
An Analysis of the 4A Concept (Attraction, Amenity, Accessibility, and Ancillary) at the Mangrove Sungai Bersejarah Ecotourism Destination

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Abstract:

This research aims to analyze the actual conditions of the 4A aspects (Attraction, Amenity, Accessibility, and Ancillary) at the Mangrove Sungai Bersejarah Ecotourism Destination (MSB) in Kayu Ara Permai Village, Sungai Apit District, Siak Regency. The research uses a qualitative approach with a case study design. Data was collected through in-depth interviews with MSB administrators, communities, government officials, academics, and tourists, direct observation in the field, and documentation studies. Data analysis was conducted using descriptive qualitative methods, grouping findings based on each 4A aspect. The results showed Mangrove Sungai Bersejarah Ecotourism has its main strength in terms of attractions, but still needs to strengthen the integration between attractions, amenities, accessibility, and ancillary so that its potential can be managed more optimally and sustainably. The attraction aspect was the main strength of the destination, characterized by the integrity of the mangrove ecosystem, the beauty of the coastal landscape, the educational and historical value inherent in the area. The amenity aspect has provided basic facilities, but their quality, safety, and cleanliness are still limited. The accessibility aspect shows that the destination can be reached by land route, but it is still constrained by a lack of signposts, limited public transportation, and internal access that is not yet inclusive. The ancillary aspect not yet supported by formal tourism institutions, adequate managerial capacity, and cross-sector policy synergy.

Keywords: Mangrove Ecotourism, 4A Concept, Sustainable Tourism, Edutourism

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INTRODUCTION

In recent years, the issues of ecotourism and sustainable tourism have been increasingly discussed in academic discourse, public policy, and destination management practices (de Bruyn et al., 2023; Khanra et al., 2021; Xu et al., 2023). Increased global awareness of environmental crises, climate change, and ecosystem degradation has prompted a paradigm shift in tourism development from exploitative practices to a more responsible and sustainable approach (Khanra et al., 2021; Peeters et al., 2024; Scott, 2021). Tourism is no longer seen solely as an economic driver, but also as a tool for environmental conservation and local community empowerment (Budarma et al., 2025; Dhama & Anil, 2025; Li et al., 2024).

A concrete form of sustainable tourism is the development of mangrove ecosystem-based ecotourism. Mangroves have high ecological value because they serve as coastal protection, carbon sinks, and habitats for various types of flora and fauna. Tourism is no longer seen solely as an economic driver, but also as a tool for environmental conservation and local community empowerment (Bimrah et al., 2022; Choudhary et al., 2024; Sievers et al., 2023). In addition, mangroves also have great social and economic potential if managed properly, especially as an educational and conservation-based natural tourist attraction (Aji et al., 2024; Malik et al., 2025; Moussa et al., 2024).

Siak Regency, Riau Province, has a mangrove ecosystem that is important both ecologically and socio-economically. In general, mangrove forests are known as one of the most productive and valuable ecosystems, their functions include protecting coastlines from abrasion, storing carbon, providing habitats for a variety of biota, and serving as a source of livelihood for coastal communities (Dewi & Amin, 2021; Sialagan et al., 2021). However, nationally and globally, mangroves continue to face pressure due to land use change, pollution, and exploitation without sustainable management (Akram et al., 2023; Saoum & Sarkar, 2024; Utami et al., 2024).

The actual area of mangrove forest in Riau Province in 2021 is recorded at 224,895 hectares (PPID Riau, 2022). In Siak Regency itself, mangroves cover an area of 511.4 hectares, with a significant concentration in Sungai Apit District (Yanti et al., 2023). The mangroves in this area not only have ecological value but also strong potential for conservation-based tourism, one of which is the Mangrove Sungai Bersejarah Ecotourism (MSB) in Kayu Ara Permai Village. The existence of MSB Ecotourism provides added value beyond its ecological function. Historically and culturally, this area is also part of the local coastal community's experience and has attracted domestic and international tourists before the COVID-19 pandemic, indicating its real potential as an attraction. Before the pandemic, this destination received foreign tourists from Australia and various provinces in Indonesia, with daily visits reaching 100-500 people per day (Media Center Riau, 2021).

As tourist interest in nature tourism and environmentally-based experiences continues to grow, the MSB show potential for further development. However, the development of tourist destinations does not depend solely on natural attractions. The readiness and sustainability of a destination are also influenced by the availability of supporting facilities, ease of access to the location, and the existence of supporting institutions and services that manage tourism activities in a coordinated manner.

In tourism studies, the 4A approach, which includes Attraction, Amenity (facilities), Accessibility, and Ancillary (institutions and supporting services), is often used to assess the condition and readiness of a tourist destination. (Cooper, 2016). Attraction is the ability of a place to meet tourists expectations in terms of entertainment, culture, natural beauty, and facilities (Huang et al., 2024), as the main reason why people travel and why tourism has existed since the beginning (Edelheim, 2015), a system consisting of three elements, namely human elements, core or central elements, and markers or informative elements, which are mutually integrated (Leiper, 1990). Amenities include physical facilities and services that support tourist activities (Inskeep, 1991), focus on aspects of comfort, convenience, and tourist satisfaction (Goeldner & Ritchie, 2011), services and amenities provided for tourists, including accommodation, food and beverage services, retail, and other visitor services (Cooper, 2016). Accessibility includes the availability and ease of transportation

to and within the destination (Fletcher et al., 2017), activities that influence tourist decisions based on time, cost, and ease of travel (Page & Conell, 2009), physical, informational, and service dimensions that enable people to reach, access, and experience destinations without barriers (López-del-Pino et al., 2026). Ancillary refers to supporting services such as travel agencies, tour operators, destination management, and other services that enrich the tourist experience (Fletcher et al., 2017), additional services that support the industry and enhance the comfort of the tourist experience (Middleton et al., 2009), additional components that enhance the competitiveness of destinations and visitor satisfaction (Buhalis, 2000). The 4A approach enables a comprehensive assessment of various interrelated aspects that shape the tourism experience and the sustainability of destinations.

Although studies on ecotourism and sustainable tourism are growing rapidly, there is still a conceptual gap in integrating ecological sustainability principles with structural destination analysis tools such as the 4A approach. The 4A model has been used more in the context of general tourist destinations and mass tourism, while its application to ecotourism based on sensitive ecosystems such as mangroves is still limited. In addition, most mangrove studies emphasize ecological and sustainability aspects, without comprehensively examining the readiness of destinations in terms of amenities, accessibility, and ancillary facilities in an integrated manner, as shown in Figure 1. Thus, there is still insufficient understanding of how the balance between the 4A components affects the sustainability of conservation-based mangrove ecotourism destination.

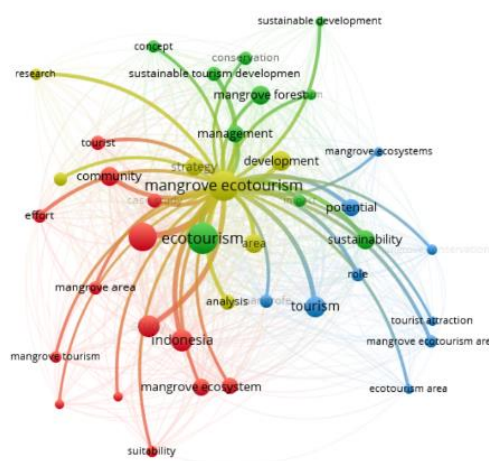


Figure 1. Mangrove Ecotourism Trends 2020-2025
 Source: Author, 2025

Amidst the strong potential of ecotourism and sustainable tourism in the Mangrove sungai Bersejarah as an alternative destination in Siak Regency, as well as the limited research on ecotourism and the 4A concept, it is important to understand the actual conditions of each aspect of 4A in the area. Understanding the existing conditions is necessary to provide a comprehensive picture of the current situation on the ground, which can then serve as a basis for understanding the dynamics of mangrove ecotourism development in the region.

METHODS

This research uses a qualitative approach with a case study design. (Creswell, 2012). This approach was chosen because the study did not aim to measure or test the relationship between variables, but rather to gain a deeper understanding of the actual conditions of the 4A aspects (Attraction, Amenity, Accessibility, and Ancillary) at the Mangrove Sungai Bersejarah Ecotourism Destination. Through case studies, researchers can observe tourism phenomena holistically in the context of space, time, and the surrounding social dynamics (Xiao & Smith, 2006; Yin, 2018).

The research location is in the Mangrove Sungai Bersejarah Ecotourism destination, Kayu Ara Permai Village, Sungai Apit Subdistrict, Siak Regency. The location was deliberately chosen because this area is one of the community-managed mangrove ecotourism destinations and plays an important role as an alternative to environmentally-based tourism in Siak Regency.

The research focuses on the actual conditions of four main components of destination development, namely tourist attractions, supporting facilities, accessibility, and institutional and ancillary services. These four aspects are examined to obtain a comprehensive picture of the situation on the ground, as experienced and perceived by destination stakeholders and visitors.

The data in this study were sourced from primary and secondary data. Primary data were obtained through direct interaction with informants who were selected purposively, namely those who were considered to understand and be directly involved in the management and utilization of ecotourism areas. Informants in this study included destination managers, community leaders, village officials or relevant parties at the local level, local government, the private sector, academics, and tourists who were currently visiting or had visited the Mangrove Sungai Bersejarah.

Data collection was conducted using several techniques. In-depth interviews were used to explore informants views, experiences, and assessments of each aspect of 4A. Interviews were conducted in a semi-structured manner so that conversations could develop naturally while remaining focused on the research. In addition, the researchers conducted direct observations to examine the physical conditions of the area, ongoing tourism activities, available facilities, and patterns of interaction between managers, communities, government, and tourists. To supplement the field data, the researchers also conducted documentary studies, such as reviewing planning documents, management reports, tourism visitation data, and policies related to tourism development in the research area.

The collected data was then analyzed using descriptive qualitative methods. The analysis process was carried out in stages, beginning with selecting and summarizing relevant data, then organizing it into themes based on the 4A aspects. Next, the data was interpreted to gain a deeper understanding of the existing conditions of each aspect in accordance with the context of the Mangrove Sungai Bersejarah ecotourism destination.

To maintain data validity, this study applied triangulation, both through comparison of information sources and data collection techniques. In addition, the researchers also double checked the information with several informants to ensure that the data obtained was consistent with the actual conditions in the field.

RESULT AND DISCUSSION

The Mangrove Sungai Bersejarah was formed out of the collective concern of the youth of Kayu Ara Permai Village regarding the increasingly threatened coastal environment. Around 2015, coastal erosion that increasingly eroded the coastline and rampant uncontrolled mangrove logging raised concerns about the loss of the mangrove ecosystem as a natural coastal barrier. From this concern, a shared awareness grew that conservation efforts could no longer be delayed.

This spirit of conservation was then realized through an initial comparative study of several mangrove areas on the coast of Siak Regency that had already been developed. One of the main references was the Rawa Mekar Jaya (RMJ) Mangrove area, which at that time had begun to develop community-based mangrove tourism. The experience and management practices at RMJ became an inspiration and reference for the youth group of Kayu Ara Permai Village to pioneer an ecotourism destination rooted in conservation values.

Armed with this knowledge, the village youth independently planted mangroves and cared for the area for approximately three years. This effort was carried out with limited resources, but was based on a strong commitment to environmental sustainability. This dedication eventually led to the establishment of legal management in 2018 through the Mangrove Sungai Bersejarah Conservation

Activist Group, which focuses specifically on the protection and rehabilitation of mangrove forests in Kayu Ara Permai Village.

Support from various stakeholders, including the government, community, and other partners, further strengthened the management of the area. In 2019, Mangrove Sungai Bersejarah (MSB) was officially opened as an ecotourism destination and began to be known as a space for education, conservation, and nature-based recreation. The presence of MSB at that time gave new hope to the village community, both in terms of the environment and local economic opportunities.

However, the development of MSB did not proceed without obstacles. After approximately two years of operation, the COVID-19 pandemic struck and had a significant impact on tourism activities. Tourist visits declined dramatically to the point of practically coming to a halt, causing ecotourism activities at MSB to come to a standstill. Nevertheless, the pandemic period was not entirely a period of stagnation. The management took advantage of it to carry out major renovations and improvements, especially to the main and supporting facilities, considering that many mangrove trails had been damaged by high tides.

Entering 2022, with the initiative and collaboration of all stakeholders, the Mangrove Sungai Bersejarah was reopened to the public. This area was officially designated as a Tourism Village through a decree that became an important milestone in the revival of MSB after the pandemic. Since then, the management has slowly begun to rebuild the appeal of this once-abandoned destination, through infrastructure improvements, institutional strengthening, and the reactivation of community-based activities. By early 2025, activities at the Mangrove Sungai Bersejarah were running regularly, marking a new phase in ecotourism rooted in the spirit of conservation and the resilience of the local community.

Geographical Conditions and Characteristics of Mangrove Ecosystems

The Mangrove Sungai Bersejarah ecotourism destination is located in Kayu Ara Permai Village, Sungai Apit District, Siak Regency, Riau Province, on the coast of the Lalang Strait, which is an area where the river meets the sea. Geographically, this area is located in the eastern coastal zone of Sumatra with a fairly strong tidal pattern, making it an ideal place for the growth of mangrove vegetation, which is common in muddy locations with high salt content. It is approximately 59-64 km from the center of Siak Sri Indrapura and 155 km from the provincial capital of Pekanbaru, accessible by road using public transportation or private vehicles.

The mangrove ecosystem in this area consists of mangrove forests and other types of vegetation that appear dense and feel refreshing. Mangrove plants grow on soil that is always wet due to the ebb and flow of the tide. Mangrove vegetation has grown over many years and consists of various types of plants that are able to survive in a salty and muddy environment. The area around the ecotourism site has a tropical climate with air temperatures between 25 and 32 degrees Celsius, high humidity, and considerable rainfall throughout the year, all of which help to enhance the life and sustainability of the coastal ecosystem.

On approximately 5 hectares of land, various types of mangroves grow, which are the main attraction of MSB ecotourism, with 21 types of mangroves that have been identified, such as *Api api* (*Avicennia marina*), *Bakau Minyak* (*Rhizophora apiculata*), *Bebetak*, *Berembang* (*Sonneratia caseolaris*), *Boseng* (*Rhizophora stylosa*), *Cingam* (*Scyphiphora hydrophyllacea*), *Dungun* (*Heritiera littoralis*), *Kedabu* (*Sonneratia ovata*), *Lenggadai* (*Bruguiera parviflora*), *Nyirih* (*Xylocarpus granatum*), *Perepat* (*Sonneratia alba*), *Sesup putih* (*Avicennia marina*), *Tumu merah* (*Bruguiera gymnorrhiza*), *Tumu putih* (*Bruguiera cylindrica*), *Belukap*, *Jeruju* (*Acanthus ilicifolius*), *Nipah* (*Nypa fruticans*), *Piyai Lase*, *Piyai Raya* (*Rhizophora mucronata*), *Bakau merah*, and *Tengo* (*Ceriops tagal*) which are part of the natural wealth inventory in MSB ecotourism.

Current Conditions of the Mangrove Sungai Bersejarah Ecotourism Attraction

The main attraction of the Mangrove Sungai Bersejarah Ecotourism lies in the integrity of the mangrove landscape, which is still relatively natural and forms a single entity with the coastal river

channel that has historical value for the local community as the first flow that led to the formation of the Kayu Ara Permai village. The lush mangrove vegetation, combined with a calm atmosphere far from the hustle and bustle of the city, offers a relaxing and educational nature tourism experience. This condition is the main distinguishing feature of this destination compared to artificial tourist destinations or mass tourism destinations that have developed in other regions.

Field observations show that the mangrove area in Sungai Bersejarah has a strong visual character in the form of towering mangrove cover that blocks out the sunlight. The trail that cuts through the mangrove forest creates a panorama typical of coastal ecosystems, dominated by large mangrove trees and prop roots that are clearly visible along the edges. These natural elements not only serve as a backdrop for the scenery, but also become the main objects enjoyed by tourists while in the area. Many visitors take advantage of this area for photography, nature observation, and enjoying the atmosphere of the mangrove forest firsthand. In the context of tourism attraction theory, these conditions fulfill the indicator of aesthetic value (Deng et al., 2021; Gunn, 1994; Kirillova et al., 2014) and the uniqueness of natural resources (Cooper, 2016; Rhama & Kusumasari, 2022).

In addition to visual appeal, the tourist activities offered are also an important part of the destination's attraction. The main activities that tourists can do include walking along the mangrove tracking trail, sitting and chatting with relatives while gazing at the strait on the east coast of Sumatra. The trails built in the middle of the mangrove area allow tourists to interact directly with the environment, experience the atmosphere of the mangrove forest, and observe the characteristics of the vegetation and several types of fauna such as monkeys, birds, mangrove crabs, and barnacles from a close distance. In this context, the artificial attraction in the form of trails is designed as access and supports tourist activities (Cooper, 2016; Darmawan, 2024).

Another important attraction is the educational and conservation value inherent in this destination. Based on interviews with the managers of the Laskar Mandiri Group and the local community, the Mangrove Sungai Bersejarah Ecotourism is often used as an educational visit location for students scheduled every week in the morning, student fieldwork, and environmental communities conducting comparative studies. Through these activities, visitors are introduced to the ecological functions of mangroves, the types of vegetation that grow there, and the role of the community in preserving the coastal area. This educational value reinforces the destination's position as an ecotourism and educational tourism site, not merely a recreational spot. These activities demonstrate that the attractions at Sungai Bersejarah are not only recreational but also educational, in line with the concept of educational attractions (Bodger, 1998; Middleton & Clarke, 2001).

However, field observations show that the tourist appeal of the Mangrove Sungai Bersejarah is still dominated by passive natural attractions. Additional interactive and thematic attractions, such as scheduled educational tour packages, interpretive tours, or experience-based tourism activities, are still limited (Campos et al., 2018; Cooper, 2016; Swarbrooke & Page, 2001). This situation means that visitors experiences are highly dependent on natural conditions and the initiative of managers in the field.

Furthermore, the historical potential of the origins of the Mangrove Sungai Bersejarah and the narrative story can be crafted as a cultural and historical attraction have yet to be explored in depth. This could be another potential attraction for visiting tourists as it would be closely related to other experiences formed for tourists. (Beeho & Prentice, 1997; Rasoolimanesh et al., 2021; Timothy & Boyd, 2003).

From the perspective of ecotourism and sustainable tourism development, the attraction conditions in the Mangrove Sungai Bersejarah indicate that this destination has strong fundamental assets in the form of natural authenticity, educational value, man-made attractions, visual beauty, and connection with the local environment. However, these attractions still need to be understood more deeply as part of a broader tourism system, and the potential of historical and cultural attractions as a complex unit of attraction can be explored further. This is in relation to how attractions

can support each other with aspects of amenity, accessibility, and ancillary services so that the tourism experience offered becomes more optimal and sustainable.

Current Conditions of the Mangrove Sungai Bersejarah Ecotourism Amenity

A study of the amenity aspects of the Mangrove Sungai Bersejarah Ecotourism shows that the development of facilities in this area has grown organically and step by step, as can be seen from the background of the development of this ecotourism, which began with concerns about the disappearance of mangroves and the threat to coastal ecosystems from coastal erosion. Development has followed the dynamics of local community capacity and increasing visitor interest, rather than through large-scale, structured planning from the outset. This condition is characteristic of community-based destinations that are still in the early stages of development. (Quang et al., 2023; Weaver, 2012).

Field observations show that the main facility that directly benefits visitors is the mangrove tracking trail (boardwalk). This trail is the backbone of tourist activities because it allows tourists to explore the mangrove ecosystem without having to interact directly with the sensitive muddy substrate. Functionally, this boardwalk has been able to accommodate leisurely walks, environmental education, and photo opportunities. However, from a safety perspective, there are no guardrails to prevent tourists from falling into the muddy ground. In addition, several sections of the trail have begun to wear out, become slippery when wet, and warning signs have been found. These findings indicate that the development of amenities is still oriented towards basic functions, while long-term safety and comfort aspects have not yet become a major concern, as required by tourism facility quality indicators (Inspector General of Police, 2020; Mondo & Fiates, 2017).

Supporting facilities include a meeting hall with a capacity of up to 100 people, which was donated by a company's CSR funds and can be used as a meeting room, a nature school classroom, and a place to take a break or simply have lunch or breakfast. The existence of a meeting hall as a corporate grant facility indicates the emergence of a multi-stakeholder collaboration, which in tourism governance literature is referred to as a public-private-community partnership (Panagiotopoulou & Skoultzos, 2025). The existence of these facilities contributes to visitor comfort, although their number is still limited and unable to accommodate the surge in visits on weekends or during the holiday season. This situation causes congestion at certain points, although overall the mangrove area still feels spacious and natural. Information boards have been provided to give tourists information about directions and facilities. Furthermore, interpretation boards about mangrove species are also available, based on the results of fieldwork conducted by university students.

Basic facilities such as public toilets consist of two separate units for men and women with brackish water sources, whose cleanliness greatly depends on the intensity of visits and user awareness. This condition is one of the main limitations of amenities, especially for family tourists and educational groups who have higher expectations for the cleanliness and comfort of sanitation facilities. The parking area has also not been specifically designed and still utilizes open land around the entrance to the area, so it is not yet able to anticipate an increase in the number of vehicles during busy visiting periods. Worship facilities in the form of a prayer room are available with limited capacity and minimal supporting facilities. Food and beverage facilities are also underdeveloped, with only one small kiosk selling snacks and mineral water. Meanwhile, accommodation facilities are not yet available, given that most tourists visiting the site are on short trips (one day trips). These conditions indicate that the amenities at Sungai Bersejarah are still designed to serve tourists with short visits and on a small scale. The parking area has not been specifically designed and still utilizes open space around the entrance to the area. This finding shows that the amenities at this destination have not been designed to anticipate a surge in visitor numbers, but are still oriented towards a relatively small scale of visits.

Basic facilities such as toilets, parking, prayer rooms, and food stalls, which are still simple, show that MSB amenities are designed for short-term tourism, which is in line with the theory

(Inskeep, 1991) that basic amenities, especially sanitation, are the main determinants of destination quality perception that significantly influence tourists' emotional experiences and behavioral intentions, and confirm the role of amenities in creating positive experiences (Liu et al., 2025).

Accommodation facilities are also not yet available, as most tourists visiting MSB tend not to stay overnight. However, the management provides one emergency room in case of unforeseen circumstances. Observations of homestays in the surrounding area also did not find any residents' homes that were used as professional homestays for overnight stays. In tourism value chain theory, an increase in length of stay correlates with an increase in tourist spending and a multiplier effect on the local economy. The absence of homestays also indicates that the integration of the community's economy into the tourism value chain is still limited (Surgawati et al., 2025). In the context of community-based ecotourism, the development of homestays is often an important instrument in the more equitable distribution of economic benefits (Pasanchay & Schott, 2021).

Interviews with visitors revealed differences in perceptions of amenity limitations. Tourists motivated by enjoying nature and a peaceful atmosphere tended to view the simplicity of facilities as part of the natural experience. Conversely, families and educational groups expected more adequate amenities, particularly in terms of toilet cleanliness, availability of educational information facilities, and comfortable rest areas. These findings indicate that future amenity development needs to take into account the different expectations of different tourist segments (Amaro et al., 2023; Lee & Kim, 2023).

Overall, the amenities at the Mangrove Sungai Bersejarah ecotourism site have met the basic needs of tourists and supported nature-based tourism activities. However, from the perspective of sustainable destination development, the quality and completeness of amenities still need to be improved, particularly in terms of safety, cleanliness, and educational functions, nor are they capable of expanding economic benefits through increased length of stay and tourism spending. Strengthening amenities in line with the character of ecotourism is expected to improve the quality of the tourist experience without reducing the authenticity and environmental sustainability of the area.

Current Conditions Accessibility of Mangrove Sungai Bersejarah Ecotourism

Accessibility is an important prerequisite that determines whether a destination can be easily visited by tourists. In the context of ecotourism, access is not only defined as the affordability of the location, but also includes comfort, safety, and clarity of travel information to and within the tourist area (Cooper, 2016). The results of the study on Mangrove Sungai Bersejarah Ecotourism show that accessibility plays a crucial role and is one of the main challenges in developing this destination.

Geographically, the Mangrove Sungai Bersejarah Ecotourism is located in the coastal area of Siak Regency, namely in Kayu Ara Permai Village, Sungai Apit District. It can be reached by road from the center of Siak Sri Inderapura Regency, which is 66 km away. The road access to Kayu Ara Permai Village is mostly paved, but in certain segments, the road is still relatively narrow and lacks adequate directional signs. This condition often causes difficulties for first-time visitors in finding the destination, especially if they are not accompanied by local residents or have not obtained prior information.

The results of the information accessibility observation show that the accessibility of destinations relies more on local knowledge and informal communication, such as directions from the local community or information from community social media. Signposts to the mangrove area are still very limited, so information accessibility has not been fully established. In practice, this makes destinations more accessible to local tourists than to tourists from outside the area. This condition reflects that information accessibility has not been systematically developed, making destinations more accessible to local tourists than to tourists from outside the area (Buhalis & Michopoulou, 2011; Huertas & Miguel, 2022).

Upon arrival at the tourist area, internal access to the main mangrove area has been facilitated through a relatively simple entrance. However, the transition from the parking area to the entrance

to the area is still not well organized. The pedestrian paths have not been specifically designed for all visitor groups, making it difficult for elderly tourists, children, and visitors with physical limitations. This condition shows that the internal accessibility of the area does not yet fully take into account the principle of inclusivity (Sari et al., 2022; UNWTO, 2016).

In terms of transportation, tourists visiting the Mangrove Sungai Bersejarah generally use private vehicles, both motorcycles and cars. There is no public transportation specifically connecting this destination with community activity centers or major transportation hubs. Dependence on private vehicles is a limiting factor for tourists who do not have access to their own transportation, while also reflecting the limited integration of the destination with the regional transportation system. Furthermore, reaching the Mangrove Sungai Bersejarah destination requires a considerable amount of travel time, approximately 2.5 hours from the center of Siak Siri Indrapura district, which is considered a short trip for Siak district. The ideal travel time between destinations/attractions within a single area should be kept relatively short. In many accessibility studies, a threshold of less than 60 minutes is used as an indicator of good accessibility, while practical guidelines for recreational travel show a preference for around 30-60 minutes for short trips, 1-2 hours for day trips, and 2-3 hours for weekend trips (Department of Local Government, 2024; Tao et al., 2025).

From a tourism perspective, these accessibility limitations are not always perceived negatively by all visitors. Some tourists view the journey to the location as part of the adventure and nature exploration experience. However, for family tourists and educational groups, limited access is often seen as an obstacle, especially in terms of comfort, travel time, and safety. This condition shows that improved accessibility is needed so that destinations can reach a wider market segment without losing the natural character of the area.

Current Conditions of Ancillary Mangrove Sungai Bersejarah Ecotourism

Ancillary in the context of tourism destination development refers to non-physical supporting elements that enable a destination to be managed, promoted, and maintained in a sustainable manner. These elements include management institutions, partnership patterns, regulations, the role of government, community participation, and other supporting networks. The results of a study on the Mangrove Sungai Bersejarah Ecotourism show that ancillary aspects play an important role in maintaining the sustainability of destinations, even though they still face a number of structural limitations.

Institutionally, the management of the Mangrove Sungai Bersejarah Ecotourism is carried out by a local community group, namely the Laskar Mandiri Conservation Group, which grew out of a mangrove conservation initiative. There is no Tourism Awareness Group (Pokdarwis) yet, which acts as the front line for sustainable tourism management. This management structure is simple and based on mutual cooperation, with a division of roles that is not yet fully formalized. The focus of this group's management is not on tourism but only on mangrove conservation. Professional tour guiding and integrated package creation are not yet available. Managers double as amateur guides, area guards, and conservation activists. This pattern reflects the collective community's lack of strong social capital and shows that destination management is not yet supported by a professional tourism management system (Direktur Jenderal Pengembangan Destinasi Pariwisata, 2012; Suansri, 2003).

The interviews revealed that most management decisions, including facility maintenance, ticket pricing, and visitation arrangements, were made through internal deliberations within the Laskar Mandiri Conservation group. Although this mechanism was relatively effective in maintaining internal harmony, limitations in managerial and administrative capacity posed challenges, particularly in terms of financial record-keeping, long-term planning, and the development of structured tourism programs.

The role of the local government in this case, the Siak Regency Tourism Office, in terms of ancillary aspects is not yet very visible. They do not focus on structural development of the MSB destination, but only provide assistance in the form of guidance, especially given the budget constraints that limit the government's ability to promote support for activities. Government

involvement is still sporadic and not yet integrated into a single framework of sustainable ecotourism development policy. There are no specific regulations or master plans that explicitly regulate the direction of the development of the Mangrove Sungai Bersejarah Ecotourism as a leading regional destination. As a result, cross-sector coordination between tourism, the environment, and village administration has not been optimal. In this context, the government has actually introduced the Pentahelix concept in tourism management, which involves the government, the private sector, the community, academics, and the media, which are expected to work together to manage and develop tourist destinations that can be used as a reference. (Pratiwi et al., 2024; Widhiasthini et al., 2025).

In terms of partnerships, networking with external parties such as NGOs (Non-Governmental Organizations) is the most active step taken by managers. Much of the infrastructure assistance is contributed by NGOs concerned with conservation, such as the provision of meeting rooms, toilets, prayer rooms, trails, and mangrove seedlings. Universities have taken part in contributing to research activities, community service, and educational visits, but this has not yet developed into long-term partnerships that can strengthen the capacity of managers and improve the quality of tourism products. The absence of promotional and marketing partners also means that exposure of the destination is still very limited, relying on community social media, which is often stagnant, and word-of-mouth promotion. Administrators acknowledge that currently, external funding is the primary source of support for the management and development of the MSB destination. Partnerships are beginning to function effectively as trust has been established through the desired management approach.

Overall, the ancillary aspects of the Mangrove Sungai Bersejarah Ecotourism show strong local initiatives and commitment to conservation, but they are not yet focused on tourism management, tour package creation, or professional tour guides. Informal institutions, limited policy support, and weak partnership networks have resulted in ancillary functions not yet optimally supporting sustainable destination development.

CONCLUSION

Mangrove Sungai Bersejarah Ecotourism has its main strength in terms of attractions, but still needs to strengthen the integration between attractions, amenities, accessibility, and ancillary facilities so that its potential can be managed more optimally and sustainably.

In terms of attractions, the main appeal of the destination lies in the relatively natural integrity of the mangrove ecosystem, the visual beauty of the coastal landscape, and the educational and historical value inherent in the area. The available tourist activities reflect the character of ecotourism and edutourism, but are still simple and dominated by passive natural potential, so the tourist experience is not yet optimally structured, the appropriate strategy is to deepen conservation-based experience design through environmental interpretation, historical storytelling, and thematic education packages. This approach allows for increased experiential depth and educational engagement without increasing ecological pressure, in line with the principle of high-value, low-impact tourism that emphasizes quality over quantity of visits.

In terms of amenities such as basic facilities are available and capable of supporting small-scale tourism activities, such as tracking trails, gazebos, meeting halls, toilets, and prayer rooms. However, the quality, safety, cleanliness, and educational function of the amenities are still limited, so they do not fully meet the needs of all tourist segments, especially families and educational groups, strengthening is directed at quality enhancement without ecological intensification, namely improving boardwalk safety, sanitation, carrying capacity-based parking arrangements, developing small-scale community homestays, and strengthening interpretive facilities. Thus, amenities are not merely complementary to attractions, but serve as instruments for stabilizing the tourism experience while maintaining a balance between conservation and community welfare.

Meanwhile, in terms of accessibility, the destination can be reached by road, but there are still limitations in the form of a lack of signposts, route information, dependence on private vehicles, and the lack of an inclusive internal access system. This condition means that access is easier for local

tourists than for tourists from outside the area. Improvements need to be designed in an integrated manner through the improvement of signage, digital access to information, transportation connectivity, and the development of inclusive internal pathways. However, all of these interventions must remain based on the principles of low-impact infrastructure and carrying capacity control so as not to trigger excessive pressure on the mangrove ecosystem.

Furthermore, ancillary aspects destination management is supported by local community initiatives through the Laskar Mandiri Conservation Group, which focuses on mangrove conservation. However, the absence of formal tourism institutions, limited managerial capacity, and suboptimal policy support and partnerships mean that ancillary functions are not yet fully supporting sustainable destination development. Strengthening ancillary services is the main foundation in ensuring the sustainability of all these components. Institutional transformation towards more formal and professional collaborative governance through the establishment of an official management body, the preparation of a carrying capacity-based master plan, increased managerial capacity, and the actual implementation of the Pentahelix model will ensure effective cross-sector integration. With this approach, Mangrove Sungai Bersejarah Ecotourism has the potential to develop as an ecotourism destination that maintains its ecological authenticity, enhances the quality of the tourist experience, and provides fair and sustainable socio-economic contributions to the local community.

The limitations of this study are that its purpose is only to determine the existing conditions of the destination in terms of the 4A aspects (attractions, amenities, accessibility, ancillary) and that it was only conducted in one location, namely Sungai Bersejarah Ecotourism destination. In future research, this research can be used as a basis for identifying strategies for developing tourist destinations using other comprehensive analyses.

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