

Challenges in Implementing Sustainable Marine Tourism Policy against the Threat of Waste in Coastal Areas



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ABSTRACT: Indonesia is one of the tourism destinations most visited by international tourists. Based on the results of the 2022 Central Statistics Agency report, the number of foreign tourist visits to Indonesia reached 678.53 thousand visits. This number has increased compared to tourist visits to Indonesia in 2021, which amounted to 118,533 tourists or an increase of around 364.31%. However, the number of tourists has also increased environmental pollution, such as what happens at Kuta Beach, Bali, which every month faces the problem of large amounts of waste, especially plastic waste. The same thing also happened in the DIY Province, where the distribution of plastic waste has polluted the coastal areas in Bantul Regency, so government policies are needed to regulate this problem for the sustainability of the tourism area. Therefore, research was carried out using the descriptive analysis method, namely a method that functions to describe both generally and in detail the object being studied through the data or samples that have been collected. The results found points of marine waste pollution at marine tourism objects in Bali Province and policies for dealing with marine waste pollution in Bali Province. So if the policy is present, participation from the community is also needed in implementing the policy which is useful for preserving the tourism site.

KEYWORDS: Maritime, Government policy, Environment, Tourist, Pollution.

I. INTRODUCTION

The tourism sector is one of the economic potentials that plays an important role in contributing to a country's national income.¹ The contribution of the tourism sector has a very significant influence on the community's economy. Tourism is an important sector in people's lives whose activities are closely related to economic and social growth.² Based on a research report released by the United Nation World Tourism Organization (UNWTO) in its report stated that in January 2020, international tourist arrivals worldwide rose 4% from the previous year, to 1.5 billion.³

This condition encourages the Government to pay attention to the tourism sector in formulating State development policies. The Tourism Services sector is closely related to several aspects including economic, socio-cultural, environmental, security and other factors. The economic aspect is the largest component considered in tourism development, therefore tourism is categorized as a branch of industry.⁴ Indonesia is one of the most visited tourism destinations by international tourists. Based on the results of the Central Bureau of Statistics report in 2022, the number of foreign tourist visits to Indonesia reached 678.53 thousand visits.⁵ This number increased compared to tourist visits to Indonesia in 2021, which amounted to 118,533 tourists, an

¹Muchroddi, Rini Untari, and Dhian Tyas Untari, "Permasalahan Kebijakan Dan Peningkatan Kapasitas Manajemen Ekowisata Di Indonesia," *Journal of Applied Business and Economics* 1, no. 2 (2017): 52–69, <https://core.ac.uk/reader/236197524>.

²Annisa Puspitadelia. *Perlindungan Hukum bagi Wisatawan di Masa Pandemi COVID-19 Ditinjau dari Undang-Undang Nomor 8 Tahun 1999 tentang Perlindungan Konsumen*.Jurisdiction Vol. No.3 Mei 2021. Hal. 864

³Ibid.

⁴Putu Gelgel, *Industri Pariwisata Indonesia Dalam Globalisasi Perdagangan Jasa (GATS-WTO) Implikasi Hukum dan Antisipasinya*, Refika Aditama, Bandung : 2009, p. 22.

⁵Data Biro Pusat Statistik Nasional tentang : Jumlah Kunjungan Wisata Mancanegara Periode Oktober 2022 yang pada laman website <https://www.bps.go.id/pressrelease/2022/12/01/1879/jumlah-kunjungan-wisman-ke-indonesia-pada-oktober-2022-mencapai-678-53-ribu-kunjungan-dan-jumlah-penumpang-angkutan-udara-domestik-pada-oktober-2022-naik-10-08persen.html#:~:text=Perkembangan%20Pariwisata,peningkatan%20sebesar%204%2C57%20persen>

Challenges in Implementing Sustainable Marine Tourism Policy Against the Threat of Waste in Coastal Areas

increase of around 364.31%.⁶ The Ministry of Tourism and Creative Economy noted that the value of Indonesia's tourism industry jumped by 769.39% compared to the previous year which was only US\$0.49 billion in 2022.⁷

The strategic position of the tourism sector for the Indonesian economy has prompted the Government of the Republic of Indonesia to issue Government Regulation No. 50 of 2011 concerning the National Tourism Development Master Plan for 2010-2025 which aims to support the positive impact of tourism in the form of increased state revenue and must also be able to improve the economy in tourist destination locations such as employment, increasing the number of local and foreign tourists, optimizing tourism development. Indonesian culture and art, adding to the acceleration of the culinary business, hotels, restaurants and more adequate facilities and transportation in serving the needs of tourists.

Broadly speaking, the regulation of the tourism industry is regulated in Article 1 number 3 of Law Number 10 of 2009 concerning Tourism (hereinafter referred to as the Law. National Tourism) which states that what is meant by Tourism is a variety of tourist activities and supported by various facilities and services provided by the community, entrepreneurs, Government, and Local Government. Meanwhile, according to Article 1 point 4 of the Law. National Tourism, Tourism is defined as all activities related to tourism and is multidimensional and multidisciplinary in nature which arises as a form of the needs of every person and country as well as interactions between tourists and local communities, fellow tourists, Governments, Local Governments, and entrepreneurs.

The important contribution of the tourism sector in the national economy to foreign exchange earnings generated from the number of foreign tourists visiting Indonesia. The position of tourism as an industry is seen as having a role as a multiplier effect in economic development. The context of the multiplier effect in question is that the development of the tourism industry will expand employment, which is expected to reduce unemployment and poverty. Taking into account this, the creation of a conducive situation in the tourism investment climate needs to be improved on an ongoing basis, one of which is by improving coordination between multisectoral institutions that cannot be separated from the support of the business world and the wider community.⁸

Based on Article 30 of Law No. 25/2007 on Investment, the Investment Law mandates the Regional Government to play an active role in developing the potential opportunities of the region concerned and in terms of coordinating the promotion of tourism and investment services. One of the leading tourism sectors developed by the Government of the Republic of Indonesia is Maritime Tourism. As one of the priority programs stated in President Jokowi's 6th Nawacita, which focuses on increasing competitiveness by utilizing potential that has not been well exploited but provides a great opportunity to increase the acceleration of national economic growth, namely the manufacturing industry, food industry, maritime sector and tourism services.

Bali is one of the most popular tourist destinations internationally and has a worldwide reputation, especially in the marine tourism sector according to various global survey institutions. The beauty and uniqueness of Bali province's marine tourism provides an interesting experience and is able to provide a motivation or desire so that tourists can visit again. This is inseparable from the pattern of development of the marine tourism sector of the province of Bali which combines elements of natural beauty, cultural uniqueness and hospitality of the local community has created a special brand for the region in forming synergy between nature, humans and elements of commercialization of the marine tourism sector as an economic commodity. This condition encourages the Government of the Republic of Indonesia to place Bali Province as one of the mainstay areas concentrated for the development of the national tourism sector.

The synergy between nature and Balinese society shows a very good mutualism relationship in causing a multiplier effect which is an advantage in the development of the tourism sector. Bali Island's marine tourism is very diverse and has its own uniqueness so that it can make the tour famous and is often visited by tourists. Some of the most visited marine tourism locations include Kuta Beach, Sanur Beach, Pandawa Beach, Kelingking Beach and a number of hidden beaches that have not been widely opened as mass tourism by the local government.

In addition to the province of Bali, the marine tourism sector is also a mainstay of DIY tourism potential. Marine tourism is an activity that utilizes the potential that exists in the sea and land.⁹ The development of coastal tourism potential is in line with the support of basic and supporting facilities and infrastructure as well as human and industrial activities in the marine and fisheries sector, transportation, and other sectors that support each other and human needs for recreational facilities.¹⁰ In general,

⁶Ibid

⁷Data Kementerian Pariwisata dan Ekonomi Kreatif (2022-2023) yang diakses pada laman website : <https://dataindonesia.id/sektor-ril/detail/pendapatan-devisa-pariwisata-indonesia-melejit-pada-2022>.

⁸Badan Pembinaan Hukum Nasional. Laporan Analisis dan Evaluasi Hukum Dalam Rangka Pembangunan Industri Pariwisata Bahari, 2017. Hal 3

⁹Masjhoer, J. M. (2019). Pengantar Wisata Bahari (Issue: April 2020).

¹⁰Lathif Sahubawa etal. Kajian Potensi Sebaran Ekonomi Sumber Daya Kelautan di Pantai Selatan Daerah Istimewa Yogyakarta sebagai Upaya Percepatan Investasi. Jurnal Teknosains vol.4 No.2 : Juni 2015, hal 101-198

Challenges in Implementing Sustainable Marine Tourism Policy Against the Threat of Waste in Coastal Areas

tourism contributes the fifth largest contribution to the GRDP of DIY Province after the industrial sector; agriculture, forestry, animal husbandry and fisheries; information and communication; construction.¹¹ The coastal areas of Yogyakarta are known to have beautiful scenery and are popular tourist destinations. According to data from the DIY Provincial Bappeda, there are 45 marine tourism destinations in the DIY coastal area, and are included in the 10 tourist destinations with the highest number of domestic and foreign visitors in DIY.¹²

DIY Province has a coastline of 113 km, which stretches across 3 (three) districts namely Gunungkidul (71 km), Bantul (17 km) and Kulon Progo (25 km) as well as the waters of the DIY South Sea and Indian Ocean which have the potential for fishery resources and environmental services (beach tourism) that are very attractive and economically important. The sustainable potential and production of economically important fishery products (large and small pelagic fish and lobster) in the coastal and South Sea waters of Yogyakarta and the Indian Ocean are quite large, but the exploitation rate has only reached 28.04%.

In order to realize an increase in the target of foreign tourist visits, the Government of the Republic of Indonesia issued a policy of Presidential Regulation No. 21 of 2016 concerning Visa-Free Visits for International tourists. Through this regulation, the Government of Indonesia provides stimulation for 169 countries to visit Bali and Yogyakarta without being hindered by visa problems with the principle of reciprocity. The residence permit is granted for a maximum of 30 days and cannot be extended or converted into another residence permit. The economic prosperity expected by stakeholders through the large number of foreign tourist arrivals is not followed by an increase in social, cultural and environmental sustainability in Bali Province and Yogyakarta Special Region Province. The deregulation of tourism development policies of the government of the Republic of Indonesia, which emphasizes the development of tourism infrastructure and brings in large numbers of tourists, has created a major problem, namely waste pollution at marine tourism sites as one of the consequences of over tourism activities.

Tourism that is based on increasing the quantity of tourist visits without paying attention to the quality of tourism sustainability in the Bali and Yogyakarta regions has contributed greatly to the high volume of waste in Bali every day.¹³ A number of beaches in Bali such as Sanur, Kuta, Padang Galak and Masceti in the month face the problem of garbage, especially plastic waste in large quantities. Not infrequently this is not only an eyesore but also creates an unpleasant odor. In addition to the coastline, plastic waste also occurs on the seabed during diving activities. The poor conditions due to the plastic waste problem have also led some environmental groups to campaign against vacationing in Bali until this problem is resolved.¹⁴ The same thing happened in the Yogyakarta Province, where the distribution of plastic waste has polluted the coastal area in Bantul Regency. According to research conducted by Bachtiar Muttaqin, there was a very significant increase in the mass density of plastic waste in the Bantul area. The figure reached 364% in just three years (2019 - 2022).¹⁵

In addition, the problem of plastic waste in the sea also causes microplastic pollution which can have an impact on marine biota and this is dangerous if consumed by humans. Based on the above circumstances, the development of the tourism sector which is synonymous with poor planning, uncontrolled (sporadic), and seems only concerned with economic growth can reduce the carrying capacity of both natural resources in the form of decreased environmental conditions and potentially threaten the good image of Bali tourism generated due to over tourism. These negative impacts can damage the sustainability of the community tourism sector in the long term. So it is necessary to make special efforts by the Provincial and Regency / city Governments in Bali in upholding the concept of sustainable marine tourism development, in order to minimize and mitigate the adverse effects of tourism development that is only developmentalist and pragmatic.

Based on the illustration of the legal gap above, this research wants to analyze several issues regarding sustainable tourism in the period of climate change as follows: First, How is the national and local marine tourism development policy road map policy in Bali province towards handling environmental pollution. Furthermore, this research will examine the factors that influence the enforcement of environmental pollution handling policies in marine tourism development in Bali Province and a number of coastal areas in Yogyakarta Special Region Province. At the end of the research, the research team will provide legal solutions that must be carried out by the Government of the Republic of Indonesia and the Provincial Government of Bali in developing the concept of sustainable tourism.

Based on the problems in the above research, this research aims to describe the Road Map of National and Local Maritime tourism Legal Policies towards handling the threat of environmental pollution in tourist attraction areas located in Bali Province and the Southern Coastal Area of Yogyakarta Special Region Province. This study also aims to assess and identify factors that

¹¹Hasanah, N (2022).Keberlanjutan Pariwisata di Pesisir Selatan Kabupaten Bantul. Jurnal Riset Daerah. XXII (1), 4128-4145.

¹² Op Cit, Hasanah N.

¹³Anna Sorensen, Sustainable Mass Tourism: Fantasy or Reality?“, 2016, The International Journal of Environmental, Cultural, Economic and Social Sustainability, Vol.7: Issue 5

¹⁴AA. Bagus Surya. Loc.cit.104AA.

¹⁵Bachtiar Muttaqin dalam artikel : TPA Piyungan ditutup: Yogyakarta semakin darurat sampah laut

Challenges in Implementing Sustainable Marine Tourism Policy Against the Threat of Waste in Coastal Areas

affect law enforcement on environmental pollution in marine tourism objects in Bali Province and National. So that this research is useful to be able to provide recommendations for legal policy strategies for the Government of Indonesia and the Regional Governments of Bali Province and Yogyakarta Province in harmonizing economic and environmental interests in the development of the marine tourism sector.

II. RESEARCH METHODS

A. Research Type and Method Approach

This legal research is a type of Empirical Legal research. Empirical Legal Research or socio legal research is another research approach model that examines the law as the object of research, in this case the law is not seen as a prescriptive and applied discipline alone¹⁶, but also empirical or legal reality. The function of applying this approach aims to answer and explain various legal issues, with an interdisciplinary theoretical and methodological approach, mainly intertwined with social-humanities. In this study, researchers will examine the implementation of sustainable marine tourism development policies and legal and non-legal factors that influence their implementation in the field.

B. Research Specifications

The research specification that will be used by the author in this legal writing is descriptive analytical, which is a method that functions to describe or provide a description both general and detailed of the object under study through data or samples that have been collected as is without analyzing and making conclusions that apply to the public. The descriptive analytical research describes the use of various historical data to draw comparisons. This type of analytical descriptive research is intended to provide an overview in summarizing a data set so that it is easy to understand in a quantitative way.

C. Types of Data

This discussion about data will begin with a definition. In the Merriam Webster Dictionary, data is defined as factual information that becomes the basis for discussion, analysis and reasoning. There are also experts who put forward definitions including Hicks who argues that data is a representation of facts, concepts or instructions in a formalized manner suitable for communication, interpretation, or processing by humans or by automatic means. The data used in this study consists of two, namely:

1. Primary data in data collection from the legal side is data obtained directly in the field through field research. This primary data is obtained through interviews with parties related to sustainable tourism in Bali. While the primary data in data collection in aquatic biology (interdisciplinary) is the Marine Debris Study on the beach carried out because it can identify the distribution and variation of waste types spatially and temporally.
2. Secondary data is data obtained through legal materials. The legal material is divided into three, namely:
 - Primary legal materials are legal materials that have authoritative power, namely laws and judicial decisions.
 - Secondary legal materials are legal materials that aim to explain primary legal materials including journals, books and reports.
 - Tertiary legal materials are legal materials that can explain secondary legal materials including legal dictionaries.

D. Data Collection Method

The data collection method in the legal study used in this research is the interview method. An interview is a way to obtain information directly. In this case, the type of interview chosen was an undirected or free flowing interview. The interviewer only prepares some core questions and these questions will develop along with the course of the interview. The interviews will be conducted with officials related to sustainable tourism in Bali. The interviewees will be officials of the Tourism Office and the Environment Office in Bali as one of the largest tourist destinations in Indonesia. Data collection methods in the study of aquatic biology (interdisciplinary), in this activity, waste on the beach is carried out by adapting the Shoreline Survey Methodology (Figure 1) based on NOAA (2013).¹⁷

¹⁶Max Traver & Reza Banakar, *Theory and Method in Socio-Legal Research: A Series Publish for ONATI Institute for Sociology of Law* (Oxford and Portland Oregon: Hart Publishing, 2005

¹⁷ NOAA. 2013. *Marine Debris Monitoring and Assessment: Recommendations for Monitor In Debris Trends In the Marine Environment*. 82 pp

Challenges in Implementing Sustainable Marine Tourism Policy Against the Threat of Waste in Coastal Areas



Figure 1: Position of waste sampling on the beach with line transect.

The study of waste sampling on the beach was carried out with line transects. What needs to be considered is :

1. Sampling position every time must be in the same place,
2. Attempted during low tide conditions to facilitate waste sampling.
3. The position of the transect line is placed in the area between the location of high tide and low tide (Intertidal Area).
4. The line transect can be stretched 25m twice or directly 50m.
5. Observers are required to walk along the line transect.
6. Observations of litter are made along the transect, with litter picked up 1 m each on the right and left of the transect.
7. All waste found in the sampling area was classified, counted and weighed (wet weight).
8. Cleaned from sand/mud, minimum moisture content of the waste by removing the water and placing it on a clean surface for at least 5 minutes. Waste classification is divided into 6 categories (based on adaptation of NOAA classification (2013)) namely (1) plastic and rubber; (2) metal; (3) glass; (4) wood, not natural wood such as natural fallen tree branches, etc.; (5) clothing and the like; (6) other waste. The classification form can be seen in the last subsection.

E. Data Analysis Method

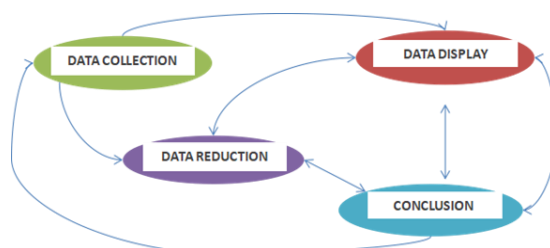
The data analysis method that will be used is a qualitative method, namely by reviewing the data and information to be obtained. The legal materials found will be selected so as to obtain the right legal rules for the study of sustainable tourism. Then, legal materials will be systematized so as to provide classification results that are in line with the problems in this legal writing. The data that has been obtained will be analyzed qualitatively to arrive at a conclusion. In the end, this research is expected to be able to provide a clear picture of the problems in this legal research. With the normative juridical approach method, this legal research will place both national and international legal rules as major premises or determining factors of a legal research.

F. Research Location

This research will be conducted in Bali and Bantul Regency, Special Region of Yogyakarta Province, Indonesia. The research will be conducted at three beaches in Bali and Bantul Regency, Yogyakarta Special Region Province, as well as at the Tourism Office and Environment Office in both regions.

G. Problem Analysis

The data analysis used in this research is based on the interactive model proposed by Matthew B. Mills and Michael C. Hubberman in his book *Qualitative Data Analysis* as described in the diagram below. Mills and Michael C Hubberman in his book *Qualitative Data Analysis* as described in the following diagram :



Challenges in Implementing Sustainable Marine Tourism Policy Against the Threat of Waste in Coastal Areas

The diagram can be explained as follows :

1. Data collection conducted through interviews and literature studies
2. Data reduction, which in this case is sorting data based on its relevance to the research material;
3. Data display, which is an activity to organize and analyze data that leads to drawing conclusions;
4. Conclusions, namely activities to extract from the discussion aimed at answering the formulation of the problem.

III. DISCUSSION AND ANALYSIS

A. Conditions of Marine Tourism and Distribution of Marine Debris Pollution in Beach Areas in Bali Province

1. Marine Debris Pollution Hotspots in Marine Tourism Object Areas in Bali Province

Marine debris pollution is a worldwide problem, even in waters far from human activity. This is because marine debris can easily be carried by currents and winds from one place to another or from one ocean to another. Marine pollution can come from various sources such as sea transportation, runoff from land, fishing activities, as well as the use of the sea as a dumping ground for garbage by the community. Research conducted in Australian waters shows that marine debris originating from the North and West coasts of Australia, will likely go to Indonesia and the Northeast Indian Ocean). Thus it can be said that the garbage that is on the coast of a location, can also come from other locations. This research was conducted on October 9-13, 2023 in Seminyak and Benoa, Bali. Data collection of marine debris was taken by line transect method with a length of 25 meters and a width of 10 meters. Then done up to 3 times repetition. The following results obtained in this study can be seen as follows:

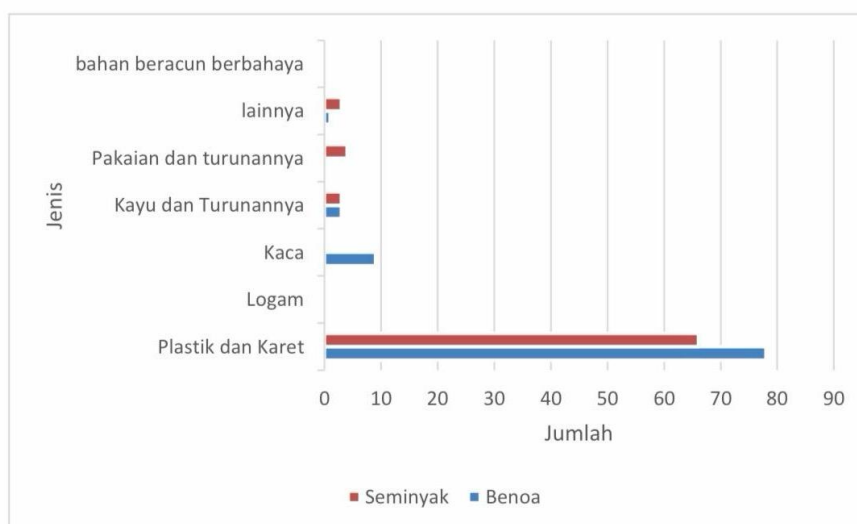


Figure 1 Types of Marine Debris

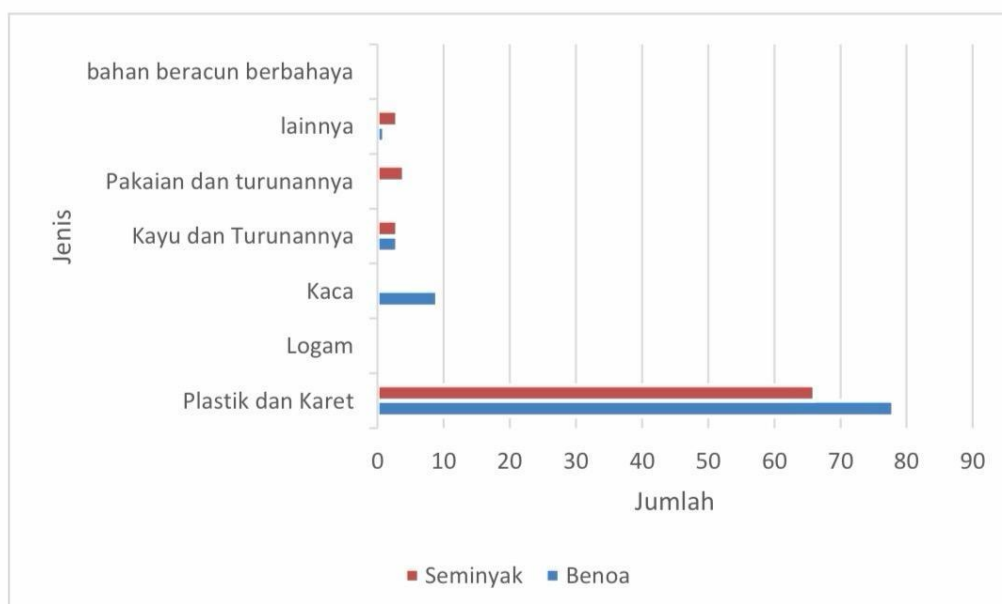


Figure 2 Weight of Marine Debris

Challenges in Implementing Sustainable Marine Tourism Policy Against the Threat of Waste in Coastal Areas

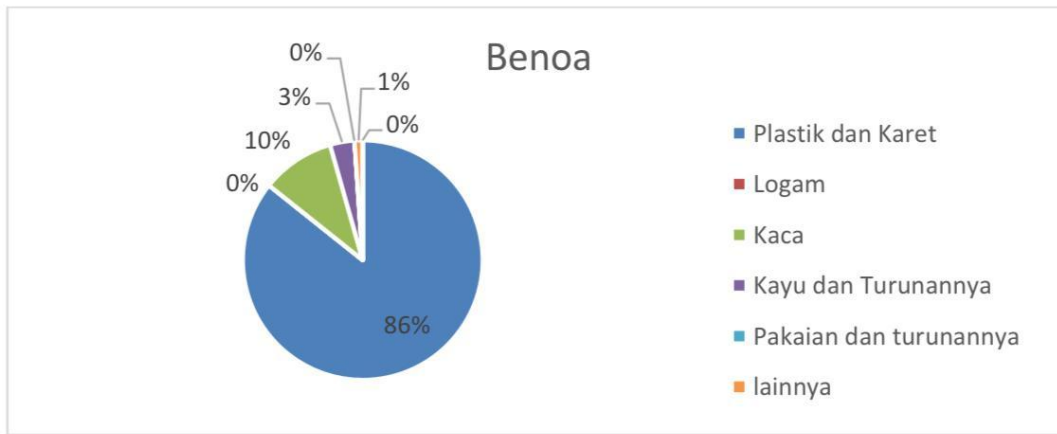


Figure 3 Percentage of Marine Debris

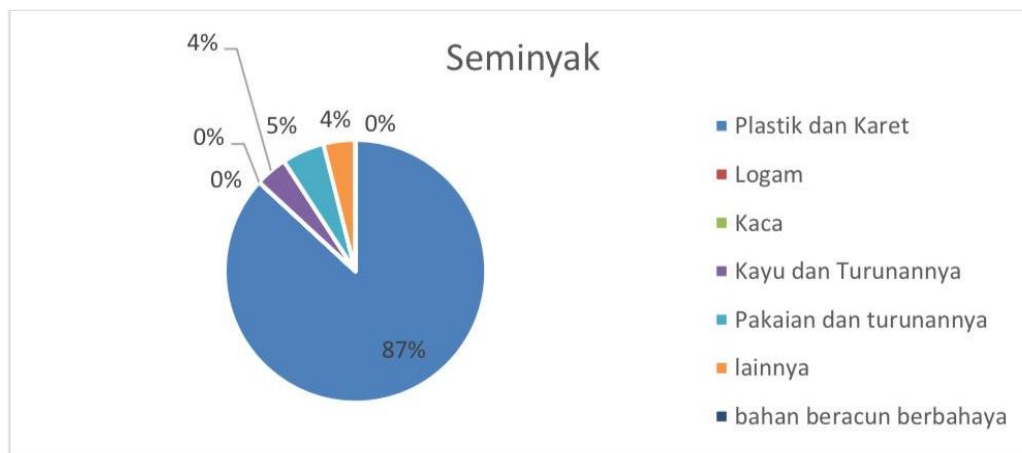
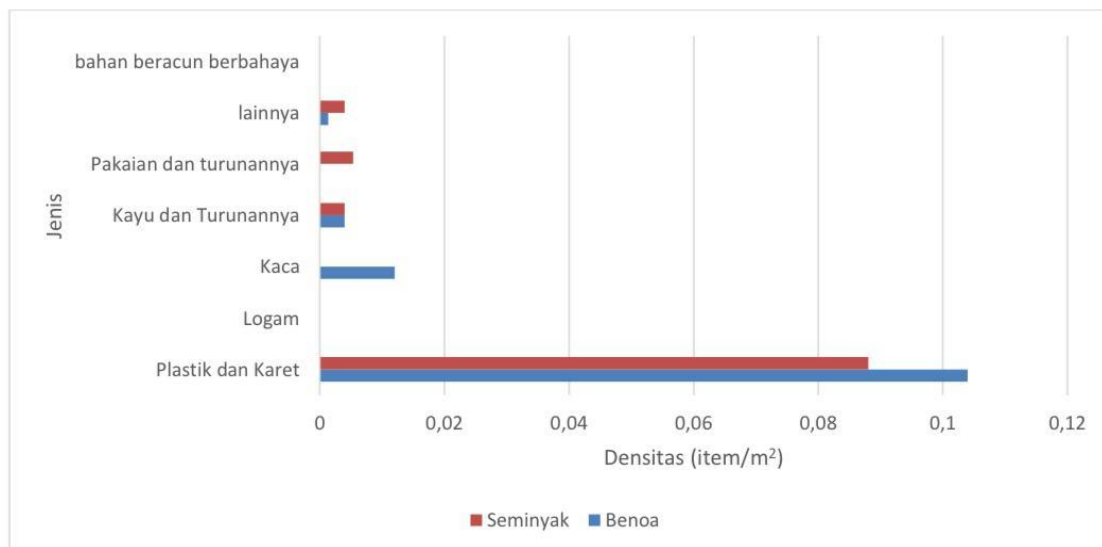


Figure 4 Density of Marine Debris



Based on the results of the study, eight types of marine debris categories were obtained, namely plastic and rubber, glass, wood and its derivatives, clothing and its derivatives. In both locations, plastic is the type of marine debris that has the highest percentage compared to other types, namely 86% in Benoa and 87% in Petitenget Seminyak Beach (Figure 3). The dominance of plastic waste is due to the high level of public consumption as a user of goods, especially plastic packaging both food and drinks. Then seen from the density data, plastic and rubber waste also occupied the highest density of 0.104 items/m² at stations in the Benoa area and 0.088 items/m² at stations in the Petitenget Seminyak Beach area.

Challenges in Implementing Sustainable Marine Tourism Policy Against the Threat of Waste in Coastal Areas

The high presence of plastic waste in Benoa and Petitenget Seminyak Beach comes from the high population. The population of an area contributes positively to the increase in plastic waste due to the high consumption of plastic food and beverage packaging.¹⁸ Another factor is the density of human settlements on the banks of rivers and estuaries that flow into coastal waters. Waste from households, both liquid and solid (plastic), will be disposed of through the river, especially when it rains. The swift flow of river water will carry waste and empty into coastal waters. In addition, the factor that affects the movement of waste in the sea is the current.¹⁹ This is a contributing factor to the movement of marine debris. Marine debris in the coastal areas of Benoa and Seminyak has become a threat to the existence of coastal and marine resources. Important coastal ecosystems, namely mangroves, seagrasses and coral reefs can be disrupted by the presence of plastic waste.²⁰

2. Marine Debris Pollution Management Policy in Bali Province

In line with the Bali Province Development Vision "Nangun Sat Kerthi Loka Bali" through the Planned Universal Development Pattern, which means maintaining the sanctity and harmony of Bali's nature and its contents, to create a prosperous and happy life for Balinese Krama and gumi. The Balinese Ancestors/Elders have inherited an order of Balinese Krama life that unites and maintains balance/harmony between Balinese Nature, Balinese Krama (humans), and Balinese Culture.²¹ In the realm of environmental management policy, the Bali Provincial Government has issued a number of sustainable development policies, including nature conservation, protection of sacred places, seas, lakes, rivers, springs, mountains, forests, vegetation (agriculture and plantations), and the natural environment so that Bali's nature becomes green, beautiful and clean. The regulations that have been issued by the Bali Provincial Government are Bali Governor Regulation number 95 of 2018 concerning Regional Policies and Strategies in the Management of Household Waste and Waste Similar to Household Waste, Governor Regulation number 97 of 2018 Regulations concerning Limiting the Generation of Single-Use Plastic Waste, as well as Bali Governor Regulation number 47 of 2019 concerning Source-Based Waste Management.²² The tourism industry is very important in paying attention to the value of cleanliness and beauty. However, the presence of waste has the potential to reduce the sustainable quality of Bali tourism which is so famous throughout the world. Plastic waste has a much more serious impact. Microplastics can contaminate fish which, if eaten by humans, can cause health problems including cancer. The dirty conditions of Bali tourism are often complained about by a number of foreign tourists who visit the Island of the Gods.²³ The waste problem that is often encountered in tourist destination areas in Bali has the potential to affect tourist visits in the long term due to an uncomfortable environment, especially in coastal tourist areas.

Bali Governor's Regulation number 95 of 2018 contains in detail the target for reducing the generation of Household Waste (SRT) and Waste Similar to Household Waste (SSSRT), namely by 30% until 2025, where the potential waste generated is estimated to reach 1,042,684,166 tonnes/year. of this amount, it is targeted to be reduced by 312,805,250 tons/year (30%) and the remaining amount is 729,878,916 tons/year (70%) can be handled in 2025. The form of the work program as an effort to manage waste is outlined in attachment II to the regulation. The implementation of this Governor's Regulation is confirmed by the Decree of the Governor of Bali Number 381/03-P/HK/2021 concerning Guidelines for Source-Based Waste Management in Villages/Subdistricts and Traditional Villages, as well as the Instruction of the Governor of Bali Number 8324 of 2021 concerning the Implementation of Source-Based Waste Management in Villages/ Subdistricts and Traditional Villages. The implementation of waste management is supported by TPS3R and TPST in districts/cities. The province facilitates the development and management of TPST and TPS3R in districts/cities. Furthermore, Bali Governor Regulation Number 47 of 2019 concerning Source-Based Waste Management mandates that waste management obligations be carried out starting from individuals in the household as waste producers. Household waste management is carried out independently or in collaboration with Traditional Villages and Villages/Subdistricts by:

- a) Using goods and/or packaging that can be recycled and easily decomposed by natural processes;
- b) Limiting waste generation by not using single-use plastic;
- c) Using products that produce minimal waste;
- d) Sorting Waste;
- e) Deposit waste that is not easily decomposed by nature to the Waste Bank and/or FPS;

¹⁸Alabi, O.A., K.I. Ologbonjaye, O. Awosolu, O.E. Alalade. 2019. Public and Environmental Health Effects of Plastic Waste Disposal: A Review. *J Toxicol and Risk Assess* 5(1): 1-13. doi.org/10.23937/2572-4061.1510021.

¹⁹Mardiatno, D., & H. Wiratama. 2021. Spatiotemporal Analysis of Marine Debris Existence in Parangtritis Coastal Area, Yogyakarta, Indonesia. *J of Fisheries and Marine Research* 5(1): 91-98.

²⁰Gall, S. C. & R.C. Thompson. 2015. The impact of debris on marine life. *Marine Pollution Bulletin* 92(1-2): 170-179. <https://doi.org/10.1016/j.marpolbul.2014.12.041>.

²¹Putu Wira Utama. Policy Paper: Kebijakan Pengelolaan Sampah di Provinsi Bali. *Jurnal Penelitian Multidisiplin*. Vol.2 No.1 Februari 2023. <https://doi.org/10.58705/jpm.v2i1.121>

²²Ibid

²³Ni Ketut Sutrisnawati et al. Fenomena Sampah dan Pariwisata Bali. *Jurnal Ilmiah Hospitality Management*, Vol.9 No.1 tahun 2018, hal 49-57

Challenges in Implementing Sustainable Marine Tourism Policy Against the Threat of Waste in Coastal Areas

- f) Processing waste that is easily decomposed by nature; And
- g) Prepare a trash can to accommodate residual waste.

The increase in waste in coastal areas is caused by two things, namely the east monsoon current from Australian waters which carries rubbish into Indonesian waters and pollution caused by humans. Various efforts have been made by the Bali Government to reduce the level of waste accumulation which has the potential to threaten the sustainability of the tourism sector, including:

1) Community-Based Independent Waste Management System

Community-based waste management is waste management that involves all levels of society. The community is involved in waste management with the aim of making people aware that the waste problem is the responsibility of all levels of society (Cecep Dani Sucipto, 2012). The first thing that must be done is to create public awareness and concern about the importance of keeping the environment clean and healthy, starting with waste. The community is actively involved in waste management through the 3R system (Reduce, Reuse, Recycle). The public is expected to be wiser in using single-use plastic products and use more environmentally friendly organic products; waste produced by households is separated between organic waste and inorganic waste; After the sorting process, the community can re-sort the waste that can still be used or managed independently, organic waste can be processed into compost which is useful for plant fertilizer, inorganic waste such as plastic, cans, paper can be reused or sold at waste banks or other parties. running a waste buying and selling business; Waste that cannot be used is then collected at a temporary waste collection site (TPS) according to a specified schedule.

2) Use of Technology in Waste Management Technological advances

Utilization of Technology can be used optimally to manage waste. Waste management through the use of appropriate technology can contribute to improving community welfare. One example of the use of technology in waste management can be seen from the TOSS (Local Waste Processing Site) program as implemented by the Klungkung Regency Regional Government. TOSS is a processing system through peuyeumization, briquettes/pelletization and gasification processes. Waste is processed into briquettes and pellets which can be used as fuel for cooking and electrical energy using machines.

B. Conditions of Marine Tourism and Marine Waste Pollution in Kulon Progo Regency, Yogyakarta Special Region Province

Yogyakarta Special Region is one of the popular tourist destinations in Indonesia. The Special Region of Yogyakarta has a coastline of 110 km and borders directly on the Indian Ocean, this causes Yogyakarta to have an area that is divided into 3 coastal areas, namely Kulon Progo, Bantul and Gunung Kidul districts. The Yogyakarta Special Region has a lot of tourism potential, including beach tourism potential. In field research in the Yogyakarta Special Region Province, the research team took two locations which are centers of marine tourism, namely Kulon Progo Regency and Bantul Regency.

3. Marine Tourism Policy in Kulon Progo Regency

It is undeniable that the existence of a new airport, especially an international class, makes a plus in the area around the airport. Kulon Progo is rich in tourism destinations and tourism potential. The opening of Yogyakarta International Airport (YIA) located in Kulon Progo was welcomed by tourism actors in Kulon Progo. They are competing to create a strategy for developing tourism destinations that they manage to become a favorite place visited by tourists.

In the aspect of Kulon Progo's tourism potential, as we know that Kulon Progo has varied tourism potential. In the field of specialty foods there is geblek, in terms of batik patterns there is also a distinctiveness that distinguishes it from batik patterns in other regions. There are also many tourism destinations. In this case, the author specifically highlights the development strategy of tourism destinations in Kulon Progo in welcoming the opening of the International Airport located in Kulon Progo. Tourism destinations in Kulon Progo, such as Pulepayung, Kamijoro Dam, Glagah Beach, Congot Kalibiru Beach and so on are new destinations developed based on the community (POKDARWIS). Researchers observed the similarities in the pattern of tourism destination development in Kulon Progo. The similarity is that first the management of tourism destinations in Kulon Progo builds infrastructure in the tourism destination area that they manage including cleanliness, supporting facilities that make tourists who come feel at home. After the infrastructure is built, the destination manager collaborates with village officials, to build accessibility facilities, namely roads that were previously rock or asphalt which are still rough now have turned into smooth asphalt, although there are still tourism destinations in Kulon Progo that are still waiting for a helping hand or assistance from the district office and related agencies to build accessibility from the airport to their tourist village. Because it is undeniable that accessibility is an important factor in whether or not a tourism destination sells. If accessibility to tourism destinations is difficult to reach, tourists will be reluctant to come to these tourism destinations²⁴. By looking at the strategies or efforts made by tourism managers in the Kulon Progo area in welcoming the opening of an international airport, it requires

²⁴ Interview Results with the Kulonprogo Regency Tourism Office, October 6, 2023

Challenges in Implementing Sustainable Marine Tourism Policy Against the Threat of Waste in Coastal Areas

efforts from tourism managers to apply SWOT analysis in developing the tourism destinations they manage. The use of SWOT analysis is carried out for the development of the following activities:

1. Strength (S): Tourism destination managers study inward by looking at what strengths or potentials can be made distinctive from the tourism destinations they manage. This factor will later become an unforgettable value for visiting tourists. The landscape view in Kulon Progo is one of the strengths that can be visualized through online promotions such as social media.
2. Weakness (W): In developing the facilities in the managed tourism destination, the manager still relies on assistance from the local government in this case the village apparatus and assistance from the Kulon Progo district government so that the development sometimes takes a long time to be realized because the proposed assistance takes a long time to be disbursed. The development of game media facilities as well as selfie photos is a part that requires cost and maintenance that is not cheap.
3. Opportunity (O): the opportunity or opportunity that the manager has to develop the potential that exists in the tourism destination he manages is very large. This is because the geographical and demographic location of Kulon Progo, which is located in the hills, makes the resulting scenery more beautiful and with the polish of the tourist destination manager, it will be a plus for the destination.
4. Threat (T): Tourism destination managers in Kulon Progo realize that competition among destination managers is very tight. This is because almost the majority of tourism destinations in the Kulon Progo area sell the same product, namely scenery and spots for selfies. This is what makes tourism destination managers compete to make creativity in order to attract tourists who come. However, organizational strength in maintaining destinations needs to be improved in all aspects to face increasingly fierce competition.²⁵

Environmental Management is an affair that must be carried out by various agencies and coordinated by regional environmental agencies. The purpose of environmental management is basically to preserve the function of the environment by maintaining its carrying capacity and capacity. Where the preservation of environmental functions is a prerequisite for the realization of sustainable development. Along with the Kulon Progo Development Vision that will be achieved during the 2017-2022 Strategic Plan period, namely: "The realization of a prosperous, safe, peaceful, characterized, and cultured Kulon Progo community based on faith and taqwa", the duties and functions of the Environmental Service (DLH) are described in the 4th Mission, namely "Realizing area-based development by optimizing natural resources and supported by technology and quality infrastructure".²⁶ The strategic plan (Renstra) of the Kulon Progo Regency Environmental Service (DLH) is a DLH planning document for a period of 5 (five) years, which is an operational technical planning document that contains goals, objectives, strategies, policies, programs and development activities prepared in accordance with the duties and functions of the DLH Kulon Progo which is an elaboration of the Regional RPJM for a five-year period. The Strategic Plan serves as a tool to control all current and future activities, as well as a means to minimize risks and optimize results to be achieved.²⁷

Based on the Regulation of the Minister of Home Affairs Number 86 of 2017 concerning Procedures for Planning, Controlling and Evaluating Regional Development, Procedures for Evaluating Draft Regional Regulations on Regional Long-Term Development Plans and Regional Medium-Term Development Plans, as well as Procedures for Amending Regional Long-Term Development Plans, Regional Medium-Term Development Plans, and Regional Government Work Plans, it is mandated that Regional Apparatus are required to prepare a Strategic Plan (Renstra). The Regional Apparatus Strategic Plan is a five-year planning document that is used as a guideline for the preparation of the Regional Apparatus Work Plan, which is an annual planning document. In the next few years, Kulon Progo Regency will develop rapidly along with the implementation of the construction of several sustainable projects, including the improvement of Yogyakarta International Airport, the airport railway line, the construction of Aerotropolis that supports the new airport, the construction of the South Cross Road (JJLS), the Yogya-Cilacap toll road, and the construction of the Menoreh Surgical Path. All of them certainly hope that the project can raise the economic welfare of the community in a sustainable manner while still utilizing natural resources wisely and paying attention to preserving environmental functions. However, it is undeniable that development in all fields will be followed by an increase in environmental and social problems. These environmental problems that arise basically occur because of human activities that exploit the environment beyond its carrying capacity and capacity and do not heed environmental ethics. These conditions trigger various environmental changes and cause degradation of carrying capacity and capacity.²⁸

²⁵ Interview Results with the Kulonprogo Regency Tourism Office, October 6, 2023

²⁶ Interview Results with the Kulonprogo Regency Tourism Office, October 6, 2023

²⁷ Interview Results with the Kulonprogo Regency Tourism Office, October 6, 2023

²⁸ Interview Results with the Kulonprogo Regency Tourism Office, October 6, 2023

Challenges in Implementing Sustainable Marine Tourism Policy Against the Threat of Waste in Coastal Areas

Changes to the RENSTRA are very important planning documents as guidelines for performance planning and budgeting that are oriented towards the results to be achieved over the next year by taking into account the potential, opportunities and constraints that exist. The Regional Apparatus Strategic Plan is guided by the Regional Medium-Term Development Plan (RPJMD) Kulon Progo Regency Years 2023-2028. This Renstra and its Amendments will serve as guidelines for the preparation of the Regional Apparatus Work Plan which is prepared annually.

4. Marine Tourism Policy in Bantul Regency

Progress and higher welfare have made tourism a basic part of human needs or lifestyle, and moved millions of people to get to know nature and culture to other parts or regions of the world. The position of the Tourism sector as one of the pillars of national development increasingly shows a very important position and role in line with the development and contribution made both in foreign exchange earnings, regional income, regional development, as well as in the absorption of investment and labor in various regions in Indonesia.

The dynamics and challenges in the regional and global context have demanded a planning and development of the tourism sector that has a strategic, systematic, integrated, and at the same time comprehensive reach covering all related tourism development components, both from the aspects of the tourism industry, tourism destinations, marketing, and institutions. Bantul Regency has abundant and varied tourism potential. Tourism objects in Bantul can be grouped into two categories, namely natural tourism and cultural and historical tourism. Tourism activities are strategic activities to be developed in Bantul Regency in an effort to increase regional income and expand business and employment opportunities. Communities in the coastal areas of Bantul Regency have long relied on fulfilling their needs from agricultural and tourism activities.

The development of the tourism sector in various parts of the world has created its own impact in various dimensions of human life, not only affecting the socio-economic dimension, but also touching the socio-cultural dimension and even the physical environment. The impact on various dimensions is not only positive but also has a negative impact. The impacts of tourism development include littering (in addition to causing unpleasant odors, it also makes the surrounding plants die) and disposal of hotel, restaurant and hospital waste that damages river, lake or sea water. The tourism industry has a close and strong relationship with the physical environment. The natural environment is a tourism asset and is impacted due to the fragile and inseparable nature of the physical environment. The relationship between the environment and tourism is not always mutually supportive and beneficial. Therefore, conservation, appreciation, and education efforts are made so that the relationship between the two is sustainable. But judging from the existing reality, the relationship between the two actually creates conflict.

Tourism more often exploits the natural environment. The impact of tourism on the physical environment is easy to identify because it is tangible. Tourism provides advantages and disadvantages, as follows:

1. Water

Water gets polluted from the disposal of liquid waste (detergent washing hotel linen) and solid waste (guest food waste). These pollute the sea, lakes and rivers. Water is also polluted by fuel oil discharges from water transportation equipment such as cruise ships.

2. Atmosphere

Traveling by air is convenient and fast. However, air transportation has the potential to damage the earth's atmosphere. Its emissions are released into the air, polluting the atmosphere and the rumble of aircraft engines causes noise pollution.

Indonesia's environment must be protected and managed properly based on the principle of state responsibility, the principle of sustainability, and the principle of justice. In addition, environmental management must be able to provide economic, social, and cultural benefits based on the principles of prudence, environmental democracy, decentralization, and recognition and respect for local wisdom and environmental wisdom. The environment as stated in Article 1 point 1 of Law Number 32 of 2009 concerning Environmental Protection and Management is the unity of space with all objects, forces, conditions, and living things, including humans and their behavior, which affect nature itself, the continuity of life, and the welfare of humans and other living things. Environmental protection and management is a systematic and integrated effort undertaken to preserve environmental functions and prevent environmental pollution and/or damage, which includes planning, utilization, control, maintenance, supervision, and law enforcement.

The Tourism Office of Bantul Regency, Yogyakarta Special Region, admits that it is overwhelmed in striving for cleanliness in tourist attraction areas, especially beaches, due to several factors, including the influence of nature, namely when it rains, dirt or

Challenges in Implementing Sustainable Marine Tourism Policy Against the Threat of Waste in Coastal Areas

garbage from the north will be carried by river currents to the estuary, causing the area to become dirty. Then the agency's own factors, such as facilities and infrastructure and limited human resources, actually trash bins and janitors already exist but are not ideal. Regarding the cleanliness of tourist attraction areas, the Bantul Regency Environmental Agency prepares cleaning personnel to be deployed at tourist attractions. In addition to maximizing existing personnel and facilities, the Environmental Agency also provides a fleet of trucks that are distributed at each tourist attraction as one of the targets of the Environmental Agency of Bantul Regency, namely reducing the burden of pollution and environmental damage. The more advanced the tourism sector in Bantul Regency, the more it will affect local revenue (PAD). PAD is revenue obtained by the region and collected based on regional regulations in accordance with statutory regulations, but it must also be remembered that the progress of the tourism sector must be balanced with environmental protection and management so that the marine ecosystem on the parangtritis beach is not damaged and has a negative impact on the increasingly advanced tourism sector.²⁹

Bantul Regency has varied tourism destinations. The division of tourism destinations in Bantul Regency can be seen based on the category of tourist attraction development, there are 4 types, namely natural, cultural, artificial, and village tourism which are spread across 5 DPD (Regional Tourism Destinations) according to 17 kapanewon / sub-districts. Based on preliminary data obtained from the Bantul Regency Tourism Office, it can also be seen that there are 255 destination points owned by Bantul Regency. Nature tourism is the type of tourist attraction that is most commonly found in Bantul Regency.³⁰

Tourism destinations in Bantul Regency consist of 255 destinations spread across 17 Kapanewon and most are of the Cultural Tourism type, where Kapanewon Imogiri has the highest number of tourist destinations 37 destinations and Kapanewon Srandakan has the least number of 4 destinations and most are built on government-owned land. Current conditions (post-pandemic) show that most tourist destinations have 3-4 facilities, at least in the form of toilets, stalls, parking lots, and hand washing stations. The accessibility of the locations of each destination can be reached by motorcycle and car only 89%, travel 62%, and bus 49% of the total destinations. Around 57.25% of tourist destinations in Bantul Regency are categorized as developed, while 24.71% are categorized as developing, and 18.04% are still potential tourism. Based on the assessment of destination quality for each type of tourism, it shows differences in problems from the assessment parameters.³¹

Nature tourism tends to have a low assessment in terms of accessibility and amenity, cultural tourism needs to be developed in terms of attractiveness, artificial tourism has difficulty maintaining amenity damaged by the pandemic, while tourist villages are still constrained in terms of attractiveness and the provision of health protocols. Based on the conclusions of the results of this study, recommendations can be made for the development of tourist destinations, namely as follows:

- a. Tourism destination development can be *community-based (CBT)*.
- b. The need for standardization of a proper tourist destination, monitoring, and evaluation of tourist destinations.
- c. Destination development is carried out by considering the priority scale so that it is necessary to determine priority tourist destinations.
- d. Improving the quality of human resources for the management of tourist destinations has competitiveness that always innovates in the face of changes in improving access and adding tourist facilities so as to strengthen product management and improve destination quality.

One of the tourist attractions visited by many tourists in Bantul Regency is the beach. The definition of the beach itself is part of the lake or sea shore that is exposed to wave movements. At the top of the beach there are deposits in the form of pebbles to the finest deposits always stranded by the waves. While large rocks are a sign of the upper limit of wave movement, small rocks, sand and sediment cover the land closest to the water. In general, the characteristics of coastal areas:

- a. Tropical climate, sunshine, typical flora of coastal areas;
- b. A view out to sea;
- c. High and saline groundwater; and
- d. There are tidal areas.

The natural characteristics of the beach will affect the planning of a beach area so that the characteristics of a tourist area in the coastal area are: a. More entertainment activities in open space by utilizing the sea as a scenery and also as a place of recreation (eg swimming, marina, etc.). b. Processing of outdoor space is very important to support the atmosphere of beach tourism. c. Processing of outdoor space is very important to support the atmosphere of beach tourism. d. The existing buildings pay attention to natural conditions. Existing buildings pay attention to natural conditions. This can be seen from: 1) Many

²⁹ Interview with Bantul Regency Tourism Office, October 7, 2023

³⁰ Interview with Bantul Regency Tourism Office, October 7, 2023

³¹ Interview with Bantul Regency Tourism Office, October 7, 2023

Challenges in Implementing Sustainable Marine Tourism Policy Against the Threat of Waste in Coastal Areas

openings that take advantage of views to the sea and wind and optimal utilization of sunlight. 2) Use of building materials that are resistant to weather and sea water or brackish groundwater conditions.

Historically, coastal areas have functioned as centers of community activities given the various physical and geographical advantages that coastal areas have. Various community economic activities develop in this area, forming a mixed use pattern that is not always in accordance with one another. On the other hand, coastal areas are ecological systems with very high marine product capabilities. However, this ecosystem tends to be under pressure, both by natural processes and due to exploitation activities that tend to be excessive. To avoid the development and spatial planning of coastal areas that are not well integrated, it is necessary to pay attention to the principles of development and spatial planning of coastal areas as follows:

1. Coastal spatial planning needs to define the boundaries of development areas in the ocean. This principle is based on three reasons: a. To encourage better accountability mechanisms. b. To ensure sustainable use. c. To avoid conflicts of use.
2. The establishment of maritime boundaries should not preclude the utilization of resources within the boundaries of the maritime area by people from other areas outside the boundaries of the maritime area.
3. Protection of sensitive habitats from destructive activities, both as a result of human interaction with nature itself.
4. Localize intensive utilization of marine resources to specific areas/zones, so that sustainability criteria can be met.
5. Separation of activities to avoid utilization conflicts...
6. Selective control of various activities at different locations
7. Accommodate different interests in one coastal area in synergy with one another, without any one party being disadvantaged.
8. Allow for the creation of "sanctuary" zones, especially for marine areas that must be protected, especially for ecosystems that have far-reaching impacts and are important to other marine ecosystems.
9. Allow for the recovery of areas that have been damaged.

Natural tourist attraction is a tourist attraction whose attraction comes from the beauty of nature and the environment, both in its natural state and after human cultivation. Thus, it can be concluded that tourist attraction is everything that can be realized in the form of unique activities, has its own characteristics whose implementation utilizes nature, both the beauty of the climate, and the shape of the land so as to attract visitors to do these activities because it is rarely found. Tourism potential can be developed as well as possible, and in time it will become a tourism product with its characteristics that are worth presenting to enjoy. The potential that is developed can certainly create value, if it already has value, then the product will be valuable and can be marketed with certain segments.

Until now Yogyakarta is still a famous tourist destination in Indonesia and abroad with the potential of Yogyakarta's natural beauty which is very enchanting as well as the beauty of the south coast. Yogyakarta has a lot of beaches that stretch from Kulonprogo Regency to Gunung Kidul Regency. These beaches have their own uniqueness that attracts the attention of tourists from inside and outside Jogja. One of the areas that has many alluring beaches is Bantul regency. The beaches in the Bantul area have long been famous for their beauty, namely Parangtritis Beach, Parangkusumo Beach, Depok Beach and other beaches. Many tourists want to see the beauty of the beach from above. In the east of Parangtritis are lined with hills that form a natural landscape. On one of these hills there is a place that is the target of tourists to enjoy the beauty of the south coast from above.³²

One of the famous beaches in the Bantul area is Parangtritis beach. Parangtritis is a sloping and enchanting beach combined with rocky hills, sand dunes, and black sand. The beautiful Parangtritis Beach has many interesting phenomena, both its natural scenery and supernatural stories. Parangtritis Beach is also a perfect tourist area to enjoy a very romantic sunset.³³ Parangtritis Beach is a tourist spot in the form of a beach on the coast of the Indian Ocean and is located about 25 km south of the city of Yogyakarta. Parangtritis is a very famous beach tourist attraction in the Yogyakarta area because it has a view that is still distinctive. This beach is unique in terms of the view of the waves which are relatively larger than other beaches in the Yogyakarta area. In addition, there are sand mountains around the beach that make the beach atmosphere more pronounced. Parangtritis has a sloping beach, has rocky hills, white sand so it is very comfortable and beautiful if you want to enjoy the scenery.

Parangtritis has a unique view that is not found in other tourist attractions, namely beaches that have large waves and the presence of sand mountains around the beach area called gumuk. In the dry season the wind will usually blow faster and the waves will reach a height of 2-3 meters. Because of the large waves, visitors to Parangtritis Beach are prohibited from swimming

³² Interview with Bantul Regency Tourism Office, October 7, 2023

³³ Interview with Bantul Regency Tourism Office, October 7, 2023

Challenges in Implementing Sustainable Marine Tourism Policy Against the Threat of Waste in Coastal Areas

around the beach, for that public bathing facilities have been provided that can be used for visitors who want to swim safely and comfortably. Parangtritis Beach also has a small hill on the north side of Parangtritis Beach and there are small stalls that offer stunning views of the beach from the top of the hill while enjoying young coconuts and typical snacks. You can also feel the strong coastal breeze blowing while watching the scenery along the Parangtritis coastline which is all visible from the top of the hill. A more challenging terrain could also be to visit Parangndog Hill, which is located to the east of Parangtritis Beach, on the border between Bantul Regency and Gunungkidul Regency. In Parangndog Hill, there is a place devoted to paragliding and hang gliding. To reach the area, the terrain is quite tough and challenging, but when you get to the top, it will all pay off with an unlimited and unobstructed view of the vast ocean, perfect as a place to wait for the sunset.³⁴

This parangtritis beach tourism object has long been well managed by the Bantul Regency Government so that the facilities that support tourism are quite complete. These facilities include: a. There are many hotels or inns with varying prices, there are several hotels and inns located on the hill that offer an extraordinary atmosphere and view of the beach; b. There are many souvenir shops and souvenirs typical of Jogja / Bantul, as well as many grocery stores and food stalls; c. Large parking lots plus bathroom rentals that visitors can use to clean themselves; d. You can enjoy the beauty of this beach while doing beach sports. You can enjoy the beauty of this beach while doing beach sports. Along the beach you can rent a dokar (horse-drawn carriage), ATV (*All Terrain Vehicle*) motorbike, horse riding, or Paragliding for the brave; e. The Gumuk Pasir area is like an atmosphere in the desert when immortalized for a photo background.³⁵

Parangtritis Beach is an area in Yogyakarta that has a strong magical power. So, it attracts tourists to come and come again to the beach which has long been an icon of tourist attractions in Jogja. Tourism is currently growing rapidly, most people are familiar with social media. A lot of tourism in Yogyakarta began to emerge and present a charm and beauty of its own. However, this classic Parangtritis beach still stands firmly as one of the tours that is never forgotten. Always crowded and an option. Parangtritis beach does not necessarily lose its prestige as the prima donna of the entire community. In fact, currently parangtritis is also developing itself with a variety of rides that can be enjoyed. You could say, parangtritis beach is a contemporary tour that is able to answer the needs of the times.³⁶

The development of beaches as tourist attractions for the community requires good environmental management, because tourism demands very high environmental cleanliness. Environmental cleanliness cannot be charged to the government alone or tourism management institutions, this must involve all parties involved, including the people who live in the area. Therefore, it is necessary to participate in the management of the area so as to create beach tourism that involves the surrounding community so that beach tourism can run well while its sustainability is maintained.

Coastal areas that are built into tourist attractions will experience environmental changes both in reality and not, especially if the development of coastal areas is followed by several other activities, such as residential areas, fish auctions, culinary seafood, and at the same time making recreation places for tourists. Based on an interview with Mr. Narman, the Bantul Regency Government, Special Region of Yogyakarta (DIY), is seriously working on tourist spots to boost foreign tourist visits. In addition to the readiness of Human Resources (HR), coastal areas and hills are prioritized for improvement. The indicators used to assess the development of tourism in Parangtritis are based on local revenue (PAD) and the number of tourist visits. tourists. The main indicator used to assess the development of tourism is the number of tourist visits.³⁷

The Environmental Service in structuring parangtritis tourism is more focused on technical fields such as licensing related to preventing damage to the parangtritis beach environment due to the construction of hotels, inns and restaurants around the beach, as mentioned that one of the functions of the Bantul Regency Environmental Service is the formulation of technical policies in the environmental field. The Bantul Regency Environmental Service based on the explanation above to realize the arrangement of tourism in parangtritis plays a role in improving cross-sectoral coordination, community, private and business actors to reduce pollution and environmental damage, improve waste management with the 3R principle, improve supervision and guidance of business actors / activities, increase community participation in efforts to increase conservation and preservation of biodiversity and increase the availability of data and information on environmental conditions.

1. National Government and Bali Provincial Government Policies on Waste Management to Support Sustainable Maritime Tourism.

Sustainable development is defined as a conscious and planned effort that integrates environmental, social, and economic aspects into development strategies to ensure the integrity of the environment as well as the safety, ability,

³⁴ Interview with Bantul Regency Tourism Office, October 7, 2023

³⁵ Interview with Bantul Regency Tourism Office, October 7, 2023

³⁶ Interview with Bantul Regency Tourism Office, October 7, 2023

³⁷ Interview with Bantul Regency Tourism Office, October 7, 2023

Challenges in Implementing Sustainable Marine Tourism Policy Against the Threat of Waste in Coastal Areas

welfare, and quality of life of present and future generations.³⁸ Bali Province is an Indonesian tourist icon that has become one of the world's most popular tourist destinations. Tourism has become the motor of economic development of the Balinese people. The pressure on the environment due to physical development is getting bigger. The Bali Provincial Government as the holder of authority and legitimacy along with all *stakeholders* rolled out a sustainable tourism development policy. This is done in order to maintain the consistency and continuity of the role and contribution of tourism to Bali.

According to McCool, Moisey, and Nickerson sustainability is analogous in three main sectors namely: (1) management agencies, which not only provide outdoor recreational opportunities but also set the scenic backdrop for tourism development, (2) the tourism industry that facilitates many recreational opportunities and provides places to support lodging, dining, and transportation services; and (3) local residents, who benefit from tourism development, but who may also pay certain costs related to impacts on quality of life, infrastructure, and services.³⁹ Based on the definition and purpose of tourism regulated in the Tourism Law, it can be seen that Tourism contains various dimensions. Tourism is not only about economic issues but also social, political, cultural and other issues. Tourism is a multi- complex system by linking various aspects that affect other aspects where in recent periods tourism has played an important role as a driver of community dynamics that affect socio- cultural changes.

In the Tourism Law, it is stated that underlying tourism development are the following principles: benefit, kinship, fair and equitable, balance, independence, sustainability, democracy, equality, participatory, sustainable, and unity. This is applied by taking into account the uniqueness, distinctiveness of culture, diversity, and nature, as well as human needs for travel in the implementation of tourism development plans. In line with the mandate of the Tourism Law, the Regional Government of Bali Province also issued Regional Regulation of Bali Province Number 2 of 2012 concerning Balinese Cultural Tourism, which was further strengthened by the issuance of Regional Regulation of Bali Province Number 10 of 2015 concerning the Master Plan for Regional Tourism Development of Bali Province 2015-2029 as a guideline for Bali tourism policy. The direction of Bali tourism in its development is regulated in the Bali Provincial Regulation including: regional tourism destination development, regional tourism marketing development, and regional tourism institutional development.⁴⁰ The substance of this Regional Regulation contains various policies and strategies to support the vision of Bali's regional tourism development, namely realizing sustainable and quality cultural tourism and competitiveness based on Tri Hita Karana which is able to encourage regional development and people's welfare.

Local Wisdom is a guide in living life for its people, especially for residents of Bali Province who have cultural diversity and uphold spiritual values. One form of local wisdom that is a reference for the lives of Balinese people is Awig-awig. Awig-awig is a rule made by indigenous people in the Balinese Pakraman Village, both written and unwritten, which is used as a guide or benchmark in behavior. In addition to the written laws issued by the Regional Administrative Government, Bali also has Customary Law which is rooted in the local wisdom of the region. Awig-awig is a form of customary law that is based on a sense of justice and propriety in the community concerned. Awig-awig as customary law contains commands, prohibitions and permissions equipped with sanctions for those who violate the awig- awig.

Things that are regulated in Awig-awig include the implementation of Tri Hita Karana which consists of Parahyangan (harmonization of relationships between humans and God), Pawongan (harmonization of relationships between humans and other humans), and Palemahan (harmonization of relationships between humans and their environment). One of the awig-awig that regulates the sanctity and cleanliness of water that can be used as a reference in controlling waste is awig-awig subak Tembuku pawos 28 which reads:

1. Tan dados mebacin ring telabah gede miwah telabah jelinjing (It is not permissible to throw feces in rivers or waterways).
2. Rikala anak istri kapiambang sebebel, patut pisan tan dados mabersih ring tembuku aya, taler tan dados mesahin sehanan pengangge ring genah punika (women who are dirty cloth / menstruation, should not bathe or wash clothes worn in the rice field waterways).
3. Soang-soang pelinggih pengunggangan carik patut kasuciang sareng sami, lamakane tan patut melaksana leteh miwah romon ring genah punika (holy places related to rice fields must be sanctified and must not pollute the place).

³⁸ Hardy Anne, Beeton Robert, J.S. Leonie Pearson. 2002. "Sustainable Tourism. An Overview of the Concept and Its Position in Relation to Conceptualizations of Tourism". *Journal of Sustainable Tourism*. Vol. 10. No.6. Year 2002.

³⁹ Theobald, W (ed), 2005. *Global Tourism*. Third Edition. Elsevier.

⁴⁰ AA Gede Duwira Hadi Santosa et al, Kerta Masa Tourism: Alternative Ideas for Bali Tourism Development Policy. *Journal of Udayana Master of Law*. Vol 9 N0.4 December. Year 2020.

Challenges in Implementing Sustainable Marine Tourism Policy Against the Threat of Waste in Coastal Areas

4. Tan dados nganyudang wek-wekan pengangge miwah barang romon ring telabahe (should not throw scraps of cloth or other used items into the river).
5. Sapasira ugi pacang ngamen sago, kayu, miwah ramuan siyosan, ring telabahe, sang madruwe patut mapiorah ring prajuru Subak mangda mapituduh ring genah sane kadadosang (everyone who will soak sago / enau trees, wood and other materials in the river, must notify the subak management to get

2. Factors affecting Obstacles to the Realization of Sustainable Maritime Tourism Policy in Bali Province.

In relation to the success or failure of a policy, it is strongly influenced by three things, namely Legal Substance, Legal Structure and Community Legal Culture. In the implementation of sustainable marine tourism policies by emphasizing the handling of the effects of garbage pollution, it cannot be separated from these three things. In the case of handling waste and its threat to the sustainability of Bali tourism, it tends to be influenced by Legal Culture and Legal Structure Factors. In the legal culture, obstacles occur due to public awareness in efforts to protect the environment is still very low. People still think that the waste problem is a trivial problem, so littering is something natural and will not cause big problems.⁴¹

The behavior of people, especially in the South Bali Region, who litter is stated as the most common cause (37%) of environmental pollution. In addition, other causes are people who do not have septic tanks (25%) and people who do not care about the environment (18%). The three statements are similar because they show the behavior of people who are not environmentally friendly, so they are one unit (80%).⁴² It can be concluded that environmental pollution in Bali is mostly caused by the behavior of people who do not manage garbage and waste properly. People have not fully realized that creating a clean and healthy environment starts with the habit of disposing of waste. Problems from the legal structure caused by the lack of socialization about healthy living and the negative impact of waste, especially plastic waste, is one of the causes of the lack of public knowledge about waste. Local communities are less aware and do not understand that the act of throwing garbage in the river can bring disaster to the environment and other humans.

People also do not fully understand that littering is prohibited by the government and has been regulated in regional and central regulations. Although both central and regional governments have issued regulations and policies in dealing with waste. However, the aspect of law enforcement that is less assertive also affects the effectiveness of a policy. Written norms that are not enforced even though they contain strict sanctions, will have insignificant implications for the effect of changes on people's behavior to have concern for keeping the environment free from waste. People still think that littering is a natural action and does not violate the law, so there are still people who throw garbage in the river or in public places.⁴³

Based on the results of the evaluation conducted by the Bali Provincial Tourism Office, there are a number of problems, the implementation of the Governor's regulation number 95 of 2018 has not been optimal, this is due to various problems, namely: There is no common perception in terms of authority, limited land for temporary management sites (TPS- 3R), limited human resources (HR), limited tools and technology, limited networks, and not optimal involvement of traditional villages.⁴⁴

3. Legal Solutions to be Implemented by the Government of the Republic of Indonesia and the Provincial Government of Bali in Developing the Concept of Sustainable Tourism.

Speaking of sustainable tourism, currently the Ministry of Tourism and Creative Economy / Tourism and Creative Economy Agency (Kemenparekraf / Baparekraf) is no longer focused on pursuing the number of tourist arrivals in Indonesia alone, but is more focused on encouraging *sustainable tourism* in Indonesia. *Sop Citustainable tourism* or sustainable tourism is the development of a tourism concept that can have a long-term impact. Whether it is environmental, social, cultural, and economic for the present and future for all local communities and visiting tourists. Sustainable tourism includes sustainable management, sustainable economy, sustainable culture and from an environmental aspect.⁴⁵ Sustainable tourism includes sustainable management, sustainable economy, sustainable culture and environmental aspects.

In this research, the object to be discussed focuses on sustainable tourism in environmental aspects. Talking about the environmental aspects of tourism, of course, cannot be separated from the problem of waste, which has always been a major problem in the management of tourism areas. The number of tourists who come certainly has an impact on increasing the amount of waste in the tourist attractions. As one example in the tourist area of Bali, one of the most visited tourist areas by foreign tourists and domestic tourists in Indonesia. The most popular area to visit in Bali is the coastal area. The threat of garbage in the coastal areas of Bali is real, because garbage on the beach apart from the large number of tourists who come, is

⁴¹ Loc Cit, Ni Ketut Sutrisnawati et al.

⁴² Sartika, R. E. Ayu. 2017. "Bali Declares 'Waste Emergency', What to Do?", <https://sains.kompas.com/read/2017/12/29/180100023/bali-deklarasikandarurat-sampah-apa-yang-harusdilakukan->

⁴³ Op Cit Ni Ketut Tresnawati

⁴⁴ Interview with Bali Provincial Tourism Office, October 10, 2023

⁴⁵ <https://kemenparekraf.go.id/ragam-pariwisata/Destinas-Wisata-Berbasis-Sustainable-Tourism-di-Indonesia>

Challenges in Implementing Sustainable Marine Tourism Policy Against the Threat of Waste in Coastal Areas

also obtained from marine debris stranded on the beaches of Bali. Much of this marine debris comes from the island of Java and is carried by sea currents to Bali.⁴⁶

The waste problem in coastal areas in Bali has been tried to be solved by the local government in various ways. On beaches managed by hotels, *beach clubs* or restaurants, the handling and management of waste is left to the respective managers of hotels, *beach clubs* and restaurants in the beach area. Meanwhile, for beaches outside the hotel, *beach club* or restaurant area, especially the beaches most visited by tourists in Bali such as Kuta Beach, Sanur Beach, and Seminyak Beach, a special unit is formed to clean up the garbage in the beach area under the management of the local indigenous community. Most of the beaches in the coastal areas of Bali, waste management is handed over to local indigenous communities under the supervision of the Bali Forestry and Environment Office and the Tourism Office.⁴⁷ As an area with very strong customary law, some community affairs are indeed submitted and adjusted to local customary law. Including in the handling and management of this waste, cleaning, management and recycling are carried out by the local indigenous community led by the customary leader. If there is a violation of waste, the action against the perpetrator is also carried out by the local customary community with its customary law called *Awig-awig*.⁴⁸

The provision of sanctions by indigenous people is one of the solutions in enforcing the discipline of waste handling and management in Bali. Sanctions are legal instruments to provide a deterrent effect on the perpetrators of improper waste disposal, waste disposal that does not comply with procedures and also unsustainable waste management. This can pressure the community and waste managers to be orderly in dealing with this waste problem. In addition to dealing with the problem of waste disposal, indigenous communities also focus on waste management. Management here becomes very important because the impact of waste is very influential on the environment, especially waste that is difficult to decompose such as plastic waste. Indigenous Balinese as waste managers in Bali's coastal areas, in addition to collecting waste to keep tourist sites clean, they also handle sustainable waste management. Where the collected waste is then processed into materials that can be reused such as fertilizer, for organic waste and for plastic waste processed into raw materials as raw materials for making some human needs and can also be used as crafts. Waste recycling is important in maximizing waste management and can be one of the solutions to the problem of increasing waste volume in Bali's tourist areas. This is important because the handling of the waste problem is not only the cleaning and collection of waste, but also the storage, because waste will continue to increase with the amount of human activity. Therefore, it is important to utilize the existing waste so that it can be utilized and not just piled up and abandoned, which in turn can pollute the environment.

Waste management and the application of sanctions can actually also be provided and implemented by the local government and the central government. Local governments can provide standardized provisions regarding integrated waste management for each region in their area and also include sanctions for violators of these provisions. Management can include waste clearance, collection and recycling. The imposition of sanctions can be given to actors who do not dispose of waste in its place, regions that do not implement integrated waste management and also to hotels and restaurants that do not carry out their waste management properly according to the provisions. The sanctions given can be in the form of administrative sanctions such as fines, closure of business licenses and even criminal sanctions. This can be done so that the handling of waste management both in Bali and in other regions can be maximized.

In addition, the Bali local government also often provides *rewards* for hotel managers who can demonstrate better waste management compared with management elsewhere.⁴⁹ This is one of the government's efforts to increase the awareness of hotel managers in handling waste in the hotel area. In addition to sanctions, the provision of *rewards* can also be a trigger for business actors to be able to implement waste management provisions from the government more optimally. By giving these *rewards*, business actors such as hotels or restaurants can get a good name that can be an attraction for consumers. This can be beneficial for business actors and also as a form of environmental maintenance efforts from the government.

In addition to the solutions that have been exposed above, it should be further understood that handling waste is not an easy thing because the problem of waste is directly related to environmental pollution. Environmental pollution is one of the main focuses of sustainable tourism from an environmental aspect. The increasing volume of waste needs to be balanced not only with proper management, but also by reducing the number of improper waste disposal. Meanwhile, the behavior of people

⁴⁶ Interview with Bali Forestry and Environment Agency, October 11, 2023

⁴⁷ Interview with Bali Forestry and Environment Agency, October 11, 2023

⁴⁸ Interview with Bali Forestry and Environment Agency, October 11, 2023

⁴⁹ Interview with Bali Forestry and Environment Agency, October 11, 2023

Challenges in Implementing Sustainable Marine Tourism Policy Against the Threat of Waste in Coastal Areas

who throw garbage out of place is directly related to the culture and habits of the community itself. So it can be said that talking about waste cannot be separated from the culture and habits of the community. If we talk about the culture and habits of the people, especially in this case the Indonesian people, it will be difficult to handle this waste because changing the culture and habits of people who have been deeply rooted is not easy. Culture and habits are closely related to the resources of the people, so it can be said that if we want to change the culture and habits of a particular society, we must first improve its human resources. Indonesia with a population of more than 200 million people has its own challenges in this change effort. However, this is not impossible to do considering the spirit of cultural and habitual change is one of the efforts to improve Indonesia's environmental sustainability. The culture and good habits that are planned to be spread to all Indonesian people need the support of the government, both central and local governments, with all the regulations that can be used as a reference as well as assistance in its implementation. The good doctrine that has been prepared can be instilled in the younger generation through educational institutions. This can be effective because the doctrine will be more easily absorbed, digested and implemented as the child grows up. When these values are instilled from an early age, then this is expected to become a new habit for the community and can continue to be realized from generation to generation so that what is the initial goal can be achieved.

Solutions that must be carried out by the government to develop the concept of sustainable tourism in waste management are waste management carried out by indigenous peoples in each region including the application of sanctions according to customary law, each hotel and restaurant manages its own waste, the government provides *rewards* for hotels that meet waste management standards, and changes the culture and habits of Indonesian people starting as early as possible to orderly dispose of waste in its place.

IV. CONCLUSION

1. Bali Province's sustainable tourism policy is regulated and applied into written laws and local wisdom. At the level of local government administrative policy, the strategic plan for sustainable marine tourism development is included in the Bali Province Regional Tourism Development Master Plan 2015-2029 as a guideline for Bali tourism policy. The Bali government has also issued a Governor's regulation concerning Regional Policies and Strategies in the Management of Household Waste and Waste Similar to Household Waste, Governor's Regulation number 97 of 2018 concerning Regulations on Limiting the Generation of Disposable Plastic Waste, and Bali Governor's Regulation number 47 of 2019 concerning Source-Based Waste Management as a response to the threat of tourism object waste pollution. Besides written law, the Bali Provincial Government also applies local wisdom manifested in Customary Law called Awig-Awig.
2. Although it has a number of legal instruments that are quite complete, the enforcement still finds a number of obstacles, including the enforcement of sanctions that are not firm enough by policy makers at the city / district government level, the lack of synergy and cooperation agreements between provincial governments in dealing with marine debris, the lack of public awareness of the importance of waste management and the lack of involvement of indigenous peoples.
3. In order to realize the realization of sustainable marine tourism development policies, the Bali Provincial Government should be able to include the role of indigenous peoples and the enforcement of customary legal sanctions and give appreciation to the perpetrators of marine tourism businesses that have a waste management system for the remaining results of their business properly and environmentally friendly.

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