

EDUTOURISM LANDSCAPE PLANNING IN SUKAMULYA VILLAGE, BOGOR DISTRICT

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ABSTRACT

Sukamulya village is located in Sukamakmur district, Bogor regency. This village is also included in the plan to develop and repair the Puncak Dua line carried out by the Bogor district government. Sukamulya village has a rural landscape with main activities such as agriculture, plantations, and agroforestry.

Coffee is one of the primary commodities that is quite potential since the development of coffee plantations in this area. In addition, Sukamulya village's landscape consists of hills with good views and a relatively large river, namely the Cipamingkis river. The site's location is in an area with fertile soil conditions but has a potential risk of moderate-category landslides. This area also needs better access and needs facilities to support tourist activities. This also makes this area lag behind compared to the area traversed by the Puncak Utama route. This article discussed the landscape planning process of Sukamulya Village, which has the potential to be developed as an educational tourism destination in order to compete with other tourist attractions in the Puncak area. The method used in this research is descriptive and scoring with SWOT Analysis. The stages of the landscape planning process are carried out, starting with inventory activities, data analysis, synthesis, and producing a block plan. The analysis results show that efforts are needed to increase the potential of local resources, such as conducting environmental conservation. Landscape planning of Sukamulya Village as educational tourism produces three zoning divisions: the intensive zone, semi-intensive zone, and extensive zone. Further studies are needed on the variety of forms of tourism activities that have educational value in Sukamulya village in order to be able to compete with other tourist attractions in the region and be sustainable.

Keywords: conservation, development, edutourism, landscape, local resources.

INTRODUCTION

Bogor District is one of the districts located in West Java Province. Its proximity to Jakarta, diverse geographical conditions, and abundant natural resources have made Bogor District one of the districts with the highest gross regional domestic product in West Java. One of the leading sectors in Bogor District is tourism. Bogor District's diverse landscape is the basis for developing this sector. Sukamakmur is one of the subdistricts in Bogor District. This subdistrict, which was expanded from Jonggol District, is located on the southeast side of Bogor District, bordering the leading tourist destination of Bogor District, Puncak Area, and Cianjur District. Based on the Bogor District Spatial Plan 2016-2036, the designation of Sukamakmur Subdistrict is an area for main activities in the form of agriculture, plantations and annual crops, livestock, fisheries, and also mining. This area is also designated for natural and cultural tourism activities. The Bogor District Government has planned the construction and repair of the Puncak Dua route to equalize development in the Bogor District area, especially in the eastern districts, such as the Babakan Madang, Sukamakmur, and Tanjungsari Districts.

Sukamakmur has several tourist attractions, incredibly natural attractions such as Curug Cibeureum, Curug Kembar, Situ Rawagede, Curug Cibaliung, Curug Ciharang, Gunung Batu, and Villa Khayangan. The Sukamakmur Subdistrict area is generally a hilly area characterized by a rural landscape with the main activities in agriculture, plantations, and agroforestry (Fajri & Kurnia, 2022). Furthermore, Fajri and Kurnia (2022) found that the Sukamakmur area has good bird diversity. This shows that the condition of the natural landscape in Sukamakmur is quite good because birds are bio-indicators of the environment. The more diverse the number of birds in a place, the better the quality of the environment. In their report, Yeni and Nining (2020) stated that Sukamakmur also has the potential for coffee-based creative economy development since this area has the potential to develop coffee plantations.

Sukamulya is one of the villages in Sukamakmur Subdistrict. This village has the potential to be developed as one of the tourist attractions in Sukamakmur. Its physical, biophysical, and social conditions have the potential to be developed for tourism activities. This research aims to do landscape planning with the concept of edutourism. Edutourism is a tourist activity that has two purposes in practice: recreation or travel and learning (Safitri, 2019). The concept of edutourism is made to provide education to visitors, improve the local economy, and strengthen and preserve the character of the Sukamakmur landscape as an agricultural activity-based area in Bogor District.

RESEARCH METHODS

Time and Location

This research was conducted in Sukamulya Village, Sukamakmur Subdistrict, Bogor District, West Java Province, with a site area of 16.6 hectares (Figure 1). The implementation of this research began in September 2020 and continued until February 2021.

Data Collection

The method used in this research is descriptive and scoring using SWOT analysis. Primary and secondary data were collected through field surveys and literature studies. Field survey activities were carried out to obtain primary data on physical, biophysical, and social aspects. Secondary data was collected through a literature study to obtain spatial information from Sukamulya Village. Field survey activities were carried out to obtain primary data on physical, biophysical, and social aspects by directly assessing and documenting the aspects studied by exploring the potential of edutourism landscape resources. This process is carried out through several stages: data collection, analysis and synthesis, and planning. These stages refer to the modified planning process, according to Gold (1980). Primary and secondary data related to Sukamulya Village were collected and analyzed to be used as variables in the SWOT analysis. The results of the assessment are made into Internal Factor Evaluation (IFE) and External Factor Evaluation (EFE). This IFE and EFE will be used to determine the planning strategy that will be carried out on the site through coordinate calculations. The calculation of coordinates with IFE and EFE scores uses the following formula:

$$\text{IFE coordinate} = (\text{Strength Total Score} - \text{Weakness Total Score})$$

$$\text{EFE coordinate} = (\text{Opportunity Total Score} - \text{Threat Total Score})$$

Function analysis is the next stage of planning. This analysis determines the function of the space that will be realized in the site planning activities. At the synthesis stage, the site was divided into several zones. The site, divided into several zones, becomes a block plan as a reference for tourism development. Figure 2 shows the flow of the planning stages.

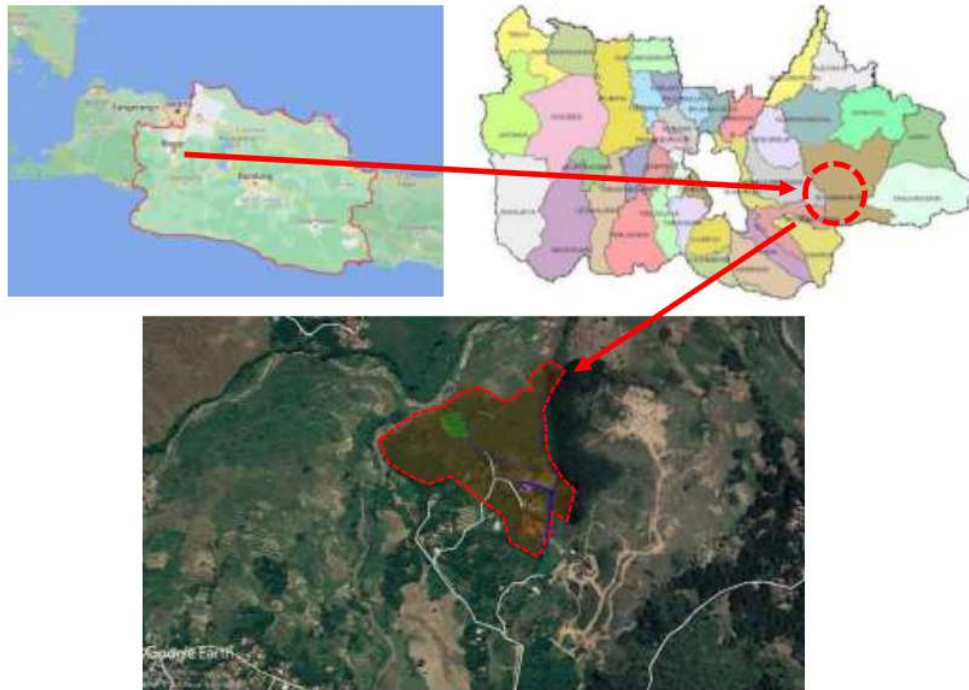


Figure 1. Map of the research location
(Source: Google Earth, 2020)

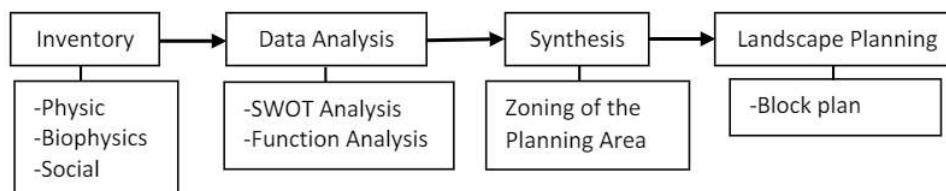


Figure 2. Flow of the Planning Stages

RESULTS AND DISCUSSION

Inventory and Identification

Sukamulya Village is one of the villages in the Sukamakmur Subdistrict. Geographically, the coordinates of Sukamulya Village are 6o34'13.2 "S and 107o00'16.8 "E. The area has high rainfall and still has an adequate green cover. The village is located at an altitude of 450 to 1.000 meters above sea level with landforms that are flat to undulating, rolling, and hilly to mountainous. Figure 3 shows the physical condition of Sukamulya Village. Generally, the soil structure consists of regosol and latosol, classified as fertile soil types. Bogor District is classified as a wet climate region of Indonesia with year-round rainfall. Based on data from BPS Bogor District (2022), Sukamakmur Subdistrict has very high rainfall, averaging 249 mm per year.

According to Djaenudin (2009), this condition makes the soil quite fertile but has the potential for landslides due to its location, which is generally on highlands. Dewi et al. (2021) research explains that the Sukamakmur is a subdistrict with a moderate to high risk of landslides, so caution is needed in planning the area. The hilly area on the south side of Sukamulya Village is classified as a high landslide risk. The area to be planned in this study is located on the north side close to the Cipamingkis River, classified as a medium landslide risk.



Figure 3. Physical condition of Sukamulya Village: (a) Cipamingkis Watershed, (b)(c) green open space, and (d) local home garden (Source: Indah Ulfia Utami, 2020)

On the planned site, there is an area with natural scenery that leads directly to the Cipamingkis River that can be developed. The natural landscape is the primary visual treat as a form of supporting natural sustainability and in line with the primary condition of the area. Based on the survey results, the site still needs facilities and infrastructure to support tourism activities. Sukamakmur residents are primarily farmers since this area is planned as an agricultural, plantation, and forestry area characterized by its low residential density rural landscape (BAPPEDA Kabupaten Bogor, 2016). Tropical plants dominate vegetation in Sukamulya Village on Java Island, such as bananas, coconuts, eucalyptus, cloves, mahogany, and rice (Figure 4). The soil conditions in Sukamulya Village are classified as fertile, so the economic-social life is very close to agricultural and plantation activities.

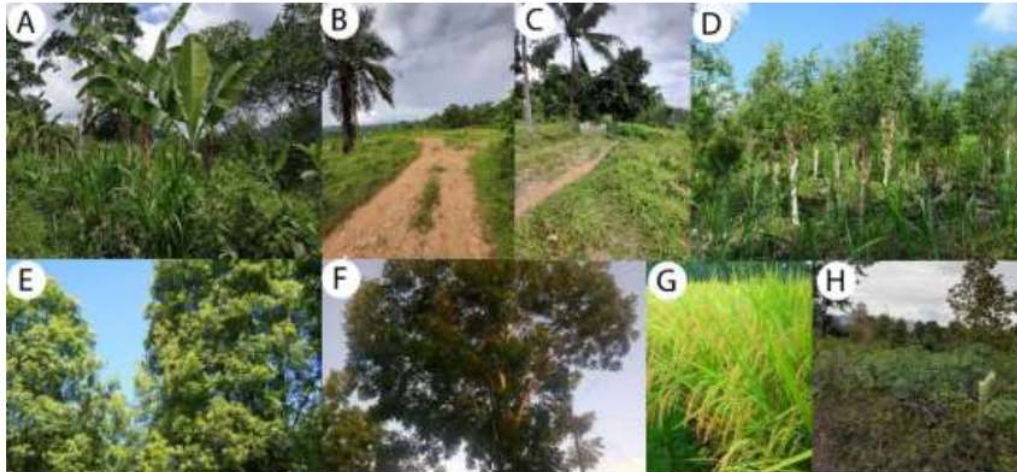


Figure 4. Existing vegetation in Sukamulya Village (a) banana (*Musa sp.*); (b) aren (*Arenga pinnata*); (c) coconut (*Cocos nucifera*); (d) eucalyptus (*Melalueca leucadendron*); (e) clove (*Eugenia aromatica*); (f) mahogany (*Swietenia macrophylla*), (g) rice (*Oryza sativa*), (h) cassava (*Manihot utilissima*).

(Source: Indah Ulfia Utami, 2020)

SWOT Analysis

SWOT analysis is a method used to evaluate the strengths, weaknesses, opportunities, and threats involved in a plan or a project (Gurel, 2017). Table 1 shows the results of the formulation of Sukamulya Village's internal and external strategic factors based on its physical, biophysical, and social conditions. Each category is given a rating of how intense the category is (Table 2). Furthermore, multiply the rating by the weight to find out the total score of each category (Table 3). The IFE Total Score is obtained from the total IFE Strength score minus the total IFE Weakness score, which is 2.0691. While the EFE total score is obtained from the EFE Opportunity total score minus the EFE Threat total score, which is 0.20691. The SWOT analysis results are in quadrant 1, namely development (expansion) (Figure 5). The site has significant strengths and opportunities to be developed. The planning to be done is to utilize existing opportunities and strengths optimally. We recommend that the process of calculating this data analysis be presented as a formula.

Table 1 Results of the formulation of the strategic factors internal

Symbol	Description
S1	The area is large enough for tourism activities.
S2	Has natural scenery and interesting visuals.
S3	Has potential local commodities
S4	Varied topography.

S5	Regosol and andosol soils support agricultural activities
S6	Close to other attractions.
S7	Has local culture.
S8	Relatively good accessibility.
S9	Located on the Bogor District tourist route.
S10	The eastern part of Bogor District has started to become a natural tourist destination.
W1	The slope of the site is very steep.
W2	There are no tourist facilities on the site.
W3	There is no public transportation to get to the site.
W4	There is no arrangement of tourist spaces on the site.
O1	Included in the ecotourism area based on the West Java Provincial Tourism Master Plan 2015-2025.
O2	The existence of national programs related to tourism development.
O3	The West Java Provincial Government fully supports the tourism industry.
T1	The surrounding river can overflow when rain arrives.
T2	River currents are dangerous during the rainy season.
T3	Has the potential for landslides.

Note: (S) = strength; (W) = weakness; (O) = opportunity; (T) = threat

Table 2 Rating of each category in SWOT

S	W	O	T
1. Slightly strong	1. Slightly weak	1. Slightly opportunity	1. Slightly threat
2. Strong	2. Weak	2. Opportunity	2. Threat
3. Moderately strong	3. Moderately weak	3. Moderately opportunity	3. Moderately threat
4. Very strong	4. Very weak	4. Very opportunity	4. Very threat

Table 3 Score of each category in SWOT

Symbol	Level of Significance	Rate	Score	Total Score
S1	Very strong	4	0.0882	0.3528
S2	Very strong	4	0.0854	0.3416
S3	Very strong	4	0.0826	0.3304
S4	Strong	3	0.0744	0.2232
S5	Strong	3	0.0689	0.2067
S6	Very strong	2	0.0771	0.1542
S7	Very strong	2	0.0744	0.1488
S8	Very strong	2	0.0771	0.1542
S9	Strong	3	0.0799	0.2397
S10	Strong	3	0.0744	0.2232
Total Score of IFE Strength				2.3748
W1	Slightly weak	1	0.0634	0.0634

W2	Moderately weak	2	0.0468	0.0936
W3	Slightly weak	1	0.0661	0.0661
W4	Moderately weak	2	0.0413	0.0826
Total Score of IFE Weakness				0.3057
O1	Opportunity	3	0.22414	0.67242
O2	Opportunity	3	0.17241	0.51723
O3	Opportunity	3	0.13793	0.41379
Total Score of EFE Opportunity				1.60344
T1	Threat	3	0.17241	0.51723
T2	Threat	3	0.13793	0.41379
T3	Threat	3	0.15517	0.46551
Total Score of EFE Threat				1.39653

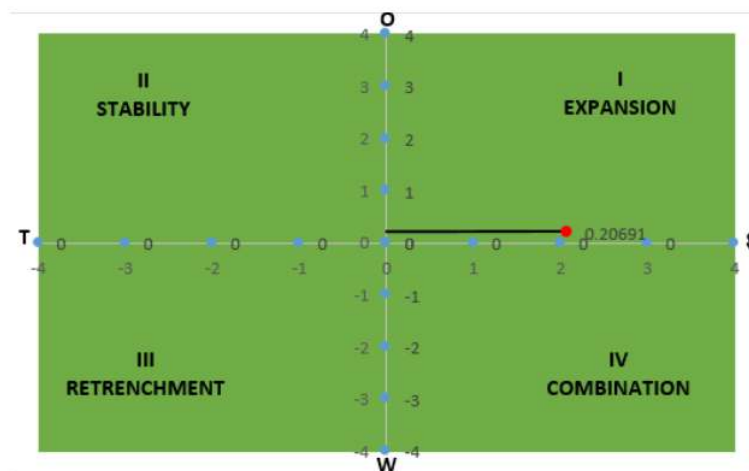


Figure 5 SWOT Analysis result

Function Analysis

The function of the Sukamulya Village edutourism landscape area is divided into three main functions, namely cultural, economic, and ecological tourism. The function aims to harmonize spatial planning of environmentally sound areas while considering ecological, economic, and socio-cultural sustainability. The economic function is a direct impact on educational and cultural tourism activities. It is expected that the existence of educational and cultural tourism activities will increase the economic value of the local community. The ecological function is related to the landscape character of Sukamulya Village as a village located in a hilly/mountainous area with undulating land. Development must still pay attention to the area's sustainability, primarily to conserve soil and water to minimize possible hazards. The use of materials also prioritizes existing local resources to reduce the carbon footprint. Activities planned on the site are related to cultural, economic, and ecological functions. Activities related to cultural functions with high intensity are included in the intensive and semi-intensive zones.

Post-harvest processing attractions are planned to support the Sukamakmur Subdistrict development policy for coffee and banana crops. Aspects of locality, namely Sundanese culture, are also realized in cultural arts activities. Extensive activities such as birdwatching and trekking are planned on the site's north side, which is close to the Cipamingkis River. The extensive zone is planned to conserve the area with greening for soil and water conservation. Table 4 shows the activities that will be planned on the site.

Table 4 Activity Plan on the Site

No	Function	Activities	Area	Zone
1		Information and Ticket	Welcome Area	Intensive
2		Parking	Welcome Area	Intensive
3		Playing ATV	Active Recreation Area	Intensive
4		Outbound	Active Recreation Area	Intensive
5		Learning traditional Sundanese instruments and songs	Active Recreation Area	Intensive
6		Feeding animals	Active Recreation Area	Intensive
7		Learning traditional puppet shows	Active Recreation Area	Intensive
8	Cultural	Coffee processing attraction	Active Recreation Area	Semi-intensive
9		Banana processing attraction	Active Recreation Area	Semi-intensive
10		Playing traditional games	Active Recreation Area	Intensive
11		Camping	Active Recreation Area	Semi-intensive
12		Animal Feeding	Buffer Area	Semi-intensive
13		Birdwatching	Buffer Area	Extensive
14		Trekking	Passive Recreation Area	Extensive
15	Economic	Dining and Shopping	Service Area	Intensive
16		Stay at the inn	Service Area	Intensive
17	Ecology	Watershed Conservation	Conservation Area	Extensive

The relationship between spaces explains the interaction between the various spaces that will be planned. Interaction in this space program is categorized into three levels: directly related, not directly related, and unrelated. The spaces to be planned are welcome, service, active recreation, passive recreation, buffer, and conservation area. The relationship between function spaces from interconnected to unconnected can be seen in Figure 6.

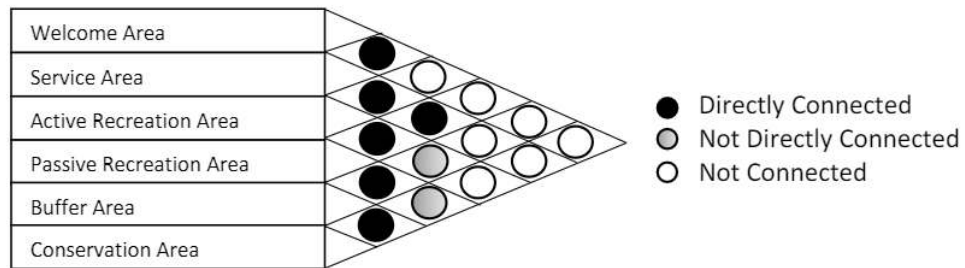


Figure 6 Area connectedness diagram

Based on the analysis that has been carried out, efforts are needed to optimize existing resources for edutourism in Sukamulya Village. These efforts must be followed by environmental conservation efforts to minimize the decline in the quality of existing nature on the site. In addition to supplying edutourism, the natural environment supplies people with various resources essential to their lives. It also offers natural protection from disasters and other environmental risks (JICA, 2016). Therefore, it is necessary to divide the zone to utilize the site's potential as an educational tourism object. Based on the previous analysis, 3 (three) zones have been obtained, namely suitable for tourism development, quite suitable for tourism development, and less suitable for tourism development. These results will be used as a reference in the preparation of the block plan. This block plan will reference an educational tourism development plan in Sukamulya Village (Figure 7). In general, the block plan is divided into 3 (three) zones, namely the intensive zone, semi-intensive zone, and extensive zone.

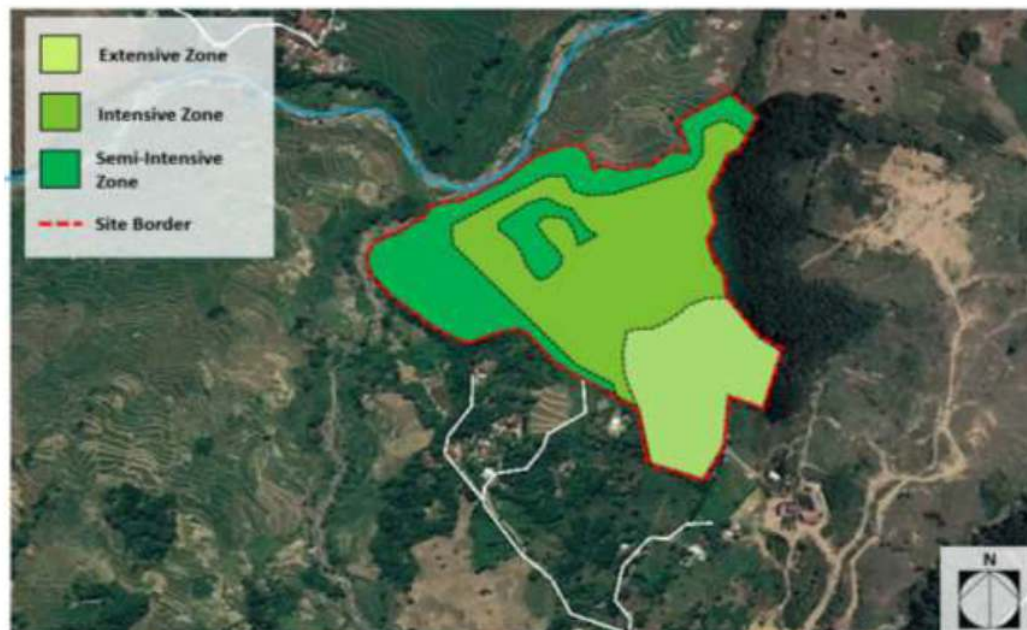


Figure 7 Block plan of Edutourism Sukamulya Village

CONCLUSION

Sukamulya Village in Sukamakmur Subdistrict, Bogor District, West Java Province, has the potential to be developed as an edutourism destination. This area is also directed at nature-based tourism and agricultural-plantation products. Considering the landscape condition, which is a hilly and mountainous area, caution is needed in conducting landscape planning. Three zones are proposed in this edutourism landscape planning of Sukamulya Village: intensive, semi-intensive, and extensive. These zones are based on the land's topography, the quality of the view, and the presence of the Cipamingkis River so that the area's sustainability is maintained. The intensive zone is planned for main tourism activities, the semi-intensive zone for tourism activities related to agriculture-plantations, and the extensive zone for high-intensity tourism activities as well as a conservation area for the Cipamingkis watershed.

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