
| RESEARCH ARTICLE

Tourism Suitability Analysis of Wediombo Beach, Gunungkidul Regency, Yogyakarta Special Region, Indonesia

Richa Rizki Budiasti¹ ✉ Suryanti Suryanti² and Pujiono Wahyu Purnomo³

¹*Master Student in Aquatic Resources Management, Postgraduate Study Program at Diponegoro University, Indonesia*

^{2,3}*Lecturer of Water Resources Management Program, Postgraduate Study Program, Diponegoro University, Indonesia*

Corresponding Author: Richa Rizki Budiasti, **E-mail:** riicharizki@gmail.com

| ABSTRACT

Wediombo Beach, which is located in Gunungkidul Regency, Special Region of Yogyakarta, Indonesia, has the potential for beautiful and exotic coastal natural resources on the south coast. The potential for coastal tourism in Gunungkidul Regency still has the opportunity to be developed into mainstay tourism. This study aims to analyze the suitability of Wediombo beach tourism, Gunungkidul district, Yogyakarta Special Region, Indonesia. The research was conducted at Wediombo Beach. The research was conducted descriptively, using survey methods and direct measurements in the field. The study was conducted from March – to October 2021. The results showed that the value of the Tourism Suitability Index (IKW) for Wediombo Beach was 84.52% and was included in the very suitable category (S1).

| KEYWORDS

Beach tourism, area suitability, Tourism Suitability Index (IKW), Wediombo beach

| ARTICLE DOI: [10.32996/jeas.2022.3.2.1](https://doi.org/10.32996/jeas.2022.3.2.1)

1. Introduction

The coastal area of Gunungkidul holds a variety of potential for the diversity of biological natural resources, which is quite high, both in inland areas and in water areas. Gunungkidul Regency has dozens of beautiful beaches lined from the west to the east on the south coast.

Wediombo Beach is one of the beaches on the coast of Gunungkidul, precisely in the village of Jepitu, Girisubo district. This beach has the attraction of beautiful natural beauty, which makes it one of the special beaches in the Gunungkidul district.

According to the Regional Development Planning, Research and Development Agency (BAPPEDA) of Gunungkidul Regency (2019), Wediombo Beach in Gunungkidul Regency has considerable potential, especially in the development of marine tourism. The potential of the beach is very likely to continue to be developed into mainstay tourism in Gunungkidul Regency. This beach is a beach tourism destination that has been managed by the Regional Government.

Law of the Republic of Indonesia No. 10. Year (2009) concerning Tourism in article 1 states that tourism is a variety of tourism activities and is supported by various facilities and services provided by the community, businessmen, government, and local governments. According to Fandel (2000), one of the tourism that can be enjoyed is tourism on the coast, which is a form of utilizing the coastal area which has many activities in the coastal area, it can maximize the natural resources that exist on the coast, in this case including land areas as well as the waters.

Yulianda (2007) states that in tourism activities in coastal areas, having a Tourism Conformity Index can be used in weighing all metrics that have been classified into four classes which are stated in Very Appropriate (S1), Appropriate (S2), Conditionally Appropriate (S3), and Unsuitable (TS).

Copyright: © 2022 the Author(s). This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC-BY) 4.0 license (<https://creativecommons.org/licenses/by/4.0/>). Published by Al-Kindi Centre for Research and Development, London, United Kingdom.

2. Methodology

The research was conducted at Wediombo Beach, Gunungkidul district, from March – to October 2021. The research was carried out descriptively, using survey methods and direct measurements in the field. Descriptive research is a method that examines and solves problems and provides an interpretation of the current facts. The data taken are primary data and secondary data. The primary data in this study are the results of measurements and direct observations in the field, while the secondary data are obtained through

This study aims to analyze the suitability of Wediombo beach tourism, Gunungkidul district, Special Region of Yogyakarta. The data used in this study are primary and secondary. Primary data were obtained through direct measurements and observations in the field, including water depth, beach type, beach width, water base material, current velocity, coastal slope, water brightness, coastal land cover, hazardous biota, and freshwater availability. While secondary data consists of general conditions, geographical location, topography, and demographics from various agencies and libraries that support research.

The tourism suitability analysis uses a suitability matrix that is arranged based on the importance of each parameter used to support activities in the tourist area (Adi et al., 2013). The tourism suitability matrix for the beach recreation category is presented in table 1.

Analysis of the Tourism Suitability Index (IKW) based on the reference from Yulianda (2007), namely:

$$IKW = \sum \left(\frac{Ni}{Nmax} \right) \times 100\%$$

Information :

IKW: Tourism Suitability Index

Ni: The value of the i-th parameter (Weight x Score)

Nmax: Maximum value of tourism category (84)

By using the above formula, a score is obtained, where the value mentions the class, the suitability class is divided into 3 (three) classes, including S1 = Very suitable, with a value of 83-100%; S2 = Appropriate, with a value of 50- <83 %; S3 = Conditional with a score of 17 - <50%; and TS= does not correspond to the value <17%.

Table 1. The tourism suitability matrix for the beach recreation category

No.	Parameter	Bobot Weig ht	Category and Score								
			S1	Score	S2	Scor e	S3	Score	TS	Scor e	N _{ma ks}
1.	Water depth (m)	5	0-3	3	>3-6	2	>6-10	1	>10	0	15
2.	beach type	5	White sand	3	White sand, slightly rocky	2	Black sand, rocky, a little steep	1	Mud, rocky, steep	0	15
3.	beach width (m)	5	>15	3	10-15	2	3-<10	1	<3	0	15
4.	Water base material	3	Sand	3	sandy coral	2	Muddy sand	1	Mud	0	9
5.	Current speed (m/s)	3	0-0.17	3	0.17-0.34	2	0.34-0.51	1	>0.51	0	9
6.	Beach slope (°)	3	<10	3	10-25	2	>25-45	1	>45	0	9
7.	Water brightness (%)	1	80-100	3	50-<80	2	20-<50	1	<20	0	3
8.	Beach land closure	1	Coconu t, open land	3	Low scrub, savann a	2	High Scrub	1	Mangro ves, Settlem ent	0	3
9.	Dangerous biota	1	There is not any	3	Sea urchins	2	Sea urchin, stingray	1	Sea urchins, Stingra	0	3

10.	Freshwater availability	1	<0.5	3	>0.5-1	2	>1-2	1	ys, lions, sharks >2	0	3
Jumlah										84	

Source: Yulianda (2007)

Note: Nmax for antai tourism category = 84

3. Results and Discussion

3.1 Description of Research Site

Gunungkidul Regency is one of the regencies in the Special Region of Yogyakarta, with Wonosari as the capital. Administratively, the boundaries of Gunungkidul Regency in the north are bordered by Klaten Regency and Sukoharjo Regency, Central Java, in the south by the Indian Ocean, in the west by Bantul Regency and Sleman Regency, DIY, in the east by Wonogiri Regency, Java. Middle. The total area of Gunungkidul Regency is 1,485.36 km², or about 46.63% of the total area of the Special Region of Yogyakarta. Administratively, Gunungkidul Regency is divided into 18 sub-districts covering 144 villages and 1,431 hamlets. Gunungkidul has a fairly long coastline of approximately 72 km. The location map of the Gunungkidul district is presented in Figure 1.

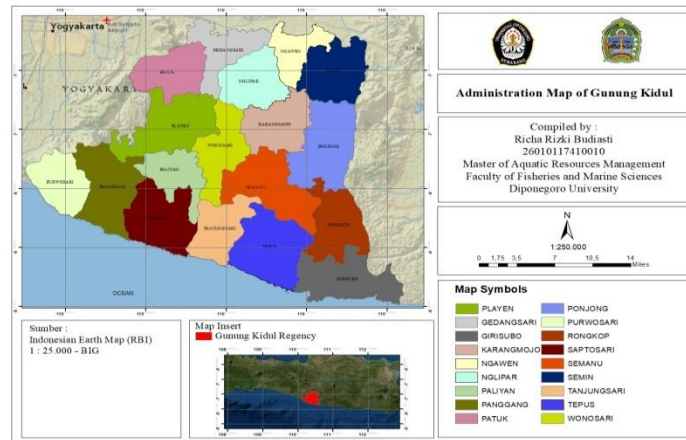


Figure 1. Location Map of Gunungkidul district

This research was conducted at three (3) sampling points; the sampling points were taken at locations commonly used for beach tourism activities; Determination of sampling points was based on interviews with managers from the Tourism Awareness Group (Pokdarwis) on Wediombo beach and direct observations in the field. The research location in the Wediombo Beach Tourism Area is presented in Figure 2.

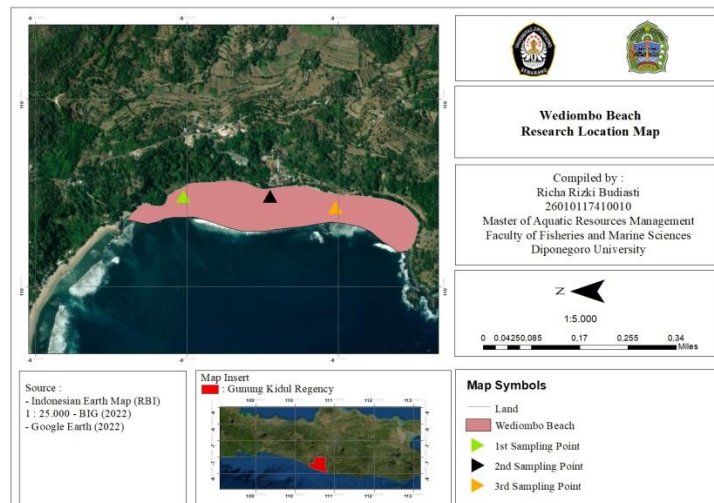


Figure 2. Research Locations in the Wediombo Beach Tourism Area

Wediombo Beach is located in Jepitu village, GiriSubo sub-district, Gunungkidul district, Special Region of Yogyakarta. GiriSubo sub-district is the easternmost and southernmost part of the Gunungkidul district, which also borders the province of Central Java. The area of the GiriSubo sub-district is more than 9,000 hectares which is divided into 8 villages. More than 50% of the GiriSubo sub-district area is dry land, while 30% is community forest. The area of Jepitu village is 1,673.4 Ha, of which 153.11 Ha is designated as non-agricultural land, 1,520.29 Ha as non-agricultural land.

Wediombo Beach has the potential for natural beauty that is quite beautiful and exotic. The existence of melted rock from ancient volcanoes adds to the uniqueness and beauty of Wediombo beach. The location of Wediombo Beach is presented in Figure 3.



Figure 3. Location of Wediombo Beach

3.2 Tourism Conformity Index Measurement Results

The measurement results of the Wediombo Beach Tourism Suitability Index are presented in Table 2. According to Yulianda (2010), there are several criteria in coastal tourism, including water depth, beach type, beach width, water base material, current velocity, beach slope, water brightness, and land cover. Beaches, dangerous biota, and freshwater availability.

Table 2. Measurement results of Wediombo Beach Tourism Suitability Index

No	Parameter	Weight	Wediombo Beach		Nmax
		A	Score	Amount	Ax3
1.	Water Depth (m)	5	3	15	15
2.	Beach Type	5	2	10	15
3.	Beach Width (m)	5	3	15	15
4.	Water base material	3	3	9	9
5.	Current speed (m/s)	3	1	3	9
6.	Beach slope (°)	3	3	9	9
7.	Water Brightness (%)	1	3	3	3
8.	Coastal Land Closure	1	3	3	3
9.	Dangerous Biota	1	1	1	3
10.	Freshwater availability (km)	1	3	3	3
Total (Σ)			:	71	84
Travel Suitability Index (%)			:	84,52 %	
Category			:	S1	

Note: Nmax for antai tourism category = 84

Tourism suitability analysis uses a suitability matrix that has been compiled based on interest in each parameter, which aims to support tourism activities in the beach tourism category at Wediombo Beach.

3.3 Water depth

The results of the deep measurement at Wediombo beach have a depth ranging from 0 – 3 meters. The range of varying depths is measured from the shoreline to a distance of 200 m towards the sea. Tourists usually carry out beach tourism activities no more than a distance of 200 meters and a depth of no more than 1.5 m, except for tourists who do

surfing activities. This depth and distance are considered safe for tourists visiting Wediombo beach tours. Yulisa et al. (2016) stated that water depth is an important aspect in determining coastal tourism areas, especially swimming activities, because it greatly affects safety, and physically, shallow waters are more suitable for coastal tourism than deep waters.

3.4 beach type

The type of beach at the research site is white sand with a little rock. Beaches with white sand are generally more attractive to tourists than black, muddy, or rocky sand. This is influenced by the level of comfort of tourists in carrying out tourist activities, especially beach tourism. According to Yulianda (2007), the tourism suitability matrix states that the type of beach with white sand is more suitable for tourism activities than other types of beaches.

3.5 beach width

Wediombo Beach has a beach width ranging from 8.43 - to 23.29 meters. According to Tambunan et al. (2013), the wider a beach is, the better it is to become a tourist attraction. The width of the beach can be used by tourists for activities, such as leisurely walking, sunbathing, documenting, cycling, playing with sand, and so on.

3.6 Water base material

The basic material or substrate on Wediombo beach is generally rocky sand. Even though there are rocks, these waters are still very suitable for the tourist category.

3.7 Current speed

The condition of the waters in the coastal tourist area of Wediombo is quite high, up to a distance of 200 meters from the mainland, because the South coast is directly adjacent to the Indian Ocean.

3.8 Beach slope

The slope of the coast at the study site ranges from 0.2580 to 2.5760. This value belongs to the flat beach category. Flat beaches will be more suitable for tourist areas. According to Yulianda (2010), a beach slope of <100 is in the flat beach category, while 100-250 is in the sloping category, and >250 is in the steep category.

3.9 Water brightness

The results showed that the brightness of the coastal waters of Wediombo reached 100%. This is because the waters on Wediombo Beach are shallow so that light penetration can penetrate the bottom of the water. According to Wijaya et al. (2018), high brightness can be influenced by the depth of shallow water that has been penetrated by sunlight to the water column.

3.10 Land cover

The land cover on Wediombo beach is open land, and there are several trees such as fir trees, coconut trees, sea pandanus, ketapang, waru trees, etc.

3.11 Dangerous biota

Observations of dangerous biota need to be done to anticipate the occurrence of dangers that threaten tourists. Dangerous biota commonly found in Wediombo coastal waters is Bulu Bali. Sea urchins are usually under rocks; some are visible but more often not visible.

3.12 Freshwater availability

The availability of fresh water at Wediombo beach is still sufficient. The distance from tourist sites is also relatively close, which is no more than 500 m. The availability of fresh water is very important in life, including in tourism activities (Yulia et al., 2016).

The research location at Wediombo Beach is in the very appropriate category (S1), with a Tourism Suitability Index (IKW) of 84.52%. Dahuri et al. (2004) stated that one of the conditions for sustainable development of an ecological area must be placed in a biophysically appropriate location.

4. Conclusion

This study aimed to analyze the suitability of Wediombo beach tourism, Gunungkidul district, Yogyakarta Special Region, Indonesia. The research was conducted at Wediombo Beach. The research was conducted descriptively, using survey methods and direct measurements in the field. The study was conducted from March – to October 2021. The results showed that the value of the Tourism Suitability Index (IKW) for Wediombo Beach was 84.52% and was included in the very suitable category (S1).

Funding: This research received no external funding

Conflicts of Interest: The authors declare no conflict of interest.

References

- [1] Adi, A.B., A. Mustafa dan Ketjulan. R (2013). Kajian Potensi Kawasan dan Kesesuaian Ekowisata Terumbu Karang Pulau Laras untuk Pengembangan Ekowisata Bahari. *Jurnal Mina Laut Indonesia*. 1(1) : 49-60.
- [2] Badan Perencanaan dan Pembangunan Daerah (BAPPEDA) Kabupaten Gunungkidul. (2019). Informasi Pembangunan Daerah Kabupaten Gunung Kidul 2018. 283 hlm.
- [3] Dahuri, R., J. Rais, S.P. Ginting, dan M.J. Sitepu. (2004). Pengelolaan Sumberdaya Wilayah Pesisir dan Lautan secara Terpadu. PT. Pradnya Paramita, Jakarta.
- [4] Fandeli, C., dan Muhammad. (2009). Prinsip-prinsip Dasar Mengkonservasi Lanskap. Gajah Mada University Press, Yogyakarta.
- [5] Tambunan, J. M., S. Anggoro dan H. Purnaweni. (2013). Kajian Kualitas Lingkungan dan Kesesuaian Wisata Pantai Tanjung Pesona Kabupaten Bangka *dalam*: Prosiding Seminar Nasional Pengelolaan Sumberday Alam dan Lingkungan. Magistr Ilmu Lingkungan, Universitas Diponegoro, Semarang.
- [6] Undang-undang Republik Indonesia Nomor 10 Tahun (2009) tentang Kepariwisataaan. Bumi Aksara : Jakarta.
- [7] Yulianda, F. (2007). Ekowisata Bahari sebagai Alternatif Pemanfaatan Sumberdaya Pesisir Berbasis Konservasi. Standar Sains Departemen Manajemen Sumberdaya Perairan. Fakultas Perikanan dan Ilmu Kelautan, Institut Pertanian Bogor. Bogor.
- [8] Yulianda, F. A. Fahrudin, A. A. Hutabarat, S. Harteti, Kusharjani. Kang, S. H. (2010). Pengelolaan Pesisir dan Laut secara Terpadu. Pusdiklat Kehutanan Departemen Kehutanan RI. Jawa Tengah.
- [9] Yulisa, E.N., Y. Johan dan Hartono. D (2016). Analisis Kesesuaian dan Daya Dukung Ekowisata Pantai Kategori Rekreasi Pantai Laguna Desa Merpas Kabupaten Kaur. *Jurnal Enggano*, 1(1):97-111.
- [10] Wijaya, P., T. Putra, F. Hidayat, C. Levraeni, M. Rizmaadi, and Ambariyanto. (2018). Suitability Analysis For Scuba Diving To Develop Marine Tourism At Saebus Island, East Java, Indonesia. E3S Web of Conferences. ICENIS 2017.