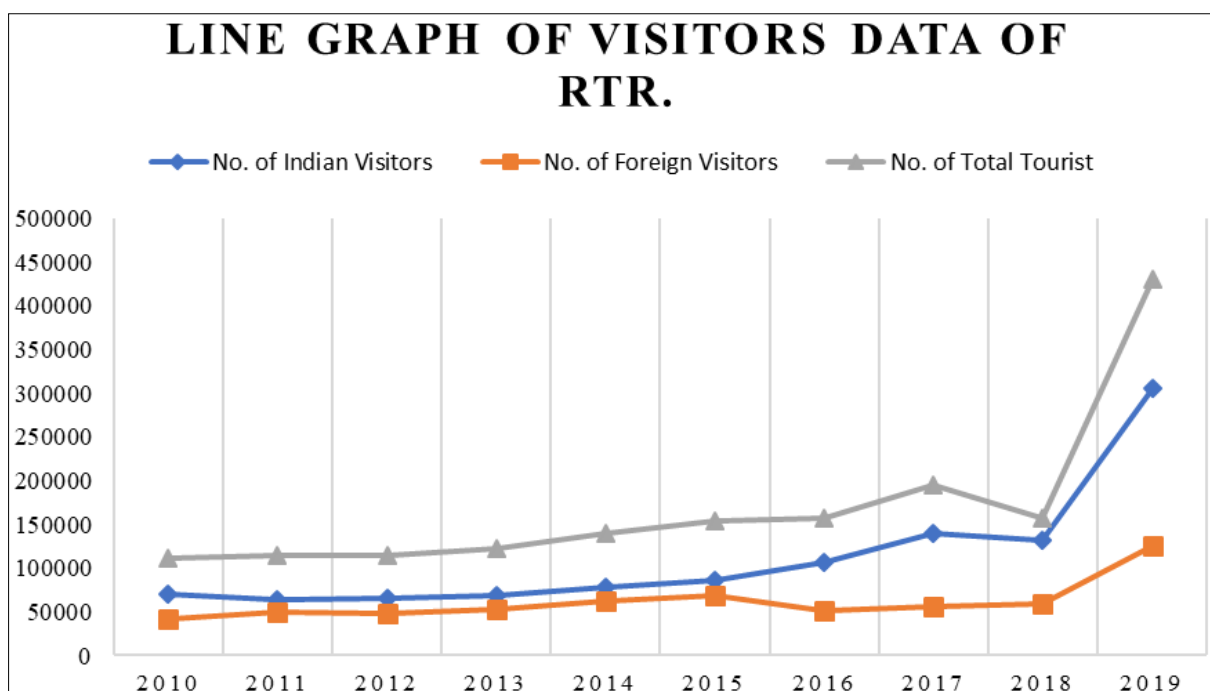


Fig 1

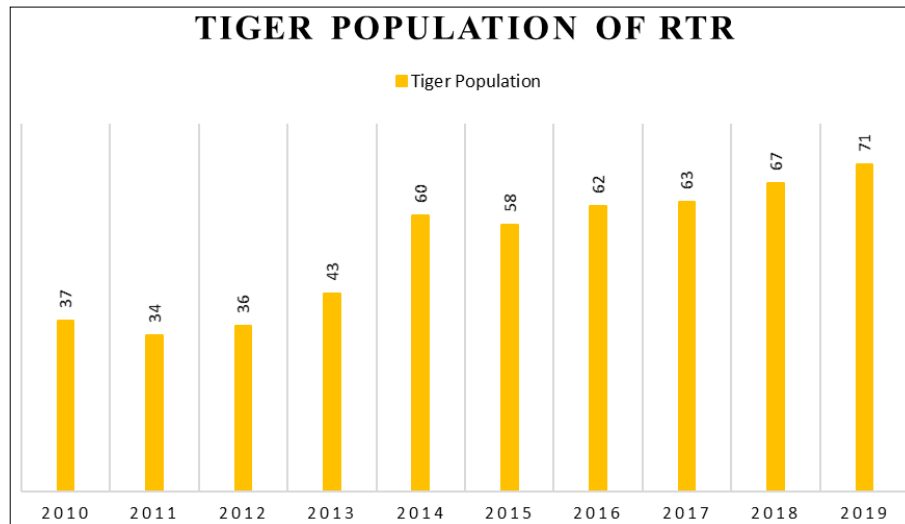


Fig 1

Result

The comprehensive analysis of tourist patterns within the Ranthambore Tiger Reserve unveils intriguing insights into the relationship between tourism flow and the tiger population within the park. Ranthambore Tiger Reserve, renowned for its rich biodiversity and iconic tiger sightings, attracts a substantial influx of both domestic and foreign tourists annually.

Through meticulous data collection and analysis, it is evident that there exists a direct correlation between the number of tigers inhabiting the park and the volume of tourist visitation. As the tiger population within the Ranthambore Tiger Reserve fluctuates, so too does the tourist footfall, with increased tiger sightings often coinciding with peaks in tourist numbers.

The study also highlights the significant contribution of both domestic and foreign tourists to the tourism economy of the region. The Ranthambore Tiger Reserve serves as a prime destination for wildlife enthusiasts, nature lovers, and photographers, drawing visitors from across the globe eager to catch a glimpse of the majestic tigers in their natural habitat.

Conclusion

The analysis underscores the intricate interplay between wildlife conservation, tourism, and economic development within protected areas such as the Ranthambore Tiger Reserve. The direct correlation observed between the number of tigers in the park and tourist visitation underscores the charismatic appeal of these apex predators in driving tourism interest. However, while tourism can serve as a vital source of revenue generation and conservation funding, it also poses challenges such as habitat disturbance, vehicle congestion, and wildlife stress. Therefore, it is imperative to strike a balance between promoting sustainable tourism practices and safeguarding the integrity of the park's ecosystem. Efforts to manage tourism flow within the Ranthambore Tiger Reserve should prioritize responsible tourism practices, including regulated visitor access, educational initiatives, and community engagement programs. By fostering a sense of stewardship among tourists and local communities alike, stakeholders can work collaboratively towards the dual objectives of conserving biodiversity and enhancing visitor experiences.

Furthermore, the findings emphasize the importance of adaptive management strategies that factor in the dynamic nature of both tiger populations and tourist visitation patterns. By monitoring trends in tourism flow and tiger populations over time, authorities can make informed decisions to ensure the long-term sustainability of both wildlife conservation efforts and tourism development within the Ranthambore Tiger Reserve.

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