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## IDENTIFICATION OF PRODUCTIVE LANDSCAPE POTENTIALS TO SUPPORT THE ECO-PESANTREN DAAR EL-QOLAM 3 BANTEN

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### ABSTRACT

Daar El-Qolam Islamic Boarding School, Tangerang Regency, Banten Province, has an area of around 20 hectares. The development and arrangement of green open spaces is not good. The condition of open spaces in Islamic boarding schools is generally only grass fields and a few trees which are still wide. The Daar El-Qolam Islamic Boarding School land has the potential to be developed and utilized for an eco-Islamic boarding school program in the form of a productive landscape. The purpose of this research is to identify the potential of green open space at Daar El-Qolam 3 boarding school as a productive landscape, to find out land use as a productive landscape that provides landscape elements, and to support aspects of agriculture, animal husbandry, fisheries and other productive businesses that can be used. As an educational medium at the Daar El-Qolam Islamic Boarding School 3. Data collection in this study used survey, interview, observation, and documentation methods. This research was conducted with a qualitative descriptive approach. The results of this study are expected to be a reference for the development of Islamic boarding schools. Daar El-Qolam 3. Land use in open space areas as productive landscapes can optimize the function of land use for agriculture, animal husbandry, fisheries and productive businesses.

**Keywords:** *Identification, eco-boarding school, Productive Landscape*

## INTRODUCTION

The Daar El-Qolam 3 Islamic Boarding School is located on the Gintung Campus, Jayanti District, Tangerang Regency, Banten Province (Alia & Siagian., 2022; Primadanai., 2017). The Daar El-Qolam 3 Islamic Boarding School is still in the process of being built, this has caused the construction of the Daar El-Qolam 3 Islamic Boarding School to be incomplete and the arrangement of green open spaces is not good, the current condition of green open spaces is only grass fields and a few trees. Utilization of land or open space for productive crops has an important role in increasing welfare and increasing income (Feriatin 2017; Irwan et al., 2018; Sagrim et al., 2017; Novianty, 2021). The pesantren environment is an important thing that must be planned. Therefore, the condition of open space that is still wide is a potential that can be developed and utilized to support the eco-Islamic boarding school program, in this case in the form of a productive landscape.

Productive landscapes are open spaces planted and managed to be environmentally and economically productive, for example for food supply, pollution absorption, tree cooling, and increasing natural corridor biodiversity (Van et al., 2016; Viljoen et al., 2005; Sarwadi & Irwan; 2018; Irwan et al. 2017). Existing open space can become a productive landscape area where the area is used as a shared garden planted with various types of productive landscape plants including food crops, vegetables, fruit, starch producers, spices, medicines, ornamental plants and other plants. It can also be used for fisheries and livestock areas that can meet the daily needs of residents.

The problem that underlies this research is how is the current potential of green open space at Daar El-Qolam 3 Islamic boarding school based on productive landscape aspects? ¿How is the land use applied by the Daar-El Qolam 3 Islamic boarding school based on productive landscape aspects? So, based on the formulation of the problem, this paper is structured as a result of research that aims to identify the potential for green open spaces in the Daar El-Qolam 3 Islamic boarding school as productive landscapes and to determine land use as productive landscapes that provide landscape elements to support aspects of agriculture, animal husbandry, fisheries and productive businesses that can be used as educational media at Islamic boarding schools, Daar El-Qolam 3. Therefore, the results of this study are expected to provide input for Islamic boarding schools regarding the use of green open spaces for productive landscapes in order to support the eco-Islamic boarding school program.



## RESEARCH METHODS

### Time and Location

Research activities are planned for August 2022 to December 2022. The research location is Daar El-Qolam 3 Islamic boarding school, Jalan Raya Serang KM. 35 Gintung Village, Jayanti District, Tangerang District, Banten Province.

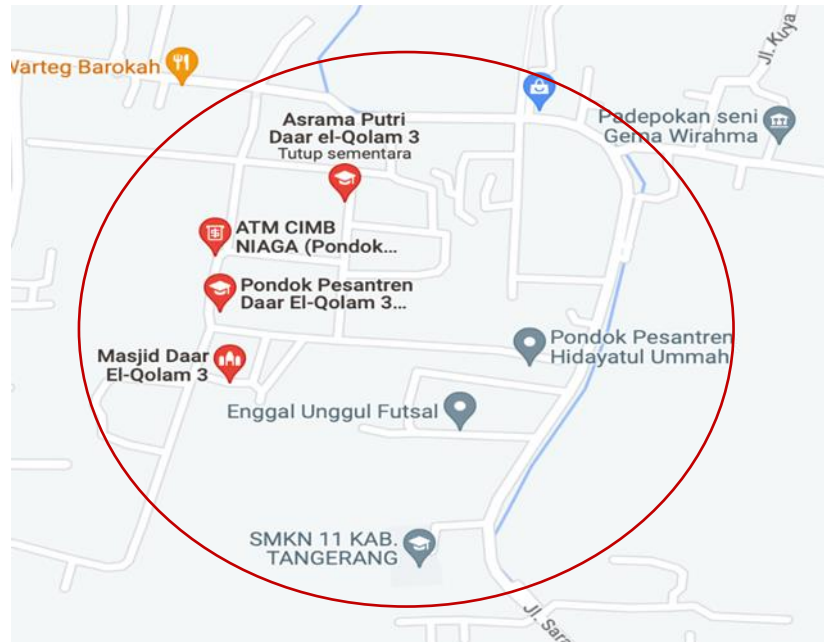


Figure 1. Location of the Daar El-Qolam 3 Islamic boarding school, Banten  
 Source: Google maps

### Data Collection

Data collection in this study through planning begins with data collection. Data collection includes physical and non-physical data that affect the site. Information is obtained in the form of data, field surveys and literature studies. Primary data were obtained through direct observation on the site (observing general conditions, site visuals, accessibility), documentation and interviews. Meanwhile, secondary data was obtained from library studies, namely preliminary reports and other journals related to and supporting the implementation of research and the research variables presented in Table 1.

Table 1. Research Variables

Variabel	Sub Variabel	Indikator
Land Use	Productive landscape potential for <i>Pesantren</i> (Islamic boarding school) needs	- Production plants
		- Fisheries
Ecology	Land suitability as a productive landscape	- Farm
		- <i>Green house</i>
		- Accessibility
		- Land and Topography
		- Climate

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- Hydrology  
- Land use

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Source: Authors, 2023

### The Data Analysis Method

The data analysis method used in this study used descriptive qualitative analysis, interviews were presented briefly and clearly in the form of tables and photos, as well as exploration of the potential of productive landscapes by observation.

## RESULTS AND DISCUSSION

### Land Use

Based on the survey results, Islamic boarding schools are currently used for various purposes, both in the form of open spaces and built-up spaces. With the area of the *Pesantren*, the use of space in the *Pesantren* is divided into built-up space and open space. The built-up spaces include study rooms, mosques, dormitories, offices, halls, canteens, and the Islamic boarding school owner's house. Meanwhile, the open space includes a sports hall, ceremonial field, and dormitory garden. The division of space between students and female students only occurs in the living room or dormitory, while for the study room between students and female students are in the same room. For open space, there are empty grass fields, football fields and lakes (Figure 2).

Land Use		There is land that has not been developed, only a grass field located in front of the son's parenting office with an area of approximately 10,000 m <sup>2</sup> . This is a potential for developing productive landscape businesses.
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Figure 2 Lawns

Source: photos by the authors, 2023

### Land Potential for Production Plants

At the Daar El-Qolam 3 Islamic Boarding School with an area of around 20 Ha there is no plantation land for planting production crops that can be harvested. Generally, the land there is only a grass field whose function has not been maximized. This has the potential to be developed as a production garden capable of producing vegetables and fruit, but there is mango (*Mangifera indica*) vegetation in the Islamic boarding school garden area with an area of 5,000 m<sup>2</sup> around the male dormitory. The majority of the vegetation planted in the *pesantren* is non-production vegetation including 58 *Cocos nucifera* trees, 91 *Mimusop elengi* L. trees, 28 *Samanea saman* trees, 22 *Tabebuia rosea* trees, 42 *Terminalia catappa* trees. The vegetation is scattered at several points, generally located in the area around the road (Table 2 and Figures 3, 4).





Figure 3 Existing Plants  
 Source: photos by the authors, 2023

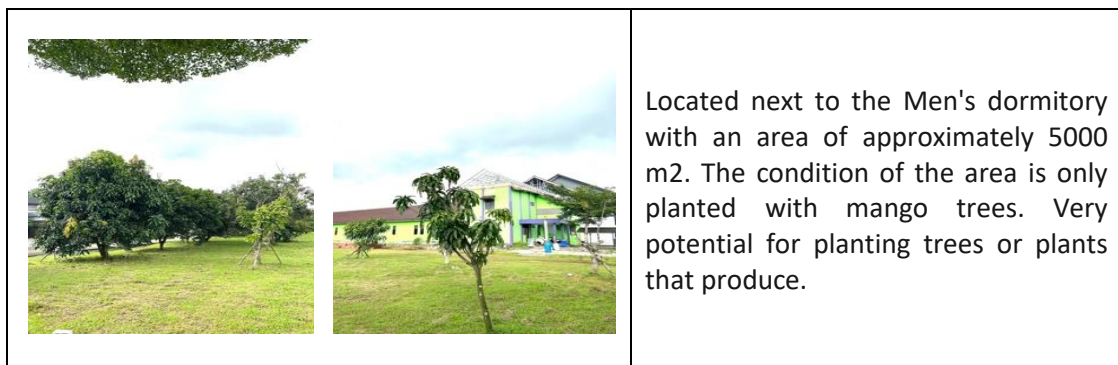


Figure 4 Existing Plants  
 Source: photos by the authors, 2023


Local Name (Tree)	Latin (Trees)	Family	Total	Function
Kelapa	<i>Cocos nucifera</i>	Arecaceae	58	Road Director
Mangga	<i>Mangifera indica</i>	Anacardiaceae	40	Shading, production
Tanjung	<i>Mimusoph elengi</i> L.	Sapotaceae	91	Noise cancellation
Trembesi	<i>Samanea saman</i>	Mimosaceae	28	shade
Tabebuia kuning	<i>Tabebuia rosea</i>	Bignoniaceae	22	aesthetics
Ketapang Kencana	<i>Terminalia catappa</i>	Combretaceae	42	Aesthetics, shade

Source: authors, 2023

#### Land Potential for Fisheries and Livestock

The Daar El-Qolam Islamic Boarding School has a 1,000 m<sup>2</sup> catfish pond located beside the lake. This fish pond was first created and cultivated by KH. Zahid Purnama ST, the results of which are used for food sources for the pesantren community. However, currently catfish farming is no longer managed. The water source for fish ponds is sourced from lake water which is channeled directly. At this time the Daar El-Qolam 3 Islamic Boarding School does not yet have

livestock due to limited time and manpower in raising livestock, especially in procuring animal feed (Figure 5).

Fishery		The fish pond area is located beside the lake with an area of approximately 1,000 m <sup>2</sup> . Previously it was used for catfish farming, but due to a lack of managers in cultivating it, the pond is no longer active.
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*Figure 5 Fishery*  
*Source: photos by the authors, 2023*

#### **Land Potential for Green house**

Daar El-qolam 3 Islamic Boarding School does not currently have a Green House due to the lack of optimal land use in the Islamic boarding school and the lack of hydroponic experts in its development. Based on the results of data analysis and the results of observations that have been made in the field. However, this has become the plan of the pesantren to build farms in the pesantren area.

#### **Accessibility at Daar El-Qolam Islamic Boarding School 3**

Daar El-Qolam 3 Islamic Boarding School can be accessed via a national/primary artery road, namely Jalan Raya Serang Km. 35 from the direction of Serang or from the Ciujung toll gate to Tangerang, then continue via a small road that has two alternatives. The first alternative is this road before the Jayanti District office will pass through Daar El-Qolam 1 and 2. The second alternative after the Jayanti District office goes directly to Daar El-Qolam 3 which is a shorter distance than the first alternative road, but the road conditions are inadequate. The condition of the road leading to the Daar El-Qolam 3 Islamic boarding school has not been well developed. This highway is about 5 m wide. Circulation access in Islamic boarding schools is very easy to access with a width of 5-8 m with concrete construction. However, there are several access roads that have not yet been built. Along the circulation paths at the pesantren, guide trees are planted, including Trembesi (*Samanea saman*), coconut (*Cocos Nucifera*) etc. Based on the results of data analysis and the results of observations that have been carried out in the field. . Directional trees are planted along the circulation path at the pesantren, including Trembesi (*Samanea saman*), coconut (*Cocos Nucifera*), presented in (Figure 6).



<p>Accessibility of hut circulation</p>		<p>Circulation access in Islamic boarding schools is very easy to access with a width of 5-8 m with concrete construction. However, there are several access roads that have not yet been built. Along the circulation road planted with vegetation.</p>
<p>Accessibility to the Boarding School</p>		<p>Circulation access in Islamic boarding schools is very easy to access with a width of 5-8 m with concrete construction. However, there are several access roads that have not yet been built. Along the circulation road planted with vegetation.</p>

Figure 6 Accessibility of the hut circulation & Accessibility to the hut  
 Source: photos by the authors, 2023

### Soil Conditions and Topography at Daar El-Qolam Islamic Boarding School 3

Geographically, for land resources, Banten Province is divided into two types of soil, namely the residual soil type group and the transported soil type group. The distribution of each of these soil types can generally be found in the areas of Serang Regency, Lebak Regency, Pandeglang Regency, Tangerang Regency, Tangerang City and Cilegon City. Each type of soil found in the region includes Alluvial and Latosol. The topography of the Daar El-Qolam Islamic Boarding School is relatively flat with a slope of 0% -3% resulting in standing water on the site when it rains, especially on fields where there is not much vegetation (Figure 7).


<p>Soil</p>		<p>The condition of the soil found in Islamic boarding schools is generally the type of residual soil and the group of soil types resulting from fills.</p>
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Figure 7 Soil Condition  
 Source: photos by the authors, 2023

### **Climate Conditions at the Daar El-Qolam Islamic Boarding School 3**

Based on climate data obtained from the Meteorology and Geophysics Agency observation station in Banten Province, Tangerang Geophysics Station in the period from January 2021 to December 2021, the maximum air temperature ranges from 27.42 C - 30.52 C, the minimum air temperature ranges from 25 C - 26 C, while the average air temperature ranges from 27 C - 29 C. The highest maximum air temperature is in May, which is 30.52 C, while the lowest maximum air temperature is in January, which is 26 C. Air humidity data in the range the period from January 2021 to December 2021 has an average of 81.3%. The maximum humidity is in January, which is 86% and the minimum humidity is in September, which is 72%. The average monthly rainfall between January 2021 and December 2021 is 189.6 mm. The maximum rainfall is in February, which is 379 mm, and the minimum rainfall is in September, which is 0 mm.

### **Hydrological Conditions at Daar El-Qolam Islamic Boarding School 3**

There are three main drainage channels on the site, the three of which lead outside the site. However, each of these drainage channels leads in a different direction. First, the drainage for the soccer field area and the men's dormitory is heading west, second, the drainage for the classroom area, ceremonial courts, fields and mosques is heading south, and the third is drainage for the office area, basketball court, then the girls' dormitory. heading east. These three main drainage channels are open drainage channels. The water that is on the surface of the ground does not all go to the drainage. Some go to water bodies such as lakes, and some don't flow into drainage or water bodies, causing puddles on the surface. In addition to drainage at Daar El-Qolam 3 Islamic Boarding School there are 3 wells namely, 2 dug wells with a depth of approximately 100 meters and there is 1 satellite well with a depth of 200 meters. Apart from using wells, the water used for the pesantren is sourced from an artificial lake located at the entrance. Lake water distillation uses 2 water treatment machines where the resulting water is distributed for ablution activities, toilets, watering plants (Figure 8).

<p>Hydrological Resources</p>		<p>In addition to drainage at Daar El-Qolam 3 Islamic Boarding School there are 3 wells namely, 2 dug wells with a depth of approximately 100 meters and there is 1 satellite well with a depth of 200 meters. Apart from using wells, the water used for the <i>Pesantren</i> is sourced from an artificial lake located at the entrance. Lake water distillation uses 2 water treatment machines where the water results are channelled for ablution activities, toilets, watering plants, etc.</p>
<p>Lake</p>		<p>There are two water reservoir lakes for water sources intended for ablution, toilets, and watering plants. The source of water in the lake comes from rainwater and irrigation. The area of the lake is about 2 Ha. There is coconut vegetation around the edge of the lake.</p>

*Figure 8 Hydrological Resources and Lakes*  
 Source: photos by the authors, 2023

## CONCLUSION

Based on the results of research that has been conducted on the Daar El-Qolam 3 Islamic Boarding School area, it can be concluded as follows:

1. The Daar El-Qolam 3 Islamic boarding school's land has the potential to apply productive landscapes that support garden activities for food crop production, fish farming, and animal husbandry.
2. Areas that have not yet been built can be developed as eco-Islamic boarding schools in supporting the independence of Islamic boarding schools.
3. Adequate land area strongly supports productive businesses, has clean water available, good and sufficient sunlight, and has a strategic location.



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