

Sustainable Consumption and Production in Wildlife Tourism: A Critical Review of Indian Tiger Reserves

Somya Mehndiratta

Research Scholar, Malwanchal University, Indore

Dr. Lokeshver Singh Jodhana

Dean, Malwanchal University, Indore

Abstract

Wildlife tourism in India has achieved global significance, with tiger reserves emerging as central attractions. While tiger-centric tourism has contributed to conservation financing and international recognition, it has also created ecological, social, and governance challenges. This paper critically reviews the study by Gavinolla et al. (2021) through the lens of Sustainable Consumption and Production (SCP), a concept integral to the United Nations Sustainable Development Goals (SDG 12). By applying SCP principles, the paper examines both the supply and demand dimensions of tiger reserve tourism in Madhya Pradesh, analyzes critical challenges such as over-dependence on tiger sightings, carrying capacity issues, and community exclusion, and explores pathways for more balanced and sustainable wildlife tourism. The review further extends implications for key reserves—Kanha, Bandhavgarh, Pench, and Panna—and recommends strategies that balance conservation imperatives, community livelihoods, and visitor experiences.

1. Introduction

Wildlife tourism in India has expanded remarkably over the past two decades, positioning tiger reserves as focal points of national and international interest. As home to nearly 70% of the world's wild tigers (National Tiger Conservation Authority [NTCA], 2023), India's reserves such as Kanha, Bandhavgarh, Pench, and Panna in Madhya Pradesh have become iconic destinations for ecotourists, wildlife enthusiasts, and photographers. This growing sector generates significant economic returns, enhances conservation awareness, and provides employment opportunities.

However, the surge in visitation has amplified pressures on fragile ecosystems, local infrastructure, and community relations. Tourism-driven expansions—such as resorts on

buffer-zone peripheries, high safari traffic, and resource-intensive hospitality facilities—often conflict with conservation objectives. The challenge lies in reconciling tourism growth with ecosystem integrity and equitable community engagement.

Sustainable Consumption and Production (SCP), central to SDG 12, offers a structured framework to examine these dynamics (United Nations, 2015). SCP highlights the need to manage both **supply-side factors** (such as infrastructure, resource use, and service provision) and **demand-side behaviors** (tourist preferences, ethics, and practices). Applying this to tiger reserves enables a holistic assessment of whether current trajectories foster long-term sustainability or entrench unsustainable practices.

This paper critically reviews the analysis of Gavinolla et al. (2021), situating their framework in the broader debate on wildlife tourism, conservation, and community development, with particular attention to tiger reserves in Madhya Pradesh.

2. Review Framework

2.1 Production Side of Tourism

Infrastructure Development

The growth of wildlife tourism has fueled rapid expansion of lodges, resorts, and safari facilities around reserve boundaries. While infrastructure boosts visitor comfort and accessibility, unchecked development fragments habitats, escalates vehicular pollution, and intensifies human–wildlife interactions. Resort clusters around Bandhavgarh and Kanha exemplify these concerns, where luxury tourism facilities exert disproportionate pressure on local water and forest resources (Karanth & DeFries, 2011).

Policy Frameworks

India’s eco-tourism guidelines, introduced by the Ministry of Environment, Forests and Climate Change and supplemented by NTCA directives, aim to regulate tourism in protected areas. However, implementation varies due to weak capacity, stakeholder lobbying, and competing development priorities (Sekhsaria, 2009). Policies often emphasize economic gain over ecological sustainability, resulting in a “growth-first” bias.

Market Orientation

Tourism in tiger reserves remains overwhelmingly tiger-centric. This monocultural market orientation sidelines other ecological attractions, fostering high tourist expectations for tiger sightings. Disappointment when sightings are rare often leads to pressure on guides and drivers, resulting in risky off-route behavior (Balmford et al., 2009).

2.2 Consumption Side of Tourism

Tourist Demand Patterns

The demand for tiger safaris peaks during prime seasons (November–April), generating excess strain during short windows. Tourists frequently demand luxurious accommodations, air-conditioned safari vehicles, and high volumes of photography opportunities, intensifying ecological footprints (Goodwin, 2002).

Visitor Behavior

Violations of codes of conduct are frequently documented, including overcrowding at tiger sightings, noise disturbances, littering, and safari vehicles breaching route restrictions (Dixit et al., 2016). These practices undermine the experience of responsible visitors and erode conservation ethics.

Awareness of Sustainability

While some international ecotourists demonstrate higher sensitivity to conservation ethics, most domestic tourists remain focused on charismatic megafaunal encounters. Outreach through interpretation centers, naturalist briefings, and awareness materials exists but often suffers from limited interactivity and weak monitoring of tourist compliance (Huang et al., 2014).

3. Critical Issues Identified

1. Over-dependence on Tiger Tourism

An ecological and economic monoculture arises when reserves focus singularly on tiger sightings. Fluctuations in tiger populations or sighting likelihood can destabilize tourism-dependent economies (Karanth, 2003).

2. Carrying Capacity and Ecological Stress

Visitor influx in reserves such as Bandhavgarh demonstrates how unregulated numbers can disturb animal behavior, degrade habitats, and exacerbate human–wildlife conflict (Chape et al., 2008).

3. Economic Leakage

A considerable portion of tourism-derived income flows to large operators and external stakeholders, undermining potential community livelihood benefits (Goodwin, 2002).

4. Weak Community Involvement

Communities bordering tiger reserves face restricted access to forest resources yet remain inadequately integrated into decision-making processes (Sekhsaria, 2009). Employment opportunities are often seasonal, low-paying, and lack structural empowerment.

4. Strategic Pathways Suggested

1. Diversification of Tourism Products

Moving beyond tiger-centric safaris by promoting birdwatching, butterfly trails, ethnobotanical walks, and cultural tourism could spread pressure across landscapes and seasons.

2. Carrying Capacity Enforcement

Scientific evaluation of safari limits, lodge numbers, and tourist traffic is crucial. Technological tools like GPS tracking of safari vehicles can assist enforcement.

3. Revenue-Sharing Models

Directing a fixed percentage of permit fees and lodge revenues toward community development projects (education, healthcare, local infrastructure) can strengthen community support for conservation (Gössling, 2000).

4. Eco-Certification of Operators

Certification schemes can encourage compliance with sustainable practices (energy efficiency, waste minimization, fair employment), rewarding operators with market distinction (Buckley, 2012).

5. Tourist Awareness Campaigns

Pre-safari briefings, stricter penalties for code violations, and interactive interpretation programs are essential to transform visitor engagement from passive consumption to active stewardship.

5. Implications for Tiger Reserves in Madhya Pradesh

- **Kanha:** With its iconic barasingha recovery, Kanha is well-positioned to showcase multi-species conservation narratives (NTCA, 2023).
- **Bandhavgarh:** Overcrowding is the primary challenge. Carrying capacity enforcement and development of buffer-zone tourism can reduce core zone pressure.
- **Pench:** Noted for its community-based tourism models, Pench can pioneer SCP-aligned approaches by strengthening local enterprise participation.
- **Panna:** With its riverine ecosystem and cultural sites, Panna can spearhead integrated cultural-natural tourism, fostering reduced tiger-centric dependency.

6. Conclusion

The SCP framework, as employed by Gavinolla et al. (2021), offers a critical prism through which Indian tiger reserve tourism can be evaluated. The review indicates that while tiger tourism brings global recognition and funding for conservation, unchecked dependence, ecological stress, and marginalization of local communities compromise sustainability.

For Madhya Pradesh—home to some of India’s most celebrated tiger reserves—a transition to SCP-based strategies is urgent. Diversification of tourism products, carrying capacity enforcement, eco-certification, equitable revenue sharing, and enhanced tourist awareness campaigns can help balance the tripartite goals of **conservation, community development, and visitor satisfaction**.

Future research should focus on **empirical measurement of SCP interventions**, examining their success in improving ecosystem resilience, economic equity, and tourist education. Such insights could inform global standards in sustainable wildlife tourism, positioning Indian tiger

reserves as not just destinations of natural wonder but also exemplars of responsible stewardship.

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