Landscape Potential Analysis for Ecotourism Destination in the Resort II Salak Mountain, Halimun-Salak National Park

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Abstract. The Resort II Salak Mountain has variety of landscape potential for created as ecotourism destination, especially the potential of the waterfall (curug) and sulphur crater (Kawah Ratu). The aim of this study was to identify and analyze the potential resources of the landscape to be created as ecotourism destination, Resort II Salak Mountain. This research was conducted through two phases: 1) identification of the attractions location that have potential resources for ecotourism destination, and 2) analysis of the level of potential resource of the landscape in each location using Analysis of Tourist Attraction Operational Destination (ATAOD). The study showed Resort II Salak Mountain has many ecotourism objects which have been used for ecotourism activities, such as hot spring baths, Curug Cigamea, Curug Ngumpet, Curug Seribu, Curug Pangeran, Curug Muara, Curug Cihurang, Kawah Ratu, camping ground, Curug Kondang and Curug Alami. The location of all waterfalls –curug, spread widely in the core zone for ecotourism. In the other hand, camping ground is located in the business zone, while Kawah Ratu is located in the natural forest, which is included in the buffer zone of Halimun-Salak National Park (HSNP). The result showed that the ecotourism objects with the highest potential value are Kawah Ratu, Curug Seribu, Curug Muara, Curug Kondang and Curug Ngumpet.

Keywords: potential of ecotourism destination, The Resort II Salak Mountain, Halimun-Salak National Park (HSNP), Analysis of Tourist Attraction Operational Destination (ATAOD)

1. Introduction

Tourism is one sector of development that can be utilized as one of the main of economic activities of a country [1] [2]. Tourism activities that performed in the national park area must be based ecotourism [3] [4], for stabilizing the ecology sustainability. Ecotourism is essentially a form of tourism that is responsible for the preservation of the area’s natural, economic benefits, maintain the cultural integrity of local communities [5] [6] [7] [8], and give a new experience for the visitors [9].

The development of tourism activities in the region will influence and encourage the development of other sectors, particularly in terms of expanding employment, business opportunities, and poverty alleviation [10] [11]. Ecotourism is important to do because the industry is moving in non-extractive and non-consumptive [3] [12], based on environmental sustainability [13] [14], while still providing economic benefits to the local community [15] [16].
The resort II Salak Mountain, Halimun Salak National Park (HSNP) is an area of natural environment which have some potential of Nature Attractions (NA). The presence of some of these objects can give a new experience to the tourist. HNSP has unspoiled ecosystem representation and has undergone degradation, modification and or assisted, has unique natural attractions, rare, and beautiful as well as landscape and natural potential that can be used as Tourist Attraction Destination (TAD). Unfortunately, in the resort area, not all the potential landscape can be identified and analyzed to be developed as an ecotourism destination.

Based on this background, the study conducted landscape analysis of resource potential for ecotourism in the Resort II Salak Mountain. The aim of this study was to identify and analyze the potential resources of the landscape to be created as ecotourism destination, Resort II Salak Mountain.

2. Methodology

The research location was in Resort II Salak Mountain, HSNP, Bogor, Indonesia. This research was conducted in October 2015 until January 2016. The study was conducted by descriptive method. Collecting data in this study conducted by field observation and crosschecking/exploration that used to collect data related to the identification of the potential and the initial condition of the resort area. Two steps of analysis performed are mapping using Geographic Information System (GIS) [17] [18] and assessment of tourism potential using Analysis of Tourist Attraction Operational Destination (ATAOD) instrument [19].

2.1. Research Variables

The obtained data were then processed based on the criteria that have been determined to obtain guidelines for the analysis of tourist attraction operational destination. ATAOD : after the entire The TAD in Resort II Salak Mountain was identified, the potential measurements was done with measurements of variables that can be seen in table 1.

| TAD Potential   | Research Variables |
|-----------------|--------------------|
| Natural Phenomena | Scarcity           |
| Green Open Space | Beauty             |
| Flora           | Sensitivity        |
| Fauna           | Seasonality        |
| Culture         | Accessibility      |

2.2. Method of Data Collecting

The mapping data obtained through digitization, scanning and conversion of Landsat TM imagery. It intended to form the basis of spatial data that processed by the GIS. To determine the distribution of objects of ecotourism was done through several steps: 1) determination of the research area; 2) identification of the location; 3) inventory of biophysical data location; 5) interpretation of the data; and 6) mapping the distribution of objects of ecotourism.

The population in assessing ATAOD were the government, tourism entrepreneurs and community leaders who came from a village in the Resort II Salak Mountain. Respondents who took by purposive sampling method were some key persons that was considered to know and fully understand any potential that exists in. Respondents were then given instrument ATAOD to be filled and assessed the potential of each TAD in the region.

2.3. Method of Data Analysis

In the assessment process, it should be understood that the character can be data assessment quantitative and qualitative data. In this study, the assessment process was to structure a value that is easy and commonly used, the scoring system. This scoring system was using a Likert Scale that moves from 1 to 5. The scoring average range results can be seen in table 2.
3. Result

3.1. General Condition
The region was located at: longitude 106° 36'30" - 106° 45'55" E and latitude 6° 31'00" - 6° 47'15" N. Total area is 760.36 ha. This research administrative area was in Pamijahan district that passed by three major rivers, namely Cikuluwung River tipped in Kawah Ratu, Cigamea River tipped from the buffer area of the foot of Salak Mountain, and Ciapus River.

3.2. Ecotourism Attractions Destination in Resort II Salak Mountain, HSNP
In the Resort II Salak Mountain spread some attractions which was still running. These objects were 1) Hot Spring Bath (pemandian air panas), 2) Curug Cigamea, 3) Curug Ngumpet, 4) Curug Seribu, 5) Curug Pangeran, 6) Curug Muara, 7) Curug Cihurang, 8) Kawah Ratu, 9) camping ground, 10) Curug Kondang and 11) Curug Alami. The distribution of these attractions can be seen in figure 1.

![Figure 1: Location of Tourist Attractions Destination in research location](image)

To reach the area there were several possible access can be developed. Assessing from the way of the status paths to reach this location is divided into three groups, namely: Jakarta-Parung-Semplak-Ciampea is the Provincial Road. Ciampea-Cibungbulang-Pamijahan is the District Road. Cibungbulang-Pamijahan-Central of The District is the Sub District of the Village Road (figure 2). The distance to the location of attractions can be seen in table 3 and table 4.

### Table 2. Scoring Average Range

| Score     | Interpretation Value of Attractions |
|-----------|-------------------------------------|
| 4.21 – 5.00 | Very High                           |
| 3.41 – 4.20 | High                               |
| 2.61 – 3.40 | Moderate                            |
| 1.81 – 2.60 | Low                                |
| 1.00 – 1.80 | Very Low                            |

### Table 3. The Mileage to HSNP Region

| No. | The Path   | The Mileage |
|-----|------------|-------------|
| 1.  | Via cikampak-HSNP | 4 km + 6.2 km |
| 2.  | Via cibatok-HSNP  | 4 km + 7.3 km |
### Table 4. The Meliage from The Gate to The Ecotourism Objects

| No. | Name of The Ecotourism Objects | The Distance from The Gate | The Size of The Ecotourism Objects (ha) |
|-----|--------------------------------|----------------------------|----------------------------------------|
| 1.  | Hot Spring Baths               | 404 meter                  | 0.719918                               |
| 2.  | Curug Cigamea                   | 410 meter                  | 0.442131                               |
| 3.  | Curug Kondang                   | 243 meter                  | 0.033039                               |
| 4.  | Curug Alami                     | 218 meter                  | 0.010225                               |
| 5.  | Curug Pangeran                  | 256 meter                  | 0.041065                               |
| 6.  | Curug Ngumpet                   | 69 meter                   | 0.021013                               |
| 7.  | Curug Cihurang                  | 185 meter                  | 0.100413                               |
| 8.  | Curug Muara                     | 867 meter                  | 0.121262                               |
| 9.  | Curug Seribu                    | 1294 meter                 | 0.083196                               |
| 10. | Camping Ground                  | 75 meter                   | 0.167236                               |
| 11. | Kawah Ratu                      | 3776 meter                 | 8.374262                               |

### Figure 2. Accessibility and Class of Road to The Resort II Salak Mountain

#### 3.3. The Potential Value of Ecotourism Attractions in the Resort II Salak Mountain

The obtained data were then processed based on the criteria that have been determined to obtain guidance of tourism analysis. The analysis of the potential of tourist attraction used to mapped the internal forces that have in some attraction in order to become a visitor attraction. In this analysis, all attractions in Resort II Salak Mountain researched every potential category.

**3.3.1. Natural Phenomena Potential Value**

From the analysis of the potential can be seen that Kawah Ratu and Curug Kondang has potential natural phenomena assessment scores, were the highest than other tourist attractions that exist in the Resort II Salak Mountain. As for his scores can be interpreted high (4:00 and 4:41). As for the details, the assessment of potential value can be seen in figure 3.

**3.3.2. Green Open Space (GOP) Potential Value**

From the green open spaces function analysis, Kawah Ratu, Curug Seribu, and Curug Muara got the highest ratings, with a score (5:29, very good). As for details, the assessment of potential value shown in figure 4.
3.3.3. Flora Potential Value
The highest potential value of flora in Kawah Ratu, Curug Seribu, and Curug Muara with a score of 4.00 (good). The green open space condition that has a composition of shape, colour, and the pristine of green open space, unspoiled, and the process dynamics of green open space which highly integrated with the natural potential of the waterfall (curug). Thus creating an overall landscape beautiful and reconcile (figure 5).

3.3.4. Fauna Potential Value
The Resort II Salak Mountain has potential variety of fauna. Based on analysis of potential fauna in this region, the potential value of this fauna, Curug Cigamea get the highest score (a score of 3:29, is quite high), followed premises Curug Ngumpet, Curug Kondang, and Camping Ground (a score of 2.71, high enough) (figure 6).

Figure 3. Natural Phenomena Potential Value Analysis
Source: data processed, 2016

Figure 4. Green Open Space Potential Value Analysis
Source: data processed, 2016

Figure 5. Flora Potential Value Analysis
Source: data processed, 2016
3.3.4. Attractiveness Analysis of Potential Ecotourism Destination Attractiveness in Resort II Salak Mountain

The results of the attractiveness analysis potential of ecotourism indicated the priority of TAD that has the highest potential were Kawah Ratu, Curug Seribu, Curug Muara, Curug Kondang and Curug Ngumpet (figure 7). These TAD have some potential attractiveness to be the area of ecotourism development because of its physical characteristics were still easy to planning and design based on carrying capacity. In addition the number of tourists who visit are not too many (mass tourism) as well as and the merchant only were in very small amounts (minimizing conflicts of relocation).

3.3.5. Culture

Around Resort II Salak Mountain has cultural tourism potential (material and immaterial heritage). A wealth of heritage material in the form of art studios are including studio art sculptures, wayang golek, jaipongan dance, pencak silat, degung, marawis degungan and others, if explored in the past. For immaterial heritage was rather hard to identify because of the lack of documentation related to.

4. Conclusion

The Resort II Salak Mountain has the landscape resources that have the potential for development of ecotourism, such as Hot Springs Baths, Curug Cigamea, Curug Ngumpet, Curug Seribu, Curug Pangeran, Curug Muara, Curug Cihurang, Kawah Ratu, Campgrounds, Curug Kondang, and Curug
Alami. TAD which has the highest potential are Kawah Ratu, Curug Seribu, Curug Muara, Curug Kondang and Curug Ngumpet. Curug Ngumpet was a shortest distance from the gate.

The five potential TAD to be the area of ecotourism development. They have some physical characteristics were still easy to planning and design based on the carrying capacity, the number of tourists who visit are not too many (mass tourism) as well as the merchant only slightly (minimizing conflicts of relocation).

References

[1] Gössling S 2000 Sustainable tourism development in developing countries: Some aspects of energy use J. Sustain. Tour. vol 8 eds 5 pp 410-425.
[2] Mitchell R E and Reid D G 2001 Community integration: Island tourism in Peru A. Tour. Research vol 28 eds 1 pp 113-139.
[3] Goodwin H 1996 In pursuit of ecotourism Biodiversity & Conservation vol 5 eds 3 pp 277-291.
[4] Schevyens R 1999 Ecotourism and the empowerment of local communities Tour. Management vol 20 eds 2 pp 245-249.
[5] Ceballos-Lascurain H 1991 Tourism, Ecotourism, and Protected Areas Parks. J Sustain. Tour. vol 2 pp 31-35.
[6] Carter E and Lowman G 1994 Ecotourism: A Sustainable Option (New York : John Willey & Sons).
[7] Honey M 1999 Ecotourism and Sustainable Development: How Owns Paradise (Washington DC: Island Press).
[8] Bjork P. 2000 Ecotourism From a Conceptual Prespective, an Extended Definition of Unique Tourism Form Intl. J. Tour Research vol 2 pp 189-202.
[9] Gunn C A 1994 Tourism Planning Basics, Concepts, Cases. Third Edition (London : Taylor & Francis Ltd).
[10] Lordkipanidze M, Brezet H and Backman M 2005 The entrepreneurship factor in sustainable tourism development J. Cleaner Product. vol 13 eds 8 pp 787-798.
[11] Chok S, Macbeth J and Warren C 2007 Tourism as a tool for poverty alleviation: A critical analysis of ‘pro-poor tourism’ and implications for sustainability Current issues in Tour. Vol 10 eds 2-3 pp 144-165.
[12] Sirakaya E, Sasidharan V and Sönmez S 1999 Redefining ecotourism: The need for a supply-side view. J. Travel Research vol 38 eds 2 pp 168-172.
[13] Kiss A 2004 Is community-based ecotourism a good use of biodiversity conservation funds?. Trends in ecology and evolution vol 19 eds 5 pp 232-237.
[14] Valentine P S 1993 Ecotourism and nature conservation: A definition with some recent developments in Micronesia Tour. Management vol 14 eds 2 pp 107-115.
[15] Ross S and Wall G 1999 Ecotourism: towards congruence between theory and practice. Tour. Management vol 20 eds 1 pp 123-132.
[16] Wunder S 2000 Ecotourism and economic incentives—an empirical approach. Ecologic. econom. vol 32 eds 3 pp 465-479.
[17] Dawod G M 2013 Suitability Analysis for Tourism Infrastructures Utilizing Multi-Criteria GIS: A Case Study in Al-Hada City, Saudi Arabia. Intl. J. Geo and Geosciences. vol 4 eds 2 pp 313-324.
[18] Akten M 2013 Possibility to Employ AHP as a Multi-Criteria Decision Making Method in Landscape Planning Initiatives P 87-104. In M Özyavuz (ed). Advances in Landscape Architecture. (Croatia: InTech Publ).
[19] [Ditjen PHKA] Direktorat Jenderal Perlindungan Hutan dan Konservasi Alam 2003 Analisis Daerah Operasi Obyek dan Daya Tariik Wisata Alam. (ADO-DTWA) (Jakarta: Departemen Kehutanan).