

Tourism Fluctuations in Goa: Analyzing Seasonal Trends and Economic Impact

Shivanand Rathod Govind* and Kiran Kumar P.**

ABSTRACT

Economic development heavily depends on tourism in Goa state, which produces essential revenues while using them to create jobs and establish modern infrastructure. The research analyses how tourism drives economic expansion by studying the evolution of revenue records during the past five years and their monthly changes in Goa state. The research examines revenue patterns to determine major growth factors, and at the same time it evaluates state policies that enhance tourism development. The research foundation is quantitative through its usage of secondary data, which stems from government reports together with tourism board documents and financial records. Analysis of trend patterns is applied to annual and monthly revenue data for identifying patterns and seasonal fluctuations through methodological approaches. The analysis employs Compound Annual Growth Rate (CAGR) to determine the extended growth pattern of tourism revenue. Researchers utilise the statistical software combination of SPSS and Excel for their data assessment activities. Research data shows that upgraded transportation services combined with modern marketing strategies and government backing resulted in a continuous increase of tourism income in Goa. The successful achievement of sustainable development faces obstacles due to seasonal variation in tourism, together with environmental constraints and inadequate service quality. The research presents recommendations for policy changes combined with better promotional strategies and environmental conservation initiatives, which would help maintain revenue growth. Public-private partnerships should be strengthened while digital innovations need to improve the tourist experience, according to research recommendations. The research delivers essential knowledge for decision-makers, tourism boards, and stakeholders to develop plans that support continuous growth and sustainability of the tourism market.

Keywords: Seasonality; Economic Impact; Sustainable Tourism; Revenue

*Research Scholar, Department of Studies and Research in Economics, Rani Channamma University, Belagavi, Karnataka.
Email: shivanandrathod71@gmail.com

**Associate Professor, Department of Studies and Research in Economics, Rani Channamma University, Belagavi, Karnataka.

INTRODUCTION

The Goa state curated by its beaches and nightlife, the heritage sites along with its natural attractions make Goa a top spot that draws millions of visitors every year, thus providing economic benefits including job opportunities and infrastructure creation and opportunities for cultural exchange. Seasonal variations influence the tourism industry because weather conditions, holiday events, and worldwide holiday patterns affect the business (Sharpley & Telfer, 2015).

Policymakers, alongside business operators and community members, need to grasp these alterations because it helps them distribute resources strategically while achieving sustainable development (Kumar & Kumar, 2017). Goa's tourism industry exhibits three principal tourism times, such as the peak season from November to February, together with the off-period from March to May and the rainy monsoon months from June to September (Goa Tourism Department, 2022). Hotel occupancy rates, business revenues, and employment levels all experience changes according to these three distinct tourism visitor periods. The peak season represents the most popular time for travel because of safe weather and special celebrations, yet the off-season, together with monsoon seasons, creates less tourism traffic, thus causing business instability (Kumar & Kumar, 2017). The tourism activity shows changes because of climate conditions alongside travel costs and public government regulations (Sharpley & Telfer, 2015). The economic consequences spread across the hospitality sector together with transportation and operations of local businesses. Business stability and employment face difficulties during the low season despite the economic growth generated by peak times, according to the Goa Tourism Department (2022).

This research paper studies Goa's tourism industry patterns throughout the year together with their corresponding economic effects. This research uses historical data alongside industry reports to identify major factors behind seasonal fluctuation patterns and presents measures to reduce seasonality's adverse business effects. The research proposes tourism diversification alongside off-season event promotion together with sustainable practices for maintaining Goa's tourism sector's sustainable future.

REVIEW OF LITERATURE

Several reports reveal both positive economic aspects and specific barriers that tourism presents to India's social development. The research by Kandolkar & Gupta (2023) explores Goa tourism to evaluate positive economic impacts alongside employment generation, cultural exchanges, and environmental challenges and recommends sustainable solutions. Kumar et al. (2018) conducted a study of India's foreign tourist arrivals (FTAs) from 1999 to 2015, which demonstrated an 8.23% annual growth rate but showed substantial seasonality, thus recommending policies that adapt to demand and build better infrastructure. Kumar & Singh (2019) conducted a review that determined the peak travel seasons occurred in November-December through analysis of economic impacts and government policies and proposed infrastructure solutions to support tourism sector growth. Achrekar (2021) analysed Goa residents' viewpoints specifically at Calangute Beach by showing both economic advantages and social and environmental problems, whereas he supports sustainable policies that include waste disposal solutions and societal involvement. The study by Achrekar (2019) investigates Goa's tourism development while showing how the industry brings economic value but encounters problems with excessive visitor numbers and inadequate facilities that demand the development of sustainable plans with local involvement to ensure ongoing prosperity.

RESEARCH OBJECTIVES

1. To analyze the seasonal trends in Goa's tourism industry by examining historical tourist arrival data and revenue fluctuations.
2. To identify the factors influencing seasonal variations in tourist inflow including climatic conditions, government policies, marketing strategies, and global travel trends.
3. To explore strategies for mitigating the negative effects of seasonality by promoting off-season tourism, diversifying tourism offerings, and implementing sustainable tourism practices for long-term economic stability.

RESEARCH METHODOLOGY

The research method uses second-hand data analysis to explore the periodic changes in Goa's tourism industry and its resulting financial effects. Secondary data has formed the basis for this research through governmental reports and statistical figures and industry-related data exploration to establish knowledge about seasonal dynamics in tourism.

Data Sources

The research obtains secondary data through these specific sources: Different governmental tourism reports supplement statistics from the Ministry of Tourism in India together with economic impact assessments which come from the Goa Tourism Department. The research focuses on academic investigations about tourism seasonality effects, economic outcomes, and sustainable practices within Goa. The researcher examines media reports, market analysis, and related news articles on how external tourism demand factors, policy changes, and emerging trends affect tourism.

Data Analysis

The collected secondary data was analyzed using:

- Trend Analysis: Identifying seasonal patterns by evaluating historical tourism statistics, including monthly and annual tourist arrivals.
- Comparative Analysis: Examining fluctuations in economic indicators such as business revenues from the last five years using CAGR.
- Thematic Analysis: Reviewing literature and industry reports to explore key factors influencing tourism seasonality and potential strategies for mitigation.

LIMITATION OF THE STUDY

The proposed study is mainly based on secondary data that are available in government reports or tourism figures, and this data may not be able to record current visitor behaviour or localised social-cultural effects. There are no primary data; hence, there is a disadvantage of understanding little on tourist motivations, stakeholder and community perceptions, as well as community-level implications. Short-term patterns (seasonal analysis) do not take into account any long-term cyclical trend or any infrequent disturbances such as pandemics because they are analysed at four-year intervals only. Moreover, foreign tourist statistics data are still quite scarce, resulting in international comparison as a whole. Since it is Goa-focused, the results cannot be generalised in the usual manner to other Indian states due to a difference in the tourism dynamics and the socio-economic situation. This methodology ensures a comprehensive understanding of tourism fluctuations in Goa while maintaining reliability through credible data sources.



Figure 1: Tourism trend analysis (2020-24)

Table 1: Year-wise and Month-wise Domestic & Foreign Tourist Arrivals in Goa (in Millions)

Sl. No	Year	Month	Domestic Tourist (Million)	Foreign Tourist (Million)	Total (Million)
1	2020	January	0.395	0.139	0.534
2	2020	February	0.290	0.090	0.380
3	2020	March	0.160	0.051	0.211
4	2020	April	0.000	0.000	0.000
5	2020	May	0.000	0.000	0.000
6	2020	June	0.000	0.000	0.000
7	2020	July	0.017	0.000	0.017
8	2020	August	0.000	0.000	0.000
9	2020	September	0.253	0.002	0.255
10	2020	October	0.046	0.004	0.050
11	2020	November	0.032	0.002	0.034
12	2020	December	0.384	0.005	0.389
13	2021	January	0.464	0.006	0.470
14	2021	February	0.449	0.006	0.455
15	2021	March	0.541	0.001	0.542
16	2021	April	0.082	0.001	0.083
17	2021	May	0.015	0.000	0.015
18	2021	June	0.024	0.001	0.025
19	2021	July	0.078	0.000	0.078
20	2021	August	0.130	0.000	0.130
21	2021	September	0.103	0.001	0.104
22	2021	October	0.420	0.001	0.421
23	2021	November	0.047	0.001	0.048
24	2021	December	0.521	0.006	0.527
25	2022	January	0.403	0.007	0.410
26	2022	February	0.489	0.008	0.497
27	2022	March	0.670	0.009	0.679
28	2022	April	0.612	0.012	0.624
29	2022	May	0.657	0.011	0.668
30	2022	June	0.604	0.011	0.615
31	2022	July	0.462	0.013	0.475
32	2022	August	0.520	0.013	0.533
33	2022	September	0.529	0.011	0.540
34	2022	October	0.638	0.013	0.651
35	2022	November	0.664	0.027	0.691
36	2022	December	0.760	0.033	0.793
37	2023	January	0.769	0.054	0.823
38	2023	February	0.755	0.050	0.805
39	2023	March	0.688	0.042	0.730
40	2023	April	0.692	0.033	0.725
41	2023	May	0.709	0.034	0.743
42	2023	June	0.708	0.033	0.741
43	2023	July	0.514	0.030	0.544
44	2023	August	0.596	0.026	0.622
45	2023	September	0.647	0.029	0.676
46	2023	October	0.653	0.025	0.678
47	2023	November	0.742	0.069	0.811
48	2023	December	0.798	0.049	0.847
49	2024	January	0.896	0.038	0.934
50	2024	February	0.789	0.036	0.825
51	2024	March	0.738	0.035	0.773
52	2024	April	0.725	0.027	0.752
53	2024	May	0.890	0.029	0.919
54	2024	June	0.751	0.026	0.777

55	2024	July	0.626	0.024	0.650
56	2024	August	0.709	0.020	0.729
57	2024	September	0.709	0.020	0.729
58	2024	October	0.774	0.052	0.826
59	2024	November	1.065	0.070	1.135
60	2024	December	1.225	0.086	1.311

Source: Department of tourism, Goa

The Table1 and chart indicate the recorded tourist arrival statistics demonstrate a consistent improvement since the pandemic caused transportation disruptions. The tourism industry in 2020 reached its lowest point because of severe lockdown guidelines, which led to months where no visitors entered. No domestic visitors entered the country in April, May or June 2020, while foreign visitors were absent from the same period. The beginning of recovery emerged in December 2020, when 0.384 million domestic tourists and 0.005 million foreign visitors entered the country. Yearly data demonstrates that December always registers the most tourist arrivals for both domestic and foreign visitors in every recorded year. The highest number of domestic arrivals and foreign arrivals in 2024 were reported at 1.225 million and 0.086 million, respectively. The monthly statistics from December 2023 report 0.798 million domestic visitors and 0.049 million foreign vacationers. At least two months of vacation time during holidays and festivals significantly contribute to increased tourism activity. The monsoon season during July and August leads to lower tourism levels in Goa as foreign visitors reach 0.024 million while domestic tourists reach 0.626 million. The data shows that domestic tourism rates experienced substantial growth between different years. Domestic tourists reached 2.67 million in 2020, and they tripled to 7.01 million in 2022 before reaching 9.94 million in 2024. The number of foreign tourists demonstrated a slower healing pattern between 2020 and 2024, with initial levels at 0.300 million before reaching 0.022 million in 2021 before finally elevating to 0.467 million by 2024. The recovery time for domestic travel outpaced international tourism because international travel faced travel limitations coupled with economic factors.

The periodic change in the number of tourists throughout different seasons represents a crucial aspect of contemporary tourism trends. The domestic tourist arrival numbers rise yearly throughout the summer months (April through June) from 0.725 million in April 2024 to 0.890 million in May and 0.751 million in June. Public data reveals that tourist volume during April and May 2024 exceeded the 2022 statistics of 0.612 million in April, followed by 0.657 million in May. Tourists prefer summer vacations because they are popular but less popular than the end-of-year holiday season. International tourism demands stand significantly higher than residential tourism. Domestic tourism activities in 2024 brought in approximately 10 million visitors, but foreign tourism could only attract fewer than half a million. The gigantic distinction reveals domestic tourism functions as the main force behind the tourism industry. International travel has begun its comeback, but it continues to stay below pre-pandemic numbers. The monthly February 2024 statistics reveal that 0.036 million tourists arrived internationally, but the domestic arrivals neared 0.789 million. Almost 22 times higher. The analyzed data demonstrates that domestic tourists continue to drive tourism growth at a high rate through peaks in December along with continuous upward trends in April–June and October–November. The percentage of foreign tourists who visit remains greatly smaller compared to national tourist numbers. The projected tourist numbers may increase through 2025, provided that international travel regulations ease up and new strategies target foreign visitors.

Table 2: Year-wise Revenue Generated from Tourism in Goa (in crore rupees)

Sr. No.	Year	Revenue
1	2020-21	1.83
2	2021-22	6.42
3	2022-23	21.57
4	2023-24	20.70
5	2024-25	28.80

Source: Department of tourism, Goa

Note: Revenue generated from tourism by the Department towards registration/renewal of hotels/guest house/homestay, water sports, adventure sports, dealers, deck beds & umbrellas, minor events, government shacks, online tourist service providers, photographers, private shacks, spice plantation, taxi, tourist guide and travel agent. The figures for 2024–25 represent estimated revenue generated from tourism sector of the Goa state

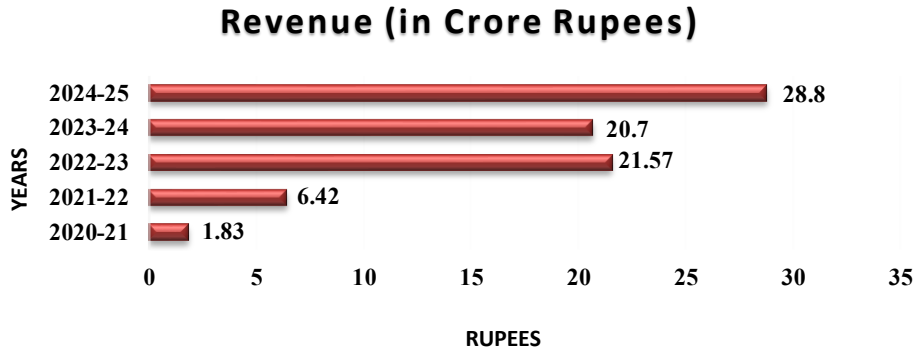


Figure 2: Year-wise Revenue Generated from Tourism in Goa (in crore rupees)

Table 2 and chart indicate the trend in tourism revenue from 2020-21 to 2024-25 highlights a strong recovery and consistent growth in the sector. Selected the 4-year period from 2020-21 to 2024-25 because it represents the most recent and relevant data available from the Department of Tourism, Government of Goa. This time frame allows for the analysis of tourism trends during and after the COVID-19 pandemic, providing valuable insights into the sector’s recovery, growth patterns, and future projections. The initial tourism revenue for 2020-21 stood at ₹1.83 crore while restrictions linked to the pandemic caused this lowest point. The resumption of travel activities led to unprecedented revenue growth from ₹1.83 crore to ₹6.42 crore during 2021-22. The biggest revenue increase happened in 2022-23 when revenue exceeded ₹21.57 crore which showed robust recovery in tourist operations. Tourism sector expansion is expected through 2024-25 since the estimated annual revenue targets ₹28.80 crore as the peak amount in this period. Revenue increased by 15 times during the five-year period due to rising domestic visitors combined with better infrastructure and government travel promotion activities. The increasing trend reveals that the tourism sector develops into an important economic driver. Tourism is expected to exceed ₹30 crore in upcoming years because 2024-25 will set new revenue records and maintain current positive growth trends.

Calculate Compound Annual Growth Rate (CAGR)

$$\text{Formula} = \text{CAGR} = \left(\frac{v_f}{v_i}\right)^{\frac{1}{n}} - 1$$

Where,

v_f = final value (Revenue in 2024-25) = 28.80 crores

v_i = Initial value (Revenue in 2020-21) = 1.83 crores

n = Number of years = 4

Substituting the value:
$$\text{CAGR} = \left(\frac{v_f}{v_i}\right)^{\frac{1}{n}} - 1$$

$$\text{CAGR} = \left(\frac{28.80}{1.83}\right)^{\frac{1}{4}} - 1$$

$$\text{CAGR} = (15.73)^{\frac{1}{4}} - 1$$

$$\text{CAGR} = 1.9918 - 1$$

$$\text{CAGR} = 0.9918$$

Converting to percentage = CAGR = 99.18%

This means the tourism revenue grew at an average rate of 99.18% per year over the 4 years period. Tourism revenue has seen a remarkable increase from ₹1.83 crores in 2020-21 to ₹28.80 crores in 2024-25, reflecting a staggering CAGR of 99.18% over four years. The most significant surge occurred between 2021-22 and 2022-23, when revenue jumped from ₹6.42 crores to ₹21.57 crores. This exceptional growth can be attributed to factors such as increased tourism activities, government initiatives, infrastructure improvements, and the post-pandemic recovery, all of which have contributed to the sector's rapid expansion.

RESULTS AND DISCUSSION

The seasonal tourism patterns in Goa produce different tourist arrival rates, which affect both the economic stability and operational performance of businesses. The research reveals significant data points described below:

- 1. Seasonal Fluctuations:** The peak season stretches from November through February when Goa encounters its busiest tourist period, with December showing the maximum visitor activity. The December 2024 period

delivered the maximum total arrivals, reaching 1.311 million. The off-season of March to May records a stepwise reduction in tourist numbers, but domestic visitors sustain high levels throughout this period and reach 0.890 million people in May 2024. The waterfall bookings remain low during the monsoon season (June–September) as heavy rains create unfavourable travel conditions, which lead to reduced monthly tourist numbers in July and August. The number of domestic arrivals in July 2024 reached 0.626 million as opposed to December's 1.225 million.

2. **Economic Impact:** Tourism revenue recovered strongly from pandemic levels resulting in a ₹1.83 crore mark in 2020-21 which evolved into ₹28.80 crore by 2024-25. During peak tourism times the hospitality and transportation businesses with local businesses experience maximum benefits yet they encounter fluctuations in performance when the season dissolves. The visitor numbers from foreign countries are much lower than the numbers of domestic visitors because the Economy depends mainly on local tourists.
3. **Factors Influencing Seasonal Variations:** Weather conditions that are favourable during peak season drive more tourists to come visit but the monsoons block both native and international visitors. The implementation of government policies regarding visas together with taxation schemes affects tourist flow statistics foreign tourist arrivals have been affected by international travel bans coupled with unfavourable global economic conditions since they continue to stay under pre-pandemic numbers. The strategic marketing of off-season tourism visits and improved facilities joined by domestic tourism marketing efforts have sustained steady growth rates.
4. **Challenges in the Tourism Sector:** Economic instability strikes businesses and their workforce due to their heavy dependence on seasonal peaks in visitors during the off-season. Better international marketing alongside policy enhancement measures is required to increase foreign visitor growth. The excessive visitor volume during peak tourist seasons creates environmental problems that cause damage to sustainability.

RECOMMENDATIONS

Strategies should be implemented to prevent seasonal impacts on tourism and develop sustainable growth as follows:

1. **Diversification of Tourism Offerings:** The destination can expand its tourism offers via eco-tourism combined with cultural tourism and wellness activities to acquire visitors who visit outside peak times. Adventure, together with monsoon hiking and Ayurvedic health programmes, need promotion to draw more visitors during months that are not peak travel periods.
2. **Enhancing Off-Season Promotion:** Targeted marketing campaigns should activate promotion of off-season travel along with seasonal discounts for accommodation to attract tourists in Goa. The management will arrange specific celebrations and corporate retreats that function to enhance tourism interest during selected periods.
3. **Strengthening International Tourism:** The government should create easy visa permission systems combined with tourism policies to attract international visitors. The improvement of Goa's international exposure will benefit from cooperation between local agencies and overseas travel companies.
4. **Sustainable Tourism Practices:** The tourism sector should adopt sustainable measures which regulate environmental effects on the industry. The promotion of local tourism projects which generate continuous revenue for village residents represents a main goal.

CONCLUSION

This paper has important suggestions on seasonal patterns and the economics of tourism in Goa. As revealed by its analysis, domestic tourism, which is considered the largest revenue generator, is the engine to revenue growth, particularly during the post-pandemic service, and international tourism is still in a low state. The tourism industry has shown remarkable growth with a Compound Annual Growth Rate (CAGR) of 99.18 percent in the period of 2020-21 to 2024-25. But high seasonality has been causing an unsteady economy in off-season months in terms of employment and unavailability of the business. Crucial conditions and factors affecting such trends are climatic conditions, travel policies worldwide, quality of infrastructure, and marketing-related strategies. The study highlights the importance of diversified tourism products, a strong presence of tourist attractions during off-seasons, and sustainability with the aim of having long-term resilience. These results are strategic for the policymakers in stabilising the tourism economy in Goa throughout the year. Further studies ought to be conducted on real-time visitor behaviour by implementing primary data and assessing socio-environmental effects of tourism in an attempt to increase balanced and more inclusive tourism policy.

REFERENCES

- Achrekar G. (2019). Tourism development in Goa: Trends, importance and challenges. *International Journal for Multidisciplinary in Management and Tourism*, 3(1), 33–44.
- Achrekar G. C. (2021). A study of residents' perception of sustainable coastal tourism on Calangute Beach, Goa. *Journal of Tourism Insights*, 11(1), Article 4, 1–11.
- Barreto N., & Mayya, S. (2023). Goa's hospitality industry: A study on status, opportunities, and challenges. *International Journal of Management, Technology, and Social Sciences (IJMTS)*, 8(2), 254–272.
- Gokhale K., Sawant, D., & Ugavekar, N. (2014). Goa: Tourism and socio-cultural implications – A study of selected tourist destination of South Goa District, Goa-India. *IOSR Journal of Humanities and Social Science*, 19, 36–41.
- Goa Tourism Department. *Annual reports on tourism statistics in Goa*. Government of Goa.
- Kandolkar Y., & Gupta, U. C. (2023). Analysing the socio-economic effects of tourism in Goa. *International Journal of Tourism Research*, 12(12), 725–782.
- Karmali M., & Ramesh, D. (2016). Impact of negative publicity on brand 'Goa' – An opinion survey of domestic tourists. *International Journal of Approximate Reasoning*, 4, 1492–1497.
- Kumar A., & Singh, G. (2019). Seasonal effect on tourism in India. *Journal of Finance and Economics*, 7(2), 48–51.
- Kumar D. S., Patel, K., Patel, A., & Parmar, V. (2018). Foreign tourists' arrival in India: An analytical study on seasonal variations of tourist arrival and its impact on the growth of foreign exchange earnings. *African Journal of Hospitality, Tourism and Leisure*, 7(2), 1–10.
- Kumar P., & Kumar, R. (2017). Seasonality in tourism demand: A case study of Goa's hospitality sector. *International Journal of Hospitality Management*, 7, 45–58.
- Naik S. G. (2019). Domestic and foreign tourist arrivals in Goa: Growth examination. *International Journal of Recent Technology and Engineering*, 7, 761–768.
- Sukthankar S. (2013). A study on growth of hotel industry in Goa. *IOSR Journal of Humanities and Social Science*, 11, 1–7.
- Venugopalan, T. (2021). Tourism and sustainability in India – Exploring sustainability of Goa tourism from the perspective of local community. *European Journal of Business and Management*, 6, 34–41.