

STUDY OF THE POTENTIAL OF KUTA MANDALIKA BEACH GEOCHOLOGY IN CENTRAL LOMBOK DISTRICT

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ABSTRACT

This study aimed to analyze the geo ecological potential of the coast in Central Lombok Regency. The research method used a survey method by determining the sample by purposive sampling. The analysis unit used was a geo ecological unit that was assessed for the potential and constraints of each to develop certain tourism activities. Assessment of potential used a SWOT analysis (strength, weakness, opportunity, and threat) to determine the development of coastal areas as opportunities for surrounding communities and sustainable maintenance of resources. The development of tourist areas was able to contribute to local revenues, open business opportunities and employment opportunities and at the same time function to maintain and preserve natural and biological wealth. Classification of geo ecological units in the central Lombok coast were: (1) coastal alluvial geo economic units, (2) valley geo ecological units between hills, and (3) geo ecological units of the slopes of the denudation hills.

Keywords: Geo Ecological Potential, Kuta Beach

INTRODUCTION

Indonesia is an archipelago with an entire coastline of 80,791 km. This very long coastline creates sectorial problems in the development and utilization of coastal areas (Hermon, 2010; Hermon, 2017). This is due to the lack of thought for the development of coastal areas holistically. Development of a coastal area holistically will be more beneficial if you use an approach that can bring together influential environmental factors in the coastal area (Hermon, 2012; Hermon, 2015; Hermon, 2017). These factors include the biosphere, troposphere, atmosphere, pedosphere, and hydrosphere. One approach that can integrate these environmental factors is the geo ecological approach.

Coastal areas in central Lombok are included in the MCMA (Marine Coastal Management Area) which has the potential to be developed as a tourist area. One area that is already well known is Kuta Mandalika, this tourism development will have a very broad and significant impact on economic development, efforts to preserve natural resources and the environment and will have an impact on the socio-cultural life of the community (Oktorie, 2017; Oktorie, 2018), especially local communities. The development of tourist areas is able to contribute to local revenues, open business opportunities and employment opportunities and at the same time function to maintain and preserve natural and biological wealth. It is hoped that the development of tourism can have a good influence on the lives of the community, especially the local community and be able to encourage the development of sharing other sectors both economic (Kristian and Oktorie, 2018; Hermon, 2019), social and cultural (Hermon, 2009; Hermon, 2011; Hermon, 2012; Hermon, 2014). Thus, tourism development must be based on sustainability criteria which means that development can be supported ecologically in the long term while being economically feasible, ethically and socially fair to the community. That is, sustainable development is an effort to develop quality of life by regulating the supply, development, utilization and maintenance of resources in a sustainable manner (Hermon, 2016; Hermon *et al.*, 2017; Hermon *et al.*, 2018; Hermon *et al.*, 2019). The number of people who work as traders have hopes that all the merchandise and services they offer to tourists can be satisfying and later tourists will come back again to enjoy the merchandise and services they offer.

METHOD

This research was conducted in the Kuta beach area of central Lombok, West Nusa Tenggara Province. The coastal area in this Regency covers four sub-districts namely Sayung District, Karangtengah District, Bonang District, and Wedung District. The material used in this study was *peta rupa bumi* Indonesia, a scale of 1: 25,000. This RBI map was used as a reference to determine administrative limits, making it easier to make observations. The tools used in this study were computer equipment, GPS (Global Positioning System), stationery and coastal integrated handbook that are useful in conducting research. The research method used in this study was the survey method.

Methods of collecting data by sampling, and the method of analysis qualitatively. The population in this study was all coastal communities and the entire coastal area of the Mandalika beach. The sampling technique was random sampling method. The technique of collecting data with secondary data analysis and field observations, and analysis of the results descriptively.

RESULTS AND DISCUSSION

The area of central Lombok was located at position 80241- 80571 LS and 1160051-1160241 BT with an area of 1,208.39 km² (Tourism Statistics of Central Lombok Regency, 2013). Praya City as the regency capital with a height of 100 to 200 meters above sea level. The geographical conditions of central Lombok were quite varied, consisting of hills whose area was included in the area of Mount Rinjani, which was located in the middle of Lombok Island. Then the low land which was the center of agricultural activities which lies in the middle, stretches from north to south. While the coastline stretches from Torok beach, Aiq Beleq, Praya Barat Daya Subdistrict, Selong Belanak beach, West Praya District, to Bilelando Village, East Praya District. The coastal area of central Lombok was included in the development area of the Mandalika Kuta Beach Area. The development area of Kuta Mandalika Beach was in the South and North of Senggigi Beach.

Hugget (1995); Hermon, 2012; Hermon (2014); Hermon (2016), geo ecology is a study of the structure and function of ecosystems. Geo ecology system is an ecological unity system consisting of landscape components and processes in it (Hermon, 2001). Geo ecological approaches emphasize natural landscapes and landscapes that have been affected by human activities (Oktorie, 2017; Oktorie, 2018; Hermon, 2016; Hermon *et al.*, 2018). Geo ecology studies could be used to identify landscape potential and risks. Climate in the research area, central Lombok regency has D climate and E climate, namely tropical rain with dry season, i.e: from November to May, while Rainfall ranges from 2,500 mm per year. The average temperature throughout the year ranges from 24.7-26.8 C. From the geological aspect, the material in this area was dominated by volcanic material. The material in the form of pyroclastic consisted of tuff, volcanic

breccia, and beach sand. The main source of the material was Rinjani Volcano. Especially for coastal sand deposits that are white, the material comes from the results of coral wreckage. This white sand deposit mixed with black sand originating from the Rinjani volcano and deposited to form its own rustic.

The water system in the study area was influenced by 3 watersheds (DAS), namely the White Watershed in the North, the Jongkok Watershed in the middle, and the Dodokan Watershed in the South. Flow fluctuations in the rivers were quite large, for example on the Dodokan River, the flow rate in the rainy season reaches 113.63 m³/sec, but in the dry season only 0.68 m³/sec. This showed that the river catchment areas of the rivers were less able to store water. Springs can be found on hillsides and are found most in the Squat watershed. Springs discharge varies between 75 - 400 l/s. Groundwater found has a depth of between 0.8 m and 7.8 m. This groundwater was mostly used by residents, restaurants, and hotels that are often found in the area.

Oceanographic characteristics of the coastal areas of Central Lombok were influenced by several factors, namely wind, the process that takes place on the beach. Wind speeds ranging from 0.2 - 3.3 m/s, are included in the gentle category to very weak. The direction of the blow varies, namely north to southeast. The wave height was relatively not too high, which is 0.1 m - 1.5 m, with a wave period of 2.8 - 5.0 seconds.

The dominant vegetation in this area was coconut. The spread of coconut plants was very wide, starting from the hills. Other types of vegetation include bamboo, bananas, jackfruit, grass, mangroves. The land in the study area consisted of gray regosol, alluvial, gromusol dark gray complex, gray gromusol, brown forest soil and chocolate mediterranean complex. The mediterranean brown complex was a land that develops in humid and slightly humid climates and is most commonly found in this area. The soil texture was clay and its parent material consists of lime so that its permeability was slow. Hydromorphic alluvial was found in the alluvial plains and inundated bering.

Geo ecological analysis required data on abiotic, biotic, and cultural factors. Abiotic components include geology (rock), soil, climate, topography, hydrology (water), and oceanology. The data was adjusted to the landscape in the study area. Kuta Mandalika Beach has three main landscapes, namely volcanic, maritime, and fluvial

landscapes. The abiotic component data was then processed to limit landform units. The landform unit was a spatial unit that will be used in the analysis geo ecology.

The existing landforms were generally the result of volcanic processes, with variations in the formation process in the form of marine processes, fluvial processes, and denudational processes. The marine process produced the formation of rustic and alluvial plains of the coast. The fluvial process produces alluvial plains. The denudational process produces valleys between hills, hills and hills, and denudational hills. The steepness of the hillside averages >30% and the process of erosion and landslides takes place intensively. The deposition process produces a land where the area is relatively narrow, because the foothills generally meet directly with the coastline. In the physical area, the erosion process has occurred in many places, even though it is still within safe limits. At the foot of the hill facing the coastline, landslides have also been found. This process was generally found on cliffs that were trimmed for road poaching.

CONCLUSION

Kuta Mandalika area was a tourism development center in Central Lombok. The development of Kuta Mandalika would also have an impact on other tourism objects around it. For this reason, the management of coastal areas in Central Lombok needed to pay attention to the diversity of potential and developing tourism activities. Management includes aspects of monitoring and control, infrastructure development, and environmental safety.

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