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ANALYSIS OF EX MINING LAND USE AS AGROFORESTRY TOURISM IN CISANTANA VILLAGE

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ABSTRACT

Cisantana Village is a village in Kuningan Regency, West Java, close to Mount Ciremai. The natural conditions are quite beautiful. The village has abundant natural resources, one of which is mountain stone. Illegal stone mining activities have become the livelihood of the surrounding community which, if not stopped, will damage the environment. Based on the Technical Guidelines for Restoration of Open Access Land Damage Due to Mining Activities, open access land is land that has the potential to experience environmental damage due to unlicensed mining. The purpose of this research is to optimize agritourism activities focusing on education about agricultural and plantation activities and utilizing these activities to attract tourists. Agritourism is expected to help restore the quality of the environment that has been damaged, and develop the potential of the site through tourism activities. Agritourism is a form of tourism activity carried out in agricultural areas that presents natural scenery of agricultural areas and activities therein (Arifin, 1992). The stages in this research approach include preparation, inventory, analysis, synthesis, concept and design. The process of analyzing functions, sites, landscape buildings, and vegetation analysis is carried out as a basis for determining planning directions. planning activities, the concepts prepared are poured into the form of schematic designs, consisting of designs for spatial arrangements, vegetation, sites, landscape buildings and other details.

Key word: landscape planning, agrotourism, land restoration

1. INTRODUCTION

1.1. Background

Mining activities are carried out to extract the necessary natural resources. However, this activity has an impact on the environment if carried out without going through the appropriate process as stated in Law No. 4 of 2009 concerning Mineral and Coal Mining. So, we must strive so that mining activities can still be carried out without damaging the environment. Based on the Law on Environmental Protection and Management Chapter 1 article 1; environmental protection and management is a systematic and integrated effort carried out to preserve environmental functions and prevent pollution and/or damage to the environment which includes planning, utilization, control, maintenance, supervision, and law enforcement.

Referring to Law No. 4/2009 on Mineral and Coal Mining, Law No. 41/1999 on Forestry, Law No. 32/2009 on Environmental Protection and Management, and their respective derivatives, the restoration of ex-mining land is intended to obtain a landscape that is safe, stable against erosion, flooding and other environmental problems. In addition, land conditions are also expected to be reused according to their designation (productive), recovery is carried out in accordance with the natural potential integrated with the surrounding ecosystem that can meet the wishes of the community and local government. One of the efforts to manage former mining land that has been degraded is through land rehabilitation activities that function to restore as before and improve land conditions so that they can function optimally.

Cisantana Village is a village in Kuningan Regency, West Java which has an area of 1,195.5 Ha. The location of the village is close to Mount Ciremai, so the natural conditions are quite beautiful and wildlife such as birds can still be found easily. The village has abundant natural resources, one of which is rocks. The livelihoods of the surrounding community are farming, trading and farming. The planning site is an open access land used for stone and sand mining. Currently, the research site is used as a fishing spot and community cultivated land. Based on observations on

the research site, there is still a lot of potential owned by Cisantana Village. Based on the above problems, identification and analysis are carried out in order to develop a development strategy on the concept of agro-tourism, which is expected to rehabilitate land and optimize existing potential to improve the economy and facilitate recreational activities for the surrounding community.

1.2. Problems

How to identify the potential of Cisantana Village which is a former mining area that can be developed into sustainable agro-tourism.

1.3. Objective

Identifying former mining land as an agro-tourism area as an effort to rehabilitate former mining open access land through the concept of agro-tourism. Developing the concept of agro-tourism in Cisantana Village as a natural tourist destination that is attractive to local and foreign communities.

1.4 Scope of research:

- a. Inventory and identification of open access land used for mining in Cisantana Village
- b. Make an analysis and concept of landscape planning for the recovery of ex-mining land in Cisantana Village as an agro-tourism area

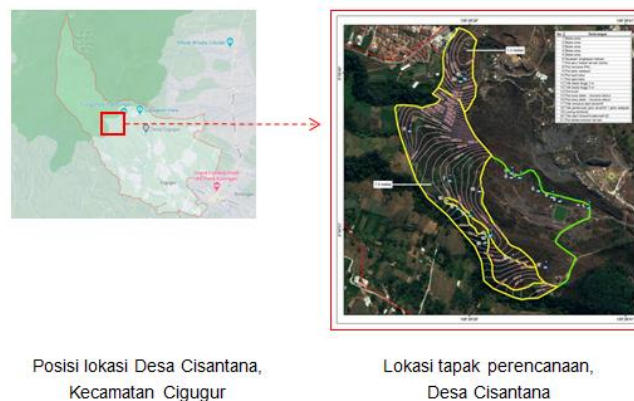


Figure 1 location

2. RESEARCH METHOD

The research method used is qualitative research with descriptive analysis. Descriptive method is a research method used to describe problems that occur in the present or that are ongoing, aiming to describe what happened as it should be at the time the research was conducted. Mohamad Ali (1982: 120) explains that: "descriptive research methods are used to solve and answer problems that occur at the present time." This is done by taking steps to collect, classify and analyze or process data, make conclusions and reports with the main objective of making a description of a situation objectively in a description.

3. RESEARCH RESULTS

3.1. Identification

- a. Existing Conditions and Environmental Links

RTH Jayanti is located in an area that is quite dense with commercial and residential buildings, in the eastern part (opposite the planning location) there is a vacant lot used as a vehicle parking lot, this area is quite vulnerable at night. The site is directly adjacent to residential and commercial buildings (Figure 2).

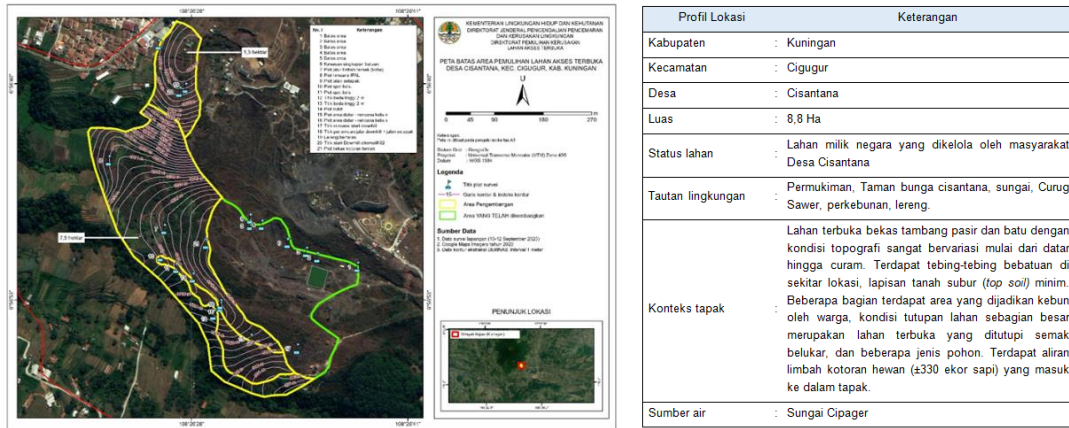


Figure 2. Environmental Links and Profile of the Research Site (Source: survey results, 2021)

Based on the survey results, it is known that the research location has the following potentials: 1) Near the natural attractions of climbing Mount Ciremai and Kuningan Botanical Garden, and Curug; 2) There are fruit trees that can be a typical production plant of brass district; 3) High public interest in natural recreation such as mountain biking; 4) In line with the food security program launched by the government. But there are also several problems that will be a threat to this planning, namely: 1) Illegal stone mining activities are still running; 2) The carrying capacity of the area as a cattle area has not been properly fulfilled (such as the cowshed area adjacent to residential houses, etc.); 3) The flow of cow dung waste is carried by water into residential areas and into the site when it rains; 4) There is no integrated WWTP in the cattle area around the site.



Figure 3. Observation results of existing conditions of the planning site (Source: survey results, 2021)

In general, the topography of Kuningan Regency varies, ranging from plain to hilly. Kuningan Regency has a hilly and mountainous landscape with the highest peak, Mount Ciremai. The open access land location of the former mine in Cisantana Village has a flat to steep topography. The elevation variation at the location ranges from 988 - 1,082 meters above sea level (mdpl). At the location there are rock cliffs from the lava deposits of Mount Ciremai and there is also low land due to former mining excavations.

According to the Water Resources and Mining Office of Kuningan Regency in 2014, in one year the average air temperature ranged from 24.2 - 30.5 oC, with an average of 27.3 oC. The number of rainy days in 2014 was highest in January, September and December while the least number of rainy days was in October. The highest rainfall in April amounted to 271.14 mm while the lowest amount of rainfall in October amounted to 26.32 mm. Soil conditions on the open access land are sand and stone (sirtu) from lahar deposits from Mount Ciremai. The existence of topsoil is very little and only in certain locations. Soil conditions dominated by rocks and sand cause the location of open access land in Cisantana Village to have less potential for planting vegetation, especially vegetation that has deep roots. In an effort to reforest the open access land location, it is necessary to provide top soil as a planting medium.

b. Accessibility and Circulation

Access to the planning site is in the form of uphill paved roads (number 2), paved roads (number 3), and flat unpaved roads (number 1). Circulation outside the site is the main road of Cisantana Village with paved road conditions.

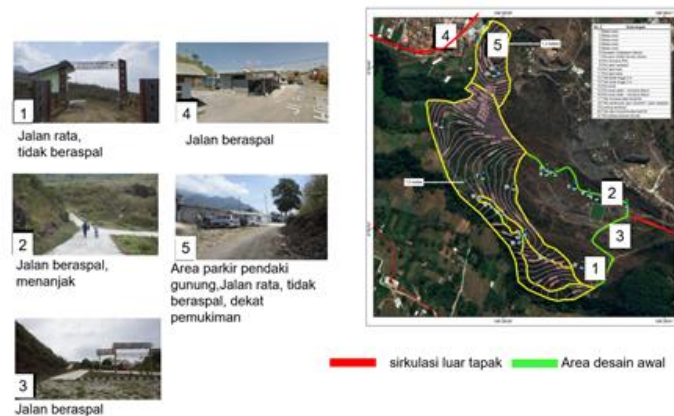


Figure 4. Entrance, circulation and parking conditions at the Cisantana Village planning site location

c. Flora and Fauna Condition

Some types of vegetation in the planning site include harendong (*Clidemia hirta*), maniren (*Thitonia diversifolia*), jackfruit (*Artocarpus heterophyllus*), tomato (*Solanum lycopersicum*), pine (*Pinus merkusii*), tembelele (*Lantana camara*), banana (*Musa paradisiaca*), persimmon (*Diospyros kaki*), and pulai/lame (*Alstonia scholaris*). In addition, animals that are often found in the planning site are dragonflies and wasps. Sometimes there are also wild animals that "come down the mountain" and eat plantation products.

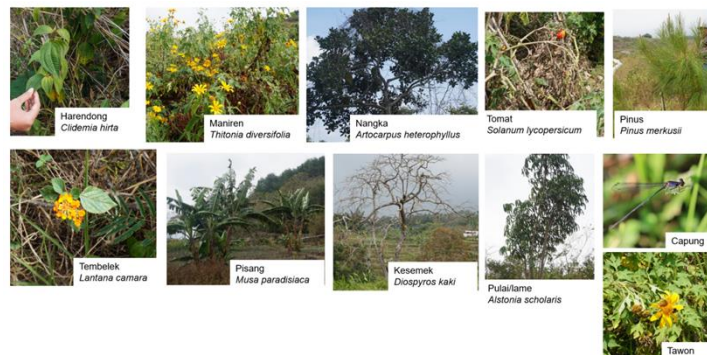


Figure 5. Flora and fauna conditions in the planning site location

4. DISCUSSION

4.1. Space Analysis and Concept

Based on the results of interviews with the village head and Bumdes of Cisantana Village, besides being able to enjoy the beautiful natural scenery, the mountain atmosphere with a fairly cool air temperature can be attractive for tourists to visit. Other recreational attractions are needed that can attract more visitors to come to the planning area so that it is expected to

improve the welfare of the community but still be able to maintain the preservation of nature and local culture. The current condition still shows the existence of illegal stone mining activities, but this can be minimized by providing a substitute source of income through recreational activities that can attract visitors to come. In an effort to increase community participation in managing the Cisantana Village Eco-tourism area, tourism activities are divided into:

- 1) Nature Scenery Tourism
- 2) Cultural Arts Tourism
- 3) Agriculture and plantation tourism
- 4) Mountain Bike Sports Tourism
- 5) Cross-country running sports tourism
- 6) Culinary Tourism

In general, there are several points of potential from the location of the planning site, including, (1) having a mountain view and rock view; (2) having clean air and water quality; (3) having contoured land that has the potential for mountain bike rides (down hill); (4) having good accessibility from Jakarta, Cirebon, Bandung and surrounding areas; (5) suitable as a fruit and vegetable crop area; (6) having a local culture that is not yet known to many people; and (7) close to several other attractions. In addition to having potential, the location of the planning site also has several problems, including, (1) there is no development site boundary; (2) it does not yet have an attraction (activities and facilities) for tourists to visit; (3) there is a flow of animal feces from the direction of the cowshed area owned by residents; (4) it does not yet have an area identity; (5) the fertile soil layer is reduced due to sand and stone mining activities; and (6) there are still illegal mining activities. Based on the potential and existing problems, the division of the development zone of the planning site is presented in Figure 6 as follows.

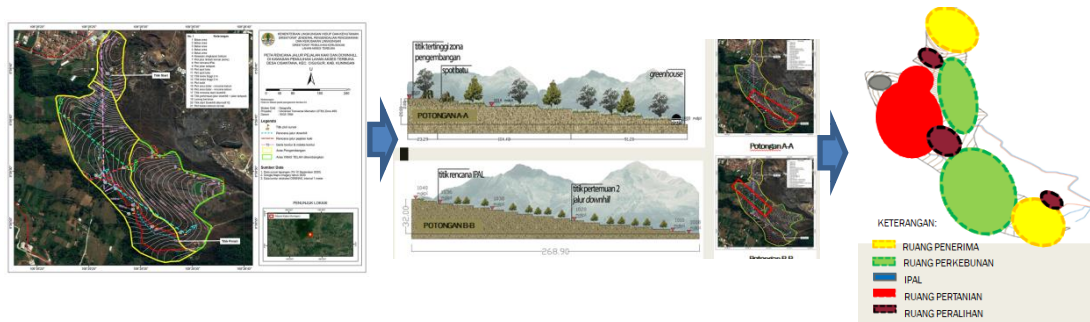


Figure 6. Space Zoning
(Source: analysis result, 2021)

4.2. Analysis and Concept of Tourist Spaces

As an effort to increase community participation in managing the Cisantana Village Eco-Tourism area, tourism activities are divided into: a) Nature Scenery Tourism; b) Cultural Arts Tourism; c) Agriculture and Plantation Tourism; d) Mountain Bike Sports Tourism and Cross Nature Running; e) Culinary Tourism.

Several tourism models will be applied to the site using the approach of environmental preservation, area transfer and efforts to improve the welfare of the Cisantana Village community in particular. Through the right LAT Landscape Design, it is expected to be an attraction for local and foreign tourists to come to the Cisantana Village area. The existence of former mines around the site will be an attraction for the development of the area.



Figure 7. Analysis and concept of tourist space
(Source: analysis result, 2021)

4.3 Circulation Analysis and Concept

The downhill circulation design uses a linear pattern and will be adapted to the needs of these sports activities. The mountain bike sports path will use natural trails that are directed using landscape elements (signage). Pedestrian circulation uses a combination of linear and radial patterns, starting from the receiving area from the direction of the upper gate. The material used is natural stone around the site and is designed to lead to the agricultural area, a transitional area that will be used as a game area and rest for bicycle users. An illustration of the circulation concept at the planning site is presented in Figure 8 as follows.



Figure 8. Circulation Paths and the concept of mountain bike trails, cross-country
(Source: analysis result, 2021)

4.4 The agriforestry concept

The agroforestry concept is used to optimize agricultural areas. In this planning, it will be made in a cluster pattern, namely vegetable clusters, plantation clusters and production crops (fruit crops) with the use of fertile soil and manure. Some illustrations of the model of vegetable farming and plantation activities are shown in Figure 9 as follows.

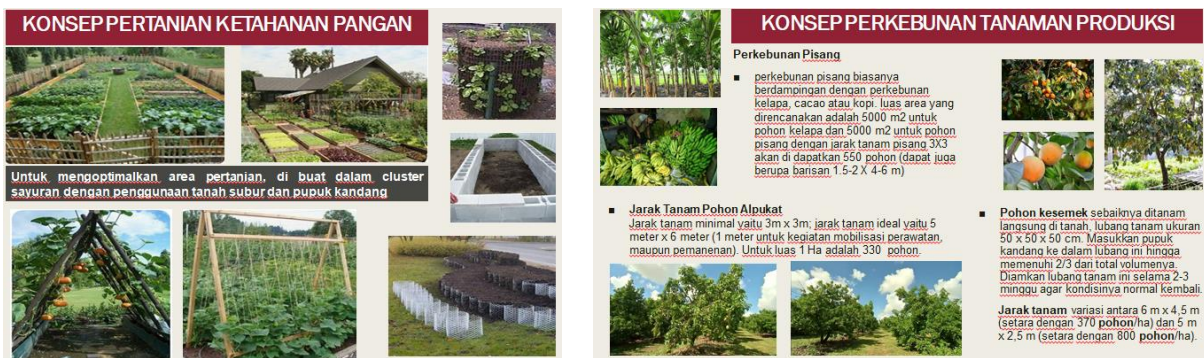


Figure 9. Agroforestry concept
(Image source: google.com, 2021)

Some plants that are suitable for the physical conditions of the planning site are also proposed to be developed. Some plants that are suitable for development at the planning site include.

a) Banana

Banana plantations usually coexist with coconut, cacao or coffee plantations. The planned area is 5000 m² for coconut trees and 5000 m² for banana trees with a banana spacing of 3X3 to obtain 550 trees (can also be rows of 1.5-2 X 4-6 m).

b) Avocado

The minimum planting distance is 3 m x 3 m; the ideal planting distance is 5 meters x 6 meters (1 meter for maintenance mobilization, and harvesting). For an area of 1 ha, 330 trees are obtained.

c) Persimmon

Persimmon trees should be planted directly in the ground, with planting holes measuring 50 x 50 x 50 cm. Manure can be put into the planting hole until it fills 2/3 of its total volume. The planting hole is then allowed to stand for 2-3 weeks to normalize. Planting distance varies between 6 m x 4.5 m (equivalent to 370 trees/ha) and 5 m x 2.5 m (equivalent to 800 trees/ha).

4.5 Building concept and landscape elements

Gazebos and plazas/stages use typical West Javanese forms that will be reinforced with typical Kuningan ornaments. Some illustrations of the gazebo and plaza are presented in Figure 10 as follows.



Figure 10 Illustration of gazebos and plazas in the planning site location

(Image source: google.com, 2021)

Food trucks can reduce permanent buildings in open areas. Food trucks can be a special attraction for visitors and participants in downhill and cross-country running. Some illustrations of food trucks are presented in Figure 11 as follows.



Figure 11 Illustration of food trucks in the planning site location (Image source: google.com, 2021)

The concept of lighting facilities uses solar cells that will be placed at points of activity. In addition, the trash can uses materials that are easy to maintain and sort the waste. In addition, when activities take place, portable toilets can be held as one of the supporting facilities. Illustration of supporting facilities is presented in Figure 12 as follows.



Figure 12 Illustration of supporting facilities at the planning site location (Image source: google.com, 2021)

Signage is placed at intersections and directional positions as well as in the receiving area or entrance. Illustration of signage is shown in Figure 4.7 as follows.



Figure 13. Signage Illustration (Source: google.com, 2021)

4.6. Masterplan Final Results

Based on the results of the analysis poured into the Master Plan in the form of a block plan that describes the space, activities and facilities planned in the agro-tourism area of Cisantana Village. The tourist path matrix is made into 2 receiving zones based on ease of achievement and tourist activities: mountain bikes and cross-country running trails. Activities in the agricultural and plantation space are made as an educational and natural recreation area managed by the local community as an effort to improve the welfare of the community and change from mining wild stones that have the potential to damage nature to become farmers and managers of natural tourism areas.

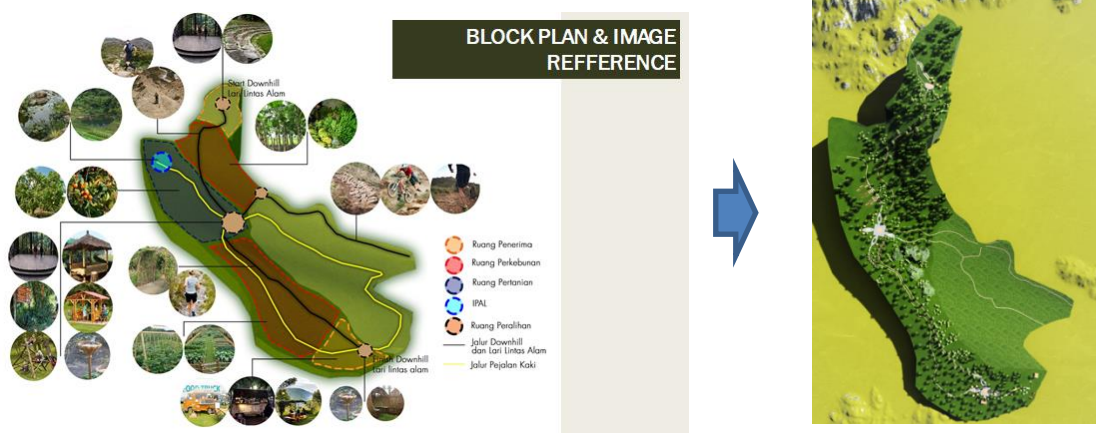


Figure 12. 3D Block Plan and Site Plan
(Source: design result, 2021)

5. CONCLUSION

Landscape design on ecotourism-based open access former mining land uses a sustainable landscape concept that aims to support efforts to preserve the natural and cultural environment, and can increase community participation in conservative management, thus providing economic benefits for the local community. Tourism activities that utilize the agricultural sector from the beginning to agricultural products on various scales in order to expand knowledge, experience, and recreation in agriculture can be an area development strategy that has ecological and economic value. Natural attractions that characterize agro-tourism in Cisantana Village are the existence of agricultural land, tourist attractions in the form of production processes, selling crops and orchards, through farmer institutions, and village institutions. Cisantana Village agro-tourism planning is in accordance with the village development plan by taking into account the environmental and social conditions of the community, in harmony with the resources owned, and existing developments.

Empowering local communities, will be realized through good participation between local communities and the tourism industry in Cisantana Village, and by involving the community in decision making. The concept of developing agro-tourism areas on open access lands of former mines is expected to be an effort to restore a sustainable environment.

DAFTAR PUSTAKA

Arifin, H.S. (1992). *Beberapa pemikiran pengembangan agrowisata pada kawasan cagar budaya betawi di Condet, Jakarta Timur*. Makalah Seminar Wisata Agro. IPB: Bogor.

Nur Rohmad Nuzil1* , **M. Dayat** (2020). Pengembangan Kawasan Agroeduwisata Berbasis Potensi Unggulan Desa (Studi kasus di Desa Wisata Kalipucang Kecamatan Tukur Kabupaten Pasuruan), *MediaTrend* 15 (1) 2020 p.157-173

Neneng Komariah (2016), Pengembangan Desa Wisata Berbasis Kearifan Lokal, *Pariwisata Pesona* 3(2),2018 Arif Wihananto, Prof. Dr. Marsono, S.U.; Yulita Kusumasari, S.T., M.Sc. Konsep Pengembangan Desa Wisata Berbasis Agro Di Kaliwungulor, Skripsi UGM ,2016

Triyono NFN (2015), Pengembangan Wisata Agro: Peluang Kerja Masyarakat Di Kawasan Poncokusumo Kabupaten Malang, Provinsi Jawa Timur *Jurnal Kependudukan Indonesia* 10(1):43,2015

Bambang Pamulardi (2006), Pengembangan Agrowisata Berwawasan Lingkungan (Studi Kasus Desa Wisata Tingkir, Salatiga), Tesis Universitas Diponegoro, 2006

Peraturan Daerah RTRW Kabupaten Kuningan Tahun 2011-2031

UU No. 4/2009 tentang Pertambangan Mineral dan Batubara,

UU No. 41/1999 tentang Kehutanan,

Undang-undang No. 32/2009 tentang Perlindungan dan Pengelolaan Lingkungan Hidup