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DEVELOPMENT AND MANAGEMENT OF LANDSCAPE DESIGN THE PASIRBATANG CAMPGROUND CIREMAI MOUNTAIN NATIONAL PARK

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ABSTRACT

The development of tourism in Indonesia continue to increase. Accordingto Cooperet al., 1999, the twentieth century has made good growth of sustainable tourism as an activity and an industry. Pasir batang campground is one of Cermai Mountain National Park of tourism potentials. Pasirbatang campground located within protected areas such as national parks, its management must be in harmony with conservation objectives. This research was to design development and to plan landscape management in Pasirbatang campground. The planning methods used are based on Gold, 1980 which includes 6 stages: preparation, inventory, analysis, synthesis, planning and design. The analytical tool used by the GIS approach. The results found that in Pasirbatang campground has13 (thirteen) objects which are: Liang Maung, Ancient Fern (Alsophila contaminans Wall), Persimmon (Diospyros kakii), Kalindra (Caliandra sp.), Coffee, Tenjo waduk, Pasirbatang Hill, Campground, Sech Marmagati tomb, Ki Jangkung tomb, Munjul Jeruk, Legok Imah, and Koncangan prohibition forest.Allocating area on the site plan has be grouped into three (3) groups of areawhich are : intensive, semi-intensive and extensive area.Nature tourism activity like active and passive tourism can be done by visitors in these area. Eco-campground is the basic concept of the Pasirbatang campground that is environmentally friendly and natural shades. The circulation pathway on the site is divided into two types which are :the campground track (primary circulation) and the interpretation track / trakking (secondary circulation). The structuring vegetation is divided into 2 (two) functions area which are :vegetation conservation and vegetationnon-conservation area.

***Keywords*:**GIS, Ecotourism, Campground, ODTW

1. Introduction

The development of tourism in Indonesia continue to increase from time to time. According to Cooperet al., 1999, the twentieth century has made good growth of sustainable tourism as an activity and an industry.In harmony with WTTC 1996, estimates that in the mid-1990s, tourism became an industry in the world. Tourism, both directly and indirectly generates and supports 204 million jobs, which is equivalent to more than 10% of the world's workforce and is expected to increase to more than 11% of the global workforce in the early years of the next millennium. Based on data from UNWTO 2012, the condition of world tourism development has now exceeded previous years, in mid-2012 the number of international tourist arrivals in the world has reached 704 million tourists, and has increased 5% from 2011. The middle period of the previous year in 2011, the number of international tourists reached 671 million tourists, an increase of 29 million tourists from 2010 in the same period which amounted to 642 million tourists.

Pasirbatang campgrounds located in the Karangsari village, Darma district, Kuningan regency and the region Ciremai Mountain National Park is a natural tourist spot, it became functional in November 2017. Pasirbatang campground has a natural beauty that varied with the atmosphere a typical mountain and managed by Karangsari tourism farmer group (Kompepar). Until now, there has not been many aspects of management and development that have been carried out in Pasirbatang campground. As an effort manage, develop and ensure the sustainability of Pasirbatang campground, both from the ecological, economic, and social aspects, synergic planning is needed. One form of planning to improve the attractiveness of Pasirbatang campground is to design landscape development and management.

2. Method

The method used is a systematic method of planning proposed by Gold, 1980 which includes 6 stages: preparation, inventory, analysis, synthesis, planning and design. Data was analyzed using GIS approach

3. Results and Discussion

3.1. Regional Potential

3.1.1. Location and Area

Pasirbatang campground is administratively included in the Karangsari village, Dharma district of Kuningan regency. Management is located in the Karangsari block, the management area of the Ciremai Mountain National Park.

Pasirbatang campground effective area is of ± 3 Ha. Effective area is an area that is actually used in the field and has been managed as a campground. In this study, in addition to the effective area, extensive planning also used, the areal footprint landscape planning limit of ± 90 Ha.

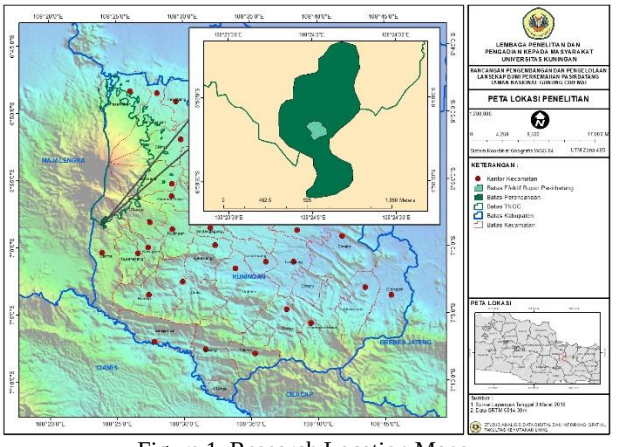

Figure 1. Research Location Maps

3.1.2. The Road and River Networks

On the planning site there are road networks with district road status and the former logging roads (ex perhutani). The current district road conditions is relatively good with rock pavement, while the former logging roads in conditions need improvement. Meanwhile, the river network that stretches the planning footprint is a seasonal river, meaning that water flows only during the rainy season. During the dry season is not irrigated.

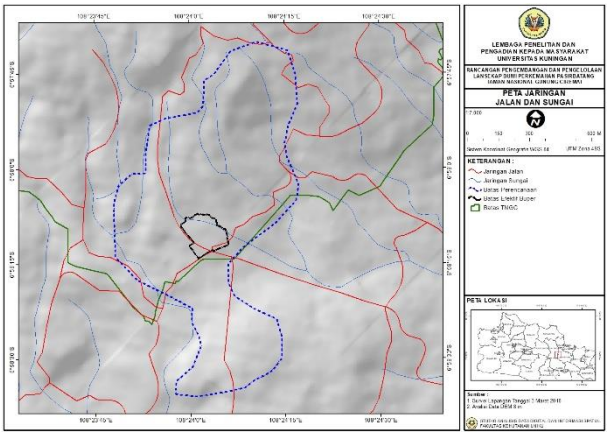

Figure 2. The Road and River Network Maps

3.1.3. Elevation and Slop Grade

Based on geographic information systems analysis and field survey data, the study site located at elevation 1104 -1264 masl. Meanwhile the slope grade or slope of research sites are respectively a rather steep slope class, which is an area of 40.20 ha (44.50%); steep 25.65 ha (28.39%); landau 17.86 ha (19.77%); flat 4.44 ha (4.92%); and very steep 2.19 ha (2.42%).

3.1.4. Type of Soil

Soil types that dominates the research sites is a type of associated soil with ash / sand parent material and intermediate volcanic tuff covering an area of 81.76ha (90.51%). Meanwhile, the other types are Latosol C with intermediate volcanic tuff parent material covering 8.58 ha (9.49%).

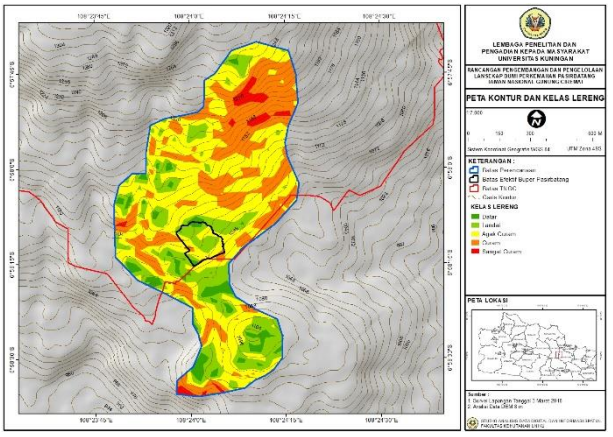

Figure 3. Elevation and Contour Maps

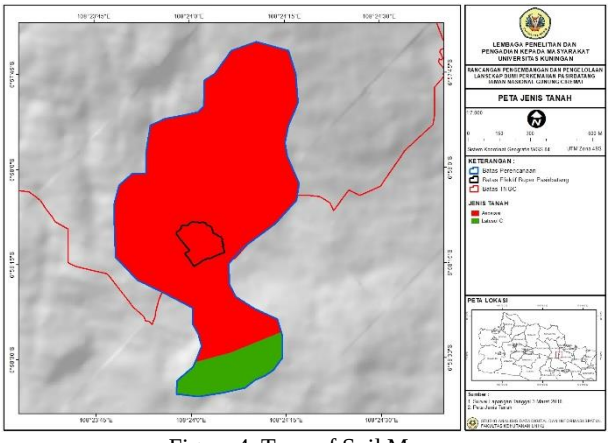

Figure 4. Type of Soil Maps

3.1.5. Climate and Comfort

As a tropical region in general, the research location is included in the tropical climate category with high rainfall (2500 - 3000 mm/yr). This causes high humidity, so that from the aspect of air temperature and geography, the study site includes convenient location.

3.1.6. Biodiversity Potential

Based on its management history, Pasirbatang campground initially a production forest managed by Perum Perhutani KPH Kuningan, a pine enterprise. Currently based on TNGC spatial plan, Pasirbatang campground is included in the utilization zone. So that in terms of flora diversity is not sufficiently diverse and is dominated by species of pine (Pinus merkusii). Overall, only 12 types of vegetation were found in the trees habitus in Pasirbatang campground (Table 1).

Table 1. Local Native Vegetation Types in the Pasirbatang Campground Area

No.	Nama Lokal	Nama Botani
1.	Aren, kawung	*Arengga pinata*
2.	Huru Pingku	*Dysoxylum gaudichaudianum*
3.	Beunying	*Ficus fistulosa*
4.	Kihampelas	*Ficus pisiphera*
5.	Kondang	*Ficus variegate*
6.	Mara	*Macaranga rhicinoides*
7.	Cempaka	*Magnolia candolei*
8.	Jengkol	*Pithecolobium lobatum*
9.	Fern	*Alsophila contaminans Wall.*
10.	Red Caliandra	*Caliandra callothyrsus*
11.	White Caliandra	*Caliandra zapoteca*
12.	Persimmon	*Diospyros kakii*

3.1.7. Historical and Curtural Potential

Pasirbatang campground and vicinity saving quite interesting historical and cultural potential. The History and culture contained in Pasirbatang campground is legend of Lutung Kasarung in Pasirbatang hill, the tomb of Sech Marmagati, Islamic disseminator figures and the Batu Lingga prehistoric heritage sites. Specifically the Batu Lingga site is a prehistoric heritage site with a prehistoric heritage center located in the Archaeological Park Cipari, Cigugur district, Kuningan regency.

3.1.8. Landscape Potential

Pasirbatang campground offers a natural atmosphere typical of the mountains with altitude of more than 1,000 masl. In addition to camping activities under a beautiful pine trees and fog enveloped the mountain, Pasirbatang campground also offers natural landscapes with interesting views. Other activities that can be done at the site of Ecotourism Pasirbatang include agrotourism, hiking, cycling, and historical tourism. Meand while the facilities available at the Pasirbatang campground is a prayer room, toilets, lighting, games facilities, photo spots, and others. Fore at this location flying fox facility will be built for 1 km from Pasirbatang hill area to the camping ground area.

3.2. Campgroud Facilities

Campgrounds Pasirbatang is currently equipped with several facilities, including 2 view tower units, 3 gazebo units, 2 toilet units, 1 ticketing unit, 1 prayer room unit and 1 information center unit

Information center

Prayer room

Gazebo

Gazebo

View Tower

Ticketing

3.3. Ecotourism Object and Fascination

Table 2. Ecotourism Object, Fascination and Development of Activities

No	Ecotourism Object	Description	Development Activities
A.	**Biodiversity Fascination**		
1.	Liang Maung	The hole resembles a cave located under a large rock. Historically it is a place or nest of maung (Tiger)	Trekking and education
2.	Ancient Fern (Alsophilacon taminans Wall)	Species of native plants with a certain uniqueness	Trekking and education
3.	Persimmon (Diospyros kakii)	Forest fruit species	Trekking and education
4.	Caliandra (Caliandra sp.)	Kind of pioneer plants	Trekking and education
5.	Coffee	Type plants are often cultivated by the community	Tracking and education
B.	**Landscape Fascination**		
6.	Tenjo Waduk	Spot with a view of the Darma reservoir	Trekking, education, and panorama
7.	Pasirbatang Hill	Spot the view of the city and Darma reservoir and the legend of LutungKasarung	Tracking, education, and panorama
8.	Campground	The camping site	Trekking, education, and camping
C.	**Historical and CurturalFascination**		
9.	SechMarmagaga ti Tomb	Tomb of Islamic spreaders and close relation to the legend of LutungKasarung	Trekking and historical education
10.	Ki Jangkung Tomb	SechMarmagati pupils tomb	Trekking and historical education
11.	Munjul Jeruk	SechMarmagati pupils tomb	Trekking and historical education
12.	Legok Imah	The former location of the DITII village	Trekking and historical education
13.	Koncangan	Prohibition forest	Trekking and historical education

3.4. Allocation of Area Utilization

Based on the resource, objects and the power of the tourist tricks, the allocation of space on the site plan can be grouped into 3 (three) groups of space which are : intensive, semi-intensive and extensive space. Nature tourism activity like active and passive tourism can be done by visitors in these spaces. To support the visitors activities there are several facilities thats can be maintained and some need improvement. Besides that, in this area is necessary to add some tourist facilities and services to support activities.

Intensive area is devoted for active tourism activities like large groups camping, playgrounds, facilities of an excellent service, and others. Semi-intensive area allocated for active and passive tourism activities such as small groups camping, photo hunting, and others. Meanwhile, an extensive area is designated for passive tourism activities, such as research and hiking.

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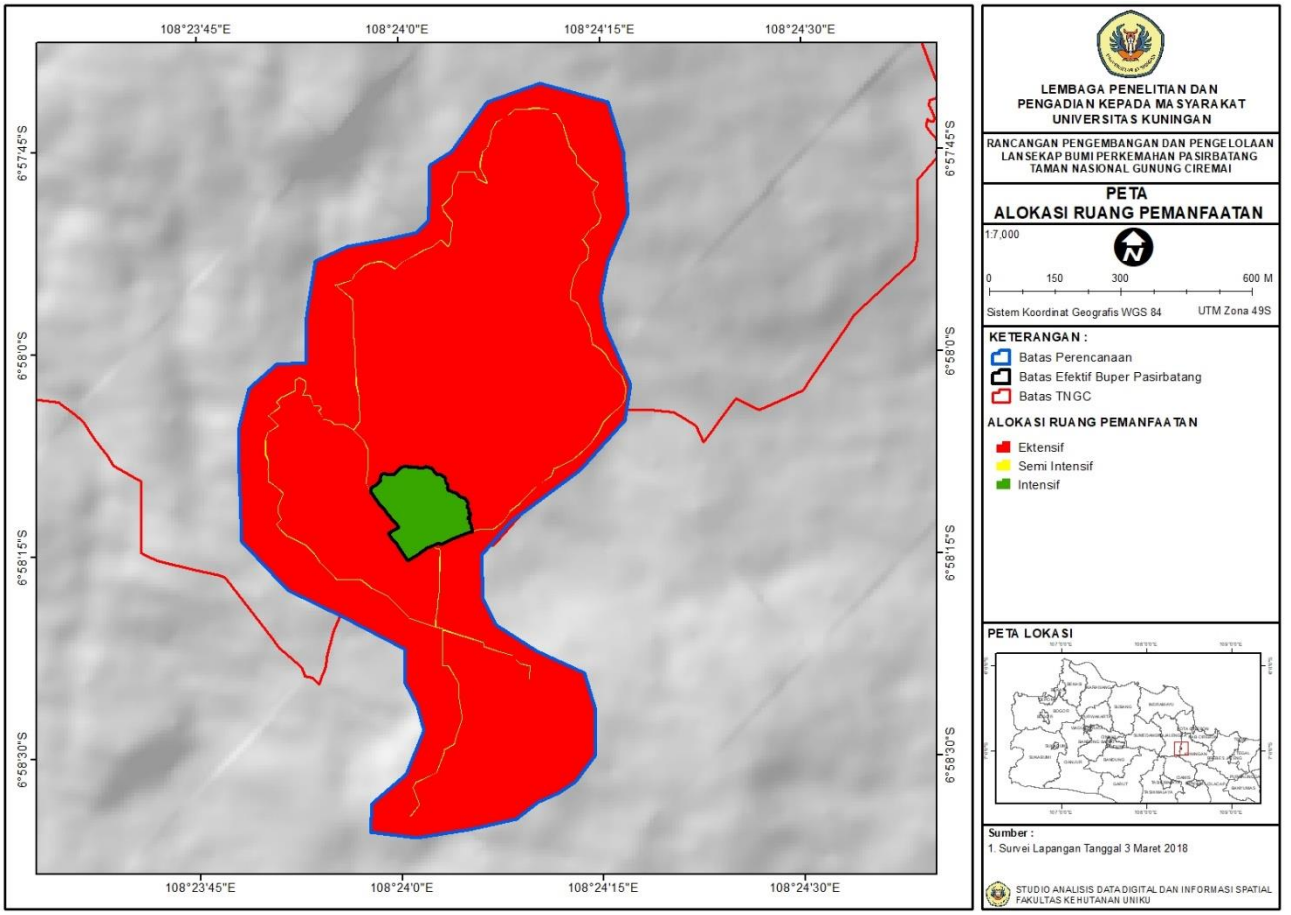

Figure 5. Utilization Space Allocation Maps

Activity Program and Tourist Fasilities

Table 3. Allocation of Space, Utilization, Types of Activities and Facilities Planned

Space Allocation	Space Utilization	Activity	Fasilities	Standard
Intensive space	Active tourism	• Camping • Picnic • Play	• Campsite unit • Field • Dexterity area	• 10(m^2/person)[1] • 10(m^2/person)[1] • 10(m^2/person)[1]
	Service	• Food and drink • Tools rental • Information and tickets • Worship • Parking • Circulation	• Food stalls • Kiosk rental • Information center • Player room • Parking area • Toilet • Primary road[3] • Secondary road[4] • Green layout	• 1.5(m^2/person)[1] • 2(m^2/person) • 60(m^2/bus)[2] • 10(m^2/car)[2]

Space Allocation	Space Utilization	Activity	Fasilities	Standard
Semi Intensive space	Active tourism	• Small group camping • Wildlife observation	• Small campsite unit • Shelter	• 10(m^2/person)[1]
	Passive tourism	• Photo Hunting	• View Tower	
Extensive space	Conservation	• Soil, wildlife, vegetation and water protection	• Forest	
	Limited tourism	• Research • Hiking	• Track[5]	

Information :
1. Harris and Dines (1988); 2. Bell (1977); 3. Has a length of 2.8 km; 4. Has a length of 0.5 km 5. Use a primary road of 2.3 km

3.5. Planning concepts

3.5.1. Basic Concepts Planning

The basic concept of the Pasirbatang campground is eco-camping ground, that is environmentally friendly and natural shades. To achieve this, a campground planning based on natural resources was made. Existing activities and facilities must be able to accommodate the needs of visitors and can be a means of nature conservation education. Planning concepts campground is divided into several concepts, these are the spatial concepts, circulation concepts, vegetation concepts and facility concepts.

3.5.2. Spatial Concepts

Based on tourism objects and appeal, area concept on the site was developed into 3 (three), which is the intensive, semi-intensive and extensive area.

- Intensive area. In this space activities carried out such as active tours such as camping, picnics and play. Here there is a center for campground management activities such as visitor reception, information center and others. This space is located in the center of the site with an area of ± 3.05 ha.
- Semi-intensive area. Activities carried out were passive-active tours such as small group camping, wildlife observation, photo hunting and vegetation observation. Campground management are not found in this area. This area is located between intensive and non-intensive with an area of ± 0.96 ha. It is a transition from the intensive area to the non-intensive area.
- Extensive area. It is a conservation area and is used as a buffer zone or protector area, so in this area there are only limited tourism activities. The activities that can be carried out in this area include passive tourism such as wildlife observation, photo hunting and vegetations observation. It is located around the campground with an area of ± 86.20 ha.

3.5.3. Circulation Concepts

The circulation pathway on the site is divided into two types, which are: the campground track (primary circulation) and the interpretation track / trekking (secondary circulation) (Figure 6).The campground track is the path used by visitors in the site to pass through areas within the site. The interpretation track is a specific path used to visit ecotourism objects around the campsite.

3.5.4. Vegetation Concepts

The structuring vegetation is divided into 2 (two) functions area which are: vegetation conservation and vegetation non-conservation area. In areas with conservation functions, forests will be developed with endemic trees and some trees planted for the benefit of soil, water and wildlife conservation. Planted species is to increase the diversity of vegetation types. Utilization of tourism activities in this area is by providing an interpretation tracks. This activity is complemented by various means of interpretation such as brochures and maps about the kinds of unique and rare vegetation, as well as specific points on the site of which has its own panoramic beauty and the track to observe the vegetation and wildlife.

The structuring of vegetation in area with non-conservation function, serves as a visual barrier, firewood providers, windbreaks and barriers with other campsite units. The selected plants are species of trees and shrubs that meet the criteria for the above functions. Planting patterns are clustered. At the large groups campsite nonew trees were planted, pre-existing conditions will be retained. It's just to give campsite block boundaries, it is necessary to give limiting plants from a type of shrub.

3.5.5. Facility Concepts

Facilities provided in the campground are basic facilities needed to support life activities campers such as tent areas, toilets and showers and supporting facilities for camping activities such as campfire areas, multipurpose buildings, playground, a communal kitchens, a circulation tracks and prayer room. Besides that, other tourist alternatives are also available that utilize existing natural resources, such as view towers, shelters and picnic areas.

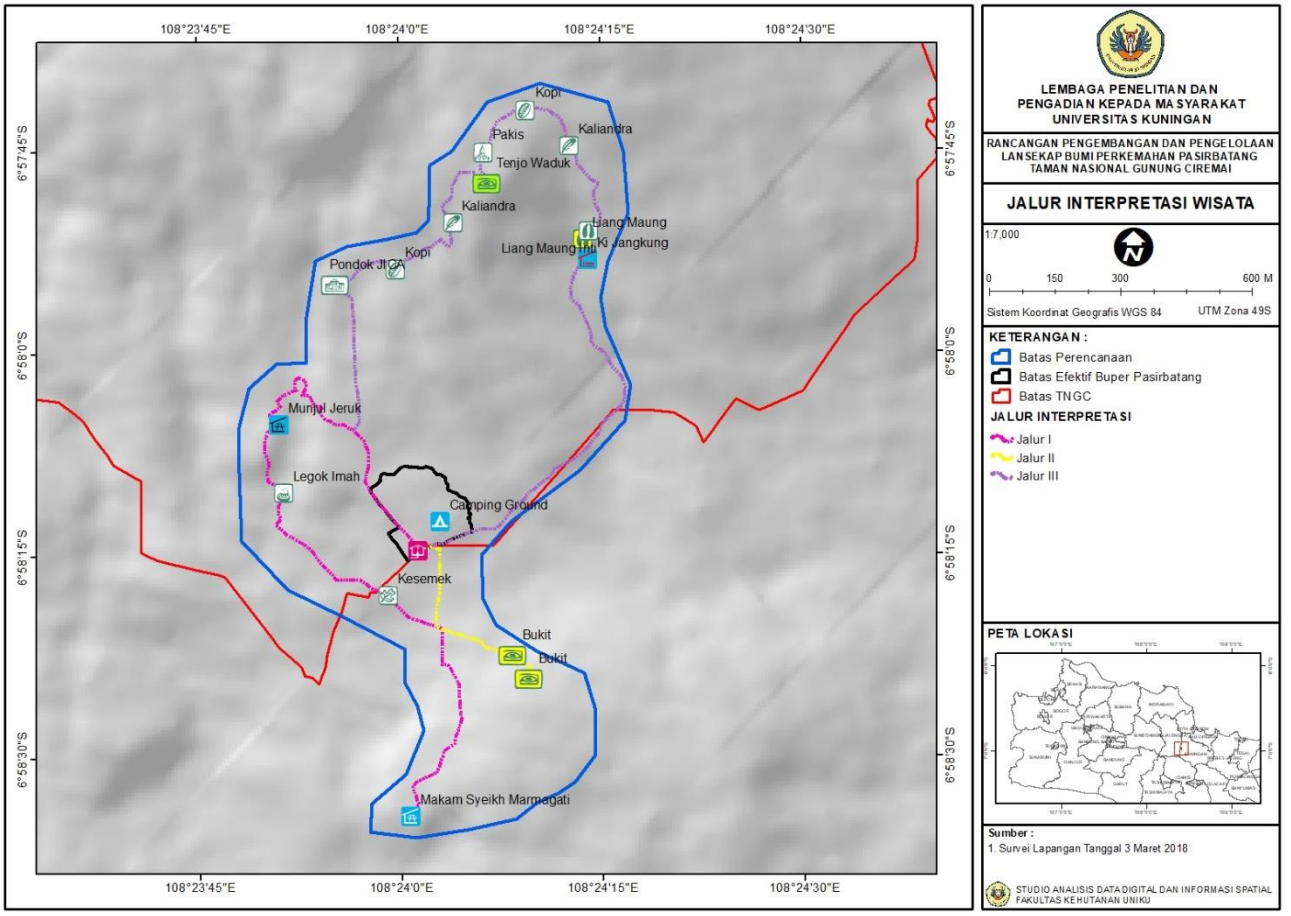

Figure 6. Interpretation Pathway Maps

4. Conclucion

The Pasirbatang campground has 13 (thirteen) objects which are : Liang Maung, Ancient Fern (Alsophila contaminans Wall), Persimmon (Diospyros kakii), Kalindra (Caliandra sp.), Coffee, Tenjo waduk, Pasirbatang Hill, Campground, Sech Marmagati tomb, Ki Jangkung tomb, Munjul Jeruk, Legok Imah, and Koncangan prohibition forest.

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