Evaluation of Suitability and Carrying Capacity of Bolihutuo Beach for Tourism

[2]Irni Hiola, [1.2]Sitti Nursinar, [2]Citra Panigoro

[1]n.sinar_ung@yahoo.com
[2]Department of Aquatic Resources, Faculty of Fisheries and Marine Sciences,
State University of Gorontalo

Abstract

The purpose of this study is to determine the suitability of land for shore excursions and the carrying capacity of the region in the category of recreational beach activities at the beach tourist area Bolihutuo Subdistrict Botumoito, District Boalemo. Research was conducted in February 2015 until Desember 2015. The method used in this research is descriptive and qualitative methods. Data collection techniques was to measure the suitability of beach resort that is depth, type of beach, wide beaches, basic materials waters, current speed, the slope of the beach, water transparency, the closure of beach land, dangerous biota, the availability of fresh water as well as the carrying capacity of the beach recreation namely the time spent by visitors and the time provided by the manager. The result shows that Bolihutuo is in the category of very suitable (S1) with the index value of 91%. Bolihutuo Beach has a capacity of 1998 visitor per day, with an area that can be utilized by the shoreline of about 30.000m$^{2.}$

Keywords: Suitability; carrying capacity; beach tourism.

Introduction

The coastal area is part of the ecosystem transition from terrestrial ecosystems to the marine ecosystem, it is called the marine ecosystem are very productive. With this condition, the coastal area has the potential of natural resources potential (Supriharyono, 2002).

Part of the most productive coastal areas are coastal or beach front area. Areas where the forces of nature that comes from the sea, land and air interact and form the beach. Forms of beach that is dynamic could change, caused by natural factors and human intervention. The changes form the beach will give you a different impact on the use of the beach area with various activities such as beach tourism activities, fisheries, ports and others. One is the coastal area use for tourism activities (Rahmawati, 2009). Tourism is a form of natural resource utilization that rely on the services for the satisfaction of human nature (Yulianda, 2007).

Bolihutuo beach is located west of the district was. Distance district was to Beach attractions Bolihutuo 25 km, in the village Bolihutuo District of Botumoito. The travel time of about 4 hours Gorontalo City Beach Bolihutuo. Beach attractions Bolihutuo is the coastal area is overgrown with pine trees along the coastline, white sand that stretches add to the beauty of the beach, and surrounded by small islands adjacent beach tourist Bolihutuo with dealing bay Tomini (Department of Tourism District. Boalemo, 2015).

Bolihutuo beach is a tourist attraction that pioneered jointly by the government of Gorontalo Province, government Boalemo District, the district was the Department of tourism and especially people that are around Beaches Bolihutuo. Therefore, with respect to the use of Turkish Bolihutuo as coastal resorts, the authors are interested to examine the parameters of land suitability for shore excursions and the carrying capacity of the region to the category of recreational beaches, with the title "Evaluation of Land Suitability and Capability Area Tourism Beach Bolihutuo District of Botumoito the district was ".

Issues to be studied in this research is how the suitability of land for shore excursions and the carrying capacity of the area with the beach recreation category for activities in the District Bolihutuo Coast tourist area Botumoito district was.

The purpose of this research was to determine the suitability of land Bolihutuo.dan Beaches determine the carrying capacity of the region to the category of recreational activities on the beach for the beach tourist area of the district was Bolihutuo the District Botumoito.

This research is expected to provide information and advice in managing the coastal tourist area environmentally sustainable.

Research Methodology

This study took place in February 2015 to December 2015. This study took place in the village of Bolihutuo, District Botumoito Boalemo district, Gorontalo. Research location map can be seen in Figure 1 below.

The method used in this study is qualitative and descriptive methods. Qualitative Methods is a research carried out in the state of nature to know the state of the field and gain an understanding of the facts found in the field based on the formulation of the problem as a research planning (Sugiyono, 2013). While the descriptive method is to describe the nature of a temporary nature walk at the time of the study, to obtain information about the actual situations now (while it lasted) and the collection of data regarding the state of the subject of an investigation (Sevilla et al., 2006).

Primary data is data taken directly at the site of research that include the general state Bolihutuo Beach tourist area.

Secondary data is needed in the form of information collected through the data to the relevant research and literature supporting related research.

Land suitability is a degree of suitability of a land that is tailored to the capabilities in the area of tourism activities that will be developed. Compliance is seen from the area of conformity percentage rate obtained from the sum of the values of all parameters. The formula used to go round the coast travel suitability according Yulianda (2007).

Capacity analysis region used in this study refers to the formula regional carrying capacity and ecological potential visitors by Yulianda (2007).

Results and Discussion

Overview of research site

Botumoito sub-district is one of the districts located in the district was.Botumoito sub-district consists of six villages namely;Totulo village, village Tuwodu, Mebango village, village Tilayo, Tapadaa village, and the village Bolihutuo (Bolihutuo Village Profile, 2015).

The village Bolihutuo has three hamlets namely Hamlet I Alumbango bordered by Hamlet III Wuta, Hamlet II white sand bordered by Hamlet III Wuta, Hamlet III Wuta abut Hamlet I and Hamlet II, while the Beach attractions Bolihutuo is in Hamlet I Alumbango bordering the village Tapadaa (profile Village Bolihutuo, 2015).

Bolihutuo village has an area of 118.13 m ^{3} and the number of families (KK) in 2014 as many as 460 living in three (3) Hamlet is Hamlet I Alumbango 187 KK, Hamlet II PasirPutih 188 families, and Hamlet III Wuta 85 KK.

The topography of Turkish Bolihutuo relatively flat and contoured with a height of 2 meters above sea level.The type of soil in the area is mostly clay and sandy.Climate in Turkish Bolihutuo relatively normal.Rainfall is generally spread evenly throughout the year with the period between December and March.The average temperature during the day ranged between 31,1oC until 33,5oC, while the air temperature at night ranged between 22,5oC until 24,4oC with relative air humidity ranging between 73% -85%.

Bolihutuo beach has natural potential, namely;a).surf conditions in Turkish waters Bolihutuo not too heavy.b).Vegetation on Bolihutuo Coast tourist area consists of pine trees, palm trees, and other trees.

Beaches Bolihutuo environment still looks rubbish that littered the main place like digazebo, cottages and around the house eating.This is due to the lack of awareness of visitors about environmental cleanliness and lack janitor travel and waste disposal areas available.

Existing infrastructure in the Beaches Bolihutuo namely playground water, play children ground and that will be developed, namely regional development Sports, Hotel, Resort, Resto, a variety of fun activities to do the patrons playing sand castles, volley ball, futsal, outbound and various supporters other tours.while the vehicle is in the form of cottages, meeting hall, stage entertainment staging that can be used by the general public, government and private institutions, eateries.

Land suitability parameters for recreation category

Land suitability analysis Beaches Bolihutuo needs to be done to determine the suitability of land allotment territory as a tourist area beaches. Land suitability is measured by several parameters: water depth parameters, types of beaches, wide beaches, seabed material, current speed, the slope of the beach, water transparency, the closure of coastal land, biota dangerous, freshwater availability. Results of measurement parameters suitability of land for Bolihutuo Coast Tourism with recreation category, can be shown in Table 1.

Table 1. Results of measurement of land suitability Beaches Boihutuo

Parameters	measurement results of land suitability		
	Station I	Station II	Station III
Depth (m)	0,51	0,81	0,71
Shore type	White sand	White sand	White sand
Beach width (m)	10,60	6,80	5
Water bottom	sandy	sandy	sandy
Current (m/sec)	0,033	0,034	0,025
Beach inclination (o)	9,0°	11°	9,0°
Water Brightness (m)	7	8	6,5
Vegetation coverage	Pine tree	Pine tree	Pine tree
Harmful Biota	None	None	None
Fresh water avalability (distance - km)	0,060	0,054	0,022

Source: primary data analyzed, May 2015.

Land suitability index values by categories beach tourism recreation

Land suitability index value is a value associated with the results of 10 parameters to assign weights and scores on parameters (limiting factor) and the four classification assessment. The overall value of the parameter average value is the determination of the suitability index value travel (IKW). Suitability Index value calculation results Travel (IKW) at the station I, station II and station III can be seen in Table 2.

Table 2. Nilai Indeks Kesesuaian Wisata Pantai Bolihutuo

Parameter	B	measurement results of land suitability									
		Station I	S	Nilai	Station II	S	Nilai	Station III	S	Nilai	Avr.
Depth (m)	5	0,51	4	20	0,81	4	20	0,71	4	20	20
Shore type	5	White sand	4	20	White sand	4	20	White sand	4	20	20
Beach width (m)	5	10,60	3	15	6,80	2	10	5	2	10	11,67
Water bottom	4	sandy	4	16	sandy	4	16	sandy	4	16	16
Current (m/sec)	4	0,033	4	16	0,034	4	16	0,025	4	16	16
Beach inclination (o)	4	9,0°	4	16	11°	3	12	9,0°	4	16	14,67
Water Brightness (m)	3	7	3	9	8	3	9	6,5	3	9	9
Vegetation coverage	3	Pine tree	4	12	Pine tree	4	12	Pine tree	4	12	12
Harmful Biota	3	None	4	12	None	4	12	None	4	12	12
Fresh water avalability (distance - km)	3	0,060	4	12	0,054	4	12	0,022	4	12	12
Ni											143,34
Percentage											91%
Land Suitability cathegory											SI

Source: primary data analyzed, May 2015

Carrying capability analysis

Carrying Capacity of Region is the maximum number of visitors who physically can fit in the area provided at a certain time without causing harm to the natural and human (Yulianda, 2007).

The carrying capacity of the region to the category of recreational beach which is based on the assessment criteria are the potential ecological visitors: 1 (K), wide area or length of the area that is exploited by 30000 m 2 (Source: Department of Tourism District Boalemo) (Lp), the unit area in the category of recreational beach by 50 m (Lt), the time provided by the manager for tourism activities in one day is 10 hours (Wt), and the time spent by visitors to the event is 3 hours (Wp). The carrying capacity of the criteria Bolihutuo Coast tourist area considered worthy as a tourist area because of the ability of the area (department) Beach attractions pangunjung Bolihutuo can meet the needs and prioritizes environmental sustainability. This can be seen in Table 3.

Table 3 Carrying capacity Category Recreation

Parameter	Results
K	1
Lp	30000 m²
Lt	50 m
Wt	10 hour
Wp	3 hour
DDK	1998

Source: primary data analyzed, May 2015

The result of the calculation of the carrying capacity of Coast tourist area Bolihutuo by category coastal recreational indicate that capacities of visitors in the tourist area of Turkish Bolihutuo as many as 1998 people (Appendix 5) with the facilities provided are gazebo (resting place), where to eat, a place to sit (the retaining wall omabak) while enjoying the beach atmosphere. Judging from the carrying value calculation Coast tourist area Bolihutuo not exceed the carrying capacity of visitors so it is good for the environment.

Conclusion and Suggestion

Bolihutuo Beach is suitable (S1) for beach tourism. Carrying capacity Bolihutuo Beach tourist area has not exceeded the capacity of accommodating visitors to the category of recreational beach, gazebo (resting place), where to eat while enjoying the beach atmosphere.

Environmental sustainability of Bolihutuo Beaches in the utilization of coastal areas by anticipating the maximum number of visitors every beach tourism activities so as not to cause disruption of natural ecosystems, especially the beach itself.

References

Dinas Pariwisata Kabupaten Boalemo. 2015. Potensi Bahari Kabupeten Boalemo. Kecamatan Tilamuta, Kabupaten Boalemo.

Profil Desa Bolihutuo, 2015. Sejarah Asal Usul Desa Bolihutuo. Kecamatan Botumoito, Kabupaten Boalemo.

Rahmawati, A. 2009. Studi Pengelolaan Kawasan Pesisir untuk Kegiatan Wisata Pantai (Kasus Pantai Teleng Ria Kabupaten Pacitan Jawa timur), (Skripsi). Departemen Manajemen Sumberdaya Perairan Fakultas Perikanan dan Ilmu Kelautan, Institut Pertanian Bogor.. repository.ipb.ac.id/bitstream/handle/123456789/11380/C09ara.

Sevilla G. C., Ochave A. J., Punsalan G. T., Regala P. B., Uriarte G. G. 2006. Pengantar Metodologi Penelitian. Penerbit Universitas Indonesia, Jakarta.

Sugioyono. 2013. Metode Penelitian Kuantitatif Kualitatif Dan R&D. Penerbit Alfabeta Bandung. Bandung.

Supriharyono, M.S. 2002. Pelestarian dan Pengelolaan Sumberdaya Alam di Wilayah Pesisir Tropis. Penerbit PT.Gramedia Pustaka Utama, Jakarta. Jakarta.

Yulianda, F. (20007). Ekowisata Sebagai Alternatif Pemanfaatan Sumberdaya Pesisir Berbasis Konservasi Seminar Sains 2007. Departemen Manajemen Sumberdaya Perairan, Fakultas Perikanan dan Kelautan. Institut Pertanian Bogor.