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Exploring Natural Tourism in Indonesia's New National Capital, Nusantara: Opportunities and Challenges for Sustainable Ecotourism Development

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ABSTRACT

Indonesia's new national capital city, named Nusantara, is being developed as a sustainable forest city supported by a regional landscape with natural resources. This study aims to explore the potential of natural tourism sites in Nusantara and assess their feasibility for sustainable ecotourism development, with a focus on ecological integrity, spatial planning, environmental education, and community empowerment. Primary data were collected through direct observations at several natural tourism sites in the Nusantara region. Secondary data were gathered through a literature review of relevant documents. The research data underwent content analysis of policy documents and field observations, followed by an in-depth exploration of the potential and challenges associated with sustainable ecotourism development in Nusantara. The study identified 26 tourism site in Nusantara, which were classified into three categories: coastal, terrestrial, and mangrove ecosystems. The analysis reveals that not all sites are equally viable for ecotourism; development feasibility is shaped by factors such as natural attraction quality, accessibility, visitor demand, economic potential, demographic composition, safety, and technological readiness. Challenges in transforming natural assets into sustainable ecotourism include environmental carrying capacity, inadequate infrastructure, and limited innovation in service delivery. Realizing the vision of Nusantara as a sustainable forest city requires integrated planning, inclusive governance, and regulatory innovation.

1. INTRODUCTION

In August 2019, the Indonesian president announced the decision to relocate the country's capital from Jakarta to East Kalimantan Province to strengthen Indonesia's economic equity. This initiative is formalized in Presidential Regulation No. 18 of 2020, which is part of the 2020-2024 National Medium-Term Development Plan [1]. Furthermore, the legislative framework for this move is established in Law No. 3 of 2022, which outlines the obligations and commitments of the government regarding the new national capital city (in Indonesia IKN, Ibu Kota Nusantara) [2]. The regulation emphasizes the government's commitment to fulfilling the obligations stipulated in the law for the relocation of the capital to a new location. The enactment of the law concerning the Nusantara signifies the Indonesian government's earnest intent to move the new national capital to East Kalimantan Province.

Landscape-based Nusantara development plans consider land cover and watersheds [3]. In alignment with these principles, the construction of the IKN, named Nusantara, follows the concept of a sustainable forest city. Presidential Regulation No. 64 of 2022 formulated a spatial pattern plan for the national strategic area of Nusantara to support this initiative. According to this plan's Article 77, Paragraph 2, there are designated cultivation areas, including a designated tourism area [4]. This tourism will focus on ecotourism and the use of natural resources. The landscape of Nusantara serves as a key element in realizing this concept, boasting a significant biodiversity of plants and wildlife.

Ecotourism stands apart from conventional tourism with its distinct principles. Ecotourism primarily involves activities that are centered around natural environments, promoting conservation and ecological sustainability [5]. Ecotourism is acknowledged as an effective approach for conserving forest resources. This aligns with the development plan for

Nusantara, a city renowned for its smart, green, beautiful, and sustainable attributes. This vision also harmonizes with the Sustainable Development Goals (SDGs), addressing current economic and environmental challenges [6]. Sustainable ecotourism development necessitates a balance of ecological, economic, and community interests; nevertheless, frameworks for integrated prioritization are still lacking, especially in emerging areas [7]. In this context, ecotourism emerges as a key driver to enhance the local economy through community involvement in managing tourist attractions and preserving the environment [8].

However, the development of Nusantara as the new capital of Indonesia raises apprehensions about potential social and environmental challenges. There is a concern that local communities might face marginalization as they may struggle to compete for employment opportunities with newcomers. For instance, numerous individuals from outside the region migrated to North Penajam Paser Regency following the commencement of Nusantara's construction [9]. The environmental impact, particularly the deforestation in the Nusantara Region due to tropical forests, concerns other parties [10]. Consequently, the government must proactively address these socioeconomic conditions by creating employment opportunities for the local populace.

The scenic landscape of the Nusantara has considerable natural tourism potential, making it a valuable asset in promoting the realization of a sustainable forest city concept. This aligns with the principles outlined in Article 33, Paragraph 4 of the 1945 Constitution of the Republic of Indonesia, emphasizing the prioritization of environmental management to support a sustainable economy. However, not every natural attraction possesses the potential to become an ecotourism destination. Exploratory research on nature tourism in Nusantara has not been widely conducted, as the capital city was recently relocated just five years ago. This research aims to analyze the potential of natural tourism resources in Nusantara within the framework of ecotourism, focusing on the challenges and opportunities for sustainable development. Unlike previous studies that primarily address ecotourism in protected areas or established tourism zones, this study emphasizes the integration of ecotourism into the spatial planning and forest city policies of Nusantara, Indonesia's newly established national capital. By examining ecological, spatial, and community-based factors, the article seeks to assess the feasibility of developing natural tourist attractions as sustainable ecotourism sites. The findings are intended to inform decision-making processes and identify key challenges for implementing sustainable ecotourism practices in Nusantara.

2. LITERATURE REVIEW

The concept of a forest city offers a new paradigm in urban development, emphasizing the integration of natural ecosystems into city structure and function [11, 12]. The development of Nusantara employs this concept as a foundational framework to establish a sustainable and ecologically integrated city. A systematic review [13] further highlights that forest city development requires the alignment of spatial planning, ecological infrastructure, and institutional coordination, elements that are directly relevant to Nusantara's vision as a forest-integrated capital. Six principles underpin the forest city development in Nusantara are: 1. conservation of natural resources and habitat, 2. connection with nature, 3. low-carbon development, 4. adequate water resources, 5. anti-sprawls, and 6. community involvement [11]. These principles form the foundational framework for aligning urban infrastructure with ecological integrity.

In the development of forest city, the implementation of key strategies such as biodiversity conservation, community involvement, and eco-friendly infrastructure requires strategic integration with nature-based tourism, particularly ecotourism, from the planning stage. Ecotourism serves as a catalyst for balancing ecological preservation and socio-economic growth. It achieves this by fostering community-led conservation (raising environmental awareness via educational programs, and creating sustainable livelihoods [5, 6]. These efforts align with multiple SDGs, including poverty reduction (Goal 1), decent work (Goal 8), and ecosystem protection (Goals 13–15) [6].

Despite a growing body of work on forest cities and ecotourism, empirical research that bridges these two domains remains limited, particularly in newly developed or rapidly transforming areas like Nusantara. The existing literature tends to address forest city planning or ecotourism separately. This underscores the importance of exploring how ecotourism can be meaningfully integrated into forest city development in order to simultaneously enhance biodiversity conservation and strengthen community livelihood strategies.

To address this gap, a comprehensive and multidimensional assessment of potential ecotourism sites is essential. The identification and development of viable ecotourism destinations require careful consideration of several factors, including geographic location, land use status, biodiversity richness, ecosystem sensitivity, accessibility, local perceptions, and institutional capacity [14]. To transform existing natural attractions into impactful and sustainable ecotourism destinations, conservation objectives must be balanced with visitor satisfaction and community benefits [15]. Furthermore, to ensure that the assessment process is robust and contextually grounded, it must be supported by methodological approaches such as field observations, semi-structured interviews, participatory mapping, and document analysis [14, 16, 17]. These methods enable researchers to gather spatial, ecological, and sociocultural data needed to inform planning and policy. Therefore, conducting such integrated field-based assessments is not only important but necessary to fill the empirical gap and to operationalize the integration of ecotourism within the forest city framework in Nusantara and similar landscapes.

3. METHODS

3.1 Research location

This study was conducted in the administrative area of the Nusantara, located in North Penajam Paser and Kutai Kartanegara Regencies, East Kalimantan Province. The research focused on the analysis of natural tourism sites distributed across the designated planning areas and ecological zones, in accordance with Presidential Regulation No. 64 of 2022. Nusantara Capital has a land area of 256,142 ha (78.98%) and a sea area of 68,189 ha (21.02%) [18]. Generally, the landscape of IKN is hilly, but there are also slopes with high rainfall, forming seven watersheds. The Nusantara's land cover is dominated by forests, i.e., mangrove forests, swamps, and tropical rainforests [3]. Figure 1 below shows the location of the research and highlights the natural tourism location within the capital city of Nusantara.

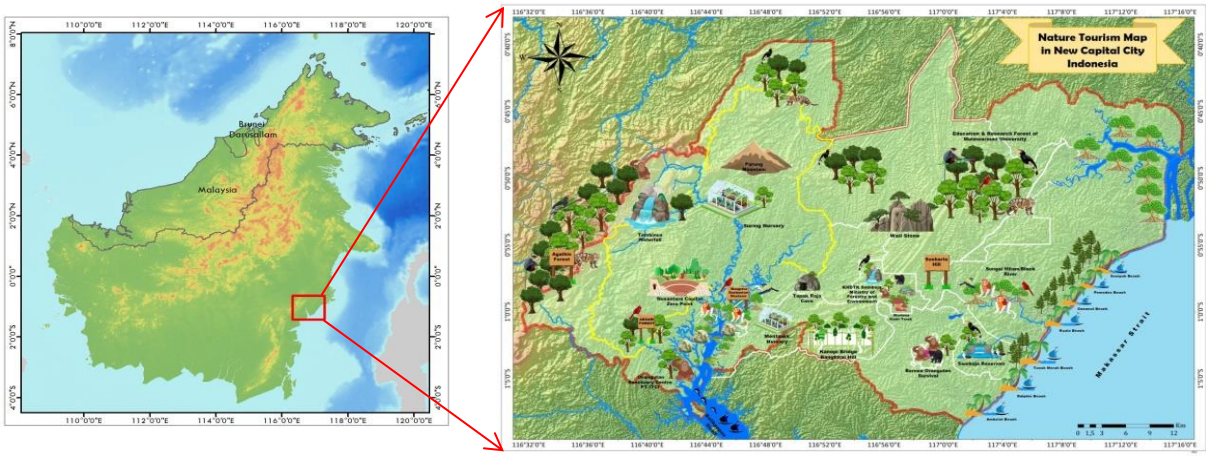

Figure 1. Natural tourism locations in capital city of Nusantara

3.2 Data collection

Primary and secondary data were used in this study. We collected the primary data through direct observation [16, 17, 19]. Field observations were conducted at 26 natural tourism sites located in coastal, terrestrial, and mangrove zones of Nusantara. Each site was visited for approximately 3–6 hours using a structured observation sheet. Observations were conducted to assess site conditions and determine. In addition, the goal was to assess environmental quality, infrastructure availability, accessibility, tourism activities, and community participation. The observation was non-participatory and served to assess the site's potential and challenges for ecotourism development. Observation locations were also recorded based on the representation of the main ecotourism areas in the IKN, as described in the regional spatial plan (Presidential Regulation No. 64 of 2022) (Table 1) [4]. The observation methodology in ecotourism reveals various approaches aimed at improving sustainable practices.

Secondary data were obtained through a literature review [20]. Relevant documents, including regulations and development plans for Nusantara, were analyzed to provide context and insights into the challenges of sustainable ecotourism development in the region [21, 22].

Table 1. The national strategic area of IKN following presidential regulation No. 64 of 2022

The National Strategic Area of the NNC		Details	Area (ha)
A. NNC Region		1. The Planning Area of the Central Government Core Area	6,671
		2. West NNC Planning Area	17,206
		3. South NNC Planning Area	6,753
		4. Eastern NNC Planning Area 1	9,761
		5. Eastern NNC Planning Area 2	3,720
		6. North NNC Planning Area	12,067
B. NNC Development Area	a. Urban area around	1. Samboja Intersection Planning Area	4,366
		2. Kuala Samboja Planning Area	3,062
		3. Muara Jawa Planning Area	9,084
	b. Environmental buffer zones and food security supporters		183,453
C. Territorial waters of NNC, Nusantara			68,188
Total Area			**324,331**

3.3 Data analysis

This study employed qualitative content analysis as the primary analytical method to examine the alignment between spatial regulations and ecotourism development opportunities in Nusantara. The analysis was carried out through two interconnected processes: (1) document-based content analysis of spatial policy regulations, specifically Presidential Regulation No. 64 of 2022, and (2) thematic analysis of field observations at 26 natural tourism sites (Tourist Attraction Objects/TAOs).

First, Presidential Regulation No. 64 of 2022, which outlines the spatial plans for the National Strategic Area of the Nusantara Capital from 2022 to 2042, was systematically reviewed (Table 1). Key articles, such as Article 2 (on regional divisions), Article 65 (on spatial pattern: protected vs. cultivation areas), and Article 77 (on designated tourism zones), were coded using a framework matrix. The coding focused on identifying: Spatial structure and zoning categories; Permissible tourism uses across different spatial zones; Designated tourism areas in protected and cultivation zones; Legal compatibility of tourism development with land-use restrictions. Simultaneously, primary data from field observations were thematically analyzed by comparing ecological characteristics (for example, biodiversity or ecosystem type), physical accessibility, infrastructure readiness, and the presence of conservation or education components. These attributes were cross-referenced with the spatial designation of each TAO based on official land-use classification maps and spatial plans.

Through the integration of spatial regulation analysis and empirical site assessments, the study classifies nature tourism objects according to two main factors: (1) their geographic location and zoning based on the Presidential Regulation, and (2) their ecosystem type (coastal, mangrove, or terrestrial). This combined approach enabled a comprehensive

understanding of how existing natural tourism sites align with ecotourism principles and revealed the institutional and ecological challenges in transforming these sites into sustainable ecotourism destinations. Ultimately, the content analysis provided a robust foundation for evaluating the feasibility and policy coherence of ecotourism development within the forest city framework of Nusantara (Figure 2).

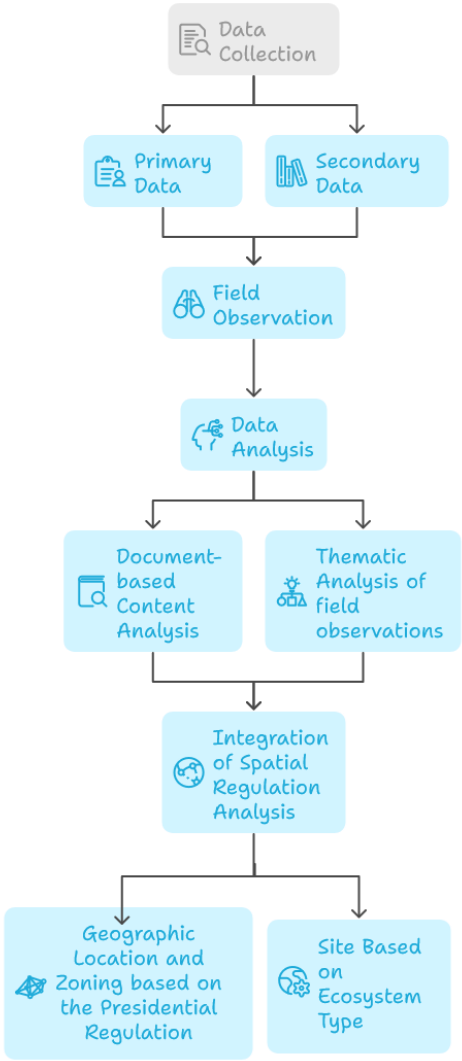

Figure 2. Research methodology flowchart

4. RESULTS AND DISCUSSION

4.1 Nature tourism locations based on ecosystem

Based on the results of our data collection, there are 26 natural TAOs in Nusantara landscape. We have categorized the identified TAOs into three groups based on their location: coastal, terrestrial, and mangrove. There are eight natural TAOs in the coastal area, two in mangroves, and sixteen in the mainland or tropical rainforest area. Nusantara's location, which is directly adjacent to the eastern part of the Makassar Strait and the south by Balikpapan Bay, makes the landscape even more diverse in its ecosystem. The predominant land cover consists of tropical rainforests, establishing a valuable foundation for the development of nature-based tourism. A comprehensive list of natural tourism objects in the Nusantara landscape is provided in Table 2.

4.1.1 Terrestrial area

Nusantara's land cover predominantly consists of forested areas, accounting for 38.95% of the total [3]. These forested areas serve as vital habitats for wildlife. The Forest Area for Special Purposes of Samboja (known as *Kawasan Hutan Dengan Tujuan Khusus*/KHDTK Samboja) and Mulawarman University (called "Unmul") Educational and Research Forest, which is part of the Bukit Soeharto Forest Park, become natural tourist objects with special interests, such as for environmental education. This environmental education introduces more about the flora and its utilities, including fauna and their behaviors. Visitors to environmental education are dominated by students. In KHDTK Samboja, there are seven ecotourism potentials recorded [23]. Wartono Kadri track is often visited by students from Samboja, Balikpapan, and Samarinda. Located 5 km from the Samboja Km. 38 intersection, Rintis Wartono Kadri is one of the few remaining intact lowland Dipterocarpaceae forests in the Samboja subdistrict, with easy access.

Figure 3. Wartono Kadri track has Dipterocarpaceae trees and other types of trees with large diameters

Apart from the Samboja KHDTK and the Unmul Educational Forest, other natural TAOs also have the potential to become nature tourism with special interest (environmental education) such as the Arsari Forest, Borneo Orangutan Survival (BOS), and Bangkirai Hill. Information for visitors to learn about the flora and fauna in the surroundings is presented. Flora and fauna can serve as icons for these ecotourism objects. For example, the type of fungus Amanita is represented in the form of a statue along the Wartono Kadri track in KHDTK Samboja [24] (Figure 3).

On the other hand, plantation forests dominate the central area of Nusantara. Additionally, there is a monument known as the zero point of Nusantara, Plaza Bhineka Tunggal Ika, Kusuma Bangsa Park, holding the potential to evolve into a tourist attraction. This monument includes an information board that serves as a historical record of Nusantara's transfer to East Kalimantan. We have planted endemic Kalimantan vegetation types around the zero point to support the concept of a sustainable forest city.

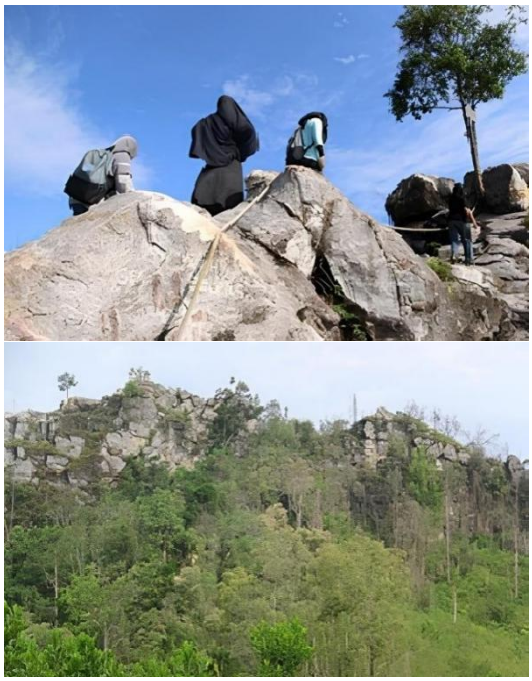

Figure 4. *Batu Dinding* tourist attraction is located on Soekarno-Hatta Street km. 45, in Samboja

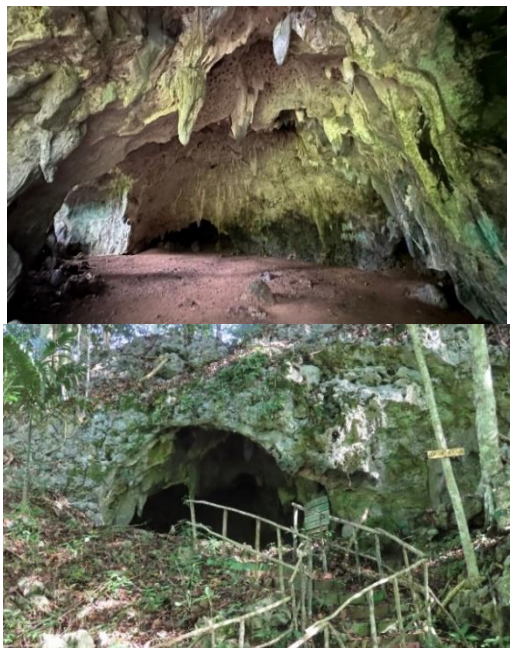

Figure 5. Exploration of Tapak Raja Cave in Wonosari Village, Sepaku District, East Kalimantan Province

The Forest Park Bukit Soeharto area's topography is hilly. One notable natural TAO managed by the local community is known as *Batu Dinding* (Stone Wall). *Batu Dinding* Tourist Attraction is a huge hilly rock that resembles a wall that stretches from north to south, with a length of approximately 200 m and a height of around 100 m (Figure 4). *Batu Dinding* Tourist Attraction is an exciting location for adventurers and nature enthusiasts. Visitors standing atop *Batu Dinding* hill can admire views of forests, gardens, and post-mining areas in the Samboja sub-district. A straight line from *Batu Dinding* towards KHDTK Samboja will reach Tapak Raja Cave in Wonosari village, Sepaku District. Tapak Raja Cave has stalactites shaped like human footprints (Figure 5).

4.1.2 Mangrove area

The Nusantara Region has mangrove areas, especially around Balikpapan Bay and the Black River (called "sungai hitam"). Mentawir village, part of Balikpapan Bay, is home to these natural attractions. Among the twelve distinct types of mangroves dominating the area, *Rhizophora apiculate* is a prominent species [25]. The Mentawir area is also home to three mammal species (*Nasalis larvatus, Macaca fascicularis*, and *Tupaia minor*), one reptile, sixteen bird species, twenty-five fish species, eight crustacean species, and seven mollusc species [25]. Beyond offering scenic views of mangroves and the picturesque Balikpapan Bay, the coastal area of Mentawir provides unique culinary experiences with locally-made food products derived from mangroves, including mangrove syrup and lunkhead, crafted by the local community [26].

On the eastern side of Nusantara, *Sungai Hitam* offers an engaging mangrove tour, featuring the prominent attraction of *Nasalis larvatus* (Probocis monkey) during a river excursion. Within the TAO of *Sungai Hitam*, aside from the *N. larvatus* habitat, visitors can also observe various bird species, with a recorded count of 45 different species [27, 28]. The Black River's primary vegetation is Nipah (*Nypa fruticans*) and Sea Urchins (*Sonneratia caseolaris*). A local community association manages this tourism site [28, 29].

4.1.3 Coastal area

Coastal tourist observations, particularly along the coast in Samboja District, often reveal the same scene: beaches with white sand and a variety of Sea Cypress plants (*Casuarina equistofolia*). The abundance of sea pines added to the beach's scenic view. Presently, numerous beach tourist destinations have begun to emerge, with three notable ones on the east side of Nusantara: Ambalat Beach, Tanah Merah Beach, Tanjung Harapan, and Pemedas Beach [30]. Simultaneously, field surveys revealed seven coastal tourism destinations, including Ambalat Beach, Tanah Merah Beach, Tanjung Harapan Beach, Dolphin Beach, Kuala Beach, Coconut Beach, and Senipah Beach (Figure 6).

Figure 6. Ambalat Beach, Kutai Kartanegara District

The Balikpapan Bay area also has stunning views. Although the natural TAO is located outside of Nusantara, it includes the seas of Balikpapan City and North Penajam Paser Regency. Visitors can see various activities in the Balikpapan Bay, including the development process of Nusantara. The Phinisi boat, operated by the Balikpapan city government, provides an opportunity for visitors to explore Balikpapan Bay. This excursion around Balikpapan Bay is particularly captivating, with visitors having the chance to witness Dugongs (*Dugong dugon*), enhancing the sightseeing experience in these waters [31].

Table 2. The location of tourist objects based on Presidential Regulation No. 64 of 2022

Types	Tourism Site	Manage by	Spatial Structure Plan for The National Strategic Area of Nusantara Capital	Spatial Pattern Plan for The National Strategic Area of Nusantara Capital
Water and Coastal Areas	Tanah Merah Beach	Government Kutai Kartanegara Regency	Kuala Samboja Planning Area	Cultivation area
	Kuala Beach / East Kalimantan Park	Public / Private	Kuala Samboja Planning Area	Cultivation area
	Coconut Beach	Private	Kuala Samboja Planning Area	Cultivation area
	Ambalat Beach	Private	Environmental buffer zones and food security supporters	Cultivation area
	Pemedas Beach	Private	Muara Jawa Planning Area	Cultivation area
	Tebing/Dolphin Beach	Private	Environmental buffer zones and food security supporters	Cultivation area
	Senipah Beach	Private	Muara Jawa Planning Area	Cultivation area
	Tour along Balikpapan Bay	Tourism Office/Government of Balikpapan	Outside the National Strategic Area of Nusantara Capital	Outside the National Strategic Area of Nusantara Capital
Mangrove Area	Black River	Lestari "Sungai Hitam" Community	Kuala Samboja Planning Area	Cultivation area
	Mentawir Mangrove Tourism	Inhutani I	Eastern Nusantara Capital Planning Area 1	Protected area
Terrestrial Area	Sekatak Waterfall	Ministry of Environment &Forestry	Environmental buffer zones and food security supporters	Protected area
	Hot Springs	Ministry of Environment &Forestry	Environmental buffer zones and food security supporters	Protected area
	Wartono Kadri Track	Ministry of Environment &Forestry	Environmental buffer zones and food security supporters	Protected area
	Tri Joko Mulyono Track / Medicinal Plants	Ministry of Environment &Forestry	Environmental buffer zones and food security supporters	Protected area
	Henri Bastaman Track	Ministry of Environment &Forestry	Environmental buffer zones and food security supporters	Protected area
	Borneo Orangutan Survival	BOS Foundation	Samboja Intersection Planning Area	Cultivation area
	Bangkirai Hill	Inhutani I Batu Ampar	Environmental buffer zones and food security supporters	Protected area
	Wall Stone/ *Batu Dinding*	Public	Environmental buffer zones and food security supporters	Protected area
	Parung Mountain	ITCI Hutani Manunggal, company	North Nusantara Capital Planning Area	Protected area
	Tembinus Waterfall	ITCI Hutani Manunggal, company	West Nusantara Capital Planning Area	Protected area
	PT.ITCI-KU or Arsari Educational Forest	ITCI-KU company	Environmental buffer zones and food security supporters	Protected area
	Tapak Raja Stone Cave	Wonosari Village, North Penajam Paser Regency	Environmental buffer zones and food security supporters	Cultivation area
	Zero Point in Nusantara Capital	Nusantara Authority agency	Central Government Area	Cultivation area
	Mentawir Nursery	Ministry of Environment and Forestry	Environmental buffer zones and food security supporters	Protected area
	Samboja Reservoir	Ministry of Public Works and Public Housing	Environmental buffer zones and food security supporters	Protected area
	Arsari Orangutan Sanctuary Center	ITCI-KU company	Environmental buffer zones and food security supporters	Protected area

4.2 Nature tourism locations based on spatial plans and spatial patterns for the national strategic area of Nusantara

Article 65 of Presidential Regulation 64 of 2022 divides Nusantara Area into two spatial patterns: protected areas and cultivated areas [4]. The Government of Indonesia further divides each spatial pattern into several types and establishes different utilization rules, including those for tourism. The national strategic areas and spatial patterns mentioned above distribute TAO locations across several planning areas in the Nusantara Capital Region and Nusantara Capital Development Area (Table 2).

KHDTK Samboja is a part of Forest Park Bukit Soeharto, designated as an environmental buffer zone that supports food security in Nusantara Capital (Table 2). This area has several tourist attractions, namely Sekatak Waterfall, Hot Springs, Wartono Kadri track, Henri Bastaman track, and Tri Joko Mulyono track. Ministry of Forestry manages KHDTK Samboja. The Spatial Pattern Plan for the National Strategic Area of Nusantara (Table 1) includes the majority of beach tourism venues in this study and 11 additional destinations in

the cultivation area, while the remaining 14 tourist spots are located in protected areas. Presidential Regulation No. 64 of 2022, Article 66, classifies protected areas into several types: (a) areas that safeguard their subordinate areas; (b) local protected areas; (c) green open spaces; (d) conservation areas; (e) mangrove ecosystem areas; and (f) water bodies. Cultivated areas are classified into 21 types, as described in Article 72.

Natural TAOs were found in all types of areas. The implementation of natural tourism in protected areas is permitted, especially for nature tourism focusing on environmental education. Meanwhile, in cultivation areas, several zones allow tourism activities with certain themes. Tourism use in cultivation areas is quite diverse regarding the type of tourism activity itself. In agricultural areas, permitted tourism activities include tours with agricultural themes, and so does the fishing area.

Marine tourism activities are specifically prohibited in the water zone, which is an oil and gas mining zone (Article 131 c.3) [4]. However, tourism activities are not clearly regulated in several cultivation areas' zones (Table 3). For example, in mining and energy areas, activities are permitted with conditions such as agriculture, plantation, forestry, fishing, and animal husbandry in the area under the electricity network, following the provisions of laws and regulations. On the other hand, activities that are not permitted include activities that disturb the solar power generation area. This activity is the same with industrial areas, office areas, and others. Thus, tourism activities are still possible if not interfering with the main activities of the zone (Table 3). The cultivation area is an area specifically designated for tourism [4]. Article 77 states that the tourism area is allocated for an area of 678.19 ha, which is spread over the West Nusantara Planning Area, the Eastern Nusantara Planning Area 1, the North Nusantara Planning Area, and the Planning Area for Kuala Samboja.

The coastal area of the Nusantara is 68.188 ha, with a coastline running from the south of the Mahakam Delta to the administrative area of Balikpapan City (East Balikpapan). According to Presidential Regulation No. 64 of 2022, Article 6 paragraph 4d, and Article 25, Nusantara's coastal area will be developed as a tourism destination. It is consistent with the tourism potential identified in this study. Generally, the east coast of Kalimantan Island has significant potential for beach tourism.

Table 3. Utilization of the area for tourism in each zone

Spatial Pattern Plan	Details	Utilization for Tourism			Information
		Yes	Yes with Conditions	No	
Protected Area	An area that protects its subordinate areas	√			Natural tourism
	Local protected area	√			Provision of balawisata posts
	Green open space	√			Nature sports and nature tourism
	Conservation area	√			Natural tourism
	Mangrove ecosystem area	√			Natural tourism
Cultivation Area	Agricultural area		√		Agriculture based tourism
	Fishing area		√		Fisheries based tourism
	Mining and energy areas				No information
	Industrial allocation area				No information
	Tourism area	√			Development of natural and artificial tourism, including accommodation, facilities
	Residential area				No information
	Mixed area	√			Meetings, exhibitions and socio-cultural activities that support global tourism
	Trade and service areas	√			Amenities, accommodation and tourism support activities
	Office area				There is no information, but there is a green layout room
	Transportation area				No information
	Areas of Military and Security				No information
	Road bodies				As a means
	Water zone, which is a tourism zone	√			Provision and construction of tourism facilities and infrastructure
	Water zone, which is a seaport zone		√		Marine tourism
	Water zone, which is a fishing port zone		√		Marine tourism
	Water zone, which is an oil and gas mining zone			√	Marine tourism
	Water zone, which is a coastal ecosystem management zone		√		Marine tourism and utilization of environmental services
	Water zone, which is a capture fishery zone				No information
	Water zone, which is a military and security zone		√		Marine tourism
	Water zone, which is another utilization zone	√			Marine tourism
	Marine biota migration area	√			Marine tourism

Regarding ecotourism, Article 95 (10) of Presidential Regulation No. 64 of 2022 specifies that ecotourism development will occur in the Tahura Soeharto Hill area, coupled with constructing a wildlife corridor. Transforming nature tourism into ecotourism, it is essential to integrate the principles of environmental and cultural education alongside sustainable management practices. This transformation not only enhances the visitor experience but also promotes the conservation of natural resources and cultural heritage [32]. On the other hand, ecotourism can currently boost the local community's economy [33]. As a result, ecotourism can integrate environmental conservation activities with the local population's well-being. The community's role in implementing ecotourism is essential and has also been accommodated along with the Nusantara project. It can be seen in Presidential Regulation No. 64 of 2022, Article 153, which states that the community can play a role in spatial planning for the National Strategic Area of Nusantara in the planning, utilization, and controlling of space utilization. More details regarding the role of the community will be regulated by other laws and regulations.

Natural attractions that have been established as natural tourism in the landscape of Nusantara are KHDTK Samboja (Sekatak Waterfalls and Hot Springs, Wartono Kadri Track, Henry Bastaman Track, and the Tri Joko Mulyono Track), Mentawir Nursery, Arsari Education Forest, Orangutan Conservation Sites in Borneo Orangutan Survival, The Black River, Mentawir Mangrove Tourism, Bangkirai Hill, Tapak Raja Cave, all beach tourism in the Samboja area, the stone wall, and Tembinus waterfall.

4.3 Development potential

Results of this research show that natural tourism managers are divided into three categories: government, private, and community groups. The potential for developing nature tourism in the landscape of Nusantara has promising prospects, supported by a variety of existing modalities, namely as follows:

1. TAO: Tourist sites in Nusantara, from coastal areas to terrestrial forests, have original biodiversity values, aesthetics, and uniqueness that can be marketed to special-interest visitors. Some of the TAO they have are specific and cannot be found in other areas, such as endangered and endemic species of wildlife in Kalimantan;
2. Accessibility: The Nusantara's future will be supported by modern, integrated transportation routes to other regions and islands. This condition will make it easier for visitors to travel to the Nusantara;
3. Market share and economic value: Natural tourist sites in Nusantara have more profitable prospects in terms of market share because they are certain to have a very high frequency of visits and population mobility both from other regions in Indonesia and from abroad. Existing residents of Nusantara Capital and the surrounding cities also have high-market segment opportunities. Furthermore, developing ecotourism as part of the tourism industry will also have a multiplier effect on local and regional economic growth and support the concept of a sustainable forest city;
4. Population heterogeneity and security aspects: Prior to being selected as Nusantara, this area was recognized to have significant population heterogeneity. The interaction of locals and immigrants promotes cultural acculturation. In addition, the Nusantara area tends to have relatively minimal friction and conflict related to ethnicity, religion, race, and intergroup relations, creating a conducive business climate. This is supported by the results of research on ecotourism development in Balikpapan Bay, and the people around Balikpapan Bay support this [34];
5. Technology: Today's more advanced technology makes it easier for managers to disseminate information about these tours. So that many visitors will come to tourism sites. It undoubtedly helps attract additional visitors to that location using the influencer marketing strategy [35, 36]. One of them is through social media, Instagram, by displaying photos and information related to TAO, visitor activities, and destination locations [37, 38]. In addition to marketing locations and selling recreational services through social media, social media can potentially become a place to market processed products from the local community, such as handicrafts.

4.4 Challenges

The establishment of Nusantara in East Kalimantan offers a significant opportunity for the advancement of exploration-oriented sustainable ecotourism. This region, characterized by its rich biodiversity, extensive tropical rainforests, and unique ecosystems, possesses significant potential to emerge as a premier ecotourism destination. The implementation of ecotourism management in Nusantara encounters several intricate challenges. Generally, three challenges exist in transforming nature tourism into sustainable ecotourism within the Indonesian context. The factors include environmental carrying capacity, supporting infrastructure, innovation and service quality, and legal and regulatory obstacles.

Environmental carrying capacity in Nusantara has a vision of a sustainable forest city, so protecting endemic flora and fauna is very important. One of the main challenges is maintaining a balance between modern infrastructure development and environmental conservation. A particular area in Nusantara functions as a habitat for vegetation and wildlife endemic Kalimantan, such as Dipterocarpaceae, orangutans, and Proboscis monkeys. To ensure environmental sustainability, Nusantara's development must prioritize habitat protection and biodiversity conservation. Therefore, assessing the environment's carrying capacity is necessary to ensure the surrounding environment's sustainability [39]. We need to limit the number of visitor arrivals based on each destination's carrying capacity to prevent environmental disturbance [40]. Another challenge is ensuring local community participation in ecotourism management. This aligns with the core development principles of the forest city concept implemented in Nusantara [11]. The existence of indigenous Kalimantan tribes such as the Dayak, Paser, and Kutai tribes is an important factor in the sustainability of local wisdom-based ecotourism. Community involvement in conservation and management of tourist destinations is needed to make them more than objects and key actors in sustainable ecotourism.

The development of supporting facilities is needed. The development of supporting facilities in ecotourism should prioritize sustainability, accessibility, and community engagement. Inadequate and poorly maintained infrastructure facilities are one of the common challenges in the world of tourism, such as those related to easily accessible accommodation and information guides [33, 41]. This phenomenon affects the comfort level of visitors. Proper infrastructure development enhances the balance between

environmental conservation and tourism while promoting local economic growth.

The development of several natural tourist destinations built by community groups presents significant challenges. As ecotourism continues to grow, innovation and high service quality are essential to enhance visitor experiences while ensuring sustainability. Developing cutting-edge solutions can help maintain environmental integrity, improve visitor engagement, and empower local communities. This difficulty stems not only from a lack of modalities and funds but also from a lack of innovation in the development of these tourism objects [41]. Innovations are needed to add more values of TAO so that its attractiveness of TAO does not depend only on flora and fauna. We urgently need to train managers to enhance the value of these tourist attractions.

Legal and regulatory challenges, the existing tourism law is not in line with environmental conservation, thus creating a conflict between business interests and conservation efforts [42]. There needs to be strict regulations and spatial planning policies that support the green city concept so that development does not damage the natural ecosystem. So that the ecotourism potential in Nusantara area can be accommodated comprehensively and in accordance with ecotourism principles.

In addition, in developing ecotourism, it is necessary to pay attention to the education element. The element of environmental education in natural tourism in the coastal areas is very minimal and almost unfulfilled, so it is not appropriate for nature-based tourism in the form of beaches to be said to be an ecotourism site. The Black River and Mentawir mangrove, fulfill the concept of ecotourism, and its location is based on the rules of being in a cultivation area and protected area that can be used for natural tourism. This is different from exploring Balikpapan Bay with the Phinisi boat; the educational element of ecotourism is very minimal. Almost all the tourism located in terrestrial locations have potential as ecotourism, namely, Sekatak waterfall, hot spring, Wartono Kadri track, Tri Joko Mulyono track, Henry Bastaman track, BOS, Nusantara Capital Zero Point, Bangkirai Hill, Arsari Education Forest, Tapak Raja Stone Cave, Samboja reservoir, and Mentawir nursery. Although the Mentawir nursery is not specifically designed for ecotourism, it does incorporate elements of environmental education, and the empowerment of the local communities who work there can contribute to the ecotourism experience. Students can learn about nurseries and familiarize themselves with the endemic plants of Kalimantan through this unique ecotourism experience. Meanwhile, Wall Stone, Parung Mountain, and Tembinus Waterfall have very minimal elements of environmental education and can be said to be non-existent. The case is different with PSO Arsari because the concept is an Orangutan sanctuary, so PSO Arsari is not ecotourism site.

4.5 Comparative perspective on ecotourism initiatives

Ecotourism development in Nusantara faces complex challenges, but similar constraints are also evident in other ecotourism initiatives across Indonesia and developing countries. For example, in the ecotourism areas of Tangkahan in North Sumatra [13, 43] and Nusa Penida in Bali, efforts to integrate conservation with community-based tourism have encountered issues related to infrastructure limitations, fluctuating visitor behavior, and regulatory inconsistencies [44]. In both sites, strong local governance and external partnerships played key roles in sustaining ecotourism development.

In developing countries such as Costa Rica and Nepal, ecotourism success has been closely tied to the establishment of clear land-use zoning, long-term community involvement, and environmental education embedded in tourism experiences. In Costa Rica, ecotourism thrives through national park integration, where conservation and tourism coexist under strict environmental law and certification [45]. Similarly, Nepal's Annapurna Conservation Area has demonstrated how community empowerment and environmental stewardship can create lasting ecotourism models in fragile ecosystems [46].

These examples show that while Nusantara has unique ecological and spatial characteristics, many of the institutional, infrastructural, and educational challenges are not unique. Therefore, drawing lessons from these cases, such as multi-stakeholder governance, local capacity building, and eco-certification, could inform the design of a context-appropriate ecotourism framework for the new capital.

5. CONCLUSIONS

This study emphasizes the potential of natural tourist attractions (TAOs) in Nusantara for sustainable ecotourism development, highlighting the need for thorough planning and innovation to align with the vision of a sustainable forest city. Although this area has rich biodiversity and diverse ecosystems, only certain locations have successfully integrated the core principles of ecotourism, including environmental education and sustainable management practices. The transformation of natural tourist sites into ecotourism destinations must take into account challenges such as environmental carrying capacity, adequate infrastructure development, and social inclusion in management. Additionally, this study underscores the importance of a regulatory framework that ensures environmental preservation while accommodating tourism activities. In the future, efforts focused on innovation and capacity building are crucial to ensure that ecotourism contributes to the local economy and environmental preservation. A multidisciplinary approach that integrates ecological, economic, and community empowerment will be crucial for achieving long-term sustainability in the Nusantara ecotourism sector.

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REFERENCES

[1] Firman, A.M., Saravistha, D.B. (2024). Perdebatan pelaksanaan putusan penentuan hasil akhir sengketa tanah di kalimantan yang di jadikan sebagai ibu kota negara indonesia geopolitik di indonesia. Jurnal Ilmiah

Cakrawarti, 7(2): 63-72.
[2] Yusuf, S., Siregar, D.Y. (2024). Pemindahan ibu kota negara berdasarkan undang-undang nomor 3 tahun 2022 tentang ibu kota negara perspektif fiqih siyasah. eScience Humanity Journal, 5(1): 67-78. https://doi.org/10.37296/esci.v5i1.198
[3] National Development Planning Agency. (2020). Preparation of a Strategic Environmental Assessment for the National Capital Masterplan for Fiscal Year 2020. https://lcdi-indonesia.id/wp-content/uploads/2022/08/Laporan-Kajian-Lingkungan-Hidup-Strategis-Untuk-Masterplan-Ibu-Kota-Negara-KLHS-MP-IKN.pdf.
[4] Database Peraturan BPK. (2022). Presidential regulation No. 64 of 2022 concerning the spatial plan for the national capital city in 2022-2042. https://peraturan.bpk.go.id/Details/207620/perpres-no-64-tahun-2022.
[5] Baydeniz, E., Çılgınoğlu, H., Sandıkcı, M. (2024). Ecotourism: For a sustainable future. In Future Tourism Trends. Emerald Publishing Limited, pp. 77-89. https://doi.org/10.1108/978-1-83753-244-520241006
[6] Titisari, P.W., Chahyana, I., Janna, N., Nurdila, H., Widari, R.S. (2022). Management strategies of mangrove biodiversity and the role of sustainable ecotourism in achieving development goals. Journal of Tropical Biodiversity & Biotechnology, 7(3): jtbb72243. https://doi.org/10.22146/jtbb.72243
[7] Arhas, W.D.S. (2025). Balancing ecology, economy, and community: An Analytic Network Process (ANP) framework for sustainable ecotourism development. International Journal of Sustainable Development & Planning, 20(4): 1741-1751. https://doi.org/10.18280/ijsdp.200435
[8] Suwanan, A.F., Sayono, J., Nuraini, F., Adi, D.L. (2023). An investigation of the ecotourism development based on local wisdom in accelerating the village's sustainable development goals. E3S Web of Conferences, 373: 05002. https://doi.org/10.1051/e3sconf/202337305002
[9] Joni, A. (2020). Dampak IKN, Warga Baru Pindah Masuk ke PPU Capai 750 Orang pada Januari-April 2020. Tribun Kaltim. https://kaltim.tribunnews.com/2020/05/04/dampak-ikn-warga-baru-pindah-masuk-ke-ppu-capai-750-orang-pada-januari-april-2020.
[10] Sa'adah, N., Hayyat, M.R., Fevria, R. (2022). Analisis Issue dalam Etika Lingkungan Terkait IKN. Prosiding Seminar Nasional Biologi, 2(1): 421-430.
[11] Ibrahim, A.H.H., Baharuddin, T., Wance, M. (2023). Developing a forest city in a new capital city: A thematic analysis of the Indonesian governmentâ€™ s plans. Jurnal Bina Praja, 15(1): 1-13. https://doi.org/10.21787/jbp.15.2023.1-13
[12] Siagian, A.W., Alghazali, M.S.D., Fajar, H.F. (2022). Penerapan konsep forest city dalam upaya mencapai carbon neutral pada pembangunan ibu kota negara. Jurnal Studi Kebijakan Publik, 1(1): 1-12. https://doi.org/10.21787/jskp.1.2022.1-12
[13] Chen, R., Chen, Y., Lyulyov, O., Pimonenko, T. (2023). Interplay of urbanization and ecological environment: Coordinated development and drivers. Land, 12(7): 1459. https://doi.org/10.3390/land12071459
[14] Pujaastawa, I.B.G., Ariana, I.N. (2015). Pedoman Identifikasi potensi daya tarik wisata. Konsorsium Riset Pariwisata, Universitas Udayana, Denpasar.
[15] Acquah, E., Owusu, D.A., Nkrumah, E.E., Anane Agyei, P., Asare, R. (2022). Sustainable ecotourism development and visitor satisfaction: The case of Bomfobiri Wildlife Sanctuary, Kumawu, Ghana. International Journal of Sustainable Development & World Ecology, 29(8): 797-811.
[16] Jamshed, S. (2014). Qualitative research method-interviewing and observation. Journal of Basic and Clinical Pharmacy, 5(4): 87. https://doi.org/10.4103/0976-0105.141942
[17] Abus, A.F., Lubis, T., Saputra, N., Delima, D. (2022). Ecotourism to improve the quality of Deli riverscape, Medan City, North Sumatra, Indonesia. IOP Conference Series: Earth and Environmental Science, 1082(1): 012004. https://doi.org/10.1088/1755-1315/1082/1/012004
[18] Indonesian Government. (2022). Law No.3 of 2022 concerning National Capital City. Jakarta.
[19] Agustin, Y., Cahyanto, T. (2024). Community participation and contribution in enhancing local income through ecotourism development in Warnasari Village, Pangalengan Sub-District, Bandung Regency. Jurnal Manajemen Pariwisata Dan Perhotelan, 2(4): 143-153. https://doi.org/10.59581/jmpp-widyakarya.v3i1.4339
[20] Snyder, H. (2019). Literature review as a research methodology: An overview and guidelines. Journal of Business Research, 104: 333-339. https://doi.org/10.1016/j.jbusres.2019.07.039
[21] Sihombing, G.N.P. (2024). Sustainable ecotourism development and land use planning in Muara District, North Tapanuli, Indonesia: A policy review for the Lake Toba Shoreline. South Asian Journal of Social Studies and Economics, 21(12): 213-226. https://doi.org/10.9734/sajsse/2024/v21i12930
[22] Gulo, P., Palupiningtyas, D. (2024). Increasing the attraction of nature-based tourism in Senjoyo Salatiga by embracing a sustainable development framework. International Journal of Integrated Science and Technology, 2(5): 466-483. https://doi.org/10.59890/ijist.v2i5.1824
[23] Sari, U.K., Mediawati, I. (2017). Swara samboja wisata kekinian. https://www.researchgate.net/publication/343254600_Swara_Samboja_Wisata_Kekinian.
[24] Atmoko, T., Yassir, I., Sitepu, B.S., Mukhlisi, W.S., Muslim, T., Mediawati, I., Ma'ruf, A. (2015). Keanekaragaman Hayati Hutan Rintis Wartono Kadri: Hutan Tropis Kalimantan di KHDTK Samboja. Balai Penelitian Teknologi Konservasi Sumber Daya Alam Samboja. Badan Penelitian dan Pengembangan Kehutanan, Kementerian Lingkungan Hidup dan Kehutanan, Jakarta.
[25] Kristiningrum, R., Lahjie, A.M., YUSUF, S., RUSLIM, Y. (2019). Species diversity, stand productivity, aboveground biomass, and economic value of mangrove ecosystem in Mentawir Village, East Kalimantan, Indonesia. Biodiversitas Journal of Biological Diversity, 20(10). https://doi.org/10.13057/biodiv/d201010
[26] Sulistioadi, Y.B., Rustam, R., Wahyudi, D., Mulyadi, R., Sari, U.K., Setiawati, S., Jufriansyah, J., Nasir, M. (2017). Identifikasi Kawasan Bernilai Konservasi Tinggi (KBKT/HCV) pada Skala Bentang Lahan di Provinsi Kalimantan Timur.Samarinda.

https://www.researchgate.net/profile/Rustam-Rustam/publication/371589341_Kawasan_Bernilai_Konservasi_Tinggi_Skala_Bentang_Lahan_Kaltim/links/648b17359bc5e4366831c607/Kawasan-Bernilai-Konservasi-Tinggi-Skala-Bentang-Lahan-Kaltim.pdf.

[27] Atmoko, T. (2010). Strategy for ecotourism development in proboscis monkey (Nasalis larvatus wurmb.) Habitat at Kuala Samboja, East Kalimantan. Jurnal Penelitian Hutan Dan Konservasi Alam, 7(4): 425-437.

[28] Lhota, S., Scott, K.S.S., Sha, J.C.M. (2019). Chapter 42 - Primates in flooded forests of Borneo: Opportunities and challenges for ecotourism as a conservation strategy. In Primates in Flooded Habitats: Ecology and Conservation. Cambridge University Press, pp. 331-339. https://doi.org/10.1017/9781316466780.043

[29] Priono, R.D., Pratiwi, S.D., Nugraha, A.M., Herdiana, N.A., Apsari, N.C., Raharjo, S.T., Humaedi, S., Taftazani, B.M., Santoso, M.B. (2023). Community-based tourism development in the Lestari Hitam River ecotourism program, Samboja District, Kutai Kartanegara. Jurnal Penelitian Dan Pengabdian Kepada Masyarakat (JPPM), 4(2): 53. https://doi.org/10.24198/jppm.v4i2.50072

[30] Fauzan, F. (2016). Kajian pengembangan ekowisata di kawasan wisata alam di kecamatan. Samboja, kabupaten kukar. Jurnal Eksis, 12(1): 3214-3345.

[31] Willard, K., Aipassa, M.I., Sardjono, M.A., RUJEHAN, R., RUSLIM, Y., Kristiningrum, R. (2022). Locating the unique biodiversity of Balikpapan Bay as an ecotourism attraction in East Kalimantan, Indonesia. Biodiversitas Journal of Biological Diversity, 23(5): 2342-2357. https://doi.org/10.13057/biodiv/d230512

[32] Seočanac, M. (2022). Transformative experiences in nature-based tourism as a chance for improving sustainability of tourism destination. Economics of Sustainable Development, 6(1): 1-10. https://doi.org/10.5937/ESD2201001S

[33] Tseng, M.L., Lin, C., Lin, C.W.R., Wu, K.J., Sriphon, T. (2019). Ecotourism development in Thailand: Community participation leads to the value of attractions using linguistic preferences. Journal of Cleaner Production, 231: 1319-1329. https://doi.org/10.1016/j.jclepro.2019.05.305

[34] Sayektiningsih, T.S., Ardiyanto, A.W.N., Ishak, I.Y., Ulfah, U.K.S., Amir, A.M.R., Mukhlisi, M.M., Suryanto, S.S. (2019). Community perceptions of impacts of ecotourism and its implications on ecotourism development in the Balikpapan Bay, East Kalimantan. Jurnal Wasian, 6(1): 57-67. https://doi.org/10.62142/221nxp84

[35] Son, H., Park, Y.E. (2024). A deep understanding of influencer marketing in the tourism industry: A structural analysis of unstructured text. Current Issues in Tourism, 1-11. https://doi.org/10.1080/13683500.2024.2368152

[36] Kiráľová, A., Pavlíčeka, A. (2015). Development of social media strategies in tourism destination. Procedia-Social and Behavioral Sciences, 175: 358-366. https://doi.org/10.1016/j.sbspro.2015.01.1211

[37] Hanan, H., Putit, N. (2013). Express marketing of tourism destinations using Instagram in social media networking. Hospitality and Tourism: Synergizing Creativity and Innovation in Research, 471: 1074-1090.

[38] Cornellia, A.H., Putrianti, H., Sinangjoyo, N.J. (2024). The role of influencer marketing for tourism destinations in improving brand awareness through Instagram. Journal of Economics, Finance and Management Studies, 7(2): 1147-1157. https://doi.org/10.47191/jefms/v7-i2-34

[39] Butarbutar, R., Soemarno, S. (2013). Environmental effects of ecotourism in Indonesia. Journal of Indonesian Tourism and Development Studies, 1(3): 97-107. https://doi.org/10.21776/ub.jitode.2013.001.03.01

[40] Pujar, S.C., Mishra, N. (2021). Ecotourism industry in India: A review of current practices and prospects. Anatolia, 32(2): 289-302.

[41] Neidhardt, J., Wörndl, W. (2020). Information and Communication Technologies in Tourism 2020. Springer International Publishing. https://doi.org/10.1007/978-3-030-36737-4

[42] Purnama, Y., Sofian, A.G., Rusmini, A. (2023). Legal challenges in the development of ecotourism as part of the tourism business. Journal of Contemporary Administration and Management (ADMAN), 1(3): 258-262. https://doi.org/10.61100/adman.v1i3.91

[43] Siregar, O.M., Siregar, A.M., Andriansyah. (2022). Literature review: Identification of sustainable ecotourism in Tangkahan. IOP Conference Series: Earth and Environmental Science, 1115(1): 012068. https://doi.org/10.1088/1755-1315/1115/1/012068

[44] Sudiarkajaya, I.M., Utama, M.S., Yasa, I.N.M., Yuliarmi, N.N. (2018). Tourism development strategy in Nusa Penida District Klungkung Regency, Bali Province, Indonesia. International Journal of Economics, Commerce and Management, 6(8): 130-143.

[45] Hilje, B., Rojas-Valerio, E., García, M., Lizana, C., Miranda, C. (2024). Bird diversity of the Tirimbina Biological Reserve: The role of research, environmental education and ecotourism in bird conservation in a tropical wet forest in Costa Rica. Ornitología Neotropical, 35(2): 130-133. https://doi.org/10.58843/ornneo.v35i2.737

[46] Bhatta, K.D., Joshi, B.R. (2023). Community collaboration with tourism stakeholders: Issues and challenges to promote sustainable community development in Annapurna Sanctuary Trail, Nepal. Saudi Journal of Engineering and Technology, 8(6): 146-154. https://doi.org/10.36348/sjet.2023.v08i06.004