

The Role of Urban Design Development in Enhancing Historical Site Management as Tourism Destination: A Case Study of Borobudur Temple, Magelang, Indonesia

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ABSTRACT

Borobudur Temple, as one of the UNESCO World Heritage sites, has high cultural, historical, and tourism value. However, the management of this site faces a major challenge, namely balancing cultural preservation with sustainable tourism development. This research aims to analyze the role of urban design in enhancing the management of Borobudur Temple as a tourist destination, using a case study approach based on Creswell's guidelines. The data were obtained through in-depth interviews, direct observations, and documentation, and then analyzed using thematic methods. The research findings indicate that urban design elements, such as environmentally friendly pedestrian pathways, green buffer zones, and digital information centers, significantly contribute to the protection of the area while enhancing the tourist experience. In addition, the involvement of local communities in homestay programs and culture-based tourism services shows a positive impact on the local economy, although there are still gaps in the distribution of benefits. This research also identifies key challenges, including the lack of coordination among stakeholders and suboptimal additional infrastructure. The study concludes that urban design plays a vital role in supporting the management of historical sites, balancing the needs of conservation and tourism. Strategic recommendations include data-driven management, digitalization of tourism services, and inclusive urban design to ensure social, economic, and environmental sustainability. These findings provide practical insights into the management of other cultural heritage sites.

INTRODUCTION

Borobudur Temple, a UNESCO World Heritage site located in Magelang, Indonesia, is one of the most iconic cultural tourist destinations in Southeast Asia (Tanjung Sari, 2020). As one of the largest Buddhist monuments in the world, Borobudur possesses significant historical and archaeological value, while also serving as a center of international tourist attraction (Hermawan et al., 2019). Previous research indicates that the appeal of Borobudur as a tourist destination lies not only in its architectural grandeur and historical significance but also in the cultural experiences it provides (Saddhono et al., 2024). Therefore, maintaining the quality of this experience presents a major challenge for tourism sustainability.

However, the management of Borobudur Temple faces significant challenges in balancing the preservation of cultural values and tourism development. The increasing pressure from tourists on the infrastructure and the surrounding areas may threaten the sustainability of this site (Kausar et al., 2024). Fatimah (2015) notes that without planned management, this pressure can accelerate physical degradation and diminish the quality of visitors' experiences. To address these challenges, tourism management requires not only technical interventions but also strategies that consider the balance between economic, social, and ecological interests.

One of the strategic solutions that can be implemented is by developing an integrated urban design. Urban design plays a crucial role in enhancing accessibility, comfort, and the visual appeal of tourist areas, without compromising the historical and ecological values of the site (Matrouk, 2024). A case study at the Citadel of Amman demonstrates that management integrating urban design with cultural preservation can create a higher quality tourist experience while protecting the historical values of the area (Matrouk, 2024). This experience can serve as a model to be applied at Borobudur Temple, where the needs of modern visitors must be met without undermining the existing historical values.

This research aims to explore the role of urban design in supporting the management of Borobudur Temple as a premier tourist destination. The focus of this research includes design elements such as spatial planning, infrastructure, and supporting facilities that can enhance the tourist experience while maintaining the sustainability of the site (Fatimah, 2015). With this approach, the preservation of historical sites can be carried out simultaneously with the development of modern facilities that attract more tourists.

To achieve an optimal result, the involvement of local communities in the design and management of tourist areas is very important. Tanjungsari (2020) shows that the involvement of local communities not only enhances the sense of ownership of historical sites but also provides significant economic benefits. This research highlights the importance of a collaborative approach in ensuring the economic, ecological, and cultural sustainability of Borobudur Temple as a world tourism destination.

The Development of Tourism and Urban Design

The development of tourism around Borobudur Temple has had a significant impact on the socio-economic aspects of the region. However, studies indicate that the increase in the number of tourists must be balanced with effective management to maintain the cultural integrity of this site. The integration of urban design that considers local needs and cultural heritage is an important aspect of sustainable development (Pradana et al., 2020).

Cultural Heritage Conservation

Kanki et al. (2015) indicate that efforts to promote Borobudur Temple as a cultural landscape through a community-based approach create a more inclusive conservation strategy. Strategies such as "evolutionary conservation" combine the protection of natural and cultural elements with local community involvement. This approach has proven effective in integrating urban design to protect both tangible and intangible cultural heritage.

Over Tourism Challenges

The challenges of excessive tourism at Borobudur Temple have been well documented. Studies indicate that rapid tourism growth leads to environmental degradation and unsustainable practices. Design solutions, such as managing tourist flows and enhancing infrastructure, are recommended to balance tourism demand with conservation goals (Heslinga et al., 2023).

Digitalization and Urban Design

The role of digital tools in promoting Borobudur Temple as a tourist destination has also been explored. Researchers emphasize the importance of integrating digital information with urban design, such as the digitization of cultural heritage and the use of e-books to enhance tourists' experience (Barus et al., 2023).

Tourism Accommodation and Urban Space

The transformation of local housing into tourist accommodation demonstrates the impact of tourism on urban design. Prakoso et al. (2020) has categorized this type of accommodation based on the ability to adapt to local context, suggesting that urban design should prioritize community-oriented solutions. Thus, the integration of urban design in the management of Borobudur Temple tourism emphasizes the need for a holistic approach that balances conservation, community engagement, and sustainable tourism development. Future research should focus on scalable and replicable urban design strategies to address similar challenges at other heritage sites.

METHOD

This research employed a qualitative approach with a case study design based on the guidelines from Creswell (2013). The case study was selected to gain an in-depth understanding of the management phenomenon of Borobudur Temple as a tourist destination through the integration of urban design. This design aimed to explore the context, unique characteristics, and complex interactions occurring in the management of this historical site. The research was conducted in the Borobudur Temple area in Magelang, Indonesia, focusing on the urban design elements that influenced the management of the historical site. This research encompassed the following aspects: 1) spatial planning and infrastructure around Borobudur Temple; 2) design interventions for managing tourist flows; and 3) local community participation in the planning and implementation of urban design.

The research participants were selected through a purposive sampling method to ensure that the information obtained was relevant and in-depth. The participants consisted of 1) the management of Borobudur Temple (PT. Taman Wisata Candi); 2) representatives from the local community; 3) domestic and international tourists; and 4) experts in urban design and cultural conservation. The data were collected through three main methods, namely 1) in-depth interviews with site managers, local communities, and tourists to understand their perceptions and experiences related to the management and design of the area, 2) direct observation of urban design elements, infrastructure, and visitors' activities in the Borobudur Temple area, and 3) documentation in the form of policy analysis related to site management, official reports, and secondary data from the literature.

The data were analyzed using a thematic analysis approach, as explained by Creswell (2013), consisting of data organization, theme pattern recognition, and data interpretation. To ensure the validity and reliability of the data, several strategies were implemented, including data triangulation, member checking, and audit trails. This research is expected to provide a deep understanding of the role of urban design in enhancing the management of historical sites, as well as to offer practical recommendations for the management of other cultural heritage sites.

RESULT AND DISCUSSION

Result

1. Urban Design Elements in Borobudur Temple Area

a. Spatial planning and infrastructure

The spatial planning and infrastructure of the Borobudur area have been redesigned to integrate conservation and tourism needs. Environmentally friendly pedestrian pathways and green zones are key

elements in reducing the impact of human activities on the site. However, the observation indicated that some public areas, such as souvenir kiosks, are poorly organized, thus disrupting the aesthetics of the area. Additionally, supporting infrastructure such as integrated parking has not fully accommodated the surge of tourists during the holiday season.

b. Management of tourist flow

The system of limiting the number of visitors through time-based tickets has successfully reduced congestion in the core area of the temple. Visitors are provided with digital guides and designated pathways designed to minimize direct contact with sensitive structures. Nevertheless, some visitors complained about the limited duration of their visits, which they feel diminished from the satisfaction of their experience.

c. Local community participation

Interviews with the local community revealed that their involvement in programs such as homestays, tour guiding, and transportation services has had a positive impact on local income. However, there is an imbalance in the distribution of benefits, as certain communities gained more access than others.

2. Urban Design for Conservation and Tourism

Design elements such as green buffer gardens, non-slip stone pathways, and digital information centers function as conservation tools and tourist attractions. This design ensures that visitors continue to enjoy a comprehensive experience without damaging protected areas. The analysis indicates that the presence of green spaces not only helps to reduce the carbon footprint of tourists but also creates a more aesthetic and reflective experience, in accordance with the spiritual values of the site.

3. Social and Economic Impact

The data indicated an improvement in the welfare of the community through culture-based tourism programs. For instance, homestays in surrounding villages recorded an occupancy increase of up to 40% during the holiday season. However, some community groups feel less involved in the planning and implementation processes of this program, creating potential social conflicts.

4. The Use of Digital Technology

Digital technology, such as interactive maps and application-based travel guides, assists tourists in navigating the Borobudur area. Furthermore, this digitization also supports conservation by reducing the need for brochures and other printed materials.

Discussion

1. Urban Design Optimization

The research findings indicate that an integrated urban design can address conservation challenges and enhance tourism appeal. The addition of environmentally friendly pedestrian pathways, green parks, and modern facilities contributes to a more holistic tourism experience. These findings support the research conducted by Heslinga et al. (2023), which emphasizes the importance of sustainable design in managing historical tourist destinations.

2. Social and Economic Imbalance

The involvement of local communities in the management of tourism in Borobudur creates significant economic benefits. However, the uneven distribution of these benefits generates potential conflicts, as also identified by Fatimah (2016). Therefore, there is a need for mechanisms that ensure each community receives proportional benefits.

3. Urban Design as a Conservation Instrument

Urban design elements, such as non-slip pathways and green buffer zones, have become essential components in protecting the physical structure of Borobudur from damage due to human interaction. Additionally, technologies such as digital guides help reduce the need for direct physical contact with sensitive areas. This supports the findings of the research done by Prakoso et al. (2020), which emphasizes the importance of adapting infrastructure for conservation needs.

4. Challenges of Management

Despite significant progress, the main challenges remain, such as the lack of coordination among stakeholders and the limited resources for managing additional infrastructure. For instance, informal kiosks around the temple area often create visual clutter, which contradicts the principles of integrated urban design.

5. Strategic Recommendations

Inclusive design ensures that urban design includes all community groups, both in terms of accessibility and economic benefits. In terms of data-driven management, big data technology can be utilized to monitor the number of tourists and optimize resource allocation. Last, with the digitalization of tourism services enhances the use of digital applications to guide tourists while promoting cultural aspects through interactive media.

The results of this research indicate that urban design plays a crucial role in enhancing the management of Borobudur Temple as a tourist destination. Design elements such as green parks, pedestrian pathways, and digital technology not only enhance the tourist experience but also support long-term conservation. Nevertheless, additional efforts are required to address the challenges of distributing economic benefits and managing infrastructure in a more coordinated manner.

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