

Synergy between biodiversity, local development, tourist expectations for environmental preservation

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ABSTRACT

Madagascar, with its impressive biodiversity and over 80% endemism, has not yet significantly developed its tourism sector despite its natural wealth. The challenge is to grow tourism by valuing this biodiversity, including endemic species, while preserving it and improving the living conditions of local communities (COBA). This article aims to model equitable and sustainable tourism development strategies that balance socio-economic goals with biodiversity conservation. It addresses two research questions: How do tourist expectations influence the sustainability of biodiversity-focused tourism initiatives in Madagascar? What are the key success factors for aligning tourist expectations with conservation and local development goals? The hypotheses suggest that tourist expectations significantly influence their satisfaction and motivation to choose Madagascar as a destination and that Madagascar's perception as a unique biodiversity hotspot is a key factor attracting international tourists, irrespective of the available tourism infrastructure. The methodological approach involved an in-depth literature review on ecotourism, tourist motivations and satisfaction, and sustainable development and biodiversity conservation. The results indicate that balanced and sustainable tourism development in Madagascar requires offers that align with tourist expectations while ensuring biodiversity conservation and improving the living conditions of local communities.

Keywords: Sustainable tourism, Ecotourism, Ecosystem, Motivations, Push and Pull

1 INTRODUCTION

Tourism in Madagascar struggles to experience significant growth despite its rich biodiversity, where over 80% of species are endemic. However, in developing countries like Madagascar, biodiversity-focused tourism centered on endemic species can support conservation while stimulating the local economy, representing a significant challenge. This article aims to model equitable and sustainable tourism development strategies that reconcile socio-economic goals with biodiversity conservation. It addresses two primary research questions: How do tourist expectations influence the sustainability of biodiversity-focused tourism initiatives in Madagascar? What are the key success factors for aligning tourist expectations with conservation and local development goals?

The literature review explores key concepts of ecotourism, tourist satisfaction, sustainable development, biodiversity conservation, and local development, emphasizing the importance of adapting the tourism offer to visitors' expectations. This analysis leads to two main hypotheses: Tourist expectations significantly influence their satisfaction and motivation to choose Madagascar as a destination; and the perception of Madagascar as a unique biodiversity hotspot constitutes a key factor attracting international tourists, regardless of the available tourism infrastructure.

2 METHODS AND MATERIALS

To investigate key concepts in ecotourism, tourist motivation, and sustainable development, a comprehensive review of existing literature was conducted, covering research published from 1977 to 2022. This review prioritizes studies relevant to sub-Saharan Africa and biodiversity-rich islands, especially those with a focus on balancing tourism growth with conservation. Sources were rigorously selected based on their thematic relevance and contribution to understanding the interactions between tourist expectations, conservation goals, and local development needs. This systematic methodology underpins the theoretical framework used to evaluate how these interactions shape sustainable tourism initiatives.

3 RESULTS

3.1 Tourist Expectations and Biodiversity in Madagascar

Biodiversity Hotspots and Conservation: Ecotourism

Myers and al. (2000) developed the concept of "biodiversity hotspots," describing these areas as rich in endemic species yet threatened. Managing tourism in these regions necessitates addressing tourist expectations while ensuring ecosystem conservation. Wilson (1992) underscores biodiversity's significance as a cornerstone of ecosystem health and economic stability, highlighting the necessity to preserve biodiversity for future generations.

Ecotourism, which focuses on protecting natural spaces and the well-being of local populations, emerges as a crucial approach for tourism development in biodiversity-rich areas. Ceballos-Lascuráin (1987), a pioneer of the concept, asserts that ecotourism must protect the environment and satisfy tourists' desires for authentic, nature-based experiences. Buckley and Cooper (2019) support this view, demonstrating that aligning tourist expectations with conservation and local development goals is essential for ecotourism to sustain fragile ecosystems effectively. Honey (2008) stresses that ecotourism should adhere to stringent criteria such as biodiversity protection and active local community involvement. Similarly, Fennell (2020) emphasizes conserving natural resources and involving local communities as fundamental aspects of ecotourism. Spenceley (2019) concurs, stating that sustainable tourism can protect biodiversity and foster community development, provided local communities participate actively in conservation initiatives. Therefore, tourist satisfaction hinges on their perception of the authenticity of the experience and their role in conservation and local development.

Tourism, Sustainable Development, and Local Development

The concept of sustainable development, introduced by the Brundtland Report (1987), emphasizes the importance of meeting present needs without compromising the ability of future generations to meet theirs. In the realm of tourism, this necessitates the integration of economic, social, and environmental dimensions into initiatives. Butler (1980), with his Tourist Area Life Cycle model, underscores the prudent management of tourism growth to prevent the degradation of natural resources, particularly in high biodiversity areas.

In developing countries, tourism can act as a catalyst for local development, provided that the benefits are equitably shared with local communities and that tourists' expectations align with local realities. Ashley and Roe (1998) demonstrate that tourism can promote local development by generating income and creating jobs, but only if local communities are directly involved in the process. Scheyvens (1999) highlights the concept of community empowerment through tourism, suggesting that for tourism initiatives to be sustainable and beneficial, local communities must be at the heart of their management, aligning tourists' expectations with local development objectives.

Responsible Tourism, Tourist Expectations, and Satisfaction

Goodwin (2011) defines responsible tourism as a form of tourism that maximizes benefits for local communities while minimizing negative impacts. Aligning tourists' expectations with sustainable development goals is essential for the success of such initiatives. Understanding what tourists expect regarding conservation, cultural interactions, and service quality is crucial for balanced and sustainable tourism development.

Oliver's Expectancy-Disconfirmation Theory (1980) is fundamental for understanding tourist satisfaction. According to this theory, satisfaction arises from the comparison between tourists' expectations and their actual experiences. When expectations are met or exceeded, tourists are satisfied, which is vital for the long-term success of ecotourism destinations.

Ryan (1995) notes that tourists' motivations, such as the desire for escape, learning, or seeking new experiences, directly influence their expectations. To effectively manage biodiversity-focused tourism, it is necessary to understand these motivations and offer a product aligned with expectations, ensuring a positive tourist experience.

3.2 Key Success Factors and Aligning Tourist Expectations with Conservation and Local Development Goals

Tourist Motivation: The Push and Pull Model and Other Theories

Tourist motivation to choose a destination can be analyzed using the Push and Pull model, distinguishing between "Push" and "Pull" factors. "Push" factors are internal motivations like the need for escape, relaxation, or new experiences. For example, a tourist might travel to disconnect from daily stress or discover new cultures. Conversely, "Pull" factors are specific destination characteristics that attract tourists, such as natural landscapes, local culture, or tourism infrastructure.

Crompton (1979) emphasized that tourists are often driven by psychological needs before being attracted by a destination's specific characteristics. Luvsandavaajav & *al.* (2022) showed that destination image and tourist satisfaction, considered "Pull" factors, play a role in encouraging visits and repeat visits. A positively perceived destination that meets tourists' expectations increases the likelihood of visitation and revisitation. Tourists seek to discover authentic cultures and experience socio-cultural diversity. This motivation is particularly strong in developing countries, where tourists aim to immerse themselves in rich and diverse cultures.

Wearing (2001) and Butcher (2003) suggest that ethical motivations drive tourists to choose destinations where they can contribute positively to local development or environmental conservation. These motivations lead them toward responsible tourism forms, such as volunteering or ecotourism.

Tourist Expectations: Theories and Models

Pre-travel tourist expectations are critical to understand as they directly influence post-experience satisfaction. The Expectancy-Disconfirmation Paradigm (EDP), proposed by Oliver (1980), posits that satisfaction results from comparing tourists' initial expectations and the perceived performance of the tourism experience. Positive disconfirmation occurs when reality exceeds expectations, leading to high satisfaction; negative disconfirmation occurs when reality falls short, decreasing satisfaction.

Additionally, Miller (1977) suggests that tourists' expectations are often based on pre-established norms or standards rather than a direct comparison between expectations and experience. For example, a tourist might be dissatisfied if a destination does not meet their cultural or personal standards, even if the experience is objectively positive.

Tourist Satisfaction: Post-Experience Evaluation

Tourist satisfaction is assessed post-experience, based on comparing prior expectations with the actual experience. Oliver's (1980) Expectancy-Disconfirmation model is central to this understanding, positing that satisfaction hinges on the positive or negative disconfirmation of initial expectations.

Another method, proposed by Martilla and James (1977) involves evaluating tourist satisfaction based on the perceived performance of a destination's attributes relative to their importance. The Importance-Performance Analysis (IPA) model helps identify areas needing improvement and highlights the destination's existing strengths.

Johnson & *al.* (1995) suggest that satisfaction results not only from a single experience but from the accumulation of multiple experiences. For tourists, each visit to a destination contributes to their cumulative general satisfaction, influencing their intention to return or recommend the destination.

4 DISCUSSION

Although the theoretical models discussed in this review offer a solid understanding of the dynamics between expectations, satisfaction, and tourist motivations, they have certain limitations. For instance, the Expectancy-Disconfirmation model is often criticized for its lack of consideration of cultural and contextual differences, which could influence tourists' perceptions in specific destinations like Madagascar (Pizam & Mansfeld, 2000). Furthermore, the Push and Pull concepts, while initially useful for understanding tourist motivations, may not adequately incorporate the dynamic changes in tourist preferences in response to recent global factors such as climate change or pandemics (Dann, 1981; Gössling & *al.*, 2009).

To study this dynamic, a more systematic integration of local perspectives, particularly those of communities living in biodiversity-rich regions, may prove useful. Bramwell and Lane (2000) emphasized the importance of including local perspectives in sustainable tourism development, but this approach remains underutilized in current literature. Additionally, the growing role of digital technologies and social media in shaping tourist expectations is an area deserving more attention. Digitalization facilitates access to global markets, allowing companies to reach a broader international audience through online platforms and digital marketing tools (Ngo, 2022). Gretzel and Xiang (2010) examined the influence of digital technologies on tourist behavior, highlighting an area still underexplored. Sharpley and Telfer (2015) discussed the importance of real-time feedback mechanisms for improving the management of expectations and overall tourist satisfaction, suggesting that such an approach could enhance the effectiveness of current theoretical models.

Although this literature review does not offer direct empirical validation, it provides a coherent theoretical framework for examining the proposed hypotheses. Regarding the first hypothesis, which suggests that "tourist expectations significantly influence their satisfaction and motivation to choose Madagascar as a destination," existing theories, particularly Oliver's (1980) Expectancy-Disconfirmation Theory, offer useful insights. These works suggest that tourist satisfaction is largely shaped by the extent to which their expectations are met or exceeded. The Push and Pull motivation concepts also reinforce this idea, emphasizing the crucial role of expectations in the decision-making process.

The second hypothesis, which suggests that "the perception of Madagascar as a unique biodiversity hotspot constitutes a key factor attracting international tourists, regardless of available tourism infrastructure," is supported by the consulted literature. Research on biodiversity hotspots, such as that by Myers & al. (2000), and discussions on ecotourism by Honey (2008), suggest that Madagascar's exceptional biodiversity is a significant attraction for tourists. Although infrastructure may influence the tourist experience, the perception of the island's unique biodiversity appears to play a determining role in its tourism appeal.

5 CONCLUSION

This literature review has shown that tourist expectations significantly influence their satisfaction and motivation to choose Madagascar as a destination. The perception of Madagascar as a unique biodiversity hotspot emerges as a key factor in its tourism appeal, despite infrastructure shortcomings. However, existing theoretical models present limitations, particularly regarding cultural differences and evolving tourist expectations in the face of global challenges.

The results of this analysis underscore the importance of further integrating local perspectives and new technologies into developing sustainable tourism initiatives. Future research should focus on adapting theoretical models to better capture the dynamics specific to biodiversity-rich destinations like Madagascar, as well as improving tourism infrastructure to meet the growing expectations of visitors.

6 BIBLIOGRAPHIC REFERENCES

- [1] Ashley, C., Roe, D. (1998). *Enhancing community involvement in wildlife tourism: Issues and challenges*. London: International Institute for Environment and Development. 128 p.
- [2] Bramwell, B., Lane, B. (2000). *Tourism collaboration and partnerships: Politics, practice and sustainability*. Channel View Publications. 400 p
- [3] Brundtland, G. H. (1987). *Our Common Future: Report of the World Commission on Environment and Development*. Oxford University Press. 383 p.
- [4] Buckley, R., Cooper, M. A. (2019). Conservation of a threatened mammal species through domestic tourism in Chile. *Frontiers in Ecology & the Environment*, 17(5), 276-280.
- [5] Butler, R. W. (1980). The concept of a tourist area cycle of evolution: Implications for management of resources. *The Canadian Geographer/Le Géographe Canadien*, 24(1), 5-12.
- [6] Ceballos-Lascuráin, H. (1987). *The future of ecotourism*. Mexico: Mexico's Ministry of Urban Development and Ecology. 24 p.
- [7] Crompton, J. L. (1979). Motivations for pleasure vacation. *Annals of Tourism Research*, 6(4), 408-424.
- [8] Dann, G. M. (1981). Tourist motivation: An appraisal. *Annals of Tourism Research*, 8(2), 187-219.
- [9] Fennell, D. A. (2020). *Ecotourism*. Routledge. 340 p.
- [10] Goodwin, H. (2011). *Taking responsibility for tourism*. Oxford: Goodfellow Publishers Limited. 230 p.
- [11] Gössling, S., Hall, C. M., Weaver, D. (2009). *Sustainable tourism futures: Perspectives on systems, restructuring and innovations*. Routledge. 354 p.
- [12] Gretzel, U., Xiang, Z. (2010). Role of social media in online travel information search. *Tourism Management*, 31(2), 179-188.
- [13] Honey, M. (2008). *Ecotourism and sustainable development: Who owns paradise?* (2nd ed.). Island Press. 568 p.
- [14] Johnson, M. D., Anderson, E. W., Fornell, C. (1995). Rational and adaptive performance expectations in a customer satisfaction framework. *Journal of Consumer Research*, 21(4), 695-707.
- [15] Luvsandavaajav, O., Narantuya, G., Dalaibaatar, E., Raffay, Z. (2022). A longitudinal study of destination image, tourist satisfaction, and revisit intention. *Journal of Tourism and Services*, 13(24), 128-149. <https://doi.org/10.29036/jots.v13i24.341>
- [16] Martilla, J. A., James, J. C. (1977). Importance-performance analysis. *Journal of Marketing*, 41(1), 77-79.
- [17] Miller, J. A. (1977). Studying satisfaction, modifying models, eliciting expectations, posing problems and making meaningful measurements. In H. K. Hunt (Ed.), *Conceptualization and measurement of consumer satisfaction and dissatisfaction* (pp. 72-91). Indiana University School of Business.

- [18] Myers, N., Mittermeier, R. A., Mittermeier, C. G., da Fonseca, G. A., Kent, J. (2000). Biodiversity hotspots for conservation priorities. *Nature*, 403(6772), 853-858.
- [19] Oliver, R. L. (1980). A cognitive model of the antecedents and consequences of satisfaction decisions. *Journal of Marketing Research*, 17(4), 460-469.
- [20] Ngo, M. P. (2022). Opportunities and challenges of digital transformation in Vietnam's tourism industry. *International Journal of Economics, Business and Management Research*, 6(12), 17-30. ISSN: 2456-7760.
- [21] Pizam, A., Mansfeld, Y. (2000). *Consumer behavior in travel and tourism*. Routledge. 530 p.
- [22] Ryan, C. (1995). *Researching tourist satisfaction: Issues, concepts, problems*. Routledge. 302 p.
- [23] Scheyvens, R. (1999). Ecotourism and the empowerment of local communities. *Tourism Management*, 20(2), 245-249.
- [24] Sharpley, R., Telfer, D. J. (2015). *Tourism and development in the developing world*. Routledge. 312 p.
- [25] Spenceley, A. (2019). *Responsible tourism: Critical issues for conservation and development*. Earthscan. 320 p.
- [26] Wearing, S. (2001). *Volunteer tourism: Experiences that make a difference*. CABI Publishing. 222 p.
- [27] Wilson, E. O. (1992). *The diversity of life*. Harvard University Press. 424 p.

