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Development of Mount Masigit area with geopark concept

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Abstract. Mount Masigit area is a special interest-based nature tourist attraction that began to be developed into one of the tourist destination in West Bandung Regency. The tourist attractions are developed from karst landscape, both natural and mined, mountainous natural wealth, cool air, and green plants. The research problem to increase the attractiveness of the Mount Masigit Area requires an effort in the form of development by applying the concept of geopark which is a branch of ecotourism. This concept will later create geopark and ecotourism components that do not yet exist in the area and add alternative tourism activities. The research objective is to find out the natural potential to support special interest tourism activities for extreme activities. The research method uses a qualitative approach using descriptive analysis. The results of this study are used for the development of Mount Masigit Tourism Area with the concept of geopark in the form of an area master plan with a focus on development located in the Indiana Camp Area covering ± 9.2 Ha.

1. Introduction

In West Bandung Regency, precisely in Cipatat Subdistrict, which is famous for limestone and marble mining in karst landscape, there is a tourism zone known as The Mount Masigit Area. Mount Masigit Area is divided into 3 tourist destination points, namely Stone Garden, Indiana Camp, and Masigit Cliff. Stone Garden is a stretch of land with irregular rock formations that form natural parks. The rocks located in The Stone Garden are rocks that have existed from ancient times, about 30 million years ago. While Masigit Cliff is a cliff that was previously a limestone mining site. Meanwhile, Indiana Camp is a limestone quarry area that began to be developed into a tourist attraction. However, this area has not been well developed. The Mount Masigit Area has not yet been through a specific planning, so that the existing tourism facilities in the region have not been well organized. The aim of the research is to know the potential of nature to support special interest tourism and extreme activities.

2. Theoretical Basis

The main theory used in this paper is the theory of tourism zoning by Gunn (1972), states that a tourist protection area should be laid out and designed with attention to three main elements (Tripartite Model of Attraction Design), core zone, buffer zone and utilization zone. The core zone is the main component of a tourist attraction. The buffer zone is a zone around the core zone which separates the core zone from the utilization zone. While the utilization zone is a zone that is intended for service in tourism attraction. According to the United Nations of Educational, Scientific, and Cultural Organization (1992), Geopark is an area with clearly defined boundaries and has a large enough surface area for local economic



development. The basic concept of geopark is divided into 3, which is conservation, economic development, and community development. There are also 3 main pillars of geopark development which is, geodiversity, cultural diversity, and biodiversity.

3. Method and Materials

The research was conducted using qualitative and quantitative approaches. Where this study focuses on the description of paradigm, strategies qualitatively, and quantitative numerical data. Data collection uses field observation techniques, interviews, and photographs and questionnaires. The data was processed using carrying capacity analysis to determine the condition of the surrounding environment to support the development in the area. Analysis of location and site is use to determine the existing conditions of the study object. Analysis of ecotourism components and geopark use to find out what components already exist and what components must be addressed or added. Analysis of similar study objects, to find out the characteristics of similar tourism objects. Analysis of space requirements is use to find out what spaces are needed in the area and market analysis is use to find out how the market for tourism is.

4. Result and Discussion

Mount Masigit Area is located in Gunungmasigit Village, Cipatat Subdistrict, West Bandung Regency where the Gunung Masigit Tourism Area has 3 tourist destination points namely Stone Garden, Indiana Camp, and Masigit Cliff. This area has an area of ± 25 Ha with ± 14 Ha is the Stone Garden Area, and 9.2 Ha is the Indiana Camp Area and 1.9 is the Masigit Cliff Area. The average number of visitors to this region is 176 visitors per day. The Stone Garden area is owned by West Bandung Regency Government. Meanwhile, the Indiana Camp owned by individual and Masigit Cliffs are owned by Gunungmasigit Village.

Previously The Indiana Camp, which was a limestone mine, had been closed since 2004 because the management rights could not be extended. Because of that many mine workers lost their jobs. But since it was Stone Garden is commercialized, the owner of Indiana Camp, has the initiative to open a tourist area. Later, the focus of the development is in the Indiana Camp Area because it is an individual property that located in the utilization zone area, and has begun to be developed.

Road in Mount Masigit is directly connected to Raja Mandala Road which is the main road that connected Jakarta with Bandung. In terms of accessibility, the location of Mount Masigit Area is good enough. Environmental conditions around the site are dominated by hills, some of which are beautiful and some are mined, residential areas, and also granite and limestone factories. Based on the existing conditions, Mount Masigit Area already has several facilities that have been built both permanent and semi-permanent buildings that are used to meet the needs of visitors.

SWOT analysis is used to find out the strengths, weaknesses, opportunities, and treats in the Mount Masigit Area. This analysis describes the usefulness of utilizing existing strengths, opportunities and avoiding threats.

Table 1. SWOT of Mount Masigit Area

	<i>Strength (S)</i>	<i>Weakness (W)</i>
	<ul style="list-style-type: none"> ●The location is less than 1 Km from the main arterial road. ●There is high cliffs in this area. ●Beautiful Panorama. 	<ul style="list-style-type: none"> ●Electricity and clean water networks are still limited in some area. ●Extreme contour. ●Limited parking lot.
<i>Opportunity (O)</i>	<i>S – O</i>	<i>W – O</i>
<ul style="list-style-type: none"> ●Indonesia does not have extreme tourism 	<ul style="list-style-type: none"> ●Utilizing the high cliffs in the area. 	<ul style="list-style-type: none"> ●Developing vacant land for parking.

attraction with Geopark Concept. ●No hostelry nearby.	●Makes lodging that features a beautiful panorama. ●Develop the area according to development division.	●Ensure that in the developed area there are electricity and water networks. ●Provide sheltered areas (such as hut)
Threats (T) ●The emergence of similar tourism in West Bandung Regency especially in Cipatat area.	S – T ●Providing value added and unique selling points.	W – T ●Highlight extreme land contours as one of the unique selling points

In terms of Geopark pillar, The Mount Masigit Area has fulfilled all three pillars. Geodiversity which is marked by the presence of stalactites and stalagmites and ancient rock clusters in the area of Stone Garden. For biodiversity, there are 54 endemic medicinal plants in this region. While for the cultural diversity, it has been found *petilasan* which is an ancestral footprint of Gunungmasigit society.

There are three similar objects taken based on three main things that exist in the Mount Masigit Region, which is the area of extreme rock climbing activities with similar study objects in Badega Gunung Parang, former mines with similar study objects in Bukit Jaddih Madura, and geopark in Geopark Ciletuh Main Area. Based on the comparison, Badega Gunung Parang has the most similarities existing concepts and conditions with the Mount Masigit Area, so that the percentage of land use in Mount Masigit Area will be more inclined towards Badega Gunung Parang. The following is the calculation of the area needed when viewed in terms of the average number of visitors every day from the similar study objects and Mount Masigit Area:

Table 2. Space Needs Based on Average Number of Visitors

Location	Average Number of Visitor	Percentage	Area (m2)			
			Lodge	Parking Lot	Restaurant	Activities Area
Bukit Jaddih Madura	150	40%	2,516	3,101	3,019	19,625
Badega Gunung Parang	120	80%	508	1,534	56	101,875
Geopark Ciletuh	270	70%	13,425	6,651	1,342	658,826
Forecast	167		3,064	1,525	311	150,515
		Percentage of Mount Masigit Area				
TOTAL		250,173	1.2%	0.6%	0.1%	60.2%

Based on the area calculation of space requirements and the average number of visitors from similar study objects, 1.2% of the total land area of the study object has land functions as lodging, 0.6% is parking, 0.1% is restaurant, and 60.2% is spot activity, while the remaining 42.7% is vacant land for conservation.

Based on tourism market research, market in Mount Masigit Area is a niche market. Which means it have a narrow but specific market so that the market analysis focuses more directly on the visitors of Mount Masigit Area. Based on 83 respondents who representate of all visitors, it was found that the existing condition of the activity site was still in good condition. However, this area also needs to add other activities and facilities. Whereas for facilities such as toilets, signage and food stalls / places to eat, repairs are needed. There are also several new facilities and activities that need to be held. New

facilities and activities that will be held are hanging hotel inns, glam camp inns, restaurants, museums, other extreme activities, and souvenir centers.

Table 3. Product Development in Mount Masigit Area

Recreation Activities	Hostelry	Facilities
Museum	Hanging Lodge	Restaurant
Panjat tebing Via Ferrata	Glam Camp	Gathering Lodge
Flying Fox		Restroom
Horse Riding		Parking Lot
Selfie Deck		Management
		Office + Clinic
Glass Bridge		Souvenir Shop
		Photo Booth

In the following is the placement of activity area based on the slope and contour which has been divided into zones. The division of zone can help in the distribution of development stages within the area.



Figure 1. Development Zone Distribution Map

The development area can be divided into 5 zones divided by the stages of development. The small cliff zone (a) has an area of 18,972 m², waiting for this zone will be supplemented with inventory of parking lots, gathering saunas and glass bridges. Large cliff zone (b) has an area of 10,246 m², in this zone will be used as a hotel location for hanging, rock climbing route via ferrata and horizontal flying fox. The cut and fill zone (c) has an area of 26,446 m², in this zone will be used as a glam camp area. Commercial zone (d) has an area of 18.405 m² in this zone which will later be built, museums, photo printing booths, restaurants, clinics, and management offices. Horse riding zona (e) has an area of 17,434 m², later this zone will be revamped and the surrounding land will be planted with various medicinal plants with the concept of mini botanical garden.

These zones are also determined based on the function groups that are aligned with the slope and contour of the land in the Mount Masigit Area. The following is a master plan map from Mount Masigit Area:

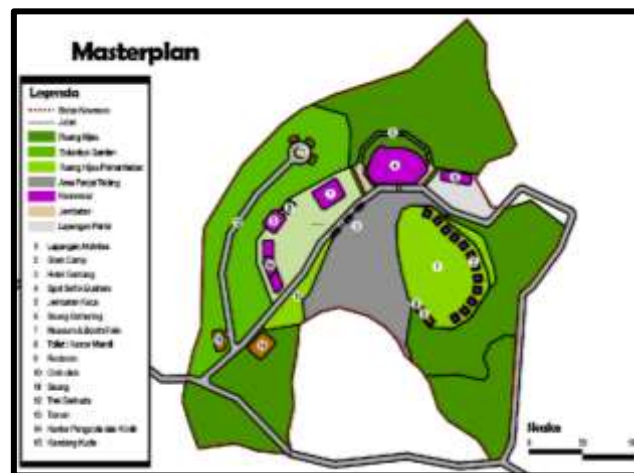


Figure 2. Master Plan of Development Area in Mount Masigit

5. Conclusion

Based on the results that have been carried out on the development in Mount Masigit Area with geopark concept, it can be concluded that:

- From the results of environmental carrying capacity, it was found that Mount Masigit Area was quite contoured with quite high rainfall and had an underground river flow.
- Location and site analysis shows that the location of the Mount Masigit Area is quite strategic and easy to reach.
- From the results of benchmarking, there are several aspects that can be replicated and applied in the Mount Masigit Area, such as the vehicle flow from Bukit Jaddih Madura, the type of lodging from Badega Gunung Parang, and views on the concept of geopark from the Ciletuh Geopark. Badega Gunung Parang is the most similar study object with The Mount Masigit Area.
- Based on stakeholder perception analysis, it was found that there would be some facilities that needed to be added such as toilets and parking lots. There are also new activities and facilities that need to be held in this area such as lodging, other extreme activities, restaurants, gift shops, museums and gathering places.

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