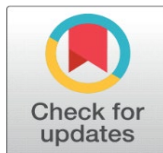


EXPLORING THE POTENTIAL OF ASTROTOURISM: A SUSTAINABLE NICHE IN MODERN TRAVEL

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ABSTRACT

Astrotourism, a subset of tourism that focuses on stargazing and astronomy activities, is gaining popularity as people become more interested in science, nature, and sustainability. This article investigates the factors that attract tourists to India for astrotourism. It also showcases successful examples from countries such as India. Astrotourism not only benefits local economies, but it also raises environmental awareness. As dark skies become scarcer, conserving them through responsible tourism becomes critical. This study aims to understand tourist preferences, destination strengths, and how India can improve and promote astrotourism more effectively.

Keywords: Astro-Travel India, Astrotourism in India, Astro-Tourist Preferences, Dark Sky Tourism

1. INTRODUCTION

Travel experts shed the beans on why domestic travelers are interested in astrotourism, what are some of the most popular astrotourism places in India, as well as a list of activities for those who have never done astrotourism before. People who are curious about space and love to travel can enjoy astrotourism, which is becoming more popular. Many travelers now take part in activities like stargazing, watching the sun, joining stargazing parties with friends, and trying fun science experiences (Shiraj, 2022). Astrotourism is a keyway to promote, use, and protect the night sky as consumers become more aware of its value (Iwaniszewski, 2015; Cooper et al., 2018). This tourism practice is an effective approach to connect guests with environment while also sparking interest in astronomy (Fayos-Sola et al., 2014).

Astrotourism is classed as a specialized type of tourism. This includes specialised activities that, unlike mass tourism, provide travelers with knowledge-rich experiences (Jacobs et al., 2019; Wassenaar, 2020). According to Kunjaya et al. (2019), Astrotourism is a type of tourism activity that emphasizes on astronomical occurrences or facilities. Astrotourism and SIT activities include stargazing, visiting dark sky areas, and participating in educational events

(Wassenaar, 2020). Global initiatives have resulted in the establishment of dark sky reserves and starlight parks in undisturbed natural areas with little air pollution and away from light pollution sources. Astrotourism is a keyway to promote, use, and protect the night sky as consumers become more aware of its value (Iwaniszewski, 2015; Cooper et al., 2018). This tourism practice is an effective approach to connect guests with environment while also sparking interest in astronomy (Fayos-Sola et al., 2014).

By combining tourism and astronomy, they are discovering new, sustainable methods to boost local economies without depleting natural resources. At the vanguard of this trend is Hanle, a high-altitude hamlet in Ladakh that is home to the Indian Astronomical Observatory, one of the world's tallest. Hanle became India's first Dark Sky Reserve in 2022, a protected area where artificial light is rigorously limited to ensure best conditions for astronomical studies. The designation has prompted the creation of guided night sky excursions and astro-friendly homestays, which supply telescopes and keep power to a minimum (Kulkarni, 2025).

Although many research has been undertaken across the world on tourism destination features and tourist motivation, few have concentrated on astrotourism in India. However, astrotourism is still a growing industry in India, and there has been little academic research into the elements that draw travelers to Indian astrotourism destinations. More research is required to better understand tourist preferences, destination strengths, and how India can improve and promote astrotourism more effectively.

2. OBJECTIVE

To understand tourist preferences, destination strengths, and how India can improve and promote astrotourism more effectively.

3. LITERATURE REVIEW

1) Destination Strengths

According to Starscapes, (2025) Stargazing in India is a fantastic experience that allows you to connect with the universe in some of the most breathtaking locations on the planet. Whether you're an amateur astronomer or a casual sky gazer, India has a variety of breathtaking spots where you may admire the grandeur of the night sky. With its diverse landscapes and low light pollution, the country has become a popular destination for stargazing. One of the most impressive aspects of stargazing in India is the amazing variety of its landscapes.

2) Pangong Tso, Ladakh

According to Times Entertainment (2025) This lake, located at an elevation of 4,225 m, offers stunning reflections of the sky. Because of the great elevation, there is little pollution, making it easier to see celestial objects in the sky. The greatest time to visit Pangong Tso is during a new moon, when the skies are dark and the Milky Way is plainly visible.

3) Spiti Valley (Himachal Pradesh)

The Spiti Valley is a desolate, high-altitude, freezing highland desert primarily covered in snow. Kibber Village in the valley offers great astronomy chances during the summer (Khan and Guleria, 2021).

4) Rann of Kutch (Gujarat)

Neil Island, Andaman and Nicobar: Niel Island offers tropical stargazing with crystal clear skies and no light pollution (Moneycontrol, 2025).

5) Sonmarg (Jammu & Kashmir)

Sonmarg is a camping in a beautiful meadow in the high Himalayas. Despite popularity among tourists, the area's isolated nature and high elevation make it a popular place for stargazing (Khan and Guleria, 2021).

6) Pangong lake camping (Ladakh)

Pangong Lake Camping in Ladakh is one of the best campsites for stargazing at high elevations. Mystic vistas and an embellished night sky with no pollution. The sky above Pangong Lake, which sits silently at an altitude of 4,225 metres, is noted for its changing colours and breathtaking views of galaxies (Rishi, 2023).

- Best time for stargazing: May to October

7) Sandakphu (Darjeeling)

According to Flying Squirrel holidays, Sandakphu, West Bengal's highest peak (3,636 meters) offers one of the most breathtaking 360-degree panoramic vistas of the world's tallest mountains, including Everest, Kanchenjunga, Lhotse, and Makalu. Aside from its stunning daytime views, Sandakphu is a great astrotourism destination. Because of its high altitude, little light pollution, and secluded location, the night sky is a spectacular display of stars, planets, and the Milky Way.

8) Best time to visit

- October to February: Pure skies, nominal clouds, admirable visibility.
- April to May: Enjoyable weather.

9) Bhandardara (Maharashtra)

According to Flying Squirrel holidays, Stargazing at Bhandardara allows you to spend the night surrounded by the magnificent Sahyadri ranges. This region, located just 180 kilometers from Mumbai, boasts Arthur Lake, which has no light pollution and pure skies for eight months of the year, as well as stunning celestial reflections in Kalsubai Waterfall.

10) Best time to visit

- October to February: clear sky
- March to May: Best time for Milky way photography

11) India can improve and promote astrotourism more effectively

According to Ministry of tourism, 35 local women have been educated at five Astro-stays in the high-altitude Himalayan desert of Ladakh, generating significant annual earnings for the locals. The presenters also discussed some of India's top astrotourism destinations, such as Pangong Lake, the Rann of Kutchh, Mandu, Lahaul and Spiti and others. They increased their efforts to promote National Parks and Wildlife Sanctuaries as nighttime astrotourism attractions.

3.1. ENHANCING INFRASTRUCTURE AND ACCESSIBILITY

Designate Dark Sky Reserves

According to Indian Institute of Astrophysics, Astro-tourism is gaining popularity in India and around the world, and in addition to popularizing the night sky with tourists, many such efforts also contribute to the socioeconomic growth of local communities living in dark sky areas. The Hanle Dark Sky Reserve, centered around the IIA's Indian Astronomical Observatory, was the first officially notified dark sky region in India to follow such a paradigm. It was announced in December 2022.

Develop Astrotourism Hubs

According to Times Entertainment, (2024) Ladakh: Known for its bright skies and high elevation, Ladakh provides some of the best views of the milky way and other celestial wonders.

Spiti Valley: located in the Himalayas, is a popular destination for stargazers seeking a peaceful escape from city lights.

3.2. FOSTERING COLLABORATION AND EXPERTISE

Train Astrotourism Guides

According to Indian Institute of Astrophysics, multiple astro-tourism initiatives must work together and coordinate their efforts. This includes sharing experiences and mutual learnings, creating training seminars for future astro-tourism guides, establishing standardised standards, and so on. In addition, India has a huge number of science communication groups that have been conducting astronomy outreach on a volunteer basis for several decades.

Collaborate with Stakeholders

According to times travel, (2024) Starscapes will work closely with local communities, travel and tourism partners, and homestay communities to provide training and continuous support for these projects. Their close contribution will assure Nakshatra Sabha's success and longevity, which will benefit both tourists and the local economy.

3.3. PROMOTING ASTROTOURISM EFFECTIVELY

Highlight Unique Experiences

To endure appealing destinations must evaluate the demand for exclusive nature-based tourism experiences with little environmental impact that generate operating revenue. Astrotourism has the potential to fill a niche demand in the tourism industry while also creating income-generating opportunities in rural regions, particularly parks and reserves (Fayos-Sola et al., 2014; Rodrigues et al., 2015).

3.4. PRESERVING THE NIGHT SKY

Promote Responsible Lighting

According to times travel, (2024), This preservation comprises turning off superfluous artificial light sources, guiding outdoor lighting downward to prevent skyglow, and encouraging the use of energy-efficient lighting. Preserving the night sky protects not only our aptitude to gain the wonders of the universe, but also the well-being and behaviour of nocturnal animals, conserves energy, and promotes sustainable tourism.

By overcoming these hurdles and using its unique assets, India become a serious contender in the worldwide astro-tourism sector.

4. CONCLUSION

Astrotourism is a growing market in India, attracting visitors interested in astronomy, stargazing, and unique natural experiences. This research demonstrates tourist preferences, destination strengths, and how India can improve and promote astrotourism more effectively. The beautiful night skies, scenic isolated settings, an interest in science and space, and a desire for calm, offbeat travel are all important reasons why tourists pick astrotourism sites in India. Popular destinations like Ladakh, Spiti Valley, and Sunderbans provide great circumstances for such tourism. Government backing, infrastructural development, and awareness efforts all help to attract visitors to these areas. However, difficulties such as light pollution, limited accessibility, and a lack of local understanding must be addressed.

CONFLICT OF INTERESTS

None .

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