



Assessing the readiness paradox of coastal ecotourism: A socio-technical evaluation of natural attraction versus infrastructure capability

Deriana Impiana¹, Kahirun¹, Safril Kasim¹, La Gandri¹, Eka Rahmatiah Tuwu^{1*}

¹ Department of Environmental Sciences, Faculty of Forestry and Environmental Sciences, Universitas Halu Oleo, Kendari, Southeast Sulawesi 93231, Indonesia.

*Correspondence: eka.rahmatiah@gmail.com

Received Date: October 2, 2025

Revised Date: January 21, 2026

Accepted Date: January 26, 2026

ABSTRACT

Background: This study aims to assess the feasibility status of the development plan for Kampa Beach, a coastal destination located in Wawobili Village, West Wawonii District, within the administrative area of Konawe Islands Regency, Indonesia. **Method:** The study utilized a combination of purposive sampling for stakeholders, accidental sampling for 15 visitors, and a 10% sample of the 270 local residents in Wawobili Village. The research employed the ADO-ODTWA Guidelines as the methodological framework, applying seven established assessment criteria to evaluate the site's potential for sustainable ecotourism development. **Finding:** The findings reveal that the Kampa Beach Tourism Area is feasible and holds strong potential to be developed into a premier ecotourism destination. The natural tourism attraction aspect achieved a very high index score of 85.14%, followed by accessibility with 82.26%. However, the accommodation availability criterion showed a relatively low score of 33.33%, while supporting facilities and infrastructure scored 60%, placing it in a mid-range category. The security criterion recorded the highest score of 91.66%, supported by environmental conditions and local community support (90%) and linkages to nearby tourist attractions (77.5%). While five criteria meet the requirements for full development, the lack of lodging and basic amenities requires immediate intervention. **Conclusion:** The composite calculation of all indicators yields a final average score of 74.27%, confirming Kampa Beach's feasibility as a potential ecotourism area. The results also highlight key areas requiring priority interventions to ensure optimal and sustainable development. **Novelty/Originality of this article:** This study identifies a unique readiness paradox in Wawobili Village, where the natural attractiveness and community safety indices have reached elite levels (above 90%), but are hampered by severe delays in accommodation infrastructure (33%). Unlike general tourism reviews, this study identifies specific socio-technical barriers that must be overcome to transform this remote coastal site into a sustainable premier destination.

KEYWORDS: ecotourism; feasibility; Kampa Beach; potential; sustainable development.

1. Introduction

Indonesia's tourism potential is vast, rooted in its captivating natural landscapes and immense cultural diversity. As the world's largest archipelagic nation, Indonesia consists of more than 17,000 islands stretching from the western tip of Sumatra to the eastern end of Papua, with approximately two-thirds of its territory comprising marine waters. It also boasts the world's second-longest coastline, offering an unparalleled range of marine and coastal resources — from rich fisheries and diverse marine biota to abundant non-biological

Cite This Article:

Impiana, D., Kahirun, K., Kasim, S., Gandri, L., & Tuwu, E. R. (2026). Assessing the readiness paradox of coastal ecotourism: A socio-technical evaluation of natural attraction versus infrastructure capability. *Journal of Sustainability, Society, and Eco-Welfare*, 3(2), 124-140. <https://doi.org/10.61511/jssew.v3i2.2026.2314>

Copyright: © 2026 by the authors. This article is distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).



resources. These natural endowments, coupled with a rich tapestry of cultural traditions, languages, and heritage, form the backbone of Indonesia's tourism sector and represent a significant comparative advantage in the global tourism market (OECD, 2023).

Despite this enormous potential, Indonesia's tourism sector exhibits structural disparities in competitiveness across regions. Bali remains the dominant entry point for international visitors, attracting over one-third of foreign tourist arrivals annually (Tatwadyatmika & Millanyani, 2025). This overconcentration highlights an uneven tourism landscape, where other regions with equal or even greater ecological and cultural value remain underdeveloped and underpromoted. Recognizing this imbalance, the Indonesian government is intensifying efforts to replicate Bali's success in other destinations to foster a more diversified and balanced tourism ecosystem. Strategic policies focus on improving infrastructure, strengthening destination management, developing human capital, and promoting cultural and heritage-based tourism to unlock the potential of less-explored regions (Syafuruddin & Badollahi, 2023).

Indonesia's natural and cultural attractions are central to this diversification strategy. The country's thousands of islands offer diverse landscapes ranging from pristine beaches and coral reefs to volcanic mountains and tropical rainforests—all of which are powerful magnets for both domestic and international tourists. Cultural heritage, both tangible and intangible, further enriches Indonesia's tourism appeal, with globally recognized sites such as Borobudur Temple and the historical architecture of Semarang illustrating the depth of Indonesia's cultural capital (Damayanti & Puspitasari, 2024). These resources support not only recreation and leisure but also educational, spiritual, and cultural tourism, providing multidimensional value that enhances the overall tourism experience.

To optimize these assets, the Indonesian government has launched development strategies focused on super-priority destinations such as Borobudur, Lake Toba, Mandalika, Likupang, and Labuan Bajo. These initiatives aim to accelerate infrastructure development, improve accessibility, and strengthen local tourism governance. In eastern Indonesia, including Sulawesi and Maluku, strategies emphasize maritime and nature-based tourism by leveraging coastal beauty and rich cultural traditions to attract a broader tourist base (Syafuruddin & Badollahi, 2023). However, these efforts also face persistent challenges, including inadequate infrastructure, inconsistent service quality, and limited connectivity between tourist sites—all of which reduce competitiveness and visitor satisfaction (Tatwadyatmika & Millanyani, 2025). Addressing these gaps requires substantial investment in infrastructure and human capital, including vocational training for local communities and greater adoption of digital technologies to enhance marketing, service delivery, and visitor engagement (Ollivaud & Haxton, 2019).

Indonesia's tourism development is also closely linked to the broader agenda of sustainable development. As articulated in the United Nations Sustainable Development Goals (SDGs), ecotourism directly supports SDG 8 (Decent Work and Economic Growth) by generating employment and stimulating inclusive local economies, SDG 11 (Sustainable Cities and Communities) through responsible spatial planning and cultural preservation, SDG 14 (Life Below Water) by conserving marine ecosystems, and SDG 15 (Life on Land) by protecting terrestrial biodiversity (World Tourism Organization, 2022; UNEP, 2023). These linkages underline the dual role of ecotourism—as a behavioral approach that promotes ecological integrity and cultural continuity, and as an industry that requires collaboration among government, private sector, and local communities to deliver economic, social, and environmental benefits (Citra, 2015).

Indonesia's legal and policy framework further reinforces this sustainable vision. Article 33 of the 1945 Constitution mandates the responsible management and equitable use of natural resources for the people's welfare. Complementing this, the Ministry of Home Affairs Regulation No. 33 of 2009 provides guidelines for ecotourism development, emphasizing sustainability, community participation, and long-term ecosystem integrity. At the operational level, the Analysis of Operational Areas and Natural Tourist Attractions (ADO-ODTWA), established by the Directorate General of Forest Protection and Nature Conservation in 2003, is widely used to evaluate the feasibility of ecotourism sites and

ensure that development aligns with conservation priorities (Fitriyani, 2021). These policies are consistent with global standards set by the Global Sustainable Tourism Council, which prioritize biodiversity conservation, climate resilience, and socio-economic equity.

Within this national and global context, Kampa Beach in Wawobili Village, Konawe Islands Regency, represents a compelling example of a potential ecotourism destination. The beach is characterized by pristine white sands, crystal-clear blue waters, unique karst formations, and spectacular sunset views, all of which offer immersive nature-based tourism experiences. Visitors can engage in activities such as beach walking, swimming, snorkeling, and nature photography. To enhance visitor satisfaction, the Konawe Islands Regency Tourism Office has begun investing in essential infrastructure, including villas, gazebos, parking areas, and scenic photo spots. These developments aim to improve visitor comfort and generate economic opportunities for local communities.

However, significant challenges remain. The promotion of Kampa Beach is still limited, with most visitors coming from the local region. Inadequate marketing, insufficient infrastructure, and weak connectivity to broader tourism networks have constrained its visibility and competitiveness in national and international markets. Overcoming these challenges requires not only physical infrastructure improvements but also integrated destination management strategies, community empowerment, and digital promotion to increase reach and recognition.

Given these conditions, conducting a comprehensive feasibility assessment of Kampa Beach as a sustainable ecotourism destination is both essential and urgent. Such an assessment will inform more targeted local development strategies, attract investment, and strengthen the site's role in advancing Indonesia's contribution to global sustainability goals. By linking local initiatives with the broader objectives of SDGs 8, 11, 14, and 15, Kampa Beach has the potential to evolve into a model destination that integrates ecological preservation, cultural vitality, community welfare, and economic growth.

2. Methods

2.1 Place and time

This research was conducted in the Kampa Beach Ecotourism Area, Wawobili Village, West Wawonii District, Konawe Islands Regency, which is geographically located at 3°58' 53.35" LS and 123°1' 43.59" BT from October to November 2024. The materials used in this study were questionnaires, which were used as interview tools to obtain data from respondents in the Kampa Beach Tourism Area, Wawobili Village, West Wawonii District, Konawe Islands Regency, and a map of the research location, which provided an overview of the research location. The tools used in this study are a camera to take documentary pictures during the research, Global Positioning System (GPS), and writing instruments to record the research results.

Astronomically, Konawe Islands Regency is bordered by the Wawonii Strait to the west and north, the Banda Sea to the east, and the Buton Strait to the south. Geographically, West Wawonii District is located between 122°58' - 123°4' East Longitude and 3°58' - 4°6' South Latitude. The administrative boundaries of West Wawonii District are as follows: the north borders the Banda Sea; the east borders North Wawonii District; the southeast borders Central Wawonii District; the west borders the Banda Sea.

Administratively, West Wawonii District consists of 15 villages and 1 urban village (kelurahan). Among the existing villages/urban villages, the ones with the largest area are Wawolaa Village and Langara Bajo, with an area of 12.19 km² (13.36% each). Meanwhile, the village with the smallest area is Langara Laut, with an area of 2.24 km² (2.46% of the total area of West Wawonii District).

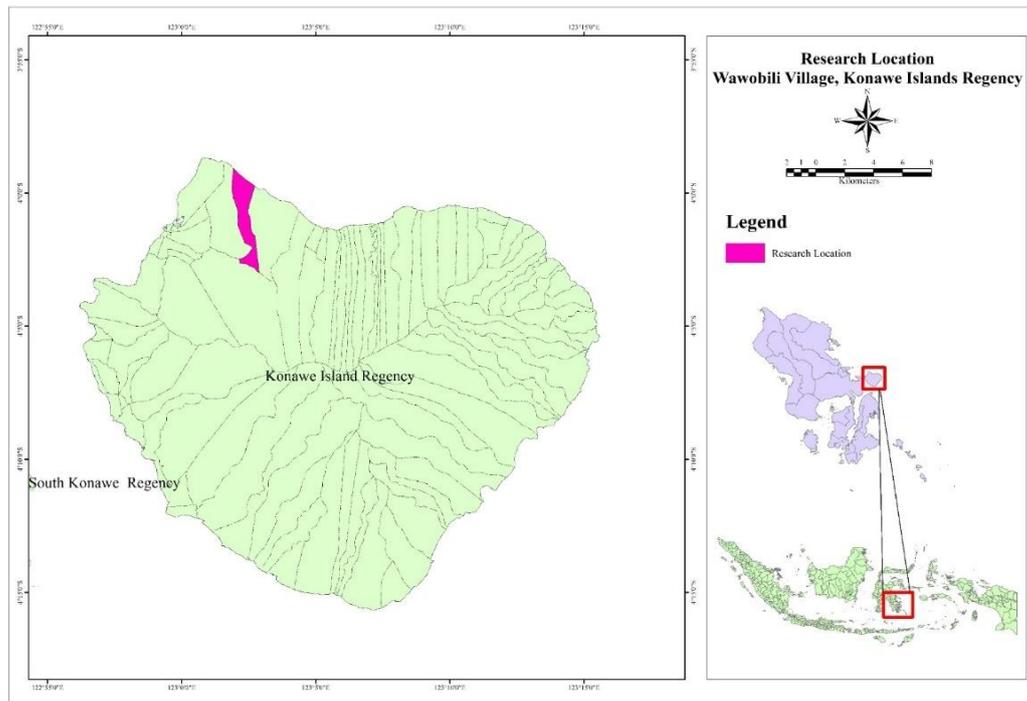


Fig. 1. Kampa Beach ecotourism, Wawobili village

Climate is fundamentally a statistical concept defined as the long-term average of various weather conditions, while weather itself refers to the dynamic state of the atmosphere observed at a specific moment. Following the climatic pattern commonly found throughout Indonesia, Wawobili Village also experiences an annual cycle consisting of two main seasons: the dry season and the rainy season. Temporally, the rainy season in this village typically lasts for a six-month period from April to September, while the dry period or dry season dominates during the months from October to March. These regular seasonal fluctuations ultimately create an indirect impact on the stability and level of income earned by the local community.

The Konawe Islands Regency is predominantly characterized by podzolic soil, and Wawobili Village, located within it, shares this same soil characteristic. The podzolic soil in this village is distinguished by its varied coloration, ranging from yellow and red to yellowish-gray, and features a texture that spans from sandy to loamy. The land elevation across Konawe Islands Regency is highly varied, ranging broadly from 0 to 1000 meters above sea level. However, the topography is predominantly characterized by low-lying areas, with most of the regency's landmass situated at elevations between 25 and 100 meters above sea level. Within this regency, the terrain of West Wawonii District showcases a diverse landscape, which includes flat plains, gentle slopes, steep cliffs, and basins.

The average education level of the community in Wawobili Village ranges from Elementary School, Junior High School, Senior High School, to Bachelor's Degree. The livelihoods of the Wawobili Village community are varied, including fishing, entrepreneurship, and civil service. Additionally, the local community also improves their economy by engaging in trade, such as setting up kiosks/stalls at home or selling goods at the market to supplement their income.

The majority of the population in Wawobili Village, located in West Wawonii District, Konawe Islands Regency, adhere to Islam and belong to the Wawonii ethnic group. The Wawonii people possess a highly valued cultural tradition known as kolungku. Within their cultural context, kolungku essentially functions as a ceremonial offering container used in various traditional events. The existence of kolungku is not merely a formal ritual; rather, it profoundly symbolizes a form of respect, appreciation, and reverence for the cultural values, traditions, and civilization of the community, which are normative and binding for the entire community.

2.2 Population and sample

The population in this study consists of the entire community of Wawobili Village, totaling 270 people, visitors to the Kampa Beach Tourism Area, totaling 50 people per month, and 1 employee of the Tourism Office. The sample used in this study consisted of 270 people, namely visitors to Kampa Beach. According to Arikunto (2006), if the number of subjects is less than 100, it is better to take all of them so that the study is a population study. However, if the number of subjects is large (more than 100 people), 10-15% or 20-25% or more can be taken. The population of Wawobili Village is 270 people. Therefore, the sample selected in this study is 10% of 270 people, which is 27 people.

The method used in sampling visitors to tourist attractions is the accidental sampling method. This sampling technique is based on chance encounters with the researcher and can be used as a sample. Based on information from the tourism office, the number of visits in one month is 50 people, so the sample taken is 30% of 50 people, meaning that the sample of visitors taken is 15 people. Meanwhile, the respondents were determined using the purposive sampling method. Purposive sampling is a sampling technique that determines criteria based on age (17 years and above) and physical and mental health. Purposive Sampling can be referred to as research or experts. In purposive sampling, one representative from the Tourism Office was selected as a stakeholder/stakeholder respondent.

2.3 Types of data

The types of data used in this study are qualitative and quantitative data. Qualitative data is data obtained from interviews. The primary data used in this study are the results of interviews and direct observations in the field, while the secondary data for this study were obtained from published literature from the Tourism Office and data from the Wawonii Central Statistics Agency. The data collection techniques used in this study are as follows. First, observation technique, which is a data collection technique by conducting direct observation at the research location.

Things that need to be observed are the condition of roads, infrastructure, accommodation, flora and fauna, and the comfort of the tourist location. Second, interview technique is a technique used to obtain information or an overview of the research area by using a respondent questionnaire as a guide for the interview. Third, literature study method is an activity or method of gathering information on topics or issues that are the object of research. This information can be obtained from the internet, scientific papers, books or theses, and other sources. Fourth, documentation is a data collection technique by documenting objects and equipment in this study.

2.4 Data analysis

Data analysis in this research was conducted using two methods, as follows. Descriptive qualitative analysis is an analytical method aimed at describing and explaining the potential of ecotourism objects within the area and the socio-environmental conditions of the local community based on the results obtained from the research. The measuring instrument used in this study was a questionnaire administered to respondents.

The ecotourism feasibility study method uses assessment criteria according to the Guidelines for Analysis of Nature Tourism Object Operation Areas and Attractions (Pedoman Analisis Daerah Operasi Objek dan Daya Tarik Wisata Alam/ADO-ODTWA) issued by the Director General of Forest Protection and Nature Conservation/*Perlindungan Hutan dan Konservasi Alam (PHKA)* in 2003, based on predetermined scores for each criterion.

The objects and attractions that have been assessed are then analyzed according to the scoring criteria of the ADO-ODTWA Director General of Forest Protection and Nature

Conservation 2003. Each criterion is assigned a different weight. The attractiveness criterion is given a weight of 6 because it is the primary factor for someone to engage in tourism activities. Accessibility and environmental conditions are given a weight of 5 as they are important factors supporting tourists in conducting ecotourism activities. Accommodation and facilities/infrastructure are given a weight of 3 as they are supporting factors in tourism activities. Security is given a weight of 5, and the relationship with other tourist objects is given a weight of 1. All these weightings. The total score for one ODTWA assessment criterion can be calculated using the formula with explanations if S is score/value of a criterion, N is total value of elements in the criteria, and B as weight of the value.

$$S = N \times B \quad (\text{Eq. 1})$$

The score obtained is then compared to the total score of a criterion if each sub-criterion has a maximum value of 5. The assessment results are as follows with the equation 2 of ecotourism feasibility index value. Furthermore, Karsudi et al. (2010) state that after a comparison is made, a percentage of feasibility will be obtained.

$$\frac{\text{Criteria score}}{\text{Total criteria score}} \times 100\% \quad (\text{Eq. 2})$$

The percentage of feasibility of an ecotourism area is as follows. First, feasibility percentage level $> 66.6\%$ means that the tourist attraction is feasible for development because it has adequate facilities and infrastructure and is supported by adequate accessibility. Second, feasibility percentage level $33.3\% - 66.6\%$, then the place is not yet feasible for development. The place will have the potential and be feasible for development if the facilities and infrastructure as well as accessibility are improved. Third, feasibility percentage level $< 33.3\%$ means that the location lacks adequate facilities and infrastructure as well as accessibility, making it unfeasible for development.

3. Results and Discussion

3.1 Assessment of tourism object potential and attractions

Tourism attraction assessment criteria are an instrument for determining the feasibility of an attraction to be developed as an ecotourism area. The function of the criteria is as a basis for ecotourism development through the determination of criteria elements, weighting, calculation of each sub-element, and summation of all criteria (Ministry of Forestry, 2003). The assessment criteria used to assess the potential of objects and attractions at Kampa Beach are attractiveness, accessibility, environmental conditions community, accommodation, supporting facilities and infrastructure, security, and its relationship with other tourist attractions.

3.1.1 Attraction, accessibility, accommodation, facilities and infrastructure assesment

Attractiveness is a factor that makes people want to visit and see firsthand the place that has that attractiveness. The assessment of this attractiveness component aims to determine the types of recreational activities that are in line with the attractiveness and available resources. The assessment of the attractiveness component of Kampa Beach can be seen in Table 1. Table 1 shows that the attractiveness components of Kampa Beach tourist attraction consist of beauty, safety, sand type and color, activity variety, cleanliness, and comfort, with a total score of 919.54.

Table 1. Results of the assessment of the attractions of Kampa Beach tourist area

No.	Element/Sub-element	Weight	Score	Total Score
1.	Beauty	6	25	150
2.	Safety	6	30	180
3.	Sand Type and Color	6	25	150
4.	Variety of Activities	6	20	120
5.	Comfort	6	30	180
6.	Cleanliness	6	23.26	139.54
Total Score			153.26	919.54

The highest score was for comfort, with a value of 30, while the lowest score was for activity variety, with a value of 20. Then, good accessibility can be a separate point for tourist attractions that will be visited by tourists. The accessibility studied was the condition of the road, distance, type of road, and travel time from the city center. A complete assessment of the accessibility of the Kampa Beach area can be seen in Table 2.

Table 2. Assessment results for accessibility in the Kampa Beach tourist area

No.	Element/Sub-element	Weight	Score	Total Score*
1.	Road Conditions	5	20.81	104.07
2.	Distance	5	27.91	139.54
3.	Road Type	5	20	100
4.	Travel Time from City Center	5	30	150
Total Score			98.72	493.61

Note: *the product of weight and value

Table 2 shows that the accessibility assessment of Kampa Beach tourist attraction received a total score of 493.61, with the highest score of 30 for travel time from the city center, while the lowest score of 20 was for road type, where good road conditions will affect travel time and vice versa. Accommodation is something provided to meet the needs of tourist attractions, such as facilities for resting with food and beverage services or without services. The assessment elements for the accommodation aspect in the Kampa Beach tourism study are presented in Table 3.

Table 3. Assessment results for accommodation in the Kampa Beach tourist area

No.	Element/Sub-element	Weight	Score	Total Score*
1.	Accommodations	3	10	30
2.	Number of Rooms	3	10	30
Total Score			20	60

Note: *the product of weight and value

Based on the evaluation data presented in Table 3, it can be concluded that the assessment of the accommodation aspect in the Kampa Beach ecotourism area shows measurable results. The total score obtained for the overall accommodation aspect is 60. Looking at the assessment details more closely, for the indicator of the number of accommodations available, this area only scored 10.

Table 4. Assessment results for facilities and infrastructure in the Kampa Beach tourist area

No.	Element/Sub-element	Weight	Score	Total Score*
1.	Facilities	3	30	90
2.	Infrastructure	3	30	90
Total Score			60	180

Note: *the product of weight and value

Similarly, for the indicator of the number of rooms that can be accessed and used by visitors, the score achieved was also not higher, at only 10. These two relatively low detailed scores contributed significantly to the final total score of 60, which overall illustrates that

accommodation facilities at Kampa Beach are still very limited and need serious attention to improve their quality and quantity in order to support sustainable ecotourism development. Then, the assessment aspects of supporting facilities and infrastructure in the Kampa Beach tourist area are presented in Table 4. Based on Table 4., the results of the assessment of the supporting facilities and infrastructure of the Kampa Beach tourist area The total score obtained for the supporting facilities and infrastructure was 180, with the highest score of 30 for both supporting facilities and infrastructure.

3.1.2 Safety, community environmental conditions, relationship with other tourist attractions assesment

Safety in tourist locations is one of the things that must be considered when traveling, because it concerns the issue of comfort and satisfaction in enjoying the natural atmosphere during the trip to the tourist area or within the tourist area. The assessment elements for the safety aspect are presented in Table 5. Based on Table 5 there are two elements in the security component, namely security and comfort, with the highest score of 30 found in the security element and the lowest score of 25 found in the comfort element. Overall, the total score for these two elements is 275.

Table 5. Assessment results for facilities and infrastructure in the Kampa Beach tourist area

No.	Element/Sub-element	Weight	Score	Total Score*
1.	Security	5	30	150
2.	Comfort	5	25	125
Total Score			55	275

Note: *the product of weight and value

Then, the assessment of the community environmental conditions criteria in the Kampa Beach Tourism Area is presented in Table 6. Based on the data listed in Table 6., further analysis can be conducted on the assessment of environmental conditions in the region. The aspect of community environmental conditions, which includes three main criteria components, namely spatial planning, education level, and the attitudes and responses of the local community, achieved an aggregate score of 30.

Table 6. Results of the assessment of the community environmental conditions of Kampa Beach tourism area

No.	Element/Sub-element	Weight	Score	Total Score*
1.	Regional Spatial Planning	5	30	150
2.	Livelihoods of the Population	5	25	125
3.	Natural Resources	5	20	100
4.	Level of Education	5	30	150
5.	Community Attitude	5	30	150
Total Score			135	675

Note: *the product of weight and value

Meanwhile, for the separate assessment aspect, namely natural resources, the score achieved was 20. When the two scores for these environmental elements are combined with the assessment results from all other elements not mentioned in detail in this sentence, a composite number is obtained that represents the total overall score. The final total score for all assessment elements is 675, which provides a quantitative picture of the overall achievement level of the object being assessed.

The assessment of components within the criteria for connectivity with other tourist attractions is conducted by basing the evaluation on two fundamental aspects: the existence or presence and the quantity or number of other tourist attractions that possess a minimum attractiveness value of 100 points, located within a 10-kilometer radius from the main tourist attraction being assessed. The complete results of the evaluation and detailed

analysis regarding the criteria for relationships with other tourist attractions, specifically applied to the Kampa Beach Tourist Area, can be viewed comprehensively in the provided Table 7.

Table 7. Assessment results for relationship with other tourist attractions in the Kampa Beach Area

No.	Element/Sub-element	Weight	Score
Similar			
1.	Tanjung Beach	1.5 km	60
2.	Kelapa Kuning Beach	2.5 km	
Not the same			
1.	Batu Belah	3.5 km	95
Total Score			155

Based on the data presented in Table 7, it can be identified that there are three supporting tourist attractions around the Kampa Beach tourist area, consisting of two categories. The first category is similar tourist attractions that share characteristics with Kampa Beach, namely Tanjung Beach and Kelapa Kuning Beach. Meanwhile, the second category is a non-similar tourist attraction that offers a different experience, namely Batu Belah Nature Tourism. All of these supporting tourist attractions are located relatively close to each other, approximately 4 kilometers from the Kampa Beach area. According to the applied assessment parameters, each similar tourist attraction received a score of 60 points, while the non-similar tourist attraction received a higher score of 95 points.

3.2 Analysis and feasibility of tourist attractions and eco-tourism potential at Kampa Beach

The assessment of ecotourism potential feasibility is conducted by referring to the official ADO-ODTWA guidelines (Nature Tourism Attraction Object Destination Area). The assessment includes seven evaluation criteria components. These assessment criteria comprehensively cover aspects of natural attractiveness, level of accessibility to the location, availability of accommodation facilities, completeness of supporting infrastructure and facilities, assurance of safety levels, environmental conditions, as well as interconnections and synergistic relationships with other tourist attractions in the vicinity.

Table 8. Results of the assessment of tourist attractions and attractions in the Kampa Beach tourism area

No	Research Criteria	Weight	Score	ScoreTotal (BxN) **	Score Max ***	Value Indek $\frac{ST}{SM} \times 100$ ****	Feasibility Level
1.	Attraction	6	153.26	919.54	1080	85.14	Suitable
2.	Accessibility	5	98.72	493.61	600	82.27	Suitable
3.	Accommodation Facilities	3	20	60	180	33.33	Not yet eligible
4.	Infrastructure Environmental	3	60	180	300	60	Not yet eligible
5.	Conditions Community	5	135	675	750	90	Suitable
6.	Security	5	55	275	300	91.67	Suitable
7.	Relationship With Other Tourist Attractions	1	155	155	200	77.50	Worth
Level of Suitability						74.27	Suitable Develoed

Note:

* Results of Assessment of Tourist Attractions and Attractions

** Results of the Multiplication of Weights and Values for Each Criterion

*** Highest Score for Each Criterion

**** Comparison Between Total Score and Highest Score in Percent

All data for these assessment criteria were obtained through direct field observation methods conducted at the research location. The observation process was followed by an in-

depth analysis process to determine the feasibility status of ecotourism area. This was divided into three categories as follows: feasible for development, not yet feasible for development, or not feasible for development at all. More specifically, the complete results of the assessment process for all these criteria can be reviewed and studied further in the provided Table 8.

3.3 Discussion

A research study has been conducted in the Kampa Beach tourist area with the primary objective of evaluating and analyzing its feasibility as an ecotourism destination. From this comprehensive assessment process, seven principal criteria were successfully identified and established as fundamental benchmarks for the evaluation. These assessment criteria comprehensively encompass the beach's tourist attraction, the factor of accessibility or ease of visitor access to the location, the availability of various accommodation facilities, the completeness of existing supporting infrastructure and facilities, the level of safety perceived by visitors, the condition of the surrounding environment, and the aspect of interconnection and synergistic relationships with other tourist attractions in the vicinity. Based on an in-depth evaluation of these seven key aspects, an aggregate index score of 74.27% was obtained. This figure is not merely a statistic; it clearly represents and confirms that Kampa Beach possesses very strong potential and promising prospects, making it worthy and deserving of further development as a premier ecotourism destination. Beyond just its physical potential, what is equally important is that this entire potential receives full support and unanimous agreement from the local community. This support is manifested not only through a highly positive response and acceptance of the entire development plan but also demonstrated by their stated willingness and tangible commitment to participate and play an active role in every stage of the development process, from planning and implementation to ongoing monitoring.

This strong level of community engagement is one of the core pillars of sustainable ecotourism and directly supports SDG 11 (Sustainable Cities and Communities) by strengthening participatory governance and local ownership. Moreover, it highlights the importance of community-based approaches in tourism planning, which have been shown to increase both ecological stewardship and social equity (World Tourism Organization, 2022). Based on the results of the research conducted, the criteria for tourist attraction in the Kampa Beach Tourism Area obtained a feasibility percentage value of 85.14%, and when this value is compared with the feasibility index using a percentage unit, it can be categorized that Kampa Beach is classified as "Feasible" as a tourist destination. The main attraction of Kampa Beach lies not only in the beauty of its white sand that stretches along the coastline, but also in the clarity of the sea water that reflects the sunlight, producing a charming blue-green color gradation, coupled with the diversity of coastal flora and fauna that adds ecological value and provides an authentic nature-based tourism experience. Moreover, the natural scenery in this area presents a harmonious blend of beautiful sea panoramas with a backdrop of towering green mountains, creating a landscape that is pleasing to the eye and provides a sense of tranquility for tourists. Not only that, but the relatively calm coastal currents also make this area safe and very conducive to various water recreation activities such as swimming, canoeing, and snorkeling, thus strengthening the appeal of Kampa Beach as a leading tourist destination with great potential for increasing tourist visits and developing the regional tourism sector.

The high score of outstanding natural attractions closely reflects the core objectives of SDG 14 (Life Below Water) and SDG 15 (Life on Land), as it underscores the importance of maintaining the ecological integrity of both marine and terrestrial ecosystems. Safeguarding these natural assets while promoting responsible visitation is essential for ensuring long-term sustainability and preventing ecosystem degradation. In this context, ecotourism emerges as an effective approach that integrates conservation goals with economic

development by encouraging low-impact tourism activities that generate income for local communities (Mali, 2023; Dittmar, 2022).

Active community involvement in ecotourism planning and management further strengthens this linkage, as it enhances local ownership, distributes economic benefits more equitably, and reinforces collective commitment to conservation (Kiper, 2013). Moreover, ecotourism practices that emphasize environmental education and impact minimization help cultivate responsible behavior and environmental stewardship among visitors (Rakhmonov, 2024; Seervi, 2023). However, to sustain these benefits, careful management of visitor numbers and activities remains critical to prevent over-tourism and protect fragile ecosystems, ensuring that ecotourism continues to function as both a conservation tool and a driver of nature-based economic development.

Based on the analysis conducted on the accessibility criteria, the evaluation results showed an achieved percentage value of 82.27%. When this figure was confirmed and compared against the established feasibility index standard, it was ultimately categorized under the "Feasible" status. The implication of this finding strongly indicates that the Kampa Beach tourist area has good ease of access, which in turn becomes a significant attraction for encouraging a high volume of tourist visits. It is important to emphasize that the aspect of accessibility is itself a crucial factor that must receive serious attention, the primary goal of which is to ensure the comfort and convenience for visitors in accessing the offered ecotourism destination. Furthermore, the assessment of this accessibility criterion was classified as feasible for development, based on several factual considerations from the field. These considerations include, among others, the adequate road infrastructure condition with paved surfaces, making the journey to the location relatively smooth. In addition, the travel distance from the city center to the beach is also considered close, with the time required to reach the location being only about 28 minutes. Meanwhile, regarding the mode of transportation, access to Kampa Beach currently relies on private vehicles, which are prepared and used independently by the tourists themselves.

Adequate accessibility is a strength that supports SDG 8 (Decent Work and Economic Growth) by enhancing visitor flow and stimulating local businesses. However, improving public transport connectivity could further expand inclusivity and reduce the ecological footprint of tourism-related mobility, strengthening the site's sustainability profile. Based on the evaluation of the accommodation availability criteria, a final percentage score of 33.33% was obtained. This score, after undergoing a comparison process with the predetermined feasibility index standards, ultimately places this criterion in the "Not Yet Feasible" category. This infeasibility is primarily caused by the accommodation facilities available in the tourist area being deemed highly inadequate. The on-site reality reveals that around the Kampa Beach area, only a limited number of gazebo units are available for visitor use. Compounding this issue, some of these already limited gazebos are in damaged and poorly maintained condition. Meanwhile, the more specific assessment regarding the quantity or number of available rooms for lodging is entirely based on the presence of villas located around the Kampa Beach tourist area. In essence, it can be concluded that the provision of accommodation facilities in the Kampa Beach tourist area is still far from adequate. This condition is the root cause behind the very low assessment score for the accommodation criterion, which ultimately led to this aspect being classified into a category that does not meet feasibility standards.

Accommodation is widely recognized as a key weakness in tourism development, as highlighted by various studies. The main challenges include low facility quality and classification, limited information accessibility, weak strategic planning, regulatory shortcomings, and insufficient accommodation diversity, all of which restrict tourism's economic and social contributions. These issues are reflected in low participation in classification systems and shortages of high-quality facilities (Astratova et al., 2022), inadequate information dissemination (Akhy & Roy, 2020), planning inaccuracies that hinder effective development (Vasiliev & Guryeva, 2020), sustainability constraints due to high certification costs and weak regulations (Vu & Chu, 2025), and the need for

accommodation diversity over mere capacity expansion (Rohoza & Stolyarchuk, 2022). Collectively, the reviewed studies underline that strengthening classification systems, information infrastructure, planning processes, regulatory frameworks, and diversity is fundamental to achieving sustainable tourism growth. Robust information systems—particularly the use of GIS—support evidence-based planning, environmental impact assessment, and efficient resource allocation, thereby improving decision-making in tourism management (Mashapa & Atanga, 2023). At the same time, clearer and stronger regulatory frameworks are required to ensure consistent implementation of sustainability standards and to encourage effective public–private collaboration (Longo-Sarachaga & Márquez, 2025). Equally important is the promotion of diversity in tourism products and the active involvement of local communities, which enhances resilience, adaptability, and shared responsibility for sustainable practices (Sumariadhi, 2023; Nafi et al., 2017). Although advancing these areas is essential, the literature also notes challenges such as stakeholder resistance and the need for significant investment in technology, capacity building, and institutional coordination to translate policy goals into practice.

Based on research conducted by Fitriani et al. (2020), there is a very close causal relationship between the quality of accommodation and visitor interest in a destination. The study concluded that if the accommodation facilities provided are better and more adequate, visitor interest and numbers will increase. Conversely, if the availability and quality of accommodation decrease or is inadequate, it will directly result in a decline in tourist interest in visiting. In the context of the Kampa Beach tourist area, the accommodation currently available to visitors consists of several gazebos, a vehicle parking area, and a villa with a total of six rooms located within the area. However, when referring to the eligibility assessment criteria, the condition of the accommodation at Kampa Beach is still considered inadequate. This is evidenced by the very low scores in the assessment, where the criterion for the number of accommodation units only scored 10 and the criterion for the number of rooms available also only scored 10, indicating that there are significant limitations in facilities that need to be improved immediately to meet standards and attract more tourist visits.

The results of the research on infrastructure and facilities criteria have a percentage score of 60, which is categorized as inadequate after comparing the feasibility index in percentage terms. This is due to the lack of facilities such as kiosks, restaurants, and public transportation operating to the Kampa Beach tourist location. Internet and telephone networks are also unavailable at the tourist location. Facilities and infrastructure are supporting criteria that facilitate tourists in visiting tourist areas directly or indirectly. The criteria for facilities and infrastructure in the assessment of criteria elements have low scores and are categorized as not yet suitable for development. Facilities available in the tourist area include 14 gazebos and 1 house of worship, but there are no kiosks or restaurants in the tourist area, making it difficult for visitors to meet basic needs such as food. The lack of supporting facilities can make visitors feel uncomfortable. Limited parking availability and poor internet connectivity significantly reduce visitor satisfaction in tourist destinations. Inadequate parking increases frustration and lowers satisfaction, as ease of vehicle access is an important factor in destination choice (Štajdohar, 2019), while congestion caused by limited parking can shorten visitors' stays and reduce spending (Anderson et al., 2006). The adoption of solutions such as Park & Ride systems and improved transport management is therefore recommended to enhance accessibility and comfort (Štajdohar, 2019). Similarly, poor internet and telecommunications services restrict visitors' ability to access information, communicate, and share experiences, negatively affecting perceived service quality and overall satisfaction (Korablinov, 2024; Avi, 2023). Although limited connectivity may attract a small segment seeking digital disconnection, adequate parking and reliable communication networks are increasingly considered basic infrastructure for modern tourism development.

These facility-related weaknesses significantly affect visitor satisfaction and limit Kampa Beach's competitiveness compared to other destinations. Upgrading infrastructure

is essential for improving visitor experience, increasing stay duration, and strengthening the tourism value chain — all of which are vital for achieving SDG 8 and SDG 11. Overall, the analysis highlights a clear strength–weakness profile: environmental quality, safety, accessibility, and community support stand out as critical strengths, while accommodation and infrastructure completeness are significant weaknesses that require targeted intervention. The quantitative results not only validate Kampa Beach’s readiness for ecotourism but also guide strategic priorities for its sustainable development. By addressing existing gaps and leveraging its ecological and social advantages, Kampa Beach can evolve into a model ecotourism destination that advances SDGs 8, 11, 14, and 15, balancing economic growth with biodiversity conservation, community empowerment, and long-term ecosystem resilience.

4. Conclusions

This study concludes that the Kampa Beach Tourism Area demonstrates strong feasibility and substantial potential for development as a sustainable ecotourism destination. The assessment, based on seven standardized criteria using the ADO-ODTWA framework, produced a composite feasibility score of 74.27%, confirming that the site meets key requirements for ecotourism development. High scores in aspects such as natural attractions, accessibility, environmental and community conditions, security, and linkages with other tourist sites underscore the area’s ecological and socio-economic readiness for sustainable tourism initiatives. However, the analysis also highlights specific challenges that require strategic intervention. The relatively low scores in accommodation availability (33.33%) and supporting facilities and infrastructure (60%) indicate the need for targeted investment in these areas. Enhancements such as the development of lodging facilities, kiosks, restaurants, and reliable communication networks are critical to improving visitor experience and strengthening the site’s competitiveness in the broader tourism market. By addressing these gaps, Kampa Beach can play a pivotal role in advancing Indonesia’s sustainable tourism agenda while contributing to the achievement of Sustainable Development Goals (SDGs) 8, 11, 14, and 15. Its development would not only enhance local economic opportunities and community well-being but also support the conservation of coastal and marine ecosystems and promote the sustainable use of natural resources. Overall, the findings emphasize the importance of integrated planning, stakeholder collaboration, and sustainable infrastructure development to unlock the full ecotourism potential of Kampa Beach. With evidence-based interventions and continued commitment to environmental stewardship, the site can evolve into a model ecotourism destination that balances ecological preservation with socio-economic growth.

Acknowledgement

The authors would like to express gratitude to the reviewers for their invaluable feedback and insightful recommendations, which significantly enhanced the quality and clarity of this manuscript.

Author Contribution

This work were solely conducted by D.I., K., S.K., L. G., & E. R. T., who were responsible for the conceptualization, methodology, data collection, analysis, and writing of the manuscript.

Funding

This research received no external funding.

Ethical Review Board Statement

Not available.

Informed Consent Statement

Not available.

Data Availability Statement

Not available.

Conflicts of Interest

The authors declare no conflict of interest.

Declaration of Generative AI Use

The authors declare that no generative artificial intelligence tools were used in the preparation, writing, analysis, or editing of this manuscript. All contents were produced entirely through the authors' own reasoning, interpretation, and analysis based on existing data and published literature.

Open Access

©2026. The author(s). This article is licensed under a Creative Commons Attribution 4.0 International License, which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license, and indicate if changes were made. The images or other third-party material in this article are included in the article's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this license, visit: <http://creativecommons.org/licenses/by/4.0/>

References

- Akhy, A., & Roy, M. (2020). *Socio-economic Impacts of Accommodation on Tourism Development: Bangladesh Perspective* (pp. 51–71). Routledge. <https://doi.org/10.4324/9781003007241-7>
- Anderson, C. M., Das, C., & Tyrrell, T. J. (2006). Parking Preferences Among Tourists in Newport, Rhode Island. *Transportation Research Part A-Policy and Practice*, 40(4), 334–353. <https://doi.org/10.1016/j.TRA.2005.06.005>
- Arikunto, S. (2006). *Research Procedures: A Practical Approach*. Rineka Cipta.
- Astratova, G., Pavlenko, I., Kireeva, M. M., Vostrova, A. P., & Bukreev, I. A. (2022). Overview of the Current State and Problems of Accommodation Facilities Development in the Regions of the Central Federal District of the Russian Federation. *Advances in Social Science, Education and Humanities Research*. <https://doi.org/10.2991/assehr.k.220106.024>
- Avi, A. R. (2023). Issues affecting tourists' satisfaction at Saint Martin Island, Bangladesh: Empirical evidence and suggestions. *Tourism in Marine Environments*, 18(1–2), 1–17. <https://doi.org/10.3727/154427323X16835293069953>
- Citra, I. P. A. (2016). Pemetaan Potensi Ekowisata Wilayah Pesisir Di Kabupaten Buleleng. *Jurnal Ilmu Sosial dan Humaniora*, 5(1). <https://ejournal.undiksha.ac.id/index.php/IISH/article/view/8280>
- Damayanti, R. A., & Puspitasari, A. Y. (2024). Kajian Potensi Daya Tarik Wisata Heritage di Indonesia. *Jurnal Kajian Ruang*, 4(1), 13. <https://doi.org/10.30659/jkr.v4i1.36639>
- Dittmar, J. F. (2022). *Role of Ecotourism in Sustainable Development*. IntechOpen eBooks. <https://doi.org/10.5772/intechopen.108264>
- Fitrian, K., Husni, H., & Siahaan, S. (2020). Assessment of the Attractiveness of Beach Tourism Objects in Temajuk Village, Paloh District, Sambas Regency, West Kalimantan. *Jurnal Hutan Lestari*, 8(1), 171-179. <https://jurnal.untan.ac.id/index.php/jmfkh/article/view/39392>

- Fitriyani. (2021). *Feasibility of Ecotourism Development on Harapan Island, Rawa Aopa Watumohai National Park, in the National Park Management Section (SPTN) Region 1, Pewutaa Village, Angata District, South Konawe Regency*. Halu Oleo University.
- Karsudi., R., Soekmadi., & Kartodihardjo, H. (2010). Strategi Pengembangan Ekowisata di Kabupaten Kepulauan Yapen Provinsi Papua. *Media Konservasi Journal*. 16(3). <https://journal.ipb.ac.id/index.php/jmht/article/view/3178>
- Kiper, T. (2013). *Role of Ecotourism in Sustainable Development*. IntechOpen. <https://doi.org/10.5772/55749>
- Korablinov, A. (2024). Problems of Accessibility and Comfort of Tourist Infrastructure Facilities for the Development of Automobile Tourism in Russia. *Научные Исследования и Разработки*. <https://doi.org/10.12737/2587-9111-2024-12-5-14-20>
- Longo-Sarachaga, J., & Paradinas Márquez, M. del C. (2025). Bridging Research and Practice in Sustainable Tourism: The Case of Spain. *Sustainability*, 17(19), 8570. <https://doi.org/10.3390/su17198570>
- Mali, B. (2023). Biodiversity Conservation and Tourism Sustainability in Africa. In book: *Sustainable Utilization and Conservation of Africa's Biological Resources and Environment* (pp. 35–60). Springer. https://doi.org/10.1007/978-981-19-6974-4_2
- Mashapa, M. M., & Atanga, R. A. (2023). Geographic Information Systems: A Toolbox for Sustainable Tourism in Southern Africa. *African Journal of Hospitality Tourism and Leisure*, 12(4), 1192-1209. <https://doi.org/10.46222/ajhtl.19770720.425>
- Ministry of Forestry. (2003). Guidelines for Analyzing Natural Tourism Attraction Operation Areas. Directorate of Nature Tourism and Environmental Services Utilization, Directorate General of Forest Protection and Nature Conservation. Indonesia Ministry of Forestry.
- Nafi, M., Supriadi, B., & Roedjinandari, N. (2017). *Regional Ecotourism Development*. Bunga Rampai Book Publisher.
- OECD. (2023). *Economic Outlook for Southeast Asia, China and India 2023: Reviving Tourism Post-Pandemic*. OECD Publishing. <https://doi.org/10.1787/3a3d08ed-en>
- Ollivaud, P., & Haxton, P. (2019). Making the most of tourism in Indonesia to promote sustainable regional development. *Research Papers in Economics*. <https://doi.org/10.1787/C73325D9-EN>
- Rakhmonov, S. (2024). Ecotourism as a way of sustainable tourism development of the region. *Nashr qilingan*, 283–286. <https://doi.org/10.60078/2024-vol2-issd-pp283-286>
- Rohoza, M., & Stolyarchuk, V. (2022). Development Opportunities for the Accommodation Industry: Evidence from European Countries. *European Journal of Tourism, Hospitality and Recreation*, 12(1), 12–30. <https://doi.org/10.2478/ejthr-2022-0001>
- Seervi, P. (2023). Ecotourism and Sustainable Development. *International Journal for Multidisciplinary Research*. <https://doi.org/10.36948/ijfmr.2023.v05i05.7049>
- Štajdohar, V. S. (2019). Availability and quality of parking facilities in tourist destinations. University North. <https://repozitorij.unin.hr/islandora/object/unin:2951/datastream/PDF/download>
- Sumariadhi, N. W. (2023). Green Tourism: Promoting Sustainable Practices for a Responsible Future. 1(1), 19–25. <https://doi.org/10.25078/ijoss.v1i1.2976>
- Syafruddin, S., & Badollahi, M. Z. (2023). West Sulawesi Maritime Tourism Development Strategy. *International Journal Papier Public Review*. <https://doi.org/10.47667/ijppr.v4i3.243>
- Tatwadyatmika, A. D. P., & Millanyani, H. (2025). Competitiveness Analysis of Indonesia's Super-Priority Tourism Destinations: a Big Data Approach to International Tourist Perceptions. *American Journal of Economic and Management Business*, 4(9), 1506–1523. <https://doi.org/10.58631/ajemb.v4i9.291>
- UNEP. (2023). *Measuring Progress: Water-related ecosystems and the SDGs*. United Nations Environment Programme.
- Vasiliev, E., & Guryeva, E. (2020). Accommodation Facilities as the Most Important Factor of the Development of the Territory's Tourist Potential. *СОЦИОЛОГИЯ И СОЦИАЛЬНЫЕ ТЕХНОЛОГИИ*, 4, 33–41. <https://doi.org/10.15688/LP.JVOLSU.2020.4.3>

- Vu, N. H., & Chu, H. W. (2025). Improving State Management on Sustainable Tourism Accommodation Development in Vietnam: From a Business Perspective. *EAI Endorsed Transactions on Tourism, Technology and Intelligence*, 2(1). <https://doi.org/10.4108/eettti.6818>
- World Tourism Organization. (2022). UNWTO World Tourism Barometer and Statistical Annex, May 2022. *World Tourism Barometer*, 20(3), 1–40. <https://10.18111/wtobarometereng.2022.20.1.3>

Biographies of Authors

Deriana Impiana, Department of Environmental Sciences, Faculty of Forestry and Environmental Sciences, Universitas Halu Oleo, Kendari, Southeast Sulawesi 93231, Indonesia.

- Email: impianderiani082@gmail.com
- ORCID: N/A
- Web of Science ResearcherID: N/A
- Scopus Author ID: N/A
- Homepage: N/A

Kahirun, Department of Environmental Sciences, Faculty of Forestry and Environmental Sciences, Universitas Halu Oleo, Kendari, Southeast Sulawesi 93231, Indonesia.

- Email: kahirun_fhut@uho.ac.id
- ORCID: 0009-0002-7517-9730
- Web of Science ResearcherID: N/A
- Scopus Author ID: N/A
- Homepage: <https://sinta.kemdiktisaintek.go.id/authors/profile/6690266>

Safri Kasim, Department of Environmental Sciences, Faculty of Forestry and Environmental Sciences, Universitas Halu Oleo, Kendari, 93231, Indonesia.

- Email: safrikasim@uho.ac.id
- ORCID: 0009-0009-4679-4233
- Web of Science ResearcherID: N/A
- Scopus Author ID: N/A
- Homepage: <https://sinta.kemdiktisaintek.go.id/authors/profile/6652069>

La Gandri, Department of Environmental Sciences, Faculty of Forestry and Environmental Sciences, Universitas Halu Oleo, Kendari, Southeast Sulawesi 93231, Indonesia.

- Email: lagandri@uho.ac.id
- ORCID: 0009-0004-9867-0105
- Web of Science ResearcherID: N/A
- Scopus Author ID: 59242105700
- Homepage: <https://sinta.kemdiktisaintek.go.id/authors/profile/6739695>

Eka Rahmatiah Tuwu, Department of Environmental Sciences, Faculty of Forestry and Environmental Sciences, Universitas Halu Oleo, Kendari, Southeast Sulawesi 93231, Indonesia.

- Email: eka.rahmatiah@gmail.com
- ORCID: 0009-0002-9078-5261
- Web of Science ResearcherID: N/A
- Scopus Author ID: N/A
- Homepage: <https://sinta.kemdiktisaintek.go.id/authors/profile/260250>